PRISLISTE

Startapparater

Standardbetingelser

Priser: Våre priser er veiledende priser til kunde ekskl. miljøgebyr til RENAS, evt. frakt/porto/emballasje og merverdiavgift. Miljøgebyret utgjør p.t. 1% av fakturabeløp for de fleste produkter vi leverer. Prisene er basert på det generelle kostnadsnivået, priser fra underleverandører, råvarepriser og valutaforhold. Vi forbeholder oss derfor rett til prisendringer uten varsel dersom noen av disse faktorene endres. Våre videreforhandlere kan fritt fastsette egne videresalgspriser for produktene og fastsetter selv evt. rabatter til sine kunder.

Levering: EXW (Incoterms 2000). Våre lagere i Norge.

Emballasje: Belastes kjøperen, og tas ikke i retur.

Ekspedisjons-gebyr: Ordre mindre enn kr. 1.000,- netto fakturert belastes med et ekspedisjonsgebyr på kr. 100,-.
For ikke lagerført materiell, blir eventuelle ekspedisjonsgebyrer fra underleverandør belastet kjøper.

Returer: 1. Retur blir bare akseptert fra en kunde som har kjøpt varen hos oss, og kun etter forhåndsavtale med oss. Generelt skal varene være i originalemballasje, være kurante og salgbare. Vår lagerbeholdning og uttaksfrekvens avgjør om varen er salgbar. Ved retur til lager skal de være lagerført.

2. Referansenummer fra vår saksbehandler, samt vårt ordre- eller fakturanummer skal påføres returen, eventuelt returseddelen, sammen med opplysninger om hvem som har akseptert returen.

3. Ved retur i h. t. punkt 1 og 2 belastes kunden med returomkostninger på 20% av netto fakturaverdi, dog minimum kr. 50,- pluss emballasjekostnader. Hvis ordrenr./fakturanr. ikke er kjent, kan returen aksepteres, men krediteres da med basis i listepris, minus avtalerabatt, minus 50%. Returadresse oppgis av oss.

4. Feilleveringer krediteres 100% i henhold til fakturaverdi, og fraktkostnader dekkes av ABB AS, Low Voltage Products.

5. Varer som ikke lagerføres tas normalt ikke i retur. Hvis underleverandør aksepterer retur, vil kreditering skje ifølge punkt 3 med tillegg av underleverandørs returomkostninger.

Betalings-betingelser: Netto kontant eller etter skriftlig avtale.
Ved forsinket betaling påløper morarente i henhold til gjeldende sats i lov om renter ved forsinket betaling m.m.

Salgspant (varepant): Varen forblir ABB AS, Electrification Products division eiendom inntil den fullt ut er betalt.

Øvrige betingelser: Forhold som ikke er regulert av "Standardbetingelser" reguleres av NL09 med følgende tillegg:
Leverandøren har intet ansvar for indirekte tap eller følgeskader hos kunden, og kunden skal holde leverandøren skadesløs for egne indirekte tap og følgeskader. Leverandørens totale samlede ansvar under kontrakten er begrenset til 100 % av kontraktssummen eks. mva. for den vare som kravet/kravene knytter seg til.

RENAS: For å ivareta miljøhensyn har ABB AS, Electrification Products division sluttet seg til bransjens eget returselskap for næringselektro - RENAS AS. Alle EE produkter som omsettes inngår i et system for retur og gjenvinning og kan leveres til forhandler eller kommunalt avfallsmottak.

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Bestselgere
Kontaktorer og hjelpereléer

B6-30-01

AF9-30-10...
AF16-30-10

AF40

AF80

AF116

AF190

AF265

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Installasjonskontaktorer (DIN-modulære)					
2-Pol, 1-modul - kun for ohmsk last, 20A					
4186304	ESB20-20 230V 50HZ	GHE3211102R0006		L	476,00
2-Pol, 2-modul, 24A					
4186326	ESB24-20 230V AC/DC	GHE3291402R0006		L	480,00
4-Pol, 2-modul, 24A					
4186331	ESB24-40 24V AC,DC	GHE3291102R0001		L	602,00
4186334	ESB24-40 220-240V AC,DC	GHE3291102R0006		L	602,00
4-Pol, br=54 mm, 40A					
4186374	ESB40-40 230V,AC,DC	GHE3491102R0006		L	1 290,00
4-Pol, br=54 mm, 63A					
4186384	ESB63-40 230V AC,DC	GHE3691102R0006		L	1 640,00
Diverse ESB					
4186397	DISTANSESTYKKE ESB-DIS	GHE3201902R0001		L	18,80
Minikontaktorer					
B6 (Ie ved 230V/400V 40°C AC1=16A , AC3=9A, 2,2kW ved 230V/4kW ved 400V)					
4184000	B 6-30-10 230V 50/60HZ	GJL1211001R8100		L	345,00
4184030	BC6-30-10 24V DC	GJL1213001R0101		L	399,00
AF9..370 Kontaktorer og NF hjelpereléer					
Kontaktorer AF9-AF370					
3-Polede					
4117500	AF09-30-10-13 100-250V AC/DC	1SBL137001R1310		L	412,00
4117660	AF09-30-10-41 24-60V50/60HZ - KUN AC !	1SBL137001R4110			408,00
4117508	AF09Z-30-10-21 24-60VAC/20-60VDC FOR PLS <500MA	1SBL136001R2110		L	720,00
4117516	AF12-30-10-13 100-250V AC/DC	1SBL157001R1310		L	594,00
4117532	AF16-30-10-13 100-250V AC/DC	1SBL177001R1310		L	752,00
4117548	AF26-30-00-13 100-250V AC/DC	1SBL237001R1300		L	1 160,00
4117556	AF30-30-00-13 100-250V AC/DC	1SBL277001R1300		L	1 610,00
4117564	AF38-30-00-13 100-250V AC/DC	1SBL297001R1300		L	2 010,00
4117575	AF40-30-00-13 100-250V50/60HZ-DC	1SBL347001R1300		L	1 900,00
4117580	AF52-30-00-13 100-250V50/60HZ-DC	1SBL367001R1300		L	2 010,00
4117586	AF65-30-00-13 100-250V50/60HZ-DC	1SBL387001R1300		L	2 540,00
4117592	AF80-30-00-13 100-250V50/60HZ-DC	1SBL397001R1300		L	3 110,00
4117600	AF96-30-00-13 100-250V50/60HZ-DC	1SBL407001R1300		L	3 350,00
4117610	AF116-30-11-13 100-250V 50/60HZ / DC	1SFL427001R1311		L	4 430,00
4117615	AF116-30-11-13B 100-250V 50/60HZ / DC	1SFL427002R1311		L	4 430,00
4117619	AF140-30-11-13 100-250V 50/60HZ / DC	1SFL447001R1311		L	5 180,00
4117623	AF140-30-11-13B 100-250V 50/60HZ / DC	1SFL447002R1311		L	5 180,00
4117629	AF146-30-11-13 100-250V 50/60HZ / DC	1SFL467001R1311		L	6 470,00
4117633	AF146-30-11-13B 100-250V 50/60HZ / DC	1SFL467002R1311		L	6 470,00
4117637	AF190-30-11-13 100-250V 50/60HZ / DC	1SFL487002R1311		L	7 550,00
4117641	AF205-30-11-13 100-250V 50/60HZ / DC	1SFL527002R1311		L	9 860,00
4117646	AF265-30-11-13 100-250V 50/60HZ / DC	1SFL547002R1311		L	12 230,00
4117650	AF305-30-11-13 100-250V 50/60HZ / DC	1SFL587002R1311		L	14 230,00
4117655	AF370-30-11-13 100-250V 50/60HZ / DC	1SFL607002R1311		L	15 790,00
4-Polede					
4117700	AF09-40-00-13 100-250V AC/DC	1SBL137201R1300		L	429,00
4117708	AF16-40-00-13 100-250V AC/DC	1SBL177201R1300		L	784,00
4117732	AF26-40-00-13, 100-250VAC/DC	1SBL237201R1300		L	1 370,00
4117740	AF38-40-00-13, 100-250VAC/DC	1SBL297201R1300		L	2 210,00

Bestselgere
Kontaktorer og hjelpereléer

NF22E-13

CAL19

VM96-4

VM19

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
NF Hjelpereléer					
4117800	NF22E-13 100-250V AC/DC	1SBH137001R1322		L	561,00
4117680	NF22E-41 24-60V50/60HZ - KUN AC !	1SBH137001R4122		L	607,00
4117804	NFZ22E-21 24-60V AC 20-60VDC FOR PLS <500MA	1SBH136001R2122		L	955,00
4117816	NF40E-13 100-250V AC/DC	1SBH137001R1340		L	593,00
Tilbehør					
4117850	CA4-10, 1NO HJ-KONT. FRONTMONTERT	1SBN010110R1010		L	92,70
4117852	CA4-01, 1NC HJ-KONT. FRONTMONTERT	1SBN010110R1001		L	92,70
4117856	CAL4-11, 1NO+1NC HJ-KONT.SIDEMONTERT FOR AF9...AF96	1SBN010120R1011		L	242,00
4117831	CAL19-11 1NO+1NC HJ-KONT.SIDEMONTERT FOR AF116...AF370	1SFN010820R1011		L	238,00
4117858	CAT4-11E, 1NO+1NC+A1+A2 FRONTMONTERT	1SBN010151R1011			237,00
4117861	CA4-22E, 2NO+2NC HJ.KONT FRONTMONTERT	1SBN010140R1022		L	371,00
4117865	CA4-22M, 2NO+2NC HJ.KONT FRONTMONTERT	1SBN010140R1122		L	386,00
4117872	CA4-22N, 2NO+2NC HJ.KONT FRONTMONTERT	1SBN010140R1222		L	386,00
4117878	VEM4 MEK/ELEKTRISK FORRIGLING (KOMPL. M VM4 OG BB4)	1SBN030111R1000		L	435,00
4117824	VM96-4 FOR AF40 ... AF96 (MIN 10STK)	1SBN033405T1000	10	L	233,00
4117833	VM19 FOR AF116 ... AF370	1SFN030300R1000		L	602,00
4364480	BEA16-4 ADAPTER FOR AF9...AF16 -MS116/MS132	1SBN081306T1000	1/10	L	174,00
4364482	BEA26-4 FOR AF26..38-MS116->16A OG MS132->10A	1SBN082306T1000	1/10	L	209,00
4364481	BEA38-4 ADAPTER FOR AF26...AF38-MS132	1SBN082306T2000	1/10	L	223,00

Kontaktorer AF400-AF750

AF400 (Ie: AC1=600A (690V 40°C), AC3=400A (230/400V 55°C) Ue max 1000V)
Dimensjoner: Str 7, AF400-AF460: HxBxD=278x186x216mm

4115288	AF 400-30-11 100-250V 50/60HZ/DC	1SFL577001R7011		L	19 560,00
AF460 (Ie: AC1=700A (690V 40°C), AC3=460A (230/400V 55°C) Ue max 1000V)					
4115292	AF 460-30-11 100-250V 50/60HZ/DC	1SFL597001R7011		L	23 430,00

AF750-30-11

AF580 (Ie: AC1=800A (690V 40°C), AC3=580A (230/400V 55°C) Ue max 1000V)
Dimensjoner: Str 8, AF580-AF750: HxBxD=283x210x242mm

4115296	AF 580-30-11 100-250V 50/60HZ/DC	1SFL617001R7011		L	27 090,00
AF750 (Ie: AC1=1050A (690V 40°C), AC3=580A (230/400V 55°C) Ue max 1000V)					
4115300	AF 750-30-11 100-250V 50/60HZ/DC	1SFL637001R7011		L	35 160,00

Tilbehør

Endestoppere for DIN-skinne

1260916	ENDESTOPPER DIN 1 OG DIN 3 GRÅ V0 9 MM BADL	1SNA399903R0200		L	18,80
Hjelpekontakter for A, AF, AL, AE, TAL, TAE, UA, N og NL kontaktorer A9-A110. NB - ikke til AF9..AF38/NF 1-pol for frontmontering på A9-A110					
4116000	CA 5-10	1SBN010010R1010		L	108,00
4116001	CA 5-01	1SBN010010R1001		L	117,00
2-pol for sidemontering A9-A75 (kan monteres på begge sider)					
4116020	CAL 5-11 (FOR A9 - A75)	1SBN010020R1011		L	297,00
Hjelpekontakt for A, AF, AE, TAE og UA kontaktorer fra A95 til AF1650					
4116022	CAL-18-11	1SFN010720R1011		L	256,00

CA5-10

CAL5-11

Bestselgere
Mykstartere og motorvernbrytere

PSR45-MS450

PS-FBPA

PSTX105

PSTX170

PSTX250

PSTX470

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Mykstartere					
PSR for 100-240V 50/60Hz styrespenning og 208-600V AC motorspenning DIN-skinnemonterte, innebygget by-pass Dimensjoner: HxBxD=140x45x113,5mm					
4189778	PSR6-600-70 6A	1SFA896104R7000		L	1 710,00
4189779	PSR9-600-70 9A	1SFA896105R7000		L	2 100,00
4189780	PSR12-600-70 12A	1SFA896106R7000			2 440,00
4189781	PSR16-600-70 16A	1SFA896107R7000		L	2 710,00
Dimensjoner: HxBxD=160x45x128mm					
4189782	PSR25-600-70 25A	1SFA896108R7000		L	2 980,00
4189783	PSR30-600-70 30A	1SFA896109R7000		L	3 720,00
Dimensjoner: HxBxD=187x54x153mm					
4189784	PSR37-600-70 37A	1SFA896110R7000		L	5 490,00
4189785	PSR45-600-70 45A	1SFA896111R7000		L	7 240,00
Dimensjoner: HxBxD=220x70x180mm					
4189800	PSR60-600-70 60A	1SFA896112R7000		L	7 790,00
Motorvernbryteradaptere til PSR og feltbusadapter til PSR og PSE					
4189798	ADAPTER PSR37_45-MS450	1SFA896213R1001		L	309,00
4189721	ADAPTER PSR60_105-MS495	1SAM501903R1001		L	212,00
4189795	FELTBUSADAPTER FOR PSR/PSE PS-FBPA	1SFA896312R1002		L	2 930,00
PSE - kompaktmykstartere med innebygd By-pass, elektronisk overlastvern og momentstyring. Momentstyring gir den beste styringen for bl. a. start og stopp av pumper. Analog utgang, mulighet for feltbusstyring. Styrespenning 100-250V, motorspenning 208-600V. Dimensjoner HxBxD=245x90x185,5mm					
4189704	MYKSTARTER PSE45-600-70 45A	1SFA897105R7000		L	8 070,00
4189705	MYKSTARTER PSE60-600-70 60A	1SFA897106R7000		L	9 280,00
4189706	MYKSTARTER PSE72-600-70 72A	1SFA897107R7000		L	10 670,00
4189707	MYKSTARTER PSE85-600-70 85A	1SFA897108R7000		L	12 270,00
Dimensjoner HxBxD=295x130x219,5mm					
4189709	MYKSTARTER PSE142-600-70 142A	1SFA897110R7000		L	16 230,00
Dimensjoner HxBxD=550x190x236,5mm					
4189711	MYKSTARTER PSE210-600-70 210A	1SFA897112R7000		L	21 460,00
PSTX - toppserien til ABB. Den har 3-fas styring, innebygd by-pass og elektronisk overlastvern med mange funksjoner Styrespenning 100-250V 50/60Hz					
208-600V Dimensjoner: HxBxD=314x150x194mm					
4189731	MYKSTARTER PSTX105-600-70 105A	1SFA898109R7000		L	27 000,00
Dimensjoner: HxBxD= 377x199x236mm					
4189733	MYKSTARTER PSTX170-600-70 170A	1SFA898111R7000		L	36 010,00
4189734	MYKSTARTER PSTX210-600-70 210A	1SFA898112R7000		L	40 430,00
Dimensjoner: HxBxD= 470x258x276mm					
4189735	MYKSTARTER PSTX250-600-70 250A	1SFA898113R7000		L	47 080,00
4189736	MYKSTARTER PSTX300-600-70 300A	1SFA898114R7000		L	54 010,00
4189737	MYKSTARTER PSTX370-600-70 370A	1SFA898115R7000		L	61 090,00
Dimensjoner: HxBxD= 493x361x282mm					
4189738	MYKSTARTER PSTX470-600-70 470A	1SFA898116R7000		L	76 450,00
208-690V Dimensjoner: HxBxD= 377x199x236mm					
4189758	MYKSTARTER PSTX170-690-70 170A	1SFA898211R7000		L	43 210,00
Dimensjoner: HxBxD= 470x258x276mm					
4189761	MYKSTARTER PSTX300-690-70 300A	1SFA898214R7000		L	64 810,00

Bestselgere
Mykstartere og motorvernbrytere

MS132 0,16...10A

MS132 10...32A

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Motorvernbrytere					
MS132: Ved 230/400V: maks 100kA opptil 20A, maks 50kA opptil 32A, trippklasse 10					
Dimensjoner: HxBxD=opptil 10A: 90x45x81,25mm, større en 10A: 97,8x45x81,05mm					
4364073	MOTORVERNBRYTER MS132-0.63 0,4-0,63A	1SAM350000R1004		L	681,00
4364074	MOTORVERNBRYTER MS132-1.0 0,63-1,0A	1SAM350000R1005		L	791,00
4364075	MOTORVERNBRYTER MS132-1.6 1,0-1,6A	1SAM350000R1006		L	791,00
4364076	MOTORVERNBRYTER MS132-2.5 1,6-2,5A	1SAM350000R1007		L	791,00
4364077	MOTORVERNBRYTER MS132-4.0 2,5-4,0A	1SAM350000R1008		L	791,00
4364078	MOTORVERNBRYTER MS132-6.3 4,0-6,3A	1SAM350000R1009		L	791,00
4364079	MOTORVERNBRYTER MS132-10 6,3-10A	1SAM350000R1010		L	948,00
4364084	MOTORVERNBRYTER MS132-12,5 8-12,5A	1SAM350000R1012		L	948,00
4364080	MOTORVERNBRYTER MS132-16 10-16A	1SAM350000R1011		L	948,00
4364081	MOTORVERNBRYTER MS132-20 16-20A	1SAM350000R1013		L	1 030,00
4364082	MOTORVERNBRYTER MS132-25 20-25A	1SAM350000R1014		L	1 090,00
4364083	MOTORVERNBRYTER MS132-32 25-32A	1SAM350000R1015		L	1 410,00
Tilbehør til MS116/MS132					
4364278	HJELPEKONTAKT HKF1-11 FRONTMONTERT	1SAM201901R1001	1/10	L	113,00
4364279	HJELPEKONTAKT HK1-11 SIDEMONTERT	1SAM201902R1001	1/2	L	138,00
4364282	SIGNALKONTAKT SK1-11 SIDEMONTERT	1SAM201903R1001	1/2	L	226,00

Bestselgere
EPR - Elektroniske produkter og reléer

CT-MVS.21S

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Timere					
CT-E serien					
CT-MFE, 6 funksjoner, 1 vekselkontakt, 0,05s - 100t. NB - må ha hjelpespenning for forsinket AV. 24-240V AC/DC					
4187518	TIMER CT-MFE, MULT.FUNKSJON	1SVR550029R8100		L	1 620,00
ARE sann fors. AV 1 c/o, 2 led. NB - trenger ikke hjelpespenning Anbefales som erstatning for pnaumatisk timer TP xxIA til alle AF-kontaktorer (forsinket AV) 24VAC/DC, 220-240VAC					
4187537	TIMER CT-ARE, SANN FORS. AV 0,3-30S	1SVR550127R4100		L	1 160,00
CT-SDE, stjerne/trekant timere, 1 n/o og 1 n/c, 2-led, (0,3-30s), 50ms »dwelling time»					
4187566	TIMER CT-SDE, 24VAC/DC,220-240VAC	1SVR550217R4100		L	946,00
CT-S serien					
NB - Oppdatert sortement med ny design, samt i utgave med hhv. skruklemmer (S) og innstikklemme (P) CT-MFS og CT-MBS har potensialfrie kontakter, CT-MVS.21 og CT-MFS.21 har nedre temperaturgrense på -40 °C Multifunksjontimere, 0,05s-300t, NB - må ha hjelpespenning for forsinket AV					
4187930	TIMER CT-MVS.21S, 2C/O, 24-240VAC/DC	1SVR730020R0200		L	2 280,00
CT-ERS, forsinket PÅ, 2-led, 0,05s-300t, CT-ERS.21 og CT-APS.21 har nedre temperaturgrense på -40 °C For AF-kontaktorer: Anbefales til YD-timer (2c/o utgaven), og erstatning for pnaumatisk timer (TP xxDA)					
4187946	TIMER CT-ERS.21S, 2C/O, 24-240V AC/DC	1SVR730100R0300		L	1 620,00
CT-D serien (DIN-modulær utførelse) CT-MFD, mulitifunksjon , 0,05s-100t, 2-led					
4364060	TIMER CT-MFD.12, MULTI-F. 1C/O, 24-48VDC, 24-240VAC	1SVR500020R0000		L	2 100,00
4187691	TIMER CT-MFD.21, MULTI-F, 2C/O, 12-240VAC/DC	1SVR500020R1100		L	2 480,00
CT-AHD, forsinket AV, 0,05s-100t, 2-led, 24-48VDC, 24-240VAC					
4364062	TIMER CT-AHD.12, FORS. AV, 1C/O	1SVR500110R0000		L	1 360,00
Spenning- og 3-fas-overvåkingsreléer					
Spenning og 3-fas overvåkere NB - Oppdatert sortement med ny design, samt i utgave med hhv. skruklemmer (S) og innstikklemme (P) Q2 2012					
Spenningsovervåker 1-fas Måleområde: 3-600V AC/DC 1-fas Med justerbar utløserforsinkelse, 0 eller 0,1-30s					
4188084	SP.OVERV.RELÉ CM-ESS.2S, 2C/O, 24-240V AC/DC	1SVR730830R0400		L	3 240,00
3-fas overvåkere Faserekkefølge og fasebortfall-overvåking. Ny S og P-versjon er klar fra Q3/Q4-2012					
4187172	CM-PFE, 3-FAS OVERVÅKN.RELÉ, 3X208-440V 1C/O	1SVR550824R9100		L	1 300,00
4188094	CM-PFS.S 3-FAS OVERVÅKN.RELÉ 3X200-500V 2C/O	1SVR730824R9300		L	1 510,00
Rekkef, bortfall, under- og overspenning m.justérbar grenseverdi 2 c/o, 0,1-30s, L1-L2-L3=3x300-500VAC					
4188155	CM-PVS.41S 3-FAS OVERVÅKN.RELÉ	1SVR730794R3300		L	3 480,00
Fase-rekkefølge og -bortfall. Under og overspenning + ubalanse m.justérbar grenseverdi. Automatisk faserekkefølge-korrigering. 2 C/O, 0,1-30S, L1-L2-L3=3x350-580VAC					
4188142	CM-MPN.52S 3-FAS OVERVÅKN.RELÉ	1SVR750487R8300			4 800,00
2C/O, 0,1-30s, L1-L2-L3=3x450-720VAC					
4188144	CM-MPN.62S 3-FAS OVERVÅKN.RELÉ	1SVR750488R8300			4 800,00

Bestselgere
EPR - Elektroniske produkter og reléer

CM-IWS

CM-MSS (1),
1 c/o-kontakt
med automatisk nullstilling

C512, C513

CP-E24/1,25...2,5

CR-PSS

CR-M4LS

CR-M4SS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Isolasjon- og jordfeil-overvåkningsreléer					
1-100 kΩ, maks 10 µF, styrespenning 24-240V AC/DC.					
NB - bruk CM-IWS.1S til AC-nett der DC-komponenter kan opptre.					
4187800	ISOLASJONSVOVERVÅKER 0-400V AC CM-IWS.2S	1SVR730670R0200		L	3 550,00
4187801	ISOLASJONSVOVERVÅKER 0-250V AC/0-300V DC CM-IWS.1S	1SVR730660R0100		L	4 530,00
Termistor- og temperaturovervåker-reléer					
Termistorreléer					
Med 1 vekselkontakt, 2 LED, bimetallovervåking, auto reset (1)					
4185879	CM-MSS.12S. 24V AC/DC	1SVR730700R0100			1 100,00
Med 2 vekselkontakter, 2 LED, manuell reset (lokal/fjern) (2)					
4185881	CM-MSS.22S 24V AC/DC	1SVR730700R0200			1 200,00
4185884	CM-MSS.23S 110-130V/220-240V AC	1SVR730700R2200			1 200,00
Med 2 c/o, 2-led, manuell reset (lokal/fjern), k.sl.overv, ATEX (3)					
4185885	CM-MSS.32S 24V AC/DC	1SVR730712R0200			1 360,00
4185887	CM-MSS.33S 110-130V/220-240V AC	1SVR730712R2200		L	1 260,00
Med test/reset knapp, k.sl.overv. 24-240V AC/DC, 2 LED, ATEX (4/5)					
4185873	CM-MSS.31S 2C/O	1SVR730712R1400		L	2 100,00
Temperaturovervåkere					
Digital visning, under/over-temp. måleomr: -50..+500 °C, 1NO+2C/O, 3 LED. PT100/1000, KTY83/84, NTC-B57227-K333-A1 1-3 sensorer					
4187261	TEMP. MON. C513W 24-240V AC/DC	1SAR700110R0010		L	8 820,00
Strømforsyninger					
Kompakte "switch mode" strømforsyninger for DIN-skinne montasje, IP20					
CP-E strømforsyninger. De som ikke er spesielt merket: 100-240V AC/DC tilførsel					
6609443	CP-E 24/1.25, 24V DC, 1,25A 30W	1SVR427031R0000		L	856,00
6609444	CP-E 24/2.5, 24V DC, 2,5A 60W	1SVR427032R0000		L	1 080,00
6609450	CP-E 24/5.0, INN: 115/230, UT: 24VDC, 5A 120W	1SVR427034R0000		L	1 670,00
Pluggbare reléer					
PCB-reléer (for sokkel/kretskortmontasje). Dimensjoner (sokkel): L: 75 x B: 15,5 x H: 62 mm. Høyde relé er 16,7 mm					
1 vekselkontakt, 250V, 16A.					
4187338	PLUGGB. INTERF. RELE CR-P024DC2	1SVR405601R1000	1/10	L	43,00
4187345	PLUGGB. INTERF. RELE CR-P230AC2	1SVR405601R3000	1/10	L	79,50
Sokkel/holder					
STANDARD=A1, A2 og felles, tilkobl. nedside					
4187348	STANDARD SOKKEL CR-PSS	1SVR405650R1000	1/10	L	51,90
Miniatyrreléer (14-pin)					
Dimensjoner (sokkel): L: 82 x B: 27 x H: 42,5 mm. Høyde relé er 35,6 mm					
Uten LED, 4 vekselkontakter, 250V, 6A					
4187374	PLUGGB. RELE CR-M024DC4	1SVR405613R1000	1/10	L	86,00
4187383	PLUGGB. RELE CR-M230AC4	1SVR405613R3000	1/10	L	100,00
Med LED, 4 vekselkontakter, 250V, 6A					
4187407	PLUGGB. RELE CR-M024DC4L	1SVR405613R1100	1/10	L	103,00
4187410	PLUGGB. RELE CR-M110DC4L	1SVR405613R8100	1/10	L	112,00
4187411	PLUGGB. RELE CR-M220DC4L	1SVR405613R9100	1/10	L	118,00
4187416	PLUGGB. RELE CR-M230AC4L	1SVR405613R3100	1/10	L	115,00
Sokkel/holder					
LOGISK=A1 og A2 tilkobl nedside, øvrige tilkobl. overside					
4187430	LOGISK SOKK. CR-M4LS, SKRU-TILKOBL. TIL 2, 3 OG 4 C/O	1SVR405651R3100	1/10	L	60,70
STANDARD=A1, A2 og felles tilkobl. nedside, no/nc tilkobl. overside					
4187433	STANDARD. SOKK. CR-M4SS, SKRU-TILKOBL. TIL 2, 3 OG 4 C/O	1SVR405651R3000	1/10	L	58,40

Bestselgere
EPR og betjeningsmateriell

CR-U3S

Universalreléer

3c/o = 11 pin
Dimensjoner (sokkel): L: 75 x B: 38 x H: 26 mm. Høyde relé er 54,4 mm

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Med LED, 3 vekselkontakter, 250V, 10A					
4187485	PLUGGB. INTERF. RELE CR-U024DC3L	1SVR405622R1100	1/10	L	141,00
4187488	PLUGGB. INTERF. RELE CR-U220DC3L	1SVR405622R9100	1/10	L	154,00
4187493	PLUGGB. INTERF. RELE CR-U230AC3L	1SVR405622R3100	1/10	L	148,00
Sokkel/timermodul					
4187495	SOKK. CR-U3S FOR FUNKSJONSMODUL, TIL 3 C/O (11-PIN)	1SVR405660R0000	1/10	L	61,70
4187516	CR-UT 24-240V AC/DC TIMERMODUL	1SVR405667R0000	1/10	L	621,00

Betjeningsmateriell modulært, betjeningsfronter

Trykknapper uten/med lys, uten holder og kontaktblokk, IP66
Impuls, lavt trykke
Uten lys

4372001	RØD	MP1-10R	1SFA611100R1001	1/10	L	68,40
4372002	GRØNN	MP1-10G	1SFA611100R1002	1/10	L	68,40
4372006	SORT	MP1-10B	1SFA611100R1006	1/10	L	68,40
Med lys						
4372051	M. LYS RØD	MP1-11R	1SFA611100R1101	1/10	L	68,40
4372052	M. LYS GRØNN	MP1-11G	1SFA611100R1102	1/10	L	68,40
Vendere med 2-posisjoner, med/uten lys, uten holder og kontaktblokk, IP66 **Faste stillinger i B og C**						
4372276	SORT, KORT HÅNDTAK	M2SS1-10B	1SFA611200R1006	1/10	L	131,00
Faste stillinger i A og C						
4372286	SORT, KORT HÅNDTAK	M2SS2-10B	1SFA611201R1006	1/10	L	131,00
4372414	MED LYS BLÅ, KORT HÅNDTAK	M2SS2-11L	1SFA611201R1104	1/10	L	131,00
Vendere med 3-posisjoner, uten lys, uten holder og kontaktblokk, IP66 **Faste stillinger i A, B og C**						
4372336	SORT, KORT HÅNDTAK	M3SS1-10B	1SFA611210R1006	1/10	L	167,00
Faste stillinger i A, B og C. Nøkkel ut i alle pos.						
4372543	NØKKELVENDER	M3SSK1-101	1SFA611283R1001		L	458,00

Doble trykknapper **Øvre trykknapp grønn, nedre trykknapp rød, uten holder og kontaktblokk**						
4372101	SORT LINSE, MERKET «I» OG «O»	MPD2-11B	1SFA611131R1106	10	L	145,00
	KLAR LINSE MED LYS, MERKET «I» OG «O»	MPD2-11C	1SFA611131R1108	10	L	145,00
Signallamper **Kun lampefront**						
4372571	RØD	ML1-100R	1SFA611400R1001	1/10	L	44,20
4372572	GRØNN	ML1-100G	1SFA611400R1002	1/10	L	41,90

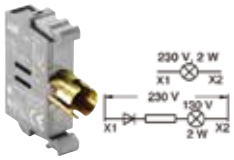
ML1-2x

ML1-1x

Komplette signallamper med holder og lampeblokk u/pære **Direktematet max 2W 230V**						
4373001	RØD	ML1-201G	1SFA611400R2011		L	138,00
4373002	GRØNN	ML1-201G	1SFA611400R2012		L	138,00
Potmeter **Komplett betjeningsdel i sort plast med 10k-ohm motstand**						
4372300	MT-110B		1SFA611410R1106		L	540,00

MT-150B

Bestselgere
Betjeningsmateriell



MA1-8131

MPET3-10R 30mm

LED

Trafoblokk m lampeholder

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Holdere, kontaktblokker og lampeblokker etc.						
Modul holdere						
4373197	HOLDER FOR 3 BLOKK	MCBH-00	1SFA611605R1100	1/10	L	24,30
Kontaktblokker for frontmontering						
4373185	KONTAKTBLOKK 1NO	MCB-10	1SFA611610R1001	1/10	L	59,60
4373186	KONTAKTBLOKK 1NC	MCB-01	1SFA611610R1010	1/10	L	59,60
Kontaktblokker for bunnmontering (til kapslinger og DIN-adapter)						
4373050	KONTAKTBLOKK 1NO FOR BUNNMOTERING	MCB-10B	1SFA611610R2001	1/10	L	60,70
4373051	KONTAKTBLOKK 1NC FOR BUNNMOTERING	MCB-01B	1SFA611610R2010	1/10	L	60,30
Lampeblokker for frontmontering						
4373190	LAMPEBLOKK DIREKTEMATET 6-230V MAX 2W 230V	MLB-1	1SFA611620R1001	1/10	L	57,40
4373192	LAMPEBLOKK 230V FOR 130V	MLB-3	1SFA611620R1003	1/10	L	87,20
Lampeblokker for bunnmontering (til kapslinger og DIN-adapter)						
4373055	LAMPEBLOKK DIREKTEMATET FOR BUNN-MONTERING MAX 2W 230V	MLB-1B	1SFA611620R2001	1/10	L	57,40
Tilbehør						
4373316	BESKYTTELOKK FOR LAVT TRYKKE	KA1-8010	1SFA616920R8010		L	166,00
Adapter for montering av modulær trykknapp på DIN-skinne NB - bruk bunnmonterte kontaktblokker						
4373367	DIN-RAIL ADAPT.MA1-8131	MA1-8131	1SFA611920R8131		L	108,00
Løse berøringsbeskyttelser til 40 mm trykknapp, høy låsbar type Brukes separat eller til modulær/kompakt-kapsling						
4373365	BERØRINGSSIKRING GUL	MA1-8053	1SFA611920R8053	1/10	L	88,20
Løse berøringsbeskyttelser, lav type						
4373371	BERØRINGSSIKR. GUL	CA1-8053	1SFA619920R8053		L	67,20
Komplette trykknapper, signallamper og vendere						
Komplette trykknapper impuls, uten lys, alle farger følger med						
4372639	LAV FRONT, IMPULS, 1NO+1NC, ALLE FARGER		1SFA611100R4079		L	248,00
Komplette signallamper, alle farger følger med (uten lyskilde)						
4373029	ALLE FARGER, 230V DIREKTE, 130V GLØDELAMPE		1SFA611400R2039		L	256,00
Komplett dobbeltykknapp, flat front med grønn linse (uten lyskilde) Grønn merket «I» og rød merket «O»						
4372766	1NO + 1NC + LAMPEBLOKK		1SFA611131R2272		L	320,00
Vendere med kort håndtak, 2-posisjoner Fast B og C						
4372861	SORT, 1NO		1SFA611200R4016		L	284,00
Vendere med kort håndtak, 3-posisjoner Fast						
4372873	SORT, 2NO		1SFA611210R4026		L	378,00
Nødstoppfronter, led og transformatorblokker						
Nødstopp-fronter - uten lys, ihht IEC 60947-5-5, holder og kontaktblokker bestilles separat						
4372205	NØDSTOPP Ø=40MM VRI	MPET4-10R	1SFA611523R1001		L	217,00
4372206	NØDSTOPP Ø=40MM DRA	MPEP4-10R	1SFA611524R1001		L	217,00
LED med Ba9s sokkel						
4373401	24V AC/DC RØD, 15MA	KA2-2021	1SFA616921R2021		L	176,00
4373403	24V AC/DC GUL, 15MA	KA2-2023	1SFA616921R2023		L	176,00
4373405	24V AC/DC HVIT, 15MA	KA2-2025	1SFA616921R2025		L	176,00
4373421	230V AC RØD, 4MA	KA2-2221	1SFA616921R2221		L	149,00
4373422	230V AC GRØN, 4MA	KA2-2222	1SFA616921R2222		L	260,00
4373425	230V AC HVIT, 4MA	KA2-2225	1SFA616921R2225		L	260,00
Modul transformator med lampholder for signallamper						
4373229	220-250V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-1012	1SFA616950R1012		L	328,00
	440-480/24V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-1014	1SFA616950R1014		L	393,00

Bestselgere
Betjeningsmateriell

CP1../ CP2..

CEPY1-2002

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Betjeningsmateriell - Compact						
Trykknapper med integrerte kontakter, IP66/67/69K						
Trykknapper impuls, lavt trykke						
4373394	GRØNN , 1NO	CP1-10G-10	1SFA619100R1012		L	122,00
4373427	GRØNN , 2NO	CP1-10G-20	1SFA619100R1022		L	169,00
4372677	RØD , 1NO + 1NC	CP1-10R-11	1SFA619100R1071		L	169,00
4372678	GRØNN , 1NO + 1NC	CP1-10G-11	1SFA619100R1072		L	169,00
4372682	SORT , 1NO + 1NC	CP1-10B-11	1SFA619100R1076		L	169,00
Vendere med integrerte kontakter, IP66/67/69K						
Vendere 2-posisjoner, kort håndtak						
Faste stillinger i B og C						
4372690	SORT, 2NO	C2SS1-10B-20	1SFA619200R1026		L	218,00
Faste stillinger i A og C						
4373494	SORT, 1NO + 1NC	C2SS2-10B-11	1SFA619201R1076		L	218,00
Vendere 3-posisjoner, kort håndtak						
Faste stillinger i A, B og C						
4372694	SORT, 2NO	C3SS1-10B-20	1SFA619210R1026		L	218,00
Signallampe med integrert led						
4373505	RØD FRONT - LED 24V AC/DC	CL2-502R	1SFA619403R5021		L	144,00
4373506	GRØNN FRONT - LED 24V AC/DC	CL2-502G	1SFA619403R5022		L	144,00
4373535	RØD FRONT - LED 230V AC	CL2-523R	1SFA619403R5231		L	144,00
4373536	GRØNN FRONT - LED 230V AC	CL2-523G	1SFA619403R5232		L	144,00
4373537	GUL FRONT - LED 230V AC	CL2-523Y	1SFA619403R5233		L	144,00
4373538	BLÅ FRONT - LED 230V AC	CL2-523L	1SFA619403R5234		L	144,00
4373539	KLAR FRONT - LED 230V AC	CL2-523C	1SFA619403R5238		L	144,00
Nødstop, oppfyller IEC 60947-5-5						
4372737	RØD, 30MM, VRID RETUR, 2NC	CE3T-10R-02	1SFA619500R1051		L	226,00
4372717	RØD, 40MM, VRID RETUR, 2NC	CE4T-10R-02	1SFA619550R1051		L	226,00
Kapslede trykknapper / tomme kapslinger i plast						
Komplett kapsling, med trykknapp/lampe og kontaktelementer, IP66						
2-hull, mørkgrå topp/lysgrå bunn						
Dimensjoner:LxBxD=141x74,4x60,5mm						
4373157	2 TRYKKNAPPER, IMPULS,	MEP2-1001	1SFA611812R1001		L	758,00
	RØD (O) 1NC, GRØNN (I) 1NO					
1-hull, gul topp/lysgrå bunn «NØDSTOPP», NB merkeplate følger ikke med - se s. 76						
Dimensjoner:LxBxD=101x74,4x60,5mm						
4373156	NØDSTOPP, RØD, VRI, 2NC, 40 MM	MEPY1-1005	1SFA611821R1005		L	828,00
Komplett Compact-kapsling for nødstopp, med berøringsbeskyttelse, gul/lys grå, IP66/67/69K						
4373375	NØDSTOPP I KAPSLING VRI 2NC	CEPY1-2001	1SFA619821R2001		L	806,00
Tomme plastkapslinger, IP66						
Husk å bruke kontakt/lampe-blokk for bunnmontering (f.eks MCB-10B) Se s. 67						
Dimensjoner:LxBxD=101x74,4x60,5mm						
4373041	KAPSLING M 1 HULL MØRKGRÅ/LYSGRÅ	MEP1-0	1SFA611811R1000		L	334,00
Dimensjoner:LxBxD=181x74,4x60,5mm						
4373043	KAPSLING M 3 HULL MØRKGRÅ/LYSGRÅ	MEP3-0	1SFA611813R1000		L	442,00

Bestselgere
Rekkeklemmer - BRU avgreningsklemmer

BADL

BRU80AL

BRU125AL

BRU175AL

BRU400AL

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Rekkeklemmer - BRU avgreningsklemmer						
Endestopper						
1260916	ENDESTOPPER 9 MM	BADL	1SNA399903R0200	1/50	L	18,80
Avgreningsklemmer BRU - for Cu og Al kabel						
1258400	AVGRENINGSKLEMME GRÅ	BRU 125 AL	1SNA356204R1100		L	380,00
1258401	AVGRENINGSKLEMME GRÅ	BRU 160 AL	1SNA356200R2100		L	563,00
1258405	AVGRENINGSKLEMME GRÅ	BRU 250 AL	1SNA179657R1500		L	973,00
1258407	AVGRENINGSKLEMME GRÅ	BRU 400 AL	1SNA179650R2200		L	1 060,00

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Kontaktorer
Installasjonskontaktorer (DIN-modulære)

EN20-20

EN24-40

Forklaring typebetegnelse:
F.eks. A 9-30-01 230V... = A-kontaktor, 9A AC3, hovedkontakter=3NO, hjelpekontakter=1NC, spolespenning=230V...
A-serien og ESB20 har AC-spole, AF-serien har multispenningsspole AC/DC ESB24...63 har AC/DC-spole og AL/AE-serien har DC-spole

Installasjonskontaktorer (modulære)

ESB24…ESB63 har AC/DC spole som er støyfri/gir ingen brumming

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
2-pol, 1-modul - Kun for ohmsk last 20A					
4186311	ESB20-02 24V 50HZ	GHE3211202R0001			532,00
4186301	ESB20-20 24V 50HZ	GHE3211102R0001		L	476,00
4186321	ESB20-11 24V 50HZ	GHE3211302R0001	10		507,00
4186314	ESB20-02 230V 50HZ	GHE3211202R0006		L	495,00
4186304	ESB20-20 230V 50HZ	GHE3211102R0006		L	476,00
4186324	ESB20-11 230V 50HZ	GHE3211302R0006		L	476,00
2-pol, 2-modul, 24A					
4186325	ESB24-20 24V AC/DC	GHE3291402R0001			499,00
4186326	ESB24-20 230V AC/DC	GHE3291402R0006		L	480,00
EN- variant med bryter i front Manuell-Av-Auto					
1429780	EN20-20 230V 50HZ 2NO	GHE3221101R0006	10		746,00
4-pol, 2-modul, 24A					
4186341	ESB24-04 24V AC,DC	GHE3291202R0001			783,00
4186331	ESB24-40 24V AC,DC	GHE3291102R0001		L	602,00
4186351	ESB24-22 24V AC,DC	GHE3291302R0001		L	632,00
4186361	ESB24-31 24V AC,DC	GHE3291602R0001			614,00
4186332	ESB24-40 48V AC,DC	GHE3291102R0003			709,00
4186343	ESB24-04 110-127V AC,DC	GHE3291202R0004			783,00
4186333	ESB24-40 110-127V AC,DC	GHE3291102R0004			602,00
4186353	ESB24-22 110-127V AC,DC	GHE3291302R0004			632,00
4186344	ESB24-04 220-240V AC,DC	GHE3291202R0006		L	695,00
4186334	ESB24-40 220-240V AC,DC	GHE3291102R0006		L	602,00
4186354	ESB24-22 220-240V AC,DC	GHE3291302R0006		L	632,00
4186364	ESB24-31 220-240V AC,DC	GHE3291602R0006		L	614,00
4186336	ESB24-40 380-415V AC,DC	GHE3291102R0007			709,00
EN- variant med bryter i front Manuell-Av-Auto					
	EN24-40-24V AC/DC 4NO	GHE3261101R0001			792,00
1429782	EN24-40-230V AC/DC 4NO	GHE3261101R0006			765,00
4-pol, br=54 mm, 40A					
4186371	ESB40-40 24V,AC,DC	GHE3491102R0001			1 400,00
4186372	ESB40-40 48V,AC,DC	GHE3491102R0003			1 400,00
4186374	ESB40-40 230V,AC,DC	GHE3491102R0006		L	1 290,00
4186376	ESB40-40 400V,AC,DC	GHE3491102R0007			1 400,00
4186377	ESB40-40 415V,AC,DC	GHE3491102R0008			1 400,00
EN- variant med bryter i front Manuell-Av-Auto					
	EN40-40, 24V AC/DC 4NO	GHE3421101R0001			1 400,00
1429785	EN40-40, 230V AC/DC 4NO	GHE3421101R0006			1 480,00
4-pol, br=54 mm, 63A					
4186381	ESB63-40 24V AC,DC	GHE3691102R0001			1 790,00
4186384	ESB63-40 230V AC,DC	GHE3691102R0006		L	1 640,00
Hjelpekontaktblokker					
4186395	EH04-20 FOR ESB 24 - ESB 63	GHE3401321R0001			239,00
4186396	EH04-11 FOR ESB 24 - ESB 63	GHE3401321R0002		L	253,00
Diverse ESB					
4186397	DISTANSESTYKKE ESB-DIS	GHE3201902R0001		L	18,80

Flere varianter, også EN-utgave, i prisliste Automatsikringer og modulære produkter.

Kontaktorer
Mini-kontaktorer og mini-hjelpereléer med AC-styrespenning

B6-30-01

B6-40-00

K6-40E

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
3-polede minikontaktorer AC					
B6 (Ie ved 230V/400V 40°C AC1=16A , AC3=9A, 2,2kW ved 230V/4kW ved 400V)					
Minikontaktorer med skrukobling. Dimensjoner skrukobling: HxBxD=45x47,5x46,5mm					
4184006	B 6-30-01 24V 50/60HZ	GJL1211001R0011			373,00
4184005	B 6-30-10 24V 50/60HZ	GJL1211001R0101			373,00
4184001	B 6-30-01 230V 50/60HZ	GJL1211001R8010		L	345,00
4184000	B 6-30-10 230V 50/60HZ	GJL1211001R8100		L	345,00
Minikontaktor med flatstift					
Dimensjoner flatstift: HxBxD=45x47,5x46,5mm					
4184010	B 6-30-10F 230V 50/60HZ	GJL1211003R8100			429,00
Minikontaktor med plugg inn					
Dimensjoner plugg inn: HxBxD=45x47,5x47,5mm					
4184026	B 6-30-01P 24V 50/60HZ	GJL1211009R0011			440,00
4184021	B 6-30-01P 230V 50/60HZ	GJL1211009R8010			440,00
4184020	B 6-30-10P 230V 50/60HZ	GJL1211009R8100			429,00
B7 (Ie ved 230V/400V 40°C AC1=20A, AC3=12A, 3kW ved 230V/5,5kW ved 400V)					
Minikontaktor med skrutilkobling. Dimensjoner skrukobling: HxBxD=45x47,5x46,5mm					
4183905	B 7-30-01 24V 50/60HZ	GJL1311001R0011			459,00
4183901	B 7-30-10 24V 50/60HZ	GJL1311001R0101			416,00
4183907	B 7-30-01 230V 50/60HZ	GJL1311001R8010			416,00
4183903	B 7-30-10 230V 50/60HZ	GJL1311001R8100		L	416,00
Reverseringsvendere VB6					
Ie ved 230V/400V 40°C AC1=16A , AC3=9A, 2,2kW ved 230V/4kW ved 400V. Dimensjoner: HxBxD=45x96,5x46,5mm					
4184070	VB6-30-10 230V 50/60HZ	GJL1211901R8100			757,00
Reverseringsvendere VB7					
Ie ved 230V/400V 40°C AC1=20A , AC3=12A, 3,0kW ved 230V/5,5kW ved 400V. Dimensjoner: HxBxD=45x96,5x46,5mm					
4183962	REV.VENDER VB7-30-10 230V AC 50/60HZ	GJL1311901R8100			788,00
4183962	REV.VENDER VB7-30-10 230V AC 50/60HZ	GJL1311901R8100			788,00
	REV.VENDER VB7-30-01 24V AC 50/60HZ	GJL1311901R0011			919,00
	REV.VENDER VB7-30-10 400V AC 50/60HZ	GJL1311901R8105			780,00
AC minikontaktorer finnes i flere varianter (flatstift, plugg-inn, for PLS-utgang, Interfacereleer)					
4-polede minikontaktorer AC					
B6 (Ie ved 230V/400V 40°C AC1=16A , AC3=9A, 2,2kW ved 230V/4kW ved 400V)					
Dimensjoner skrukobling: HxBxD=45x47,5x46,5mm					
4184007	B 6-40-00 SKRU 24V 50/60HZ	GJL1211201R0001			409,00
4183910	B 6-40-00 SKRU 220V 50/60HZ	GJL1211201R8000		L	373,00
4184012	B 6-40-00F FLATSTIFT 380V 50/60HZ	GJL1211203R8005			396,00
B7 (Ie ved 230V/400V 40°C AC1=20A, AC3=12A, 3kW ved 230V/5,5kW ved 400V)					
	B 7-40-00 SKRU 230V 50/60HZ	GJL1311201R8000			400,00
Hjelpereléer for AC					
Minikontaktor «type»					
Ie: AC15=4/4/3A (24/240/400V), DC13=1,5/0,04A (24/250V) Ue= 12-240V DC, 12-500V AC					
Dimensjoner skrukobling: HxBxD=45x47,5x46,5mm. Med skrutilkobling					
4190507	K 6-22 Z 24V 40-450HZ	GJH1211001R0221			318,00
4190506	K 6-31 Z 24V 40-450HZ	GJH1211001R0311			337,00
4190505	K 6-40 E 24V 40-450HZ	GJH1211001R0401			337,00
	K 6-22Z 110-127V 40-450HZ	GJH1211001R8224			347,00
	K 6-31Z 110-127V 40-450HZ	GJH1211001R8314			335,00
	K 6-40E 110-127V 40-450HZ	GJH1211001R8404			335,00
4190503	K 6-22 Z 220V 40-450HZ	GJH1211001R8220			320,00
4190502	K 6-31 Z 220V 40-450HZ	GJH1211001R8310			347,00
4190501	K 6-40 E 220V 40-450HZ	GJH1211001R8400			320,00
Med flatstifttilkobling					
4190510	K 6-40 E-F 220V 40-450HZ	GJH1211003R8400			365,00
Med pinner for lodding					
	K 6-31Z-P 220-240V 40-450HZ	GJH1211009R8310			360,00

Kontaktorer
Mini-kontaktorer og mini-hjelpereléer med AC-styrespenning

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
B6 Minikontaktorer (Ie ved 230V/400V 40°C AC1=16A , AC3=9A, 2,2kW ved 230V/4kW ved 400V) Dimensjoner skrukobling og flatstift B6/B7: HxBxD=45x47,5x46,5mm Minikontaktorer med skrutilkobling					
4184031	BC6-30-01 24V DC	GJL1213001R0011		L	399,00
4184030	BC6-30-10 24V DC	GJL1213001R0101		L	399,00
	BC6-30-01 48V DC	GJL1213001R1016			454,00
	BC6-30-10 48V DC	GJL1213001R1106		L	439,00
4184036	BC6-30-01 110V DC	GJL1213001R0014			399,00
4184035	BC6-30-10 110V DC	GJL1213001R0104		L	399,00
4184041	BC6-30-01 220V DC	GJL1213001R0015		L	399,00
4184040	BC6-30-10 220V DC	GJL1213001R0105			399,00
Minikontaktorer/Interfase reléer, med skrutilkobling					
4184101	BC6-30-01 24V DC, 1,4W	GJL1213001R8011			584,00
4184100	BC6-30-10 24V DC, 1,4W	GJL1213001R8101			584,00
4184116	BC6-30-01 17-32V DC, 2,4W	GJL1213001R5011			472,00
4184115	BC6-30-10 17-32V DC, 2,4W	GJL1213001R5101			472,00
Minikontaktorer for PLS utganger, med skrutilkobling					
4184131	B6S-30-01 24V DC, 1,7W	GJL1213001R7011			478,00
4184130	B6S-30-10 24V DC, 1,7W	GJL1213001R7101			446,00
4184136	B6S-30-01 17-32V DC, 2,8W	GJL1213001R7012			506,00
4184135	B6S-30-10 17-32V DC, 2,8W	GJL1213001R7102			493,00
Minikontaktorer med plugg inn Dimensjoner plugg inn: HxBxD=45x47,5x47,5mm					
4184046	BC6-30-01P 24V DC	GJL1213009R0011			471,00
4184045	BC6-30-10P 24V DC	GJL1213009R0101			471,00
4184056	BC6-30-01P 220V DC	GJL1213009R0015			471,00
B7 Minikontaktorer (Ie ved 230V/400V 40°C AC1=20A, AC3=12A, 3kW ved 230V/5,5kW ved 400V) Minikontaktorer med skrutilkobling					
4183943	BC7-30-01 24V DC	GJL1313001R0011			496,00
4183940	BC7-30-10 24V DC	GJL1313001R0101			454,00
Minikontaktorer for PLS utganger, med skrutilkobling					
4183993	B7S-30-01 24V DC, 1,7W	GJL1313001R7011			540,00
4183992	B7S-30-10 24V DC, 1,7W	GJL1313001R7101			540,00
DC Minikontaktorer finnes i flere varianter (flatstift, plugg-inn, for PLS utgang, Interfacereléer) samt 4-pol utførelse.					

Hjelpereléer for DC

**Minikontaktor «type»
Ie: AC15=4/4/3A (24/240/400V), DC13=1,5/0,04A (24/250V) Ue= 12-240V DC, 12-500V AC
Dimensjoner skrukobling: HxBxD=45x47,5x46,5mm**

	KC6-40E 24V DC	GJH1213001R0401		L	348,00
4190535	KC6-40E 110V DC	GJH1213001R0404			367,00
4190540	KC6-40E 220V DC	GJH1213001R0405			348,00
4190531	KC6-31Z 24V DC	GJH1213001R0311			367,00
4190536	KC6-31Z 110V DC	GJH1213001R0314			367,00
4190541	KC6-31Z 220V DC	GJH1213001R0315			348,00
4190532	KC6-22Z 24V DC	GHJ1213001R0221			365,00
4190537	KC6-22Z 110V DC	GJH1213001R0224			367,00
4190542	KC6-22Z 220V DC	GJH1213001R0225			367,00
Stort spenningsområde, skrutilkobling					
	KC6-31-Z-2.4 17-32VDC	GJH1213001R5311			389,00
	KC6-40E-2.4 17-32VDC	GJH1213001R5401			389,00
Stort spenningsområde, integrert beskyttelseskrets, skrutilkobling					
	K6S-22-Z-2,8 17-32VDC	GJH1213001R7222			422,00
	K6S-31-Z-2,8 17-32VDC	GJH1213001R7312			422,00
	K6S-40-E-2,8 17-32VDC	GJH1213001R7402			422,00

Kontaktorer
AF9…AF370, 3-pol

AF9-30-10..AF16-30-10

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF-kontaktorer					
AF-serien er ABB sin industrielle kontaktorserie. Den leveres med spole som kan mates med både AC (50/60Hz) og DC styrespenning med et bredt spenningsområde - f.eks 100-250V. AF kontaktorene har svært lavt innslag- og holdeforbruk.					
(AF9Z-AF38Z er spesialutgave med EKSTRA LAV spoleeffekt samt motstår spenningsdipper på opptil 20ms. AF40...AF2650 motstår tilsvarende spenningsdipper på standardutggaven.)					
NB! - NC kontakt er ikke nødvendig ved forrigling, da el/mek forrigling VEM4 har dette innebygd.					
Max 690V/25-400Hz på hovedpoler.					
3-polede kontaktorer					
AF9					
25A AC1 m/4mm² kabel, 9A AC3, 4kW (400V)					
Dimensjoner AF9-AF16: HxBxD=86x45x71,5mm					
4117500	AF09-30-10-13 100-250V AC/DC	1SBL137001R1310		L	412,00
4117660	AF09-30-10-41 24-60V50/60HZ - KUN AC !	1SBL137001R4110			408,00
4117502	AF09-30-10-12 48-130V AC/DC	1SBL137001R1210			421,00
4117503	AF09-30-10-14 250-500V AC/DC	1SBL137001R1410		L	412,00
4117504	AF09-30-01-13 100-250V AC/DC	1SBL137001R1301		L	435,00
4117661	AF09-30-01-41 24-60V50/60HZ - KUN AC !	1SBL137001R4101		L	414,00
4117506	AF09-30-01-12 48-130V AC/DC	1SBL137001R1201			435,00
4117507	AF09-30-01-14 250-500V AC/DC	1SBL137001R1401			435,00
AF9Z					
4117508	AF09Z-30-10-21 24-60VAC/20-60VDC FOR PLS <500MA	1SBL136001R2110		L	720,00
4117509	AF09Z-30-10-20 12-20VDC NB KUN DC!	1SBL136001R2010			738,00
4117510	AF09Z-30-10-22 48-130V AC/DC	1SBL136001R2210			738,00
4117511	AF09Z-30-10-23 100-250V AC/DC	1SBL136001R2310			720,00
4117512	AF09Z-30-01-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL136001R2101			750,00
4117513	AF09Z-30-01-20 12-20VDC NB KUN DC!	1SBL136001R2001			750,00
4117514	AF09Z-30-01-22 48-130V AC/DC	1SBL136001R2201			750,00
4117515	AF09Z-30-01-23 100-250V AC/DC	1SBL136001R2301			750,00
AF12					
28A AC1 m/6mm² kabel, 12A AC3, 5,5kW (400V)					
4117516	AF12-30-10-13 100-250V AC/DC	1SBL157001R1310		L	594,00
4117664	AF12-30-10-41 24-60V50/60HZ - KUN AC !	1SBL157001R4110			584,00
4117518	AF12-30-10-12 48-130V AC/DC	1SBL157001R1210			621,00
4117519	AF12-30-10-14 250-500V AC/DC	1SBL157001R1410			594,00
4117520	AF12-30-01-13 100-250V AC/DC	1SBL157001R1301			632,00
4117665	AF12-30-01-41 24-60V50/60HZ - KUN AC !	1SBL157001R4101			602,00
4117522	AF12-30-01-12 48-130V AC/DC	1SBL157001R1201			632,00
4117523	AF12-30-01-14 250-500V AC/DC	1SBL157001R1401			632,00
AF12Z					
4117524	AF12Z-30-10-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL156001R2110		L	1 060,00
4117525	AF12Z-30-10-20 12-20VDC NB KUN DC!	1SBL156001R2010			1 070,00
4117526	AF12Z-30-10-22 48-130V AC/DC	1SBL156001R2210			1 070,00
4117527	AF12Z-30-10-23 100-250V AC/DC	1SBL156001R2310			1 060,00
4117528	AF12Z-30-01-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL156001R2101			1 170,00
4117529	AF12Z-30-01-20 12-20VDC NB KUN DC!	1SBL156001R2001			1 170,00
4117530	AF12Z-30-01-22 48-130V AC/DC	1SBL156001R2201			1 170,00
4117531	AF12Z-30-01-23 100-250V AC/DC	1SBL156001R2301			1 170,00

Kontaktorer
AF9…AF370, 3-pol

AF26-30-00..AF38-30-00

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF16 30A AC1 m/6mm² kabel, 18A AC3, 7,5kW (400V)					
4117532	AF16-30-10-13 100-250V AC/DC	1SBL177001R1310		L	752,00
4117666	AF16-30-10-41 24-60V50/60HZ - KUN AC !	1SBL177001R4110			740,00
4117534	AF16-30-10-12 48-130V AC/DC	1SBL177001R1210			757,00
4117535	AF16-30-10-14 250-500V AC/DC	1SBL177001R1410		L	752,00
4117536	AF16-30-01-13 100-250V AC/DC	1SBL177001R1301		L	1 000,00
4117667	AF16-30-01-41 24-60V50/60HZ - KUN AC !	1SBL177001R4101			767,00
4117538	AF16-30-01-12 48-130V AC/DC	1SBL177001R1201			1 000,00
4117539	AF16-30-01-14 250-500V AC/DC	1SBL177001R1401			1 000,00
AF16Z					
4117540	AF16Z-30-10-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL176001R2110			1 340,00
4117541	AF16Z-30-10-20 12-20VDC NB KUN DC!	1SBL176001R2010			1 360,00
4117542	AF16Z-30-10-22 48-130V AC/DC	1SBL176001R2210			1 360,00
4117543	AF16Z-30-10-23 100-250V AC/DC	1SBL176001R2310			1 340,00
4117544	AF16Z-30-01-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL176001R2101			1 380,00
4117545	AF16Z-30-01-20 12-20VDC NB KUN DC!	1SBL176001R2001			1 380,00
4117546	AF16Z-30-01-22 48-130V AC/DC	1SBL176001R2201			1 380,00
4117547	AF16Z-30-01-23 100-250V AC/DC	1SBL176001R2301			1 380,00
AF26 45A AC1 m/10mm² kabel, 26A AC3, 11kW (400V) Dimensjoner AF26-AF38: HxBxD=86x45x80,5mm					
4117548	AF26-30-00-13 100-250V AC/DC	1SBL237001R1300		L	1 160,00
4117670	AF26-30-00-41 24-60V50/60HZ - KUN AC !	1SBL237001R4100			1 140,00
4117550	AF26-30-00-12 48-130V AC/DC	1SBL237001R1200			1 170,00
4117551	AF26-30-00-14 250-500V AC/DC	1SBL237001R1400		L	1 170,00
AF26Z					
4117552	AF26Z-30-00-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL236001R2100			2 070,00
4117553	AF26Z-30-00-20 12-20VDC NB KUN DC!	1SBL236001R2000			2 090,00
4117554	AF26Z-30-00-22 48-130V AC/DC	1SBL236001R2200			2 090,00
4117555	AF26Z-30-00-23 100-250V AC/DC	1SBL236001R2300			2 030,00
AF30 50A AC1 m/10mm² kabel, 32A AC3, 15kW (400V)					
4117556	AF30-30-00-13 100-250V AC/DC	1SBL277001R1300		L	1 610,00
4117678	AF30-30-00-41 24-60V50/60HZ - KUN AC !	1SBL277001R4100			1 640,00
4117558	AF30-30-00-12 48-130V AC/DC	1SBL277001R1200			1 730,00
4117559	AF30-30-00-14 250-500V AC/DC	1SBL277001R1400			1 680,00
AF30Z					
4117560	AF30Z-30-00-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL276001R2100			2 990,00
4117561	AF30Z-30-00-20 12-20VDC NB KUN DC!	1SBL276001R2000			3 000,00
4117562	AF30Z-30-00-22 48-130V AC/DC	1SBL276001R2200			3 000,00
4117563	AF30Z-30-00-23 100-250V AC/DC	1SBL276001R2300			2 990,00
AF38 50A AC1 m/10mm² kabel, 38A AC3, 18,5kW (400V)					
4117564	AF38-30-00-13 100-250V AC/DC	1SBL297001R1300		L	2 010,00
4117674	AF38-30-00-41 24-60V50/60HZ - KUN AC !	1SBL297001R4100			1 840,00
4117566	AF38-30-00-12 48-130V AC/DC	1SBL297001R1200			2 100,00
4117567	AF38-30-00-14 250-500V AC/DC	1SBL297001R1400			2 040,00
AF38Z					
4117568	AF38Z-30-00-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL296001R2100			3 670,00
4117569	AF38Z-30-00-20 12-20VDC NB KUN DC!	1SBL296001R2000			3 690,00
4117570	AF38Z-30-00-22 48-130V AC/DC	1SBL296001R2200			3 690,00
4117571	AF38Z-30-00-23 100-250V AC/DC	1SBL296001R2300			3 670,00

Kontaktorer
AF9…AF370, 3-pol

AF40

AF80

AF116

AF116 B med PLS inngang

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF40 70A AC1 m/25mm² kabel (max 690V), 40A AC3, 18,5kW (400V) Dimensjoner AF40-AF65: HxBxD=120x55x111mm					
4117575	AF40-30-00-13 100-250V50/60HZ-DC	1SBL347001R1300		L	1 900,00
4117576	AF40-30-00-41 24-60V50/60HZ - KUN AC !	1SBL347001R4100			2 000,00
4117577	AF40-30-00-11 24-60V50/60HZ 20-60VDC	1SBL347001R1100			2 630,00
4117578	AF40-30-00-12 48-130V50/60HZ-DC	1SBL347001R1200			2 630,00
4117579	AF40-30-00-14 250-500V50/60HZ-DC	1SBL347001R1400			2 000,00
AF52 100A AC1 m/35mm² kabel (max 690V), 53A AC3, 22kW (400V)					
4117580	AF52-30-00-13 100-250V50/60HZ-DC	1SBL367001R1300		L	2 010,00
4117581	AF52-30-00-41 24-60V50/60HZ - KUN AC !	1SBL367001R4100			2 110,00
4117582	AF52-30-00-11 24-60V50/60HZ 20-60VDC	1SBL367001R1100		L	2 770,00
4117584	AF52-30-00-12 48-130V50/60HZ-DC	1SBL367001R1200			2 770,00
4117585	AF52-30-00-14 250-500V50/60HZ-DC	1SBL367001R1400			2 110,00
AF65 105A AC1 m/35mm² kabel (max 690V), 65A AC3, 30kW (400V)					
4117586	AF65-30-00-13 100-250V50/60HZ-DC	1SBL387001R1300		L	2 540,00
4117588	AF65-30-00-41 24-60V50/60HZ - KUN AC !	1SBL387001R4100			2 660,00
4117589	AF65-30-00-11 24-60V50/60HZ 20-60VDC	1SBL387001R1100			3 280,00
4117590	AF65-30-00-12 48-130V50/60HZ-DC	1SBL387001R1200			3 280,00
4117591	AF65-30-00-14 250-500V50/60HZ-DC	1SBL387001R1400			2 660,00
AF80 125A AC1 m/50mm² kabel (max 690V), 80A AC3, 37kW (400V) Dimensjoner AF80-AF96: HxBxD=120x70x116mm					
4117592	AF80-30-00-13 100-250V50/60HZ-DC	1SBL397001R1300		L	3 110,00
4117593	AF80-30-00-41 24-60V50/60HZ - KUN AC !	1SBL397001R4100			3 260,00
4117595	AF80-30-00-11 24-60V50/60HZ 20-60VDC	1SBL397001R1100			4 090,00
4117596	AF80-30-00-12 48-130V50/60HZ-DC	1SBL397001R1200			4 090,00
4117597	AF80-30-00-14 250-500V50/60HZ-DC	1SBL397001R1400			3 260,00
AF96 130A AC1 m/50mm² kabel (max 690V), 96A AC3, 45kW (400V)					
4117600	AF96-30-00-13 100-250V50/60HZ-DC	1SBL407001R1300		L	3 350,00
4117601	AF96-30-00-41 24-60V50/60HZ - KUN AC !	1SBL407001R4100			3 510,00
4117602	AF96-30-00-11 24-60V50/60HZ 20-60VDC	1SBL407001R1100			4 390,00
4117603	AF96-30-00-12 48-130V50/60HZ-DC	1SBL407001R1200			4 390,00
4117605	AF96-30-00-14 250-500V50/60HZ-DC	1SBL407001R1400			3 510,00
AF116 160A AC1 m/70mm² kabel (max 690V), 116A AC3, 55kW (400V) Dimensjoner AF116-AF146: HxBxD=150x90x126mm Med klemmer for hovesstrømstilkobling					
4117610	AF116-30-11-13 100-250V 50/60HZ / DC	1SFL427001R1311		L	4 430,00
4117611	AF116-30-11-11 24-60V 50/60HZ / 20-60VDC	1SFL427001R1111			5 690,00
4117613	AF116-30-11-12 48-130V 50/60HZ / DC	1SFL427001R1211			5 690,00
4117614	AF116-30-11-14 250-500V 50/60HZ / DC	1SFL427001R1411			5 570,00
Med PLS inngang					
	AF116-30-11-33 100-250V	1SFL427001R3311			5 010,00
	AF116-30-11-34 250-500V	1SFL427001R3411			5 900,00
Med labber for skinne/kabelsko-tilkobling (B)					
4117615	AF116-30-11-13B 100-250V 50/60HZ / DC	1SFL427002R1311		L	4 430,00
4117616	AF116-30-11-11B 24-60V 50/60HZ / 20-60VDC	1SFL427002R1111			5 690,00
4117617	AF116-30-11-12B 48-130V 50/60HZ / DC	1SFL427002R1211			5 690,00
4117618	AF116-30-11-14B 250-500V 50/60HZ / DC	1SFL427002R1411			5 570,00
Med PLS inngang					
	AF116-30-11B-33 100-250V	1SFL427002R3311			5 010,00
	AF116-30-11B-34 250-500V	1SFL427002R3411			5 900,00

Kontaktorer
AF9…AF370, 3-pol

AF190

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF140 200A AC1 m/95mm² kabel (max 690V), 140A AC3, 75kW (400V) Med klemmer for hovesstrømstilkobling					
4117619	AF140-30-11-13 100-250V 50/60HZ / DC	1SFL447001R1311		L	5 180,00
4117620	AF140-30-11-11 24-60V 50/60HZ / 20-60VDC	1SFL447001R1111			7 300,00
4117621	AF140-30-11-12 48-130V 50/60HZ / DC	1SFL447001R1211			7 300,00
4117622	AF140-30-11-14 250-500V 50/60HZ / DC	1SFL447001R1411			6 530,00
Med PLS inngang					
	AF140-30-11-33 100-250V	1SFL447001R3311			5 770,00
	AF140-30-11-34 250-500V	1SFL447001R3411			6 810,00
Med labber for skinne/kabelsko-tilkobling (B)					
4117623	AF140-30-11-13B 100-250V 50/60HZ / DC	1SFL447002R1311		L	5 180,00
4117625	AF140-30-11-11B 24-60V 50/60HZ / 20-60VDC	1SFL447002R1111			7 300,00
4117626	AF140-30-11-12B 48-130V 50/60HZ / DC	1SFL447002R1211			7 300,00
4117627	AF140-30-11-14B 250-500V 50/60HZ / DC	1SFL447002R1411			6 530,00
Med PLS inngang					
	AF140-30-11B-33 100-250V	1SFL447002R3311			5 770,00
	AF140-30-11B-34 250-500V	1SFL447002R3411			6 810,00
AF146 225A AC1 m/95mm² kabel (max 1000V), 146A AC3, 75kW (400V) Med klemmer for hovesstrømstilkobling					
4117629	AF146-30-11-13 100-250V 50/60HZ / DC	1SFL467001R1311		L	6 470,00
4117630	AF146-30-11-11 24-60V 50/60HZ / 20-60VDC	1SFL467001R1111			9 130,00
4117631	AF146-30-11-12 48-130V 50/60HZ / DC	1SFL467001R1211			9 130,00
4117632	AF146-30-11-14 250-500V 50/60HZ / DC	1SFL467001R1411			8 150,00
Med PLS inngang					
	AF146-30-11-33 100-250V	1SFL467001R3311			7 070,00
	AF146-30-11-34 250-500V	1SFL467001R3411			8 370,00
Med labber for skinne/kabelsko-tilkobling (B)					
4117633	AF146-30-11-13B 100-250V 50/60HZ / DC	1SFL467002R1311		L	6 470,00
4117634	AF146-30-11-11B 24-60V 50/60HZ / 20-60VDC	1SFL467002R1111			9 130,00
4117635	AF146-30-11-12B 48-130V 50/60HZ / DC	1SFL467002R1211			9 130,00
4117636	AF146-30-11-14B 250-500V 50/60HZ / DC	1SFL467002R1411			8 150,00
Med PLS inngang					
	AF146-30-11B-33 100-250V	1SFL467002R3311			7 070,00
	AF146-30-11B-34 250-500V	1SFL467002R3411			8 370,00
AF190 275/250A AC1 m/150mm² kabel (690V/max 1000V), 190A AC3, 90kW (400V) Dimensjoner AF190-AF205: HxBxD=196x105x152mm					
4117637	AF190-30-11-13 100-250V 50/60HZ / DC	1SFL487002R1311		L	7 550,00
4117638	AF190-30-11-11 24-60V 50/60HZ / 20-60VDC	1SFL487002R1111			7 770,00
4117639	AF190-30-11-12 48-130V 50/60HZ / DC	1SFL487002R1211			7 770,00
4117640	AF190-30-11-14 250-500V 50/60HZ / DC	1SFL487002R1411			9 520,00
Med PLS inngang					
	AF190-30-11-33 100-250V	1SFL487002R3311			8 160,00
	AF190-30-11-34 250-500V	1SFL487002R3411			9 680,00
AF205 350/275A AC1 m/240mm² kabel (690V/max 1000V), 205A AC3, 110kW (400V)					
4117641	AF205-30-11-13 100-250V 50/60HZ / DC	1SFL527002R1311		L	9 860,00
4117642	AF205-30-11-11 24-60V 50/60HZ / 20-60VDC	1SFL527002R1111			10 150,00
4117644	AF205-30-11-12 48-130V 50/60HZ / DC	1SFL527002R1211			10 150,00
4117645	AF205-30-11-14 250-500V 50/60HZ / DC	1SFL527002R1411			12 430,00
Med PLS inngang					
	AF205-30-11-33 100-250V	1SFL527002R3311			10 490,00
	AF205-30-11-34 250-500V	1SFL527002R3411			12 480,00

Kontaktorer
AF9…AF370, 3-pol

AF265

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF265 400/350A AC1 m/240mm² kabel (690V/max 1000V), 265A AC3, 132kW (400V) Dimensjoner AF265-AF370: HxBxD=225x140x180mm					
4117646	AF265-30-11-13 100-250V 50/60HZ / DC	1SFL547002R1311		L	12 230,00
4117647	AF265-30-11-11 24-60V 50/60HZ / DC	1SFL547002R1111			12 590,00
4117648	AF265-30-11-12 48-130V 50/60HZ / DC	1SFL547002R1211			12 590,00
4117649	AF265-30-11-14 250-500V 50/60HZ / DC	1SFL547002R1411			15 410,00
Med PLS inngang					
	AF265-30-11-33 100-250V	1SFL547002R3311			12 880,00
	AF265-30-11-34 250-500V	1SFL547002R3411			15 340,00
AF305 500/375A AC1 m/300mm² (690V/max 1000V), 305A AC3, 160kW (400V)					
4117650	AF305-30-11-13 100-250V 50/60HZ / DC	1SFL587002R1311		L	14 230,00
4117651	AF305-30-11-11 24-60V 50/60HZ / DC	1SFL587002R1111			14 650,00
4117652	AF305-30-11-12 48-130V 50/60HZ / DC	1SFL587002R1211			14 650,00
4117654	AF305-30-11-14 250-500V 50/60HZ / DC	1SFL587002R1411			17 930,00
Med PLS inngang					
	AF305-30-11-33 100-250V	1SFL587002R3311			14 890,00
	AF305-30-11-34 250-500V	1SFL587002R3411			17 760,00
AF370 600/400A AC1 m/2x185mm² kabel (690V/max 1000V), 370A AC3, 200kW (400V)					
4117655	AF370-30-11-13 100-250V 50/60HZ / DC	1SFL607002R1311		L	15 790,00
4117656	AF370-30-11-11 24-60V 50/60HZ / DC	1SFL607002R1111			16 240,00
4117657	AF370-30-11-12 48-130V 50/60HZ / DC	1SFL607002R1211			16 240,00
4117658	AF370-30-11-14 250-500V 50/60HZ / DC	1SFL607002R1411			19 890,00
Med PLS inngang					
	AF370-30-11-33 100-250V	1SFL607002R3311			16 450,00
	AF370-30-11-34 250-500V	1SFL607002R3411			19 640,00

Kontaktorer
AF9…AF370, 4-pol

AF9-40-00..AF16-40-00

AF26-40/AF38-40

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
4-polede kontaktorer					
AF9 25A AC1 m/4mm² kabel					
Dimensjoner AF9-AF16: HxBxD=86x45x71,5mm					
4117700	AF09-40-00-13 100-250V AC/DC	1SBL137201R1300		L	429,00
4117662	AF09-40-00-41 24-60V50/60HZ - KUN AC !	1SBL137201R4100			541,00
4117702	AF09-40-00-12 48-130V AC/DC	1SBL137201R1200			446,00
4117703	AF09-40-00-14 250-500V AC/DC	1SBL137201R1400			443,00
4117716	AF09-22-00-13 100-250V AC/DC	1SBL137501R1300		L	568,00
4117677	AF09-22-00-41 24-60V50/60HZ - KUN AC !	1SBL137501R4100			596,00
4117718	AF09-22-00-12 48-130V AC/DC	1SBL137501R1200			627,00
4117719	AF09-22-00-14 250-500V AC/DC	1SBL137501R1400			608,00
AF9Z					
4117704	AF09Z-40-00-21 60VAC 20-60VDC FOR PLS <500MA	1SBL136201R2100			847,00
4117705	AF09Z-40-00-20 12-20VDC NB KUN DC!	1SBL136201R2000			856,00
4117706	AF09Z-40-00-22 48-130V AC/DC	1SBL136201R2200			856,00
4117707	AF09Z-40-00-23 100-250V AC/DC	1SBL136201R2300			847,00
4117720	AF09Z-22-00-21 60VAC 20-60VDC FOR PLS <500MA	1SBL136501R2100			935,00
4117721	AF09Z-22-00-20 12-20VDC	1SBL136501R2000			944,00
4117722	AF09Z-22-00-22 48-130V AC/DC	1SBL136501R2200			944,00
4117723	AF09Z-22-00-23 100-250V AC/DC	1SBL136501R2300			935,00
AF16 30A AC1 m/6mm² kabel					
4117708	AF16-40-00-13 100-250V AC/DC	1SBL177201R1300		L	784,00
4117668	AF16-40-00-41 24-60V50/60HZ - KUN AC !	1SBL177201R4100			767,00
4117710	AF16-40-00-12 48-130V AC/DC	1SBL177201R1200			806,00
4117711	AF16-40-00-14 250-500V AC/DC	1SBL177201R1400			788,00
4117724	AF16-22-00-13 100-250V AC/DC	1SBL177501R1300		L	949,00
4117669	AF16-22-00-41 24-60V50/60HZ - KUN AC !	1SBL177501R4100			937,00
4117726	AF16-22-00-12 48-130V AC/DC	1SBL177501R1200			987,00
4117727	AF16-22-00-14 250-500V AC/DC	1SBL177501R1400			899,00
AF16Z					
4117712	AF16Z-40-00-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL176201R2100			1 350,00
4117713	AF16Z-40-00-20 12-20VDC NB KUN DC!	1SBL176201R2000			1 380,00
4117714	AF16Z-40-00-22 48-130V AC/DC	1SBL176201R2200			1 380,00
4117715	AF16Z-40-00-23 100-250V AC/DC	1SBL176201R2300			1 350,00
4117728	AF16Z-22-00-21 24-60VAC 20-60VDC FOR PLS <500MA	1SBL176501R2100			1 630,00
4117729	AF16Z-22-00-20 12-20VDC NB KUN DC!	1SBL176501R2000			1 670,00
4117730	AF16Z-22-00-22 48-130V AC/DC	1SBL176501R2200			1 670,00
4117731	AF16Z-22-00-23 100-250V AC/DC	1SBL176501R2300			1 630,00
AF26 45A AC1 m/10mm² kabel					
Dimensjoner AF26-AF38: HxBxD=86x45x95,5mm					
4117732	AF26-40-00-13, 100-250VAC/DC	1SBL237201R1300		L	1 370,00
4117671	AF26-40-00-41 24-60V50/60HZ - KUN AC !	1SBL237201R4100			1 480,00
4117734	AF26-40-00-12, 48-130VAC/DC	1SBL237201R1200			1 370,00
4117735	AF26-40-00-14, 250-500VAC/DC	1SBL237201R1400			1 370,00
4117748	AF26-22-00-13, 100-250VAC/DC	1SBL237501R1300			1 550,00
4117672	AF26-22-00-41 24-60V50/60HZ - KUN AC !	1SBL237501R4100			1 630,00
4117750	AF26-22-00-12, 48-130VAC/DC	1SBL237501R1200			1 550,00
4117751	AF26-22-00-14, 250-500VAC/DC	1SBL237501R1400			1 550,00

Kontaktorer
AF9…AF370, 4-pol

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF26Z					
4117736	AF26Z-40-00, 24-60VAC/20-60VDC FOR PLS <500MA	1SBL236201R2100			2 110,00
4117737	AF26Z-40-00-20, 12-20VDC NB KUN DC!	1SBL236201R2000			2 110,00
4117738	AF26Z-40-00-22, 48-130VAC/DC	1SBL236201R2200			2 110,00
4117739	AF26Z-40-00-23, 100-250VAC/DC	1SBL236201R2300			2 110,00
4117752	AF26Z-22-00, 24-60VAC/20-60VDC FOR PLS <500MA	1SBL236501R2100			2 360,00
4117753	AF26Z-22-00-20, 12-20VDC NB KUN DC!	1SBL236501R2000			2 360,00
4117754	AF26Z-22-00-22, 48-130VAC/DC	1SBL236501R2200			2 360,00
4117755	AF26Z-22-00-23, 100-250VAC/DC	1SBL236501R2300			2 360,00
AF38 55A AC1 m/16mm² kabel					
4117740	AF38-40-00-13, 100-250VAC/DC	1SBL297201R1300		L	2 210,00
4117675	AF38-40-00-41 24-60V50/60HZ - KUN AC !	1SBL297201R4100			2 550,00
4117742	AF38-40-00-12, 48-130VAC/DC	1SBL297201R1200			2 210,00
4117743	AF38-40-00-14, 250-500VAC/DC	1SBL297201R1400			2 210,00
4117756	AF38-22-00-13, 100-250VAC/DC	1SBL297501R1300		L	2 740,00
4117676	AF38-22-00-41 24-60V50/60HZ - KUN AC !	1SBL297501R4100			2 870,00
4117758	AF38-22-00-12, 48-130VAC/DC	1SBL297501R1200			2 740,00
4117759	AF38-22-00-14, 250-500VAC/DC	1SBL297501R1400			2 740,00
AF38Z					
4117744	AF38Z-40-00, 24-60VAC/20-60VDC FOR PLS <500MA	1SBL296201R2100			3 330,00
4117745	AF38Z-40-00-20, 12-20VDC NB KUN DC!	1SBL296201R2000			3 330,00
4117746	AF38Z-40-00-22, 48-130VAC/DC	1SBL296201R2200			3 330,00
4117747	AF38Z-40-00-23, 100-250VAC/DC	1SBL296201R2300			3 330,00
4117760	AF38Z-22-00, 24-60VAC/20-60VDC FOR PLS <500MA	1SBL296501R2100			4 130,00
4117761	AF38Z-22-00-20, 12-20VDC NB KUN DC!	1SBL296501R2000			4 130,00
4117762	AF38Z-22-00-22, 48-130VAC/DC	1SBL296501R2200			4 130,00
4117763	AF38Z-22-00-23, 100-250VAC/DC	1SBL296501R2300			4 130,00
AF40, 70A AC1 m/35mm² kabel **Dimensjoner AF40-AF52: HxBxD=119,5x70x113,5mm**					
4117764	AF40-40-00-11 24-60VAC 20-60VDC	1SBL347201R1100			4 560,00
	AF40-40-00-41 24-60V50/60HZ - KUN AC !	1SBL347201R4100			2 910,00
4117765	AF40-40-00-13 100-250V AC/DC	1SBL347201R1300			2 910,00
4117766	AF40-22-00-11 24-60VAC 20-60VDC	1SBL347501R1100			4 990,00
	AF40-22-00-41 24-60V50/60HZ - KUN AC !	1SBL347501R4100			3 360,00
4117767	AF40-22-00-13 100-250V AC/DC	1SBL347501R1300			3 370,00
AF52, 100A AC1 m/35mm² kabel					
4117768	AF52-40-00-11 24-60VAC 20-60VDC	1SBL367201R1100			4 410,00
	AF52-40-00-41 24-60V50/60HZ - KUN AC !	1SBL367201R4100			3 230,00
4117769	AF52-40-00-13 100-250V AC/DC	1SBL367201R1300			3 230,00
AF80, 125A AC1 m/50mm² kabel **Dimensjoner AF80: HxBxD=119,5x90x116mm**					
4117770	AF80-40-00-11 24-60VAC 20-60VDC	1SBL397201R1100			5 630,00
	AF80-40-00-41 24-60V50/60HZ - KUN AC !	1SBL397201R4100			4 880,00
4117771	AF80-40-00-13 100-250V AC/DC	1SBL397201R1300			4 880,00
4117772	AF80-22-00-11 24-60VAC 20-60VDC	1SBL397501R1100			7 110,00
	AF80-22-00-41 24-60V50/60HZ - KUN AC !	1SBL397501R4100			5 250,00
4117773	AF80-22-00-13 100-250V AC/DC	1SBL397501R1300			5 250,00

AF40

AF80

Kontaktorer
AF9…AF370 og EK550/EK1000, 4-pol

AF116

AF190

AF265

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF116, 160A AC1 m/70mm² kabel **Dimensjoner AF116-AF140: HxBxD=150x120x128mm**					
4117774	AF116-40-11-11 24-60V AC/DC	1SFL427101R1111			8 020,00
4117775	AF116-40-11-13 100-250V AC/DC	1SFL427101R1311			8 020,00
4117776	AF116-40-11B-11 24-60V AC/DC	1SFL427102R1111			8 020,00
4117777	AF116-40-11B-13 100-250V AC/DC	1SFL427102R1311			8 020,00
AF140, 200A AC1 m/95mm² kabel					
4117778	AF140-40-11-11 24-60V AC/DC	1SFL447101R1111			10 030,00
4117779	AF140-40-11-13 100-250V AC/DC	1SFL447101R1311			10 030,00
4117780	AF140-40-11B-11 24-60V AC/DC	1SFL447102R1111			10 030,00
4117781	AF140-40-11B-13 100-250V AC/DC	1SFL447102R1311			10 030,00
AF190, 275A AC1 m/150mm² kabel **Dimensjoner AF190-AF205: HxBxD=196x140x152,5mm**					
4117782	AF190-40-11-11 24-60V AC/DC	1SFL487102R1111			11 270,00
4117783	AF190-40-11-13 100-250V AC/DC	1SFL487102R1311			11 270,00
AF205, 350A AC1 m/240mm² kabel (over 275A må skinneforlenger/utvidelse brukes)					
4117784	AF205-40-11-11 24-60V AC/DC	1SFL527102R1111			20 690,00
4117785	AF205-40-11-13 100-250V AC/DC	1SFL527102R1311			20 690,00
AF265, 400A AC1 m/240mm² kabel **Dimensjoner AF265-AF370: HxBxD=225x184x180mm**					
4117786	AF265-40-11-11 24-60V AC/DC	1SFL547102R1111			21 860,00
4117787	AF265-40-11-13 100-250V AC/DC	1SFL547102R1311			21 860,00
AF305, 500A AC1 m/300mm² kabel (over 450A må skinneforlenger/utvidelse brukes)					
4117788	AF305-40-11-11 24-60V AC/DC	1SFL587102R1111			24 300,00
4117789	AF305-40-11-13 100-250V AC/DC	1SFL587102R1311			24 300,00
AF370, 525A AC1 m/2x185mm² kabel (over 450A må skinneforlenger/utvidelse brukes)					
4117790	AF370-40-11-11 24-60V AC/DC	1SFL607102R1111			26 990,00
4117791	AF370-40-11-13 100-250V 50/60HZ-DC	1SFL607102R1311			26 990,00

EK kontaktorer

EK550 (Ie: AC1=800A (1000V 40°C), AC3=550A (230/400V 55°C) Ue max 1000V) **Dimensjoner EK370/550: HxBxD=272x296x225,5mm**					
4115634	KONTAKTOR EK550-40-11 230V/50	SK827041-AM		L	39 090,00
4115636	KONTAKTOR EK550-40-11 440V/60	SK827041-AP			39 090,00
EK1000 Kun AC1 (Ie: AC1=1000A (1000V 40°C), Ue max 1000V) **Dimensjoner: HxBxD=299x296x225,5mm**					
4115644	KONTAKTOR EK1000-40-11 230V/50	SK827044-AM			47 590,00
4115646	KONTAKTOR EK1000-40-11 440V/60	SK827044-AP			47 590,00

EK kontaktorer kan også leveres i DC utførelse. Kontakt ABB kundeservice på tlf 24 16 54 00.

Kontaktorer
NF Hjelpereléer

NF22E-13

NF Hjelpereléer

(NF...Z er spesialutgave med EKSTRA LAV spoleeffekt samt motstår spenningsdipper)
Ith=16A, AC15: 6A(24V), 4A(230V), DC13: 6A(24V), 0,27A(220V)
Max 690V/25-400Hz på hovedpoler

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
4117800	NF22E-13 100-250V AC/DC	1SBH137001R1322		L	561,00
4117680	NF22E-41 24-60V50/60HZ - KUN AC !	1SBH137001R4122		L	607,00
4117802	NF22E-12 48-130V AC/DC	1SBH137001R1222			598,00
4117803	NF22E-14 250-500V AC/DC	1SBH137001R1422			587,00
4117804	NFZ22E-21 24-60V AC 20-60VDC FOR PLS <500MA	1SBH136001R2122		L	955,00
4117805	NFZ22E-20 12-20VDC NB KUN DC!	1SBH136001R2022			980,00
4117806	NFZ22E-22 48-130V AC/DC	1SBH136001R2222			980,00
4117807	NFZ22E-23 100-250V AC/DC	1SBH136001R2322			955,00
4117808	NF31E-13 100-250V AC/DC	1SBH137001R1331		L	587,00
4117681	NF31E-41 24-60V50/60HZ - KUN AC !	1SBH137001R4131			607,00
4117810	NF31E-12 48-130V AC/DC	1SBH137001R1231			598,00
4117811	NF31E-14 250-500V AC/DC	1SBH137001R1431			598,00
4117812	NFZ31E-21 24-60V AC 20-60VDC FOR PLS <500MA	1SBH136001R2131			955,00
4117813	NFZ31E-20 12-20VDC NB KUN DC!	1SBH136001R2031			980,00
4117814	NFZ31E-22 48-130V AC/DC	1SBH136001R2231			980,00
4117815	NFZ31E-23 100-250V AC/DC	1SBH136001R2331			955,00
4117816	NF40E-13 100-250V AC/DC	1SBH137001R1340		L	593,00
4117682	NF40E-41 24-60V50/60HZ - KUN AC !	1SBH137001R4140			607,00
4117818	NF40E-12 48-130V AC/DC	1SBH137001R1240			598,00
4117819	NF40E-14 250-500V AC/DC	1SBH137001R1440			598,00
4117820	NFZ40E-21 24-60V AC 20-60VDC FOR PLS <500MA	1SBH136001R2140			955,00
4117821	NFZ40E-20 12-20VDC NB KUN DC!	1SBH136001R2040			980,00
4117822	NFZ40E-22 48-130V AC/DC	1SBH136001R2240			980,00
4117823	NFZ40E-23 100-250V AC/DC	1SBH136001R2340			955,00

Kontaktorer
Hjelpekontakter og øvrig tilbehør for AF9…AF370 samt NF hjelpereléer. (For andre kontaktorserier - se eget avsnitt).

CA4-10

CA4-0

CAL4-11

CAL4-11

CAT4-11E

CA4-22E

VM4

VM96-4

VM19

VM140/190

VM205/265

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Hjelpekontakter					
1-polet, frontmontert for AF9...AF96					
4117850	CA4-10, 1NO HJ-KONT. FRONTMONTERT	1SBN010110R1010		L	92,70
4117852	CA4-01, 1NC HJ-KONT. FRONTMONTERT	1SBN010110R1001		L	92,70
4117854	CC4-10, 1NO HJ-KONT. FRONTMONTERT. EARLY MAKE	1SBN010111R1010			310,00
4117855	CC4-01, 1NC HJ-KONT. FRONTMONTERT. LATE BREAKE	1SBN010111R1001			310,00
2-polet, sidemontert					
4117856	CAL4-11, 1NO+1NC HJ-KONT.SIDEMONTERT FOR AF9... AF96	1SBN010120R1011		L	242,00
4117831	CAL19-11 1NO+1NC HJ-KONT.SIDEMONTERT FOR AF116...AF370, KLEMMEMERKING 1X, 2X, 3X OG 4X	1SFN010820R1011		L	238,00
4117832	CAL19-11B 1NO+1NC HJ-KONT.SIDEMONTERT FOR AF116...AF370, KLEMMEMERKING 5X, 6X, 7X OG 8X	1SFN010820R3311		L	238,00
Frontmontert hjelpekontakt (1NO+1NC) og spoletilkobling A1+A2 for AF9...AF96 og NF					
4117858	CAT4-11E, 1NO+1NC+A1+A2 FRONTMONTERT	1SBN010151R1011			237,00
4117859	CAT4-11M, 1NO+1NC+A1+A2 FRONTMONTERT	1SBN010151R1111			237,00
4117860	CAT4-11U, 1NO+1NC+A1+A2 FRONTMONTERT	1SBN010151R1311			237,00
4-polet, frontmontert Klemmenummerering for AF26-AF96 3-pol og AF9-AF80 4-pol					
4117861	CA4-22E, 2NO+2NC HJ.KONT FRONT	1SBN010140R1022		L	371,00
4117862	CA4-31E, 3NO+1NC HJ.KONT FRONT	1SBN010140R1031		L	371,00
4117863	CA4-40E, 4NO HJ.KONT FRONT	1SBN010140R1040		L	371,00
4117864	CA4-04E, 4NC HJ.KONT FRONT	1SBN010140R1004			371,00
Klemmenummerering for AF9-AF16-30-10					
4117865	CA4-22M, 2NO+2NC HJ.KONT FRONT	1SBN010140R1122		L	386,00
4117866	CA4-31M, 3NO+1NC HJ.KONT FRONT	1SBN010140R1131		L	386,00
4117867	CA4-13M, 1NO+3NC HJ.KONT FRONT	1SBN010140R1113			386,00
4117868	CA4-04M, 4NC HJ.KONT FRONT	1SBN010140R1104		L	386,00
Klemmenummerering for AF9-AF16-30-01					
4117869	CA4-22U, 2NO+2NC HJ.KONT FRONT	1SBN010140R1322			396,00
4117870	CA4-31U, 3NO+1NC HJ.KONT FRONT	1SBN010140R1331			396,00
4117871	CA4-40U, 4NO HJ.KONT FRONT	1SBN010140R1340		L	396,00
Klemmenummerering for NF hjelpereléer					
4117872	CA4-22N, 2NO+2NC HJ.KONT FRONT	1SBN010140R1222		L	386,00
4117873	CA4-31N, 3NO+1NC HJ.KONT FRONT	1SBN010140R1231			386,00
4117874	CA4-40N, 4NO HJ.KONT FRONT	1SBN010140R1240			386,00
4117875	CA4-13N, 1NO+3NC HJ.KONT FRONT	1SBN010140R1213			386,00
4117876	CA4-04N, 4NC HJ.KONT FRONT	1SBN010140R1204			386,00
Øvrig tilbehør					
Forrigling (kun mekanisk)					
4117877	VM4 (MED KLIPS) FOR AF9...AF38 (MIN 10 STK)	1SBN030105T1000	10	L	204,00
4117824	VM96-4 FOR AF40 ... AF96 (MIN 10STK)	1SBN033405T1000	10	L	233,00
4117833	VM19 FOR AF116 ... AF370	1SFN030300R1000		L	602,00
4117834	VM140/190 FOR AF116 ... AF146 OG AF190, AF205	1SFN034403R1000			605,00
4117835	VM205/265 FOR AF190, AF205 OG AF265 ... AF370	1SFN035203R1000			605,00

Kontaktorer
Hjelpekontakter og øvrig tilbehør for AF9…AF370 samt NF hjelpereléer

VEM4

BB4

LT140

LT205C

LW140

LX140

LDC4

BX4

LD146

BX4-CA

LL146

TEF4

CT-ERS.21

RU19

RA4

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Mekanisk/elektrisk forrigling for AF9...AF16, og AF26...AF38					
4117878	VEM4 MEK/ELEKTRISK FORRIGLING (KOMPL. M VM4)	1SBN030111R1000		L	435,00
4117879	BB4 FESTEKLIPS FOR 2XAF9..AF38	1SBN110120W1000			24,30
Avdekninger til 3-pol AF116...AF370					
4117847	LT140-30L FOR AF116 ... AF146, HØY TYPE	1SFN124203R1000	2	L	353,00
4117848	LT205-30C FOR AF190, AF205, LAV TYPE	1SFN124801R1000	2	L	375,00
4117849	LT205-30L FOR AF190, AF205, HØY TYPE	1SFN124803R1000	2	L	375,00
4117884	LT370-30C FOR AF265 ... AF370, LAV TYPE	1SFN125401R1000	2	L	393,00
4117889	LT370-30L FOR AF265 ... AF370, HØY TYPE	1SFN125403R1000	2	L	393,00
Avdekning til stjernepunkt-skinne eller mellom kontaktor og TOL/EOL i DOL-startere					
4117883	LT205-30Y FOR AF190, AF205	1SFN124804R1000			265,00
4117890	LT370-30Y FOR AF265 ... AF370	1SFN125404R1000			348,00
Avdekning ved bruk av utvidet kabelklemme ATK300/2 og OZXB4					
4117891	LT370-30D FOR AF265 ... AF370	1SFN125406R1000			393,00
Avdekninger til 4-pol AF116...AF370					
4187755	LT140-40L FOR AF116 ... AF146, HØY TYPE	1SFN124203R2000			PPF.
4187756	LT205-40C FOR AF190, AF205, LAV TYPE	1SFN124801R2000	2		471,00
4187757	LT205-40L FOR AF190, AF205, HØY TYPE	1SFN124803R2000			471,00
4187758	LT370-40C FOR AF265 ... AF370, LAV TYPE	1SFN125401R2000	2		490,00
4187759	LT370-40L FOR AF265 ... AF370, HØY TYPE	1SFN125403R2000	2		490,00
Tilkoblingsutvidelser til AF116...AF370					
4117840	LW140 AF116...AF146 Ø=6,5 DIM=13X3MM	1SFN074207R1000		L	348,00
4117844	LW205 AF190...AF205 Ø=10,5 DIM=17,5X5MM	1SFN074807R1000		L	789,00
4117845	LW370 AF265...AF370 Ø=10,5 DIM=20X5MM	1SFN075407R1000			778,00
Tilkoblingsforlengere til AF116...AF370					
4117842	LX140 AF116...AF146 Ø=6,5 DIM=13X3MM	1SFN074210R1000		L	585,00
4117836	LX205 AF190...AF250 Ø=8,5 DIM=17,5X5MM	1SFN074810R1000			728,00
4117846	LX370 AF265...AF370 Ø=10,5 DIM=20X5MM	1SFN075410R1000			789,00
Diverse tilbehør					
4117880	LDC4 EKSTRA SPOLETILKOBL.BLOKK TIL AF9...AF96/NF	1SBN070156T1000		L	49,70
4117881	BX4 BESKYTTELSESDEKSEL FOR AF9...AF96/NF	1SBN110108T1000			56,20
4117882	BX4-CA BESKYTTELSESDEKSEL FOR CA4/CAT4/TEF4	1SBN110109W1000			22,00
4117841	LD146-30 FOR OMBYGGING TIL KLEMMETILKOBLING FOR AF116...AF146	1SFN074208R1000			244,00
4189723	LL146-30 LØSE KLEMMER FOR Å ERSTATTE INNEBYGDE KLEMMER PÅ AF116...AF146	1SFN074211R1000			189,00
Elektronisk timer til AF9...AF96 Sneppes på kontaktorfront. Tids-intervall: 0.1...1 s, 1...10 s, 10...100 s. Kan brukes som YD-timer for AF-kontaktorer					
4117825	TEF4-ON FORSINKET PÅ	1SBN020112R1000		L	1 140,00
4117826	TEF4-OFF FORSINKET AV	1SBN020114R1000		L	1 150,00
DIN-skinne montert timer, forsinket PÅ, 2-led, 0,05s-300t Anbefales til YD-timer for AF-kontaktorer					
4187946	TIMER CT-ERS.21S, 2C/O, 24-240V AC/DC	1SVR730100R0300		L	1 620,00
4187947	TIMER CT-ERS.21P, 2C/O, 24-240V AC/DC	1SVR740100R0300			1 670,00
Buffermodul LVTR - opprettholder styrespenning på AF116...1250 i opp til 1 sekund.					
	RU19/120 (110-120V)	1SFN170801R1001			4 200,00
	RU19/240 (230-240V)	1SFN170801R1002			4 200,00
Interfacerele - for 24V PLS-styring Kan sneppes direkte på spoletilkobling på AF9..AF96					
	RA4 INTERFACE RELAY	1SBN060100R1000			1 200,00

Kontaktorer
Hjelpekontakter og øvrig tilbehør for AF9…AF370 samt NF hjelpereléer

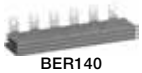
BER16-4

BER65-4

BEY38-4

BEY65-4

BEP140


BER140

BEY140

CB5-10

LZ

OZXB4

WB 75-A

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Skinner for starterbygging						
4117885	SKINNE F. REV.ST. AF9-AF16	BER16-4	1SBN081311R1000		L	371,00
4117886	SKINNE F. REV.ST. AF26-AF38	BER38-4	1SBN082311R1000			514,00
4117827	SKINNE F. REV.ST. AF40 ... AF65	BER65-4	1SBN083411R1000			585,00
4117828	SKINNE F. REV.ST. AF80 ... AF96	BER96-4	1SBN083911R1000			992,00
4117887	SKINNE F. YD.ST. AF9-AF16	BEY16-4	1SBN081313R2000			487,00
4117888	SKINNE F. YD.ST. AF26-AF38	BEY38-4	1SBN082713R2000			801,00
4117829	SKINNE F. YD.ST. AF40 ... AF65 M/U VM96-4	BEY65-4	1SBN083413R2000		L	972,00
4117830	SKINNE F. YD.ST. AF80 ... AF96 M/U VM96-4	BEY96-4	1SBN083913R2000		L	1 220,00
4188100	SKINNE F. REV.ST. AF116-AF146	BER140-4	1SFN084211R1000			2 340,00
4188101	SKINNE F. FASE-FASE (C/O) AF116-AF146	BEP140-30	1SFN084214R1000			1 170,00
4188102	SKINNE F. YD.ST. L+D=AF140, Y=AF116	BEY140-4	1SFN084413R1000		L	2 190,00
4188103	SKINNE F. REV.ST. AF190-AF205	BER205-4	1SFN084811R1000			3 080,00
4188104	SKINNE F. YD.ST. L+D=AF190, Y=AF140	BEY190-4	1SFN084813R1000		L	2 170,00
4188105	SKINNE F. FASE-FASE (C/O) AF190-AF205	BEP205-30	1SFN084814R1000			1 810,00
4188106	SKINNE F. YD.ST. L+D=AF205, Y=AF190	BEY205-4	1SFN085213R1000			2 170,00
4188107	SKINNE F. REV.ST. AF265-AF370	BER370-4	1SFN085411R1000			3 340,00
4188108	SKINNE F. YD.ST. L+D=AF265..AF370, Y=AF190...AF205	BEY265-4	1SFN085413R1000			2 960,00
4188109	SKINNE F. REV.ST. AF265-AF370	BEP370-30	1SFN085414R1000			3 020,00
4188110	SKINNE F. YD.ST. L+D+Y=AF265...AF370	BEY370-4	1SFN085813R1000			3 640,00
	ADAPTERPLATE AF116/140/146 F.Å ERST. A95/110	PR146-1	1SFN094200R1000			265,00
Impuls kontaktblokk til kapslede startere, sneppes på kontaktorfront, for AF9...AF38						
4117421	CB5-10 MED 1NO KONTAKT - SORT KONTAKTGIVER		1SBN010013R1010			215,00
4117839	CB5-01 MED 1 NC KONTAKT - GRÅ KONTAKTGIVER		1SBN010013R1001			215,00
Kabelklemmer for AL/CU **Pakning à 3 stk, pris er pr. pakke. Passer til følgende kabeltverrsnitt / kontaktorer**						
4385018	1 X 6...150MM / 2 X 6-70 FLEKSIBEL CU/6...185 MM² / 14 NM, FOR AF190, AF205 (3-PAKN) FLERTRÅD CU		1SDA066917R0001		L	641,00
4383663	1 X 95...185 MM² FLERTÅD AL 31 NM FOR AF190, AF205 (3-PAKN)		1SDA054988R0001		L	927,00
4120360	2 X (50…95 MM² FLEKSIBEL CU /50-120MM² FLERTRÅD 16 NM, FOR AF190, AF205, A145, A185 LZ 185-2C/120 CU)		1SFN074709R1000			750,00
4383675	1 X 16-240 MM² FLEKSIBEL CU/16-300 MM² FLERTRÅD 25 NM, FOR AF265..AF370 (3-PAKN) CU		1SDA055016R0001		L	838,00
2437828	2 X 70...185 MM² FLERTRÅD/FLEKSIBEL CU 22 NM, FOR AF265..AF370 OZXB4		1SCA022194R0890		L	599,00
4383677	1 X 185...240 MM² AL 31 NM, FOR AF265...AF370 (3-PAKN)		1SDA055020R0001		L	997,00
Mekanisk sprerreblokk for AF9…AF65/NF (samt til A9…A75) **Opereres med puls, holder kontaktoren inne dersom styrespenning blir borte** **Kontaktor løses ut ved å gi puls eller å trykke på rød knapp**						
4116411	WB75-A 24V AC/DC		FPTN372726R1001			1 870,00
4116414	WB75-A 110V AC/DC		FPTN372726R1004			1 870,00
4116416	WB75-A 230V AC/DC		FPTN372726R1006			1 800,00

Kan leveres i andre spenninger

Kontaktorer
Konverteringstabell fra A-kontaktorer til nye AF-kontaktorer.

NB - konverteringstabellen er basert på AC3-verdi ved 400V. For andre spenninger og AC1-verdi - se belastningstabeller.

Elnr.	ABB ident. nr.	Gammel/utgående utgave	Elnr.	Ny utgave
Kontaktorer 3-pol				
4114206	1SBL141001R8010	A9-30-10 220-230V 50HZ / 230-240V 60HZ	4117500	AF09-30-10-13100-250V50/60HZ/DC
4114217	1SBL141001R4210	A9-30-10 230-240V 50HZ / 277V 60HZ	4117500	AF09-30-10-13100-250V50/60HZ/DC
4114204	1SBL141001R8410	A9-30-10 110V 50HZ / 110-120V 60HZ	4117500	AF09-30-10-13100-250V50/60HZ/DC
4114201	1SBL141001R8110	A9-30-10 24V 50HZ / 24V 60HZ	4117508	AF09Z-30-10-2124-60V50/60HZ20-60V DC, FOR PLS
ELLER			4117660	AF09-30-10-41 24-60V50/60HZ - KUN AC !
4186218	1SBL143001R8610	AL9-30-10 110V DC	4117500	AF09-30-10-13100-250V50/60HZ/DC
4186190	1SBL143001R8810	AL9-30-10 220V DC	4117500	AF09-30-10-13100-250V50/60HZ/DC
4186188	1SBL143001R8110	AL9-30-10 24V DC	4117508	AF09Z-30-10-2124-60V50/60HZ20-60V DC, FOR PLS
ELLER			4117501	AF09-30-10-1124-60VAC/20-60V DC STANDARD
4114326	1SBL161001R8010	A12-30-10 220-230V 50HZ / 230-240V 60HZ	4117516	AF12-30-10-13100-250V50/60HZ/DC
4114376	1SBL181001R8010	A16-30-10 220-230V 50HZ / 230-240V 60HZ	4117532	AF16-30-10-13100-250V50/60HZ/DC
4114374	1SBL181001R8410	A16-30-10 110V 50HZ / 110-120V 60HZ	4117532	AF16-30-10-13100-250V50/60HZ/DC
4114377	1SBL181001R8810	A16-30-10 230-240V 50HZ / 240-260V 60HZ	4117532	AF16-30-10-13100-250V50/60HZ/DC
4114371	1SBL181001R8110	A16-30-10 24V 50HZ / 24V 60HZ	4117540	AF16Z-30-10-2124-60V50/60HZ20-60V DC, FOR PLS
---"---			4117666	AF16-30-10-41 24-60V50/60HZ - KUN AC !
4186193	1SBL183001R8110	AL16-30-10 24V DC	4117540	AF16Z-30-10-2124-60V50/60HZ20-60V DC, FOR PLS
ELLER			4117533	AF16-30-10-1124-60VAC/20-60V DC STANDARD
4114496	1SBL241001R8010	A26-30-10 220-230V 50HZ / 230-240V 60HZ	4117548	AF26-30-00-13100-250V50/60HZ/DC
4114494	1SBL241001R8410	A26-30-10 110V 50HZ / 110-120V 60HZ	4117548	AF26-30-00-13100-250V50/60HZ/DC
4186198	1SBL243001R8810	AL26-30-10 220V DC	4117548	AF26-30-00-13100-250V50/60HZ/DC
4186196	1SBL243001R8110	AL26-30-10 24V DC	4117552	AF26Z-30-00-2124-60V50/60HZ20-60V DC, FOR PLS
ELLER			4117549	AF26-30-00-1124-60VAC/20-60V DC STANDARD
4114606	1SBL281001R8010	A30-30-10 220-230V 50HZ / 230-240V 60HZ	4117556	AF30-30-00-13100-250V50/60HZ/DC
4114604	1SBL281001R8410	A30-30-10 110V 50HZ / 110-120V 60HZ	4117556	AF30-30-00-13100-250V50/60HZ/DC
4114607	1SBL281001R8810	A30-30-10 230-240V 50HZ / 240-260V 60HZ	4117556	AF30-30-00-13100-250V50/60HZ/DC
4186208	1SBL283001R8110	AL30-30-10 24V DC	4117560	AF30Z-30-00-2124-60V50/60HZ20-60V DC, FOR PLS
ELLER			4117557	AF30-30-00-1124-60VAC/20-60V DC STANDARD
4114656	1SBL321001R8010	A40-30-10 220-230V 50HZ / 230-240V 60HZ	4117564	AF38-30-00-13100-250V50/60HZ/DC
4114654	1SBL321001R8410	A40-30-10 110V 50HZ / 110-120V 60HZ	4117564	AF38-30-00-13100-250V50/60HZ/DC
4186209	1SBL323001R8110	AL40-30-10 24V DC	4117568	AF38Z-30-00-2124-60V50/60HZ20-60V DC, FOR PLS
ELLER			4117501	AF09-30-10-1124-60VAC/20-60V DC STANDARD
4114656	1SBL321001R8010	A 40-30-10 220-230/230-240V 50/60HZ	4117575	AF40-30-00-13100-250V50/60HZ-DC
4114756	1SBL351001R8000	A 50-30-00 220-230/230-240V 50/60HZ	4117580	AF52-30-00-13100-250V50/60HZ-DC
	1SBL357001R7000	AF 50-30-00 100-250V	4117580	AF52-30-00-13100-250V50/60HZ-DC
4114816	1SBL371001R8000	A 63-30-00 220-230/230-240V 50/60HZ	4117586	AF65-30-00-13100-250V50/60HZ-DC
	1SBL377001R7011	AF 63-30-11,100-250V 50/60HZ/DC	4117586	AF65-30-00-13100-250V50/60HZ-DC
4114846	1SBL411001R8000	A 75-30-00 220-230/230-240V 50/60HZ	4117592	AF80-30-00-13100-250V50/60HZ-DC
4114936	1SFL431001R8000	A 95-30-00 220-230/230-240V 50/60HZ	4117600	AF96-30-00-13100-250V50/60HZ-DC
	1SFL437001R7011	AF 95-30-11 100-250V 50/60HZ/DC	4117600	AF96-30-00-13100-250V50/60HZ-DC
4115026	1SFL451001R8000	A 110-30-00 220-230/230-240V 50/60HZ	4117610	AF116-30-11-13100-250V50/60HZ/DC
	1SFL457001R7011	AF 110-30-11 100-250V 50/60HZ/DC	4117610	AF116-30-11-13100-250V50/60HZ/DC
ELLER			4117619	AF140-30-11-13100-250V50/60HZ/DC
4115096	1SFL471001R8011	A 145-30-11 220-230/230-240V 50/60HZ	4117629	AF146-30-11-13100-250V50/60HZ/DC
4115267	1SFL477001R7011	AF 145-30-11 100-250V 50/60HZ/DC	4117629	AF146-30-11-13100-250V50/60HZ/DC
4115136	1SFL491001R8011	A 185-30-11 220-230/230-240V 50/60HZ	4117637	AF190-30-11-13100-250V50/60HZ/DC
4115271	1SFL497001R7011	AF 185-30-11 100-250V 50/60HZ/DC	4117637	AF190-30-11-13100-250V50/60HZ/DC
4115176	1SFL511001R8011	A 210-30-11 220-230/230-240V 50/60HZ	4117641	AF205-30-11-13100-250V50/60HZ/DC
4115275	1SFL517001R7011	AF 210-30-11 100-250V 50/60HZ/DC	4117641	AF205-30-11-13100-250V50/60HZ/DC
4115216	1SFL531001R8011	A 260-30-11 220-230/230-240V 50/60HZ	4117646	AF265-30-11-13100-250V50/60HZ/DC
4115279	1SFL537001R7011	AF 260-30-11 100-250V 50/60HZ/DC	4117646	AF265-30-11-13100-250V50/60HZ/DC
4115256	1SFL551001R8011	A 300-30-11 220-230/230-240V 50/60HZ	4117650	AF305-30-11-13100-250V50/60HZ/DC
4115283	1SFL557001R7011	AF 300-30-11 100-250V 50/60HZ/DC	4117650	AF305-30-11-13100-250V50/60HZ/DC
4115288	1SFL577001R7011	AF 400-30-11 100-250V 50/60HZ/DC		

Kontaktorer
Konverteringstabell fra A-kontaktorer til nye AF-kontaktorer.

NB - konverteringstabellen er basert på AC3-verdi ved 400V. For andre spenninger og AC1-verdi - se belastningstabeller.

Elnr.	ABB ident. nr.	Gammel/utgående utgave	Elnr.	Ny utgave
Kontaktorer 4-pol				
4114266	1SBL141201R8000	A9-40-00 220-230V 50HZ / 230-240V 60HZ	4117700	AF09-40-00-13100-250V50/60HZ/DC
4114296	1SBL141501R8000	A9-22-00 220-230V 50HZ / 230-240V 60HZ	4117716	AF09-22-00-13100-250V50/60HZ/DC
4114436	1SBL181201R8000	A16-40-00 220-230V 50HZ / 230-240V 60HZ	4117708	AF16-40-00-13100-250V50/60HZ/DC
4114434	1SBL181201R8400	A16-40-00 110V 50HZ / 110-120V 60HZ	4117708	AF16-40-00-13100-250V50/60HZ/DC
4114431	1SBL181201R8100	A16-40-00 24V 50HZ / 24V 60HZ	4117712	AF16Z-40-00-2124-60V50/60HZ 20-60V DC, FOR PLS
ELLER			4117668	AF16-40-00-41 24-60V50/60HZ - KUN AC !
4114466	1SBL181501R8000	A16-22-00 220-230V 50HZ / 230-240V 60HZ	4117724	AF16-22-00-13100-250V50/60HZ/DC
4114546	1SBL241201R8000	A26-40-00 220-230V 50HZ / 230-240V 60HZ	4117732	AF26-40-00-13,100-250VAC/DC
4114544	1SBL241201R8400	A26-40-00 110V 50HZ / 110-120V 60HZ	4117732	AF26-40-00-13,100-250VAC/DC
4114706	1SBL331201R8000	A 45-40-00 220-230/230-240V 50/60HZ	4117765	AF40-40-00-13100-250VAC/DC
4114736	1SBL331501R8000	A 45-22-00 220-230/230-240V 50/60HZ	4117767	AF40-22-00-13100-250VAC/DC
ELLER			4117773	AF80-22-00-13100-250VAC/DC
4114786	1SBL351201R8000	A 50-40-00 220-230/230-240V 50/60HZ	4117769	AF52-40-00-13100-250VAC/DC
4114781	1SBL351201R8100	A 50-40-00 24V 50/60HZ	4117768	AF52-40-00-1124-60VAC20-60VDC
4114876	1SBL411201R8000	A 75-40-00 220-230/230-240V 50/60HZ	4117771	AF80-40-00-13100-250VAC/DC
4114874	1SBL411201R8400	A 75-40-00 110/110-120V 50/60HZ	4117771	AF80-40-00-13100-250VAC/DC
4114906	1SBL411501R8000	A 75-22-00 220-230/230-240V 50/60HZ	4117773	AF80-22-00-13100-250VAC/DC
4115652	SK824440-AM	EK110-40-11 230V/50	4117777	AF116-40-11B-13100-250VAC/DC
4115662	SK824441-AM	EK150-40-11 230V/50	4117781	AF140-40-11B-13100-250VAC/DC
ELLER			4117783	AF190-40-11-13100-250VAC/DC
4115672	SK825440-AM	EK175-40-11 230V/50	4117783	AF190-40-11-13100-250VAC/DC
4115682	SK825441-AM	EK210-40-11 230V/50	4117785	AF205-40-11-13100-250VAC/DC
ELLER			4117787	AF265-40-11-13100-250VAC/DC
			4117789	AF305-40-11-13100-250VAC/DC
4115624	SK827040-AM	KONTAKTOR EK370-40-11 230V/50	4117791	AF370-40-11-13100-250VAC/DC
Hjelpereléer				
4114116	1SBH141001R8022	N22E 220-230V 50HZ / 230-240V 60HZ	4117800	NF22E-13100-250V50/60HZ/DC
4114126	1SBH141001R8031	N31E 220-230V 50HZ / 230-240V 60HZ	4117808	NF31E-13100-250V50/60HZ/DC
4114121	1SBH141001R8131	N31E 24V 50HZ / 24V 60HZ	4117812	NFZ31E-2124-60V50/60HZ20-60V DC PLS
ELLER			4117681	NF31E-41 24-60V50/60HZ - KUN AC !
4114106	1SBH141001R8040	N40E 220-230V 50HZ / 230-240V 60HZ	4117816	NF40E-13100-250V50/60HZ/DC
4187915	1SBH143001R8822	NL22E 220V DC	4117800	NF22E-13100-250V50/60HZ/DC
4187913	1SBH143001R8622	NL22E 110V DC	4117802	NF22E-1248-130V50/60HZ/DC
4187912	1SBH143001R8122	NL22E 24V DC	4117804	NFZ22E-2124-60V50/60HZ20-60V DC PLS
ELLER			4117801	NF22E-1124-60VAC/20-60V DC STANDARD

Kontaktorer
3-polede kontaktorer AF400..AF2650

AF400-30-11

AF750-30-11

AF1250-30-11

AF1350...AF2050

AF1350...AF2650

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF400 (Ie: AC1=600A (690V 40°C), AC3=400A (230/400V 55°C) Ue max 1000V) Dimensjoner: Str 7, AF400-AF460: HxBxD=278x186x216mm					
4115288	AF 400-30-11 100-250V 50/60HZ/DC	1SFL577001R7011		L	19 560,00
4115286	AF 400-30-11 24-60V DC NB! KUN DC	1SFL577001R6811			20 330,00
4115287	AF 400-30-11 48-130V 50/60HZ/DC	1SFL577001R6911			20 430,00
4115289	AF 400-30-11 200-500V 50/60HZ/DC	1SFL577001R7111			20 330,00
AF460 (Ie: AC1=700A (690V 40°C), AC3=460A (230/400V 55°C) Ue max 1000V)					
4115292	AF 460-30-11 100-250V 50/60HZ/DC	1SFL597001R7011		L	23 430,00
4115290	AF 460-30-11 24-60V DC NB! KUN DC	1SFL597001R6811			23 430,00
4115291	AF 460-30-11 48-130V 50/60HZ/DC	1SFL597001R6911			23 430,00
4115293	AF 460-30-11 200-500V 50/60HZ/DC	1SFL597001R7111			24 670,00
AF580 (Ie: AC1=800A (690V 40°C), AC3=580A (230/400V 55°C) Ue max 1000V) Dimensjoner: Str 8, AF580-AF750: HxBxD=283x210x242mm					
4115296	AF 580-30-11 100-250V 50/60HZ/DC	1SFL617001R7011		L	27 090,00
4115294	AF 580-30-11 24-60V DC NB! KUN DC	1SFL617001R6811			26 990,00
4115295	AF 580-30-11 48-130V 50/60HZ/DC	1SFL617001R6911			27 090,00
4115297	AF 580-30-11 200-500V 50/60HZ/DC	1SFL617001R7111			28 220,00
AF750 (Ie: AC1=1050A (690V 40°C), AC3=580A (230/400V 55°C) Ue max 1000V)					
4115300	AF 750-30-11 100-250V 50/60HZ/DC	1SFL637001R7011		L	35 160,00
4115298	AF 750-30-11 24-60V DC NB! KUN DC	1SFL637001R6811			35 160,00
4115299	AF 750-30-11 48-130V 50/60HZ/DC	1SFL637001R6911			35 160,00
4115301	AF 750-30-11 200-500V 50/60HZ/DC	1SFL637001R7111			36 250,00
AF1250 (Ie: AC1=1260A (1000V 40°C), AC3=mangler Ue max 1000V) Dimensjoner: Str 9: HxBxD=344x210x242mm					
4115382	AF 1250-30-11 100-250V 50/60HZ/DC	1SFL647001R7011			41 250,00
4115380	AF 1250-30-11 24-60VDC NB! KUN DC	1SFL647001R6811			39 490,00
4115381	AF 1250-30-11 48-130V 50/60HZ/DC	1SFL647001R6911			41 400,00
4115383	AF 1250-30-11 250-500V 50/60HZ/DC	1SFL647001R7111			41 400,00
AF1350 (Ie: AC1=1350A (1000V 40°C), AC3=860A (230/400V 55°C) Ue max 1000V) Dimensjoner: Str 10, AF1350-AF2050: HxBxD=392x438x244mm					
4115388	AF 1350-30-11 100-250V 50/60HZ/DC	1SFL657001R7011			52 360,00
AF1650 (Ie: AC1=1650A (1000V 40°C), AC3=1050A (230/400V 55°C) Ue max 1000V)					
4115390	AF 1650-30-11 100-250V 50/60HZ/DC	1SFL677001R7011			63 910,00
AF2050 (Ie: AC1=2050A (1000V 40°C), AC3=1050A (230/400V 55°C) Ue max 1000V)					
4115385	AF 2050-30-11 100-250V 50-60HZ/DC	1SFL707001R7011			78 890,00
AF2650 (Ie: AC1=2650A (1000V 40°C). IKKE AC3 RATED, Ue max 1000V) Dimensjoner: Str 10B, AF2650: HxBxD=422x438x244mm					
	AF 2650-30-11 100-250V 50-60HZ/DC	1SFL667001R7011			156 250,00

Kontaktorer
Spesialkontaktorer

AF09 ZB

AF26 ZB

NF ZB

CA4-40ERT

AF50

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kontaktorer med permantentmagnet **Manøvreres både inn og ut med styrestrøm, trenger ikke styrestrøm for å ligge inne. Leveres i utgavene AM50...AM300**					
AM110 (Ie: AC1=160A (690V 40°C), AC3=110A (230/400V 55°C) Ue max 1000V) **Dimensjoner: HxBxD=148x114x156,5mm**					
4115330	AM 110-30-22 220-240V 50/60HZ	1SFL458029R7922			12 290,00
A185 (Ie: AC1=275A (690 40°C), AC3=185A (230/400V 55°C) Ue max 1000V) **Dimensjoner: HxBxD=196x142x160mm**					
4115331	AM 185-30-22 220-240V 50/60HZ	1SFL498029R7922			15 660,00
Kontaktorer for jernbane mm, brann- og røykhemmende utførelse, stort spenningsområde **RT=ringkabelskotilkobling**					
3-polet AC/DC styrespenning					
	AF09ZB-30-10-21 24-60V50/60HZ 20-60VDC.	1SBL136061R2110			1 660,00
	AF09ZB-30-10-22 48-130V50/60HZ-DC.	1SBL136061R2210			1 660,00
	AF09ZB-30-10-23 100-250V50/60HZ-DC.	1SBL136061R2310			1 660,00
	AF16ZB-30-10-21 24-60V50/60HZ 20-60VDC.	1SBL176061R2110			2 210,00
	AF16ZB-30-10-22 48-130V50/60HZ-DC.	1SBL176061R2210			2 210,00
	AF16ZB-30-10-23 100-250V50/60HZ-DC.	1SBL176061R2310			2 210,00
	AF26ZB-30-00-21 24-60V50/60HZ 20-60VDC.	1SBL236061R2100			3 060,00
	AF26ZB-30-00-22 48-130V50/60HZ-DC.	1SBL236061R2200			3 060,00
	AF26ZB-30-00-23 100-250V50/60HZ-DC.	1SBL236061R2300			3 060,00
	AF38ZB-30-00-21 24-60V50/60HZ 20-60VDC.	1SBL296061R2100			4 930,00
	AF38ZB-30-00-22 48-130V50/60HZ-DC.	1SBL296061R2200			4 930,00
	AF38ZB-30-00-23 100-250V50/60HZ-DC.	1SBL296061R2300			4 930,00
Hjelperelé					
	NFZB22E-21 24-60V50/60HZ 20-60VDC.	1SBH136061R2122			1 690,00
	NFZB22E-22 48-130V50/60HZ-DC.	1SBH136061R2222			1 690,00
	NFZB22E-23 100-250V50/60HZ-DC.	1SBH136061R2322			1 690,00
Frontmonterte hjelpenontakter med ringkabelskotilkobling					
	CA4-40ERT	1SBN010142R1040			474,00
	CA4-31ERT	1SBN010142R1031			474,00
	CA4-22ERT	1SBN010142R1022			474,00
AF..ZB, NFZ og CA4 leveres i mange andre utgaver, bl. a. med ringkabelskotilkobling, og fjærtilkobling					
AF50..AF95B for jernbane					
	AF50-30-00 100-250V 50HZ / 100-250V 60HZ	1SBL357001R7000			5 190,00
	AF50-30-00 20-60V DC CONTACTOR	1SBL357001R7200			5 190,00
	AF63-30-11,100-250V	1SBL377001R7011			4 850,00
	AF75-30-00 100-250V AC/DC	1SBL417001R7000			6 810,00
	AF75-30-00 20-60VDC	1SBL417001R7200			6 350,00
	AF95B-30-11RT 48-130V	1SFL437062R6911			6 830,00
	AF95B-30-11RT 100-250V	1SFL437062R7011			6 830,00
	AF95B-30-11RT 20-60V D.C.	1SFL437062R7211			6 830,00
	AF95B-30-11 20-60V D.C.	1SFL437063R7211			6 830,00

Kontaktorer
Spesialkontaktorer

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
AF116B…AF305B med ringkabelskotilkobling					
	AF116B-30-22RT-12, 48...130 V 50/60HZ /DC	1SFL427062R1222			PPF.
	AF116B-30-22RT-13, 100...250 V 50/60HZ /DC	1SFL427062R1322			PPF.
	AF116B-30-22RT-11, 20 V DC, 24V AC... 60 V 50/60HZ /DC	1SFL427062R1122			PPF.
	AF140B-30-22RT-12, 48...130 V 50/60HZ /DC	1SFL447062R1222			PPF.
	AF140B-30-22RT-13, 100...250 V 50/60HZ /DC	1SFL447062R1322			PPF.
	AF140B-30-22RT-11, 20 V DC, 24V AC... 60 V 50/60HZ /DC	1SFL447062R1122			PPF.
	AF190B-30-22RT-12, 48...130 V 50/60HZ /DC	1SFL487062R1222			PPF.
	AF190B-30-22RT-13, 100...250 V 50/60HZ /DC	1SFL487062R1322			PPF.
	AF190B-30-22RT-11, 20 V DC, 24V AC... 60 V 50/60HZ /DC	1SFL487062R1122			PPF.
	AF205B-30-22RT-12, 48...130 V 50/60HZ /DC	1SFL527062R1222			PPF.
	AF205B-30-22RT-13, 100...250 V 50/60HZ /DC	1SFL527062R1322			PPF.
	AF205B-30-22RT-11, 20 V DC, 24V AC... 60 V 50/60HZ /DC	1SFL527062R1122			PPF.
	AF265B-30-22RT-12, 48...130 V 50/60HZ /DC	1SFL547062R1222			PPF.
	AF265B-30-22RT-13, 100...250 V 50/60HZ /DC	1SFL547062R1322			PPF.
	AF265B-30-22RT-11, 20 V DC, 24V AC... 60 V 50/60HZ /DC	1SFL547062R1122			PPF.
	AF305B-30-22RT-12, 48...130 V 50/60HZ /DC	1SFL587062R1222			PPF.
	AF305B-30-22RT-13, 100...250 V 50/60HZ /DC	1SFL587062R1322			PPF.
	AF305B-30-22RT-11, 20 V DC, 24V AC... 60 V 50/60HZ /DC	1SFL587062R1122			PPF.
Hjelpekontakter til AF116…AF305 - sidemontert - med ringkabelskotilkobling					
	CAL19B-11-RT	1SFN010829R1011			PPF.
	CAL19B-11B-RT	1SFN010829R3311			PPF.

Andre varianter på forespørsel

GA75-10-00

Kontaktorer for bryting av DC strøm
GA kontaktorene er for én fase, og har 3 brudd i serie. For belastning - se tabell i teknisk katalog
GA75 (Ie: DC1=100A (220-440V 55°C), DC3=85A (220-440V 55°C), DC5=35A (220-440V 55°C) Ue max 1000V)
max 300 brudd/time

	GA75-10-00 110V 50HZ / 110-120V 60HZ	1SBL411025R8400			5 980,00
	GA75-10-00 24V 50/60HZ	1SBL411025R8100			5 980,00
	GA75-10-00 220-230V 50HZ / 230-240V 60HZ	1SBL411025R8000			5 980,00
	GAE75-10-00 220V DC	1SBL419025R8800			8 420,00
	GAE75-10-00 110V DC	1SBL419025R8600			8 420,00
	GAE75-10-00 24V DC	1SBL419025R8100			8 420,00

GAF185

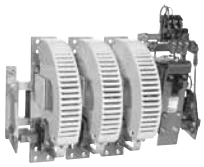
Ny GAF kontaktorserie GAF185-GAF2050 - kontakt kundeservice på tlf 24 16 54 00
Standardkontaktorer kan brukes til bryting av DC-strøm, men da med redusert belastning (tabell i teknisk katalog)

Kontaktorer for bryting av kondensatorlaster
UA for strømstøt < 100 x In, UA...RA har ingen begrensning for strømstøt

	UA 16-30-10 220-230/230-240V 50/60HZ	1SBL181022R8010			1 070,00
	UA 50-30-00 220-230/230-240V 50/60HZ	1SBL351022R8000			3 060,00
	UA 75-30-00 220-230/230-240V 50/60HZ	1SBL411022R8000			5 370,00
	UA 16-30-10RA 220-230/230-240V 50/60HZ	1SBL181024R8010			1 870,00
	UA 50-30-00RA 220-230/230-240V 50/60HZ	1SBL351024R8000			5 380,00
	UA 75-30-00RA 220-230/230-240V 50/60HZ	1SBL411024R8000			6 630,00

UA...RA

UA (...RA) leveres i flere størrelser.
Ved strømstøt < 30 x In kan standard kontaktorer brukes, med redusert belastning (se tabeller i teknisk katalog)



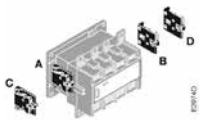
Rekkekontaktorer

Rekkekontaktorer er spesialutviklet for å slutte/bryte motorkretser og andre kretser for energiforsyning opp til 500/1000V AC og 440/1000/1500V DC, og strømmer opp til 5000A.
R-kontaktorer kan benyttes i industriapplikasjoner med krevende omgivelser og krav til høy ytelse. Rekkekontaktorene er bygd opp av standardkomponenter, og skreddersys etter kundens ønsker. Basert på sin enkle og robuste oppbygging er R-kontaktorene vellegnet til krevende applikasjoner med mange og hyppige koblinger.
For mer info, se teknisk katalog 1SBC104112C0201.

Kontaktorer
Kontaktortilbehør (For AF9...370 og NF - se eget avsnitt)

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Diverse utstyr/tilbehør					
Endestoppere for DIN-skinne					
1260916	ENDESTOPPER DIN 1 OG DIN 3 GRÅ V0 9 MM	1SNA399903R0200		L	18,80
	ENDESTOPPER M SKRUE GRÅ V0 10MM	1SNA399967R0100			PPF.
Hjelpekontaktblokker for B6 og B7					
4184080	CA6-11M	GJL1201317R0003			91,60
4184084	CA6-11N	GJL1201317R0004			91,60
4184085	CAF6-11E	GJL1201330R0002			92,70
4184086	CAF6-20E	GJL1201330R0006			92,70
4184088	CAF6-11M	GJL1201330R0003			92,70
4184089	CAF6-20M	GJL1201330R0007			92,70
4184090	HCAF6-02M	GJL1201330R0011			92,70
4184091	CAF6-11N	GJL1201330R0004			92,70
4184092	CAF6-20N	GJL1201330R0008			92,70
4184093	CAF6-02N	GJL1201330R0012			92,70
4190575	CA6-11K	GJL1201317R0001			87,20
4190580	CAF6-11K	GJL1201330R0001			92,70
4190581	CAF6-20K	GJL1201330R0005			92,70
Hjelpekontakter for A, AF, AL, AE, TAL, TAE, UA, N og NL kontaktorer A9-A110. NB - ikke til AF9..AF38/NF 1-pol for frontmontering på A9-A110					
4116000	CA 5-10	1SBN010010R1010		L	108,00
4116001	CA 5-01	1SBN010010R1001		L	117,00
Med microbryter IP40, min. 3V/1mA, maks 0,1A					
	CE 5-10 D 0,1	1SBN010015R1010			605,00
	CE 5-01 D 0,1	1SBN010015R1001			605,00
Med microbryter IP40,min. 17V/1mA, maks 2,0A					
	CE5-01D 2	1SBN010017R1001			605,00
	CE5-10D 2	1SBN010017R1010			605,00
4-pol for frontmontering A9-A40 (merking fra 21)					
4116005	CA 5-31M	1SBN010040R1131	2		467,00
4116006	CA 5-22M	1SBN010040R1122		L	467,00
4116007	CA 5-04M	1SBN010040R1104		L	467,00
4-pol for frontmontering på A9-A26 og A45-A110 (merking fra 11)					
4116009	CA 5-40E	1SBN010040R1040		L	467,00
4116010	CA 5-31E	1SBN010040R1031			467,00
4116011	CA 5-22E	1SBN010040R1022		L	467,00
4116012	CA 5-04E	1SBN010040R1004			483,00
4-pol for frontmontering på hjelperelè N og NL (merking fra 51)					
4116015	CA 5-40N	1SBN010040R1240	2		483,00
4116016	CA 5-22N	1SBN010040R1222	2		467,00
4116017	CA 5-04N	1SBN010040R1204			467,00
2-pol for sidemontering A9-A75 (kan monteres på begge sider)					
4116020	CAL 5-11 (FOR A9 - A75)	1SBN010020R1011		L	297,00
2-pol for sidemontering (ved dobbel hjelpekontakt på en side)					
4116021	CAL 5-11B FOR MONTERING PÅ CAL 5-11	1SBN010420R3311		L	270,00

Kontaktorer
Kontaktortilbehør (For AF9...370 og NF - se eget avsnitt)



Mounting positions of the CAL 16-11

Elnr:	Betegnelse:			ABB idnr.:	Min. Pakn.	Lager:	Pris:
Hjelpekontakt for A, AF, AE, TAE og UA kontaktorer fra A95 til AF1650							
4116022	CAL-18-11			1SFN010720R1011		L	256,00
Hjelpekontakt (ved dobbel hjelpekontakt på en side) for A145-AF1650							
4116023	CAL-18-11B FOR MONTERING PÅ CAL18-11			1SFN010720R3311		L	261,00
Med microbryter IP 67 0,1A							
	CEL 18-10			1SFN010716R1010			355,00
	CEL 18-01			1SFN010716R1001			355,00
Hjelpekontaker til EK- og EH-kontaktorer							
4116355	CAL 16-11A	V.1. LAG		SK829002-A			117,00
4116350	CAL 16-11B	H.1. LAG		SK829002-B			117,00
4116351	CAL 16-11C	V.2. LAG		SK829002-C			117,00
4116352	CAL 16-11D	H.2. LAG		SK829002-D			117,00
Elektroniske tidsreléer for Y/D-startere, brukes til A/AL/AE, men ikke til AF (alle typer), der brukes f.eks CT-.. Timere, se side 6/52/53							
4116025	TE5S-24 24V AC/DC			1SBN020010R1001			1 270,00
4116026	TE5S-120 110-115V 50/60HZ			1SBN020010R1002			1 270,00
4116027	TE5S-240 220-230V 50/60HZ			1SBN020010R1003		L	1 220,00
Forlenget skinnetilkoblinger							
4120547	LX 185 FOR A145 - A185			1SFN074710R1000			750,00
4120549	LX 300 FOR A210 - A300			1SFN075110R1000			806,00
4115500	LX 460 FOR AF400 - AF460			1SFN075710R1000			1 430,00
4115501	LX 750 FOR AF58 - AF750			1SFN076110R1000			1 630,00
Skinnespredere							
4120557	LW 110 FOR A95 - A110			1SFN074307R1000		L	371,00
4120559	LW 185 FOR A145 - A185			1SFN074707R1000			781,00
4120560	LW 300 FOR A210 - A300			1SFN075107R1000			812,00
4120561	LW 460 AF 400-460			1SFN075707R1000			1 630,00
4120562	LW 750 AF 580-750			1SFN076107R1000			1 730,00
4120563	LW1250 TIL AF1250			1SFN076407R1000			2 300,00
Overgangsplater							
	TYPE	FRA	TIL				
4116148	PR 110-1	EH 65, 75, 80, 90, EG 80	A 95, A 110	1SFN094500R1000			302,00
4120640	PR 145-1	EH 100, 145	A 110, A 145	1SFN094700R1000			302,00
4120641	PR 210-1	EH 150, 160, 175, 210, EG 180	A 185, A 210	1SFN094900R1000			302,00
4120642	PR 300-1	EH 250, 260, 300	A 210, A 300	1SFN095300R1000			454,00
Mekanisk/elektrisk forrigling - ved horisontal montasje av 2 kontaktorer							
4116045	VE5-1 FOR A9 - A40 - NB IKKE AF/NF			1SBN030110R1000			683,00
4116046	VE5-2 FOR A50 - A110			1SBN030210R1000			671,00
Mekanisk forrigling - ved horisontal montasje av 2 kontaktorer							
4116055	VM5-1 FOR A9-A40 - NB IKKE AF/NF			1SBN030100R1000			467,00
4116058	VM300H FOR 2 HORISONTALE A110 - A300			1SFN034700R1000			694,00
4116137	VM300/460H A210..A300/AF400..AF460			1SFN035100R1000			825,00
4116139	VM750 AF400..AF750			1SFN035700R1000			1 080,00
Mekaniske forriglinger - ved vertikal montasje av 2 kontaktorer							
4116136	VM300V A95..A300			1SFN034701R1000			627,00
4116138	VM300/460V A95..A300/AF400..AF460			1SFN035101R1000			801,00
4116140	MEKANISK FORRIGL.VM750V AF400..AF750			1SFN035701R1000			1 080,00

Kontaktorer
Kontaktortilbehør (For AF9...370 og NF - se eget avsnitt)

RV5/RC5

LT6

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kontaktorspoler For AF400-AF2050					
4121057	SPOLE FOR AF400-460 ZAF460-70 100-250V 50/60HZ/DC	1SFN155770R7006			11 840,00
4121059	SPOLE FOR AF580-750-1250 ZAF750-70 100-250V 50/60HZ/DC	1SFN156170R7006			13 800,00
4121060	SPOLE TIL AF1350-1650 (SETT Á 2STK) 100-250V 50/60HZ/DC	1SFN156570R7026			15 400,00
4121061	PRINTKORT ZP TIL AF 1350-2050 SPOLE	1SFN166521R1070			16 210,00
For reservespole til A9...A(F)300 - og kontaktsett til A(F)50..AF2650 kontakt kundeservice på tlf. 24165400.					
Dempeledd (mot støy på nettet), for A-kontaktorer og N-hjelpereléer For AC/DC					
4116075	RV5/ 50 24-50V AC/DC FOR A9-A110,AE45-AE110,N	1SBN050010R1000	2		502,00
4116076	RV5/133 50-133V AC/DC FOR A9-A110,AE45-AE110,N	1SBN050010R1001			530,00
4116077	RV5 /250 110-250VAC/DC FOR A9-A110,AE45-AE110,N	1SBN050010R1002			502,00
4116078	RV5 /440 250-440VAC7DC FOR A9-A110,AE45-AE110,N	1SBN050010R1003			530,00
For AC (varistor)					
4116100	RC5-1/ 50 24-50V AC FOR A9-A40,N	1SBN050100R1000			515,00
4116101	RC5-1/133 50-133V AC FOR A9-A40,N	1SBN050100R1001			515,00
4116102	RC5-1/250 110-250V AC FOR A9-A40,N	1SBN050100R1002	2		502,00
4116103	RC5-1/440 250-440V AC FOR A9-A40,N	1SBN050100R1003			515,00
4116104	RC5-2/ 50 24- 50V AC FOR A45-A110	1SBN050200R1000			515,00
4116105	RC5-2/133 50-133V AC FOR A45-A110	1SBN050200R1001			530,00
4116106	RC5-2/250 110-250V AC FOR A45-A110	1SBN050200R1002	2		530,00
4116107	RC5-2/440 250-440V AC FOR A45-A110	1SBN050200R1003			530,00
For DC (gjennomløpsdiode)					
	RT5/ 32 12- 32VDC	1SBN050020R1000	2		695,00
	RT5/ 65 25- 65VDC	1SBN050020R1001			695,00
	RT5/ 90 50- 90VDC	1SBN050020R1002			695,00
	RT5/ 150 77-150VDC	1SBN050020R1003			695,00
	RT5/ 264 150- 264VDC	1SBN050020R1004			695,00
Dempeledd for BC6, BC7, KC6, BC9-BC30 og KC kontaktorer					
4188186	RV-BC6 / 60 24-60V DC	GHV2501902R0002			192,00
4188187	RV-BC6-F/ 60 24-60V DC	GHV2501902R0003			244,00
4188188	RV-BC6 /250 110-250V DC	GHV2501903R0002			181,00
4188189	RV-BC6-F/250 110-250V DC	GHV2501903R0003			244,00
4188192	RV-BC6 /380 200-420V DC	GHV2501904R0002			192,00
4188193	RV-BC6-F/380 200-420V DC	GHV2501904R0003			244,00
Avdekning, for B, BC og KC kontaktorer					
4184097	LT6-B	GJL1201906R0001			68,40
Avdekning For A kontaktorer Pakning à 2 stk, unntatt LT185-AY som er 1 stk, pris er pr. pkn. AC er lav avdekning, AL er høy avdekning					
4120300	LT185-AC (KABELKLEMMER) FOR A145-A185	1SFN124701R1000		L	391,00
4120301	LT185-AL (KABELSKO) FOR A145-A185	1SFN124703R1000		L	375,00
4120416	LT185-AY F A145-A185 (F. STJ. PKT. MM.)	1SFN124704R1000			302,00
4120302	LT300-AC (KABELKLEMMER) FOR A210-A300	1SFN125101R1000		L	404,00
4120303	LT300-AL (KABELSKO) FOR A210-A300	1SFN125103R1000		L	391,00
4120343	LT460-AC (KABELKLEMMER) FOR AF400-AF460	1SFN125701R1000		L	571,00
4120344	LT460-AL (KABELSKO) FOR AF400-AF460	1SFN125703R1000		L	571,00
4120345	LT750-AC (KABELKLEMMER) FOR AF580-AF750	1SFN126101R1000			738,00
4120346	LT750-AL (KABELSKO) FOR AF580-AF750	1SFN126103R1000		L	806,00
4120416	AVDEKNING LAV LTA185-AY	1SFN124704R1000			302,00

Kontaktorer
Kontaktortilbehør (For AF9...370 og NF - se eget avsnitt)

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
For EK kontaktorer					
4120340	LT150-EK	SK178001-HB			714,00
4120341	LT210-EK	SK178001-KB			451,00
4120342	LT550-EK	SK178001-LB			851,00
Interface relé (se teknisk katalog)					
4116130	RA5.1 24VDC	1SBN060300R1000			1 430,00
Deler for bygging av startere/vendere med minikontaktorer Forbindelseskinne for reverserstarter VB6/VB7 og VBC6/VBC7					
4184098	FORBINDELSESLASK BSM6-30	GJL1201908R0001			92,70
Skinne for overkobling/paralellkobling av B6/B7 og BC6/BC7 minikontaktorer					
4184099	OVERKOBLIG/PARALELLKOBLINGSLASK LP 6	GJL1201907R0001	100		6,62
Skinnesett for bygging av stjerne/trekant-startere Kan brukes både uten og med mekanisk forrigling					
4120540	BED400 FOR AF400/460 + A260/300	1SFN085503R1000			6 890,00
4120541	BED460 FOR AF460 + AF400	1SFN085703R1000			7 650,00
4120542	BED580 FOR AF580 + AF400/460	1SFN085903R1000			8 010,00
4120543	BED750 FOR AF750 + AF580	1SFN086103R1000			9 010,00
Div. koblinger, for 3 poler					
4120444	LY460 FOR AF400-AF460	1SFN075703R1000			584,00
4120445	LY750 FOR AF580-AF750	1SFN076103R1000			789,00
Skinner for reverseringskontaktorer					
4120491	BEM460-30 FOR AF400-AF460	1SFN085701R1000			3 960,00
4120492	BEM750-30 FOR AF580-AF750	1SFN086101R1000			4 810,00
Skinne for fase/fase sammenkobling 3-pol					
4116145	BES460-30 FOR AF400-AF460	1SFN085704R1000			5 010,00
4116147	BES750-30 FOR AF580-AF750	1SFN086104R1000			7 000,00
For skinner for sammenkobling av effektbryter og kontaktor - se under effektbrytere i denne prislisten					
Mekanisk sperreblokk for A9 - A75, kan også brukes til AF9..AF38/NF					
4116411	WB75-A 24V	FPTN372726R1001			1 870,00
4116414	WB75-A 110V	FPTN372726R1004			1 870,00
4116416	WB75-A 230V	FPTN372726R1006			1 800,00
Kabelklemmer					
	3 X 185 MM² FLERTRÅD AL/CU, 43 NM, FOR AF580... AF1250 (3-PAKN)	1SDA023384R0001		L	1 970,00
	2 X 120-240 MM² FLERTRÅD AL/CU, 31 NM, FOR AF400 OG AF750 (3-PAKN)	1SDA023380R0001		L	1 970,00
	MULTI AL & CU - AF 1350, AF 1650 / 4X (120…240)	1SDA023387R0001			PPF.
For Al-kabel i Al/Cu-klemmer anbefales 10% lavere tiltrekningsmoment enn oppgitt ovenfor.					

Overlastvern
Termiske vern

T16

TF42

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Termiske overlastreléer						
Termiske releér «T16» til AS og B6/B7 minikontaktorer - ikke ATEX						
4117150	T16-0.13 TOL	0.10-0.13 A	1SAZ711201R1005			598,00
4117151	T16-0.17 TOL	0.13-0.17 A	1SAZ711201R1008			598,00
4117152	T16-0.23 TOL	0.17-0.23 A	1SAZ711201R1009			598,00
4117153	T16-0.31 TOL	0.23-0.31 A	1SAZ711201R1013			598,00
4117154	T16-0.41 TOL	0.31-0.41 A	1SAZ711201R1014			598,00
4117155	T16-0.55 TOL	0.41-0.55 A	1SAZ711201R1017			598,00
4117156	T16-0.74 TOL	0.55-0.74 A	1SAZ711201R1021			598,00
4117157	T16-1.0 TOL	0.74-1.00 A	1SAZ711201R1023			598,00
4117158	T16-1.3 TOL	1.00-1.30 A	1SAZ711201R1025			598,00
4117159	T16-1.7 TOL	1.30-1.70 A	1SAZ711201R1028			598,00
4117160	T16-2.3 TOL	1.70-2.30 A	1SAZ711201R1031			598,00
4117161	T16-3.1 TOL	2.30-3.10 A	1SAZ711201R1033			598,00
4117162	T16-4.2 TOL	3.10-4.20 A	1SAZ711201R1035			598,00
4117163	T16-5.7 TOL	4.20-5.70 A	1SAZ711201R1038			598,00
4117164	T16-7.6 TOL	5.70-7.60 A	1SAZ711201R1040			598,00
4117165	T16-10 TOL	7.60-10.0 A	1SAZ711201R1043			598,00
4117166	T16-13 TOL	10.0-13.0 A	1SAZ711201R1045			598,00
4117167	T16-16 TOL	13.0-16.0 A	1SAZ711201R1047			621,00
Termiske releér for AF9-AF38 ATEX-godkjent						
4116751	TF42-0.13	0.10-0.13 A	1SAZ721201R1005			670,00
4116752	TF42-0.17	0.13-0.17 A	1SAZ721201R1008			670,00
4116753	TF42-0.23	0.17-0.23 A	1SAZ721201R1009			670,00
4116754	TF42-0.31	0.23-0.31 A	1SAZ721201R1013		L	670,00
4116755	TF42-0.41	0.31-0.41 A	1SAZ721201R1014			670,00
4116756	TF42-0.55	0.41-0.55 A	1SAZ721201R1017			670,00
4116757	TF42-0.74	0.55-0.74 A	1SAZ721201R1021		L	670,00
4116758	TF42-1.0	0.74-1.00 A	1SAZ721201R1023		L	670,00
4116759	TF42-1.3	1.00-1.30 A	1SAZ721201R1025		L	670,00
4116760	TF42-1.7	1.30-1.70 A	1SAZ721201R1028		L	670,00
4116761	TF42-2.3	1.70-2.30 A	1SAZ721201R1031		L	670,00
4116762	TF42-3.1	2.30-3.10 A	1SAZ721201R1033		L	670,00
4116763	TF42-4.2	3.10-4.20 A	1SAZ721201R1035		L	670,00
4116764	TF42-5.7	4.20-5.70 A	1SAZ721201R1038		L	670,00
4116765	TF42-7.6	5.70-7.60 A	1SAZ721201R1040		L	670,00
4116766	TF42-10	7.60-10.0 A	1SAZ721201R1043		L	670,00
4116767	TF42-13	10.0-13.0 A	1SAZ721201R1045		L	720,00
4116768	TF42-16	13.0-16.0 A	1SAZ721201R1047		L	720,00
4116769	TF42-20	16.0-20.0 A	1SAZ721201R1049		L	720,00
4116770	TF42-24	20.0-24.0 A	1SAZ721201R1051		L	944,00
4116781	TF42-29	24.0-29.0 A	1SAZ721201R1052		L	1 050,00
4116782	TF42-35	29.0-35.0 A	1SAZ721201R1053		L	1 110,00
4116783	TF42-38	35.0-38.0/40.0 A	1SAZ721201R1055		L	1 110,00

Overlastvern
Termiske vern

TF65

TF96

TF140DU

TA200DU

TA25DU

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
For AF40, AF52, AF65 ATEX godekjent						
4116786	TF65-28	22-28A	1SAZ811201R1001		L	1 010,00
4116787	TF65-33	25-33A	1SAZ811201R1002			1 080,00
4116788	TF65-40	30-40A	1SAZ811201R1003		L	1 160,00
4116789	TF65-47	36-47A	1SAZ811201R1004		L	1 190,00
4116791	TF65-53	44-53A	1SAZ811201R1005		L	1 360,00
4116792	TF65-60	50-60A	1SAZ811201R1006		L	1 410,00
4116793	TF65-67	57-67A	1SAZ811201R1007		L	1 430,00
For AF80 og AF96 ATEX godekjent						
4116794	TF96-51	40-51A	1SAZ911201R1001		L	1 360,00
4116795	TF96-60	48-60A	1SAZ911201R1002			1 480,00
4116796	TF96-68	57-68A	1SAZ911201R1003			1 540,00
4116797	TF96-78	65-78A	1SAZ911201R1004			1 820,00
4116798	TF96-87	75-87A	1SAZ911201R1005		L	1 970,00
4116799	TF96-96	84-96A	1SAZ911201R1006			2 100,00
For AF116 og AF140 ATEX godekjent						
4116775	TF140DU-90 V1000 ATEX	66-90A	1SAZ431301R1001			2 330,00
4116776	TF140DU-110 V1000 ATEX	80-110A	1SAZ431301R1002			2 510,00
4116777	TF140DU-135 V1000 ATEX	100-135A	1SAZ431301R1003			2 670,00
4116778	TF140DU-142 V1000 ATEX	110-142A	1SAZ431301R1004			2 820,00
For AF190 og AF205 ATEX godekjent						
4116424	TA 200DU	80-110 EXE	1SAZ421301R1002		L	3 110,00
4116425	TA 200DU	100-135 EXE	1SAZ421301R1003			3 110,00
4116426	TA 200DU	110-150 EXE	1SAZ421301R1004			3 110,00
4116427	TA 200DU	130-175 EXE	1SAZ421301R1005		L	3 220,00
4116428	TA 200DU	150-200 EXE	1SAZ421301R1006			3 280,00
Termisk reléer "TA", klasse 10A, ATEX godkjente For A9-A40						
	TA 25DU	0,1-0,16 EXE	1SAZ211301R1005			811,00
	TA 25DU	0,16-0,25 EXE	1SAZ211301R1009			811,00
	TA 25DU	0,25-0,4 EXE	1SAZ211301R1013			811,00
	TA 25DU	0,4-0,63A EXE	1SAZ211301R1017		L	811,00
	TA 25DU	0,63-1,0 EXE	1SAZ211301R1021			811,00
	TA 25DU	1,0-1,4 EXE	1SAZ211301R1023		L	811,00
	TA 25DU	1,3-1,8 EXE	1SAZ211301R1025		L	811,00
	TA 25DU	1,7-2,4 EXE	1SAZ211301R1028		L	780,00
	TA 25DU	2,2-3,1 EXE	1SAZ211301R1031		L	780,00
	TA 25DU	2,8-4,0 EXE	1SAZ211301R1033		L	811,00
	TA 25DU	3,5-5,0 EXE	1SAZ211301R1035		L	811,00
	TA 25DU	4,5-6,5 EXE	1SAZ211301R1038		L	811,00
	TA 25DU	6,0-8,5 EXE	1SAZ211301R1040		L	811,00
	TA 25DU	7,5-11 EXE	1SAZ211301R1043		L	811,00
	TA 25DU	10-14 EXE	1SAZ211301R1045		L	852,00
	TA 25DU	13-19 EXE	1SAZ211301R1047		L	831,00
	TA 25DU	18-25 EXE	1SAZ211301R1051		L	862,00
	TA 25DU	24-32 EXE	1SAZ211301R1053			1 180,00

Overlastvern
Termiske vern

TA42DU

TA75DU

TA110DU

DB42 DB16

DB25

DB200

LT200A

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
For A30-A40						
4116650	TA 42DU	18-25 EXE	1SAZ311301R1001			1 300,00
4116651	TA 42DU	22-32 EXE	1SAZ311301R1002			1 350,00
4116652	TA 42DU	29-42 EXE	1SAZ311301R1003			1 360,00
For A50-A75						
4116660	TA 75DU	18-25 EXE	1SAZ321301R1001			1 260,00
4116661	TA 75DU	22-32 EXE	1SAZ321301R1002			1 380,00
4116662	TA 75DU	29-42 EXE	1SAZ321301R1003		L	1 370,00
4116663	TA 75DU	36-52 EXE	1SAZ321301R1004		L	1 670,00
4116664	TA 75DU	45-63 EXE	1SAZ321301R1005		L	1 780,00
4116665	TA 75DU	60-80 EXE	1SAZ321301R1006			1 830,00
For A95-A110						
4116670	TA 80DU	29-42 EXE	1SAZ331301R1003			2 580,00
4116671	TA 80DU	36-52 EXE	1SAZ331301R1004			2 580,00
4116672	TA 80DU	45-63 EXE	1SAZ331301R1005			2 720,00
4116673	TA 80DU	60-80 EXE	1SAZ331301R1006			2 890,00
4116680	TA110DU	65-90 EXE	1SAZ411301R1001			2 830,00
4116681	TA110DU	80-110 EXE	1SAZ411301R1002			3 110,00
Monteringssett For å montere overlatrelé til kontaktor						
4116905	DT450/ A300 TIL A260-A300		1SAZ501901R1001			1 360,00
4116906	DT450/ A185 TIL A145-A185		1SAZ501902R1001			1 640,00
Sokkel for separat montasje						
4116785	DB42 FOR TF42 (TIL AF9..AF38)		1SAZ701902R0001		L	452,00
4116779	DB65: FOR TF65 (TIL AF40…AF65)		1SAZ801901R1001		L	452,00
	DB96 FOR EF96 OG TF96 (TIL AF85 OG AF96)		1SAZ901901R1001		L	867,00
4117170	DB16 FOR T16 (TIL B6/B7 OG AS)		1SAZ701901R0001			313,00
4116893	DB25/25A FOR TA25 OPPTIL 25A		1SAZ201108R0001		L	364,00
4116894	DB25/32A FOR TA25 - FOR 32A RELÉ		1SAZ201108R0002			501,00
4116897	DB80 FOR TA42, TA75 OG TA80		1SAZ301110R0001			644,00
Montasjesett for separat montering						
4116898	DB200 SETT FOR SEP. MONTASJE AV TA110DU/TA200DU		1SAZ401110R0001			979,00
Avdekning for TA 200 DU						
4116970	LT200/A185 NEDSIDE/MOTORSIDE MELLOM KONTAKTOR OG VERN		1SAZ401901R1001			487,00
4120416	LT185-AY FOR A145-185/TA 200		1SFN124704R1000			302,00

Overlastvern
Elektroniske vern

EF19-DU

EF45DU

EF65

EF96

EF146

EF205

EF370

EF460

EF750

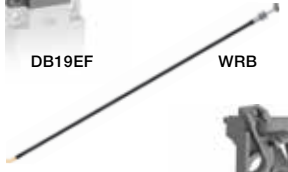
E1250DU

E45DU

E16DU

DB19EF

E80DU


WRB

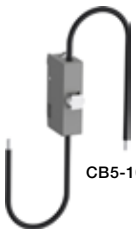
WRH-F

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Elektroniske overlastreléer						
EF19 for AF9 - AF26, EF45 for AF26-AF38						
ATEX-godkjent						
Trippklasse justerbar 10, 20 og 30						
4116830	EOL EF19 DU 0,32 KL 10-30	0,1-0,32A	1SAX121001R1101			1 140,00
4116831	EOL EF19 DU 1,0 KL 10-30	0,3-1,0A	1SAX121001R1102			1 140,00
4116832	EOL EF19 DU 2,7 KL 10-30	0,8-2,7A	1SAX121001R1103			1 140,00
4116833	EOL EF19 DU 6,3 KL 10-30	1,9-6,3A	1SAX121001R1104		L	1 260,00
4116834	EOL EF19 DU 18,9 KL 10-30	5,7-18,9A	1SAX121001R1105		L	1 260,00
4116835	EOL EF45 DU 30 KL 10-30	9-30A	1SAX221001R1101			2 050,00
4116836	EOL EF45 DU 45 KL 10-30	15-45A	1SAX221001R1102			2 480,00
EF65...EF370 for AF40... AF750						
ATEX-godkjent						
Trippklasse justerbar 10E, 20E og 30E						
4116700	EF65-70 FOR AF40, AF52 OG AF65	25-70A	1SAX331001R1101			3 050,00
4116701	EF96-100 FOR AF80 OG AF96	36-100A	1SAX341001R1101		L	3 730,00
4116702	EF146-150 FOR AF116, AF140 OG AF146	54-150A	1SAX351001R1101		L	4 140,00
4116703	EF205-210 FOR AF190 OG AF205	63-210A	1SAX531001R1101		L	4 900,00
4116704	EF370-380 FOR AF265, AF305 OG AF370	115-370A	1SAX611001R1101		L	6 420,00
4116705	EF460-500 FOR AF400/AF460	150-500A	1SAX721001R1101			8 420,00
4116706	EF750-800 FOR AF580/AF750	250-800A	1SAX821001R1101			10 710,00
	E1250DU CL10-30 375-1250A FOR AF1350-AF1650		1SFA739001R1000			21 820,00
E16DU for A9 - A16, B6 og B7						
Trippklasse justerbar 10, 20 og 30						
4116944	E16 DU 0,1-0,32A		1SAX111001R1101			1 260,00
4116946	E16 DU 0,3-1,0A		1SAX111001R1102		L	1 260,00
4116947	E16 DU 0,8-2,7A		1SAX111001R1103			1 260,00
4116948	E16 DU 2,0-6,3A		1SAX111001R1104			1 400,00
4116949	E16 DU 5,7-18,9A		1SAX111001R1105		L	1 400,00
E45DU-E140DU for A26…A110						
Trippklasse justerbar 10, 20 og 30						
	E45DU 30 9-30A A…26 … A…40		1SAX211001R1101			2 170,00
	E45DU 45 15-45A A…26 … A…40		1SAX211001R1102			2 590,00
	E80DU 80 27-80A A…50 … A…75		1SAX311001R1101			3 300,00
	E140DU 140 50-140A A…95 … A…110		1SAX321001R1101			4 390,00
Montasjebrakett for separat montering						
4117837	DB19EF FOR EF19DU (TIL AF9…AF38)		1SAX101910R1001			249,00
	DB96 FOR EF96 OG TF96 (TIL AF85 OG AF96)		1SAZ901901R1001		L	867,00
4116996	DB16E FOR E16DU		1SAX101110R0001			288,00
4116955	DB45E FOR E45DU		1SAX201110R1001			589,00
4116956	DB80E FOR E80DU		1SAX301110R1001			727,00
4116957	DB140E FOR E140DU		1SAX301110R1002			1 060,00
Tilbehør til TF42, TF65, TF96, EF19, EF45, EF65, EF96, EF146, EF205, EF370, EF460 og EF750						
	WRB-400 UTLØSERWIRE, 400 MM		1SAZ701903R1011			734,00
	WRB-1000 UTLØSERWIRE, 1000 MM		1SAZ701903R1013			928,00
	WRBG PAKNING IP54 100-PACK		1SAZ701903R1030	100		31,60
	WRH-F HOLDER FOR WIREUTLØSER		1SAZ701903R1001			54,60

Startere
Kapslede DOL-startere

DRAF09

FR16AF-12



CB5-10

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kapslede DOL startere med AF-kontaktorer (TF42 bestilles separat), IP66.						
Styrestrøm (50/60Hz): S=separat, N=fase-N (for 230V IT og 400V TN), P=fase-fase (for 400V TN).						
NB - ved bruk av N-versjonen må tilførsel ha N-leder/230V IT.						
2x20mm gjennomføring i topp og bunn						
Strøm/230V/400V						
4187742	DRAF09-11S 24…60V 50/60HZ	9A/2,2KW/4KW				1 230,00
4187743	DRAF09-13N 100...250V 50/60HZ	9A/2,2KW/4KW			L	1 230,00
4187744	DRAF09-14P 250...500V 50/60HZ	9A/2,2KW/4KW				1 230,00
4187745	DRAF12-11S 24…60V 50/60HZ	12A/3KW/5,5KW				1 320,00
4187746	DRAF12-13N 100...250V 50/60HZ	12A/3KW/5,5KW				1 320,00
4187747	DRAF12-14P 250...500V 50/60HZ	12A/3KW/5,5KW				1 320,00
4187748	DRAF16-11S 24…60V 50/60HZ	18A/4KW/7,5KW				1 780,00
4187749	DRAF16-13N 100...250V 50/60HZ	18A/4KW/7,5KW			L	1 780,00
4187750	DRAF16-14P 250...500V 50/60HZ	18A/4KW/7,5KW				1 780,00
VELG OVERLASTVERN (TF42)						
Tom kapsling med trykknapper						
4187751	FR16AF-12 - TOM KAPSLING	1SBN101337R1000				724,00
VELG AF KONTAKTOR (AF9/AF12/AF16)						
4117421	CB5-10 SIGNALKONTAKT	1SBN010013R1010				215,00
VELG OVERLASTVERN (TF42)						

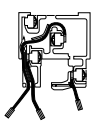
Startere
Kombimoduler til Smissline startere

Toppmating

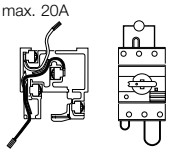
Bunnmating

Elnr:	Tilkopling	Betegnelse:	ABB idnr.:	Vekt i gram 1 stk	Min. Pakn.	Pris:
Adapterplater til MS325						
Adapterplate som «integreres» i motorstarteren MS325						
1628364	3L	ZMS915 ADAPT.MS325 3 FAS	2CCF002817R0001	30	1	213,00
1628672	L1+N	ZMS916 ADAPT.MS325 L1+N	2CCF002818R0001	30	1	166,00
1628664	L2+N	ZMS917 ADAPT.MS325 L2+N	2CCF002819R0001	30	1	166,00
1628665	L3+N	ZMS918 ADAPT.MS325 L3+N	2CCF002820R0001	30	1	166,00
1628662	2L	ZMS919 ADAPT.MS325 2FAS	2CCF010620R0001	30	1	166,00
Tilkoblingskabel						
ZLS630, tilkoblingskabel for signalering gjennom AS400, til for eksempel MS						
1623749	LA/LB	ZLS630 TILK.KABEL.SIGNAL.KORT	2CCF002794R0001	2	1	22,00
Adapter til MS116/132						
Adapter til motorstarter MS116 og MS132						
1628364	3L	ZMS915 ADAPT.MS325 3 FAS	2CCF002817R0001	30	1	213,00
1628672	L1+N	ZMS916 ADAPT.MS325 L1+N	2CCF002818R0001	30	1	166,00
1628664	L2+N	ZMS917 ADAPT.MS325 L2+N	2CCF002819R0001	30	1	166,00
1628665	L3+N	ZMS918 ADAPT.MS325 L3+N	2CCF002820R0001	30	1	166,00
1628662	2L	ZMS919 ADAPT.MS325 2FAS	2CCF010620R0001	30	1	166,00
1623740	3L	ZMS930 ADAPTER MS116/132 BUNN 3L	2CCA182520R0001	30	1	219,00
1623741	3L+AB	ZMS931 ADAPTER MS116/132 BUNN 3LAB	2CCA182522R0001	62	1	294,00
1623746	3L+A	ZMS936 ADAPTER MS116/132 BUNN 3LA	2CCA182521R0001	58	1	256,00
1623742	3L	ZMS932 ADAPTER MS116/132 TOPP 3L	2CCA182524R0001	30	1	219,00
1623743	3L+AB	ZMS933 ADAPTER MS116/132 TOPP 3LAB	2CCA182526R0001	62	1	294,00
1623747	3L+A	ZMS937 ADAPTER MS116/132 TOPP 3LA	2CCA182525R0001	58	1	256,00
1623744	DUMMY	ZMS934 ADAPTER MS116/132 DUMMY	2CCA182512R0001	34	1	110,00
1623745	9MM	ZMS935 9MM UTFYLLINGSTYKKE	2CCA182616R0001	7	1	41,90
Kombimodul til MS116/132 + AF kontaktor						
Kombimodul til motorstarter MS116 og MS132, for montering i kombinasjon med AF kontaktor						
1623735	3L	ZMS132-3L KOMBIMODUL	2CCA182500R0001	95	1	435,00
1623736	3L, LA	ZMS132-3LA KOMBIMODUL	2CCA182502R0001	98	1	445,00
1623737	3L, LA/LB	ZMS132-3LAB KOMBIMODUL	2CCA182506R0001	102	1	454,00
1623738	3L,LB	ZMS132-3LB KOMBIMODUL	2CCA182504R0001	98	1	445,00
1623739	DUMMY	ZMS137 KOMBIMODUL BRAKETT	2CCA182508R0001	75	1	147,00
1623748	PINNE	E210-SPV SAMMENKOBLINGSPINNE (SETT A 30 STK)	2CCC703715R0001	6	PK	111,00
1623745	9MM	ZMS935 9MM UTFYLLINGSTYKKE	2CCA182616R0001	7	1	41,90

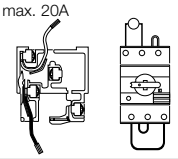
ZMS 915 → MS325 / ZLS 5.., I_n max. 32A



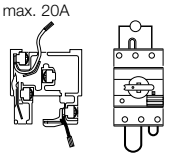
ZMS 916 → MS325, I_n max. 20A



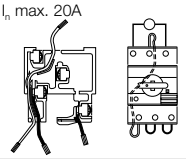
ZMS 917 → MS325, I_n max. 20A



ZMS 918 → MS325, I_n max. 20A



ZMS 919 → MS325, I_n max. 20A



Startere
Utvalgstabell DOL-startere, kapslinger og koordinasjon

DOL-starter

DOL-starter med motorvernbryter MS132- AF-kontaktor - Koordinasjon

400 V, 50 kA, 50/60 Hz, AC-3, EN/IEC 60947-4-1, type 2, for IE1, IE2 og IE3

Motoreffekt 400V (kW)	Motorstrøm (A)	El-nr Motorvernbryter	Type	Instillingsområde	El-nr Spole 100-250V AC/DC	Kontaktor	El-nr Adapter	DIM (HxBxD) MMS+AF (MM)
0,06	0,2	4364071	MS132-0,25	0,16 - 0,25	4117500	AF09-30-10	4364480	188x45x77
0,09	0,3	4364072	MS132-0,40	0,25 - 0,40	4117500	AF09-30-10	4364480	188x45x77
0,18	0,6	4364073	MS132-0,63	0,40 - 0,63	4117500	AF09-30-10	4364480	188x45x77
0,25	0,85	4364074	MS132-1,0	0,63 - 1,00	4117500	AF09-30-10	4364480	188x45x77
0,55	1,5	4364075	MS132-1,6	1,00 - 1,60	4117500	AF09-30-10	4364480	188x45x77
0,75	1,9	4364076	MS132-2,5	1,60 - 2,50	4117500	AF09-30-10	4364480	188x45x77
1,5	3,6	4364077	MS132-4,0	2,50 - 4,00	4117548	AF26-30-00	4364481	188x45x77
2,2	4,9	4364078	MS132-6,3	4,00 - 6,30	4117548	AF26-30-00	4364481	188x45x77
4	8,5	4364079	MS132-10	6,30 - 10,0	4117548	AF26-30-00	4364481	188x45x77
5,5	11,5	4364080	MS132-16	10,0 - 16,0	4117548	AF26-30-00	4364481	192x45x77
7,5	15,5	4364081	MS132-20	16,0 - 20,0	4117556	AF30-30-00	4364481	192x45x77
11	22	4364082	MS132-25	20,0 - 25,0	4117556	AF30-30-00	4364481	192x45x77
15	29	4364083	MS132-32	25,0 - 32,0	4117556	AF30-30-00	4364481	192x45x77
18,5	35	4364124	MS165-42	30,0 - 42,0	4117575	AF40-30-00	4364483	

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kapslinger til startere (DOL)					
Forslag på kapslinger til DOL-startere					
Liten boks med klart lokk: B6/B7-minikontaktor+MS116/MS132					
2509251	BOKS IP55 BXHXD(INV) = 220X170X150MM	1SL0882A0			379,00
2509256	MONTASJEPLATE	M009020000			109,00
Bruk evt DIN-skinne					
Stor boks med klart lokk: AF9-AF38+MS116/MS132 BxHxD=310x240x160mm (innvendig)					
2509252	BOKS IP55 BXHXD(INV) = 310X240X160MM	2509252			594,00
2509257	MONTASJEPLATE	M009040000			185,00
Bruk evt. DIN-skinne					
Lite skap: AF9-AF38+MS116/MS132 BxHxD=140x220x140mm (utvendig), 60x200x110mm (innvendig)					
2509200	PLASTSKAP EUROPA IP65 (MAKS TILLATT TAPSEFFEKT: 10W)	2509200			422,00
2509230	MONTASJEPLATE FOR 2509200	2509230			73,80
Stort skap: AF9-AF38+MS116/MS132 BxHxD=275x370x140mm (utvendig), 184x270x120mm (innvendig)					
2509203	PLASTSKAP EUROPA IP65 (MAKS TILLATT TAPSEFFEKT: 25W)	2509203			836,00
2509233	MONTASJEPLATE FOR 2509203	2509233			194,00
Andre skapstørrelser Europa-serien, i polykarbonat, med grå dør (IP65):					
2509201	EUROPA BXHXD=205X220X140MM (UTV)	2509201			583,00
	MONTASJEPLATE FOR 2509201	2509231			PPF.
2509202	EUROPA BXHXD=275X220X140MM (UTV)	2509202			639,00
2509232	MONTASJEPLATE FOR 2509202	2509232			135,00
2509204	EUROPA BXHXD=275X570X140MM (UTV)	2509204			1 310,00
	MONTASJEPLATE FOR 2509204	2503234			PPF.
	EUROPA BXHXD=275X570X140MM (UTV)	2509205			PPF.
	MONTASJEPLATE FOR 2509205	2503235			PPF.

Koodinasjonstype 1 og 2

IEC 60947-4-1 (EN 60947-4-1) definerer to typer koordinasjon, med tanke på forventet drifts-sikkerhet. Akseptert grad av komponentsvikt for starterutstyret er delt inn i to nivåer.

Type 1: Ved kortslutning skal kontaktoren eller starteren ikke utsette personer eller installasjon for fare, men starterutstyret vil ikke lengre kunne opereres uten å bli reparert eller byttet ut.

Type 2: Ved kortslutning skal kontaktoren eller starteren ikke utsette personer eller installasjon for fare, og skal kunne opereres etterpå. Lett sveising av kontakter må likevel kunne forventes.

Link til koordinasjonsverktøyet:
http://applications.it.abb.com/SOC/Page/Selection.aspx

Mykstartere
PSR

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
PSR						
PSR for 100-240V 50/60Hz styrespenning og 208-600V AC motorspenning						
DIN-skinnemonterte, innebygget by-pass						
Dimensjoner: HxBxD=140x45x113,5mm						
4189777	PSR3-600-70 3A		1SFA896103R7000		L	1 470,00
4189778	PSR6-600-70 6A		1SFA896104R7000		L	1 710,00
4189779	PSR9-600-70 9A		1SFA896105R7000		L	2 100,00
4189780	PSR12-600-70 12A		1SFA896106R7000			2 440,00
4189781	PSR16-600-70 16A		1SFA896107R7000		L	2 710,00
Dimensjoner: HxBxD=160x45x128mm						
4189782	PSR25-600-70 25A		1SFA896108R7000		L	2 980,00
4189783	PSR30-600-70 30A		1SFA896109R7000		L	3 720,00
Dimensjoner: HxBxD=187x54x153mm						
4189784	PSR37-600-70 37A		1SFA896110R7000		L	5 490,00
4189785	PSR45-600-70 45A		1SFA896111R7000		L	7 240,00
Dimensjoner: HxBxD=220x70x180mm						
4189800	PSR60-600-70 60A		1SFA896112R7000		L	7 790,00
4189801	PSR72-600-70 72A		1SFA896113R7000			8 980,00
4189802	PSR85-600-70 85A		1SFA896114R7000			10 870,00
4189803	PSR105-600-70 105A		1SFA896115R7000			12 890,00

For spesialversjon for Scrollkompressorer (PSRC), ta kontakt med kundeservice på tlf. 24 16 54 00 for mer informasjon.

PSR for 24V DC styrespenning og 208-600V AC motorspenning
Dimensjoner er de samme som for 100-240V utgaven

4189786	PSR3-600-81 3A 24V DC		1SFA896103R8100			1 470,00
4189787	PSR6-600-81 6A 24V DC		1SFA896104R8100			1 710,00
4189788	PSR9-600-81 9A 24V DC		1SFA896105R8100			2 100,00
4189789	PSR12-600-81 12A 24V DC		1SFA896106R8100			2 440,00
4189790	PSR16-600-81 16A 24V DC		1SFA896107R8100			2 710,00
4189791	PSR25-600-81 25A 24V DC		1SFA896108R8100			2 980,00
4189792	PSR30-600-81 30A 24V DC		1SFA896109R8100			3 720,00
4189793	PSR37-600-81 37A 24V DC		1SFA896110R8100			5 490,00
4189794	PSR45-600-81 45A 24V DC		1SFA896111R8100			7 240,00
	PSR60-600-81 60A		1SFA896112R8100			7 790,00
	PSR72-600-81 72A		1SFA896113R8100			8 980,00
	PSR85-600-81 85A		1SFA896114R8100			10 870,00
	PSR105-600-81 105A		1SFA896115R8100			12 890,00

For tungstart - velg en størrelse større

PSR45-MS450

Tilbehør PSR

4189797	ADAPTER PSR3_16-MS116/MS132		1SFA896211R1001			102,00
4189720	ADAPTER PSR25_30-MS132		1SFA896212R1001			235,00
4189798	ADAPTER PSR37_45-MS450		1SFA896213R1001		L	309,00
4189721	ADAPTER PSR60_105-MS495		1SAM501903R1001		L	212,00
4189799	VIFTE FOR PSR3_45		1SFA896311R1001			630,00
4189722	VIFTE FOR PSR60_105		1SFA896313R1001			847,00
4189795	FELTBUSADAPTER FOR PSR/PSE	PS-FBPA	1SFA896312R1002		L	2 930,00

PS-FBPA

Mykstartere
PSR

Mykstarter med motorvernbryter-løsning

400 V, 50kA, IEC/EN 60947-4-2, AC-53-a, Type 1. Normalstart kl 10.

Motor effekt v/ 400V (kW)	Motor strøm (A)	El-nr	Mykstarter	El-nr Motorvern-bryter	Type	Instillings-område [A]	El-nr Spole: A: 220-230V, AF:100-250V AC/DC	Linje-kontaktor	Adapter PSR+MMS	DIM (HxBxD) (MM)
0,25	0,85	4189777	PSR3-600-70	43 642 71	MS116-1,0	0,63-1,0	4117500	AF09-30-10	4189797	237X45X114
0,55	1,5	4189777	PSR3-600-70	43 642 72	MS116-1,6	1,0-1,6	4117500	AF09-30-10	4189797	237X45X114
0,75	1,9	4189777	PSR3-600-70	43 642 73	MS116-2,5	1,6-2,5	4117500	AF09-30-10	4189797	237X45X114
1,5	3,6	4189777	PSR3-600-70	43 642 74	MS116-4,0	2,5-4,0	4117500	AF09-30-10	4189797	237X45X114
2,2	4,9	4189778	PSR6-600-70	43 642 75	MS116-6,3	4,0-6,3	4117500	AF09-30-10	4189797	237X45X114
3	6,5	4189778	PSR6-600-70	43 642 76	MS116-10	6,3-10	4117500	AF09-30-10	4189797	237X45X114
4	8,5	4189779	PSR9-600-70	43 642 76	MS116-10	6,3-10	4117500	AF09-30-10	4189797	237X45X114
5,5	11,5	4189780	PSR12-600-70	43 643 10	MS132-12	8,0-12,0	4117516	AF12-30-10	4189797	237X45X114
7,5	15,5	4189781	PSR16-600-70	43 643 11	MS132-16	10,0-16,0	4117532	AF16-30-10	4189797	237X45X114
11	22	4189782	PSR25-600-70	43 643 13	MS132-25	20-25	4117548	AF26-30-00	1SFA896212R1001	260X45X128
15	29	4189783	PSR30-600-70	43 645 08	MS132-32	25-32	4117556	AF30-30-00	1SFA896212R1001	260X45X128
18,5	35	4189784	PSR37-600-70	4364124	MS165-42	30-42	4117575	AF40-30-00		
22	41	4189785	PSR45-600-70	4364125	MS165-54	40-54	4117580	AF52-30-00		
30	60	4189800	PSR60-600-70	4364126	MS165-65	52-65	4117586	AF65-30-00		
37	72	4189801	PSR72-600-70	4364518	MS495-75	57-75	4114846	A75-30-00	1SAM501903R1001	391X70X180
45	85	4189802	PSR85-600-70	4364819	MS495-90	70-90	4114936	A95-30-00	1SAM501903R1001	391X70X180
55	105	4189403	PSR105-600-70	4364520	MS495-100	80-100	4115026	A110-30-00	1SAM501903R1001	391X70X180

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:

Kapslinger til startere (mykstarter PSR3-PSR45 og MS116/MS132

Boks med klart glass: Til PSR3-PSR25+MS116/MS132

2509252	BOKS IP55 BXHXD(INV) = 310X240X160MM	2509252			594,00
2509257	MONTASJEPLATE	2509257			185,00

Bruk evt. DIN-skinne.

Skap: Til PSR30-PSR45+MS116/MS132/MS165 BxHxD=460x550x260mm (utvendig)

2444305	TERMOPLAST VEGGSKAP GEMINI STR.2 (MAKS TILLATT TAPSEFFEKT: 85W)	1SL0202A00		L	2 150,00
2444334	MONTASJEPLATE	1SL0260A00			184,00

For andre skap/kapsling se under Startere

Mykstartere
PSE

PSE18_105

PSE142_170

PSE210-370

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
PSE					
Kompaktmykstartere med innebygd By-pass, elektronisk overlastvern og momentstyring. Momentstyring gir den beste styringen for bl. a. start og stopp av pumper. Tyristorstyring i to faser, med patentbeskyttet algoritme som gir overlegent stabil ramping. Analog utgang, mulighet for feltbusstyring. Marinegodkjent. Styrespenning 100-250V, motorspenning 208-600V.					
Dimensjoner HxBxD=245x90x185,5mm					
4189700	MYKSTARTER PSE18-600-70 18A	1SFA897101R7000			4 610,00
4189701	MYKSTARTER PSE25-600-70 25A	1SFA897102R7000			5 300,00
4189702	MYKSTARTER PSE30-600-70 30A	1SFA897103R7000			6 100,00
4189703	MYKSTARTER PSE37-600-70 37A	1SFA897104R7000			7 020,00
4189704	MYKSTARTER PSE45-600-70 45A	1SFA897105R7000		L	8 070,00
4189705	MYKSTARTER PSE60-600-70 60A	1SFA897106R7000		L	9 280,00
4189706	MYKSTARTER PSE72-600-70 72A	1SFA897107R7000		L	10 670,00
4189707	MYKSTARTER PSE85-600-70 85A	1SFA897108R7000		L	12 270,00
4189708	MYKSTARTER PSE105-600-70 105A	1SFA897109R7000			14 120,00
Dimensjoner HxBxD=295x130x219,5mm					
4189709	MYKSTARTER PSE142-600-70 142A	1SFA897110R7000		L	16 230,00
4189710	MYKSTARTER PSE170-600-70 170A	1SFA897111R7000			18 670,00
Dimensjoner HxBxD=550x190x236,5mm					
4189711	MYKSTARTER PSE210-600-70 210A	1SFA897112R7000		L	21 460,00
4189712	MYKSTARTER PSE250-600-70 250A	1SFA897113R7000			24 680,00
4189713	MYKSTARTER PSE300-600-70 300A	1SFA897114R7000			28 390,00
4189714	MYKSTARTER PSE370-600-70 370A	1SFA897115R7000			32 640,00

Mykstarter med effektbryterløsning

Koordinasjon MCCB -400V -35kA -Type 1
A50 …A300 kan erstattes med AF50 …AF300

Motoreffekt v/400V (kW)	Motor-strøm A	El-nr Mykstarter	Type	El-nr Effektbryter	Type	El-nr kontaktor med styrespenning 100-250V	Linje-kontaktor
7,5	15,5	4189700	PSE18-600-70		XT2N 160 MA 20	4117564	AF38
11	22	4189701	PSE25-600-70		XT2N 160 MA 32	4117575	AF40
15	29	4189702	PSE30-600-70		XT2N 160 MA 32	4117575	AF40
18,5	35	4189703	PSE37-600-70		XT2N 160 MA 52	4117575	AF40
22	41	4189704	PSE45-600-70		XT2N 160 MA 52	4117580	AF52
30	55	4189705	PSE60-600-70		XT2N 160 MA 80	4117586	AF65
37	66	4189706	PSE72-600-70		XT2N 160 MA 80	4117592	AF80
45	80	4189707	PSE85-600-70		XT2N 160 MA 100	4117600	AF96
55	97	4189708	PSE105-600-70		XT2N 160 MA 160 *	4117610	AF116
75	132	4189709	PSE142-600-70		XT2N 160 MA 160 *	4117629	AF146
90	160	4189710	PSE170-600-70	4309694	XT4N 250 EKIP I IN 250	4117637	AF190
110	195	4189711	PSE210-600-70	4383962	T4N320 PR221-I IN320	4117646	AF265
132	230	4189712	PSE250-600-70	4384042	T5N400 PR221-I IN400	4117646	AF265
160	280	4189713	PSE300-600-70		T5N400 PR221-I IN400	4117650	AF305
200	350	4189714	PSE370-600-70		T5N630	4117655	AF370

* XT4 Ekip kan også brukes
For tungstart - velg en størrelse større
For skap/kapslinger: se under Startere, evt i skap og kapslingskatalog

Mykstartere
PSTX

PSTX30

PSTX142

PSTX210

PSTX470

PSTX720-840

PSTX1050-1250

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
PSTX					
PSTX er toppserien til ABB. Den har 3-fas styring, innebygd by-pass og elektronisk overlastvern med mange funksjoner Analog utgang, inngang for PTC / PT100, momentstyring, motor breake, stand still breake, jog-funksjon, pumperensing (30% hastighet i revers), 2-fas styrings-modus (Limp mode)					
Kommunikasjon: Innebygd Modbus, Anybusløsning for Profibus, Devicenet, Modbus-RTU, Ethernet IP,Modbus TCP, og Profinet. Marinegodkjent (PSTX470…PSTX1250 ila. q1-2016).					
Styrespenning 100-250V 50/60Hz.					
208-600V					
Dimensjoner: HxBxD=314x150x194mm					
4189725	MYKSTARTER PSTX30-600-70 30A	1SFA898103R7000			12 750,00
4189726	MYKSTARTER PSTX37-600-70 37A	1SFA898104R7000			14 260,00
4189727	MYKSTARTER PSTX45-600-70 45A	1SFA898105R7000			15 920,00
4189728	MYKSTARTER PSTX60-600-70 60A	1SFA898106R7000			16 960,00
4189729	MYKSTARTER PSTX72-600-70 72A	1SFA898107R7000			19 250,00
4189730	MYKSTARTER PSTX85-600-70 85A	1SFA898108R7000			22 500,00
4189731	MYKSTARTER PSTX105-600-70 105A	1SFA898109R7000		L	27 000,00
Dimensjoner: HxBxD= 377x199x236mm					
4189732	MYKSTARTER PSTX142-600-70 142A	1SFA898110R7000			31 150,00
4189733	MYKSTARTER PSTX170-600-70 170A	1SFA898111R7000		L	36 010,00
Dimensjoner: HxBxD= 470x258x276mm					
4189734	MYKSTARTER PSTX210-600-70 210A	1SFA898112R7000		L	40 430,00
4189735	MYKSTARTER PSTX250-600-70 250A	1SFA898113R7000		L	47 080,00
4189736	MYKSTARTER PSTX300-600-70 300A	1SFA898114R7000		L	54 010,00
4189737	MYKSTARTER PSTX370-600-70 370A	1SFA898115R7000		L	61 090,00
Dimensjoner: HxBxD= 493x361x282mm					
4189738	MYKSTARTER PSTX470-600-70 470A	1SFA898116R7000		L	76 450,00
4189739	MYKSTARTER PSTX570-600-70 570A	1SFA898117R7000			94 140,00
Dimensjoner: HxBxD= 493x435x367,6mm					
4189740	MYKSTARTER PSTX720-600-70 720A	1SFA898118R7000		L	117 050,00
4189741	MYKSTARTER PSTX840-600-70 840A	1SFA898119R7000			134 910,00
Dimensjoner: HxBxD= 515x435x366,5mm					
4189742	MYKSTARTER PSTX1050-600-70 1050A	1SFA898120R7000		L	169 290,00
Dimensjoner: HxBxD= 565x435x366,5mm					
4189743	MYKSTARTER PSTX1250-600-70 1250A	1SFA898121R7000			199 760,00
208-690V					
Dimensjoner: HxBxD=314x150x194mm					
4189750	MYKSTARTER PSTX30-690-70 30A	1SFA898203R7000			15 300,00
4189751	MYKSTARTER PSTX37-690-70 37A	1SFA898204R7000			17 120,00
4189752	MYKSTARTER PSTX45-690-70 45A	1SFA898205R7000			19 110,00
4189753	MYKSTARTER PSTX60-690-70 60A	1SFA898206R7000			20 360,00
4189754	MYKSTARTER PSTX72-690-70 72A	1SFA898207R7000			23 100,00
4189755	MYKSTARTER PSTX85-690-70 85A	1SFA898208R7000			27 010,00
4189756	MYKSTARTER PSTX105-690-70 105A	1SFA898209R7000			32 410,00
Dimensjoner: HxBxD= 377x199x236mm					
4189757	MYKSTARTER PSTX142-690-70 142A	1SFA898210R7000			37 380,00
4189758	MYKSTARTER PSTX170-690-70 170A	1SFA898211R7000		L	43 210,00
Dimensjoner: HxBxD= 470x258x276mm					
4189759	MYKSTARTER PSTX210-690-70 210A	1SFA898212R7000			48 520,00
4189760	MYKSTARTER PSTX250-690-70 250A	1SFA898213R7000			56 500,00
4189761	MYKSTARTER PSTX300-690-70 300A	1SFA898214R7000		L	64 810,00
4189762	MYKSTARTER PSTX370-690-70 370A	1SFA898215R7000			73 310,00
Dimensjoner: HxBxD= 493x361x282mm					
4189763	MYKSTARTER PSTX470-690-70 470A	1SFA898216R7000			91 740,00
4189764	MYKSTARTER PSTX570-690-70 570A	1SFA898217R7000			112 950,00
Dimensjoner: HxBxD= 493x435x367,6mm					
4189765	MYKSTARTER PSTX720-690-70 720A	1SFA898218R7000			140 450,00
4189766	MYKSTARTER PSTX840-690-70 840A	1SFA898219R7000			161 880,00

Mykstartere
PSTX og PSTB

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Dimensjoner: HxBxD= 515x435x366,5mm					
4189767	MYKSTARTER PSTX1050-690-70 1050A	1SFA898220R7000		L	203 140,00
Dimensjoner: HxBxD= 565x435x366,5mm					
4189768	MYKSTARTER PSTX1250-690-70 1250A	1SFA898221R7000			239 710,00

For tungstart: velg en størrelse større. For inside-delta: se teknisk katalog.
For skap/kapslinger: se under Startere, evt i skap og kapslingskatalog

PSTB

PSTB mykstartere med styrespenning 100-250V 50/60 Hz
Med momentstyring, innebygd by-pas og EOL. Marinegodkjent.

208-600V
Dimensjoner: HxBxD=460x366x361mm

4189376	PSTB 370-600-70	1SFA894015R7000		L	70 720,00
4189377	PSTB 470-600-70	1SFA894016R7000		L	83 400,00
Dimensjoner: HxBxD=515x436x381mm					
4189378	PSTB 570-600-70	1SFA894017R7000		L	101 150,00
4189379	PSTB 720-600-70	1SFA894018R7000		L	120 450,00
4189380	PSTB 840-600-70	1SFA894019R7000			143 280,00
4189381	PSTB 1050-600-70	1SFA894020R7000		L	174 010,00
208-690V					
Dimensjoner: HxBxD=460x366x361mm					
4189398	PSTB 370-690-70	1SFA895015R7000			91 150,00
4189399	PSTB 470-690-70	1SFA895016R7000		L	107 410,00
Dimensjoner: HxBxD=515x436x381mm					
4189404	PSTB 570-690-70	1SFA895017R7000		L	130 620,00
4189401	PSTB 720-690-70	1SFA895018R7000			157 380,00
4189402	PSTB 840-690-70	1SFA895019R7000			184 890,00
4189403	PSTB 1050-690-70	1SFA895020R7000		L	241 000,00

Utgående erstattes av PSTX

For tungstart: velg en størrelse større. For inside-delta: se teknisk katalog.

Kapslinger til PSTX/PSTB

Her er forslag til egnede kapslinger for de forskjellige starterstørrelsene. NB - annet utstyr som effektbryter, linjekontaktor etc må det verifiseres om det er plass til.

Til PSTX30_170 (innv. H:750 x B:500 x D:330 mm)					
2444308	TERMOPLAST VEGGSKAP GEMINI STR 5 (MAX TILLATT TAPSEFFEKT: 187W)	1SL0205A00			4 230,00
2444337	MONTASJEPLATE	1SL0263A00			564,00
Til PSTX210_370 (innv. H:900 x B:750 x D:330 mm)					
2444309	TERMOPLAST VEGGSKAP GEMINI STR 6 (MAX TILLATT TAPSEFFEKT: 299W)	1SL0205A00			8 340,00
2444338	MONTASJEPLATE	1SL0263A00			880,00
Til PSTX/PSTB 370_470 (innv. H:1800 x B:750 x D:404 mm)					
2405012	STÅL GULVSKAP 3/8R4 (MAX TILLATT TAPSEFFEKT: 382W)	2CPX045613R9999			7 990,00
2405136	SIDEVEGGER RSW84P2 (SETT AV 2STK)	2CPX045821R9999			1 500,00
2405107	SOKKEL RSR34	2CPX045892R9999			842,00
2405692	MONTASJEPLATE RM38 (750X1800MM)	45911			1 620,00
2405701	FESTEBRAKETTER MONTASJEPLATE RZ1P4 (PAKKE Á 4 STK)	2CPX045950R9999			198,00
Til PSTX570…1250/PSTB570-1050 (innv. H:1800 x B:750 x D:606 mm)					
	STÅL GULVSKAP 3/8R6 (MAX TILLATT TAPSEFFEKT: 466W)	45623			PPF.
	SIDEVEGGER RSW86P2	45822			PPF.
2405108	SOKKEL RSR36	2CPX045893R9999			918,00
2405692	MONTASJEPLATE RM38	45911			1 620,00
2405701	FESTEBRAKETTER MONTASJEPLATE RZ1P4	2CPX045950R9999			198,00

For flere skap/kapslinger: se under Startere, evt i skap og kapslingskatalog

Mykstartere
Tilbehør PSE, PST(B), PSTX

Keypad PSE

PS-FBPA

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kretskort						
4189420	PSPCB-LV/T LV-KORT TIL PST(B)		1SFA899020R7000			10 390,00
4189421	PSPCB-690/T HV-KORT TIL PST(B)		1SFA899020R7690			4 270,00
Key pad						
4189422	EKSTERN DISPLAY PST-EK FOR PST(B)		1SFA899003R1000		L	3 840,00
4189724	EKSTERN DISPLAY PSE PSEEK FOR PSE		1SFA897100R1001			2 030,00
Feltbusadapter						
4189795	FELTBUSADAPTER FOR PSR/PSE	PS-FBPA	1SFA896312R1002		L	2 930,00
USB-FieldBus **Kabel for å koble til PC (via USB) til FieldBus-pluggen. For å sette parametere samt å laste opp og lagre disse**						
	USB TO FBP-INTERFACE CABLE	UTF-21-FBP.0	1SAJ929400R0002			5 300,00
	DEVICE TYPE MANAGER (DTM) FOR FBP DEVICE		1SAJ924012R0004			2 740,00
HMI-modul - komplett mykstarterfront med betjeningsknapper, display, LV og HV kort						
4189408	PSHMI-1 FOR PST		1SFA899019R7001			14 440,00
4189407	PSHMI-2 FOR PSTB		1SFA899019R7002			17 320,00

LZ185-2C/120

OZXB4

Elnr:	Betegnelse:	For mykstarter	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kabelklemmer for al og cu kabel. Pakning å 3 stk, pris er pr. pakke						
4385018	1 X 6...120MM / 2 X 6-70 FLEKSIBEL CU/6...185 MM² / FLERTRÅD CU 8NM, (3-PAKN)	PSTX142…170	1SDA066917R0001		L	641,00
4120360	DOBBEL CU 2X50-95 MM² LZ185-2C/120 16 NM, LZ 185-2C/120	PSTX142 ...170	1SFN074709R1000			750,00
4383663	1 X 95...185 MM² FLERTÅD AL 31 NM (3-PAKN)	PSTX142 ...170	1SDA054988R0001		L	927,00
4383675	1 X 16-240 MM² FLEKSIBEL CU/16-300 MM² FLERTRÅD CU 25 NM, (3-PAKN)	PSTX210…370	1SDA055016R0001		L	838,00
2437828	2 X 70...185 MM² FLERTRÅD/ FLEKSIBEL CU 22 NM, OZXB4	PSTX210…370	1SCA022194R0890		L	599,00
4383677	1 X 185...240 MM² AL 43 NM, (3-PAKN)	PSTX210…370	1SDA055020R0001		L	997,00
	2 X (120-240) CU 35NM (3-PAKN)	PSTX470 ... PSTX570	1SDA013922R0001			PPF.
	3 X (70-185) CU 45NM (3-PKN)	PSTX570 ... PSTX1050	1SDA013956R0001			3 940,00
	2 X 120-240 MM² FLERTRÅD AL/ CU, 31 NM, (3-PAKN)	PSTX470 ... PSTX1050	1SDA023380R0001		L	1 970,00
	AL/CU 3 X (70-185)MM²	PSTB370 - 1050	1SDA023384R0001		L	1 970,00
	AL/CU 2 X (120-240)MM²	PSTB370 - 1050	1SDA023380R0001		L	1 970,00
Bolt og muttersett for kabelskotilkopling						
4189723	LL140	PSE18…105	1SFN074211R1000			189,00
	LL205-30	PSTX142 ... PSTX170	1SFN074811R1000			189,00
	LL370-30	PSTX210 ... PSTX370	1SFN075411R1000			221,00
	PSLE-300	PSTX210 ... PSTX370	1SFA899221R1003			PPF.
	PSLE460	PSTX470 ... PSTX570	1SFA899221R1004			PPF.
	PSLE750	PSTX720 ... PSTX840	1SFA899221R1005			PPF.
4120553	LE 185	PST 85-142/ PSE 142…170	1SFN074716R1000			260,00
4120554	LE 300	PST 175 - 300/ PSE 210…370	1SFN075116R1000			254,00
	LE 460	PSTB 370...470	1SFN075716R1000			293,00
	LE 750	PSTB 570...1050	1SFN076116R1000			335,00

LL205

Mykstartere
Tilbehør PSE, PST(B), PSTX

LX205

Elnr:	Betegnelse:	For mykstarter	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Terminal forlengere						
4117836	LX 205	PSTX 142…170 Ø=8,5 DIM=17,5X5MM	1SFN074810R1000			728,00
4117846	LX 370	PSTX 210…370 Ø=10,5 DIM=20X5MM	1SFN075410R1000			789,00
4120547	LX 185	PST 85-142	1SFN074710R1000			750,00
4120549	LX 300	PST 175-300	1SFN075110R1000			806,00
4115500	LX 400	PSTX/PSTB 370 -470	1SFN075710R1000			1 430,00
4115501	LX 750	PSTX/PSTB 570 -840/1050	1SFN076110R1000			1 630,00
Terminal forstørrer						
4120557	LW 110	PSTX30...105 / PSE 18…105	1SFN074307R1000		L	371,00
4117844	LW205	PSTX 142…170 Ø=10,5 DIM=17,5X5MM	1SFN074807R1000		L	789,00
4117845	LW370	PSTX 210…370 Ø=10,5 DIM=20X5MM	1SFN075407R1000			778,00
4120559	LW 185	PST 85 - 142/ PSE142…170	1SFN074707R1000			781,00
4120560	LW 300	PST 175 - 300/ PSE210…370	1SFN075107R1000			812,00
4120561	LW 460	PSTX/PSTB 370 - 470	1SFN075707R1000			1 630,00
4120562	LW 750	PSTX/PSTB 570 - 840/1050	1SFN076107R1000			1 730,00

LW205

LT140

Elnr:	Betegnelse:	For mykstarter	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Tilkoplingsavdekninger (NB - pkn. á 2 stk, pris pr. pkn.) **AC er lav avdekning, AL er høy avdekning**						
For PSE18…105 - brukes til både klemme- og kabelsko-tilkobling						
4117847	LT140-30L	PSE18 - 105	1SFN124203R1000		L	353,00

LT205

For klemmetilkobling		For mykstarter type:	Antall til: PSTX/PSTB	Antall til: PSE				
4120300	LT 185 - AC	PST 85 - 142/ PSE142…170	1 STK.	2 STK.	1SFN124701R1000		L	391,00
4120343	LT 460 - AC	PST 85 - 142	1 STK.	-	1SFN125701R1000		L	571,00
For kabelskotilkobling								
4120301	LT 185 - AL	PST 85 - 142/ PSE142…170	1 STK.	2 STK.	1SFN124703R1000		L	375,00
4120344	LT 460 - AL	PST 85 - 142	1 STK.	-	1SFN125703R1000		L	571,00
Bruk type AC på klemmetilkobling og AL på kabelskotilkobling								
4117848	LT205-30C	PSTX142…170, LAV TYPE	2 STK.		1SFN124801R1000	2	L	375,00
4117849	LT205-30L	PSTX142…170, HØY TYPE	2 STK.		1SFN124803R1000	2	L	375,00
4117884	LT370-30C	PSTX210...370, LAV TYPE	2 STK.		1SFN125401R1000	2	L	393,00
4117889	LT370-30L	PSTX210...370, HØY TYPE	2 STK.		1SFN125403R1000	2	L	393,00
4117891	LT370-30D	PSTX210…370 - LANG OG DYP FOR ATK300/2 OG OZXB4	2 STK.		1SFN125406R1000			393,00
4120302	LT 300 - AC	PST 175 - 300/ PSE210…370	3 STK.	2 STK.	1SFN125101R1000		L	404,00
4120303	LT 300 - AL	PST 175 - 300/ PSE210…370	3 STK.	2 STK.	1SFN125103R1000		L	391,00
4120343	LT 460 - AC	PSTX/PSTB 370 - 470	2 STK.		1SFN125701R1000		L	571,00
4120344	LT 460 - AL	PSTX/PSTB 370 - 470	2 STK.		1SFN125703R1000		L	571,00
4120345	LT 750 - AC	PSTX/PSTB 570 - 1050	2 STK.		1SFN126101R1000			738,00
4120346	LT 750 - AL	PSTX/PSTB 570 - 1050	2 STK.		1SFN126103R1000		L	806,00
Marinesett **Skal brukes ved skipsinstallasjon - gjelder kun PST85...142**								
4189425	PST85... 142	PSTM-2			1SFA899004R1000			2 030,00

Marinekit PSTM-2

UMC100 og feltbuss
UMC 100, utvidelsesmoduler og tilbehør

UMC100.3

UMC100-PAN

PDP32.0

MRP31.0

SMK3.0

UMC100

Panel UMC100

DX122

VI150

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Universal motorcontroller UMC100FBP, 0,24-63A (opp til 3200A med transformatormåling) Integrert motorkontrollfunksjoner; direktestart (DOL), reversérstarter, stjerne/trekant-starter (YD) m.fl, samt mulighet for å programmere logikk. NY - UMC100.3 Den nye utgaven av UMC100 har fått nytt utseende, nytt display og nye feltbus-grensesnitt. UMC100.3 Motorkontroller						
4552620	UMC100.3 24V		1SAJ530000R0100			5 650,00
4552621	UMC100.3 110-240V		1SAJ530000R1100			5 650,00
	UMC100.3 24V ATEX		1SAJ530000R0200			6 100,00
	UMC100.3 110-240V ATEX		1SAJ530000R1200			6 100,00
Display til UMC100.3						
4552625	UMC100.3 LCD PANEL M/USB PLUGG		1SAJ590000R0103			2 500,00
Feltbusplugger						
4552631	PROFIBUS DP PLUGG F/ UMC	PDP32	1SAJ242000R0001			3 430,00
4552632	MODBUS PLUGG F/ UMC	MRP31	1SAJ251000R0001			3 140,00
Tilbehør						
4552633	KABEL UMC100.3	CDP23.150	1SAJ929230R0015			592,00
4552634	KABEL SMK-SKUFF	CDP24.150	1SAJ929240R0015			334,00
4552635	TERMINAL BLOCKS FOR SMK SUPPLY		1SAJ929610R0001			571,00
4552636	TERMINAL BLOCKS FOR SMK COMM		1SAJ929620R0001			1 020,00
4552637	KABEL UMC100.3/PDQ22 (ETHERNET)	CDP25.150	1SAJ929250R0015			546,00
4552638	PROFIBUS ENDEMOTSTAND	PDR31.0	1SAJ243000R0001			1 520,00
4552639	ADAPTER FOR SEPARAT MONTASJE AV FELTBUS PLUGG	SMK3.0	1SAJ929600R0001			476,00
UMC100 Motorkontroller						
4552550	UMC100-FBP		1SAJ520000R0101		L	5 650,00
4552551	UMC100-FBP ATEX		1SAJ520000R0201			5 900,00
Kontrollpanel for UMC100						
4552555	UMC100-PAN		1SAJ590000R0102		L	2 500,00
Tilbehør til både UMC100/UMC100.3						
Ekspansjonsmoduler (24V DC styrespenning) 4DO (Relé) og analog utgang						
4552560	DX111-FBP.0 8DI/24V DC		1SAJ611000R0101			3 620,00
4552561	DX122-FBP.0 8DI/110-230V AC		1SAJ622000R0101			4 370,00
Analog inngang til UMC100.3						
	ANALOG INPUT-MODUL AI111.0		1SAJ613000R0101			PPF.
Annet tilbehør						
4552565	UMCIO-CAB-030 KABEL MELLOM UMC OG "IO", LENGDE 0,3M		1SAJ691000R0001			159,00
4552567	IOIO-CAB.030 - KABEL MELLOM TO STK "IO", LENGDE 0,3M		1SAJ692000R0001			155,00
4552566	UMCTB-FBP.0 PLUGGBARE TILKOBL. (RESERVE)		1SAJ929160R0001			261,00
Spenningsmodul VI150 Muliggjør i kombinasjon med UMC100/UMC100.3: - Under- og overspenningsovervåking - Under- og overlastbeskyttelse - Fasebortfall, faseubalanse (spenningsmålt) - Effekt, effektfaktor, energi - Måler total harmonisk forvrengning på matespenning - Én reléutgang - Måleområde: 150-690 VAC						
4552563	SPENNINGSMODUL VI150 FOR JORDEDE NETT		1SAJ650000R0100			2 630,00
4552564	SPENNINGSMODUL VI155 FOR ALLE NETT		1SAJ655000R0100			3 330,00
Kabel for kontrollpanel						
4552457	CONTROL PANEL UTV. KAB. 3M		1SAJ510002R0001		L	834,00
4552458	CONTROL PANEL UTV. KAB. 0,7 M		1SAJ510003R0001		L	580,00

UMC100 og feltbuss
FBP feltbussplugger, ethernett-grensesnitt og tilbehør. Anybusplugger til PSTX

KORC 4L...

KORC 5L...

CEM11-FBP

MTQ22.0

Anybus

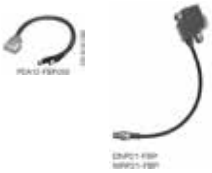
Anybus

Anybus

Anybus

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Strømtransformatorer til UMC22/100, 3-fas linjeærtrafo, tilkobling 2,5 mm						
	CT4L185R/4 60-185A		1SAJ929500R0185			2 890,00
	CT4L310R/4 180-310A		1SAJ929500R0310			3470,00
	CT5L500R/4 300-500A		1SAJ929501R0500			4770,00
	CT5L850R/4 500-850A		1SAJ929501R0850			5160,00
Større trafoer på forespørsel. For tilkoblingssett - se DT450 under TOL/EOL.						
Jordfeilovervåker til UMC22/100 **Måleområde i mA: 80, 300, 550, 750, 1000, 1200, 1500, 1700**						
4552504	CEM 11-FBP. 20 Ø=20 MM		1SAJ929200R0020			2 560,00
Måleområde i mA: 100, 500, 1000, 1400, 2000, 2400, 3000, 3400						
4552505	CEM 11-FBP. 35 Ø=35 MM		1SAJ929200R0035			2 660,00
Måleområde i mA: 120, 1000, 2000, 2800, 4000, 4800, 6000, 6800						
4552506	CEM 11-FBP. 60 Ø=60 MM		1SAJ929200R0060			2 760,00
Måleområde i mA: 300, 2000, 4000, 5600, 8000, 9600, 12000, 13600						
4552431	CEM 11-FBP. 120 Ø=120 MM		1SAJ929200R0120			5 690,00
Ethernet grensesnitt for inntil 4 startere						
	ETHERNET MODBUS TCP INTERFACE	MTQ22.0	1SAJ260000R0100			8 160,00
	ETHERNET PROFINET IO INTERFACE	PNQ22.0	1SAJ261000R0100			8 160,00
Tilbehør til Ethernet grensesnitt						
	CABLE FOR DRAWER IN- AND OUTSIDE, LENGTH 1.5 M	CDP18.150	1SAJ929180R0015			323,00
	CABLE ETHERNET INTERFACE - UMC100.3, LENGTH 1.5 M	CDP23.150	1SAJ929230R0015			592,00
	CABLE ETHERNET INTERFACE – UMC100.3, LENGTH 3 M	CDP23.300	1SAJ929230R0030			PPF.
	CABLE MTQ22 – DRAWER OUTSIDE (M12) 1,5M	CDP18-FBP.150	1SAJ929180R0015			323,00
	CABLE UMC100 – DRAWER INSIDE (M12) 1,0M	CDP19-FBP.100	1SAJ929190R0010			248,00
	CABLE MTQ22 – UMC100 (M12) 1,5M	CDP17-FBP.150	1SAJ929170R0015			364,00
	TERMINAL BLOC FOR MTQ22/PNQ22 X1…X4, 4 PCS	ETHTB-FBP.4	1SAJ929200R0001			105,00
	TERMINAL BLOC FOR MTQ22/PNQ22 X1…X4, 50 PCS	ETHTB-FBP.50	1SAJ929200R0002			77,20
Anybus-plugger for PSTX mykstartere **Anybus-pluggene er grensesnittet mot alle Feltbus-protokollene og Ethernet**						
4552600	AB-PROFIBUS-1 ANYBUS F/ PSTX		1SFA899300R1001			2 890,00
4552601	AB-DEVICENET-1 ANYBUS F/ PSTX		1SFA899300R1002			2 890,00
4552602	AB-MODBUS-RTU-1 ANYBUS F/ PSTX		1SFA899300R1003			2 890,00
4552603	AB-ETHERNET-IP-1 ANYBUS F/PSTX		1SFA899300R1005			3 760,00
4552604	AB-ETHERNET-IP-2 ANYBUS F/PSTX		1SFA899300R1006			4 050,00
4552605	AB-MODBUS-TCP- 1 ANYBUS F/ PSTX		1SFA899300R1007			3 760,00
4552606	AB-MODBUS-TCP-2 ANYBUS F/ PSTX		1SFA899300R1008			4 050,00
4552607	AB-PROFINET-IO-2 ANYBUS F/PSTX		1SFA899300R1010			5 580,00
Profibus-plugger **Basisfunksjoner med DP-V0. Basisfunksjoner pluss tilleggsfunksjoner med DP-V1. IP65.** **Passer til alle FBP motorstartere og annet utstyr.**						
4552507	PROFIBUS DP-V0/V1 FBP 0.25M	PDP22-FBP.025	1SAJ240100R1003		L	4 480,00
4552508	PROFIBUS DP-V0/V1 FBP 0.5M	PDP22-FBP.050	1SAJ240100R1005		L	4 540,00
4552509	PROFIBUS DP-V0/V1 FBP 1M	PDP22-FBP.100	1SAJ240100R1010		L	4 580,00
4552510	PROFIBUS DP-V0/V1 FBP 2M	PDP22-FBP.200	1SAJ240100R1020		L	4 670,00
4552511	PROFIBUS DP-V0/V1 FBP 5M	PDP22-FBP.500	1SAJ240100R1050		L	4 810,00
Profibus-tilbehør **PDQ adapter - for tilkobling av inntil 4 apparater på en ProfiBus node-adresse. IP65.** **Dette gir en enkel og rimelig bus-løsning. PDQ-22 støtter UMC22/UMC100/PSR/PSE/I/O-PADS/WDI/WDI/0.**						
4552501	PDQ22-FBP.0 PROFIBUS DP-V0/V1-FBP Q	PDQ22-FBP.0	1SAJ240200R0050			7 770,00
4552502	CDA11-FBP.0 DIN-SKINNE ADAPTER	CDA11-FBP.0	1SAJ929300R0001			776,00

UMC100 og feltbuss
FBP feltbussplugger og tilbehør



Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kabel for tilkobling av apparater til PDQ-22						
4552432	KABEL 0,3 M. HANN/HUNN	CDP15-FBP.030	1SAJ929140R0003			392,00
	KABEL 0,6 M. HANN/HUNN	CDP15-FBP.060	1SAJ929140R0006			631,00
4552503	KABEL 1,5M HANN/HUNN	CDP15-FBP.150	1SAJ929140R0015			410,00
4552514	KABEL HUNN/ÅPEN	CDP16-FBP.150	1SAJ929150R0015			260,00
4552498	FESTEBRAKETT FOR CDP-PLUGGER	CDP11-FBP.0	1SAJ929100R0001		L	43,00
Kabel med plugg i en ende og andre enden åpen						
4552481	PROFIB DP KABEL MED HUNN-PLUGG	PDF11-FBP.050	1SAJ924002R0005			342,00
4552482	PROFIB DP KABEL MED HANN-PLUGG	PDM11-FBP.050	1SAJ924003R0005			342,00
Kabel med hann/hunn-plugg (skjøtekabel)						
	PROFIB DP UTV. KAB. 0,5M	PDX11-FBP.50	1SAJ924001R0005			527,00
4552478	PROFIB DP UTV. KAB. 1 M	PDX11-FBP.100	1SAJ924001R0010			563,00
4552479	PROFIB DP UTV. KAB. 3 M	PDX11-FBP.300	1SAJ924001R0030			733,00
4552480	PROFIB DP UTV. KAB. 5 M	PDX11-FBP.500	1SAJ924001R0050			901,00
Kabel på kveil - uten plugger						
4552483	PROFIB DP ROUND CABLE 100 M	PDC11-FBP.999	1SAJ924004R1000	100M		10 400,00
Plugger for skjøting, endeavslutting mm						
4552485	PROFIB DP HANN-PLUGG	PDM11.FBP.0	1SAJ924005R0001			286,00
4552486	PROFIB DP HUNN-PLUGG	PDF11-FBP.0	1SAJ924006R0001			286,00
4552487	PROFIB DP ENDEAVSLUTNING 150Ω	PDR11-FBP.150	1SAJ924007R0001		L	1 910,00
4552488	PROFIB DP FEED-IN CODE B-A 24V DC	PDV11-FBP.0	1SAJ924008R0001			1 590,00
4552491	PROFIB DP-FEED-IN CODE A-A 24V DC	PDV12-FBP.0	1SAJ924011R0001			1 560,00
4552489	PROFIB DP-ADAPT DSUB9-M12 0,5 M	PDA11-FBP.050	1SAJ924009R0005		L	1 610,00
4552490	PROFIB DP-ADAPT M12-DSUB9 2X0,5 M	PDA12-FBP.050	1SAJ924010R0005			1 770,00
DeviceNet-plugger. For tilkobling til motorstartere mm, IP65						
	DEVICENET-FIELDBUSPL. 0,25 M	DNP21-FBP.025	1SAJ230000R1003			3 020,00
	DEVICENET-FIELDBUSPL. 0,5 M	DNP21-FBP.050	1SAJ230000R1005			3 090,00
	DEVICENET-FIELDBUSPL. 1 M	DNP21-FBP.100	1SAJ230000R1010			3 140,00
	DEVICENET-FIELDBUSPL. 5 M	DNP21-FBP.500	1SAJ230000R1050			3 380,00
Modbus-RTU-plugger. For tilkobling til motorstartere mm, IP65						
4552427	MODB-RTU-FIELDBUSPL. 0,25 M	MRP21-FBP.025	1SAJ250000R0003			3 670,00
4552428	MODB-RTU-FIELDBUSPL. 0,5 M	MRP21-FBP.050	1SAJ250000R0005			3 730,00
4552429	MODB-RTU-FIELDBUSPL. 1 M	MRP21-FBP.100	1SAJ250000R0010			3 790,00
4552430	MODB-RTU-FIELDBUSPL. 5 M	MRP21-FBP.500	1SAJ250000R0050			4 020,00
DeviceNet/Modbus-RTU/CANopen tilbehør. Kabel med plugg i en ende og andre enden åpen. 0,5 m.						
4552472	DN, CAN, MODB-RTU KABEL MED HUNN-PLUGG	DNF11-FBP.050	1SAJ923002R0005			342,00
4552473	DN, CAN, MODB-RTU KABEL MED HANN-PLUGG	DNM11-FBP.050	1SAJ923003R0005			342,00
Kabel med hann/hunn-plugg (skjøtekabel)						
4552469	DN, CAN, MODB-RTU UTV. KABEL	DNX11-FBP.100	1SAJ923001R0010			478,00
4552470	DN, CAN, MODB-RTU UTV. KABEL	DNX11-FBP.300	1SAJ923001R0030			788,00
4552471	DN, CAN, MODB-RTU UTV. KABEL	DNX11-FBP.500	1SAJ923001R0050			1 010,00
Kabel på kveil - uten plugger						
4552474	DN, CAN, MODB-RTU RUND	DNC11-FBP.999	1SAJ923004R1000	100M		10 400,00
Plugger for skjøting, endeavslutting mm						
4552475	DN, CAN, MODB-RTU HANN-PLUGG	DNM11-FBP.0	1SAJ923005R0001			174,00
4552476	DN, CAN, MODB-RTU HUNN-PLUGG	DNF11-FBP.0	1SAJ923006R0001			174,00
4552477	DN, CAN, MODB-RTU ENDEAVSLUTN. 120Ω	DNR11-FBP.120	1SAJ923007R0001			254,00

UMC100 og feltbuss
Feltbussplugger og tilbehør

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
CANopen-plugger						
	CANOPEN FIELDBUSPL. 0,25 M	COP21-FBP.025	1SAJ230100R1003			3 910,00
	CANOPEN FIELDBUSPL. 0,50 M	COP21-FBP.050	1SAJ230100R1005			3 980,00
	CANOPEN FIELDBUSPL. 1 M	COP21-FBP.100	1SAJ230100R1010			4 060,00
Div. feltbusutstyr						
	ADRESSELAPPER FOR FIELDBUSPLUGG 400 STK.	CAL11-PBP.0	1SAJ929005R0001			1 670,00
	ENDEKNAPPER FOR M12-PLUGG 10 STK.	CCCII-FBP.0	1SAJ929006R0001			16,60

UMC100 og Fieldbus

Konfigurasjonsverktøy, strømforsyning, braketter til uttrekkbare startere

UTF21-FBP

CP-E24/2,5

CDP12-FBP.100

CDP13-FBP.100

Konfigurasjonsverktøy						
	USB TILKOBLING FOR PROFIBUS	UTP-22-FBP	1SAJ924013R0001			34 910,00
	DEVICE TYPE MANAGER (DTM) FOR FBP DEVICE	PBDTM-FBP	1SAJ924012R0004			2 740,00
	USB-FBP INTERFACE	UTF21-FBP	1SAJ929400R0002			5 300,00
Strømforsyning						
	INN: 90-265VAC/DC, UT: 24VDC 2,5A	CP-E 24/2,5	1SVR427032R0000		L	1 080,00
	INN: 90-264VAC/210-370VDC, UT: 24VDC 5A	CP-S 24/5,0	1SVR427024R0000			2 400,00
Tilkobling i uttrekkbare skuffer						
	PASSIV KABEL UTSIDE	CDP 12-FBP.100	1SAJ929120R0001			845,00
	PASSIV KABEL INNSIDE	CDP 13-FBP.100	1SAJ929110R0001			286,00

Effektbrytere med motorvern
Effektbrytere og tilkoblingsskinner for kontaktorer (DOL-startere)

XT DOL starter

XT4-bryterenhet

Ekip M-LRIU

BEA185/T3

BEA300/S5

BEA..D/S

BEA140

BEA300H/S5

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:

Effektbrytere for motorbeskyttelse

Kontaktor bestilles separat
For tekniske data - se prisliste for effektbrytere (Emax, Tmax/Tmax-XT)

Effektbryter uten vern

Vernenhet bestilles separat.

160A bryterenheter

	XT4N 160 3P	BRYTERENHET	1SDA068289R0001			3 510,00
	XT4S160 3P	BRYTERENHET	1SDA068290R0001			3 960,00
	XT4L160 3P	BRYTERENHET	1SDA068292R0001			7 620,00

250A bryterenheter

	XT4N 250 3P	BRYTERENHET	1SDA068173R0001			3 910,00
	XT4S250 3P	BRYTERENHET	1SDA068174R0001			4 410,00
	XT4L250 3P	BRYTERENHET	1SDA068176R0001			8 460,00

Vernenheter

	EKIP M-LRIU IN=100A XT4 3P	VERNENHET	1SDA068035R0001			3 940,00
	EKIP M-LRIU IN=160A XT4 3P	VERNENHET	1SDA068036R0001			3 940,00
	EKIP M-LRIU IN=200A XT4 3P	VERNENHET	1SDA068037R0001			PPF.

Sett med skinner for sammenkobling av T-Max effektbryter og A/AF kontaktor
Bruk lav avdekning (AC) på både effektbryter og kontaktor (for D-versjonen må den ene avdekningen være høy (AL))

4116160	TILKOBLINGSSKINNE BEA185/T3	TIL A145-185	1SFN084706R1003			816,00
4116161	TILKOBLINGSSKINNE BEA185D/T3		1SFN084706R1004			1 850,00
4116162	TILKOBLINGSSKINNE BEA185/T4	TIL A145-185	1SFN084706R1005			797,00
	TILKOBLINGSSKINNE BEA185D/T4		1SFN084706R1006			856,00
4116163	TILKOBLINGSSKINNE BEA210/T4	TIL A210	1SFN085106R1003			811,00
	TILKOBLINGSSKINNE BEA210D/T4		1SFN085106R1005			856,00
4116164	TILKOBLINGSSKINNE BEA300/T5	TIL A210-300	1SFN085106R1004			811,00
	TILKOBLINGSSKINNE BEA300D/T5		1SFN085506R1003			885,00
4117893	TILKOBLINGSSKINNE BEA140/XT2	TIL AF116 ... AF146 + XT2	1SFN084206R1000			701,00
4117894	TILKOBLINGSSKINNE BEA140/XT4	TIL AF116 ... AF146 + XT4	1SFN084206R1001			701,00
4117895	TILKOBLINGSSKINNE BEA205/XT4	TIL AF190, AF205 + XT4	1SFN084806R1000			712,00
4117896	TILKOBLINGSSKINNE BEA205/T4	TIL AF190, AF205 + T4	1SFN084806R1001			712,00
4117897	TILKOBLINGSSKINNE BEA370/T5	TIL AF265 ... AF370 + T5	1SFN085406R1000			712,00
4116165	TILKOBLINGSSKINNE BEA750/T5	TIL AF400-750	1SFN086106R1001			1 080,00
4116169	TILKOBLINGSSKINNE BEA750D/T5		1SFN086106R1003			1 650,00
4117892	TILKOBLINGSSKINNE BEA750/T6	TIL AF400 ... AF750 + T6	1SFN086106R1000			1 370,00

D-versjonen er lang type med skrue for styrestrømstilkobling.

Skinne mellom A-kontaktor og Tmax / ISOmax effektbryter

4117892	BEA750/S6	TIL AF400-750	1SFN086106R1000			1 370,00
4116158	BEA750D/S6	M ST STR TILKOBL	1SFN086106R1002			1 860,00

For montering side om side (horisontalt)

4116152	BEA460H/S6	TIL AF400-460	1SFN085907R1000			4 370,00
4116153	BEA750H/S6	TIL AF580-750	1SFN086107R1000			5 870,00

Tabeller for valg av effektbryter og kontaktorstørrelser, se våre internettsider: www.abb.no/automasjonsprodukter

Sikringslastbrytere
Anbefaling for mykstartere (for type 2 koordinasjon)

OS63GD

OS160GD

OS250D

OS400D

OS800D

Elnr.	Mykstarter type/str.	Sikringslastbryter type	Sikringstype (Bussmann)	ABB idnr.:	Pris:
Koordinasjon 400V, 65kA, type 2					
	PSS				
	PSS18..30	OS32GD3P		1SCA115189R1001	1 880,00
	PSS37..60	OS63GD3P		1SCA115207R1001	1 940,00
	PSS72..85	OS125GD03P		1SCA115639R1001	2 540,00
1682610	PSS105	OS250D03P		1SCA022719R0090	4 440,00
	PSS142..250	OS400D03P		1SCA022719R0250	5 920,00
	PSS300	OS630D03P		1SCA022825R2830	10 420,00
	PSE				
	PSE18..30	OS32GD3P	170M1563/64/66	1SCA115189R1001	1 880,00
	PSE37..60	OS63GD3P	170M1567/68/69	1SCA115207R1001	1 940,00
	PSE72..85	OS125GD03P	170M1571/72	1SCA115639R1001	2 540,00
1682610	PSE105	OS250D03P	170M3819	1SCA022719R0090	4 440,00
	PSE142..250	OS400D03P	170M5809/10/12/13	1SCA022719R0250	5 920,00
	PSE300..370	OS630D03P	170M6812/13	1SCA022825R2830	10 420,00
	PST(B)				
	PST30	OS32GD3P	170M1566	1SCA115189R1001	1 880,00
	PST37..60	OS63GD3P	170M1568/69/70	1SCA115207R1001	1 940,00
	PST72..85	OS125GD03P	170M1571/72	1SCA115639R1001	2 540,00
1682610	PST105	OS250D03P	170M3819	1SCA022719R0090	4 440,00
	PST142..250	OS400D03P	170M5809/10/12/13	1SCA022719R0250	5 920,00
	PST300	OS630D03P	170M6813	1SCA022825R2830	10 420,00
	PSTB370	OS400D03P	170M5813	1SCA022719R0250	5 920,00
	PSTB470..570	OS630D03P	170M6813/13	1SCA022825R2830	10 420,00
	PSTB720	OS800D03P	170M8554	1SCA022825R4880	14 000,00
	PSTB840..1050		170M6018/20		
	PSTB840..1050	BRUK BUSSMANN BASE 170H3004			
	PSTX				
	PSTX30	OS32GD3P	170M1566	1SCA115189R1001	1 880,00
	PSTX37..60	OS63GD3P	170M1568/69/70	1SCA115207R1001	1 940,00
	PSTX72..85	OS125GD03P	170M1571/72	1SCA115639R1001	2 540,00
1682610	PSTX105	OS250D03P	170M3819	1SCA022719R0090	4 440,00
	PSTX142..250	OS400D03P	170M5810/12/13	1SCA022719R0250	5 920,00
	PSTX300	OS630D03P	170M6812	1SCA022825R2830	10 420,00
	PSTX370-470	OS630D03P	170M6813	1SCA022825R2830	10 420,00
	PSTX570	OS630D03P	170M6814	1SCA022825R2830	10 420,00
	PSTX720	KONTAKT KUNDESERVICE			
	PSTX840..1250	KONTAKT KUNDESERVICE			

Motorvernbrytere
MS116/MS132/MO132/MS165/MO165

MS116 0,16...16A

MS116-20...32A

MS132 0,16...10A

MS132 10...32A

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:

Alle motorvernbrytere fra ABB er justert til høyere trippgrense for kortslutning - for å kunne brukes på både IE1, IE2 og IE3 motorer.

MS116 motorvernbrytere

Ved 230/400V: maks 50kA opptil 10A, 25kA for 12A, 16kA for 16A, og 10kA opp til 32A (Ics), trippklasse 10
Dimensjoner: HxBxD=90x45x85,6mm

4364267	MOTORVERNBRYTER MS116-0,16	0,1-0,16 A	1SAM250000R1001			507,00
4364268	MOTORVERNBRYTER MS116-0,25	0,16-0,25 A	1SAM250000R1002			507,00
4364269	MOTORVERNBRYTER MS116-0,4	0,25-0,4 A	1SAM250000R1003		L	507,00
4364270	MOTORVERNBRYTER MS116-0,63	0,4-0,63 A	1SAM250000R1004		L	507,00
4364271	MOTORVERNBRYTER MS116-1,0	0,63-1,0 A	1SAM250000R1005		L	600,00
4364272	MOTORVERNBRYTER MS116-1,6	1,0-1,6 A	1SAM250000R1006		L	600,00
4364273	MOTORVERNBRYTER MS116-2,5	1,6-2,5 A	1SAM250000R1007		L	600,00
4364274	MOTORVERNBRYTER MS116-4,0	2,5-4,0 A	1SAM250000R1008		L	600,00
4364275	MOTORVERNBRYTER MS116-6,3	4,0-6,3 A	1SAM250000R1009		L	600,00
4364276	MOTORVERNBRYTER MS116-10,0	6,3-10,0 A	1SAM250000R1010		L	709,00
4364485	MOTORVERNBRYTER MS116-12	8-12A	1SAM250000R1012			833,00
4364277	MOTORVERNBRYTER MS116-16,0	10,0-16,0 A	1SAM250000R1011		L	709,00
4364486	MOTORVERNBRYTER MS116-20	16-20 A	1SAM250000R1013		L	833,00
4364487	MOTORVERNBRYTER MS116-25	20-25 A	1SAM250000R1014		L	938,00
4364488	MOTORVERNBRYTER MS116-32	25-32 A	1SAM250000R1015		L	1 160,00

MS132 motorvernbrytere

Ved 230/400V: maks 100kA opptil 20A, 25/50kA opptil 32A ICS/ICU, trippklasse 10
ATEX godkjent (fra april 2014)
Dimensjoner: HxBxD=opptil 10A: 90x45x81,25mm, større en 10A: 97,8x45x81,05mm

4364070	MOTORVERNBRYTER MS132-0.16 Il=1,56A	0,1-0,16A	1SAM350000R1001			681,00
4364071	MOTORVERNBRYTER MS132-0.25	0,16-0,25	1SAM350000R1002		L	681,00
4364072	MOTORVERNBRYTER MS132-0.4	0,25-0,4A	1SAM350000R1003		L	681,00
4364073	MOTORVERNBRYTER MS132-0.63	0,4-0,63A	1SAM350000R1004		L	681,00
4364074	MOTORVERNBRYTER MS132-1.0	0,63-1,0A	1SAM350000R1005		L	791,00
4364075	MOTORVERNBRYTER MS132-1.6	1,0-1,6A	1SAM350000R1006		L	791,00
4364076	MOTORVERNBRYTER MS132-2.5	1,6-2,5A	1SAM350000R1007		L	791,00
4364077	MOTORVERNBRYTER MS132-4.0	2,5-4,0A	1SAM350000R1008		L	791,00
4364078	MOTORVERNBRYTER MS132-6.3	4,0-6,3A	1SAM350000R1009		L	791,00
4364079	MOTORVERNBRYTER MS132-10	6,3-10A	1SAM350000R1010		L	948,00
4364084	MOTORVERNBRYTER MS132-12,5	8-12,5A	1SAM350000R1012		L	948,00
4364080	MOTORVERNBRYTER MS132-16	10-16A	1SAM350000R1011		L	948,00
4364081	MOTORVERNBRYTER MS132-20	16-20A	1SAM350000R1013		L	1 030,00
4364082	MOTORVERNBRYTER MS132-25	20-25A	1SAM350000R1014		L	1 090,00
4364083	MOTORVERNBRYTER MS132-32	25-32A	1SAM350000R1015		L	1 410,00

Motorvernbrytere
MS116/MS132/MO132/MS165/MO165

MS132 - T

MS132..T Vern for beskyttelse av transformatorer

MS132 - T er elektromekaniske vern spesielt designet for å beskytte styrestrømstransformatorer på primærsiden.
De sørger for sikringsløs beskyttelse mot overbelastning og kortslutning, noe som sparer plass og kostnader og sikrer rask utkobling i løpet av millisekunder.
De nye vernene har kortsluttingsutløser med fast verdi på 20xIn. Dette for å håndtere den høye startstrømmen som genereres av transformatorer.
Enheten kan også brukes til manuell fra- og tilkobling av transformatoren.

Ved 230/400V: maks 100kA opptil 20A, 50kA for 25A ICS, trippklasse 10
Dimensjoner: HxBxD=opptil 10A: 90x45x81,25mm, større en 10A: 97,8x45x81,05mm

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
4364100	MS132-0.16T F.TRAFOBESKYTTELSE	0,10-0,16A	1SAM340000R1001			681,00
4364101	MS132-0.25T F.TRAFOBESKYTTELSE	0,16-0,25A	1SAM340000R1002			681,00
4364102	MS132-0.4T F.TRAFOBESKYTTELSE	0,25-0,4A	1SAM340000R1003			681,00
4364103	MS132-0.63T F.TRAFOBESKYTTELSE	0,4-0,63A	1SAM340000R1004			681,00
4364104	MS132-1.0T F.TRAFOBESKYTTELSE	0,63-1,0A	1SAM340000R1005			791,00
4364105	MS132-1.6T F.TRAFOBESKYTTELSE	1,0-1,6A	1SAM340000R1006		L	791,00
4364106	MS132-2.5T F.TRAFOBESKYTTELSE	1,6-2,5A	1SAM340000R1007		L	791,00
4364107	MS132-4.0T F.TRAFOBESKYTTELSE	2,5-4,0A	1SAM340000R1008			791,00
4364108	MS132-6.3T F.TRAFOBESKYTTELSE	4,0-6,3A	1SAM340000R1009			791,00
4364109	MS132-10T F.TRAFOBESKYTTELSE	6,3-10A	1SAM340000R1010			948,00
4364110	MS132-16T F.TRAFOBESKYTTELSE	10-16A	1SAM340000R1011		L	948,00
4364111	MS132-12T F.TRAFOBESKYTTELSE	8,0-12A	1SAM340000R1012			948,00
4364112	MS132-20T F.TRAFOBESKYTTELSE	16-20A	1SAM340000R1013		L	1 030,00
4364113	MS132-25T F.TRAFOBESKYTTELSE	20-25A	1SAM340000R1014			1 100,00

MO132-0,16...10A

MO132-12...32A

MO132 motorvernbrytere (Kun kortsluttingsvern - ikke overlastvern)

Ved 230/400V: 100kA opp til 20A, 50kA opp til 32A (ICS/ICU)
Dimensjoner: HxBxD=opptil 10A: 90x45x81,25mm, større en 10A: 97,8x45x81,05mm

4364085	MO132-0.16	0,16A	1SAM360000R1001			684,00
4364086	MO132-0.25	0,25A	1SAM360000R1002			684,00
4364087	MO132-0.4	0,24A	1SAM360000R1003			684,00
4364088	MO132-0.63	0,63A	1SAM360000R1004			684,00
4364089	MO132-1.0	1,0A	1SAM360000R1005			783,00
4364090	MO132-1.6	1,6A	1SAM360000R1006			783,00
4364091	MO132-2.5	2,5A	1SAM360000R1007			783,00
4364092	MO132-4.0	4,0A	1SAM360000R1008			783,00
4364093	MO132-6.3	6,3A	1SAM360000R1009			783,00
4364094	MO132-10	10A	1SAM360000R1010			922,00
4364095	MO132-12	12A	1SAM360000R1012			922,00
4364096	MO132-16	16A	1SAM360000R1011			922,00
4364097	MO132-20	20A	1SAM360000R1013		L	1 010,00
4364098	MO132-25	25A	1SAM360000R1014			1 140,00
4364099	MO132-32	32A	1SAM360000R1015		L	1 430,00

Motorvernbrytere
MS116/MS132/MO132/MS165/MO165 + tilbehør

MS165

MS165 Motorvernbrytere

Ved 230/400V: 100kA opptil 25A, 75/100kA for 32A, 25/50kA opptil 65A (ICS/ICU),
for 440..690V: 8kA opptil 25A og 5kA opptil 65A
ATEX-godkjent
Dimensjoner: HxBxD= 145,7x55x122,1mm

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
4364120	MS165-16 MOTORVERNBRYTER	10 - 16 A	1SAM451000R1011		L	1 680,00
4364121	MS165-20 MOTORVERNBRYTER	14 - 20 A	1SAM451000R1012		L	1 710,00
4364122	MS165-25 MOTORVERNBRYTER	18 - 25 A	1SAM451000R1013		L	1 860,00
4364123	MS165-32 MOTORVERNBRYTER	23 - 32 A	1SAM451000R1014		L	2 040,00
4364124	MS165-42 MOTORVERNBRYTER	30 - 42 A	1SAM451000R1015		L	2 400,00
4364125	MS165-54 MOTORVERNBRYTER	40 - 54 A	1SAM451000R1016		L	2 540,00
4364126	MS165-65 MOTORVERNBRYTER	52 - 65 A	1SAM451000R1017		L	2 640,00

MO165

MO165 motorvernbrytere (Kun kortsluttingsvern - ikke overlastvern)

Ved 230/400V: 100kA opptil 25A, 50/100kA for 32A, 25/50kA opptil 65A (ICS/ICU),
for 440..690V: 8kA opptil 25A og 5kA opptil 65A
Dimensjoner: HxBxD= 145,7x55x122,1mm

4364140	MO165-16	16A	1SAM461000R1011			1 500,00
4364141	MO165-20	20A	1SAM461000R1012			1 530,00
4364142	MO165-25	25A	1SAM461000R1013			1 700,00
4364143	MO165-32	32A	1SAM461000R1014			1 850,00
4364144	MO165-42	42A	1SAM461000R1015			2 170,00
4364145	MO165-54	54A	1SAM461000R1016			2 280,00
4364146	MO165-65	65A	1SAM461000R1017			2 540,00

HKF1-11

Tilbehør til MS116/MS132/MO132/MS165/MO165

Hjelpekontakter - følger hendelen

4364278	HJELPEKONTAKT HKF1-11 FRONTMONTERT		1SAM201901R1001	1/10	L	113,00
4364493	HJELPEKONTAKT HKF1-20 FRONTMONTERT		1SAM201901R1002	1/10		113,00
4364279	HJELPEKONTAKT HK1-11 SIDEMONTERT		1SAM201902R1001	1/2	L	138,00
4364280	HJELPEKONTAKT HK1-20 SIDEMONTERT		1SAM201902R1002	1/2	L	138,00
4364281	HJELPEKONTAKT HK1-02 SIDEMONTERT		1SAM201902R1003	1/2	L	138,00
Signalkontakter - veksler kun ved tripp (alle typer)						
4364282	SIGNALKONTAKT SK1-11 SIDEMONTERT		1SAM201903R1001	1/2	L	226,00
4364283	SIGNALKONTAKT SK1-20 SIDEMONTERT		1SAM201903R1002	1/2		226,00
4364284	SIGNALKONTAKT SK1-02 SIDEMONTERT		1SAM201903R1003	2		226,00
Signalkontakt til MS132 og MS165 - veksler kun ved kortslutningstripp						
4364490	SIGNALKONTRAKT K.SL. CK1-11 SIDEMONTERT		1SAM301901R1001	2		239,00
4364491	SIGNALKONTRAKT K.SL. CK1-20 SIDEMONTERT		1SAM301901R1002	2		239,00
4364492	SIGNALKONTRAKT K.SL. CK1-02 SIDEMONTERT		1SAM301901R1003	2		239,00
Underspenningsutløser						
4364285	UNDERSPENNINGSUTLØSER UA1-24		1SAM201904R1001			393,00
4364286	UNDERSPENNINGSUTLØSER UA1-48		1SAM201904R1002			393,00
4364287	UNDERSPENNINGSUTLØSER UA1-60		1SAM201904R1003			393,00
4364288	UNDERSPENNINGSUTLØSER UA1-120		1SAM201904R1004			393,00
4364289	UNDERSPENNINGSUTLØSER UA1-230		1SAM201904R1005			393,00
4364290	UNDERSPENNINGSUTLØSER UA1-400		1SAM201904R1006			393,00
4364291	UNDERSPENNINGSUTLØSER UA1-415		1SAM201904R1007			393,00
Arbeidsstrømsutløser						
4364016	AA1-24 SHUNT TRIP 20-24V		1SAM201910R1001			341,00
4364017	AA1-110 SHUNT TRIP 110V		1SAM201910R1002			341,00
4364018	AA1-230 SHUNT TRIP 200-240V		1SAM201910R1003		L	341,00

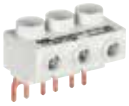
HK1-11 SK1-11 CK1-11

UA1

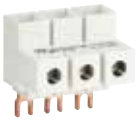
AA1

Motorvernbrytere
Tilbehør MS116/MS132/MO132/MS165/MO165

PS1-3-0-65


S1-M1-25

PS1-3-0-100


S1-M3-35

PS2

PS2

PB1-1-32

S1

BEA16/116

BEA16-4

BEA65-4

KA165

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Samleskinne til MS116/MS132, 65A						
4364000	SAMLESKINNE PS1-2-0-65	UTEN HK/SK	1SAM201906R1102		L	106,00
4364001	SAMLESKINNE PS1-3-0-65	UTEN HK/SK	1SAM201906R1103		L	132,00
4364002	SAMLESKINNE PS1-4-0-65	UTEN HK/SK	1SAM201906R1104		L	149,00
4364003	SAMLESKINNE PS1-5-0-65	UTEN HK/SK	1SAM201906R1105			168,00
4364004	SAMLESKINNE PS1-2-1-65	MED 1 HK/SK	1SAM201906R1112		L	112,00
4364005	SAMLESKINNE PS1-3-1-65	MED 1 HK/SK	1SAM201906R1113		L	138,00
4364006	SAMLESKINNE PS1-4-1-65	MED 1 HK/SK	1SAM201906R1114		L	149,00
4364007	SAMLESKINNE PS1-5-1-65	MED 1 HK/SK	1SAM201906R1115		L	176,00
4364008	SAMLESKINNE PS1-2-2-65	MED 2 HK/SK	1SAM201906R1122			112,00
4364009	SAMLESKINNE PS1-3-2-65	MED 2 HK/SK	1SAM201906R1123			149,00
4364010	SAMLESKINNE PS1-4-2-65	MED 2 HK/SK	1SAM201906R1124			163,00
4364011	SAMLESKINNE PS1-5-2-65	MED 2 HK/SK	1SAM201906R1125			188,00
Mateblokk 65A						
4364012	S1-M1-25 MATEBLOKK, FLAT		1SAM201907R1101		L	106,00
4364013	S1-M2-25 MATEBLOKK, HØY		1SAM201907R1102		L	115,00
Samleskinne til MS116/MS132, 100A						
4364023	SAMLESKINNE PS1-3-0-100	UTEN HK/SK	1SAM201916R1103			163,00
4364024	SAMLESKINNE PS1-4-0-100	UTEN HK/SK	1SAM201916R1104			188,00
4364025	SAMLESKINNE PS1-5-0-100	UTEN HK/SK	1SAM201916R1105			220,00
4364026	SAMLESKINNE PS1-3-1-100	MED 1 HK/SK	1SAM201916R1113			176,00
4364027	SAMLESKINNE PS1-4-1-100	MED 1 HK/SK	1SAM201916R1114			206,00
4364028	SAMLESKINNE PS1-5-1-100	MED 1 HK/SK	1SAM201916R1115			239,00
4364029	SAMLESKINNE PS1-3-2-100	MED 2 HK/SK	1SAM201916R1123			212,00
Mateblokk 100A						
4364022	S1-M3-35 MATEBLOKK FLAT		1SAM201913R1103		L	206,00
Deksel for ubrukt tilkobling						
	BS1-3 MESKYTTELSESDEKSEL		1SAM201908R1001			17,40
Samleskinner til MS165, 125A						
4364160	SAMLESKINNE PS2-2-0-125	UTEN HK/SK	1SAM401920R1002			286,00
4364161	SAMLESKINNE PS2-3-0-125	UTEN HK/SK	1SAM401920R1003			342,00
4364162	SAMLESKINNE PS2-4-0-125	UTEN HK/SK	1SAM401920R1004			425,00
4364163	SAMLESKINNE PS2-2-2-125	MED 2 HK/SK	1SAM401920R1022			314,00
4364164	SAMLESKINNE PS2-3-2-125	MED 2 HK/SK	1SAM401920R1023			388,00
4364165	SAMLESKINNE PS2-4-2-125	MED 2 HK/SK	1SAM401920R1024			480,00
Deksel for ubrukt tilkobling						
4364180	BS2-3 BESKYTTELSESDEKSEL		1SAM401921R1001			31,60
Diverse						
	PB1-1-32 2-FAS SKINNE F. MS132		1SAM201914R1001			92,80
	PB1-25 1-POL MATEBL. F. MS132		1SAM201914R1002			73,40
4364473	BEA7/116 ADAPTER B6,B7 MINI		1SBN080906R1000	1/10		181,00
4364474	BEA16/116 ADAPTER FOR A9-A16/MS116 (IKKE MS132!)		1SBN081406R1000	1/10		181,00
4364475	BEA26/116 ADAPTER FOR A26/MS116 (IKKE MS132!)		1SBN082406R1000	10		212,00
4364480	BEA16-4 ADAPTER FOR AF9...AF16 -MS116/MS132		1SBN081306T1000	1/10	L	174,00
4364482	BEA26-4 FOR AF26..38-MS116->16A OG MS132->10A		1SBN082306T1000	1/10	L	209,00
4364481	BEA38-4 ADAPTER FOR AF26...AF38-MS132		1SBN082306T2000	1/10	L	223,00
4364483	BEA65-4 ADAPTER FOR MS165-AF40/AF52/AF65		1SBN083406R1000			487,00
4364484	KA165 AVDEKNING FOR MS165		1SAM401922R1001			65,30

Motorvernbrytere
Tilbehør MS116/MS132/MO132/MS165/MO165

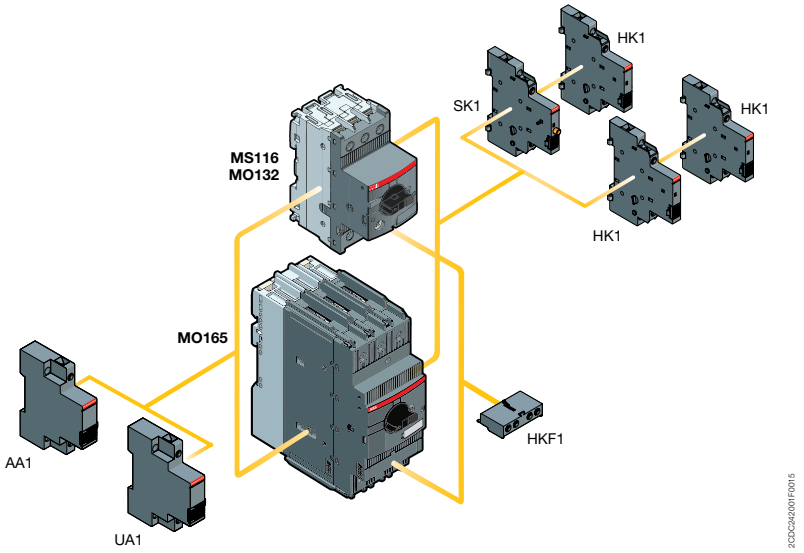
IB132...

DMS132...

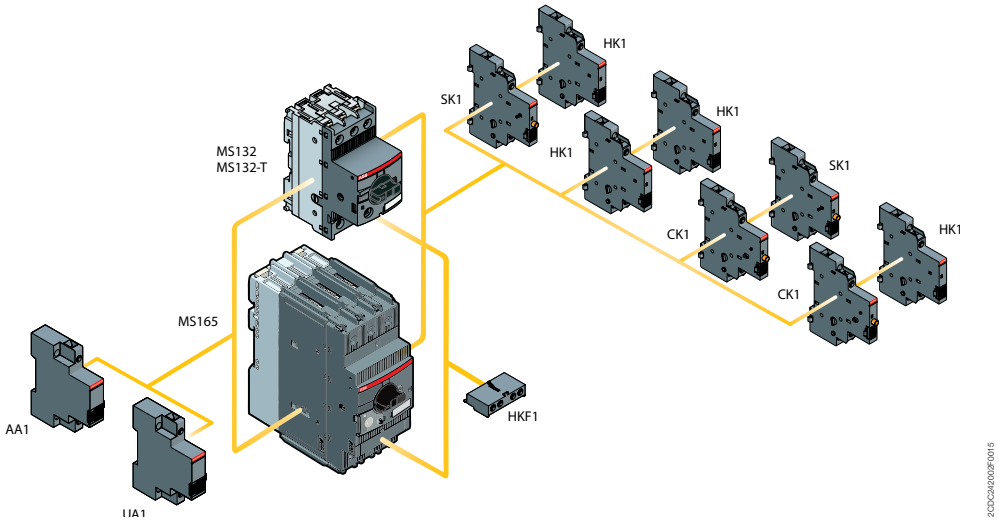
Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kapslinger for MS116/MS132/MO132, IP65, kabelhull Ø=20/25mm						
4364200	KAPSLING, GRÅ/SORT	IB132-G	1SAM201911R1010		L	283,00
4364201	KAPSLING, RØD/GUL	IB132-Y	1SAM201911R1011			301,00
4364202	KAPSLING, GRÅ/RØD	IB132-F	1SAM201911R1012			301,00
Dørmonteringssett for MS116/MS132/MO132, IP65						
4364203	DØRMONTERINGSSETT, GRÅ/SORT	DMS132-G	1SAM201912R1010			360,00
4364204	DØRMONTERINGSSETT, RØD/GUL	DMS132-Y	1SAM201912R1011			376,00

For håndtak og akslinger se under MS495

Manual motor starters with accessories (MS116, MO132, MO165)



Manual motor starters with accessories (MS132, MS165) and circuit breaker for transformer protection (MS132-T)



Motorvernbrytere
MS165/MO165/MS49x/MO49x

MO495/495

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
	MS49x motorvernbrytere				
	ATEX-godkjent				
	MS495 motorvernbrytere, 50kA, kl 10				
	Dimensjoner: HxBxD=165x70x174mm				
4364515	MOTORVERNBRYTER MS495-40 28,0-40,0 A	1SAM550000R1005			2 820,00
4364516	MOTORVERNBRYTER MS495-50 36,0-50,0 A	1SAM550000R1006		L	2 820,00
4364517	MOTORVERNBRYTER MS495-63 45,0-63,0 A	1SAM550000R1007		L	2 820,00
4364518	MOTORVERNBRYTER MS495-75 57,0-75,0 A	1SAM550000R1008		L	2 990,00
4364519	MOTORVERNBRYTER MS495-90 70,0-90,0 A	1SAM550000R1009			3 190,00
4364520	MOTORVERNBRYTER MS495-100 80,0-100,0 A	1SAM550000R1010			3 470,00
	MS497 motorvernbrytere, 100kA, kl 10				
	Dimensjoner: HxBxD=165x70x174mm				
4364528	MOTORVERNBRYTER MS497-32 22,0-32,0 A	1SAM580000R1004			3 430,00
4364529	MOTORVERNBRYTER MS497-40 28,0-40,0 A	1SAM580000R1005			4 230,00
4364530	MOTORVERNBRYTER MS497-50 36,0-50,0 A	1SAM580000R1006			4 230,00
4364531	MOTORVERNBRYTER MS497-63 45,0-63,0 A	1SAM580000R1007			4 300,00
4364532	MOTORVERNBRYTER MS497-75 57,0-75,0 A	1SAM580000R1008			4 500,00
4364533	MOTORVERNBRYTER MS497-90 70,0-90,0 A	1SAM580000R1009			4 620,00
4364534	MOTORVERNBRYTER MS497-100 80,0-100,0 A	1SAM580000R1010			4 860,00
	Motorvernbrytere MO49x				
	MO495 motorvernbrytere (Kun kortsluttingsvern - ikke overlastvern), 25kA				
	MO495-40, 40 A	1SAM560000R1005			2 730,00
	MO495-50, 50 A	1SAM560000R1006			2 750,00
	MO495-63, 63 A	1SAM560000R1007			2 620,00
	MO495-75, 75 A	1SAM560000R1008			2 910,00
	MO495-90, 90 A	1SAM560000R1009		L	3 120,00
	MO495-100, 95 A	1SAM560000R1010			3 400,00
	MO496 motorvernbrytere (Kun kortsluttingsvern - ikke overlastvern), 50kA				
	MO496-32, 32 A	1SAM590000R1004			4 300,00
	MO496-40, 40 A	1SAM590000R1005			4 170,00
	MO496-50, 50 A	1SAM590000R1006			4 170,00
	MO496-63, 63 A	1SAM590000R1007			4 210,00
	MO496-75, 75 A	1SAM590000R1008			4 390,00
	MO496-90, 90 A	1SAM590000R1009			4 540,00
	MO496-100, 95 A	1SAM590000R1010			4 750,00

Motorvernbrytere
Tilbehør MS4xx - Håndtak og akslinger til alle motorvernbrytere

BEA 40/450

MS495 with A110

MSHD-LB

MSHD-LY

MSHD-LTB

MSHD-LTY

Driver

Driver med tapp

MSH

MSAH1

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
MS4xx Tilbehør					
Hjelpekontakter					
4364560	HJELPEKONTAKTBLOKK HK4-11 FRONTMONTERT	1SAM401901R1001	1/10	L	126,00
4364561	HJELPEKONTAKTBLOKK HK4-W FRONTMONTERT	1SAM401901R1002	10		107,00
4364565	HJELPEKONTAKTBLOKK HKS4-11 SIDEMONTERT	1SAM401902R1001	1/2	L	159,00
4364566	HJELPEKONTAKTBLOKK HKS4-20 SIDEMONTERT	1SAM401902R1002	1/2		159,00
4364567	HJELPEKONTAKTBLOKK HKS4-02 SIDEMONTERT	1SAM401902R1003	1/2		159,00
Signalkontakt (k.sl. + overlast og kun k.sl.)					
4364570	SIGNALKONTAKT SK4-22 SIDEMONTERT	1SAM401904R1001		L	292,00
Underspenningsutløser					
4364575	UNDERSP.UTLØSER 110V50HZ UA4	1SAM401905R1001			437,00
4364576	UNDERSP.UTLØSER 230V50HZ UA4	1SAM401905R1002			437,00
4364577	UNDERSP.UTLØSER 400V50HZ UA4	1SAM401905R1003			437,00
4364580	UNDERSP.UTLØSER 230V50HZ UA4 -HK	1SAM401906R1001			614,00
4364581	UNDERSP.UTLØSER 400V50HZ UA4 -HK	1SAM401906R1002			614,00
Arbeidstrømutløser					
4364585	ARBEIDSTR.UTLØS.AA4 20-70V	1SAM401907R1001			392,00
4364586	ARBEIDSTR.UTLØS.AA4 70-190V	1SAM401907R1002			437,00
4364587	ARBEIDSTR.UTLØS.AA4 190-230V	1SAM401907R1003			437,00
4364588	ARBEIDSTR.UTLØS.AA4 230-500V	1SAM401907R1004			437,00
Diverse					
4364595	SKALADEKSEL SA450	1SAM401909R1001			202,00
4364036	INNKOBLINGSBLOKK S4-M1 3 FASE	1SAM401911R1007			228,00
4364037	TILKOBLINGSBESKYTTELSE BS4-3	1SAM401911R1008			34,20
4364590	KLEMMEDEKSEL KA450	1SAM401908R1001			57,40
4364591	KLEMMEDEKSEL KA495	1SAM501901R1001			71,70
4364592	KLEMMEDEKSEL KA495C	1SAM501902R1001			107,00
	BEA40/450 ADAPTER FOR MS450/A30-A40	1SBN083206R1000			370,00
	BEA50/450 ADAPTER FOR MS450/ A50	1SBN083506R1000			387,00
	BEA75/495 ADAPTER FOR MS495/A50-A75	1SBN084106R1000			686,00
	BEA110/495 ADAPTER FOR MS495/A95-A110	1SBN084506R1000			1 170,00
Håndtak og akslinger i ny 6 mm utførelse **Passer på alle motorvernbrytere** **For montering i skap/kapsling med betjening i front/dør** **Kan brukes til MS116/132/165/325/450/495**					
4364250	HÅNDTAK, SORT, 6MM,	MSHD-LB	1SAM201920R1001		L	215,00
4364251	HÅNDTAK, RØD/GUL, 6MM,	MSHD-LY	1SAM201920R1002			215,00
4364252	HÅNDTAK, SORT, 6MM,	MSHD-LTB	1SAM201920R1011			215,00
4364253	HÅNDTAK, RØD/GUL, 6MM,	MSHD-LTY	1SAM201920R1012			215,00
4364254	DRIVER, 6MM KODET FOR ON	MSMN	1SAM101923R0002		L	34,20
4364255	DRIVER, 6MM U-KODET FOR ON	MSMNO	1SAM101923R0012			34,20
4364256	DRIVER M.TAPP, 6MM	MSOX-32	1SAM101924R0003			109,00
4364257	DRIVER M.TAPP, VRIDD 90° 6MM	MSOX-30	1SAM101924R0013			121,00
	SENTRERINGSRING FOR AKSLING FOR OXS6X>105MM	MSH-AR	1SAM201920R1000			71,70
	STØTTEBRAKETT FOR AKSLING FOR MS116/MS132	MSAH1	1SAM201909R1021			143,00
4363598	AKSLING 6X85MM	OXS6X85	1SCA101647R1001		L	43,50
4363599	AKSLING 6X120MM	OXS6X120	1SCA101654R1001	10		43,50
4363600	AKSLING 6X130MM	OXS6X130	1SCA101655R1001		L	43,50
4363601	AKSLING 6X180MM	OXS6X180	1SCA101659R1001		L	56,90

Notater

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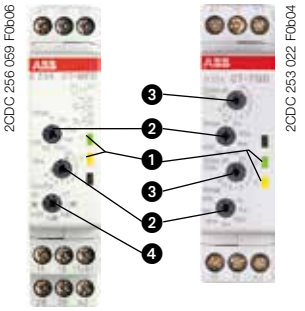
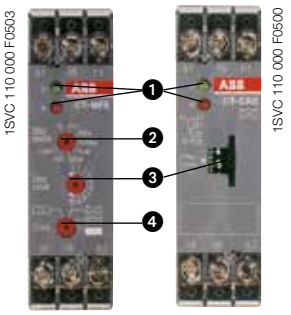
EPR - Elektroniske produkter og reléer
Funksjonoversikt timere

a LED for status indikasjon
b Tidsområde
c Finjustering av tid
d Timerfunksjon
e Valgfri funksjon for 2. c/o kontakt som momentan

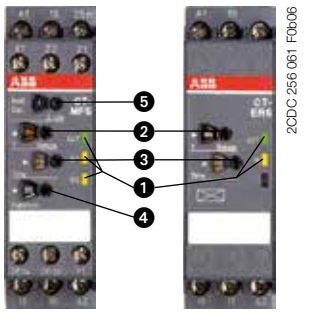
CT-D serien



CT-E serien



CT-S serien



Timerfunksjon		multifunksjon	enkel-funksjon	multifunksjon	enkel-funksjon	multifunksjon	enkel-funksjon
⊠	PÅ-forsinket	CT-MFD	CT-ERD	CT-MFE, CT-MKE	CT-ERE, CT-EKE	CT-MVS, CT-MFS, CT-MBS, CT-WBS	CT-ERS
■	AV-forsinket	CT-MFD	CT-AHD	CT-MFE	CT-AHE, CT-ARE, CT-AKE	CT-MVS, CT-MFS, CT-MBS	CT-APS, CT-AHS, CT-ARS, CT-VBS
⊠■	PÅ- og AV-forsinket					CT-MVS, CT-MXS, CT-MFS, CT-MBS	
1⎍⊠	Impuls PÅ	CT-MFD	CT-VWD	CT-MFE, CT-MKE	CT-VWE	CT-MVS, CT-MFS, CT-MBS, CT-WBS	
1⎍■	Impuls AV	CT-MFD			CT-AWE	CT-MVS, CT-MFS, CT-MBS	
1⎍⊠■	Impuls PÅ og AV					CT-MXS	
⎍⊠	Blinker starter med PÅ	CT-MFD	CT-EBD	CT-MFE, CT-MKE		CT-MFS, CT-MBS, CT-WBS	
⎍■	Blinker starter med AV	CT-MFD		CT-MFE, CT-MKE	CT-EBE	CT-MFS, CT-MBS, CT-WBS	
⎍⊠■	Blinker starter med PÅ eller AV					CT-MVS	
⊠■⎍	Pulsgenerator starter med PÅ eller AV		CT-TGD			CT-MXS	
1⎍	Pulsgiver	CT-MFD		CT-MFE		CT-MVS, CT-MXS, CT-MFS, CT-MBS	
△	Stjerne/trekant timer		CT-SDD, CT-SAD				CT-SDS
△1⎍	Stjerne/trekant timer med impuls					CT-MVS.2x, CT-MFS, CT-MBS	
△⊠	Stjerne/trekant timer 2x PÅ forsinket				CT-YDE, CT-SDE		
⊠+ ⊠1⎍ ■1⎍ ▭	Flere funksjoner (avhengig av modell)					CT-MVS, CT-MXS, CT-MFS, CT-MBS, CT-WBS	
▭	Vekselrelé (uten timer)				CT-IRE		CT-IRS

Tekniske data				
Tidsområder	7 (0.05 s - 100 h) CT-SDD, CT-SAD: 4 (0.05 s - 10 min)	Multifunksjonsutgaver: 8 (0.05 s - 100 h) Enkeltfunksjonsutgaver: 5 enkeltområder (0.05-1 s, 0.1-10 s, 0.3-30 s, 3-300 s, 0.3-300 min)		10 (0.05 s - 300 h) CT-ARS, CT-SDS: 7 (0.05 s- 10 min)
Styrespenningsområde	Bredt og multi	Bredt	Enkel og dobbel	Bredt, multi og enkel
Type og antall kontakter	1 eller 2 c/o kontakter CT-SDD, CT-SAD: 2 n/o kontakter	1 c/o kontakt CT-SDE: 1 n/o kontakt og 1 n/c kontakt CT-MKE, CT-EKE, CT-AKE: 1 tyristor		1 eller 2 c/o kontakter CT-MVS.21, CT-MFS, CT-MBS: 2. c/o kontakt valgfri momentán eller ikke
Styreinngang	Spenningsstyrt polarisert, kan koble parallell last	Spenningsstyrt, polarisert CT-MFE, CT-AHE, CT-AWE: med hjelpespenning		Spenningsstyrt, ikke-polarisert, kan koble parallell last CT-MFS, CT-MBS, CT-AHS: potensial fri

EPR - Elektroniske produkter og reléer
Timere CT-E serien

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
CT-E serien					
CT-MFE, 6 funksjoner, 1 vekselkontakt, 0,05s - 100t. NB - må ha hjelpespenning for forsinket AV. 24-240V AC/DC					
4187518	TIMER CT-MFE, MULT.FUNKSJON	1SVR550029R8100		L	1 620,00
CT-ERE, forsinket PÅ, 1 vekselkontakt, 2 LED 24V AC/DC, 220-240V AC					
4187519	TIMER CT-ERE, FORS. PÅ 0,1-10S	1SVR550107R1100		L	825,00
4187520	TIMER CT-ERE, FORS. PÅ 0,3-30S	1SVR550107R4100		L	825,00
4187521	TIMER CT-ERE, FORS. PÅ 3-300S	1SVR550107R2100			776,00
4187522	TIMER CT-ERE, FORS. PÅ 0,3-30MIN	1SVR550107R5100			825,00
110-130V AC					
4187523	TIMER CT-ERE, FORS. PÅ 0,1-10S	1SVR550100R1100			825,00
4187525	TIMER CT-ERE, FORS. PÅ 0,3-30S	1SVR550100R2100			825,00
4187524	TIMER CT-ERE, FORS. PÅ 3-300S	1SVR550100R4100			825,00
4187526	TIMER CT-ERE, FORS. PÅ 0,3-30MIN	1SVR550100R5100			825,00
CT-AHE, forsinket AV, 1 vekselkontakt, 2 LED. NB - må ha hjelpespenning 24V AC/DC					
4187527	TIMER CT-AHE, FORS. AV 0,1-10S	1SVR550118R1100			1 060,00
4187528	TIMER CT-AHE, FORS. AV 0,3-30S	1SVR550118R4100			1 060,00
4187529	TIMER CT-AHE, FORS. AV 3-300S	1SVR550118R2100			1 060,00
110-130V AC					
4187530	TIMER CT-AHE, FORS. AV 0,1-10S	1SVR550110R1100			1 060,00
4187531	TIMER CT-AHE, FORS. AV 0,3-30S	1SVR550110R4100			1 060,00
4187532	TIMER CT-AHE, FORS. AV 3-300S	1SVR550110R2100			1 060,00
220-240V AC					
4187533	TIMER CT-AHE, FORS. AV 0,1-10S	1SVR550111R1100			1 060,00
4187534	TIMER CT-AHE, FORS. AV 0,3-30S	1SVR550111R4100			1 060,00
	TIMER CT-AHE, FORS. AV 3-300S	1SVR550111R2100			1 060,00
ARE sann fors. AV 1 c/o, 2 led. NB - trenger ikke hjelpespenning 24VAC/DC, 220-240VAC					
4187536	TIMER CT-ARE, SANN FORS. AV 0,1-10S	1SVR550127R1100			1 160,00
4187537	TIMER CT-ARE, SANN FORS. AV 0,3-30S	1SVR550127R4100		L	1 160,00
110-130VAC					
4187538	TIMER CT-ARE, SANN FORS. AV 0,1-10S	1SVR550120R1100			1 160,00
4187539	TIMER CT-ARE, SANN FORS. AV 0,3-30S	1SVR550120R4100			1 160,00
CT-VWE, impuls forsinket PÅ, 1 c/o, 2-led 24VAC/DC 220-240VAC					
4187540	TIMER CT-VWE, IMPULS PÅ, 0,1-10S	1SVR550137R1100			806,00
4187541	TIMER CT-VWE, IMPULS PÅ, 0,3-30S	1SVR550137R4100			806,00
4187542	TIMER CT-VWE, IMPULS PÅ, 3-300S	1SVR550137R2100			806,00
110-130VAC					
4187543	TIMER CT-VWE, IMPULS PÅ, 0,1-10S	1SVR550130R1100			806,00
4187544	TIMER CT-VWE, IMPULS PÅ, 0,3-30S	1SVR550130R4100			806,00
4187545	TIMER CT-VWE, IMPULS PÅ, 3-300S	1SVR550130R2100			806,00
CT-AWE, impuls forsinket AV, 1 c/o, 2-led, uten hj.sp					
4187546	TIMER CT-AWE, IMPULS AV, 24V AC/DC	1SVR550158R3100			1 040,00
4187547	TIMER CT-AWE, IMPULS AV, 110-130V AC	1SVR550150R3100			1 040,00
4187548	TIMER CT-AWE, IMPULS AV, 220-240V AC	1SVR550151R3100			1 040,00

EPR - Elektroniske produkter og reléer
Timere CT-E serien

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
CT-AWE, impuls forsinket AV, 1 c/o, 2-led, med hj.sp 24VAC/DC					
4187549	TIMER CT-AWE, IMPULS AV, 0,1-10S	1SVR550148R1100			1 040,00
4187550	TIMER CT-AWE, IMPULS AV, 0,3-30S	1SVR550148R4100			1 040,00
4187551	TIMER CT-AWE, IMPULS AV, 3-300S	1SVR550148R2100			1 040,00
110-130VAC					
4187552	TIMER CT-AWE, IMPULS AV, 0,1-10S	1SVR550140R1100			1 040,00
4187553	TIMER CT-AWE, IMPULS AV, 0,3-30S	1SVR550140R4100			1 040,00
4187554	TIMER CT-AWE, IMPULS AV, 3-300S	1SVR550140R2100			1 040,00
220-240VAC					
4187555	TIMER CT-AWE, IMPULS AV, 0,1-10S	1SVR550141R1100			1 040,00
4187556	TIMER CT-AWE, IMPULS AV, 0,3-30S	1SVR550141R4100			1 040,00
4187557	TIMER CT-AWE, IMPULS AV, 3-300S	1SVR550141R2100			1 040,00
CT-EBE, blinker med start AV, 1 c/o, 2-led symetriske PÅ/AV tider, 0.1-10s,					
4187558	TIMER CT-EBE, 24VAC/DC 220-240VAC	1SVR550167R1100			806,00
4187559	TIMER CT-EBE, 110-130VAC	1SVR550160R1100			806,00
CT-YDE, stjerne-trekant-timer, 1 c/o, 2-led NB - ikke bruk til AF-kontaktorer, se andre anbefalinger 24VAC/DC 220-240VAC					
4187560	TIMER CT-YDE, STJ.-TREK, 0,1-10S	1SVR550207R1100			775,00
4187561	TIMER CT-YDE, STJ.-TREK, 0,3-30S	1SVR550207R4100			806,00
4187562	TIMER CT-YDE, STJ.-TREK, 3-300S	1SVR550207R2100			806,00
110-130VAC					
4187563	TIMER CT-YDE, STJ.-TREK, 0,1-10S	1SVR550200R1100			806,00
4187564	TIMER CT-YDE, STJ.-TREK, 0,3-30S	1SVR550200R4100			806,00
4187565	TIMER CT-YDE, STJ.-TREK, 3-300S	1SVR550200R2100			806,00
CT-SDE, stjerne/trekant timere, 1 n/o og 1 n/c, 2-led, (0,3-30s), 50ms »dwelling time» NB - ikke bruk til AF-kontaktorer, se andre anbefalinger					
4187566	TIMER CT-SDE, 24VAC/DC,220-240VAC	1SVR550217R4100		L	946,00
4187567	TIMER CT-SDE, 110-130V AC	1SVR550210R4100			946,00
4187568	TIMER CT-SDE, 380-415V ACV AC	1SVR550212R4100			946,00
CT-IRE, vekselreléer imp AV, 1 c/o, 2-led					
4187569	TIMER CT-IRE, VEKSELR, 24VAC/DC, DIAGONALT	1SVR550228R9100			639,00
4187570	TIMER CT-IRE, VEKSELR, 220-240VAC, DIAGONALT	1SVR550221R9100			639,00
4187571	TIMER CT-IRE, VEKSELR, 24V AC/DC, PÅ TOPP	1SVR550238R9100			639,00
4187572	TIMER CT-IRE, VEKSELR, 220-240V AC, PÅ TOPP	1SVR550231R9100			639,00
CT-MKE, solid-state, multif., 1n/o, 0.1-10s/3-300s, 24-240VAC/DC. Maks 0,8A ved 20oC, maks puls 20A for t<20ms					
4187573	TIMER CT-MKE, SOLID-STATE, MU	1SVR550019R0000			1 020,00
CT-EKE, solid-state, forsinket PÅ, 1 n/o, 1-led, 24-240VAC/DC. Maks 0,7A ved 20oC, maks puls 15A for t<20ms					
4187574	TIMER CT-EKE, SOLID-STATE PÅ, 0,1-10S	1SVR550509R1000			806,00
4187575	TIMER CT-EKE, SOLID-STATE PÅ, 0,3-30S	1SVR550509R4000			806,00
4187576	TIMER CT-EKE, SOLID-STATE PÅ, 3-300S	1SVR550509R2000			806,00
CT-AKE, solid-state, forsinket AV, 1 n/o, 1-led, 24-240V AC					
4187577	TIMER CT-AKE, SOLID-STATE AV, 0,1-10S	1SVR550519R1000			1 040,00
4187578	TIMER CT-AKE, SOLID-STATE AV, 0,3-30S	1SVR550519R4000			1 040,00
4187579	TIMER CT-AKE, SOLID-STATE AV, 3-300S	1SVR550519R2000			1 040,00

EPR - Elektroniske produkter og reléer
Timere CT-S serien

CT-MVS.21S

CT-MBS.22P

CT-MXS.22S

CT-ERS.22P

CT-APS.21S

CT-ARS11S

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
CT-S serien					
Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)					
CT-MFS og CT-MBS har potensialfrie kontakter, CT-MVS.21 og CT-MFS.21 har nedre temperaturgrense på -40 °C					
CT-MVS.21, CT-MFS, CT-MBS har 1 momentan og 1 tidsforsinket c/o kontakt og er velegnet for YD-startere med AF-kontaktorer					
Multifunksjontimere, 0,05s-300t, NB - må ha hjelpespenning for forsinket AV					
4187930	TIMER CT-MVS.21S, 2C/O, 24-240VAC/DC	1SVR730020R0200		L	2 280,00
4187931	TIMER CT-MVS.21P, 2C/O, 24-240VAC/DC	1SVR740020R0200			2 360,00
4187932	TIMER CT-MVS.22S, 2C/O, 24-48VDC, 24-240VAC	1SVR730020R3300			1 980,00
4187933	TIMER CT-MVS.22P, 2C/O, 24-48VDC, 24-240VAC	1SVR740020R3300			2 040,00
4187934	TIMER CT-MVS.23S, 2C/O, 380-440VAC	1SVR730021R2300			2 200,00
4187935	TIMER CT-MVS.23P, 2C/O, 380-440VAC	1SVR740021R2300			2 270,00
4187936	TIMER CT-MVS.12S, 1C/O, 24-48VDC, 24-240VAC	1SVR730020R3100			1 770,00
4187937	TIMER CT-MVS.12P, 1C/O, 24-48VDC, 24-240VAC	1SVR740020R3100			1 830,00
4187938	TIMER CT-MFS.21S, 2C/O, 24-240VAC/DC	1SVR730010R0200		L	2 280,00
4187939	TIMER CT-MFS.21P, 2C/O, 24-240VAC/DC	1SVR740010R0200			2 360,00
4187940	TIMER CT-MBS.22S, 2C/O, 24-48V DC, 24-240V AC	1SVR730010R3200			1 980,00
4187941	TIMER CT-MBS.22P, 2C/O, 24-48V DC, 24-240V AC	1SVR740010R3200			2 040,00
4187942	TIMER CT-WBS.22S, IMP/BLINK, 2C/O, 24-48VDC, 24-240VAC	1SVR730040R3300			1 480,00
4187943	TIMER CT-WBS.22P, IMP/BLINK, 2C/O, 24-48VDC, 24-240VAC	1SVR740040R3300			1 520,00
CT-MXS.22, multifunksjon, 2x (0,05s-300t), 24-48VDC, 24-240VAC					
4187944	TIMER CT-MXS.22S, 2C/O, 2 SEPARATE TIMERE	1SVR730030R3300			2 280,00
4187945	TIMER CT-MXS.22P, 2C/O, 2 SEPARATE TIMERE	1SVR740030R3300			2 360,00
CT-ERS, forsinket PÅ, 2-led, 0,05s-300t, CT-ERS.21 og CT-APS.21 har nedre temperaturgrense på -40 °C Anbefales til YD-timer for AF-kontaktorer (2 c/o utgaven)					
4187946	TIMER CT-ERS.21S, 2C/O, 24-240V AC/DC	1SVR730100R0300		L	1 620,00
4187947	TIMER CT-ERS.21P, 2C/O, 24-240V AC/DC	1SVR740100R0300			1 670,00
4187948	TIMER CT-ERS.22S, 2C/O, 24-48VDC, 24-240VAC	1SVR730100R3300		L	1 400,00
4187949	TIMER CT-ERS.22P, 2C/O, 24-48VDC, 24-240VAC	1SVR740100R3300			1 440,00
4187950	TIMER CT-ERS.12S, 1C/O, 24-48VDC, 24-240VAC	1SVR730100R3100			1 200,00
4187951	TIMER CT-ERS.12P, 1C/O, 24-48VDC, 24-240VAC	1SVR740100R3100			1 230,00
Timer CT-APS forsinket AV, 2-led, 0,05s-300t					
4187952	TIMER CT-APS.21S, 2C/O, 24-240V AC/DC	1SVR730180R0300			1 820,00
4187953	TIMER CT-APS.21P, 2C/O, 24-240V AC/DC	1SVR740180R0300			1 880,00
4187954	TIMER CT-APS.22S, 2C/O, 24-48VDC, 24-240VAC	1SVR730180R3300			1 620,00
4187955	TIMER CT-APS.22P, 2C/O, 24-48VDC, 24-240VAC	1SVR740180R3300			1 670,00
4187956	TIMER CT-APS.12S, 1C/O, 24-48VDC, 24-240VAC	1SVR730180R3100			1 450,00
4187957	TIMER CT-APS.12P, 1C/O, 24-48VDC, 24-240VAC	1SVR740180R3100			1 500,00
Timer CT-AHS, forsinket AV, 2-led, 0,05s-300t, potensialfrie kontakter					
4187958	TIMER CT-AHS.22S, 2C/O, 24-48VDC, 24-240VAC	1SVR730110R3300			1 620,00
4187959	TIMER CT-AHS.22P, 2C/O, 24-48VDC, 24-240VAC	1SVR740110R3300			1 670,00
CT-ARS, sann forsinket AV uten hj.sp, 0,05s-10m, 24-240VAC/DC, NB - trenger ikke hjelpespenning For AF-kontaktorer: Anbefales som alternativ til TEF4					
4187960	TIMER CT-ARS.11S, 1C/O	1SVR730120R3100			1 980,00
4187961	TIMER CT-ARS.11P, 1C/O	1SVR740120R3100			2 040,00
4187962	TIMER CT-ARS.21S, 2C/O	1SVR730120R3300			2 320,00
4187963	TIMER CT-ARS.21P, 2C/O	1SVR740120R3300			2 390,00

EPR - Elektroniske produkter og reléer
Timere CT-S og CT-D serien

CT-SDS.23P

CT-IRS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
CT-VBS, forsinket AV, for DC-spoler uten hj.sp, skrutilkobling					
4187600	CT-VBS 110-127V	1SVR430261R6000			1 310,00
4187601	CT-VBS 200-240V	1SVR430261R5000			1 310,00
CT-SDS.22, Stjerne/trekant-timer , 0,05s-10min, 50ms»dwelling time», 2 n/o, 3-led NB - ikke bruk til AF-kontaktorer, se andre anbefalinger					
4187964	TIMER CT-SDS.22S, 24V-48VDC, 24-240VAC	1SVR730210R3300			1 360,00
4187965	TIMER CT-SDS.22P, 24V-48VDC, 24-240VAC	1SVR740210R3300			1 400,00
4187966	TIMER CT-SDS.23S, 380-440VAC	1SVR730211R2300			1 580,00
4187967	TIMER CT-SDS.23P, 380-440VAC	1SVR740211R2300			1 620,00
CT-IRS, vekselreléer (uten timerfunksjon), skrutilkobling					
4187616	VEKSELRELÉ CT-IRS, 1C/O, 24VAC/DC	1SVR430220R9100			830,00
4187618	VEKSELRELÉ CT-IRS, 1C/O, 110-240VAC	1SVR430221R7100			880,00
4187619	VEKSELRELÉ CT-IRS, 2C/O, 24VAC/DC	1SVR430220R9300			974,00
4187621	VEKSELRELÉ CT-IRS, 2C/O, 110-240VAC	1SVR430221R7300			1 070,00
4187622	VEKSELRELÉ CT-IRS, 2C/O, 24V AC/DC GULL-KONTAKTER	1SVR430230R9300			1 660,00
4187623	VEKSELRELÉ CT-IRS, 2C/C, 110-240V AC GULL-KONTAKTER	1SVR430231R7300			1 660,00
4187624	VEKSELRELÉ CT-IRS, 3C/O, 24VAC/DC	1SVR430220R9400			1 170,00
4187626	VEKSELRELÉ CT-IRS, 3C/O, 220-240VAC	1SVR430221R1400			1 170,00

CT-D serien (DIN-modulær utførelse)

CT-MFD, mulitifunksjon , 0,05s-100t, 2-led					
4364060	TIMER CT-MFD.12, MULTI-F. 1C/O, 24-48VDC, 24-240VAC	1SVR500020R0000		L	2 100,00
4187691	TIMER CT-MFD.21, MULTI-F, 2C/O, 12-240VAC/DC	1SVR500020R1100		L	2 480,00
CT-ERD, forsinket PÅ, 0,05s-100t, 2-led, 24-48VDC, 24-240VAC					
4364061	TIMER CT-ERD.12, FORS. PÅ, 1C/O	1SVR500100R0000		L	1 360,00
4187692	TIMER CT-ERD.22, FORS. PÅ, 2C/O	1SVR500100R0100			1 560,00
CT-AHD, forsinket AV, 0,05s-100t, 2-led, 24-48VDC, 24-240VAC					
4187693	TIMER CT-AHD.22, FORS. AV, 2C/O	1SVR500110R0100			1 560,00
4364062	TIMER CT-AHD.12, FORS. AV, 1C/O	1SVR500110R0000		L	1 360,00
Div timere: styrespenning: 24-48VDC / 24-240VAC, 0,05s-100t					
4364064	TIMER CT-VWD, IMP PÅ, 1C/O	1SVR500130R0000			1 360,00
4364063	TIMER CT-EBD, BLINKER, STARTER PÅ, 1C/O	1SVR500150R0000			1 360,00
4187690	TIMER CT-TGD-12, PULSGEN, 1C/O 2 SEP TIMERE	1SVR500160R0000			1 540,00
4187694	TIMER CT-TGD.22, PULSGEN, 2 C/O, 2 SEP TIMERE	1SVR500160R0100			1 810,00
CT-SDD.22, YD-timer, 24-48VDC, 24-240VAC, 0,05s-10m, 2LED NB - ikke bruk CT-SDD, og CT-SAD, til AF-kontaktorer, se andre anbefalinger					
4187695	TIMER CT-SDD.22, "YD", 2 N/O, 50MS FAST	1SVR500211R0100			1 470,00
4187696	TIMER CT-SAD.22, "YD", 2 N/O, JUSTERBAR	1SVR500210R0100			1 560,00

EPR - Elektroniske produkter og reléer
Funksjon og utvalgstabell for 3-fas overvåkingsreléer

Justérbar fix Fast verdi	CM-PBE	CM-PBE	CM-PVE	CM-PVE	CM-PFE	CM-PFS	CM-PSS.31	CM-PSS.41	CM-PVS.31	CM-PVS.41	CM-PAS.31	CM-PAS.41	CM-MPS.11	CM-MPS.21	CM-MPS.31	CM-MPS.41	CM-MPS.23	CM-MPS.43	CM-MPN.52	CM-MPN.62	CM-MPN.72
Styrespenning U_s																					
Fase-fase																					
160-300 V AC									■		■				■						
200-500 V AC						■															
208-440 V AC					■																
300-500 V AC										■		■				■		■			
320-460 V AC			■	■																	
350-580 V AC																			■		
380 V AC							■														
380-440 V AC	■	■																			
400 V AC								■													
450-720 V AC																				■	
530-820 V AC																					■
Fase-nautral																					
90-170 V AC													■								
180-280 V AC														■			■				
185-265 V AC			■																		
220-240 V AC	■																				
Frekvensområde																					
50/60 Hz	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■
50/60/400 Hz																	■	■			
Egnet for overvåking av																					
Én-fas hovedspenning [1]	■		■										■	■			■				
Tre-fas hovedspenning	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Overvåkingsfunksjoner																					
Fasebortfall	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Faserekkefølge					■	■	⟲	⟲	⟲	⟲	■	■	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲
Automatisk faserekkefølgekorrigering																	⟲	⟲	⟲	⟲	⟲
Overspenning			■	■			■	■	■	■			■	■	■	■	■	■	■	■	■
Underspenning			■	■			■	■	■	■			■	■	■	■	■	■	■	■	■
Faseubalanse											■	■	■	■	■	■	■	■	■	■	■
Nøytral-overvåking [2]	■		■										■ [3]	■ [3]			■ [3]				
Justérbar grenseverdi																					
Justérbar grenseverdi	fix	fix	fix	fix	fix	fix	fix	fix	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲
Timer-funksjon Av - På forsinket																					
På forsinket						fix					⟲	⟲									
På og Av forsinket	fix	fix	fix	fix	fix																
På eller Av forsinket (⟲)							⟲	⟲	⟲	⟲			⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲	⟲
Signalkontakter																					
NO kontakt	1	1	1	1																	
NC kontakt					1	2	2	2	2	2	2	2	2	2	2	2	2 [4]	2 [4]	2 [4]	2 [4]	2 [4]
Statusinformasjon																					
LED(antall)	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Konverteringstabell gammel-ny utgave																					
CM-PSS (1SVR 430 784 R2300)							■														
CM-PSS (1SVR 430 784 R3300)								■													
CM-PVS (1SVR 430 794 R1300)									■												
CM-PVS (1SVR 430 794 R3300)										■											
CM-PAS (1SVR 430 774 R1300)											■										
CM-PAS (1SVR 430 774 R3300)												■									
CM-MPS (1SVR 430 885 R1300)													■								
CM-MPS (1SVR 430 885 R3300)														■							
CM-MPS (1SVR 430 884 R1300)															■						
CM-MPS (1SVR 430 884 R3300)																■					

[1] Utgaver med nøytralovervåking er også egnet for én-fas overvåking, f.eks styrekretser. I så fall må de tre klemmene (L1, L2 og L3) sammenkobles. Evt faserekkefølgefunksjon må de-aktiviseres, og grenseverdi settes til max (25%).

[2] Spenning mellom faseleder og nøytral blir målt.

[3] Overvåker brudd på nøytralleder.

[4] Funksjon med én dobbel (1x2) c/o- eller to enkle (2x1) c/o-kontakter kan velges (2x1 c/o er kun mulig med over og under-spenningsovervåking, og er obligatorisk for automatisk faserekkefølge korrigering).

EPR - Elektroniske produkter og reléer
1-fas strømovervåkere

CM-SRS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
	Strømovervåking 1-fas				
	Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)				
	Over- eller under-strømsovervåking i én-fas AC og DC anlegg				
	SRS.11 og 12 er uten utløserforsinkelse, SRS.21 og 22 har 0 eller 0,1-30s				
	SRS.11 og 21 har måleomr. 3mA-1A, SRS.12 og 22 har måleomr. 0,3-15A				
4188046	STRØMOVERV.RELÉ. CM-SRS.11S, 1C/O, 24-240VAC/DC	1SVR730840R0200			2 990,00
4188047	STRØMOVERV.RELÉ. CM-SRS.11P, 1C/O, 24-240VAC/DC	1SVR740840R0200			3 070,00
4188048	STRØMOVERV.RELÉ. CM-SRS.11S, 1C/O, 110-130VAC	1SVR730841R0200			2 500,00
4188049	STRØMOVERV.RELÉ. CM-SRS.11P, 1C/O, 110-130VAC	1SVR740841R0200			2 580,00
4188050	STRØMOVERV.RELÉ. CM-SRS.11S, 1C/O, 220-240VAC	1SVR730841R1200			2 500,00
4188051	STRØMOVERV.RELÉ. CM-SRS.11P, 1C/O, 220-240VAC	1SVR740841R1200			2 580,00
4188052	STRØMOVERV.RELÉ. CM-SRS.12S, 1C/O, 24-240VAC/DC	1SVR730840R0300			2 990,00
4188054	STRØMOVERV.RELÉ. CM-SRS.12S, 1C/O, 110-130VAC	1SVR730841R0300			2 500,00
4188056	STRØMOVERV.RELÉ. CM-SRS.12S, 1C/O, 220-240VAC	1SVR730841R1300			2 500,00
4188058	STRØMOVERV.RELÉ. CM-SRS.21S, 2C/O, 24-240VAC/DC	1SVR730840R0400			3 240,00
4188059	STRØMOVERV.RELÉ. CM-SRS.21P, 2C/O, 24-240VAC/DC	1SVR740840R0400			3 340,00
4188060	STRØMOVERV.RELÉ. CM-SRS.21S, 2C/O, 110-130VAC	1SVR730841R0400			2 770,00
4188061	STRØMOVERV.RELÉ. CM-SRS.21P, 2C/O, 110-130VAC	1SVR740841R0400			2 870,00
4188062	STRØMOVERV.RELÉ. CM-SRS.21S, 2C/O, 220-240VAC	1SVR730841R1400			2 770,00
4188063	STRØMOVERV.RELÉ. CM-SRS.21P, 2C/O, 220-240VAC	1SVR740841R1400			2 870,00
4188064	STRØMOVERV.RELÉ. CM-SRS.22S, 2C/O, 24-240VAC/DC	1SVR730840R0500			3 240,00
4188066	STRØMOVERV.RELÉ. CM-SRS.22S, 2C/O, 110-130VAC	1SVR730841R0500			2 770,00
4188068	STRØMOVERV.RELÉ. CM-SRS.22S, 2C/O, 220-240VAC	1SVR730841R1500			2 770,00
	Samme som over men med oppstartsforsinkelse og valgbar låsefunksjon				
	SRS.MI=3mA-1A, SRS.M2=0,3-15A				
4188070	STRØMOVERV.RELÉ. CM-SRS.M1S, 2C/O, 24-240VAC/DC	1SVR730840R0600			3 510,00
4188071	STRØMOVERV.RELÉ. CM-SRS.M1P, 2C/O, 24-240VAC/DC	1SVR740840R0600			3 630,00
4188072	STRØMOVERV.RELÉ. CM-SRS.M2S, 2C/O, 24-240VAC/DC	1SVR730840R0700			3 510,00

CM-SFS

	Strømvindu-overvåker				
	Samme som over med med både under- og overstrømsovervåking				
	SFS.21=3mA-1A, SFS.22=0,3-15A				
4188074	STRØMOVERV.RELÉ. CM-SFS.21S, 2C/O, 24-240VAC/DC	1SVR730760R0400			3 510,00
4188075	STRØMOVERV.RELÉ. CM-SFS.21P, 2C/O, 24-240VAC/DC	1SVR740760R0400			3 630,00
4188076	STRØMOVERV.RELÉ. CM-SFS.22S, 2C/O, 24-240VAC/DC	1SVR730760R0500			3 510,00

EPR - Elektroniske produkter og reléer
1-fas spenningsovervåkere

CM-ESS

CM-EFS

CM-PSS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Spenningsovervåking 1-fas					
Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)					
Måleområde: 3-600V AC/DC 1-fas					
Uten utløserforsinkelse					
4188078	SP.OVERV.RELÉ CM-ESS.1S, 1C/O, 24-240VAC/DC	1SVR730830R0300			2 990,00
4188079	SP.OVERV.RELÉ CM-ESS.1P, 1C/O, 24-240VAC/DC	1SVR740830R0300			3 070,00
4188080	SP.OVERV.RELÉ CM-ESS.1S, 1C/O, 110-130VAC	1SVR730831R0300			2 500,00
4188081	SP.OVERV.RELÉ CM-ESS.1P, 1C/O, 110-130VAC	1SVR740831R0300			2 580,00
4188082	SP.OVERV.RELÉ CM-ESS.1S, 1C/O, 220-240 AC	1SVR730831R1300			2 500,00
4188083	SP.OVERV.RELÉ CM-ESS.1P, 1C/O, 220-240 AC	1SVR740831R1300			2 580,00
Med justerbar utløserforsinkelse, 0 eller 0,1-30s					
4188084	SP.OVERV.RELÉ CM-ESS.2S, 2C/O, 24-240V AC/DC	1SVR730830R0400		L	3 240,00
4188085	SP.OVERV.RELÉ CM-ESS.2P, 2C/O, 24-240V AC/DC	1SVR740830R0400			3 340,00
4188086	SP.OVERV.RELÉ CM-ESS.2S, 2C/O, 110-130VAC	1SVR730831R0400			2 770,00
4188087	SP.OVERV.RELÉ CM-ESS.2P, 2C/O, 110-130VAC	1SVR740831R0400			2 870,00
4188088	SP.OVERV.RELÉ CM-ESS.2S, 2C/O, 220-240VAC	1SVR730831R1400			2 770,00
4188089	SP.OVERV.RELÉ CM-ESS.2P, 2C/O, 220-240VAC	1SVR740831R1400			2 870,00
Samme som over men med valgbar låsefunksjon					
4188090	SP.OVERV.RELÉ CM-ESS.MS, 2C/O, 24-240VAC/DC	1SVR730830R0500			3 510,00
4188091	SP.OVERV.RELÉ CM-ESS.MP, 2C/O, 24-240VAC/DC	1SVR740830R0500			3 630,00
Spenningsvindu-overvåker					
Samme som over med med både under- og overstrømsovervåking					
4188092	SP.OVERV.RELÉ CM-EFS.2S, 2C/O, 24-240VAC/DC	1SVR730750R0400			3 510,00
4188093	SP.OVERV.RELÉ CM-EFS.2P, 2C/O, 24-240VAC/DC	1SVR740750R0400			3 630,00
3-fas overvåkere					
Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)					
Bortfall av fase (Umålt<60% av Un), 3x380-440V / 220-240Ve					
4187168	CM-PBE, FASEBORTF. MED N-OVERV	1SVR550881R9400			1 200,00
4187169	CM-PBE, FASEBORTF. UTEN N-OVERV	1SVR550882R9500			1 200,00
Fase-rekkefølge og -bortfall-overvåking. Ny S og P-versjon er klar fra Q3/Q4-2012					
4187172	CM-PFE, 3-FAS OVERVÅKN.RELÉ, 3X208-440V 1 C/O	1SVR550824R9100		L	1 300,00
	CM-PFS, 3-FAS OVERVÅKN.RELÉ, 3X200-500V 2 C/O	1SVR430824R9300			1 610,00
4188094	CM-PFS.S 3-FAS OVERVÅKN.RELÉ 3X200-500V 2 C/O	1SVR730824R9300		L	
4188095	CM-PFS.P 3-FAS OVERVÅKN.RELÉ 3X200-500V 2 C/O	1SVR740824R9300			1 510,00
Fase- over og under-spenning, samt bortfall, 3x320-460V, 185-265V					
4187170	CM-PVE,FASE OVER OG UNDER.SP MED N-OVERV	1SVR550870R9400			
4187171	CM-PVE,FASE OVER OG UNDER.SP UTEN N-OVERV	1SVR550871R9500			1 300,00
Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)					
CM-MPS.11, CM-MPS.21 og CM-MPS.23 kan også brukes på 1-fas					
Fase-rekkefølge, -bortfall, under- og over-spenning med fast grenseverdi					
2 c/o, 0,1-30s, L1-L2-L3=3x380VAC					
4188096	CM-PSS.31S 3-FAS OVERVÅKN.RELÉ	1SVR730784R2300			2 770,00
4188097	CM-PSS.31P 3-FAS OVERVÅKN.RELÉ	1SVR740784R2300			2 870,00
Fase-rekkefølge, -bortfall, under- og over-spenning med justérbar grenseverdi					
2 c/o, 0,1-30s, L1-L2-L3=3x160-300VAC					
4188098	CM-PSS.41S 3-FAS OVERVÅKN.RELÉ	1SVR730784R3300			2 770,00
4188099	CM-PSS.41P 3-FAS OVERVÅKN.RELÉ	1SVR740784R3300			2 870,00

EPR - Elektroniske produkter og reléer
3-fas overvåkere

CM-PVS

CM-PAS

CM-MPS

CM-MPN

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
2 c/o, 0,1-30s, L1-L2-L3=3x160-300VAC					
4188153	CM-PVS.31S 3-FAS OVERVÅKN.RELÉ, 160-300V	1SVR730794R1300			3 480,00
4188154	CM-PVS.31P 3-FAS OVERVÅKN.RELÉ, 160-300V	1SVR740794R1300			3 570,00
2 c/o, 0,1-30s, L1-L2-L3=3x300-500VAC					
4188155	CM-PVS.41S 3-FAS OVERVÅKN.RELÉ, 300-500V	1SVR730794R3300		L	3 480,00
4188156	CM-PVS.41P 3-FAS OVERVÅKN.RELÉ, 300-500V	1SVR740794R3300			3 570,00
Fase-rekkefølge, -bortfall, under- og over-spenning med justérbar grenseverdi 2 c/o, 0,1-30s, L1-L2-L3=3x200-400VAC					
4188157	CM-PVS.81S 3-FAS OVERVÅKN.RELÉ, 200-400V	1SVR730794R2300			3 470,00
4188158	CM-PVS.81P 3-FAS OVERVÅKN.RELÉ, 200-400V	1SVR740794R2300			3 570,00
Fase-rekkefølge, -bortfall, -ubalanse med justerbar grenseverdi 2 c/o, 0,1-30s, L1-L2-L3=3x160-300VAC					
4188159	CM-PAS.31S 3-FAS OVERVÅKN.RELÉ, 160-300V	1SVR730774R1300			3 290,00
4188160	CM-PAS.31P 3-FAS OVERVÅKN.RELÉ, 160-300V	1SVR740774R1300			3 400,00
2 c/o, 0,1-30s, L1-L2-L3=3x300-500VAC					
4188161	CM-PAS.41S 3-FAS OVERVÅKN.RELÉ, 300-500V	1SVR730774R3300			3 290,00
4188162	CM-PAS.41P 3-FAS OVERVÅKN.RELÉ, 300-500V	1SVR740774R3300			3 400,00
Fase-rekkefølge og -bortfall. Under og overspenning + ubalanse m.justérbar grenseverdi 2 c/o, 0,1-30s, L1-L2-L3-N=3x90-170VAC					
4188130	CM-MPS.11S 3-FAS OVERVÅKN.RELÉ	1SVR730885R1300			3 720,00
4188131	CM-MPS.11P 3-FAS OVERVÅKN.RELÉ	1SVR740885R1300			3 810,00
2 c/o, 0,1-30s, L1-L2-L3-N=3x180-280VAC					
4188132	CM-MPS.21S 3-FAS OVERVÅKN.RELÉ	1SVR730885R3300			3 720,00
4188133	CM-MPS.21P 3-FAS OVERVÅKN.RELÉ	1SVR740885R3300			3 810,00
2 c/o, 0,1-30s, L1-L2-L3=3x160-300VAC					
4188134	CM-MPS.31S 3-FAS OVERVÅKN.RELÉ	1SVR730884R1300			3 540,00
4188135	CM-MPS.31P 3-FAS OVERVÅKN.RELÉ	1SVR740884R1300			3 640,00
2 c/o, 0,1-30s, L1-L2-L3=3x300-500VAC					
4188136	CM-MPS.41S 3-FAS OVERVÅKN.RELÉ	1SVR730884R3300			3 540,00
4188137	CM-MPS.41P 3-FAS OVERVÅKN.RELÉ	1SVR740884R3300			3 640,00
Fase-rekkefølge og -bortfall. Under og overspenning + ubalanse m.justérbar grenseverdi. Automatisk faserekkefølge-korrigering. 2 c/o, 0,0.1-30s, L1-L2-L3-N=3x180-280VAC					
4188138	CM-MPS.23S 3-FAS OVERVÅKN.RELÉ	1SVR730885R4300			4 380,00
4188139	CM-MPS.23P 3-FAS OVERVÅKN.RELÉ	1SVR740885R4300			4 500,00
2 C/O, 0,1-30S, L1-L2-L3=3x300-500VAC					
4188140	CM-MPS.43S 3-FAS OVERVÅKN.RELÉ	1SVR730884R4300			4 220,00
4188141	CM-MPS.43P 3-FAS OVERVÅKN.RELÉ	1SVR740884R4300			4 340,00
2 C/O, 0,1-30S, L1-L2-L3=3x350-580VAC					
4188142	CM-MPN.52S 3-FAS OVERVÅKN.RELÉ	1SVR750487R8300			4 800,00
4188143	CM-MPN.52P 3-FAS OVERVÅKN.RELÉ	1SVR760487R8300			4 950,00
2 C/O, 0,1-30S, L1-L2-L3=3x450-720VAC					
4188144	CM-MPN.62S 3-FAS OVERVÅKN.RELÉ	1SVR750488R8300			4 800,00
4188145	CM-MPN.62P 3-FAS OVERVÅKN.RELÉ	1SVR760488R8300			4 950,00
2 C/O, 0,1-30S, L1-L2-L3=3x530-820VAC					
4188146	CM-MPN.72S 3-FAS OVERVÅKN.RELÉ	1SVR750489R8300			4 800,00
4188147	CM-MPN.72P 3-FAS OVERVÅKN.RELÉ	1SVR760489R8300			4 950,00

EPR - Elektroniske produkter og reléer
Isolasjon- og motorlast-overvåkere. Termistorreléer

CM-IWS

CM-IWN

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
Isolasjon- og jordfeil-overvåkningsreléer						
Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)						
Funksjon:						
IWS1 og IWN1: Isolasjonstilstanden overvåkes av et pulserende målesignal. Kobles til L1+L2+PE.						
IWS2: Isolasjonstilstanden overvåkes av et DC-målesignal. Kobles til L og PE.						
CM-IWS						
1-100 kΩ, maks 10 µF, styrespenning 24-240V AC/DC						
Nettspenning 0-400V AC 50/60Hz - NB - ikke til nett der DC-komponenter kan opptre						
4187800	ISOLASJONSVOVERVÅKER 0-400V AC	CM-IWS.2S	1SVR730670R0200		L	3 550,00
4187804	ISOLASJONSVOVERVÅKER 0-400V AC	CM-IWS.2P	1SVR740670R0200			3 660,00
Nettspenning 0-250V AC / 0-300V DC						
4187801	ISOLASJONSVOVERVÅKER 0-250V AC/0-300V DC	CM-IWS.1S	1SVR730660R0100		L	4 530,00
4187805	ISOLASJONSVOVERVÅKER 0-250V AC/0-300V DC	CM-IWS.1P	1SVR740660R0100			4 710,00
CM-IWN.1						
2-200 kΩ, maks 20 µF, styrespenning 24-240V AC/DC						
4187802	ISOLASJONSOVERVÅKER 0-400V AC/0-600V DC	CM-IWN.1S	1SVR750660R0200			10 060,00
4187806	ISOLASJONSOVERVÅKER 0-400V AC/0-600V DC	CM-IWN.1P	1SVR760660R0200			10 370,00
CM-IVN - Utvidelsesmodul for CM-IWN.1 for høyere nettspenning.						
2-200 kΩ, maks 20 µF, passiv - trenger ikke styrespenning.						
4187803	UTVIDELSESMODUL 0-690V AC/0-1000V DC	CM-IVN.S	1SVR750669R9400			5 340,00
4187807	UTVIDELSESMODUL 0-690V AC/0-1000V DC	CM-IVN.P	1SVR760669R9400			5 540,00
Motorlast overvåkingsreléer						
Strømområder 0,5-5A						
4187224	LASTOVERV. CM-LWN, 24-240VAC/DC		1SVR450335R0000			4 090,00
4187225	LASTOVERV. CM-LWN, 110-130VAC		1SVR450330R0000			3 530,00
4187226	LASTOVERV. CM-LWN, 220-240VAC		1SVR450331R0000			3 530,00
4187227	LASTOVERV. CM-LWN, 380-440VAC		1SVR450332R0000			3 530,00
4187228	LASTOVERV. CM-LWN, 480-500VAC		1SVR450334R0000			3 530,00
Strømområder 2-20A						
4187229	LASTOVERV. CM-LWN, 24-240VAC/DC		1SVR450335R0100			4 300,00
4187230	LASTOVERV. CM-LWN, 110-130VAC		1SVR450330R0100			3 800,00
4187231	LASTOVERV. CM-LWN, 220-240VAC		1SVR450331R0100			3 800,00
4187232	LASTOVERV. CM-LWN, 380-440VAC		1SVR450332R0100			3 800,00
4187233	LASTOVERV. CM-LWN, 480-500VAC		1SVR450334R0100			3 800,00
Termistorreléer						
CM-MSE						
Med 1NO, bimetallovervåking, auto reset						
4185876	OVERV.R CM-MSE, TERM. M. BESK, 24V AC		1SVR550805R9300			1 030,00
4185877	OVERV.R CM-MSE, TERM. M. BESK, 110-130V AC		1SVR550800R9300			1 030,00
4185878	OVERV.R CM-MSE, TERM. M. BESK, 220-240V AC		1SVR550801R9300			1 030,00

CM-MSE

EPR - Elektroniske produkter og reléer
Termistorreléer

CM-MSS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
CM-MSS **Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)** **Med 1 vekselkontakt, 2 LED, bimetallovervåking, auto reset**					
4185879	CM-MSS.12S. 24V AC/DC	1SVR730700R0100			1 100,00
	CM-MSS.12P. 24V AC/DC	1SVR740700R0100			1 100,00
4185880	CM-MSS.13S 110-130V/220-240V AC	1SVR730700R2100			1 110,00
	CM-MSS.13P 110-130V/220-240V AC	1SVR740700R2100			1 110,00
Med 2 vekselkontakter, 2 LED, auto / manuell reset (lokal/fjern)					
4185881	CM-MSS.22S 24V AC/DC	1SVR730700R0200			1 200,00
	CM-MSS.22P 24V AC/DC	1SVR740700R0200			1 200,00
4185884	CM-MSS.23S 110-130V/220-240V AC	1SVR730700R2200			1 200,00
	CM-MSS.23P 110-130V/220-240V AC	1SVR740700R2200			1 200,00
Med 1NO+1NC, 3-LED, auto-reset, brudddeteksjon, statisk minne, ATEX					
	CM-MSS.11S, 24-240V AC/DC	1SVR730720R1400			1 780,00
	CM-MSS.11P, 24-240V AC/DC	1SVR740720R1400			1 780,00
	CM-MSS.21S, 24-240V AC/DC, MED K.SL OVERV.	1SVR730722R1400			1 840,00
	CM-MSS.21P, 24-240V AC/DC, MED K.SL OVERV.	1SVR740722R1400			1 840,00
Med 2 c/o, 3-LED, test-funksjon, auto, manuell eller fjern-reset, brudd og kortslutningsdeteksjon, statisk minne, ATEX					
4185885	CM-MSS.32S 24V AC/DC	1SVR730712R0200			1 360,00
	CM-MSS.32P 24V AC/DC	1SVR740712R0200			1 360,00
4185887	CM-MSS.33S 110-130V/220-240V AC	1SVR730712R2200		L	1 260,00
	CM-MSS.33P 110-130V/220-240V AC	1SVR740712R2200			1 260,00
Med 3-LED, test-funksjon, auto, manuell eller fjern-reset, brudd og kortslutningsdeteksjon, statisk minne, 24-240V AC/DC, ATEX					
4185873	CM-MSS.31S 2C/O	1SVR730712R1400		L	2 100,00
	CM-MSS.31P 2C/O	1SVR740712R1400			2 100,00
	CM-MSS.41S 2C/O	1SVR730712R1200			2 230,00
	CM-MSS.41P 2C/O	1SVR740712R1200			2 230,00
For 2 sensorer, med 3-LED, test-funksjon, auto, manuell eller fjern-reset, brudd og kortslutningsdeteksjon, akkumulativ, statisk minne, 24-240V AC/DC, ATEX					
4185874	CM-MSS.51S 2X1C/O	1SVR730712R1300			2 840,00
	CM-MSS.51P 2X1C/O	1SVR740712R1300			2 840,00

EPR - Elektroniske produkter og reléer
Temperaturovervåkere

CM-TCS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Temperaturovervåkere					
Leveres i to utgaver: Skruklemmer (S) og innstikklemmer (P)					
Temperaturovervåkere med valgfri under- og overtemperatur, samt temperaturvindu funksjon					
For PT100, 2- eller 3-leder sensorer, 2x1 c/o eller 1x2 c/o konfigurerbar					
24-240V AC/DC					
4187808	TEMPERATUROVERVÅKER CM-TCS.11S, -50...+50°C	1SVR730740R0100			3 790,00
	TEMPERATUROVERVÅKER CM-TCS.11P, -50...+50°C	1SVR740740R0100			3 910,00
4187809	TEMPERATUROVERVÅKER CM-TCS.12S, 0...+100°C	1SVR730740R0200			3 790,00
	TEMPERATUROVERVÅKER CM-TCS.12P, 0...+100°C	1SVR740740R0200			3 910,00
4187810	TEMPERATUROVERVÅKER CM-TCS.13S, 0...+200°C	1SVR730740R0300			3 790,00
	TEMPERATUROVERVÅKER CM-TCS.13P, 0...+200°C	1SVR740740R0300			3 910,00
24V AC/DC					
4187811	TEMPERATUROVERVÅKER CM-TCS.21S, -50...+50°C	1SVR730740R9100			3 110,00
	TEMPERATUROVERVÅKER CM-TCS.21P, -50...+50°C	1SVR740740R9100			3 210,00
4187812	TEMPERATUROVERVÅKER CM-TCS.22S, 0...+100°C	1SVR730740R9200			3 110,00
	TEMPERATUROVERVÅKER CM-TCS.22P, 0...+100°C	1SVR740740R9200			3 210,00
4187813	TEMPERATUROVERVÅKER CM-TCS.23S, 0...+200°C	1SVR730740R9300			3 110,00
	TEMPERATUROVERVÅKER CM-TCS.23P, 0...+200°C	1SVR740740R9300			3 210,00
Digital visning, under-/overtemperatur, måleomr: -50..+500 °C, 1NO+2 C/O, 3 LED					
PT100/1000, KTY83/84, NTC-B57227-K333-A1					
1 sensorkrets					
4187259	TEMP. MON. C512-24 24VAC/DC	1SAR700100R0005			5 910,00
4187260	TEMP. MON. C512-W 24-240VAC/DC	1SAR700100R0010			6 320,00
1-3 sensorer					
4187261	TEMP. MON. C513W 24-240V AC/DC	1SAR700110R0010		L	8 820,00
Avtagbart dekselmerke for digitale enheter					
4187262	TEMP. MON. C512-TYSK	1SAR700101R0100			237,00
4187263	TEMP. MON. C512-ENGELSK	1SAR700102R0100			242,00
4187264	TEMP. MON. C513-TYSK	1SAR700111R0100			242,00
4187265	TEMP. MON. C513-ENGELSK	1SAR700112R0100			242,00
Sensorer (for motorspenning opptil 660V AC)					
4185931	C011 TEMP. FØLER 70°C WH/BR	GHC0110003R0001			373,00
4185932	C011 TEMP. FØLER 80°C WH/WH	GHC0110003R0002			373,00
	C011 TEMP. FØLER 90°C GN/GN	GHC0110003R0003			373,00
4185913	C011 TEMP. FØLER 100°C RD/RD	GHC0110003R0004			373,00
4185914	C011 TEMP. FØLER 100°C BR/BR	GHC0110003R0005			373,00
4185915	C011 TEMP. FØLER 120°C GR/GR	GHC0110003R0006			373,00
4185916	C011 TEMP. FØLER 130°C BL/BL	GHC0110003R0007			373,00
4185917	C011 TEMP. FØLER 140°C WH/BL	GHC0110003R0011			373,00
4185918	C011 TEMP. FØLER 150°C BK/BK	GHC0110003R0008			373,00
4185919	C011 TEMP. FØLER 160°C BL/RD	GHC0110003R0009			373,00
4185930	C011 TEMP. FØLER 170°C WH/GN	GHC0110003R0010			373,00
	TEMP. FØLER C 011-3-150 150°C TRIPPEL	GHC0110033R0008			267,00

C512, C513

For sikkerhetsprodukter sikkerhetsreléer, lysporter, grinder osv. har vi nytt sortiment; ABB Jokab Safety.
For mer informasjon se teknisk katalog; 2TLC172001C0202 eller kontakt kundeservice på 24165400

EPR - Elektroniske produkter og reléer
Væskenivå og kontaktbeskyttelsesreléer

CM-ENE MIN

CM-ENS.1x

CM-ENS.3x

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Væskenivåreléer					
CM-ENE væskenivåovervåker, min eller max, 1 n/o					
4187266	CM-ENE MIN, V. NIV, 24VAC	1SVR550855R9500			1 220,00
4187267	CM-ENE MIN, V. NIV, 110-130VAC	1SVR550850R9500			1 220,00
4187268	CM-ENE MIN, V. NIV, 220-240VAC	1SVR550851R9500			1 220,00
4187269	CM-ENE MAX, V. NIV, 24VAC	1SVR550855R9400			1 220,00
4187270	CM-ENE MAX, V. NIV, 110-130VAC	1SVR550850R9400			1 220,00
4187271	CM-ENE MAX, V. NIV, 220-240VAC	1SVR550851R9400			1 220,00
CM-ENS væskenivåovervåker, tømmefunksjon, og justérbar følsomhet, 1 c/o					
4187272	CM-ENS.11S 24-240V AC/DC	1SVR730850R0100			PPF.
4187273	CM-ENS.13S 110-130 OG 220-240V AC	1SVR730850R2100			PPF.
CM-ENS væskenivåovervåker fylle og tømmefunksjon, og justérbar følsomhet, 1 c/o					
4187277	CM-ENS.21S 24-240V AC/DC	1SVR730850R0200			PPF.
4187278	CM-ENS.23S 110-130 OG 220-240V AC	1SVR730850R2200			PPF.
Væskeniv.overv. m.tidsforsinkelse og justérbar følsomhet, 2 c/o					
4187280	CM-ENS.31S 24-240V AC/DC	1SVR730850R0300			PPF.

Alle CM-ENS væskenivåovervåkere kan også leveres med innstikklemmer. Endre ABB ident-nr. fra 1SVR730.. til 1SVR740..

Elektroder					
4187289	COMPACT SUPPORT CM-KH-3	1SVR450056R6000			2 750,00
4187290	DISTANSE PLATE CM-AH-3	1SVR450056R7000			306,00
4187291	MUTTER CM-GM-1	1SVR450056R8000			306,00
4187292	SCREW-IN BAR ELEC. 300 MM	1SVR450056R0000			256,00
4187293	SCREW-IN BAR ELEC. 600 MM	1SVR450056R0100			284,00
4187294	SCREW-IN BAR ELEC. 1000 MM	1SVR450056R0200			316,00
4187697	DIPPED ELECTRODE	1SVR402902R0000			424,00

CM-KRN

CM-SIS

Kontaktbeskyttelsesreléer					
CM-KRM, kontaktbeskyttelsesrelé, 0,05-30s responsforsinkelse, 2 c/o					
4187296	CM-KRN, KONT. BESK, 24VAC	1SVR450089R0000			2 090,00
4187297	CM-KRN, KONT. BESK, 110-130VAC	1SVR450080R0000			2 090,00
4187298	CM-KRN, KONT. BESK, 220-240VAC	1SVR450081R0000			2 090,00
4187299	CM-KRN, KONT. BESK, 380-415VAC	1SVR450082R0000			2 270,00
4187300	CM-KRN, KONT. BESK, 24VAC	1SVR450099R0000			1 850,00
4187301	CM-KRN, KONT. BESK, 110-130VAC	1SVR450090R0000			1 850,00
CM-SIS, Sensorgr.sn.modul for 2 el. 3 leder NPN el. PNP-sensorer, 2x1 c/o					
4187303	CM-SIS, SENSOR EVAL, 110-240VAC 105-260VDC	1SVR430500R2300			3 750,00

EPR - Elektroniske produkter og reléer
WatchDog/syklusovervåker og strømtransformatorer

CM-WDS

CM-CT

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Syklusovervåker / «WatchDog»					
4187304	OVERV.RELE WATCHDOG CM-WDS 24V DC	1SVR430896R0000			3 990,00
Tilbehør timere og overvåkingsreléer					
Strømtransformatorer, class1					
4187310	STR.TRANSF. CM-CT 50/1, 1VA	1SVR450116R1000			903,00
4187311	STR.TRANSF. CM-CT 75/1, 1,5VA	1SVR450116R1100			903,00
4187312	STR.TRANSF. CM-CT 100/1, 2,5VA	1SVR450116R1200			903,00
4187313	STR.TRANSF. CM-CT 150/1, 2,5VA	1SVR450116R1300			903,00
4187314	STR.TRANSF. CM-CT 200/1, 2,5VA	1SVR450116R1400			903,00
4187315	STR.TRANSF. CM-CT 300/1 5VA	1SVR450117R1100			903,00
4187316	STR.TRANSF. CM-CT 400/1 5VA	1SVR450117R1200			903,00
4187317	STR.TRANSF. CM-CT 500/1 5VA	1SVR450117R1300			903,00
4187318	STR.TRANSF. CM-CT 600/1 5VA	1SVR450117R1400			903,00
4187319	STR.TRANSF. CM-CT 50/5 1VA	1SVR450116R5000			762,00
4187320	STR.TRANSF. CM-CT 75/5 1,5VA	1SVR450116R5100			762,00
4187321	STR.TRANSF. CM-CT 100/5 2,5VA	1SVR450116R5200			732,00
4187322	STR.TRANSF. CM-CT 150/5 2,5VA	1SVR450116R5300			762,00
4187323	STR.TRANSF. CM-CT 200/5 5VA	1SVR450116R5400			762,00
4187324	STR.TRANSF. CM-CT 300/5, 5VA	1SVR450117R5100			762,00
4187325	STR.TRANSF. CM-CT 400/5, 5VA	1SVR450117R5200			762,00
4187326	STR.TRANSF. CM-CT 500/5, 5VA	1SVR450117R5300			762,00
4187327	STR.TRANSF. CM-CT 600/5, 5VA	1SVR450117R5400			762,00

EPR - Elektroniske produkter og reléer
Strømforsyninger

CP-E24/0,75

CP-E24/1,25...2,5

CP-T 24/20

CP-T 24/5

CP-T 24/40

CP-D 24/2,5

CP-D 24/0,42

CP-RUD

CP-S 24/5

CP-S 24/10

CP-C 24/20

CP-C.1 24/5

CP-C.1 24/20

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Kompakte "switch mode" strømforsyninger for DIN-skinne montasje, IP20					
CP-E strømforsyninger					
De som ikke er spesielt merket: 100-240V AC/DC tilførsel					
6609442	CP-E 24/0.75, 24V DC, 0,75A 18W	1SVR427030R0000			795,00
6609443	CP-E 24/1.25, 24V DC, 1,25A 30W	1SVR427031R0000		L	856,00
6609444	CP-E 24/2.5, 24V DC, 2,5A 60W	1SVR427032R0000		L	1 080,00
6609450	CP-E 24/5.0, INN: 115/230, UT: 24VDC, 5A 120W	1SVR427034R0000		L	1 670,00
6609451	CP-E 24/10.0, INN: 115/230, UT: 24VDC, 10A 240W	1SVR427035R0000			2 370,00
6609453	CP-E 24/20.0, INN: 115-230, UT: 24VDC, 20A 480W	1SVR427036R0000			3 210,00
6609445	CP-E 5/3.0, 5V DC, 3,0A 15W	1SVR427033R3000			1 080,00
6609446	CP-E 12/2.5, 12V DC, 2,5A 30W	1SVR427032R1000			1 080,00
6609449	CP-E 12/10.0, INN: 115/230, UT: 12VDC, 10A 120W	1SVR427035R1000			1 860,00
6609447	CP-E 48/0.62, 48V DC, 0,62A 30W	1SVR427030R2000			1 140,00
6609448	CP-E 48/1.25, 48V DC, 1,25A 60W	1SVR427031R2000			1 450,00
6609452	CP-E 48/5.0, INN: 115/230, UT: 48VDC, 5A 240W	1SVR427034R2000			2 850,00
6609454	CP-E 48/10.0, INN: 115-230, UT: 48VDC, 10A 480W	1SVR427035R2000			3 860,00
CP-T Trefas-strømforsyninger					
3X400-500V tilførsel (3 x 340-575 V AC, 480-820 V DC), justérbart DC-uttak					
6609470	CP-T 24/5.0, 24VDC, 5A 120W	1SVR427054R0000			1 860,00
6609471	CP-T 24/10.0, 24VDC, 10A 240W	1SVR427055R0000			2 370,00
6609472	CP-T 24/20.0, 24VDC, 20A 480W	1SVR427056R0000			2 930,00
6609473	CP-T 24/40.0, 24VDC, 40A 960W	1SVR427057R0000			4 730,00
6609474	CP-T 48/5.0, 48VDC, 5A 240W	1SVR427054R2000			2 850,00
6609475	CP-T 48/10.0, 48VDC, 10A 480W	1SVR427055R2000			3 500,00
6609476	CP-T 48/20.0, 48VDC, 20A 960W	1SVR427056R2000			5 680,00
CP-D Strømforsyninger i DIN-modulær utførelse					
6609490	CP-D 12/0.83, SWITCH MODE POWER 12V/0,83A	1SVR427041R1000			1 770,00
6609491	CP-D 12/2.1, SWITCH MODE POWER 12V/2,1A	1SVR427043R1200			2 140,00
6609492	CP-D 24/0.42, SWITCH MODE POWER 24V/0,42A	1SVR427041R0000			1 770,00
6609493	CP-D 24/1.3, SWITCH MODE POWER 24V/1,3A	1SVR427043R0100			2 140,00
6609494	CP-D 24/2.5, SWITCH MODE POWER 24V/2,5A	1SVR427044R0200			2 530,00
6609495	CP-D 24/4.2, SWITCH MODE POWER 24V/4,2A	1SVR427045R0400			3 160,00
Parallellkoblingsmodul, Inn 2x2,5A, Ut 1x5A					
6609435	REDUNDANSENH CP-RUD MAX 5A, FOR CP-E (<5A)	1SVR423418R9000			621,00
CP-C/S Strømforsyninger					
CP-S 24/5.0, INN 110-240V AC					
6609436	CP-S 24/5.0, UT 24V DC/5A	1SVR427014R0000			1 970,00
CP-S 24/10 og CP-S 24/20, INN 110-120/220-240V AC					
6609438	CP-S 24/20.0 UT 24V DC/20A	1SVR427016R0100			5 160,00
6609437	CP-S 24/10.0 UT 24V DC/10A	1SVR427015R0100			2 930,00
CP-C , INN 110-240V AC					
6609439	CP-C 24/5.0 UT 22-28V DC/5A	1SVR427024R0000			2 400,00
6609440	CP-C 24/10.0 UT 22-28V DC/10A	1SVR427025R0000			3 660,00
6609441	CP-C 24/20.0 UT 22-28V DC/20A	1SVR427026R0000			5 680,00
CP-C.1, INN 100-240V / 90-350V DC **Ny avansert strømforsyning som tilfredstiller de strengeste krav, marinegodkjent ila. 2016**					
	CP-C.1 24/5.0 UT:DC 24V/5A	1SVR360563R1001			2 400,00
	CP-C.1 24/10.0 UT:DC 24V/10A	1SVR360663R1001			3 660,00
	CP-C.1 24/20.0 UT:DC 24V/20A	1SVR360763R1001			5 680,00

EPR - Elektroniske produkter og reléer
Tilbehør til strømforsyninger, buffermoduler, analoge signalomformere

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Tilleggsmoduler **Inn>85VAC/90VDC, Ut>20VDC, remote OFF**					
6609460	MELDINGSMOD. CP-C MM FOR CP-C	1SVR427081R0000			1 120,00
Inn: 2x20A, Ut: 1x40A					
6609461	REDUNDANSENH.CP-A RU FOR CP-S/C, CP-E (>5A) OG CP-T	1SVR427071R0000			1 620,00
2x14-28V, 2 reléutganger					
6609462	KONTR.MODUL CP-A CM F/ CP-A RU	1SVR427075R0000			664,00

CP-B, Puffermodul

Buffermoduler

6609480	CP-B 24/3.0 24 V / 3 A, ENERGY STORAGE 1000 WS	1SVR427060R0300			5 510,00
6609481	CP-B 24/10.0 24 V / 10 A, ENERGY STORAGE 10000 WS	1SVR427060R1000			15 710,00
6609482	CP-B 24/20.0 24 V / 20 A, ENERGY STORAGE 8000 WS	1SVR427060R2000			15 710,00
6609483	CP-B EXT.2 UTVIDELSESENH. ENERGY STORAGE 2000 WS	1SVR427065R0000			5 140,00

Analoge standard signalomformere

Styrespenning: 24V DC **Universal: Inn/Ut: 0-5V, 0-10V, 0-20mA, 4-20mA**					
4545202	SIGNAL KONV. CC-E/STD, UNIVERSAL	1SVR011700R0000			2 750,00
Énfunksjon: Inn: 0-10V					
4545210	SIGNAL KONV. CC-E V/V, 0-10V	1SVR011710R2100			2 150,00
4545211	SIGNAL KONV. CC-E V/I, 0-20MA	1SVR011711R1600			2 150,00
4545212	SIGNAL KONV. CC-E V/I, 4-20MA	1SVR011712R1700			2 150,00
Énfunksjon: Inn: 0-20mA					
4545213	SIGNAL KONV. CC-E I/V, 0-10V	1SVR011713R1000			2 150,00
4545214	SIGNAL KONV. CC-E I/I, 0-20MA	1SVR011714R1100			2 150,00
4545215	SIGNAL KONV. CC-E I/I, 4-20MA	1SVR011715R1200			2 150,00
Énfunksjon: Inn: 4-20mA					
4545216	SIGNAL KONV. CC-E I/V, 0-10V	1SVR011716R1300			2 150,00
4545217	SIGNAL KONV. CC-E I/I, 0-20MA	1SVR011717R1400			2 150,00
4545218	SIGNAL KONV. CC-E I/I, 4-20MA	1SVR011718R2500			2 150,00
Énfunksjon: Inn/Ut: -10..+10V					
4545219	SIGNAL KONV. CC-E V/V	1SVR011719R2600			2 150,00
Styrespenning: 110-240V AC **Universal: Inn/Ut: 0-5V, 0-10V, 0-20mA, 4-20mA**					
4545206	SIGNAL KONV. CC-E/STD, UNIVERSAL	1SVR011705R2100			2 750,00
Énfunksjon: Inn: 0-10V					
4545220	SIGNAL KONV. CC-E V/V, 0-10V	1SVR011720R2300			2 150,00
4545221	SIGNAL KONV. CC-E V/I, 0-20MA	1SVR011721R1000			2 150,00
4545222	SIGNAL KONV. CC-E V/I, 4-20MA	1SVR011722R1100			2 150,00
Énfunksjon: Inn: 0-20mA					
4545223	SIGNAL KONV. CC-E I/V, 0-10V	1SVR011723R1200			2 150,00
4545224	SIGNAL KONV. CC-E I/I, 0-20MA	1SVR011724R1300			2 150,00
4545225	SIGNAL KONV. CC-E I/I, 4-20MA	1SVR011725R1400			2 150,00
Énfunksjon: Inn: 4-20mA					
4545226	SIGNAL KONV. CC-E I/V, 0-10V	1SVR011726R1500			2 150,00
4545227	SIGNAL KONV. CC-E I/I, 0-20MA	1SVR011727R1600			2 150,00
4545228	SIGNAL KONV. CC-E I/I, 4-20MA	1SVR011728R2700			2 150,00
Énfunksjon: Inn/Ut: -10..+10V					
4545229	SIGNAL KONV. CC-E V/V	1SVR011729R2000			2 150,00

CC-E I/I-1

EPR - Elektroniske produkter og reléer
Analoge signalomformere

CC-U/STD

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Sløyfematet - passiv strømisolator Inn/Ut: 0-20mA, 4-20mA					
4545295	SLØYFE-M. ISOLATOR CC-E I/I-1, 1 KANAL	1SVR010200R1600			2 050,00
4545296	SLØYFE-M. ISOLATOR CC-E I/I-2, 2 KANALER	1SVR010201R0300			3 540,00
CC-U/STD universalomformer - mer enn 120 mulige kombinasjoner Styrespenning: 24-48VDC / 24VAC 50/60Hz					
4545278	UNIV. SIGNAL KONV. CC-U/STD	1SVR040000R1700			4 450,00
Styrespenning: 100-300VDC / 110-240VAC 50/60Hz					
4545279	UNIV. SIGNAL KONV. CC-U/STD	1SVR040001R0400			4 450,00
CC-U/STDR universalomformer - med 2 relé utganger Styrespenning: 24-48VDC / 24VAC 50/60Hz					
4545288	UNIV. SIGNAL KONV. CC-U/STD	1SVR040010R0000			3 340,00
Styrespenning: 100-300VDC / 110-240VAC 50/60Hz					
4545289	UNIV. SIGNAL KONV. CC-U/STDR	1SVR040011R2500			3 340,00

Temperatursignalomformere for RTD-sensorer, CC-E, CC-U

CC-E/RTD

Styrespenning: 24V DC Universal: PT100 (-50...+500°C) / 0-10V, 0-20mA, 4-20mA					
4545203	TEMP. KONV. CC-E/RTD, UNIVERSAL	1SVR011701R2500			3 220,00
Énfunksjon: Inn: PT100 0...+100°C					
4545230	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011730R2500			2 480,00
4545231	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011731R1200			2 480,00
4545232	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011732R1300			2 480,00
Énfunksjon: Inn: PT100 -50...+50°C					
4545233	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011733R1400			2 480,00
4545234	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011734R1500			2 480,00
4545235	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011735R1600			2 480,00
Énfunksjon: Inn: PT100 0...+300°C					
4545236	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011736R1700			2 480,00
4545237	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011737R1000			2 480,00
4545238	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011738R2100			2 480,00
Énfunksjon: Inn: PT100 -50...+250°C					
4545239	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011739R2200			2 480,00
4545240	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011740R0700			2 480,00
4545241	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011741R2400			2 480,00
Styrespenning: 110-240V AC Universal: PT100 (-50...+500°C) / 0-10V, 0-20mA, 4-20mA					
4545207	TEMP. KONV. CC-E/RTD, UNIVERSAL	1SVR011706R2200			3 220,00
Énfunksjon: Inn: PT100 0...+100°C					
4545266	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011788R2400			2 480,00
4545267	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011789R2500			2 480,00
4545268	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011790R2200			2 480,00
Énfunksjon: Inn: PT100 -50...+50°C					
4545269	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011791R1700			2 480,00
4545270	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011792R1000			2 480,00
4545271	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011793R1100			2 480,00
Énfunksjon: Inn: PT100 0...+300°C					
4545272	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011794R1200			2 480,00
4545273	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011795R1300			2 480,00
4545274	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011796R1400			2 480,00

EPR - Elektroniske produkter og reléer
Analoge signalomformere

CC-U/RTDR

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Énfunksjon: Inn: PT100 -50...+250°C					
4545275	TEMP. KONV. CC-E RTD/V, 0-10V	1SVR011797R1500			2 480,00
4545276	TEMP. KONV. CC-E RTD/I, 0-20MA	1SVR011798R2600			2 480,00
4545277	TEMP. KONV. CC-E RTD/I, 4-20MA	1SVR011799R2700			2 480,00
CC-U/RTD universal temperaturomformer PT10, PT100, PT1000 Styrespenning: 24-48VDC / 24VAC 50/60Hz					
4545280	UNIV. SIGNAL KONV. CC-U/RTD	1SVR040002R0500			4 620,00
Styrespenning: 110-240VAC 50/60Hz / 100-300VDC					
4545281	UNIV. SIGNAL KONV. CC-U/RTD	1SVR040003R0600			4 620,00
CC-U/RTDR universal temperaturomformer for PT100, med 2 reléutganger Styrespenning: 24-48VDC / 24VAC 50/60Hz					
4545290	UNIV. SIGNAL KONV. CC-U/RTD	1SVR040012R2600			3 490,00
Styrespenning: 110-240VAC 50/60Hz / 100-300VDC					
4545291	UNIV. SIGNAL KONV. CC-U/RTD	1SVR040013R2700			3 490,00

Temperatursignalomformer for termoelementer, CC-E, CC-U

CC-E/TC

Styrespenning 24V DC
Universal: Inn: Element type: J/K / Ut: 0-10V, 0-20mA, 4-20mA

4545204	TEMP. KONV. CC-E/TC, UNIVERSAL	1SVR011702R2600			3 130,00
Énfunksjon: Inn: type J, 0...600°C					
4545242	TEMP. KONV. CC-E TC/V, 0-10V	1SVR011750R0100			2 380,00
4545243	TEMP. KONV. CC-E TC/I, 0-20MA	1SVR011751R2600			2 380,00
4545244	TEMP. KONV. CC-E TC/I, 4-20MA	1SVR011752R2700			2 380,00
Énfunksjon: Inn: type K, 0...1000°C					
4545245	TEMP. KONV. CC-E TC/V, 0-10V	1SVR011753R2000			2 380,00
4545246	TEMP. KONV. CC-E TC/I, 0-20MA	1SVR011754R2100			2 380,00
4545247	TEMP. KONV. CC-E TC/I, 4-20MA	1SVR011755R2200			2 380,00
Styrespenning 110-240V AC Universal: Inn: Element type: J/K / Ut: 0-10V, 0-20mA, 4-20mA					
4545208	TEMP. KONV. CC-E/TC, UNIVERS	1SVR011707R2300			3 130,00
Énfunksjon: Inn: type J, 0...600°C					
4545248	TEMP. KONV. CC-E TC/V, 0-10V	1SVR011760R0300			2 380,00
4545249	TEMP. KONV. CC-E TC/I, 0-20MA	1SVR011761R2000			2 380,00
4545250	TEMP. KONV. CC-E TC/I, 4-20MA	1SVR011762R2100			2 380,00
Énfunksjon: Inn: type K, 0...1000°C					
4545251	TEMP. KONV. CC-E TC/V, 0-10V	1SVR011763R2200			2 380,00
4545252	TEMP. KONV. CC-E TC/I, 0-20MA	1SVR011764R2300			2 380,00
4545253	TEMP. KONV. CC-E TC/I, 4-20MA	1SVR011765R2400			2 380,00
CC-U/TC universal temperaturomformer for type K,J,T,S,E,N,R,B Styrespenning 24-48VDC / 24VAC 50/60Hz					
4545282	UNIV. SIGNAL KONV. CC-U/TC	1SVR040004R0700			4 930,00
Styrespenning 110-240VAC 50/60Hz / 100-300VDC					
4545283	UNIV. SIGNAL KONV. CC-U/TC	1SVR040005R0000			4 930,00
CC-U/TCR universal temperaturomformer for type K,J,T,S, 2 reléutganger Styrespenning 24-48VDC / 24VAC 50/60Hz					
4545293	UNIV. SIGNAL KONV. CC-U/TCR	1SVR040014R2000			3 490,00
Styrespenning 110-240VAC 50/60Hz / 100-300VDC					
4545294	UNIV. SIGNAL KONV. CC-U/TCR	1SVR040015R2100			3 490,00

CC-U/TC

EPR - Elektroniske produkter og reléer
Måleomformere for strøm og spenning

CC-E/I

CC-E I_{AC}/ILPO

CC-U/V

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Måleomformere for strøm eller spenning					
Universal: Inn: 0-5A, 0-20A AC/DC / Ut: 0-10V, 0-20mA eller 4-20mA					
4545205	STRØM KONV. CC-E/I, UNIVERS 24VDC	1SVR011703R2700			3 130,00
Énfunksjon: Inn: 0-5A, 0-20A AC, styrespenning 24VDC					
4545254	STRØM KONV. CC-E IAC/V, 0-10V	1SVR011770R0500			2 380,00
4545255	STRØM KONV. CC-E IAC/I, 0-20MA	1SVR011771R2200			2 380,00
4545256	STRØM KONV. CC-E IAC/I, 4-20MA	1SVR011772R2300			2 380,00
Énfunksjon: Inn: 0-5A, 0-20A DC, styrespenning 24VDC					
4545257	STRØM KONV. CC-E IDC/V, 0-10V	1SVR011773R2400			2 380,00
4545258	STRØM KONV. CC-E IDC/I, 0-20MA	1SVR011774R2500			2 380,00
4545259	STRØM KONV. CC-E IDC/I, 4-20MA	1SVR011775R2600			2 380,00
Universal: Inn: 0-5A, 0-20A AC/DC / Ut: 0-10V, 0-20mA eller 4-20mA					
4545209	STRØM KONV. CC-E/I, UNIVERS. 110-240VAC	1SVR011708R0400			3 130,00
Énfunksjon: Inn: 0-5A, 0-20A AC, styrespenning 110-240VAC					
4545260	STRØM KONV. CC-E IAC/V, 0-10V	1SVR011780R1100			2 380,00
4545261	STRØM KONV. CC-E IAC/I, 0-20MA	1SVR011781R0600			2 380,00
4545262	STRØM KONV. CC-E IAC/I, 4-20MA	1SVR011782R0700			2 380,00
Énfunksjon: Inn: 0-5A, 0-20A DC, styrespenning 110-240VAC					
4545263	STRØM KONV. CC-E IDC/V, 0-10V	1SVR011783R0000			2 380,00
4545264	STRØM KONV. CC-E IDC/I, 0-20MA	1SVR011784R0100			2 380,00
4545265	STRØM KONV. CC-E IDC/I, 4-20MA	1SVR011785R1100			2 380,00
CC-U/STDR universalomformer - med 2 relé utganger Inn: 0-1A, 0-5A / Ut: 4-20mA sløyfematet, trenger ikke ekstern styrespenning					
4545201	STRØM KONV., CC-E IAC/ILPO	1SVR010203R0500			3 510,00
Måleomformer for strøm RMS-verdier, 0-1A/0-5A Styrespenning: 24-48VDC / 24VAC 50/60Hz					
4545284	UNIV. SIGNAL KONV. CC-U/I	1SVR040006R0100			4 290,00
Styrespenning: 100-300VDC / 110-240VAC 50/60Hz					
4545285	UNIV. SIGNAL KONV. CC-U/I	1SVR040007R0200			4 290,00
Måleomformer for spenning RMS-verdier, 0-600V Styrespenning: 24-48VDC / 24VAC 50/60Hz					
4545286	UNIV. SIGNAL KONV. CC-U/V	1SVR040008R1300			4 290,00
Styrespenning: 100-300VDC / 110-240VAC 50/60Hz					
4545287	UNIV. SIGNAL KONV. CC-U/V	1SVR040009R1400			4 290,00

EPR - Elektroniske produkter og reléer
Serielle dataomformere

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Serielle dataomformere					
Signalomformere for mange forskjellige dataformat (RS232/422/485)					
4552524	ILPH RS232/RS485-422 ISOLE	1SNA684233R2700			8 560,00
4552525	ILPH RS232/RS232 24/48VDC	1SNA684234R2000			7 270,00
4552536	ILPH RS485-422/RS232 24-48VDC	1SNA684333R2300			8 560,00
4552537	ILPH RS485-422/RS232 115/230V	1SNA684334R2400			8 560,00
Signalomformere optisk					
4552526	ILPH RS232/FO-S 24/48VDC	1SNA684236R2200			12 410,00
4552531	ILPH RS485/FO-S 24/48VDC	1SNA684246R0400			12 410,00
Signalomformer fra RS232-485 til Ethernett og RS232-485					
4552535	ILPH RS232-485 / ETHERNET	1SNA684252R0200			12 750,00

EPR - Elektroniske produkter og reléer
Pluggbare PCB/kretskortreléer CR-P, sokler og tilbehør

CR-PLS CR-PSS

CR-PJ

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Pluggbare kretskort-reléer (for sokkel eller kretskortmontasje)					
Dimensjoner (sokkel): L: 75 x B: 15,5 x H: 62 mm. Høyde relé er 16,7 mm					
1 vekselkontakt, 250V, 16A.					
4187328	PLUGGB. INTERF. RELE CR-P012DC1	1SVR405600R4000	10		36,40
4187329	PLUGGB. INTERF. RELE CR-P024DC1	1SVR405600R1000	10		36,40
4187330	PLUGGB. INTERF. RELE CR-P048DC1	1SVR405600R6000	10		37,50
4187331	PLUGGB. INTERF. RELE CR-P110DC1	1SVR405600R8000	10		50,70
4187332	PLUGGB. INTERF. RELE CR-P024AC1	1SVR405600R0000	10		43,00
4187333	PLUGGB. INTERF. RELE CR-P048AC1	1SVR405600R5000	10		45,20
4187334	PLUGGB. INTERF. RELE CR-P110AC1	1SVR405600R7000	10		54,10
4187335	PLUGGB. INTERF. RELE CR-P120AC1	1SVR405600R2000	10		54,10
4187336	PLUGGB. INTERF. RELE CR-P230AC1	1SVR405600R3000	10		71,70
2 vekselkontakter, 250V, 8A					
4187337	PLUGGB. INTERF. RELE CR-P012DC2	1SVR405601R4000	10		43,00
4187338	PLUGGB. INTERF. RELE CR-P024DC2	1SVR405601R1000	1/10	L	43,00
4187339	PLUGGB. INTERF. RELE CR-P048DC2	1SVR405601R6000	10		45,20
4187340	PLUGGB. INTERF. RELE CR-P110DC2	1SVR405601R8000	10		57,40
4187341	PLUGGB. INTERF. RELE CR-P024AC2	1SVR405601R0000	10		50,70
4187342	PLUGGB. INTERF. RELE CR-P048AC2	1SVR405601R5000	10		51,90
4187343	PLUGGB. INTERF. RELE CR-P110AC2	1SVR405601R7000	10		60,70
4187344	PLUGGB. INTERF. RELE CR-P120AC2	1SVR405601R2000	10		60,70
4187345	PLUGGB. INTERF. RELE CR-P230AC2	1SVR405601R3000	1/10	L	79,50
Med 2 gullbelagte vekselkontakter, 250V, 8A					
4187726	PLUGGB. INTERF. RELE CR-P024DC2G 24 V DC	1SVR405606R1000	10		77,20
4187727	PLUGGB. INTERF. RELE CR-P024AC2G 24 V AC	1SVR405606R0000	10		82,70
4187728	PLUGGB. INTERF. RELE CR-P110AC2G 110 V AC	1SVR405606R7000	10		93,70
4187729	PLUGGB. INTERF. RELE CR-P230AC2G 230 V AC	1SVR405606R3000	10		110,00
Sokkel/holder					
LOGISK=A1 og A2 tilkobl. nedside					
4187346	LOGISK SOKK. CR-PLS M SIKKERH.ISO	1SVR405650R0000	10		55,20
4187347	LOGISK SOKK. CR-PLSX	1SVR405650R0100	10		55,20
STANDARD=A1, A2 og felles, tilkobl. nedside					
4187348	STANDARD SOKKEL CR-PSS	1SVR405650R1000	1/10	L	51,90
4187349	LOGISK SOKK. CR-PLC, FJÆRTILK	1SVR405650R0200	10		72,70
4187350	HOLDER CR-PH FOR CR-P SOKK.	1SVR405659R0000	10		4,42
Jumper bar CR-PJ, for CR-P sokler					
4187794	LASK CR-PJ, F/ CR-P SOKK	1SVR405658R5000	10		45,20
Merkeskilt					
4187740	MERKESKILT CR-PM FOR CR-P	1SVR405658R0000	10		PPF.

EPR - Elektroniske produkter og reléer
Pluggbare miniatyrreléer CR-M (14-pin)

Miniatyrreléer (14-pin)

Dimensjoner (sokkel): L: 82 x B: 27 x H: 42,5 mm. Høyde relé er 35,6 mm

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Uten LED, 2 vekselkontakter, 250V, 12A.					
4187351	PLUGGB. RELE CR-M012DC2	1SVR405611R4000	10		80,50
4187352	PLUGGB. RELE CR-M024DC2	1SVR405611R1000	10		80,50
4187353	PLUGGB. RELE CR-M048DC2	1SVR405611R6000	10		81,70
4187354	PLUGGB. RELE CR-M060DC2	1SVR405611R4200	10		81,70
4187355	PLUGGB. RELE CR-M110DC2	1SVR405611R8000	10		91,60
4187784	PLUGGB. RELE CR-M125DC2	1SVR405611R8200	10		91,60
4187356	PLUGGB. RELE CR-M220DC2	1SVR405611R9000	10		98,20
4187357	PLUGGB. RELE CR-M024AC2	1SVR405611R0000	10		85,00
4187358	PLUGGB. RELE CR-M048AC2	1SVR405611R5000	10		86,00
4187359	PLUGGB. RELE CR-M110AC2	1SVR405611R7000	10		87,20
4187360	PLUGGB. RELE CR-M120AC2	1SVR405611R2000	10		87,20
4187361	PLUGGB. RELE CR-M230AC2	1SVR405611R3000	10		94,90
Uten LED, 3 vekselkontakter, 250V, 10A					
4187362	PLUGGB. RELE CR-M012DC3	1SVR405612R4000	10		83,80
4187363	PLUGGB. RELE CR-M024DC3	1SVR405612R1000	10		83,80
4187364	PLUGGB. RELE CR-M048DC3	1SVR405612R6000	10		85,00
4187365	PLUGGB. RELE CR-M060DC3	1SVR405612R4200	10		85,00
4187366	PLUGGB. RELE CR-M110DC3	1SVR405612R8000	10		94,90
4187786	PLUGGB. RELE CR-M125DC3	1SVR405612R8200	10		94,90
4187367	PLUGGB. RELE CR-M220DC3	1SVR405612R9000	10		101,00
4187368	PLUGGB. RELE CR-M024AC3	1SVR405612R0000	10		87,20
4187369	PLUGGB. RELE CR-M048AC3	1SVR405612R5000	10		89,40
4187370	PLUGGB. RELE CR-M110AC3	1SVR405612R7000	10		90,50
4187371	PLUGGB. RELE CR-M120AC3	1SVR405612R2000	10		90,50
4187372	PLUGGB. RELE CR-M230AC3	1SVR405612R3000	1/10		97,10
Uten LED, 4 vekselkontakter, 250V, 6A					
4187373	PLUGGB. RELE CR-M012DC4	1SVR405613R4000	10		86,00
4187374	PLUGGB. RELE CR-M024DC4	1SVR405613R1000	1/10	L	86,00
4187375	PLUGGB. RELE CR-M048DC4	1SVR405613R6000	10		87,20
4187376	PLUGGB. RELE CR-M060DC4	1SVR405613R4200	10		87,20
4187377	PLUGGB. RELE CR-M110DC4	1SVR405613R8000	10		97,10
4187788	PLUGGB. RELE CR-M125DC4	1SVR405613R8200	10		97,10
4187378	PLUGGB. RELE CR-M220DC4	1SVR405613R9000	10		104,00
4187379	PLUGGB. RELE CR-M024AC4	1SVR405613R0000	10		90,50
4187380	PLUGGB. RELE CR-M048AC4	1SVR405613R5000	10		91,60
4187381	PLUGGB. RELE CR-M110AC4	1SVR405613R7000	10		92,70
4187382	PLUGGB. RELE CR-M120AC4	1SVR405613R2000	10		92,70
4187383	PLUGGB. RELE CR-M230AC4	1SVR405613R3000	1/10	L	100,00
Uten LED, med gullbelagte kontakter, 4 vekselkontakter, 250V, 6A					
4187730	PLUGGB. RELE CR-M024DC4G	1SVR405618R1000	10		149,00
4187731	PLUGGB. RELE CR-M024AC4G	1SVR405618R0000	10		155,00
4187732	PLUGGB. RELE CR-M110AC4G	1SVR405618R7000	10		155,00
4187733	PLUGGB. RELE CR-M230AC4G	1SVR405618R3000	10		160,00

EPR - Elektroniske produkter og reléer
Pluggbare miniatyrreléer CR-M (14-pin)

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Med LED, 2 vekselkontakter, 250V, 12A					
4187384	PLUGGB. RELE CR-M012DC2L	1SVR405611R4100	10		96,00
4187385	PLUGGB. RELE CR-M024DC2L	1SVR405611R1100	10	L	96,00
4187386	PLUGGB. RELE CR-M048DC2L	1SVR405611R6100	10		98,20
4187387	PLUGGB. RELE CR-M060DC2L	1SVR405611R4300	10		98,20
4187388	PLUGGB. RELE CR-M110DC2L	1SVR405611R8100	10		107,00
4187785	PLUGGB. RELE CR-M125DC2L	1SVR405611R8300	10		107,00
4187389	PLUGGB. RELE CR-M220DC2L	1SVR405611R9100	10		114,00
4187390	PLUGGB. RELE CR-M024AC2L	1SVR405611R0100	10		100,00
4187391	PLUGGB. RELE CR-M048AC2L	1SVR405611R5100	10		103,00
4187392	PLUGGB. RELE CR-M110AC2L	1SVR405611R7100	10		104,00
4187393	PLUGGB. RELE CR-M120AC2L	1SVR405611R2100	10		104,00
4187394	PLUGGB. RELE CR-M230AC2L	1SVR405611R3100	1/10		110,00
Med LED, 3 vekselkontakter, 250V, 10A					
4187395	PLUGGB. RELE CR-M012DC3L	1SVR405612R4100	10		99,20
4187396	PLUGGB. RELE CR-M024DC3L	1SVR405612R1100	10		99,20
4187397	PLUGGB. RELE CR-M048DC3L	1SVR405612R6100	10		100,00
4187398	PLUGGB. RELE CR-M060DC3L	1SVR405612R4300	10		100,00
4187399	PLUGGB. RELE CR-M110DC3L	1SVR405612R8100	10		110,00
4187787	PLUGGB. RELE CR-M125DC3L	1SVR405612R8300	10		110,00
4187400	PLUGGB. RELE CR-M220DC3L	1SVR405612R9100	10		116,00
4187401	PLUGGB. RELE CR-M024AC3L	1SVR405612R0100	10		104,00
4187402	PLUGGB. RELE CR-M048AC3L	1SVR405612R5100	10		105,00
4187403	PLUGGB. RELE CR-M110AC3L	1SVR405612R7100	10		106,00
4187404	PLUGGB. RELE CR-M120AC3L	1SVR405612R2100	10		106,00
4187405	PLUGGB. RELE CR-M230AC3L	1SVR405612R3100	10		112,00
Med LED, 4 vekselkontakter, 250V, 6A					
4187406	PLUGGB. RELE CR-M012DC4L	1SVR405613R4100	10	L	103,00
4187407	PLUGGB. RELE CR-M024DC4L	1SVR405613R1100	1/10	L	103,00
4187408	PLUGGB. RELE CR-M048DC4L	1SVR405613R6100	10		104,00
4187409	PLUGGB. RELE CR-M060DC4L	1SVR405613R4300	10		104,00
4187410	PLUGGB. RELE CR-M110DC4L	1SVR405613R8100	1/10	L	112,00
4187789	PLUGGB. RELE CR-M125DC4L	1SVR405613R8300	10		112,00
4187411	PLUGGB. RELE CR-M220DC4L	1SVR405613R9100	1/10	L	118,00
4187412	PLUGGB. RELE CR-M024AC4L	1SVR405613R0100	10		106,00
4187413	PLUGGB. RELE CR-M048AC4L	1SVR405613R5100	10		107,00
4187414	PLUGGB. RELE CR-M110AC4L	1SVR405613R7100	10		109,00
4187415	PLUGGB. RELE CR-M120AC4L	1SVR405613R2100	10	L	109,00
4187416	PLUGGB. RELE CR-M230AC4L	1SVR405613R3100	1/10	L	115,00
Med LED og gullbel.kont, 4 vekselkontakter, 250V, 6A					
4187417	PLUGGB. RELE CR-M012DC4LG	1SVR405618R4100	10		164,00
4187418	PLUGGB. RELE CR-M024DC4LG	1SVR405618R1100	10		164,00
4187419	PLUGGB. RELE CR-M048DC4LG	1SVR405618R6100	10		165,00
4187420	PLUGGB. RELE CR-M060DC4LG	1SVR405618R4300	10		165,00
4187421	PLUGGB. RELE CR-M110DC4LG	1SVR405618R8100	10		176,00
4187790	PLUGGB. RELE CR-M125DC4LG	1SVR405618R8300	10		176,00
4187422	PLUGGB. RELE CR-M220DC4LG	1SVR405618R9100	10		183,00
4187423	PLUGGB. RELE CR-M024AC4LG	1SVR405618R0100	10		168,00
4187424	PLUGGB. RELE CR-M048AC4LG	1SVR405618R5100	10		170,00
4187425	PLUGGB. RELE CR-M110AC4LG	1SVR405618R7100	10		171,00
4187426	PLUGGB. RELE CR-M120AC4LG	1SVR405618R2100	10		171,00
4187427	PLUGGB. RELE CR-M230AC4LG	1SVR405618R3100	10		179,00

EPR - Elektroniske produkter og reléer
Pluggbare miniatyrreléer CR-M (14-pin), sokler og funksjonsmoduler

CR-M4LS

CR-M4SS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Med LED, friløpsdiode og gullbelagte kontakter, 4 vekselkontakter, 250V, 6A					
4187734	PLUGGB. RELE CR-M012DC4LDG	1SVR405618R4400	10		165,00
4187735	PLUGGB. RELE CR-M024DC4LDG	1SVR405618R1400	10		165,00
Sokkel/holder LOGISK=A1 og A2 tilkobl nedside, øvrige tilkobl. overside					
4187428	SOKKEL CR-M2LS, SKRU-TILKOBL. TIL 2 C/O	1SVR405651R1100	10		51,90
4187429	SOKKEL CR-M3LS, SKRU-TILKOBL. TIL 3 C/O	1SVR405651R2100	10		56,20
4187430	SOKKEL CR-M4LS, SKRU-TILKOBL. TIL 2, 3 OG 4 C/O	1SVR405651R3100	1/10	L	60,70
4187434	SOKKEL CR-M2LC, FJÆR-TILKOBL. TIL 2 C/O	1SVR405651R1200	10		88,20
4187435	SOKKEL CR-M4LC, FJÆR-TILKOBL. TIL 2, 3 OG 4 C/O	1SVR405651R3200	10		98,20
STANDARD=A1, A2 og felles tilkobl. nedside, no/nc tilkobl. Overside, skrutilkobling					
4187431	SOKKEL CR-M2SS, TIL 2 C/O	1SVR405651R1000	10		49,70
4187432	SOKKEL CR-M3SS, TIL 3 C/O	1SVR405651R2000	1/10	L	54,10
4187433	SOKKEL CR-M4SS, TIL 2, 3 OG 4 C/O	1SVR405651R3000	1/10	L	58,40
4187436	HOLDER CR-MH FOR CR-M SOKK.	1SVR405659R1000	1/10	L	7,72
4187437	MET.HOLDER CR-MH1 F/CR-M	1SVR405659R1100	10		5,52
Jumper bar CR-MJ, for CR-M sokler, 10 pinner					
4187795	LASK CR-MJ, F/ CR-M SOKKEL	1SVR405658R6000	10		56,20
Merkeskilt					
4187741	MERKESKILT CR-MM FOR CR-M	1SVR405658R1000	1/10	L	1,33
Funksjonsmoduler Diode, rev. polaritet, friløpsdiode					
4187438	CR-P/M 22, 6-230V DC	1SVR405651R0000	1/10		15,50
Diode, LED, rev. polaritet, friløpsdiode					
4187439	CR-P/M 42, 6-24V DC, RØD	1SVR405652R0000	10		32,00
4187440	CR-P/M 42V, 6-24V DC, GRØNN	1SVR405652R1000	10		32,00
4187764	CR-P/M 42 B, 24-60V DC, RØD	1SVR405652R4000	10		32,00
4187765	CR-P/M 42 BV, 24-60V DC, GRØNN	1SVR405652R4100	10		32,00
4187766	CR-P/M 42 C, 110-230V DC, RØD	1SVR405652R9000	10		32,00
4187767	CR-P/M 42 CV, 110-230V DC, GRØNN	1SVR405652R9100	10		32,00
RC-element					
4187441	CR-P/M 52B, 6-24V AC	1SVR405653R0000	10		35,30
4187768	CR-P/M 52 D, 24-60V AC	1SVR405653R4000	10		35,30
4187442	CR-P/M 52C, 110-240V AC	1SVR405653R1000	10		35,30
Diode + LED (ved DC: A1=»+», A2=»-»)					
4187443	CR-P/M 62, 6-24V AC/DC RØD	1SVR405654R0000	10		36,40
4187444	CR-P/M 62V, 6-24V AC/DC GRØNN	1SVR405654R1000	10		36,40
4187769	CR-P/M 62 E, 24-60V AC/DC RØD	1SVR405654R4000	10		36,40
4187770	CR-P/M 62 EV, 24-60V AC/DC GRØNN	1SVR405654R4100	10		36,40
4187445	CR-P/M 92, 110-230V AC/DC RØD	1SVR405654R0100	10		36,40
4187446	CR-P/M 92V, 110-230V AC/DC GRØNN	1SVR405654R1100	10		36,40
Varistor + LED (ved DC: A1=»+», A2=»-»)					
4187447	CR-P/M 62C, 6-24V AC/DC RØD	1SVR405655R0000	10		50,70
4187448	CR-P/MA 62CV, 6-24V DC, GRØNN	1SVR405655R1000	10		56,20
4187771	CR-P/M 62D, 24-60V AC/DC RØD	1SVR405655R4000	10		50,70
4187772	CR-P/M 62DV, 24-60V AC/DC GRØNN	1SVR405655R4100	10		56,20
4187449	CR-P/M 92C, 110-230V AC/DC RØD	1SVR405655R0100	10		50,70
4187450	CR-P/M 92CV, 110-230V AC/DC GRØNN	1SVR405655R1100	10		56,20
Varistor (overspenningsbeskyttelse)					
4187451	CR-P/M 72, 24V AC	1SVR405656R0000	10		36,40
4187452	CR-P/M 72A, 115V AC	1SVR405656R1000	10		36,40
4187453	CR-P/M 82, 230V AC	1SVR405656R2000	10		36,40

EPR - Elektroniske produkter og reléer
Pluggbare universalreléer CR-U (8-pin/11-pin)

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Universalreléer (2 c/o = 8-pin , 3 c/o = 11 pin)					
Dimensjoner (sokkel): L: 75 x B: 38 x H: 26 mm. Høyde relé er 54,4 mm					
Uten LED, 2 vekselkontakter, 250V, 10A.					
4187454	PLUGGB. INTERF. RELE CR-U012DC2	1SVR405621R4000	10		121,00
4187455	PLUGGB. INTERF. RELE CR-U024DC2	1SVR405621R1000	1/10		121,00
4187456	PLUGGB. INTERF. RELE CR-U048DC2	1SVR405621R6000	10		122,00
4187457	PLUGGB. INTERF. RELE CR-U110DC2	1SVR405621R8000	10		131,00
4187458	PLUGGB. INTERF. RELE CR-U220DC2	1SVR405621R9000	10		133,00
4187459	PLUGGB. INTERF. RELE CR-U024AC2	1SVR405621R0000	10		122,00
4187460	PLUGGB. INTERF. RELE CR-U048AC2	1SVR405621R5000	10		123,00
4187461	PLUGGB. INTERF. RELE CR-U110AC2	1SVR405621R7000	10		125,00
4187462	PLUGGB. INTERF. RELE CR-U120AC2	1SVR405621R2000	10		125,00
4187463	PLUGGB. INTERF. RELE CR-U230AC2	1SVR405621R3000	10		130,00
Uten LED, 3 vekselkontakter, 250V, 10A					
4187464	PLUGGB. INTERF. RELE CR-U012DC3	1SVR405622R4000	10		125,00
4187465	PLUGGB. INTERF. RELE CR-U024DC3	1SVR405622R1000	10		125,00
4187466	PLUGGB. INTERF. RELE CR-U048DC3	1SVR405622R6000	10		129,00
4187467	PLUGGB. INTERF. RELE CR-U110DC3	1SVR405622R8000	10		136,00
4187468	PLUGGB. INTERF. RELE CR-U220DC3	1SVR405622R9000	10		138,00
4187469	PLUGGB. INTERF. RELE CR-U024AC3	1SVR405622R0000	10		129,00
4187470	PLUGGB. INTERF. RELE CR-U048AC3	1SVR405622R5000	10		130,00
4187471	PLUGGB. INTERF. RELE CR-U110AC3	1SVR405622R7000	10		131,00
4187472	PLUGGB. INTERF. RELE CR-U120AC3	1SVR405622R2000	10		131,00
4187473	PLUGGB. INTERF. RELE CR-U230AC3	1SVR405622R3000	10		135,00
Med LED, 2 vekselkontakter, 250V, 10A					
4187474	PLUGGB. INTERF. RELE CR-U012DC2L	1SVR405621R4100	10		138,00
4187475	PLUGGB. INTERF. RELE CR-U024DC2L	1SVR405621R1100	10		138,00
4187476	PLUGGB. INTERF. RELE CR-U048DC2L	1SVR405621R6100	10		139,00
4187477	PLUGGB. INTERF. RELE CR-U110DC2L	1SVR405621R8100	10		144,00
4187478	PLUGGB. INTERF. RELE CR-U220DC2L	1SVR405621R9100	10		148,00
4187479	PLUGGB. INTERF. RELE CR-U024AC2L	1SVR405621R0100	10		139,00
4187480	PLUGGB. INTERF. RELE CR-U048AC2L	1SVR405621R5100	10		140,00
4187481	PLUGGB. INTERF. RELE CR-U110AC2L	1SVR405621R7100	10		141,00
4187482	PLUGGB. INTERF. RELE CR-U120AC2L	1SVR405621R2100	10		141,00
4187483	PLUGGB. INTERF. RELE CR-U230AC2L	1SVR405621R3100	10		143,00
Med LED, 3 vekselkontakter, 250V, 10A					
4187484	PLUGGB. INTERF. RELE CR-U012DC3L	1SVR405622R4100	10		141,00
4187485	PLUGGB. INTERF. RELE CR-U024DC3L	1SVR405622R1100	1/10	L	141,00
4187486	PLUGGB. INTERF. RELE CR-U048DC3L	1SVR405622R6100	10		142,00
4187487	PLUGGB. INTERF. RELE CR-U110DC3L	1SVR405622R8100	10		149,00
4187488	PLUGGB. INTERF. RELE CR-U220DC3L	1SVR405622R9100	1/10	L	154,00
4187489	PLUGGB. INTERF. RELE CR-U024AC3L	1SVR405622R0100	10		142,00
4187490	PLUGGB. INTERF. RELE CR-U048AC3L	1SVR405622R5100	10		143,00
4187491	PLUGGB. INTERF. RELE CR-U110AC3L	1SVR405622R7100	10		144,00
4187492	PLUGGB. INTERF. RELE CR-U120AC3L	1SVR405622R2100	10		144,00
4187493	PLUGGB. INTERF. RELE CR-U230AC3L	1SVR405622R3100	1/10	L	148,00
Med LED og innebygd friløpsdiode, 3 vekselkontakter, 250V, 10A					
	PLUGGB. INTERF. RELE CR-U024DC3LD	1SVR405623R1100	10		143,00

EPR - Elektroniske produkter og reléer
Pluggbare universalreléer CR-U (8-pin/11-pin) - sokler og funksjonsmoduler

CR-U3S

CR-U3E

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Sokler/holder For funksjonsmodul					
4187494	SOKKEL CR-U2S , TIL 2 C/O (8-PIN)	1SVR405670R0000	1/10		59,60
4187495	SOKKEL CR-U3S , TIL 3 C/O (11-PIN)	1SVR405660R0000	1/10	L	61,70
Ikke for funksjonsmodul					
4187496	SOKKEL CR-U3E, TIL 3 C/O (11-PIN)	1SVR405660R0100	10		58,40
4187497	SOKKEL LITEN CR-U2SM, FOR 2 C/O (8-PIN)	1SVR405670R1100	10		55,20
4187498	SOKKEL LITEN CR-U3SM, FOR 3 C/O (11-PIN)	1SVR405660R1100	10		58,40
4187499	HOLDER CR-UH FOR CR-U SOKK.	1SVR405669R0000	1/10		19,80
Funksjonsmoduler Diode, rev. polaritet, friløpsdiode					
4187500	PLUGGB. MOD. CR-U 21	1SVR405661R0000	10		19,80
Diode, LED, rev. polaritet, friløpsdiode					
4187501	CR-U 41, 6-24V DC, RØD	1SVR405662R0000	10		36,40
4187502	CR-U 41V, 6-24V DC, GRØNN	1SVR405662R1000	10		36,40
4187773	CR-U 41B, 24-60V DC, RØD	1SVR405662R4000	10		36,40
4187774	CR-U 41BV, 24-60V DC, GRØNN	1SVR405662R4100	10		36,40
4187775	CR-U 41C, 110-230V DC, RØD	1SVR405662R9000	10		36,40
4187776	CR-U 41CV, 110-230V DC, GRØNN	1SVR405662R9100	10		36,40
RC-element					
4187503	CR-U 51B, 6-24V AC	1SVR405663R0000	10		41,90
4187777	CR-U 51D, 24-60V AC	1SVR405663R4000	10		41,90
4187504	CR-U 51C, 110-240V AC	1SVR405663R1000	10		41,90
Diode + LED (ved DC: A1=»+», A2=»-»)					
4187505	CR-U 61, 6-24V AC/DC RØD	1SVR405664R0000	10		64,00
4187506	CR-U 61V, 6-24V AC/DC GRØNN	1SVR405664R1000	10		64,00
4187778	CR-U 61 E, 24-60V AC/DC RØD	1SVR405664R4000	10		64,00
4187779	CR-U 61 EV, 24-60V AC/DC GRØNN	1SVR405664R4100	10		64,00
4187507	CR-U 91, 110-230V AC/DC RØD	1SVR405664R0100	10		64,00
4187508	CR-U 91V, 110-230V AC/DC GRØNN	1SVR405664R1100	10		64,00
Varistor + LED (ved DC: A1=»+», A2=»-»)					
4187509	CR-U 61C, 6-24V AC/DC RØD	1SVR405665R0000	10		64,00
4187510	CR-U 61CV, 6-24V DC, GRØNN	1SVR405665R1000	10		64,00
4187780	CR-U 61 D, 24-60V AC/DC RØD	1SVR405665R4000	10		64,00
4187781	CR-U 61 DV, 24-60V AC/DC GRØNN	1SVR405665R4100	10		64,00
4187511	CR-U 91C, 110-230V AC/DC RØD	1SVR405665R0100	10		64,00
4187512	CR-U 91CV, 110-230V AC/DC GRØNN	1SVR405665R1100	10		64,00
Varistor (overspenningsbeskyttelse)					
4187513	CR-U 71, 24V AC	1SVR405666R0000	10		49,70
4187514	CR-U 71A, 115V AC	1SVR405666R1000	10		49,70
4187515	CR-U 81, 230V AC	1SVR405666R2000	10		49,70
Tidsmodul multifunksjon - passer på CR-U2S/CR-U3S					
4187516	CR-UT 24-240V AC/DC	1SVR405667R0000	1/10	L	621,00

EPR - Elektroniske produkter og reléer
Logiske reléer

CM-LSR

CM-LST

CL-LMR

CL-LMT

CL-LER

CL-LEC

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Logiske reléer					
Logiske reléer 24VAC, 8I/4O, reléutgang					
4588060	LOGISK RELÉ CL-LSR.C12AC1 M. DISPLAY OG TIMER	1SVR440712R0300			2 540,00
4588061	LOGISK RELÉ CL-LSR.CX12AC1 M. TIMER	1SVR440712R0200			2 110,00
Logiske reléer 100…240VAC, 8I/4O, reléutgang					
4588062	LOGISK RELÉ CL-LSR.12AC2 M. DISPLAY	1SVR440713R0100			2 360,00
4588063	LOGISK RELÉ CL-LSR.C12AC2 M. DISPLAY OG TIMER	1SVR440713R0300			2 540,00
4588064	LOGISK RELÉ CL-LSR.CX12AC2 M. TIMER	1SVR440713R0200			2 140,00
Logiske reléer 12VDC, 8I/4O, reléutgang					
4588065	LOGISK RELÉ CL-LSR.C12DC1 M. DISPLAY OG TIMER	1SVR440710R0300			2 540,00
4588066	LOGISK RELÉ CL-LSR.CX12DC1 M. TIMER	1SVR440710R0200			2 100,00
Logiske reléer 24VDC, 8I/4O, reléutgang					
4588067	LOGISK RELÉ CL-LSR.12DC2 M. DISPLAY	1SVR440711R0100			2 360,00
4588068	LOGISK RELÉ CL-LSR.C12DC2 M. DISPLAY OG TIMER	1SVR440711R0300			2 510,00
4588069	LOGISK RELÉ CL-LSR.CX12DC2 M. TIMER	1SVR440711R0200			2 090,00
Logiske reléer 24VDC, 8I/4O, transistorutgang					
4588070	LOGISK RELÉ CL-LST.C12DC2 M. DISPLAY OG TIMER	1SVR440711R1300			2 350,00
4588071	LOGISK RELÉ CL-LST.CX12DC2 M. TIMER	1SVR440711R1200			2 080,00
Logiske reléer 24VAC, 12I/6O, reléutgang - utvidbar					
4588072	LOGISK RELÉ CL-LMR.C18AC1 M. DISPLAY OG TIMER	1SVR440722R0300			3 160,00
4588073	LOGISK RELÉ CL-LMR.CX18AC1M. TIMER	1SVR440722R0200			2 710,00
Logiske reléer 100…240VAC, 12I/6O, reléutgang - utvidbar					
4588074	LOGISK RELÉ CL-LMR.C18AC2 M. DISPLAY OG TIMER	1SVR440723R0300			3 190,00
4588075	LOGISK RELÉ CL-LMR.CX18AC2 M. TIMER	1SVR440723R0200			2 730,00
Logiske reléer 12VDC, 12I/6O, reléutgang - utvidbar					
4588076	LOGISK RELÉ CL-LMR.C18DC1 M. DISPLAY OG TIMER	1SVR440720R0300			3 160,00
4588077	LOGISK RELÉ CL-LMR.CX18DC1 M. TIMER	1SVR440720R0200			2 710,00
Logiske reléer 24VDC, 12I/6O, reléutgang - utvidbar					
4588078	LOGISK RELÉ CL-LMR.C18DC2 M. DISPLAY OG TIMER	1SVR440721R0300			3 190,00
4588079	LOGISK RELÉ CL-LMR.CX18DC2 M. TIMER	1SVR440721R0200			2 730,00
Logiske reléer 24VDC, 12I/8O, transistorutgang - utvidbar					
4588080	LOGISK RELÉ CL-LMT.C20DC2 M. DISPLAY OG TIMER	1SVR440721R1300			3 190,00
4588081	LOGISK RELÉ CL-LMT.CX20DC2 M. TIMER	1SVR440721R1200			2 730,00
Utvidelsesmoduler med 2 reléutganger					
4588090	UTVIDELSES-MODUL CL-LER.2O	1SVR440709R5000			746,00
Utvidelsesmoduler 100-240VAC, med 12 inng. og 6 reléutganger					
4588091	UTVIDELSES-MODUL CL-LER.18AC2	1SVR440723R0000			2 490,00
Utvidelsesmoduler 24VDC, med 12 inng. og 6 reléutganger					
4588092	UTVIDELSES-MODUL CL-LER.18DC2	1SVR440721R0000			2 490,00
Utvidelsesmoduler 24VDC, med 12 inng. og 8 transistorutganger					
4588093	UTVIDELSES-MODUL CL-LET.20DC2	1SVR440721R1000			2 490,00
4588099	TILKOBL.ENH.F/EXT UTVIDELSE OPP TIL 30 M CL-LEC.CI000	1SVR440709R0000			746,00

EPR - Elektroniske produkter og reléer
Logiske reléer

CL-LDD.K

CL-LDC.LW

CL-LDR

CP-P 24/1,3

CP-D 24/0,42

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Displayenheter					
4588082	DISPLAYENHET CL-LDD.XK U/TASTER	1SVR440839R4500			1 590,00
4588083	DISPLAYENHET CL-LDD.K M/TASTER	1SVR440839R4400			1 710,00
Displaybasemoduler 24VDC, CPU/strømforsyning					
4588086	DISPLAY-MODUL CL-LDC.LDC2	1SVR440821R0000			3 840,00
4588088	DISPLAY-MODUL CL-LNDC.LDC2 CL-NET KOMPATIBEL	1SVR440821R1000			4 620,00
Displaybasemoduler 110...240VAC, CPU/strømforsyning					
4588087	DISPLAY-MODUL CL-LDC.LAC2	1SVR440823R0000			4 130,00
4588089	DISPLAY-MODUL CL-LNDC.LAC2 CL-NET KOMPATIBEL	1SVR440823R1000			4 920,00
Display I/O moduler med 12 inng. og 4 reléutganger					
4588094	DISPLAY I/O-MODUL CL-LDR.16AC2 100-240V AC	1SVR440853R0000			1 610,00
4588095	DISPLAY I/O-MODUL CL-LDR.16DC2 24V DC	1SVR440851R0000			1 610,00
Displayer I/O modul med 12 inng. og 4 transistorutganger, 24V DC					
4588096	DISPLAY I/O-MODUL CL-LDT.16DC2	1SVR440851R1000			1 610,00
4588098	DISPLAY I/O-MODUL CL-LDT.17DC2 + 1 ANALOG UTGANG	1SVR440851R3000			2 120,00
Displayer I/O modul med 12 inng. og 4 reléutganger + 1 analog utgang, 24V DC					
4588097	DISPLAY I/O-MODUL CL-LDR.17DC2	1SVR440851R2000			2 120,00
Strømforsyninger 100...240VAC, 24VDC					
6609492	CP-D 24/0.42, SWITCH MODE POWER 24V/0,42A	1SVR427041R0000			1 770,00
6609493	CP-D 24/1.3, SWITCH MODE POWER 24V/1,3A	1SVR427043R0100			2 140,00
Programvare for PC-tilkobling (for programmering og styring av de logiske releene)					
4588102	SOFTWARE CL-LAS.PS002	1SVR440799R8000			1 910,00
Minnemodul for logiske reléer					
4588103	MINNEMODUL CL-LAS.MD003, 32KB	1SVR440799R7000			353,00
Inngangs og utgangssimulator 100-240V strømforsyning for CL-LSR og CL-LST					
4588106	INPUT/OUTPUT SIM. CL-LAS.TD001	1SVR440793R0000			1 240,00
Festebrakett for skruemontering					
4588107	FESTEBRAKETT CL-LAS.FD001 9-STK.	1SVR440799R5000			24,30
Reserveplugg for tilkobling av utvidelsesmodul					
4588108	RESERVEPLUGG CL-LAS.TK011	1SVR440799R5100			75,00
Beskyttelsesdeksel plombérbart					
4588110	BESKYTTELSEDEKSEL CL-LAD.FD001	1SVR440899R1000			391,00
Beskyttelsesdeksel for tøffe omgivelser					
4588111	BESKYTTELSEDEKSEL CL-LAD.FD011	1SVR440899R2000			391,00
Kabel for tilkobling av logisk-relé til PC					
4588105	KABEL CL-LAS.TK001, SERIEPORT	1SVR440799R6000			906,00
	KABEL CL-LAS.TK002, USB-PORT	1SVR440799R6100			1 610,00
Kabel for tilkobling av display basemodul til PC					
4588109	KABEL CL-LAD.TK001, FOR DISPLAY-SOKKEL, SERIEPORT	1SVR440899R6000			1 130,00
	KABEL CL-LAD.TK002, FOR DISPLAY-SOKKEL, USB-PORT	1SVR440899R6700			1 610,00
Kabler for å sammenkoble 2 display basemoduler (CL-NET)					
4588112	KABEL CL-LAD.TK002, 0.3M	1SVR440899R6100			113,00
4588113	KABEL CL-LAD.TK003, 0.8M	1SVR440899R6200			195,00
4588114	KABEL CL-LAD.TK004, 1.5M	1SVR440899R6300			287,00
Kabler for terminert sammenkobling av displaymoduler					
4588115	KABEL CL-LAD.TK005, 5M. FOR CL-LEC OG DISPLAY BASE-MODUL	1SVR440899R6400			720,00
4588116	KABEL CL-LAD.TK006, 5M. FOR FLERE DISPLAY BASE-MODULER	1SVR440899R6500			1 470,00
Kabel for CL-LEC og logisk relé-sammenkobling					
4588117	KABEL CL-LAD.TK007, 5M	1SVR440899R6600			644,00
Endemotstand for tilkobling av displaymodul					
4588118	ENDEMOTSTAND CL-LAD.TK009 2-STK.	1SVR440899R6900			184,00

EPR - Elektroniske produkter og reléer
Rekkeklemmereléer CR-S

CR-S

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
CR-S-releer					
RG=gullbelagte kontakter, releutgang er 6A/250VAC, 1c/o					
4187860	REKKEKL.RELÉ CR-S005VDC1R	1SVR405501R1010	10		51,00
4187861	REKKEKL.RELÉ CR-S005VDC1RG	1SVR405501R1020	10		61,20
4187862	REKKEKL.RELÉ CR-S012VDC1R	1SVR405501R2010	10		51,00
4187863	REKKEKL.RELÉ CR-S012VDC1RG	1SVR405501R2020	10		61,20
4187864	REKKEKL.RELÉ CR-S024VDC1R	1SVR405501R3010	10		51,00
4187865	REKKEKL.RELÉ CR-S024VDC1RG	1SVR405501R3020	10		61,20
4187866	REKKEKL.RELÉ CR-S048VDC1R	1SVR405501R4010	10		66,30
4187867	REKKEKL.RELÉ CR-S048VDC1RG	1SVR405501R4020	10		76,50
4187868	REKKEKL.RELÉ CR-S060VDC1R	1SVR405501R5010	10		81,60
4187869	REKKEKL.RELÉ CR-S060VDC1RG	1SVR405501R5020	10		91,80
CR-S sokkel					
SS=skrutilkobling, SZ=fjærtilkobling					
4187870	REKKEKL.RELÉ CR-S006/024VDC1SS	1SVR405521R1100	10		86,70
4187871	REKKEKL.RELÉ CR-S006/024VDC1SZ	1SVR405521R1200	10		96,90
4187872	REKKEKL.RELÉ CR-S012/024VADC1SS	1SVR405521R3100	10		86,70
4187873	REKKEKL.RELÉ CR-S012/024VADC1SZ	1SVR405521R3200	10		96,90
4187874	REKKEKL.RELÉ CR-S048/060VADC1SS	1SVR405521R5100	10		91,80
4187875	REKKEKL.RELÉ CR-S048/060VADC1SZ	1SVR405521R5200	10		96,90
4187876	REKKEKL.RELÉ CR-S110/125VADC1SS	1SVR405521R6100	10		107,00
4187877	REKKEKL.RELÉ CR-S110/125VADC1SZ	1SVR405521R6200	10		117,00
4187878	REKKEKL.RELÉ CR-S220/240VADC1SS	1SVR405521R7100	10		107,00
4187879	REKKEKL.RELÉ CR-S220/240VADC1SZ	1SVR405521R7200	10		117,00
CR-S komplette reléer					
RS=skrutilkobling, RZ=fjærtilkobling, RGS/RGZ=gullbelagte kontakter, releutgang er 6A/250V AC, 1c/o					
4187880	REKKEKL.RELÉ CR-S024VADC1CRS	1SVR405541R3110	10		153,00
4187881	REKKEKL.RELÉ CR-S024VADC1CRGS	1SVR405541R3120	10		163,00
4187882	REKKEKL.RELÉ CR-S024VADC1CRGZ	1SVR405541R3220	10		173,00
4187883	REKKEKL.RELÉ CR-S110VADC1CRS	1SVR405541R6110	10		194,00
4187884	REKKEKL.RELÉ CR-S110VADC1CRGS	1SVR405541R6120	10		214,00
4187885	REKKEKL.RELÉ CR-S110VADC1CRZ	1SVR405541R6210	10		214,00
4187886	REKKEKL.RELÉ CR-S110VADC1CRGZ	1SVR405541R6220	10		230,00
4187887	REKKEKL.RELÉ CR-S230VADC1CRS	1SVR405541R7110	10		199,00
4187888	REKKEKL.RELÉ CR-S230VADC1CRGS	1SVR405541R7120	10		214,00
4187889	REKKEKL.RELÉ CR-S230VADC1CRGZ	1SVR405541R7220	10		214,00
Tilbehør					
4187890	CR-SJB20-BLUE SAMLESKINNE 20-POL, BLÅ	1SVR405598R0700	10		40,80
4187891	CR-SJB20-RED SAMLESKINNE 20-POL, RØD	1SVR405598R0800	10		40,80
4187892	CR-SJB20-BLACK SAMLESKINNE 20-POL, SORT	1SVR405598R0900	10		40,80
4187893	CR-SSEP SEPARATOR	1SVR405599R0000	10		17,30

EPR - Elektroniske produkter og reléer
Optokoblere

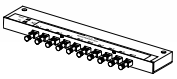
Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Optokoblere med skrutilkobling					
5-58V DC utgang, 100mA, bredde 6mm					
	OPTOKOBLER OBIC0100 24VDC	1SNA645021R2600	10		322,00
	OPTOKOBL OBIC0100 48-60VAC/DC	1SNA645049R1200			361,00
	OPTOKOBLER OBIC0100 115/230VAC/DC	1SNA645022R2700			392,00
24-400V AC utgang, 1A, bredde 6mm					
	OPTOKOBLER OBOA1000 48-60VAC/DC	1SNA645061R0600			506,00
	OPTOKOBLER OBOA1000 115VAC/DC	1SNA645062R0700			506,00
	OPTOKOBLER OBOA1000 230VAC/DC	1SNA645028R0500			513,00
5-58V DC utgang, 2A, bredde 6mm					
	OPTOKOBLER OBOC1000 24VDC	1SNA645051R0400			475,00
	OPTOKOBLER OBOC1500 24VAC/DC	1SNA645025R2200			475,00
	OPTOKOBLER OBOC1000 48-60VAC/DC	1SNA645053R0600			500,00
	OPTOKOBLER OBOC1000 115VAC/DC	1SNA645054R0700			506,00
	OPTOKOBLER OBOC1000 230VAC/DC	1SNA645026R2300			518,00
24-400V AC utgang, 2A, bredde 12mm					
	OPTOKOBLER OBOA2000 24VDC	1SNA645029R0600			602,00
5-58V DC utgang, 5A, bredde 6mm					
	OPTOKOBLER OBOC5000 115VA/DCC	1SNA645058R1300			701,00
	OPTOKOBLER OBOC5000 230VAC/DC	1SNA645059R1400			714,00
Tilbehør					
	DISTR.BLOKK D4/12-3A-3A FOR 2-POL DISTR. M. SKRUKLEMMER	1SNA645031R2000			253,00
	ENDEPLATE SC612	1SNA290474R0200			PPF.
	LASK BJ612-10 10-POL GRÅ	1SNA290488R0100			23,20

EPR - Elektroniske produkter og reléer
Interfast - system med ferdigkoblede plugger for PLS

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Interfast					
Front-end adaptere til Siemens/Allan Bradley PLS'er					
	FR.ADAP. SIEMENS FAS S7300-40	1SNA020948R0100			2 500,00
	FR.ADAP. AB FAS SLC-1	1SNA020949R0200			2 030,00
	FR.ADAP. AB FAS SLC-2	1SNA020950R0700			2 030,00
Løse plugger					
Til ABB AC31					
	LA200/HE10-20/OMN20/661/UL	1SNA039002R2000			1 680,00
Til ABB S800					
	LA200/UNI/OMN20/666	1SNA038038R2200			2 480,00
	LA200/SUBD25F/OMN20/648	1SNA036900R2200			3 140,00
Til Siemens S7 300					
	LA200/HE10-20/OMN20/661/UL	1SNA039002R2000			1 680,00
	FA200/S7 300/2XOMN20/061	1SNA021413R0600			9 880,00
	FA200/S7 300/OMN20/063	1SNA021425R0200			5 930,00
	FA200/S7 300/OMN20/062	1SNA021419R1400			6 090,00
Til Mitsubishi					
	FA150/MELSEC/2XOMN20/463/UL	1SNA034846R1500			6 580,00
	FA200/MELSEC/2XOMN20/463/UL	1SNA034847R1600			6 710,00
	FA300/MELSEC/2XOMN20/463/UL	1SNA034849R2000			7 150,00
	FA500/MELSEC/2XOMN20/463/UL	1SNA034851R1200			7 840,00
	FA150/MELSEC/2XOMN20/464/UL	1SNA034852R1300			6 580,00
	FA200/MELSEC/2XOMN20/464/UL	1SNA034853R1400			6 710,00
	FA300/MELSEC/2XOMN20/464/UL	1SNA034855R1600			7 150,00
	FA500/MELSEC/2XOMN20/464/UL	1SNA034857R1000			7 840,00
	FA150/MELSEC/2XOMN20/325/UL	1SNA034086R0700			7 710,00
	FA200/MELSEC/2XOMN20/325/UL	1SNA034087R0000			8 180,00
	FA300/MELSEC/2XOMN20/325/UL	1SNA034089R1200			8 760,00
	FA500/MELSEC/2XOMN20/325/UL	1SNA034091R0400			10 190,00
	FA150/MELSEC/2XOMN20/326/UL	1SNA034092R0500			7 710,00
	FA200/MELSEC/2XOMN20/326/UL	1SNA034093R0600			8 060,00
	FA300/MELSEC/2XOMN20/326/UL	1SNA034095R0000			8 760,00
	FA500/MELSEC/2XOMN20/326/UL	1SNA034097R0200			10 190,00

EPR - Elektroniske produkter og reléer
Lysbuevakt

TVOC-2



Utvidelsesenhet

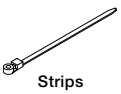
Ekstern display

Strømover-
våkingsenhet

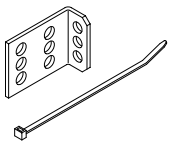
Detektorkabel

Optisk kabel mellom TVOC'er

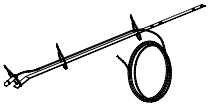
Optisk kabel mellom
TVOC og CSU



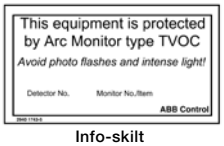
Strips



Festebrakett



Montasjesett



Info-skilt

Elnr:	Betegnelse:		ABB idnr.:	Min. Pakn.	Lager:	Pris:
TVOC-2 lysbuevakt						
Funksjon: Optisk detektering av lysbue i tavle. TVOC-2 sørger for rask utkobling av berørte brytere						
10 optiske input, inkludert et display og dørmonteringssett						
3 IGBT tripp-kontakter, 2 c/o signalreleer						
1 c/o selvovervåket alarmreléutgang						
2 strømovervåket enhets-inngang og 1 utgang. SIL2, marinegodkjent						
TVOC-2 lysbuevakt, IP54						
4116451	LYSBUEVAKT TVOC-2-240 100-240V AC/DC		1SFA664001R1001		L	21 690,00
	LYSBUEVAKT TVOC-2-48 24-48V DC		1SFA664001R1002		L	21 690,00
10 optiske input - for opptil 30m detektorlengde						
4116452	UTVIDELSESENHET TVOC-2-E1		1SFA664002R1001			6 520,00
Ekstra eksternt display						
4116453	HMI KIT TVOC-2-H1		1SFA664002R1005			2 900,00
10 optiske input - for opptil 60m detektorlengde						
4116454	UTVIDELSESENHET TVOC-2-E3		1SFA664002R3001			6 520,00
Enhet som detekterer strømøkning for å verifisere tripp						
4116450	STRØMOVERVÅKINGS-ENHET CSU		1SFA663002-A			14 180,00
For TVOC-2						
4116460	DETEKTOR TVOC-2-DP1 1M		1SFA664003R1010			854,00
4116461	DETEKTOR TVOC-2-DP2 2M		1SFA664003R1020		L	925,00
4116462	DETEKTOR TVOC-2-DP4 4M		1SFA664003R1040		L	975,00
4116463	DETEKTOR TVOC-2-DP6 6M		1SFA664003R1060			1 080,00
4116464	DETEKTOR TVOC-2-DP8 8M		1SFA664003R1080			1 230,00
4116465	DETEKTOR TVOC-2-DP10 10M		1SFA664003R1100			1 320,00
4116466	DETEKTOR TVOC-2-DP15 15M		1SFA664003R1150			1 590,00
4116467	DETEKTOR TVOC-2-DP20 20M		1SFA664003R1200			1 860,00
4116468	DETEKTOR TVOC-2-DP25 25M		1SFA664003R1250			2 110,00
4116469	DETEKTOR TVOC-2-DP30 30M		1SFA664003R1300			2 470,00
Kabel mellom 2 stk TVOC-2 (inkl. CSU-signal)						
4116475	OPTISK KABEL TVOC-2-OP1 1M		1SFA664004R1010			663,00
4116476	OPTISK KABEL TVOC-2-OP4 4M		1SFA664004R1040			834,00
4116477	OPTISK KABEL TVOC-2-OP6 6M		1SFA664004R1060			925,00
4116478	OPTISK KABEL TVOC-2-OP8 8M		1SFA664004R1080			1 060,00
4116479	OPTISK KABEL TVOC-2-OP10 10M		1SFA664004R1100			1 200,00
4116480	OPTISK KABEL TVOC-2-OP15 15M		1SFA664004R1150			1 500,00
4116481	OPTISK KABEL TVOC-2-OP20 20M		1SFA664004R1200			1 660,00
4116482	OPTISK KABEL TVOC-2-OP25 25M		1SFA664004R1250			1 930,00
4116483	OPTISK KABEL TVOC-2-OP30 30M		1SFA664004R1300			2 280,00
Kabel mellom TVOC-2 og strømovervåkings-enhet CSU						
4116490	OPTISK KABEL TVOC-1T02-OP1 1M		1SFA664004R2010			631,00
4116491	OPTISK KABEL TVOC-1T02-OP4 4M		1SFA664004R2040			765,00
4116492	OPTISK KABEL TVOC-1T02-OP6 6M		1SFA664004R2060			849,00
4116493	OPTISK KABEL TVOC-1T02-OP8 8M		1SFA664004R2080			969,00
4116494	OPTISK KABEL TVOC-1T02-OP10 10M		1SFA664004R2100			1 090,00
4116495	OPTISK KABEL TVOC-1T02-OP15 15M		1SFA664004R2150			1 370,00
4116496	OPTISK KABEL TVOC-1T02-OP20 20M		1SFA664004R2200			1 530,00
4116497	OPTISK KABEL TVOC-1T02-OP25 25M		1SFA664004R2250			1 770,00
4116498	OPTISK KABEL TVOC-1T02-OP30 30M		1SFA664004R2300			2 090,00
4116499	STRIPS TVOC-2-MK1	PAKKE Á 50 STK	1SFA664006R1001			606,00
	FESTEBRAKETT	PAKKE Á 5 BRAKETTER + 10 STRIPS	1SFA663006R1010			PPF.
	MONTERINGSSETT 600MM		1SFA663006R1001			390,00
	MONTERINGSSETT 800/1000MM		1SFA663006R1002			PPF.
	INFO-SKILT FOR TAVLEFRONT	PAKKE Á 10 STK	1SFA663005R1001			PPF.

For optiske kabler til gammel utgave av Arc-Guard - ta kontakt med ordrekontoret på 03500

EPR - Elektroniske produkter og reléer
Endebrytere og fotbrytere

LS32M98B11-A

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Endebrytere med 1 NO+1 NC					
Plastkapslet, IP65, LS31P, 30mm bredde, Pg11					
Ståltapp forzinket					
	ENDEBRYTER B=30MM LS31P11B11	1SBV010111R1211			247,00
Rulletapp i polyacetal Ø=11mm					
	ENDEBRYTER B=30MM LS31P13B11	1SBV010113R1211			286,00
Rullearm i stål m rulle i Polyacetal Ø=12,5mm, horisontal bevegelse					
	ENDEBRYTER B=30MM LS31P31B11	1SBV010131R1211			288,00
Rullearm i stål m rulle i Polyacetal Ø=12,5mm, vertikal bevegelse					
	ENDEBRYTER B=30MM LS31P32B11	1SBV010132R1211			276,00
Rullearm i polyacetal Ø=18mm					
	ENDEBRYTER B=30MM LS31P41B11	1SBV010141R1211			309,00
Justérbar rullearm i polyacetal Ø=18mm					
	ENDEBRYTER B=30MM LS31P51B11	1SBV010151R1211			324,00
Justérbar stang Ø=3mm i glassfiber					
	ENDEBRYTER B=30MM LS31P72B11	1SBV010172R1211			322,00
Fjærstang					
	ENDEBRYTER B=30MM LS31P91B11	1SBV010191R1211			298,00
Plastkapslet, IP65, LS40P, 40mm bredde, Pg13,5					
Ståltapp forzinket					
	ENDEBRYTER B=40MM LS40P11B11	1SBV010511R1211			432,00
Rulletapp i rustfritt Ø=12mm					
	ENDEBRYTER B=40MM LS40P13B11	1SBV010513R1211			539,00
Rullearm i polyacetal Ø=22mm					
	ENDEBRYTER B=40MM LS40P41B11	1SBV010541R1211			576,00
Rullearm m rulle i gummi Ø=50mm					
	ENDEBRYTER B=40MM LS40P44B11	1SBV010544R1211			607,00
Justérbar rullearm i polyacetal Ø=22mm					
	ENDEBRYTER B=40MM LS40P51B11	1SBV010551R1211		L	580,00
Justérbar rullearm m rulle i gummi Ø=50mm					
	ENDEBRYTER B=40MM LS40P54B11	1SBV010554R1211			589,00
Justérbar stang Ø=6mm i polyacetal					
	ENDEBRYTER B=40MM LS40P72B11	1SBV010572R1211			540,00
Metallkapsling, IP66, LS40M, 40mm bredde, Pg13,5					
Tapp i rustfritt					
	ENDEBRYTER B=40MM LS40M11B11	1SBV011111R1211			568,00
Rulletapp i rustfritt Ø=12mm					
	ENDEBRYTER B=40MM LS40M13B11	1SBV011113R1211			644,00
Rullearm m rulle i polyacetal Ø=22mm					
	ENDEBRYTER B=40MM LS40M41B11	1SBV011141R1211			757,00
Rullearm m rulle i rustfritt Ø=22mm					
	ENDEBRYTER B=40MM LS40M42B11	1SBV011142R1211			880,00
Justérbar rullearm m rulle i polyacetal Ø=22mm					
	ENDEBRYTER B=40MM LS40M51B11	1SBV011151R1211			788,00
Justérbar stang Ø=6mm i polyacetal					
	ENDEBRYTER B=40MM LS40M72B11	1SBV011172R1211	10		714,00
Uttrekk med ring					
	ENDEBRYTER LS32M98B11-A	1SBV011998R1211			558,00
Fotbrytere					
Mini fotbryter med 1 vekselkontakt					
	FOTBRYTER MINI 1PM1Y	1SBV001101R1823			536,00
Fotbryter med 1 NO+1 NC					
	FOTBRYTER KAPSLET 1PSY1B11	1SBV002105R1211	2		1 230,00

Betjeningsmateriell
Innholdsfortegnelse

Modulært 108
Lyskilder 118
Compact 119
Merkesystem/skiltsystem 124
Kapslinger, tomme og komplette 127
Merkeskilt til kapslinger 129

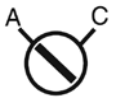
Betjeningsmateriell Modulært
Trykknapper uten/med lys, uten holder og kontaktblokk, IP66

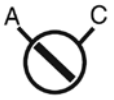
Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Impuls, lavt trykke Uten lys						
4372001	RØD	MP1-10R	1SFA611100R1001	1/10	L	68,40
4372002	GRØNN	MP1-10G	1SFA611100R1002	1/10	L	68,40
4372003	GUL	MP1-10Y	1SFA611100R1003	10		68,40
4372004	BLÅ	MP1-10L	1SFA611100R1004	10		68,40
4372005	HVIT	MP1-10W	1SFA611100R1005	10		68,40
4372006	SORT	MP1-10B	1SFA611100R1006	1/10	L	68,40
4372008	KLAR	MP1-10C	1SFA611100R1008	10		68,40
Med lys						
4372051	M. LYS RØD	MP1-11R	1SFA611100R1101	1/10	L	68,40
4372052	M. LYS GRØNN	MP1-11G	1SFA611100R1102	1/10	L	68,40
4372053	M. LYS GUL	MP1-11Y	1SFA611100R1103	10		68,40
4372054	M. LYS BLÅ	MP1-11L	1SFA611100R1104	10		68,40
4372055	M. LYS HVIT	MP1-11W	1SFA611100R1105	10		68,40
4372058	M. LYS KLAR	MP1-11C	1SFA611100R1108	10		68,40
Skritt, lavt trykke Uten lys						
4372011	RØD	MP2-10R	1SFA611101R1001	10		71,70
4372012	GRØNN	MP2-10G	1SFA611101R1002	10		71,70
4372013	GUL	MP2-10Y	1SFA611101R1003	10		71,70
4372014	BLÅ	MP2-10L	1SFA611101R1004	10		71,70
4372015	HVIT	MP2-10W	1SFA611101R1005	10		71,70
4372016	SORT	MP2-10B	1SFA611101R1006	10		71,70
Med lys						
4372061	M. LYS RØD	MP2-11R	1SFA611101R1101	10		71,70
4372062	M. LYS GRØNN	MP2-11G	1SFA611101R1102	10		71,70
4372063	M. LYS GUL	MP2-11Y	1SFA611101R1103	10		71,70
4372064	M. LYS BLÅ	MP2-11L	1SFA611101R1104	10		71,70
4372065	M. LYS HVIT	MP2-11W	1SFA611101R1105	10		71,70
4372068	M. LYS KLAR	MP2-11C	1SFA611101R1108	10		71,70
Impuls, høyt trykke Uten lys						
4372021	RØD	MP3-10R	1SFA611102R1001	10		82,70
4372022	GRØNN	MP3-10G	1SFA611102R1002	10		82,70
4372023	GUL	MP3-10Y	1SFA611102R1003	10		82,70
4372024	BLÅ	MP3-10L	1SFA611102R1004	10		82,70
4372025	HVIT	MP3-10W	1SFA611102R1005	10		82,70
4372026	SORT	MP3-10B	1SFA611102R1006	10		82,70
Med lys						
4372071	M. LYS RØD	MP3-11R	1SFA611102R1101	10		82,70
4372072	M. LYS GRØNN	MP3-11G	1SFA611102R1102	10		82,70
4372073	M. LYS GUL	MP3-11Y	1SFA611102R1103	10		82,70
4372074	M. LYS BLÅ	MP3-11L	1SFA611102R1104	10		82,70
4372075	M. LYS HVIT	MP3-11W	1SFA611102R1105	10		82,70
4372078	M. LYS KLAR	MP3-11C	1SFA611102R1108	10		82,70

Betjeningsmateriell Modulært
Trykknapper uten/med lys, uten holder og kontaktblokk, IP66

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Skritt, høyt trykke Uten lys						
4372031	RØD	MP4-10R	1SFA611103R1001	10		87,20
4372032	GRØNN	MP4-10G	1SFA611103R1002	10		87,20
4372033	GUL	MP4-10Y	1SFA611103R1003	10		87,20
4372034	BLÅ	MP4-10L	1SFA611103R1004	10		87,20
4372035	HVIT	MP4-10W	1SFA611103R1005	10		87,20
4372036	SORT	MP4-10B	1SFA611103R1006	10		87,20
Med lys						
4372027	M. LYS RØD	MP4-11R	1SFA611103R1101	10		87,20
4372028	M. LYS GRØNN	MP4-11G	1SFA611103R1102	10		87,20
4372029	M. LYS GUL	MP4-11Y	1SFA611103R1103	10		87,20
4372030	M. LYS BLÅ	MP4-11L	1SFA611103R1104	10		87,20
4372037	M. LYS HVIT	MP4-11W	1SFA611103R1105	10		87,20
4372038	M. LYS KLAR	MP4-11C	1SFA611103R1108	10		87,20

Betjeningsmateriell Modulært
Vendere med/uten lys, uten holder og kontaktblokk, IP66





Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Faste stillinger i B og C G5374						
4372276	SORT, KORT HÅNDTAK	M2SS1-10B	1SFA611200R1006	1/10	L	131,00
4372401	MED LYS RØD, KORT HÅNDTAK	M2SS1-11R	1SFA611200R1101	10		131,00
4372402	MED LYS GRØNN, KORT HÅNDTAK	M2SS1-11G	1SFA611200R1102	10		131,00
4372403	MED LYS GUL, KORT HÅNDTAK	M2SS1-11Y	1SFA611200R1103	10		131,00
4372404	MED LYS BLÅ, KORT HÅNDTAK	M2SS1-11L	1SFA611200R1104	10		131,00
4372408	MED LYS KLAR, KORT HÅNDTAK	M2SS1-11C	1SFA611200R1108	10		131,00
Faste stillinger i A og C						
4372286	SORT, KORT HÅNDTAK	M2SS2-10B	1SFA611201R1006	1/10	L	131,00
4372411	MED LYS RØD, KORT HÅNDTAK	M2SS2-11R	1SFA611201R1101	10		131,00
4372412	MED LYS GRØNN, KORT HÅNDTAK	M2SS2-11G	1SFA611201R1102	1/10		131,00
4372413	MED LYS GUL, KORT HÅNDTAK	M2SS2-11Y	1SFA611201R1103	10	L	131,00
4372414	MED LYS BLÅ, KORT HÅNDTAK	M2SS2-11L	1SFA611201R1104	1/10	L	131,00
4372418	MED LYS KLAR, KORT HÅNDTAK	M2SS2-11C	1SFA611201R1108	10		131,00
Impuls, fjærretur fra C til B						
4372296	SORT, KORT HÅNDTAK	M2SS3-10B	1SFA611202R1006	10		131,00
4372421	MED LYS RØD, KORT HÅNDTAK	M2SS3-11R	1SFA611202R1101	10		131,00
4372422	MED LYS GRØNN, KORT HÅNDTAK	M2SS3-11G	1SFA611202R1102	10		131,00
4372423	MED LYS GUL, KORT HÅNDTAK	M2SS3-11Y	1SFA611202R1103	10		131,00
4372424	MED LYS BLÅ, KORT HÅNDTAK	M2SS3-11L	1SFA611202R1104	10		131,00
4372428	MED LYS KLAR, KORT HÅNDTAK	M2SS3-11C	1SFA611202R1108	10		131,00
Faste stillinger i B og C						
4372306	SORT, LANGT HÅNDTAK	M2SS4-10B	1SFA611203R1006	10		131,00
4372431	MED LYS RØD, LANGT HÅNDTAK	M2SS4-11R	1SFA611203R1101	10		131,00
4372432	MED LYS GRØNN, LANGT HÅNDTAK	M2SS4-11G	1SFA611203R1102	10		131,00
4372433	MED LYS GUL, LANGT HÅNDTAK	M2SS4-11Y	1SFA611203R1103	10		131,00
4372434	MED LYS BLÅ, LANGT HÅNDTAK	M2SS4-11L	1SFA611203R1104	10		125,00
4372438	MED LYS KLAR, LANGT HÅNDTAK	M2SS4-11C	1SFA611203R1108	10		131,00
Faste stillinger i A og C						
4372316	SORT, LANGT HÅNDTAK	M2SS5-10B	1SFA611204R1006	10		131,00
4372441	MED LYS RØD, LANGT HÅNDTAK	M2SS5-11R	1SFA611204R1101	10		131,00
4372442	MED LYS GRØNN, LANGT HÅNDTAK	M2SS5-11G	1SFA611204R1102	10		131,00
4372443	MED LYS GUL, LANGT HÅNDTAK	M2SS5-11Y	1SFA611204R1103	10		131,00
4372444	MED LYS BLÅ, LANGT HÅNDTAK	M2SS5-11L	1SFA611204R1104	10		131,00
4372448	MED LYS KLAR, LANGT HÅNDTAK	M2SS5-11C	1SFA611204R1108	10		131,00
Impuls, fjærretur fra C til B						
4372326	SORT, LANGT HÅNDTAK	M2SS6-10B	1SFA611205R1006	10		131,00
4372451	MED LYS RØD, LANGT HÅNDTAK	M2SS6-11R	1SFA611205R1101	10		131,00
4372452	MED LYS GRØNN, LANGT HÅNDTAK	M2SS6-11G	1SFA611205R1102	10		131,00
4372453	MED LYS GUL, LANGT HÅNDTAK	M2SS6-11Y	1SFA611205R1103	10		131,00
4372454	MED LYS BLÅ, LANGT HÅNDTAK	M2SS6-11L	1SFA611205R1104	10		131,00
4372458	MED LYS KLAR, LANGT HÅNDTAK	M2SS6-11C	1SFA611205R1108	10		131,00
2-posisjoner, faste stillinger i B og C. Nøkkel ut i begge pos.						
4372540	NØKKELVENDER	M2SSK1-101	1SFA611280R1001		L	450,00

Betjeningsmateriell Modulært
Vendere med/uten lys, 3-posisjoner uten holder og kontaktblokk, IP66

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Faste stillinger i A, B og C						
4372336	SORT, KORT HÅNDTAK	M3SS1-10B	1SFA611210R1006	1/10	L	167,00
4372471	MED LYS RØD, KORT HÅNDTAK	M3SS1-11R	1SFA611210R1101	10		167,00
4372472	MED LYS GRØNN, KORT HÅNDTAK	M3SS1-11G	1SFA611210R1102	10	L	167,00
4372473	MED LYS GUL, KORT HÅNDTAK	M3SS1-11Y	1SFA611210R1103	10		167,00
4372474	MED LYS BLÅ, KORT HÅNDTAK	M3SS1-11L	1SFA611210R1104	10		167,00
4372478	MED LYS KLAR, KORT HÅNDTAK	M3SS1-11C	1SFA611210R1108	10		167,00
Impuls, fjærretur fra A og C til B						
4372346	SORT, KORT HÅNDTAK	M3SS2-10B	1SFA611211R1006	10		167,00
4372481	MED LYS RØD, KORT HÅNDTAK	M3SS2-11R	1SFA611211R1101	10		167,00
4372482	MED LYS GRØNN, KORT HÅNDTAK	M3SS2-11G	1SFA611211R1102	10		167,00
4372483	MED LYS GUL, KORT HÅNDTAK	M3SS2-11Y	1SFA611211R1103	10		167,00
4372484	MED LYS BLÅ, KORT HÅNDTAK	M3SS2-11L	1SFA611211R1104	10		167,00
4372488	MED LYS KLAR, KORT HÅNDTAK	M3SS2-11C	1SFA611211R1108	10		167,00
Fast stilling i A og B, fjærretur fra C til B						
4372356	SORT, KORT HÅNDTAK	M3SS3-10B	1SFA611212R1006	10		167,00
4372491	MED LYS RØD, KORT HÅNDTAK	M3SS3-11R	1SFA611212R1101	10		167,00
4372492	MED LYS GRØNN, KORT HÅNDTAK	M3SS3-11G	1SFA611212R1102	10		167,00
4372493	MED LYS GUL, KORT HÅNDTAK	M3SS3-11Y	1SFA611212R1103	10		167,00
4372494	MED LYS BLÅ, KORT HÅNDTAK	M3SS3-11L	1SFA611212R1104	10		167,00
4372498	MED LYS KLAR, KORT HÅNDTAK	M3SS3-11C	1SFA611212R1108	10		167,00
Faste stillinger i A, B og C						
4372366	SORT, LANGT HÅNDTAK	M3SS4-10B	1SFA611213R1006	10		167,00
4372501	MED LYS RØD, LANGT HÅNDTAK	M3SS4-11R	1SFA611213R1101	10		167,00
4372502	MED LYS GRØNN, LANGT HÅNDTAK	M3SS4-11G	1SFA611213R1102	10		167,00
4372503	MED LYS GUL, LANGT HÅNDTAK	M3SS4-11Y	1SFA611213R1103	10		167,00
4372504	MED LYS BLÅ, LANGT HÅNDTAK	M3SS4-11L	1SFA611213R1104	10		167,00
4372508	MED LYS KLAR, LANGT HÅNDTAK	M3SS4-11C	1SFA611213R1108	10		167,00
Impuls, fjærretur fra A og C til B						
4372376	SORT, LANGT HÅNDTAK	M3SS5-10B	1SFA611214R1006	10		167,00
4372511	MED LYS RØD, LANGT HÅNDTAK	M3SS5-11R	1SFA611214R1101	10		167,00
4372512	MED LYS GRØNN, LANGT HÅNDTAK	M3SS5-11G	1SFA611214R1102	10		167,00
4372513	MED LYS GUL, LANGT HÅNDTAK	M3SS5-11Y	1SFA611214R1103	10		167,00
4372514	MED LYS BLÅ, LANGT HÅNDTAK	M3SS5-11L	1SFA611214R1104	10		167,00
4372518	MED LYS KLAR, LANGT HÅNDTAK	M3SS5-11C	1SFA611214R1108	10		167,00
Fast stilling i A og B, fjærretur fra C til B						
4372386	SORT, LANGT HÅNDTAK	M3SS6-10B	1SFA611215R1006	10		167,00
4372521	MED LYS RØD, LANGT HÅNDTAK	M3SS6-11R	1SFA611215R1101	10		167,00
4372522	MED LYS GRØNN, LANGT HÅNDTAK	M3SS6-11G	1SFA611215R1102	10		167,00
4372523	MED LYS GUL, LANGT HÅNDTAK	M3SS6-11Y	1SFA611215R1103	10		167,00
4372524	MED LYS BLÅ, LANGT HÅNDTAK	M3SS6-11L	1SFA611215R1104	10		167,00
4372528	MED LYS KLAR, LANGT HÅNDTAK	M3SS6-11C	1SFA611215R1108	10		167,00
3-posisjoner, faste stillinger i A, B og C. Nøkkel ut i alle pos.						
4372543	NØKKELVENDER	M3SSK1-101	1SFA611283R1001		L	458,00

Betjeningsmateriell Modulært
Soppknapp, dobbel-trykknapp, vippebryter, joystick, signallampe, IP66

Joystick

Joystick med låsering

Merkeplater 4 retn.

ML1-1x

ML1-2x

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Soppknapper uten lys 40mm impuls						
4372234	SOPPTRYKKNAPP RØD 40MM	MPM1-10R	1SFA611124R1001			190,00
4372235	SOPPTRYKKNAPP SORT 40MM	MPM1-10B	1SFA611124R1006			190,00
	SOPPTRYKKNAPP RØD 60 MM	MPM2-10R	1SFA611125R1001			187,00
	SOPPTRYKKNAPP SORT 60 MM	MPM2-10B	1SFA611125R1006			187,00
Doble trykknapper **Øvre trykknapp grønn, nedre trykknapp rød**						
4372100	SORT LINSE, UTEN TEKST	MPD1-11B	1SFA611130R1106	10		145,00
	SORT LINSE, MERKET «START» OG «STOP»	MPD4-11B	1SFA611133R1106	10		145,00
4372101	SORT LINSE, MERKET « I « OG « O «	MPD2-11B	1SFA611131R1106	10	L	145,00
4372131	GRØN LINSE MED LYS, MERKET « I « OG « O «	MPD2-11G	1SFA611131R1102	10		145,00
	KLAR LINSE MED LYS, MERKET « I « OG « O «	MPD2-11C	1SFA611131R1108	10	L	145,00
Vippebrytere **Leveres uten holder og kontaktblokker** **2-posisjoner, faste stillinger**						
4372550	SORT	MTS1-10B	1SFA611300R1006	10		187,00
3-posisjoner, fjærretur till midt						
4372551	SORT	MTS2-10B	1SFA611301R1006	10		249,00
3-posisjoner, faste stillinger						
4372552	SORT	MTS3-10B	1SFA611302R1006	10		144,00
Joystick **Bruk frontmonterte kontaktblokker**						
4372965	JOYSTICK 2-POS FAST	MJS1-60B	1SFA611701R6006			621,00
4372966	JOYSTICK 2-POS FJÆR	MJS2-60B	1SFA611702R6006			621,00
4372967	JOYSTICK 4-POS FAST	MJS5-60B	1SFA611705R6006			695,00
4372968	JOYSTICK 4-POS FJÆR	MJS6-60B	1SFA611706R6006			695,00
Med låsering - bruk frontmonterte kontaktblokker						
4372969	JOYSTICK 2-POS FAST	MJS7-60B	1SFA611707R6006			695,00
4372970	JOYSTICK 2-POS FJÆR	MJS8-60B	1SFA611708R6006			695,00
4372971	JOYSTICK 4-POS FAST	MJS11-60B	1SFA611711R6006			806,00
4372972	JOYSTICK 4-POS FJÆR	MJS12-60B	1SFA611712R6006			806,00
Merkeplater for joystick, med pilsymboler						
4372975	MERKEPLATE OPP-NED	MA6-1240	1SFA611930R1240			230,00
4372976	MERKEPLATE HØYRE-VENSTRE	MA6-1241	1SFA611930R1241			230,00
4372977	MERKEPLATE 4-RETNINGER	MA6-1242	1SFA611930R1242			230,00
Signallamper						
4372571	RØD	ML1-100R	1SFA611400R1001	1/10	L	44,20
4372572	GRØNN	ML1-100G	1SFA611400R1002	1/10	L	41,90
4372573	GUL	ML1-100Y	1SFA611400R1003	1/10		44,20
4372574	BLÅ	ML1-100L	1SFA611400R1004	1/10	L	44,20
4372575	HVIT	ML1-100W	1SFA611400R1005	1/10	L	44,20
4372578	KLAR	ML1-100C	1SFA611400R1008	10		44,20
Komplette signallamper med holder og lampeblokk u/pære **Direktematet max 2W 230V**						
4373001	RØD	ML1-201G	1SFA611400R2011		L	138,00
4373002	GRØNN	ML1-201G	1SFA611400R2012		L	138,00
4373003	GUL	ML1-201Y	1SFA611400R2013			138,00
4373004	BLÅ	ML1-201L	1SFA611400R2014			138,00
4373005	HVIT	ML1-201W	1SFA611400R2015			138,00
230V - for 130V pære, max 2W						
4373021	RØD 230/130V	ML1-203R	1SFA611400R2031			169,00
4373022	GRØNN 230/130V	ML1-203G	1SFA611400R2032			169,00
4373025	HVIT 230/130V	ML1-203W	1SFA611400R2035			169,00
4373028	KLAR 230/130V	ML1-203C	1SFA611400R2038			163,00

Betjeningsmateriell Modulært
Trykknapp med gummimembran, potensiometer, summer, reset-knapp

MT-150B

KPR1

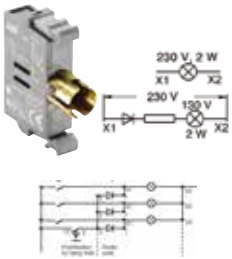
KPR3

KPM2

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Trykknapp med gummimembran						
4372590	BETJ.DEL 30MM IMP. SORT	KP6-40B	1SFA616105R4006			200,00
Potensiometer **Kun betjeningsdel - i sort plast**						
	AKSELDIA. 6-6,35MM,					
4372295	MIN AKSEL LENGDE 20MM	KT100B	1SFA616410R1006	10		190,00
Komplett betjeningsdel i sort plast med 5k-ohm motstand						
4372299	POTENSIOMETER	MT-105B	1SFA611410R1056			540,00
Komplett betjeningsdel i sort plast med 10k-ohm motstand						
4372300	POTENSIOMETER	MT-110B	1SFA611410R1106		L	540,00
Potensiometer for EPR produkter (timere og overvåkingsreleer) **Komplett med 50k-ohm-2ohm motstand, IP66, Ø=22,5 mm**						
4372593	SORT PLAST	MT-150B	1SFA611410R1506			PPF.
4372594	KROM PLAST	MT-250B	1SFA611410R2506			PPF.
4372595	KROM METALL	MT-350B	1SFA611410R3506			PPF.
4372596	MERKESKILT SYMBOL	SK 615562-87	SK615562-87			PPF.
4372302	SKALA 0-10 FOR POTMETER	SK 615562-88	SK615562-88	10		40,00
4372597	SKALA 0-30 FOR POTMETER	MA16-1060	1SFA611940R1060			598,00
Summer, IP65 **Frekvens 2400hz, lydstyrke 80dB(a)/10cm, levetid 5000t, strømforbruk<8mA**						
4373031	24V AC/DC KONTINUERLIG TONE	KB1-4010	1SFA616401R4010			887,00
4373033	230V AC KONTINUERLIG TONE	KB1-4040	1SFA616401R4040			839,00
4373035	24V AC/DC PULSERENDE TONE	KB1-4110	1SFA616401R4110			839,00
4373037	230V AC PULSERENDE TONE	KB1-4140	1SFA616401R4140			839,00
Resetknapper **Uten forlenger** **Med lavt trykke**						
4372581	RØD	KPR1-100R	1SFA616160R1001	10		120,00
4372582	GRØNN	KPR1-100G	1SFA616160R1002	10		120,00
4372583	GUL	KPR1-100Y	1SFA616160R1003	10		120,00
4372584	BLÅ	KPR1-100L	1SFA616160R1004	10		120,00
4372589	BLÅ MERKET « R « PÅ TRYKKET	KPR1-101L	1SFA616160R1014	10		135,00
4372585	HVIT	KPR1-100W	1SFA616160R1005	10		120,00
4372586	HVIT MERKET « R « PÅ TRYKKET	KPR1-101W	1SFA616160R1015	10		135,00
4372587	SORT	KPR1-100B	1SFA616160R1006	10		120,00
Med høyt trykke						
4372553	RØD	KPR2-100R	1SFA616161R1001	10		138,00
4372557	HVIT	KPR2-100W	1SFA616161R1005	10		138,00
4372558	SORT	KPR2-100B	1SFA616161R1006	10		138,00
Med forlenger **Med lavt trykke**						
4372559	BLÅ MERKET « R « PÅ TRYKKET	KPR3-101L	1SFA616162R1014	10		145,00
4372600	HVIT MERKET « R « PÅ TRYKKET	KPR3-101W	1SFA616162R1015	10		145,00
4372560	SORT MERKET « RESET» PÅ TRYKKET	KPR3-104B	1SFA616162R1046	10		145,00
Tilbehør til resetknapper **Når forlenger brukes kan en bøyelig sammenføyning brukes for å unngå skader, forårsaket av uforsiktig berøring av forlenger**						
4372601	30-200MM	KA1-8046	1SFA616920R8046	10		145,00
4372548	SAMMENFØYNING	KA1-8047	1SFA616920R8047	10		111,00

Betjeningsmateriell Modulært
Kontaktblokk, holdere og tilbehør

MCB-11 dobbel blokk



MLBL

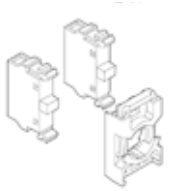
Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Holdere for moduler (kontaktblokker/lampeblokker)						
4373197	HOLDER FOR 3 BLOKK	MCBH-00	1SFA611605R1100	1/10	L	24,30
4373196	HOLDER FOR 5 BLOKK *)	MCBH5-00	1SFA611601R1100	10		68,40
	*) BRUK DOBBEL-KONTAKTBLOKK 2NO, 2NC ELLER 1NO+1NC					
Kontaktblokker for frontmontering						
4373185	KONTAKTBLOKK 1NO	MCB-10	1SFA611610R1001	1/10	L	59,60
4373186	KONTAKTBLOKK 1NC	MCB-01	1SFA611610R1010	1/10	L	59,60
4372990	DOBBEL KONTAKTBLOKK 2NO	MCB-20	1SFA611610R1002	10		174,00
4372991	DOBBEL KONTAKTBLOKK 2NC	MCB-02	1SFA611610R1020	10		174,00
4372992	DOBBEL KONTAKTBLOKK 1NO+1NC	MCB-11	1SFA611610R1011	10	L	174,00
Kontaktblokker for bunnmontering (til kapslinger og DIN-brakett)						
4373050	KONTAKTBLOKK 1NO	MCB-10B	1SFA611610R2001	1/10	L	60,70
4373051	KONTAKTBLOKK 1NC	MCB-01B	1SFA611610R2010	1/10	L	60,30
4372993	DOBBEL KONTAKTBLOKK 2NO	MCB-20B	1SFA611610R2002	10		97,10
4372994	DOBBEL KONTAKTBLOKK 2NC	MCB-02B	1SFA611610R2020	10		97,10
4372995	DOBBEL KONTAKTBLOKK 1NO+1NC	MCB-11B	1SFA611610R2011	10		97,10
Lampeblokker for frontmontering						
4373190	LAMPEBLOKK DIREKTEMATET 6-230V	MLB-1	1SFA611620R1001	1/10	L	57,40
	MAX 2W 230V					
4373192	LAMPEBLOKK 230V FOR 130V	MLB-3	1SFA611620R1003	1/10	L	87,20
	LYSPÆRE MAX 2W					
	DIODEBLOKK FOR LAMPETEST	MDB-1001	1SFA611630R1001	10		118,00
Lampeblokker for bunnmontering (til kapslinger og DIN-brakett)						
4373055	LAMPEBLOKK DIREKTEMATET	MLB-1B	1SFA611620R2001	1/10	L	57,40
	FOR BUNNMONTERING MAX 2W 230V					
4373057	LAMPEBLOKK FOR BUNNMONTERING	MLB-3B	1SFA611620R2003	10		87,20
	230V FOR 130V LYSPÆRE MAX 2W					

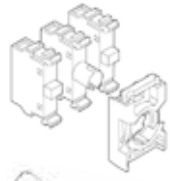
Lampeblokk med integrert LED

For frontmontasje (det finnes flere spenningsvarianter, samt utgave for bunnmontering)

4373113	LAMPEBL.M.DIODE 230VAC RØD	MLBL-07R	1SFA611621R1071	10		202,00
4373114	LAMPEBL.M.DIODE 230VAC GRØNN	MLBL-07G	1SFA611621R1072	10	L	202,00
4373115	LAMPEBL.M.DIODE 230VAC GUL	MLBL-07Y	1SFA611621R1073	10		202,00
4373116	LAMPEBL.M.DIODE 230VAC BLÅ	MLBL-07L	1SFA611621R1074	10		202,00
4373117	LAMPEBL.M.DIODE 230VAC HVIT	MLBL-07W	1SFA611621R1075	10	L	202,00
4373118	LAMPEBL.M.DIODE 24VAC/DC RØD	MLBL-01R	1SFA611621R1011	10		162,00
4373119	LAMPEBL.M.DIODE 24VAC/DC GRØNN	MLBL-01G	1SFA611621R1012	10		162,00
4373120	LAMPEBL.M.DIODE 24VAC/DC GUL	MLBL-01Y	1SFA611621R1013	10		162,00
4373121	LAMPEBL.M.DIODE24VAC/DC BLÅ	MLBL-01L	1SFA611621R1014	10		162,00
4373122	LAMPEBL.M.DIODE 24VAC/DC HVIT	MLBL-01W	1SFA611621R1015	10		162,00
4373258	LAMPEBL.M.DIODE 110-130VAC RØD	MLBL-04R	1SFA611621R1041	10		167,00
4373259	LAMPEBL.M.DIODE 110-130VAC GRØNN	MLBL-04G	1SFA611621R1042	10		167,00
4373260	LAMPEBL.M.DIODE 110-130VAC GUL	MLBL-04Y	1SFA611621R1043	10		167,00
4373261	LAMPEBL.M.DIODE 110-130VAC BLÅ	MLBL-04L	1SFA611621R1044	10		167,00
4373262	LAMPEBL.M.DIODE 110-130VAC HVIT	MLBL-04W	1SFA611621R1045	10		167,00

Betjeningsmateriell Modulært
Kontaktblokk, holdere og tilbehør





MA1-8131

MDB-2

Adapter 30-> 22mm

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
4373264	LAMPEBL.M.DIODE 110-130VDC RØD	MLBL-05R	1SFA611621R1051	10		167,00
4373265	LAMPEBL.M.DIODE 110-130VDC GRØNN	MLBL-05G	1SFA611621R1052	10		167,00
4373266	LAMPEBL.M.DIODE 110-130VDC GUL	MLBL-05Y	1SFA611621R1053	10		167,00
4373267	LAMPEBL.M.DIODE 110-130VDC BLÅ	MLBL-05L	1SFA611621R1054	10		167,00
4373268	LAMPEBL.M.DIODE 110-130VDC HVIT	MLBL-05W	1SFA611621R1055	10		167,00
4373269	LAMPEBL.M.DIODE 220VDC RØD	MLBL-06R	1SFA611621R1061	10		167,00
4373270	LAMPEBL.M.DIODE 220VDC GRØNN	MLBL-06G	1SFA611621R1062	10		167,00
4373271	LAMPEBL.M.DIODE 220VDC GUL	MLBL-06Y	1SFA611621R1063	10		167,00
4373272	LAMPEBL.M.DIODE 220VDC BLÅ	MLBL-06L	1SFA611621R1064	10		167,00
4373273	LAMPEBL.M.DIODE 220VDC HVIT	MLBL-06W	1SFA611621R1065	10		167,00
Komplett holder med kontaktblokker						
4372826	HOLDER OG KONTAKTBLOKK 1NO	MCBH-10	1SFA611605R1101	10		110,00
4372827	HOLDER OG KONTAKTBLOKK 1NC	MCBH-01	1SFA611605R1110	10		110,00
4372828	HOLDER OG KONTAKTBLOKK 1NO + 1NC	MCBH-11	1SFA611605R1111	10		189,00
4372829	HOLDER OG KONTAKTBLOKK 2NO	MCBH-20	1SFA611605R1102	10		189,00
4372830	HOLDER OG KONTAKTBLOK 2NC	MCBH-02	1SFA611605R1120	10		189,00
Holder med kontaktblokk og direktematet lampeblokk for 6-230V (LB)						
4372836	HOLDER OG 1NO + 1LB	MCBH-101	1SFA611605R1201	10		186,00
4372839	HOLDER OG 1NC + 1LB	MCBH-011	1SFA611605R1210	10		186,00
4372842	HOLDER OG 1NO + 1NC +1LB	MCBH-111	1SFA611605R1211	10		263,00
4372845	HOLDER OG 2NO + 1LB	MCBH-201	1SFA611605R1202	10		263,00
4372848	HOLDER OG 2NC + 1LB	MCBH-021	1SFA611605R1220	10		263,00
Tilbehør						
4373286	LAMPESKIFTER	KA1-8072	1SFA616920R8072			67,20
4373309	MONTERINGSVERKTØY	MA1-8015	1SFA611920R8015	1/10		37,10
4373305	BESKYTTELSERING FOR HØYT TRYKKE		SK615512-1			14,20
4373316	BESKYTTELOKK FOR LAVT TRYKKE	KA1-8010	1SFA616920R8010	1/10	L	166,00
4373301	TETNINGSMEMBRAN FOR LAVT TRYKKE	KA1-8052	1SFA616920R8052	1/10		29,80
4373303	TETNINGSMEMBRAN FOR HØYT TRYKKE	KA1-8002	1SFA616920R8002	10		98,20
4373302	TETNINGSMEMBRAN FOR DOBBEL TRYKKAPP	MA1-8126	1SFA611920R8126	10		48,60
4372996	ADAPTOR FOR LAVT MONTERT TRYKKNAPP	KA1-8073	1SFA616920R8073			120,00
	ADAPTOR FOR LAVT MONTERT VENDER	KA1-8074	1SFA616920R8074			113,00
Reservenøkkel						
4373307	RESERVENØKKEL KODE 71		SK616021-71	10		37,20
Beskyttelsehylse **For å gjøre bunnmonterte lampeblokker berøringsbeskyttede, IP20.**						
4373060	BESKYTTELSEHYLSE		53960543-1			18,80
Adapter for montering av modulær trykknapp på DIN-skinne **NB - bruk bunnmonterte kontaktblokker**						
4373367	DIN-RAIL ADAPT.MA1-8131	MA1-8131	1SFA611920R8131	1/10	L	108,00
4373300	DUMMYBLOKK FOR COMPACT	MDB-2	1SFA611630R1002	10		10,30
Adapter for montering av 22mm utstyr i 30mm hull **For signallamper, trykknapper, vendere og potmeter**						
4373317	SVART PLAST	KA1-8029	1SFA616920R8029			71,70
4373318	METALL	KA1-8030	1SFA616920R8030			89,40
For nødstoppbrytere						
4373319	SVART PLAST	KA1-8027	1SFA616920R8027			PPF.
4373320	METALL	KA1-8028	1SFA616920R8028			138,00
Berøringsbeskyttelse **Brukes separat eller til modulær/kompakt-kapsling** **Løse berøringsbeskyttelser til 40 mm trykknapp, høy låsbar type**						
4373365	BERØRINGSSIKRING GUL	MA1-8053	1SFA611920R8053	1/10	L	88,20
4373366	BERØRINGSSIKRING GRÅ	MA1-8128	1SFA611920R8128	10		88,20
Løse berøringsbeskyttelser, lav type						
4373371	BERØRINGSSIKR. GUL	CA1-8053	1SFA619920R8053		L	67,20
4373372	BERØRINGSSIKR. GRÅ	CA1-8054	1SFA619920R8054			67,20

Betjeningsmateriell Modulært
Komplette trykknapper, signallamper og vendere

Elnr:	Betegnelse:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Komplette trykknapper impuls, uten lys, alle farger følger med					
4372639	LAV FRONT, IMPULS, 1NO+1NC, ALLE FARGER	1SFA611100R4079		L	248,00
Komplette lystrykknapper impuls, alle farger følger med, (uten lyskilde)					
4372719	LAV FRONT, IMPULS, 1NO+1NC, ALLE FARGER. 230V DIREKTE, 130V GLØDELAMPE	1SFA611100R4479			394,00
4372709	LAV FRONT, IMPULS, 1NO+1NC, ALLE FARGER LAMPEBLOKK 6-230V	1SFA611100R4279		L	356,00
4372739	HØY FRONT, IMPULS, 1NO+1NC, ALLE FARGER LAMPEBLOKK 6-230V	1SFA611102R4279			374,00
Komplette signallamper, alle farger følger med (uten lyskilde)					
4373029	ALLE FARGER, 230V DIREKTE, 130V GLØDELAMPE	1SFA611400R2039		L	256,00
4373009	ALLE FARGER, 6-130V TILKOBLING, UTEN GLØDELAMPE	1SFA611400R2019			193,00
Komplett dobbeltrykknapp, flat front, med grønn linse (uten lyskilde) Grønn merket » I « og rød merket » O «					
4372766	1NO + 1NC + LAMPEBLOKK	1SFA611131R2272		L	320,00
Komplett trykknapp uten lys					
4372634	TRYKKN. IMP.BLÅ LAVT TRYKK 1NO	1SFA611100R4014			169,00
4372632	TRYKKN. IMP.GRØNN LAVT TRYKK 1NO	1SFA611100R4012			169,00
	TRYKKN. IMP.RØD LAVT TRYKK 1NO	1SFA611100R4041			169,00
Komplett trykknapp med lys direktematet 6-230V, uten pære/LED					
4372702	LYSTRYKKN. IMP.GRØNN LAVT TRYKK 1NC+LB	1SFA611100R4212			224,00
4372715	LYSTRYKKN. IMP.HVIT LAVT TRYKK 1NC+LB	1SFA611100R4245			224,00
Vendere med kort håndtak, 2-posisjoner Fast B og C					
4372861	SORT, 1NO	1SFA611200R4016		L	284,00
4372863	SORT, 1NC	1SFA611200R4046			284,00
4372885	MED LYS GRØNN, 1NO	1SFA611200R4212			284,00
Fast A og C					
4372865	SORT, 1NO	1SFA611201R4016			284,00
4372867	SORT, 1NC	1SFA611201R4046			284,00
4372897	MED LYS GRØNN, 1NO	1SFA611201R4212			284,00
Autoretur C til B					
4372869	SORT, 1NO	1SFA611202R4016			284,00
4372871	SORT, 1NC	1SFA611202R4046			284,00
Nøkkel ut i begge pos					
4372951	NØKKELVENDER , 1NO	1SFA611280R2011		L	488,00
	NØKKELVENDER , 1NC	1SFA611280R2041			559,00
Nøkkel ut i B					
4372955	NØKKELVENDER , 1NO	1SFA611281R2011			496,00
4372957	NØKKELVENDER , 1NC	1SFA611281R2041			496,00
Autoretur C til B, nøkkel ut i B					
4372959	NØKKELVENDER , 1NO	1SFA611282R2011			490,00
4372961	NØKKELVENDER , 1NC	1SFA611282R2041			496,00
Vendere med kort håndtak, 3-posisjoner Fast					
4372873	SORT, 2NO	1SFA611210R4026		L	378,00
Autoretur A til B og C til B					
4372875	SORT, 2NO	1SFA611211R4026			378,00
Fast A og B, autoretur C til B					
4372877	SORT, 2NO	1SFA611212R4026			378,00

Betjeningsmateriell Modulært
Nødstopp og maskinstopp

MPET3-10R 30mm

MPEK3-x 30mm

MPET4-10R 40mm

MPEP4-10R 40mm

MPMP4-10R 60mm

MPMP4-11R 60mm

MPEP3-10B 30mm

MPEK3-11B 30mm

MPET4-10B 40mm

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Nødstopp-fronter - uten lys, ihht IEC 60947-5-5, holder og kontaktblokker bestilles separat						
4372200	NØDSTOPP Ø=30MM VRI	MPET3-10R	1SFA611520R1001			217,00
4372201	NØDSTOPP Ø=30MM DRA	MPEP3-10R	1SFA611521R1001			217,00
4372202	NØDSTOPP Ø=30MM M.NØKKELBRYTER KODE 71	MPEK3-11R	1SFA611522R1101			435,00
4372203	NØDSTOPP Ø=30MM M.NØKKELBRYTER KODE 72	MPEK3-12R	1SFA611522R1201			435,00
4372204	NØDSTOPP Ø=30MM M.NØKKELBRYTER KODE 73	MPEK3-13R	1SFA611522R1301			435,00
4372205	NØDSTOPP Ø=40MM VRI	MPET4-10R	1SFA611523R1001		L	217,00
4372206	NØDSTOPP Ø=40MM DRA	MPEP4-10R	1SFA611524R1001		L	217,00
4372207	NØDSTOPP Ø=40MM NØKKELBR., KODE 71	MPEK4-11R	1SFA611525R1101			435,00
4372208	NØDSTOPP Ø=40MM NØKKELBR., KODE 72	MPEK4-12R	1SFA611525R1201			435,00
4372209	NØDSTOPP Ø=40MM NØKKELBR., KODE 73	MPEK4-13R	1SFA611525R1301			435,00
Nødstoppfronter uten lys, IEC60947-5-5, EN418, NB! med holder, men uten kontaktblokk						
4372265	Ø60MM, RØD, VRID	MPMT4-10R	1SFA611513R2001			226,00
4372266	Ø60MM, RØD, DRAG	MPMP4-10R	1SFA611514R2001			226,00
Nødstoppfronter med lys, IEC60947-5-5, EN418, NB! med holder, men uten kontaktblokk						
4372267	Ø60MM, RØD, VRID, BELYST	MPMT4-11R	1SFA611513R2101			271,00
4372268	Ø60MM, RØD, DRAG, BELYST	MPMP4-11R	1SFA611514R2101			271,00
Maskinstoppfronter - uten lys, holder og kontaktblokker bestilles separat						
4372220	MASKINSTOPP Ø=30MM VRI	MPET3-10B	1SFA611520R1006			217,00
4372221	MASKINSTOPP Ø=30MM DRA	MPEP3-10B	1SFA611521R1006			217,00
4372222	MASKINSTOPP Ø=30MM NØKKELBRYTER KODE 71	MPEK3-11B	1SFA611522R1106			435,00
4372223	MASKINSTOPP Ø=40MM VRI	MPET4-10B	1SFA611523R1006			217,00
4372224	MASKINSTOPP Ø=40MM DRA	MPEP4-10B	1SFA611524R1006			217,00
4372225	MASKINSTOPP Ø=40MM NØKKELBRYTER KODE 71	MPEK4-10B	1SFA611525R1106			429,00

Betjeningsmateriell Modulært
Lyskilder og transformatormoduler

LED

Trafoblokk m lampeholder

Trafoblokk for trykknapp og vender

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Glødelamper med Ba9s sokkel for AC/DC+G5892						
4373250	6V, 1.2W		5911086-11	1/20	L	37,50
4373251	12V, 1.2W		5911086-12	20		37,50
4373252	24V, 1.2W		5911086-13	1/20	L	37,50
4373253	30V, 1.2W		5911086-4	20		47,40
4373254	48V, 2W		5911086-5	20		47,40
4373255	60V, 1.2W		5911086-14	20		37,50
4373256	110V, 2W		5911086-7	20		47,40
4373257	130V, 2W		5911086-15	1/20	L	37,50
Glimlampe / NEON Ba9s sokkel, 1,9mA 20 000t, IKKE BRUK grønn, blå, og hvit linse						
4373263	GLIMLAMPE 220V AC BA9S		5912019-3	20		52,90
LED med Ba9s sokkel						
4373294	12V DC HVIT, 15MA	KA2-2015	1SFA616921R2015	20		176,00
4373401	24V AC/DC RØD, 15MA	KA2-2021	1SFA616921R2021	1/20	L	176,00
4373402	24V AC/DC GRØN, 15MA	KA2-2022	1SFA616921R2022	1/20		176,00
4373403	24V AC/DC GUL, 15MA	KA2-2023	1SFA616921R2023	1/20	L	176,00
4373404	24V AC/DC BLÅ, 15MA	KA2-2024	1SFA616921R2024	20		176,00
4373405	24V AC/DC HVIT, 15MA	KA2-2025	1SFA616921R2025	1/20	L	176,00
	110-130V AC RØD, 4-6 MA	KA2-2131	1SFA616921R2131	20		182,00
	110-130V AC HVIT, 4-6 MA	KA2-2135	1SFA616921R2135	20		268,00
	110-130V AC GUL, 4-6 MA	KA2-2133	1SFA616921R2133	20		182,00
	110-130V AC BLÅ, 4-6 MA	KA2-2134	1SFA616921R2134	20		268,00
4373357	110-130V AC/DC RØD, 4-6 MA	KA2-2141	1SFA616921R2141	20		182,00
4373358	110-130V AC/DC GRØN, 4-6 MA	KA2-2142	1SFA616921R2142	20		268,00
4373359	110-130V AC/DC GUL, 4-6 MA	KA2-2143	1SFA616921R2143	20		182,00
4373360	110-130V AC/DC BLÅ, 4-6 MA	KA2-2144	1SFA616921R2144	20		268,00
4373361	110-130V AC/DC HVIT, 4-6 MA	KA2-2145	1SFA616921R2145	1/20	L	268,00
4373421	230V AC RØD, 4MA	KA2-2221	1SFA616921R2221	1/20	L	149,00
4373422	230V AC GRØN, 4MA	KA2-2222	1SFA616921R2222	1/20	L	260,00
4373423	230V AC GUL, 4MA	KA2-2223	1SFA616921R2223	1/20		157,00
4373424	230V AC BLÅ, 4MA	KA2-2224	1SFA616921R2224	10		260,00
4373425	230V AC HVIT, 4MA	KA2-2225	1SFA616921R2225	1/20	L	260,00
Andre spenninger på forespørsel						
Modul transformator med lampholder for signallamper						
4373226	110-127V AC PRIMÆRT 6V SEKUNDÆRT	KTR1-1001	1SFA616950R1001			353,00
4373227	220-250V AC PRIMÆRT 6V SEKUNDÆRT	KTR1-1002	1SFA616950R1002			353,00
4373228	110-127V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-1011	1SFA616950R1011			386,00
4373229	220-250V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-1012	1SFA616950R1012		L	328,00
	380-420/24V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-1013	1SFA616950R1013			386,00
	440-480/24V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-1014	1SFA616950R1014		L	393,00
Andre spenninger på forespørsel						
Modul transformator for trykknapper og vendere						
4373230	110-127V AC PRIMÆRT 6V SEKUNDÆRT	KTR1-2001	1SFA616950R2001			310,00
4373231	220-250V AC PRIMÆRT 6V SEKUNDÆRT	KTR1-2002	1SFA616950R2002			310,00
4373232	110-127V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-2011	1SFA616950R2011			310,00
4373233	220-250V AC PRIMÆRT 24V SEKUNDÆRT	KTR1-2012	1SFA616950R2012			310,00
	380-420/24V AC AC PRIMÆRT 24V SEKUNDÆRT	KTR1-2013	1SFA616950R2013			310,00
	440-480/24V AC AC PRIMÆRT 24V SEKUNDÆRT	KTR1-2014	1SFA616950R2014			310,00

Betjeningsmateriell Compact
Trykknapper med integrerte kontakter, IP66/67/69K

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Trykknapper impuls, lavt trykke						
4373394	GRØNN , 1NO	CP1-10G-10	1SFA619100R1012	1/10	L	122,00
	RØD, 1NO	CP1-10R-10	1SFA619100R1011	1/10		118,00
4373390	RØD , 1NC	CP1-10R-01	1SFA619100R1041	10	L	121,00
4373426	RØD , 2NO	CP1-10R-20	1SFA619100R1021	10	L	169,00
4373427	GRØNN , 2NO	CP1-10G-20	1SFA619100R1022	1/10	L	169,00
4373428	GUL , 2NO	CP1-10Y-20	1SFA619100R1023	10		169,00
4373429	BLÅ , 2NO	CP1-10L-20	1SFA619100R1024	10		169,00
4373430	HVIT, 2NO	CP1-10W-20	1SFA619100R1025	10		169,00
4373431	SORT , 2NO	CP1-10B-20	1SFA619100R1026	1/10		169,00
4373432	RØD , 2NC	CP1-10R-02	1SFA619100R1051	1/10		169,00
4373433	GRØNN , 2NC	CP1-10G-02	1SFA619100R1052	10		169,00
4373434	GUL , 2NC	CP1-10Y-02	1SFA619100R1053	10		169,00
4373435	BLÅ , 2NC	CP1-10L-02	1SFA619100R1054	10		169,00
4373436	HVIT, 2NC	CP1-10W-02	1SFA619100R1055	10		169,00
4373437	SORT , 2NC	CP1-10B-02	1SFA619100R1056	10		169,00
4372677	RØD , 1NO + 1NC	CP1-10R-11	1SFA619100R1071	1/10	L	169,00
4372678	GRØNN , 1NO + 1NC	CP1-10G-11	1SFA619100R1072	1/10	L	169,00
4372679	GUL , 1NO + 1NC	CP1-10Y-11	1SFA619100R1073	10		169,00
4372680	BLÅ , 1NO + 1NC	CP1-10L-11	1SFA619100R1074	10		169,00
4372681	HVIT, 1NO + 1NC	CP1-10W-11	1SFA619100R1075	10		169,00
4372682	SORT , 1NO + 1NC	CP1-10B-11	1SFA619100R1076	1/10	L	169,00
Trykknapper skritt, lavt trykke						
4373395	GRØNN , 1NO	CP2-10G-10	1SFA619101R1012	10		133,00
4373391	RØD , 1NC	CP2-10R-01	1SFA619101R1041	10		133,00
4373438	RØD , 2NO	CP2-10R-20	1SFA619101R1021	10		182,00
4373439	GRØNN , 2NO	CP2-10G-20	1SFA619101R1022	10		182,00
4373440	GUL , 2NO	CP2-10Y-20	1SFA619101R1023	10		182,00
4373441	BLÅ , 2NO	CP2-10L-20	1SFA619101R1024	10		182,00
4373442	HVIT, 2NO	CP2-10W-20	1SFA619101R1025	10		182,00
4373443	SORT , 2NO	CP2-10B-20	1SFA619101R1026	10		182,00
4373444	RØD , 2NC	CP2-10R-02	1SFA619101R1051	10		182,00
4373445	GRØNN , 2NC	CP2-10G-02	1SFA619101R1052	10		182,00
4373446	GUL , 2NC	CP2-10Y-02	1SFA619101R1053	10		182,00
4373447	BLÅ , 2NC	CP2-10L-02	1SFA619101R1054	10		182,00
4373448	HVIT, 2NC	CP2-10W-02	1SFA619101R1055	10		182,00
4373449	SORT , 2NC	CP2-10B-02	1SFA619101R1056	10		182,00
4372683	RØD , 1NO + 1NC	CP2-10R-11	1SFA619101R1071	10		182,00
4372684	GRØNN , 1NO + 1NC	CP2-10G-11	1SFA619101R1072	10		182,00
4372685	GUL , 1NO + 1NC	CP2-10Y-11	1SFA619101R1073	10		182,00
4372686	BLÅ , 1NO + 1NC	CP2-10L-11	1SFA619101R1074	10		182,00
4372687	HVIT, 1NO + 1NC	CP2-10W-11	1SFA619101R1075	10		182,00
4372688	SORT , 1NO + 1NC	CP2-10B-11	1SFA619101R1076	10		182,00

Betjeningsmateriell Compact
Trykknapper med integrerte kontakter, IP66/67/69K

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Trykknapper impuls, høyt trykke						
4373396	GRØNN , 1NO	CP3-10G-10	1SFA619102R1012	10		136,00
4373392	RØD , 1NC	CP3-10R-01	1SFA619102R1041	10		136,00
4373450	RØD , 2NO	CP3-10R-20	1SFA619102R1021	10		184,00
4373451	GRØNN , 2NO	CP3-10G-20	1SFA619102R1022	10		184,00
4373452	GUL , 2NO	CP3-10Y-20	1SFA619102R1023	10		184,00
4373453	BLÅ , 2NO	CP3-10L-20	1SFA619102R1024	10		184,00
4373454	HVIT, 2NO	CP3-10W-20	1SFA619102R1025	10		184,00
4373455	SORT , 2NO	CP3-10B-20	1SFA619102R1026	10		184,00
4373456	RØD , 2NC	CP3-10R-02	1SFA619102R1051	10		184,00
4373457	GRØNN , 2NC	CP3-10G-02	1SFA619102R1052	10		184,00
4373458	GUL , 2NC	CP3-10Y-02	1SFA619102R1053	10		184,00
4373459	BLÅ , 2NC	CP3-10L-02	1SFA619102R1054	10		184,00
4373460	HVIT, 2NC	CP3-10W-02	1SFA619102R1055	10		184,00
4373461	SORT , 2NC	CP3-10B-02	1SFA619102R1056	10		184,00
4373462	RØD , 1NO + 1NC	CP3-10R-11	1SFA619102R1071	10		184,00
4373463	GRØNN , 1NO + 1NC	CP3-10G-11	1SFA619102R1072	10		184,00
4373464	GUL , 1NO + 1NC	CP3-10Y-11	1SFA619102R1073	10		184,00
4373465	BLÅ , 1NO + 1NC	CP3-10L-11	1SFA619102R1074	10		184,00
4373466	HVIT, 1NO + 1NC	CP3-10W-11	1SFA619102R1075	10		184,00
4373467	SORT , 1NO + 1NC	CP3-10B-11	1SFA619102R1076	10		184,00
Trykknapper skritt, høyt trykke						
4373397	GRØNN , 1NO	CP4-10G-10	1SFA619103R1012	10		144,00
4373393	RØD , 1NC	CP4-10R-01	1SFA619103R1041	10		144,00
4373468	RØD , 2NO	CP4-10R-20	1SFA619103R1021	10		193,00
4373469	GRØNN , 2NO	CP4-10G-20	1SFA619103R1022	10		193,00
4373470	GUL , 2NO	CP4-10Y-20	1SFA619103R1023	10		193,00
4373471	BLÅ , 2NO	CP4-10L-20	1SFA619103R1024	10		193,00
4373472	HVIT, 2NO	CP4-10W-20	1SFA619103R1025	10		193,00
4373473	SORT , 2NO	CP4-10B-20	1SFA619103R1026	10		193,00
4373474	RØD , 2NC	CP4-10R-02	1SFA619103R1051	10		193,00
4373475	GRØNN , 2NC	CP4-10G-02	1SFA619103R1052	10		193,00
4373476	GUL , 2NC	CP4-10Y-02	1SFA619103R1053	10		193,00
4373477	BLÅ , 2NC	CP4-10L-02	1SFA619103R1054	10		193,00
4373478	HVIT, 2NC	CP4-10W-02	1SFA619103R1055	10		193,00
4373479	SORT , 2NC	CP4-10B-02	1SFA619103R1056	10		193,00
4373480	RØD , 1NO + 1NC	CP4-10R-11	1SFA619103R1071	10		193,00
4373481	GRØNN , 1NO + 1NC	CP4-10G-11	1SFA619103R1072	10		193,00
4373482	GUL , 1NO + 1NC	CP4-10Y-11	1SFA619103R1073	10		193,00
4373483	BLÅ , 1NO + 1NC	CP4-10L-11	1SFA619103R1074	10		193,00
4373484	HVIT, 1NO + 1NC	CP4-10W-11	1SFA619103R1075	10		193,00
4373485	SORT , 1NO + 1NC	CP4-10B-11	1SFA619103R1076	10		193,00

Betjeningsmateriell Compact
Lystrykknapper med integrert LED og kontakt, IP66/67/69K

CP1../ CP2..

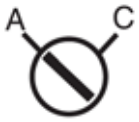
CP3../CP4..

Med metallring

Metallring for trykknapp og lampe

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Lystrykknapper impuls, lavt trykke						
4372602	LYSTRYKKNAPP 1NO RØD 24V AC/DC LED	CP1-11R-10	1SFA619100R1111	10		181,00
4372603	LYSTRYKKNAPP 1NO GRØNN 24V AC/DC LED	CP1-11G-10	1SFA619100R1112	10		181,00
4372604	LYSTRYKKNAPP 1NO GUL 24V AC/DC LED	CP1-11Y-10	1SFA619100R1113	10		181,00
4372605	LYSTRYKKNAPP 1NC RØD 24V AC/DC LED	CP1-11R-01	1SFA619100R1141	10		181,00
4372606	LYSTRYKKNAPP 1NO RØD 220V AC/DC LED	CP1-13R-10	1SFA619100R1311	10		181,00
4372607	LYSTRYKKNAPP 1NO GRØNN 220V AC/DC LED	CP1-13G-10	1SFA619100R1312	10		181,00
4372608	LYSTRYKKNAPP 1NO GUL 220V AC/DC LED	CP1-13Y-10	1SFA619100R1313	10		181,00
4372609	LYSTRYKKNAPP 1NC RØD 220V AC/DC LED	CP1-13R-01	1SFA619100R1341	10		181,00
Lystrykknapper skritt, lavt trykke						
4372610	LYSTRYKKNAPP 1NO RØD 110-130V AC/DC LED	CP2-12R-10	1SFA619101R1211	10		181,00
4372611	LYSTRYKKNAPP 1NO GRØNN 110-130V AC/DC LED	CP2-12G-10	1SFA619101R1212	10		181,00
4372612	LYSTRYKKNAPP 1NO GUL 110-130V AC/DC LED	CP2-12Y-10	1SFA619101R1213	10		181,00
4372613	LYSTRYKKNAPP 1NC RØD 110-130V AC/DC LED	CP2-12R-01	1SFA619101R1241	10		181,00
4372614	LYSTRYKKNAPP 1NO RØD 220V AC/DC LED	CP2-13R-10	1SFA619101R1311	10		181,00
4372615	LYSTRYKKNAPP 1NO GRØNN 220V AC/DC LED	CP2-13G-10	1SFA619101R1312	10		181,00
4372616	LYSTRYKKNAPP 1NO GUL 220V AC/DC LED	CP2-13Y-10	1SFA619101R1313	10		181,00
4372617	LYSTRYKKNAPP 1NC RØD 220V AC/DC LED	CP2-13R-01	1SFA619101R1341	10		181,00
Lystrykknapper impuls, høyt trykke						
4372618	LYSTRYKKNAPP 1NO RØD 24V AC/DC LED	CP3-11R-10	1SFA619102R1111	10		181,00
4372619	LYSTRYKKNAPP 1NO GRØNN 24V AC/DC LED	CP3-11G-10	1SFA619102R1112	10		181,00
4372620	LYSTRYKKNAPP 1NO GUL 24V AC/DC LED	CP3-11Y-10	1SFA619102R1113	10		PPF.
4372621	LYSTRYKKNAPP 1NC RØD 24V AC/DC LED	CP3-11R-01	1SFA619102R1141	10		181,00
4372622	LYSTRYKKNAPP 1NO RØD 220V AC/DC LED	CP3-13R-10	1SFA619102R1311	10		181,00
4372623	LYSTRYKKNAPP 1NO GRØNN 220V AC/DC LED	CP3-13G-10	1SFA619102R1312	10		181,00
4372624	LYSTRYKKNAPP 1NO GUL 220V AC/DC LED	CP3-13Y-10	1SFA619102R1313	10		PPF.
4372625	LYSTRYKKNAPP 1NC RØD 220V AC/DC LED	CP3-13R-01	1SFA619102R1341	10		181,00
Lystrykknapper skritt, høyt trykke						
4372626	LYSTRYKKNAPP 1NO RØD 110-130V AC/DC LED	CP4-12R-10	1SFA619103R1211	10		181,00
4372627	LYSTRYKKNAPP 1NO GRØNN 110-130V AC/DC LED	CP4-12G-10	1SFA619103R1212	10		181,00
4372628	LYSTRYKKNAPP 1NO GUL 110-130V AC/DC LED	CP4-12Y-10	1SFA619103R1213	10		181,00
4372629	LYSTRYKKNAPP 1NC RØD 110-130V AC/DC LED	CP4-12R-01	1SFA619103R1241	10		181,00
4372650	LYSTRYKKNAPP 1NO RØD 220V AC/DC LED	CP4-13R-10	1SFA619103R1311	10		181,00
4372651	LYSTRYKKNAPP 1NO GRØNN 220V AC/DC LED	CP4-13G-10	1SFA619103R1312	10		181,00
4372652	LYSTRYKKNAPP 1NO GUL 220V AC/DC LED	CP4-13Y-10	1SFA619103R1313	10		181,00
4372653	LYSTRYKKNAPP 1NC RØD 220V AC/DC LED	CP4-13R-01	1SFA619103R1341	10		181,00
Kan også leveres med metallring (bytt ut R1... med R3... i Art.nr), evt bytte ut med løs metallring						
4372660	LØS METALLRING FOR TRYKKNAPPER/LAMPER	KA1-8021	1SFA616920R8021	10		65,20

Betjeningsmateriell Compact
Vendere med integrerte kontakter, IP66/67/69K



Vender med metallring

Metallring

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Vendere 2-posisjoner, kort håndtak Faste stillinger i B og C						
4373486	RØD, 2NO	C2SS1-10R-20	1SFA619200R1021	10		218,00
4372689	SORT, 1NO	C2SS1-10B-10	1SFA619200R1016	10		175,00
4372690	SORT, 2NO	C2SS1-10B-20	1SFA619200R1026	1/10	L	218,00
4373487	RØD, 2NC	C2SS1-10R-02	1SFA619200R1051	10		218,00
4372692	SORT, 2NC	C2SS1-10B-02	1SFA619200R1056	10		218,00
4373488	RØD, 1NO + 1NC	C2SS1-10R-11	1SFA619200R1071	10		218,00
4372693	SORT, 1NO + 1NC	C2SS1-10B-11	1SFA619200R1076	10		218,00
Faste stillinger i A og C						
4373489	RØD, 2NO	C2SS2-10R-20	1SFA619201R1021	10		218,00
4373490	SORT, 2NO	C2SS2-10B-20	1SFA619201R1026	10		218,00
4373491	RØD, 2NC	C2SS2-10R-02	1SFA619201R1051	10		218,00
4373492	SORT, 2NC	C2SS2-10B-02	1SFA619201R1056	10		218,00
4373493	RØD, 1NO + 1NC	C2SS2-10R-11	1SFA619201R1071	10	L	218,00
4373494	SORT, 1NO + 1NC	C2SS2-10B-11	1SFA619201R1076	1/10	L	218,00
Impuls, fjærretur fra C til B						
4373495	RØD, 2NO	C2SS3-10R-20	1SFA619202R1021	10		218,00
4373496	SORT, 2NO	C2SS3-10B-20	1SFA619202R1026	10		218,00
4373497	RØD, 2NC	C2SS3-10R-02	1SFA619202R1051	10		218,00
4373498	SORT, 2NC	C2SS3-10B-02	1SFA619202R1056	10		218,00
4373499	RØD, 1NO + 1NC	C2SS3-10R-11	1SFA619202R1071	10		218,00
4373400	SORT, 1NO + 1NC	C2SS3-10B-11	1SFA619202R1076	10		218,00
Vendere 3-posisjoner, kort håndtak Faste stillinger i A, B og C						
4372777	RØD, 2NO	C3SS1-10R-20	1SFA619210R1021	10		215,00
4372694	SORT, 2NO	C3SS1-10B-20	1SFA619210R1026	1/10	L	218,00
4372779	RØD, 2NC	C3SS1-10R-02	1SFA619210R1051	10		215,00
4372695	SORT, 2NC	C3SS1-10B-02	1SFA619210R1056	10		218,00
4372797	RØD, 1NO + 1NC	C3SS1-10R-11	1SFA619210R1071	10		218,00
4372798	SORT, 1NO + 1NC	C3SS1-10B-11	1SFA619210R1076	10		218,00
Impuls, fjærretur fra A og C til B						
4372799	RØD, 2NO	C3SS2-10R-20	1SFA619211R1021	10		218,00
4372795	SORT, 2NO	C3SS2-10B-20	1SFA619211R1026	10		203,00
4372696	RØD, 2NC	C3SS2-10R-02	1SFA619211R1051	10		218,00
4372794	SORT, 2NC	C3SS2-10B-02	1SFA619211R1056	10		203,00
Fast stilling i A og B, fjærretur fra C til B						
4372697	RØD, 2NO	C3SS3-10R-20	1SFA619212R1021	10		218,00
4372698	SORT, 2NO	C3SS3-10B-20	1SFA619212R1026	10		218,00
4372699	RØD, 2NC	C3SS3-10R-02	1SFA619212R1051	10		218,00
4372700	SORT, 2NC	C3SS3-10B-02	1SFA619212R1056	10		218,00
Fjærretur fra A til B, fast stilling i C						
4372807	RØD, 2NO	C3SS7-10R-20	1SFA619216R1021	10		218,00
4372808	SORT, 2NO	C3SS7-10B-20	1SFA619216R1026	10		218,00
4372809	RØD, 2NC	C3SS7-10R-02	1SFA619216R1051	10		218,00
4372810	SORT, 2NC	C3SS7-10B-02	1SFA619216R1056	10		218,00
Kan også leveres med metallring (bytt ut R1... med R3... i Art.nr), evt bytte ut med løs metallring						
4372659	LØS METALLRING FOR VENDERE	CA1-8078	1SFA619920R8078	10		139,00

Betjeningsmateriell Compact
Compact signallamper, samt nødstopp og soppknapp med integrerte kontakter, IP66/67/69K

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Signallampe med Ba9s sokkel for glødelampe eller LED (uten lyskilde)						
4372561	RØD	CL-100R	1SFA619402R1001	10		89,40
4372562	GRØNN	CL-100G	1SFA619402R1002	10		89,40
4372563	GUL	CL-100Y	1SFA619402R1003	10		89,40
4372564	BLÅ	CL-100L	1SFA619402R1004	10		89,40
4372565	HVIT	CL-100W	1SFA619402R1005	10		89,40
4372568	KLAR	CL-100C	1SFA619402R1008	10		89,40
Signallampe med integrert LED						
4373505	RØD FRONT - LED 24V AC/DC	CL2-502R	1SFA619403R5021			144,00
4373506	GRØNN FRONT - LED 24V AC/DC	CL2-502G	1SFA619403R5022			144,00
4373507	GUL FRONT - LED 24V AC/DC	CL2-502Y	1SFA619403R5023			144,00
4373508	BLÅ FRONT - LED 24V AC/DC	CL2-502L	1SFA619403R5024			144,00
4373509	KLAR FRONT - LED 24V AC/DC	CL2-502C	1SFA619403R5028			144,00
4373535	RØD FRONT - LED 230V AC	CL2-523R	1SFA619403R5231			144,00
4373536	GRØNN FRONT - LED 230V AC	CL2-523G	1SFA619403R5232			144,00
4373537	GUL FRONT - LED 230V AC	CL2-523Y	1SFA619403R5233			144,00
4373538	BLÅ FRONT - LED 230V AC	CL2-523L	1SFA619403R5234			144,00
4373539	KLAR FRONT - LED 230V AC	CL2-523C	1SFA619403R5238			144,00
Nødstop, oppfyller IEC 60947-5-5						
4372730	RØD, 30MM, VRID RETUR, 1NC	CE3T-10R-01	1SFA619500R1041		L	185,00
4372736	RØD, 30MM, VRID RETUR, 2NO	CE3T-10R-20	1SFA619500R1021			226,00
4372737	RØD, 30MM, VRID RETUR, 2NC	CE3T-10R-02	1SFA619500R1051		L	226,00
4372740	RØD, 30MM, VRID RETUR, 1NO+1NC	CE3T-10R-11	1SFA619500R1071			226,00
4372746	RØD, 30MM, DRAG RETUR, 2NC	CE3P-10R-02	1SFA619501R1051			226,00
4372747	RØD, 30MM, DRAG RETUR, 1NO+1NC	CE3P-10R-11	1SFA619501R1071			226,00
4372750	RØD, 30MM, NØKKEL RETUR, 2NC	CE3K1-10R-02	1SFA619502R1051			392,00
4372706	RØD, 30MM, NØKKEL RETUR, 1NO+1NC	CE3K1-10R-11	1SFA619502R1071			392,00
4372707	RØD, 40MM, VRID RETUR, 1NC	CE4T-10R-01	1SFA619550R1041			185,00
4372716	RØD, 40MM, VRID RETUR, 2NO	CE4T-10R-20	1SFA619550R1021			226,00
4372717	RØD, 40MM, VRID RETUR, 2NC	CE4T-10R-02	1SFA619550R1051		L	226,00
4372760	RØD, 40MM, VRID RETUR, 1NO+1NC	CE4T-10R-11	1SFA619550R1071			226,00
4372780	RØD, 40MM, DRAG RETUR, 2NC	CE4P-10R-02	1SFA619551R1051			142,00
4372815	RØD, 40MM, DRAG RETUR, 1NO+1NC	CE4P-10R-11	1SFA619551R1071			148,00
4372820	RØD, 40MM, NØKKEL RETUR, 2NC	CE4K1-10R-02	1SFA619552R1051			392,00
4372825	RØD, 40MM, NØKKEL RETUR, 1NO+1NC	CE4K1-10R-11	1SFA619552R1071			392,00

Compact soppknapp

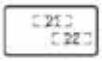
Compact soppknapp med 30mm sopphode, skrittfunksjon						
4372785	KOMPAKT SOPPKNAPP 1NO+1NC RØD	CPM3-10R-11	1SFA619126R1071			198,00
4372786	KOMPAKT SOPPKNAPP 1NO+1NC GRØNN	CPM3-10G-11	1SFA619126R1072			198,00
4372787	KOMPAKT SOPPKNAPP 1NO+1NC GUL	CPM3-10Y-11	1SFA619126R1073			198,00
4372788	KOMPAKT SOPPKNAPP 1NO+1NC SORT	CPM3-10B-11	1SFA619126R1076			198,00

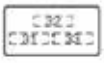
Betjeningsmateriell tilbehør
Skiltsystem

Elnr:	Betegnelse:			Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Merkeskilt med innleggskilt (generell bruk), sort holder, innleggskilt i plast med «børstet aluminium» utseende.								
Holder for tekstskilt, h=47mm								
4373137	HOLDER UTEN SKILT, SORT			KA1-8120	1SFA616920R8120	1/10	L	14,30
Innleggskilt uten tekst, h=15mm								
	SKILT UTEN TEKST/SYMBOL			KA1-8121	1SFA616920R8121	100		6,62
Innleggskilt med kundespesifik tekst, h=15mm								
	KONTAKT ORDREKONTORET - OPPGI ØNSKET TEKST			MA6-1090-L	1SFA611930L1090			PPF.
Innleggskilt med tekst/symbol, h=15mm								
4373139	0			MA6-1032	1SFA611930R1032	10		29,80
4373140	I			MA6-1033	1SFA611930R1033	10		29,80
4373141	→			MA6-1034	1SFA611930R1034	10		29,80
4373142	→→			MA6-1035	1SFA611930R1035	10		29,80
4373143	CLOSE			MA6-1036	1SFA611930R1036	10		29,80
4373144	OPEN			MA6-1037	1SFA611930R1037	10		29,80
4373145	ON			MA6-1038	1SFA611930R1038	10		29,80
4373146	OFF			MA6-1039	1SFA611930R1039	10		29,80
4373147	FAST			MA6-1040	1SFA611930R1040	10		29,80
4373148	SLOW			MA6-1041	1SFA611930R1041	10		29,80
4373149	DOWN			MA6-1042	1SFA611930R1042	10		29,80
4373189	UP			MA6-1043	1SFA611930R1043	10		29,80
4373195	START			MA6-1044	1SFA611930R1044	10		29,80
4373135	STOP			MA6-1045	1SFA611930R1045	10		29,80
Innleggskilt med tekst/symbol for vendere med to stillinger								
	POS. 21	POS. 22						
4373161	0	I		MA6-1070	1SFA611930R1070	10		29,80
4373162	I	II		MA6-1071	1SFA611930R1071	10		29,80
4373163	→	→→		MA6-1072	1SFA611930R1072	10		29,80
4373164	OFF	ON		MA6-1073	1SFA611930R1073	10		29,80
4373168	STOP	START		MA6-1074	1SFA611930R1074	10		29,80
4373169	LOW	HIGH		MA6-1075	1SFA611930R1075	10		29,80
4373170	SLOW	FAST		MA6-1076	1SFA611930R1076	10		29,80
4373171	CLOSE	OPEN		MA6-1077	1SFA611930R1077	10		29,80
4373172	JOG	RUN		MA6-1078	1SFA611930R1078	10		29,80
4373173	HAND	AUTO		MA6-1079	1SFA611930R1079	10		29,80
Innleggskilt med tekst/symbol for vendere med tre stillinger								
	POS. 31	POS. 32	POS. 33					
4373174	←	0	→	MA6-1080	1SFA611930R1080	10		29,80
4373175	→	0	→→	MA6-1081	1SFA611930R1081	10		29,80
4373176	I	0	II	MA6-1082	1SFA611930R1082	10		29,80
4373177	HAND	0	AUTO	MA6-1083	1SFA611930R1083	10		29,80
4373178	SLOW	0	FAST	MA6-1084	1SFA611930R1084	10		29,80
Tekstskilt for nødstopp **Sort tekst på gul plastplate, Ø=70mm**								
4373155	EMERGENCY STOP			KTC15-1005	1SFA616915R1005			78,30

Emergency Stop

Betjeningsmateriell tilbehør
Skiltsystem til kapslinger





Elnr:	Betegnelse:			Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Merkeskilt med innleggskilt for plastkapslinger, grå holder, innleggskilt i plast med «børstet aluminium» utseende								
Holder for tekstskilt, h=44mm								
4373179	HOLDER UTEN SKILT, GRÅ			MA6-1060	1SFA611930R1060	10		14,30
Innleggskilt uten tekst, h=12mm								
4373124	SKILT UTEN TEKST/SYMBOL			MA6-1061	1SFA611930R1061	10		3,30
Innleggskilt med tekst/symbol, h=12mm								
4373125	0			MA6-1062	1SFA611930R1062	10		28,70
4373126	I			MA6-1063	1SFA611930R1063	10		28,70
4373127	II			MA6-1064	1SFA611930R1064	10		28,70
4373235	→			MA6-1130	1SFA611930R1130	10		56,20
4373236	→ →			MA6-1131	1SFA611930R1131	10		56,20
4373237	CLOSE			MA6-1132	1SFA611930R1132	10		56,20
4373238	OPEN			MA6-1133	1SFA611930R1133	10		56,20
4373239	ON			MA6-1134	1SFA611930R1134	10		56,20
4373240	OFF			MA6-1135	1SFA611930R1135	10		56,20
4373241	FAST			MA6-1136	1SFA611930R1136	10		56,20
4373242	SLOW			MA6-1137	1SFA611930R1137	10		56,20
4373243	DOWN			MA6-1138	1SFA611930R1138	10		56,20
4373244	UP			MA6-1139	1SFA611930R1139	10		56,20
4373245	START			MA6-1140	1SFA611930R1140	10		56,20
4373246	STOP			MA6-1141	1SFA611930R1141	10		56,20
Innleggskilt med tekst/symbol for vendere med to stillinger								
	POS. 21	POS. 22						
4373334	0	I		MA6-1170	1SFA611930R1170	10		64,00
4373335	I	II		MA6-1171	1SFA611930R1171	10		64,00
4373336	→	→ →		MA6-1172	1SFA611930R1172	10		64,00
4373337	OFF	ON		MA6-1173	1SFA611930R1173	10		64,00
4373338	STOP	START		MA6-1174	1SFA611930R1174	10		64,00
4373339	LOW	HIGH		MA6-1175	1SFA611930R1175	10		64,00
4373340	SLOW	FAST		MA6-1176	1SFA611930R1176	10		64,00
4373342	CLOSE	OPEN		MA6-1177	1SFA611930R1177	10		64,00
4373343	JOG	RUN		MA6-1178	1SFA611930R1178	10		64,00
4373344	HAND	AUTO		MA6-1179	1SFA611930R1179	10		64,00
Innleggskilt med tekst/symbol for vendere med tre stillinger								
	POS. 31	POS. 32	POS. 33					
4373345	←	0	→	MA6-1190	1SFA611930R1190	10		70,70
4373346	←	0	→ →	MA6-1191	1SFA611930R1191	10		70,70
4373347	I	0	II	MA6-1192	1SFA611930R1192	10		70,70
4373348	HAND	0	AUTO	MA6-1193	1SFA611930R1193	10		70,70
4373349	SLOW	0	FAST	MA6-1194	1SFA611930R1194	10		70,70

Betjeningsmateriell tilbehør
Skiltsystem i aluminium

Elnr:	Betegnelse:			Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Skilt med gravert tekst/symboler i sølvgrå aluminium; høyde 39mm Skilt uten tekst								
4370773	FOR 1-2 LINJER, H=39MM)			MA16-1000	1SFA611940R1000	10		6,43
4370774	FOR 2-3 LINJER, H=44MM)			MA16-1001	1SFA611940R1001			PPF.
Skilt med kundespesifisert tekst Kontakt ordrekontoret på tlf 03500								
	FOR 1-2 LINJER (MAX 2X11 TEGN, H=39MM)			MA16-1000L	1SFA611940L1000	10		63,60
	FOR 2-3 LINJER (MAX 3X11 TEGN, H=44MM)			MA16-1001L	1SFA611940L1001	10		PPF.
Tekstskilt for trykknapper								
4370737	START				SK615550-44	10		10,30
4370739	STOPP				SK615550-45	10		10,30
4370751	I				SK615550-62			14,20
4370752	II				SK615550-63			10,30
Skilt for vendere med 2 stillinger								
	POS. 21	POS. 22						
4370765	0	I			SK615550-75			10,30
Skilt for vendere med 3 stillinger								
	POS. 31	POS. 32	POS. 33					
4370771	HAND	0	AUTO		SK615550-80	10		10,30
Sort tekst på gul aluminiumsplate, diameter=70mm								
4370794	NØDSTOPP				SK615546-1		L	78,80
4370795	EMERGENCY STOP				SK615546-2			78,80
4370793	UTEN TEKST				SK615546-8			PPF.

Emergency Stop

Betjeningsmateriell
Kapslede trykknapper/tomme kapslinger, IP66

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Komplett kapsling, med trykknapp/lampe og kontaktelementer, IP66 1-hull, mørkgrå topp/lysgrå bunn Dimensjoner: LxBxD=101x74,4x60,5mm						
4373150	1 TRYKKNAPP, IMPULS; HVIT, (I), 1NO	MEP1-1002	1SFA611811R1002			507,00
4373151	1 TRYKKNAPP, IMPULS; GRØNN, (I), 1NO	MEP1-1001	1SFA611811R1001			507,00
4373153	1 TRYKKNAPP, IMPULS; RØD, (I), 1NC	MEP1-1003	1SFA611811R1003			507,00
2-hull, mørkgrå topp/lysgrå bunn Dimensjoner: LxBxD=141x74,4x60,5mm						
4373157	2 TRYKKNAPPER, IMPULS, RØD (O) 1NC, GRØNN (I) 1NO	MEP2-1001	1SFA611812R1001		L	758,00
3-hull, mørkgrå topp/lysgrå bunn Dimensjoner: LxBxD=181x74,4x60,5mm						
4373158	VENSTRE, TRYKKNAPP, IMPULS, RØD (O) 1NC MIDT, SIGNALLAMPE, HVIT, MLB-3 FOR 230V TILF. 130V PÆRE HØYRE, TRYKKNAPP, IMPULS, GRØNN (I) 1NO)	MEP3-1003	1SFA611813R1001			1 050,00
4373159	VENSTRE, TRYKKNAPP, IMPULS, GRØNN (I) 1NO MIDT, TRYKKNAPP, IMPULS, RØD (O) 1NC HØYRE, TRYKKNAPP, IMPULS, GRØNN (II) 1NO	MEP3-1004	1SFA611813R1004			1 060,00
1-hull, gul topp/lysgrå bunn «nødstopp», NB merkeplate følger ikke med - se s. 101 Dimensjoner: LxBxD=101x74,4x60,5mm						
4373156	NØDSTOPP, RØD, VRI, 2NC, 40 MM	MEPY1-1005	1SFA611821R1005		L	828,00
Tomme plastkapslinger, IP66 Husk å bruke kontakt-/lampe-blokk for bunnmontering (f.eks MCB-10B) Se s. 86 Dimensjoner: LxBxD=101x74,4x60,5mm						
4373041	KAPSLING M 1 HULL MØRKGRÅ/LYSGRÅ	MEP1-0	1SFA611811R1000		L	334,00
4373040	KAPSLING M 1 HULL GUL/LYSGRÅ	MEPY1-0	1SFA611821R1000			346,00
Dimensjoner: LxBxD=141x74,4x60,5mm						
4373042	KAPSLING M 2 HULL MØRKGRÅ/LYSGRÅ	MEP2-0	1SFA611812R1000		L	364,00
Dimensjoner: LxBxD=181x74,4x60,5mm						
4373043	KAPSLING M 3 HULL MØRKGRÅ/LYSGRÅ	MEP3-0	1SFA611813R1000		L	442,00
Dimensjoner: LxBxD=221x74,4x60,5mm						
4373044	KAPSLING M 4 HULL MØRKGRÅ/LYSGRÅ	MEP4-0	1SFA611814R1000			603,00
Dimensjoner: LxBxD=301x74,4x60,5mm						
4373046	KAPSLING M 6 HULL MØRKGRÅ/LYSGRÅ	MEP6-0	1SFA611816R1000			677,00
Tillbehør plastkapslinger Distansebrikke brukes i plastkapslinger når skilt ikke brukes						
4373066	DISTANSEBRIKKE FOR KAPSLINGER		SK615516-1			10,30
4373068	DISTANSEBRIKKE FOR MODULÆR NØDSTOP	KA1-8045	1SFA616920R8045	10		9,92
Kapslinger, metall. IP66. For IP67: bruk tetningsmembran el. nr. 4373301 eller 4373303						
4373131	1-HULL, GRÅ	KEM1-0	SK616701-AA			632,00
4373132	2-HULL, GRÅ	KEM2-0	SK616702-AA			880,00
4373133	3-HULL, GRÅ	KEM3-0	SK616703-AA			1 030,00
4373134	4-HULL, GRÅ	KEM4-0	SK616704-AA			1 170,00
4373136	6-HULL, GRÅ	KEM6-0	SK616706-AA			1 420,00
Tilbehør metallkapslinger						
4373350	BLINDPLATE FOR 4 OG 6 HULL		SK172105-AA			65,30
Komplett metallkapsling med trykknapp og kontaktelementer. IP66						
4373364	1 TRYKKNAPP, IMPULS, GRØNN, 1 NC	MEM1-1001	1SFA611831R1001			837,00
4373388	NØDSTOPP, DRA, 1 NC, 40 MM	MEM1-1018	1SFA611831R1018			1 070,00
4373389	NØDSTOPP, VRI, 2 NC, 40 MM	MEM1-1016	1SFA611831R1016			1 070,00

Betjeningsmateriell
Kapslede trykknapper/tomme kapslinger for Compact-serien, IP66/67/69K

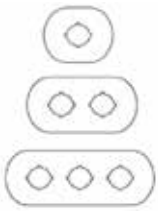
CEPY1-2002

CEP1-0

CEPY1-0

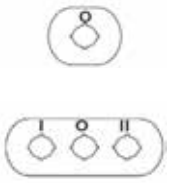
Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Komplette Compact-kapslinger med nødstopp gul/lys-grå						
4373373	NØDSTOPP I KAPSLING VRI 2NC	CEPY1-1001	1SFA619821R1001			738,00
4373374	NØDSTOPP I KAPSLING DRA 2NC	CEPY1-1002	1SFA619821R1002			738,00
Komplette Compact-kapslinger for nødstopp, med berøringsbeskyttelse, gul/lys grå						
4373375	NØDSTOPP I KAPSLING VRI 2NC	CEPY1-2001	1SFA619821R2001		L	806,00
4373376	NØDSTOPP I KAPSLING DRA 2NC	CEPY1-2002	1SFA619821R2002			806,00
Komplette Compact-kapslinger for maskinstopp mørk grå/lys-grå						
4373377	MASKINSTOP I KAPSL.VRI 1NO+1NC		1SFA619811R1001			738,00
4373378	MASKINSTOP I KAPSL.DRA 1NO+1NC		1SFA619811R1002			738,00
Komplette Compact-kapslinger for maskinstopp, med berøringsbeskyttelse, mørk grå/lys-grå						
4373379	MASKINSTOP I KAPSL.VRI 1NO+1NC		1SFA619811R2001			806,00
4373380	MASKINSTOP I KAPSL.DRA 1NO+1NC		1SFA619811R2002			806,00
Tomme Compact-kapslinger						
4373369	KAPSL. 1-HULL GRÅ COMP	CEP1-0	1SFA619811R1000			220,00
4373370	KAPSL. 1-HULL GUL COMP	CEPY1-0	1SFA619821R1000			211,00
Tilbehør Compact-kapslinger						
4373368	MERKE PL. EMERG.STOP CA6-1026		1SFA619930R1026	10		30,80
4373381	BLINDPLUGG GRÅ MA1-8129		1SFA611920R8129	10		109,00
4373382	BLINDPLUGG SORT MA1-8130		1SFA611920R8130	10		109,00
4373383	NIPPEL PG 13,5 MA5-3006		1SFA611925R3006	10		62,90
4373384	NIPPEL PG 16 MA5-3007		1SFA611925R3007	10		62,90
4373385	MUTTER PG13,5 MA5-3008		1SFA611925R3008	10		16,50
4373386	MUTTER PG 16 MA5-3009		1SFA611925R3009	10		21,00
4373387	ADAPTER PG 16/M20 MA5-3010		1SFA611925R3010			116,00

Betjeningsmateriell modulært
Skiltsystem til kapslinger



MA6-1003

MA6-1007



MA6-1016

Elnr:	Betegnelse:	Type:	ABB idnr.:	Min. Pakn.	Lager:	Pris:
Skilt for plastkapsling av sølvgrå aluminium uten tekst eller symbol						
4373128	1-HULL	MA6-1000	1SFA611930R1000			89,40
4373129	2-HULL	MA6-1002	1SFA611930R1002			110,00
4373130	3-HULL	MA6-1003	1SFA611930R1003			140,00
Skilt for plastkapsling av sølvgrå aluminium, Posisjon 1 er gul for nødstopp						
4373180	2-HULL	MA6-1006	1SFA611930R1006			218,00
4373181	3-HULL	MA6-1007	1SFA611930R1007			191,00
Kan også leveres med 4 eller 6 hull						
Skilt for plastkapsling av sølvgrå aluminium med tekst eller symbol						
4373182	1-HULL, O	MA6-1012	1SFA611930R1012			218,00
4373183	1-HULL, I	MA6-1013	1SFA611930R1013			218,00
4373184	2-HULL, O I	MA6-1014	1SFA611930R1014			284,00
4373187	3-HULL, O I II	MA6-1015	1SFA611930R1015			348,00
4373188	3-HULL, I O II	MA6-1016	1SFA611930R1016			315,00
Jordklemme						
4373065	FOR PLASTKAPSLING	MA5-2005	1SFA611925R3005	10		213,00
For horisontalt montert kapsling						
4373105	NØDSTOPP	MA6-1025	1SFA611930R1025			PPF.
4373106	EMERGENCY STOP	MA6-1026	1SFA611930R1026			PPF.
For vertikalt montert kapsling						
4373107	NØDSTOPP	MA6-1100	1SFA611930R1100			PPF.
4373108	EMERGENCY STOP	MA6-1101	1SFA611930R1101			PPF.
For Compact kapsling						
4373368	EMERGENCY STOP	CA6-1026	1SFA619930R1026	10		30,80

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Av praktiske årsaker er mange av sidene i dette kapitlet på engelsk.

Kontaktorer, termiske vern og reléer
Et komplett produktsortiment

3-pole contactors

Mini contactors

Contactors for motor control and

IEC (1)	**AC-3 Rated operational power**	θ ≤ 60 °C (2), 400 V	**kW**	**4**	**5.5**	**4**	**5.5**	**7.5**	**4**	**5.5**	**7.5**	**11**	**15**	**18.5**
UL/CSA	**3-phase motor rating**	480 V	**hp**	**3**	**5**	**5**	**7.5**	**10**	**5**	**7.5**	**10**	**15**	**20**	**25**
AC / DC Control supply			Type	—	—	—	—	—	**AF09**	**AF12**	**AF16**	**AF26**	**AF30**	**AF38**
AC Control supply			Type	**B6**	**B7**	**AS09**	**AS12**	**AS16**	**AF09**	**AF12**	**AF16**	**AF26**	**AF30**	**AF38**
DC Control supply			Type	**BC6**	**BC7**	**ASL09**	**ASL12**	**ASL16**	**AF09**	**AF12**	**AF16**	**AF26**	**AF30**	**AF38**
IEC	**AC-3 Rated operational current**	θ ≤ 60 °C (2), 400 V	**A**	**8.5**	**11.5**	**9**	**12**	**15.5**	**9**	**12**	**18**	**26**	**32**	**38**
	AC-1 Rated operational current	θ ≤ 40 °C, 690 V	**A**	**20** (400 V)	**20** (400 V)	**22**	**24**	**24**	**25**	**28**	**30**	**45**	**50**	**50**
UL/CSA	**General use rating**	600 V	**A**	**12** (300 V)	**16**	**20**	**20**	**20**	**25**	**28**	**30**	**45**	**50**	**50**
NEMA	**NEMA Size**			—	—	**00**	**00**	**0**	**00**	**0**	—	**1**	—	—

(1) 1000 V IEC ratings available for AF80, AF96 and AF146 … AF2650 contactors.
(2) θ ≤ 55 °C for mini contactors and AF400 ... AF2650 contactors.

Main accessories

Auxiliary contact blocks	Front mounting	**CAF6**	**CA3-10** (1 x N.O.) **CA3-01** (1 x N.C.)	**CA4-10** (1 x N.O.) **CA4-01** (1 x N.C.)	
	Side mounting	**CA6**		**CAL4-11** (1 x N.O. + 1 x N.C.)	
Timers	Electronic		**TEF3-ON** **TEF3-OFF**	**TEF4-ON** **TEF4-OFF**	
Interlocking units (3)	Mechanical		**VM3**	**VM4**	
	Mechanical / Electrical			**VEM4**	
Connection sets	For reversing contactors	**BSM6-30**	**BER16C-3**	**BER16-4**	**BER38-4**
Surge suppressors	Varistor (AC/DC)	**RV-BC6**	**RV5** (24...440 V)	Built-in surge protection	
	RC type (AC)		**RC5-1** (24...440 V)		
	Transil diode (DC)	**RD7**	**RT5** (12...264 V)		

(3) See available reversing contactors VB6, VB7 and VAS09 ... VAS16.

Overload relays

Thermal relays	Class 10 (Class 10A for TF140, TA200DU)	**T16** (0.10...16 A)	**T16** (0.10...16 A)	**TF42** (0.10...38 A)	
Electronic relays	Class 10E, 20E, 30E	**E16DU** (0.10...18.9 A)		**EF19** (0.10...18.9 A)	**EF19** (0.10...18.9 A) **EF45** (9...45 A)

Manual motor starters

	Thermal / magnetic protection Class 10	**MS116** (0.10...32 A) Ics up to 50 kA for class 10A	**MS116** (0.10...32 A) Ics up to 50 kA for class 10A		**MS165** (4) (10...65 A) Ics up to 100 kA
		MS132 (0.10...32 A) Ics up to 100 kA	**MS132** (0.10...32 A) Ics up to 100 kA		
					MS497 (22...100 A) Ics up to 100 kA
	Magnetic only types	**MO132** (0.16...32A)	**MO132** (0.16...32 A) Ics up to 100 kA		**MO165** (4) (16...65 A) Ics up to 100 kA

Accessories	For contactor mounting	**BEA7/132**	**BEA16-3**	**BEA16-4**	**BEA38-4**	

(4) MS165/MO165 are suitable for use with AF09 ... AF30 for North american applications.
(5) BEA65-4 suitable for MS165 and MO165 only.

power switching

	18.5	22	30	37	45	55	75	75	90	110	132	160	200	200	250	315	400	—	475	560	—	—
	30	40	50	60	60	75	100	100	125	150	200	250	300	350	400	500	600	—	800	900	—	—
	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650

Motor rated operational powers and currents

The currents given below concern standard three-phase four-pole cage motors (1500 r.p.m. at 50 Hz 1800 r.p.m. at 60 Hz).
These values are given for guidance and may vary according to the motor manufacturer and depending on the number of poles

IEC	Motor nominal current: standardized values in blue colour (according to IEC 60947-4-1 Annex G)									
Motor power	220 V	**230 V**	240 V	380 V	**400 V**	415 V	440 V	**500 V**	660 V	**690 V**
kW	A	A	A	A	A	A	A	A	A	A
0.06	0.37	**0.35**	0.34	0.21	**0.2**	0.19	0.18	**0.16**	0.13	**0.12**
0.09	0.54	**0.52**	0.50	0.32	**0.3**	0.29	0.26	**0.24**	0.18	**0.17**
0.12	0.73	**0.7**	0.67	0.46	**0.44**	0.42	0.39	**0.32**	0.24	**0.23**
0.18	1	**1**	1	0.63	**0.6**	0.58	0.53	**0.48**	0.37	**0.35**
0.25	1.6	**1.5**	1.4	0.9	**0.85**	0.82	0.74	**0.68**	0.51	**0.49**
0.37	2.0	**1.9**	1.8	1.2	**1.1**	1.1	1	**0.88**	0.67	**0.64**
0.55	2.7	**2.6**	2.5	1.6	**1.5**	1.4	1.3	**1.2**	0.91	**0.87**
0.75	3.5	**3.3**	3.2	2.0	**1.9**	1.8	1.7	**1.5**	1.15	**1.1**
1.1	4.9	**4.7**	4.5	2.8	**2.7**	2.6	2.4	**2.2**	1.7	**1.6**
1.5	6.6	**6.3**	6	3.8	**3.6**	3.5	3.2	**2.9**	2.2	**2.1**
2.2	8.9	**8.5**	8.1	5.2	**4.9**	4.7	4.3	**3.9**	2.9	**2.8**
3	11.8	**11.3**	10.8	6.8	**6.5**	6.3	5.7	**5.2**	4	**3.8**
4	15.7	**15**	14.4	8.9	**8.5**	8.2	7.4	**6.8**	5.1	**4.9**
5.5	20.9	**20**	19.2	12.1	**11.5**	11.1	10.1	**9.2**	7	**6.7**
7.5	28.2	**27**	25.9	16.3	**15.5**	14.9	13.6	**12.4**	9.3	**8.9**
11	39.7	**38**	36.4	23.2	**22**	21.2	19.3	**17.6**	13.4	**12.8**
15	53.3	**51**	48.9	30.5	**29**	28	25.4	**23**	17.8	**17**
18.5	63.8	**61**	58.5	36.8	**35**	33.7	30.7	**28**	22	**21**
22	75.3	**72**	69	43.2	**41**	39.5	35.9	**33**	25.1	**24**
30	100	**96**	92	57.9	**55**	53	48.2	**44**	33.5	**32**
37	120	**115**	110	69	**66**	64	58	**53**	40.8	**39**
45	146	**140**	134	84	**80**	77	70	**64**	49.1	**47**
55	177	**169**	162	102	**97**	93	85	**78**	59.6	**57**
75	240	**230**	220	139	**132**	127	116	**106**	81	**77**
90	291	**278**	266	168	**160**	154	140	**128**	97	**93**
110	355	**340**	326	205	**195**	188	171	**156**	118	**113**
132	418	**400**	383	242	**230**	222	202	**184**	140	**134**
160	509	**487**	467	295	**280**	270	245	**224**	169	**162**
200	637	**609**	584	368	**350**	337	307	**280**	212	**203**
250	782	**748**	717	453	**430**	414	377	**344**	261	**250**
315	983	**940**	901	568	**540**	520	473	**432**	327	**313**
355	1109	**1061**	1017	642	**610**	588	535	**488**	370	**354**
400	1255	**1200**	1150	726	**690**	665	605	**552**	418	**400**
500	1545	**1478**	1416	895	**850**	819	745	**680**	515	**493**
560	1727	**1652**	1583	1000	**950**	916	832	**760**	576	**551**
630	1928	**1844**	1767	1116	**1060**	1022	929	**848**	643	**615**
710	2164	**2070**	1984	1253	**1190**	1147	1043	**952**	721	**690**
800	2446	**2340**	2243	1417	**1346**	1297	1179	**1076**	815	**780**
900	2760	**2640**	2530	1598	**1518**	1463	1330	**1214**	920	**880**
1000	3042	**2910**	2789	1761	**1673**	1613	1466	**1339**	1014	**970**

UL / CSA	Motor nominal current: standardized values (according to IEC 60947-4-1 Annex G and UL 508)				
Motor power	208 V	220-240 V	380-415 V	440-480 V	550-600 V
hp	A	A	A	A	A
1/2	**2.4**	**2.2**	**1.3**	**1.1**	**0.9**
3/4	**3.5**	**3.2**	**1.8**	**1.6**	**1.3**
1	**4.6**	**4.2**	**2.3**	**2.1**	**1.7**
1-1/2	**6.6**	**6**	**3.3**	**3**	**2.4**
2	**7.5**	**6.8**	**4.3**	**3.4**	**2.7**
3	**10.6**	**9.6**	**6.1**	**4.8**	**3.9**
5	**16.7**	**15.2**	**9.7**	**7.6**	**6.1**
7-1/2	**24.2**	**22**	**14**	**11**	**9**
10	**30.8**	**28**	**18**	**14**	**11**
15	**46.2**	**42**	**27**	**21**	**17**
20	**59.4**	**54**	**34**	**27**	**22**
25	**74.8**	**68**	**44**	**34**	**27**
30	**88**	**80**	**51**	**40**	**32**
40	**114**	**104**	**66**	**52**	**41**
50	**143**	**130**	**83**	**65**	**52**
60	**169**	**154**	**103**	**77**	**62**
75	**211**	**192**	**128**	**96**	**77**
100	**273**	**248**	**165**	**124**	**99**
125	**343**	**312**	**208**	**156**	**125**
150	**396**	**360**	**240**	**180**	**144**
200	**528**	**480**	**320**	**240**	**192**
250	**–**	**604**	**403**	**302**	**242**
300	**–**	**722**	**482**	**361**	**289**
350	**–**	**828**	**560**	**414**	**336**
400	**–**	**954**	**636**	**477**	**382**
450	**–**	**1030**	**–**	**515**	**412**
500	**–**	**1180**	**786**	**590**	**472**

B6, B7, BC6, BC7, TBC7 3- and 4-pole mini contactors
VB6, VB7, VBC6, VBC7 3- and 4-pole mini reversing contactors
Technical data

Main pole – Utilization characteristics according to IEC

Contactor types		AC operated	B6, VB6, VB6A	B7, VB7, VB7A
		DC operated	BC6, VBC6, VBC6A	BC7, TBC7, VBC7, VBC7A
Standards			IEC/EN 60947-1, IEC/EN 60947-4-1	
Rated operational voltage $U_{e\,max}$			690 V AC	
Rated frequency (without derating)			DC or 50 / 60 Hz	
Conventional free-air thermal current I_{th} acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C, with conductor cross-sectional area			Screw terminal types: 20 A Flat pin types: 20 A Soldering pin types: 12 A	
AC-1 Utilization category for air temperature close to contactor θ ≤ 40 °C				
I_e / Rated operational current AC-1 $U_{e\,max}$ ≤ 690 V, 50/60 Hz	220-230-240 V		Screw terminal types: 20 A Flat pin types: 20 A Soldering pin types: 12 A	
	380-400 V		Screw terminal types: 20 A Flat pin types: 20 A Soldering pin types: 12 A	
	440 V		Screw terminal types: 20 A Flat pin types: 20 A Soldering pin types: 12 A	
	500 V		12 A	
	690 V		6 A	
AC-1 Utilization category for air temperature close to contactor θ ≤ 55 °C				
I_e / Rated operational current AC-1 $U_{e\,max}$ ≤ 690 V, 50/60 Hz	220-230-240 V		Screw terminal types: 16 A Flat pin types: 16 A Soldering pin types: 12 A	
	380-400 V		Screw terminal types: 16 A Flat pin types: 16 A Soldering pin types: 12 A	
	440 V		Screw terminal types: 16 A Flat pin types: 16 A Soldering pin types: 12 A	
	500 V		12 A	
	690 V		6 A	
AC-3 Utilization category for air temperature close to contactor θ ≤ 55 °C				
I_e / Rated operational current AC-3	220 / 230 / 240 V		8.9 / 8.5 / 8.1 A	11.8 / 11.3 / 10.8 A
3-phase motors	380 / 400 V		8.9 / 8.5 A	12.1 / 11.5 A
	440 V		7.4 A	10.1 A
	500 V		6.8 A	9.2 A
	690 V		3.8 A	3.8 A
Rated operational power AC-3	220-230-240 V		2.2 kW	3 kW
1500 r.p.m. 50 Hz 1800 r.p.m. 60 Hz 3-phase motors	380-400 V		4 kW	5.5 kW
	440 V		4 kW	5.5 kW
	500 V		4 kW	5.5 kW
	690 V		3 kW	3 kW
DC-1 Utilization category for air temperature close to contactor θ ≤ 55 °C				
I_e / Rated operational current DC-1	110 V		-	4 A
	220 V		-	0.6 A
DC-3 Utilization category for air temperature close to contactor θ ≤ 55 °C				
I_e / Rated operational current DC-3	110 V		-	1.5 A
	220 V		-	0.25 A
DC-5 Utilization category for air temperature close to contactor θ ≤ 55 °C				
I_e / Rated operational current DC-5	110 V		-	0.4 A
	220 V		-	0.2 A
Rated making capacity AC-3			10 x I_e AC-3 acc. to IEC 60947-4-1	
Rated breaking capacity AC-3			8 x I_e AC-3 acc. to IEC 60947-4-1	
Short-circuit protection device for contactors without thermal O/L relay - motor protection excluded U_e ≤ 500 V AC - fuse type gG			Type 1: 25 A / Type 2: 25 A	
Rated short-time withstand current I_{cw} at 40 °C ambient temperature, in free air from a cold state	10 s		64 A	96 A
Maximum breaking capacity cos φ = 0.45	at 400 V		64 A	96 A
Maximum electrical switching frequency		AC-1	300 cycles/h	
		AC-3	600 cycles/h	
		DC-1, DC-3, DC-5	600 cycles/h	

B6, B7, BC6, BC7, TBC7 3- and 4-pole mini contactors
VB6, VB7, VBC6, VBC7 3- and 4-pole mini reversing contactors
Technical data

Magnet system characteristics for B6, B7 contactors

Contactor types	AC operated	B6, VB6	B7, VB7
Coil operating limits acc. to IEC 60947-4-1	AC supply	0.85 ... 1.1 x U_c	
AC control voltage			
Rated control circuit voltage U_C		See ordering tables	
Coil consumption	Average pull-in value	3.5 VA / 3.5 W	
	Average holding value	3.5 VA / 3.5 W	
Drop-out voltage		0.20 ... 0.75 % of U_c	

Magnet system characteristics for BC6, BC7 contactors

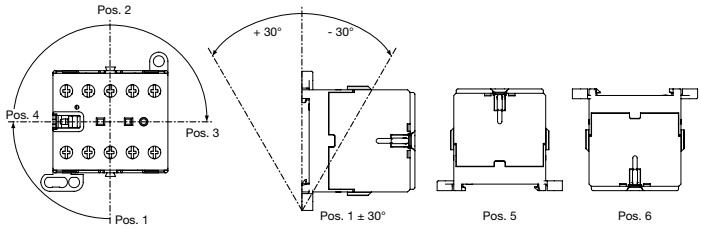
Contactor types	DC operated	BC6, VBC6	BC7, VBC7
Coil operating limits acc. to IEC 60947-4-1	DC supply	0.85 ... 1.1 x U_c	
AC control voltage			
Rated control circuit voltage U_C		See ordering tables	
Coil consumption [1]	Average pull-in value	3.5 VA / 3.5 W	
	Average holding value	3.5 VA / 3.5 W	
Drop-out voltage in % of $U_{C\,min}$		0.10 ... 0.75 x U_C	

[1] Interface mini-contactors: see coil consumption on ordering details pages

Magnet system characteristics for TBC7 contactors

Contactor types	DC operated	TBC7
Coil operating limits acc. to IEC 60947-4-1	DC supply	Wide range voltage supply see ordering tables, U_{Cmin} ... U_{Cmax}
AC control voltage		
Rated control circuit voltage U_C		See ordering tables
Coil consumption	Average pull-in value	5 VA / 5 W
	Average holding value	5 VA / 5 W
Drop-out voltage in % of $U_{C\,min}$		≤ 0.20 % of U_{Cmin}

Mounting characteristics and conditions for use

Contactor types	AC operated	B6, VB6, VB6A	B7, VB7, VB7A
	DC operated	BC6, VBC6, VBC6A	BC7, TBC7, VBC7, VBC7A
Mounting positions			
Mounting distances		The contactors can be assembled side by side	
Fixing			
On rail acc. to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm	
By screws (not supplied)		2 x M4 screws placed diagonally	

B6, B7, BC6, BC7, TBC7 3- and 4-pole mini contactors
VB6, VB7, VBC6, VBC7 3- and 4-pole mini reversing contactors
Technical data

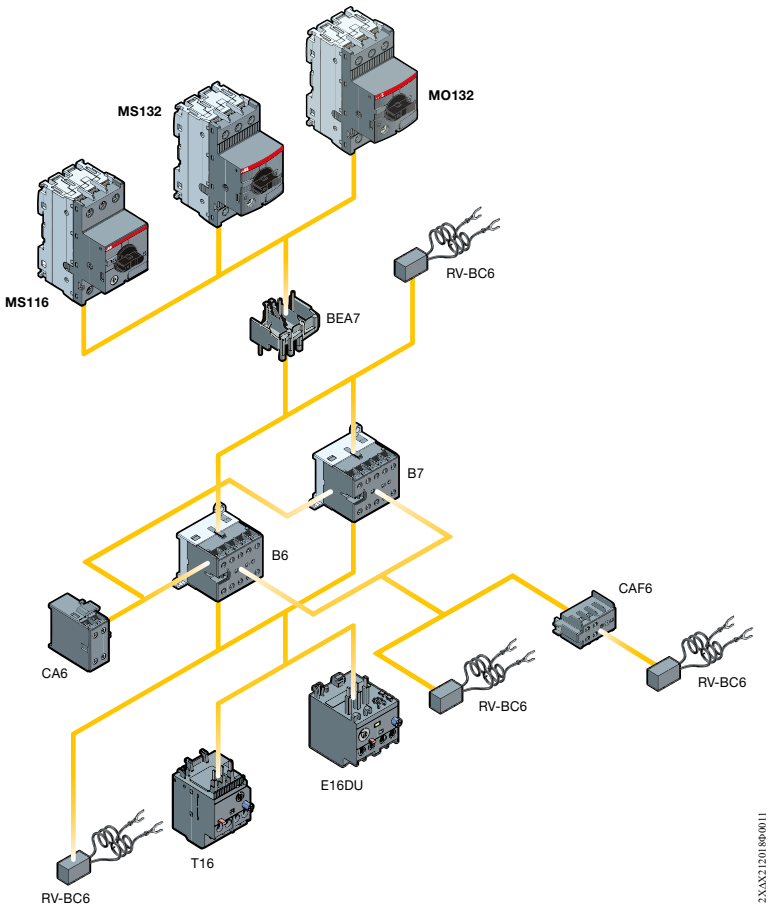
Auxiliary contacts for front mounting, side mounting and built-in according to IEC

Types		CA6, CAF6, built-in auxiliary contacts
Standards		IEC/EN 60947-1, IEC/EN 60947-4-1
Rated operational voltage Ue max		690 V
Rated frequency (without derating)		DC or 50 / 60 Hz
Conventional free-air thermal current I_{th} θ ≤ 40 °C		6 A
I_e / Rated operational current AC-15 acc. to IEC 60947-5-1	24 V 50/60 Hz	4 A
	110-120 V 50/60 Hz	4 A
	220-230-240 V 50/60 Hz	4 A
	380-400 V 50/60 Hz	3 A
	440 V 50/60 Hz	3 A
I_e / Rated operational current DC-13 acc. to IEC 60947-5-1	24 V DC	2.5 A
	110 V DC	0.7 A
	220 - 240 V DC	0.4 A
Short-circuit protection device		6 A, Type gG
Minimum switching capacity with failure rate acc. to IEC 60947-5-4		17 V / 5 mA
Maximum electrical switching frequency	AC-15	600 cycles/h
	DC-13	600 cycles/h

Auxiliary contacts for front mounting, side mounting and built-in according to UL/CSA

Types	CA6, CAF6, built-in auxiliary contacts
Max. operational voltage	600 V AC
Pilot duty	A600
AC thermal rated current	5 A

Accessories for mini contactors



B6, B7, BC6, BC7, TBC7 3- and 4-pole mini contactors
VB6, VB7, VBC6, VBC7 3- and 4-pole mini reversing contactors
Technical data

Connection characteristics

Contactor types	AC operated	B6, VB6, VB6A	B7, VB7, VB7A
	DC operated	BC6, VBC6, VBC6A	BC7, TBC7, VBC7, VBC7A
Main terminals [1]		Screw terminals with cable clamp	
Connection capacity			
Main conductors (poles)			
Rigid: solid	**1 or 2 x**	1 ... 4 mm²	
Flexible without ferrule	**1 or 2 x**	1 ... 2.5 mm²	
Connection capacity acc. to UL/CSA	**1 or 2 x**	AWG 22 ... 10	
Stripping length		9 mm	
Tightening torques		0.8 ... 1.1 Nm / 7 lb.in	
Connection capacity – auxiliary conductors (built-in auxiliary terminals + coil terminals)			
Rigid: solid	**1 or 2 x**	1 ... 4 mm²	
Flexible without ferrule	**1 or 2 x**	1 ... 2.5 mm²	
Connection capacity acc. to UL/CSA	**1 or 2 x**	AWG 22 ... 10	
Stripping length		9 mm	
Tightening torques			
Coil terminals		0.8 ... 1.1 Nm / 7 lb.in	
Built-in auxiliary terminals		0.8 ... 1.1 Nm / 7 lb.in	
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529			
Main terminals		IP20	
Coil terminals		IP20	
Built-in auxiliary terminals		IP20	
Screw terminals		(Delivered in open position, screws of unused terminals must be tightened)	
All terminals		M3	
Screwdriver type		Flat Ø 5.5 mm / Pozidriv 1	

[1] Soldering pin connection acc. to DIN 40801: 0.8 x 1 mm / 0.8 x 2.54 mm
Flat pin connection acc. to DIN 46248: 1 x 6.3 mm / 1 x 2.8 mm

K6, KC6, TKC6 4-pole mini contactor relays
Technical data

Main pole – Utilization characteristics according to IEC

Contactor types	AC operated	K6
	DC operated	KC6, TKC6
Standards		IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_{emax}		690 V
Rated frequency (without derating)		DC or 50 / 60 Hz
Conventional free-air thermal current I_{th} $\theta \leq 40$ °C		6 A
I_e / Rated operational current AC-15 acc. to IEC 60947-5-1	24 V 50/60 Hz	4 A
	110-120 V 50/60 Hz	4 A
	220-230-240 V 50/60 Hz	4 A
	380-400 V 50/60 Hz	3 A
	440 V 50/60 Hz	3 A
	480-500 V 50/60 Hz	2 A
I_e / Rated operational current DC-13 acc. to IEC 60947-5-1	24 V DC	2.5 A
	110 V DC	0.7 A
	220-240 V DC	0.4 A
Short-circuit protection device for contactors $U_e \leq 500$ V AC, fuse type gG		6 A
Minimum switching capacity		17 V / 5 mA
Maximum electrical switching frequency	AC-15	600 cycles/h
	DC-13	600 cycles/h

Main pole – Utilization characteristics according to UL/NEMA/CSA

Contactor types	AC operated	K6
	DC operated	KC6, TKC6
Standards		UL 508, CSA C22.2 No14
Maximum operational voltage		600 V AC
Pilot duty		A600

K6, KC6, TKC6 4-pole mini contactor relays
Technical data

General technical data

Contactor relay types	AC operated	K6
	DC operated	KC6, TKC6
Rated insulation voltage U_i		
acc. to IEC 60947-5-1		690 V
acc. to UL/CSA		600 V
Rated impulse withstand voltage U_{imp}		6 kV
Electromagnetic compatibility		
Ambient air temperature close to contactor relay	Operation in free air	-25 ... +55 °C
	Storage	-40 ... +80 °C
Climatic withstand		Acc. to IEC 60068-2-30
Maximum operating altitude (without derating)		2000 m
Mechanical durability		10^7 operating cycles
Resistance to shock		Half-sine
acc. IEC 60068-2-27 and EN 60068-2-27		15 g / 11ms
acc. to IEC/EN 60947-1 Annex. Q		Category E
Resistance to vibrations		Sinusoidal
acc. IEC 60068-2-27 and EN 60068-2-27		5 g / 3 ... 150 Hz
acc. to IEC/EN 60947-1 Annex. Q		Category E

Magnet system characteristics for K6 contactor relays

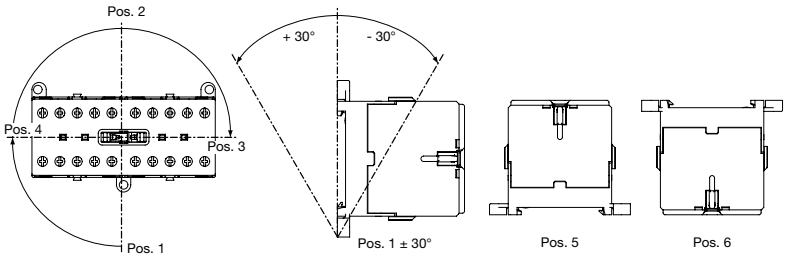
Contactor relay types		AC operated	K6
Coil operating limits acc. to IEC 60947-4-1		AC supply	0.85 ... 1.1 x U_c
AC control voltage			
Coil consumption	Average pull-in value		3.5 VA / 3.5 W
	Average holding value		3.5 VA / 3.5 W
Drop-out voltage in % of U_c min.			Approx. 20 ... 75%

Magnet system characteristics for KC6, TKC6 contactor relays

Contactor relay types		DC operated	KC6	TKC6
Coil operating limits acc. to IEC 60947-5-1		DC supply	0.85 ... 1.1 x U_c	See ordering details
DC control voltage				
Coil consumption	Average pull-in value		3.5 VA / 3.5 W	5 VA / 5 W
	Average holding value		3.5 VA / 3.5 W	5 VA / 5 W
Drop-out voltage in % of U_c min.			10 ... 75 %	10 ... 75 %

K6, KC6, TKC6 4-pole mini contactor relays
Technical data

Mounting characteristics and conditions for use

Contactor types	**AC operated**	**K6**
	DC operated	**KC6, TKC6**
Mounting positions		
Mounting distances		The contactors can be assembled side by side.
Fixing		
On rail acc. to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm
By screws (not supplied)		2 x M4 screws placed diagonally

5

Connecting characteristics

Contactor relay types	**AC operated**	**K6**
	DC operated	**KC6, TKC6**
Main terminals [1]		 Screw terminals with cable clamp
Connection capacity		
Main conductors (poles)		
Rigid: solid	**1 or 2 x**	1 ... 4 mm²
Flexible without ferrule	**1 or 2 x**	1 ... 2.5 mm²
Connection apacity acc. to UL/CSA	**1 or 2 x**	AWG 22 ... 10
Stripping length		9 mm
Tightening torques		0.8 ... 1.1 Nm / 7 lb.in
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529		
All		IP20
Screw terminals		(Delivered in open position, screws of unused terminals must be tightened)
All terminals		M3
Screwdriver type		Flat Ø 5.5 / Pozidriv 1

[1] Soldering pin connection acc. to DIN 40801: 0.8 x 1 mm / 0.8 x 2.54 mm
Flat pin connection acc. to DIN 46248: 1 x 6.3 mm / 1 x 2.8 mm

Kontaktorer
Tekniske data AF9-AF38

Generelle tekniske data

Kontaktortyper				AF09	AF12	AF16	AF26	AF30	AF38
Standarder				IEC 60947-1 / 60947-4-1 og EN 60947-1 / 60947-4-1, UL 508, CSA C22.2 N°14					
Hovedpoler	Nominell spenning U_e maks			690 V					
IEC	Nominell frekvens			25 ... 400 Hz					
	AC-3 Applikasjonskategori for lufttemperatur i umiddelbar nærhet av kontaktor θ ≤ 60 °C (for 1500 omdr/min, 50Hz eller 1800 omdr/min 60Hz, 3-fas motorer)								
	I_e / AC-3 maks nominell strøm		**380-400 V**	9 A	12 A	18 A	26 A	32 A	38 A
	AC-3 nominell effekt		**220-230-240 V**	2.2 kW	3 kW	4 kW	6.5 kW	9 kW	11 kW
			380-400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
			415 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
			440 V	4 kW	5.5 kW	9 kW	15 kW	18.5 kW	22 kW
			500 V	5.5 kW	7.5 kW	9 kW	15 kW	18.5 kW	22 kW
			690 V	5.5 kW	7.5 kW	9 kW	15 kW	18.5 kW	22 kW
	I_e / AC-1 nominell strøm		**θ ≤ 40 °C**	25 A	28 A	30 A	45 A	50 A	50 A
	U_e maks ≤ 690 V, 50/60 Hz		**θ ≤ 60 °C**	25 A	28 A	30 A	40 A	42 A	42 A
			θ ≤ 70 °C	22 A	24 A	26 A	32 A	37 A	37 A
	ved bruk av følgende kabeltversnitt			4 mm²	6 mm²	6 mm²	10 mm²	10 mm²	10 mm²
	I_e / AC-8a nominell støm (uten termisk overlastvern - U_e 400 V - θ ≤ 40 °C)			12 A	16 A	22 A	30 A	40 A	50 A
Omgivelses-temperatur i umiddelbar nærhet av kontaktor	Under bruk	- utstyrt med termisk overlastvern							
		- uten termisk overlastvern		-40 ... +70 °C					
	Ved oppbevaring			-60 ... +80 °C					
Kontaktorspole	Spolens arbeidsområde (ihht. IEC 60947-4-1)		**AC tilførsel**	ved θ ≤ 60 °C 0.85 x U_c min ... 1.1 x U_c maks ved θ ≤ 70 °C 0.85 x U_c min ... U_c maks					
			DC tilførsel	ved θ ≤ 60 °C 0.85 x U_c min ... 1.1 x U_c maks ved θ ≤ 70 °C (AF) 0.85 x U_c min ... U_c maks - (AF..Z) 0.85 x U_c min ... 1.1 x U_c maks					
AC-styrespenning 50/60 Hz	Nominell styrespenning U_c			24 ... 500 V AC					
	Spoleforbruk	Innslag		(AF) 50 VA - (AF..Z) 16 VA					
		Holde		(AF) 2.2 VA / 2 W - (AF..Z) 1.7 VA / 1.5 W					
DC-styrespenning	Nominell styrespenning U_c			20 ... 500 V DC					
	PLS-utgang styring			(AF..Z) ≥ 500 mA 24 V DC					
	Spoleforbruk	Innslag		(AF) 50 W - (AF..Z) 12 ... 16 W					
		Holde		(AF) 2 W - (AF..Z) 1.7 W					
Elektromagnetisk kompabilitet				utstyret er ihht. IEC 60947-1 / EN 60947-1 - Environment A					
Innebygd hjelpekontakt									
IEC	Nominell spenning U_e maks			690 V					
ihht. IEC 60947-5-1	I_e / AC-15 nominell strøm		**400-440 V**	3 A					
	I_e / DC-13 nominell strøm		**24 V DC**	6 A / 144 W					
Kabeltilkobling	Hovedpoler	Massiv	**1 eller 2 x**	1 ... 6 mm²			2.5 ... 10 mm²		
		Fleksibel med endehylse	**1 eller 2 x**	0.75 ... 6 mm²			1.5 ... 10 mm²		
		Tiltrekningsmoment		1.5 Nm / 13 lb.in			2.5 Nm / 22 lb.in		
		Avmantlingslengde		10 mm			14 mm		
Kabeltilkobling	Spole og hjelpekontakter	Massiv	**1 eller 2 x**	1 ... 2.5 mm²					
		Fleksibel med endehylse	**1 eller 2 x**	0.75 ... 2.5 mm²					
		Tiltrekningsmoment		1.2 Nm / 11 lb.in					
		Avmantlingslengde		10 mm					
Kapslingsgrad	Ihht. IEC 60947-1 / EN 60947-1 og IEC 60529 / EN 60529			IP 20					

AF09 ... AF38 3-pole contactors
Technical data

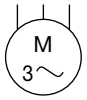
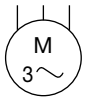
Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1					
Rated operational voltage Ue max.		690 V					
Rated frequency (without derating)		50 / 60 Hz					
Conventional free-air thermal current Ith							
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40$ °C		35 A	35 A	35 A	50 A	50 A	50 A
With conductor cross-sectional area		6 mm²	6 mm²	6 mm²	10 mm²	10 mm²	10 mm²
AC-1 Utilization category							
For air temperature close to contactor							
Ie / Rated operational current AC-1	**$\theta \leq 40$ °C**	25 A	28 A	30 A	45 A	50 A	50 A
Ue max. ≤ 690 V, 50/60 Hz	**$\theta \leq 60$ °C**	25 A	28 A	30 A	40 A	42 A	42 A
	$\theta \leq 70$ °C	22 A	24 A	26 A	32 A	37 A	37 A
With conductor cross-sectional area		4 mm²	6 mm²	6 mm²	10 mm²	10 mm²	10 mm²
AC-3 Utilization category							
For air temperature close to contactor $\theta \leq 60$ °C							
Ie / Max. rated operational current AC-3 (1)							
	220-230-240 V	9 A	12 A	18 A	26 A	33 A	40 A
M 3~ 3-phase motors	**380-400 V**	9 A	12 A	18 A	26 A	32 A	38 A
	415 V	9 A	12 A	18 A	26 A	32 A	38 A
	440 V	9 A	12 A	18 A	26 A	32 A	38 A
	500 V	9.5 A	12.5 A	15 A	23 A	28 A	33 A
	690 V	7 A	9 A	10.5 A	17 A	21 A	24 A
Rated operational power AC-3 (1)							
	220-230-240 V	2.2 kW	3 kW	4 kW	6.5 kW	9 kW	11 kW
M 3~ 1500 r.p.m. 50 Hz, 1800 r.p.m. 60 Hz, 3-phase motors	**380-400 V**	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	440 V	4 kW	5.5 kW	9 kW	15 kW	18.5 kW	22 kW
	500 V	5.5 kW	7.5 kW	9 kW	15 kW	18.5 kW	22 kW
	690 V	5.5 kW	7.5 kW	9 kW	15 kW	18.5 kW	22 kW
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1					
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1					
AC-8a Utilization category							
(without thermal overload relay - Ue 400 V 50/60 Hz - $\theta \leq 40$ °C)							
Ie / Rated operational current AC-8a		12 A	16 A	22 A	30 A	40 A	50 A
Rated operational power AC-8a		5.5 kW	7.5 kW	11 kW	15 kW	20 kW	25 kW
Short-circuit protection device for contactors							
without thermal overload relay - Motor protection excluded (2)							
Ue ≤ 500 V AC - gG type fuse		25 A	32 A	32 A	50 A	63 A	63 A
Rated short-time withstand current Icw	**1 s**	300 A	300 A	300 A	700 A	700 A	700 A
at 40 °C ambient temperature, in free air from a cold state	**10 s**	150 A	150 A	150 A	350 A	350 A	350 A
	30 s	80 A	80 A	80 A	225 A	225 A	225 A
	1 min	60 A	60 A	60 A	150 A	150 A	150 A
	15 min	35 A	35 A	35 A	50 A	50 A	50 A
Maximum breaking capacity							
cos φ = 0.45	**at 440 V**	250 A	250 A	250 A	500 A	500 A	500 A
	at 690 V	106 A	106 A	106 A	200 A	200 A	200 A
Power dissipation per pole	**Ie / AC-1**	0.8 W	1 W	1.2 W	1.8 W	2.4 W	2.4 W
	Ie / AC-3	0.1 W	0.2 W	0.35 W	0.6 W	0.9 W	1.3 W
Max. electrical switching frequency	**AC-1**	600 cycles/h					
	AC-3	1200 cycles/h					
	AC-2, AC-4	300 cycles/h			150 cycles/h		

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".
(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".

AF40 ... AF96 3-pole contactors
Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1				
Rated operational voltage Ue max.		690 V			1000 V	
Rated frequency (without derating)		50 / 60 Hz				
Conventional free-air thermal current Ith						
acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C		105 A	105 A	105 A	130 A	130 A
With conductor cross-sectional area		35 mm²	35 mm²	35 mm²	50 mm²	50 mm²
AC-1 Utilization category						
For air temperature close to contactor						
Ie / Rated operational current AC-1	**θ ≤ 40 °C**	70 A	100 A	105 A	125 A	130 A
Ue max. ≤ 690 V, 50/60 Hz	**θ ≤ 60 °C**	60 A	80 A	90 A	100 A	105 A
	θ ≤ 70 °C	50 A	70 A	80 A	85 A	90 A
With conductor cross-sectional area		25 mm²	35 mm²	35 mm²	50 mm²	50 mm²
AC-3 Utilization category						
For air temperature close to contactor θ ≤ 60 °C						
Ie / Max. rated operational current AC-3 (1)						
	220-230-240 V	40 A	53 A	65 A	80 A	96 A
	380-400 V	40 A	53 A	65 A	80 A	96 A
 3-phase motors	**415 V**	40 A	53 A	65 A	80 A	96 A
	440 V	40 A	53 A	65 A	80 A	96 A
	500 V	35 A	45 A	55 A	65 A	80 A
	690 V	25 A	35 A	39 A	49 A	57 A
	1000 V	-	-	-	25 A	30A
Rated operational power AC-3 (1)						
	220-230-240 V	11 kW	15 kW	18.5 kW	22 kW	25 kW
	380-400 V	18.5 kW	22 kW	30 kW	37 kW	45 kW
 1500 r.p.m. 50 Hz 1800 r.p.m. 60 Hz 3-phase motors	**415 V**	22 kW	30 kW	37 kW	45 kW	55 kW
	440 V	22 kW	30 kW	37 kW	45 kW	55 kW
	500 V	22 kW	30 kW	37 kW	45 kW	55 kW
	690 V	22 kW	30 kW	37 kW	45 kW	55 kW
	1000 V	-	-	-	35 kW	40 kW
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1				
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1				
AC-8a Utilization category						
(without thermal overload relay - Ue 400 V 50/60 Hz - θ ≤ 40 °C)						
Ie / Rated operational current AC-8a		53 A	70 A	85 A	105 A	120 A
Rated operational power AC-8a		25 kW	37 kW	45 kW	55 kW	65 kW
Short-circuit protection device for contactors						
without thermal overload relay - Motor protection excluded (2)						
Ue ≤ 500 V AC - gG type fuse		100 A	125 A	160 A	160 A	200 A
Rated short-time withstand current Icw	**1 s**	1000 A	1000 A	1000 A	1200 A	1200 A
at 40 °C ambient temperature,	**10 s**	600 A	600 A	600 A	780 A	780 A
in free air from a cold state	**30 s**	350 A	350 A	350 A	450 A	450 A
	1 min	250 A	250 A	250 A	300 A	300 A
	15 min	110 A	110 A	110 A	140 A	140 A
Maximum breaking capacity						
cos φ = 0.45	**at 440 V**	950 A	950 A	950 A	1150 A	1150 A
	at 690 V	600 A	600 A	600 A	750 A	750 A
Power dissipation per pole	**Ie / AC-1**	3 W	6.3 W	7 W	7.6 W	8.2 W
	Ie / AC-3	1 W	1.7 W	2.7 W	3 W	4.5 W
Max. electrical switching frequency	**AC-1**	600 cycles/h				
	AC-3	1200 cycles/h				
	AC-2, AC-4	150 cycles/h				

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".
(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".

AF116 ... AF370 3-pole contactors
Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1							
Rated operational voltage Ue max.		690 V	690 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Rated frequency (without derating)		50 / 60 Hz							
Conventional free-air thermal current Ith									
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40$ °C		160 A	200 A	225 A	275 A	350 A	400 A	500 A	600 A
With conductor cross-sectional area		70 mm²	95 mm²	95 mm²	150 mm²	240 mm² (3)	240 mm²	300 mm² (4)	2 x 185 mm² (4)
AC-1 Utilization category									
For air temperature close to contactor									
Ie / Rated operational current AC-1	**$\theta \leq 40$ °C**	160 A	200 A	225 A	275 A	350 A	400 A	500 A	600 A
Ue max. ≤ 690 V, 50/60 Hz	**$\theta \leq 60$ °C**	145 A	175 A	200 A	250 A	300 A	350 A	400 A	500 A
	$\theta \leq 70$ °C	130 A	160 A	175 A	200 A	240 A	290 A	325 A	400 A
Ie / Rated operational current AC-1	**$\theta \leq 40$ °C**	–	–	225 A	250 A	275 A	350 A	375 A	400 A
Ue max. ≤ 1000 V, 50/60 Hz	**$\theta \leq 60$ °C**	–	–	200 A	225 A	250 A	300 A	325 A	350 A
	$\theta \leq 70$ °C	–	–	175 A	185 A	200 A	240 A	260 A	290 A
With conductor cross-sectional area		70 mm²	95 mm²	95 mm²	150 mm²	240 mm² (3)	240 mm²	300 mm² (4)	2 x 185 mm² (4)
AC-3 Utilization category									
For air temperature close to contactor $\theta \leq 60$ °C									
Ie / Max. rated operational current AC-3 (1)									
	220-230-240 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	380-400 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
M 3~ 3-phase motors	**415 V**	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	440 V	116 A	140 A	146 A	190 A	205 A	265 A	305 A	370 A
	500 V	110 A	130 A	130 A	135 A	165 A	250 A	290 A	315 A
	690 V	65 A	80 A	93 A	135 A	165 A	250 A	290 A	315 A
	1000 V	–	–	60 A	85 A	100 A	100 A	100 A	100 A
Rated operational power AC-3 (1)									
	220-230-240 V	30 kW	37 kW	45 kW	55 kW	55 kW	75 kW	90 kW	110 kW
	380-400 V	55 kW	75 kW	75 kW	90 kW	110 kW	132 kW	160 kW	200 kW
M 3~ 1500 r.p.m. 50 Hz, 1800 r.p.m. 60 Hz, 3-phase motors	**415 V**	55 kW	75 kW	75 kW	90 kW	110 kW	132 kW	160 kW	200 kW
	440 V	75 kW	90 kW	90 kW	110 kW	132 kW	160 kW	160 kW	200 kW
	500 V	75 kW	90 kW	90 kW	90 kW	110 kW	200 kW	200 kW	250 kW
	690 V	55 kW	75 kW	90 kW	132 kW	160 kW	200 kW	250 kW	315 kW
	1000 V	–	–	75 kW	110 kW	132 kW	132 kW	132 kW	132 kW
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1							
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1							
Short-circuit protection device for contactors									
without thermal overload relay - Motor protection excluded (2)									
Ue ≤ 500 V AC - gG type fuse		250 A	315 A	315 A	355 A	400 A	500 A	500 A	630 A
Rated short-time withstand current Icw	**1 s**	1300 A	1460 A	1460 A	1900 A	2050 A	2650 A	3050 A	3700 A
at 40 °C ambient temperature,	**10 s**	928 A	1168 A	1168 A	1520 A	1640 A	2120 A	2440 A	2960 A
in free air from a cold state	**30 s**	536 A	674 A	674 A	878 A	947 A	1224 A	1409 A	1709 A
	1 min	379 A	477 A	477 A	621 A	670 A	865 A	996 A	1208 A
	15 min	160 A	200 A	225 A	275 A	350 A	400 A	500 A	600 A
Maximum breaking capacity									
cos φ = 0.45	**at 440 V**	2000 A	3000 A	3000 A	3300 A	3500 A	3800 A	4600 A	5000 A
(cos φ = 0.35 for Ie > 100 A)	**at 690 V**	1000 A	1500 A	1500 A	2200 A	2500 A	3300 A	3800 A	4000 A
Power dissipation per pole	**Ie / AC-1**	12 W	18 W	23 W	15 W	25 W	32 W	50 W	72 W
	Ie / AC-3	6 W	9 W	10 W	7 W	8 W	14 W	19 W	27 W
Maximum electrical switching frequency	**AC-1**	300 cycles/h							
	AC-3	300 cycles/h							
	AC-2, AC-4	150 cycles/h							

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".
(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".
(3) For currents above 275A use terminal enlargements or terminal extensions.
(4) For currents above 450A use terminal enlargements or terminal extensions.

AF400 … AF2650 3-pole contactors
Technical data

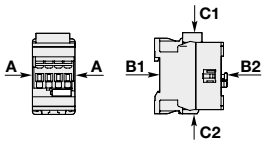
Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1								
Rated operational voltage Ue max.		1000 V								
Rated frequency (without derating)		50/60 Hz								
Conventional free-air thermal current Ith										
acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C		600 A	700 A	800 A	1050 A	1260 A	1350 A	1650 A	2050 A	2650 A
With conductor cross-sectional area (3)		2x185 mm²	2x240 mm²	2x240 mm²	800 mm² (4)	1000 mm² (4)	1000 mm² (5)	1500 mm² (5)	2000 mm² (5)	3000 mm² (5)
AC-1 Utilization category										
For air temperature close to contactor										
Ie / Rated operational current AC-1	**θ ≤ 40 °C**	600 A	700 A	800 A	1050 A	1260 A	1350 A	1650 A	2050 A	2650 A
Ue max. ≤ 690 V, 50/60 Hz	**θ ≤ 55 °C**	500 A	600 A	700 A	875 A	1040 A	1150 A	1450 A	1750 A	2350 A
	θ ≤ 70 °C	400 A	480 A	580 A	720 A	875 A	1000 A	1270 A	1500 A	2120 A
Ie / Rated operational current AC-1	**θ ≤ 40 °C**	600 A	700 A	800 A	1000 A	1260 A	1350 A	1650 A	2050 A	2650 A
Ue max. ≤ 1000 V, 50/60 Hz	**θ ≤ 55 °C**	500 A	600 A	700 A	875 A	1040 A	1150 A	1450 A	1750 A	2350 A
	θ ≤ 70 °C	400 A	480 A	580 A	720 A	875 A	1000 A	1270 A	1500 A	2120 A
With conductor cross-sectional area		2x185 mm²	2x240 mm²	2x240 mm²	800 mm² (4)	1000 mm² (4)	1000 mm² (5)	1500 mm² (5)	2000 mm² (5)	3000 mm² (5)
AC-3 Utilization category										
For air temperature close to contactor θ ≤ 55 °C										
Ie / Max. rated operational current AC-3 (1)										
	220-230-240 V	400 A	460 A	580 A	750 A	–	860 A	1060 A	1060 A	–
	380-400 V	400 A	460 A	580 A	750 A	–	860 A	1060 A	1060 A	–
M 3~ 3-phase motors	**415 V**	400 A	460 A	580 A	750 A	–	860 A	1060 A	1060 A	–
	440 V	400 A	460 A	580 A	750 A	–	860 A	1060 A	1060 A	–
	500 V	400 A	460 A	580 A	750 A	–	800 A	970 A	970 A	–
	690 V	350 A	400 A	500 A	650 A	–	800 A	970 A	970 A	–
	1000 V	155 A	200 A	250 A	300 A	–	–	–	–	–
Rated operational power AC-3 (1)										
	220-230-240 V	110 kW	132 kW	160 kW	220 kW	–	257 kW	315 kW	–	–
	380-400 V	200 kW	250 kW	315 kW	400 kW	–	475 kW	560 kW	–	–
M 3~ 1500 r.p.m. 50 Hz, 1800 r.p.m. 60 Hz, 3-phase motors	**415 V**	220 kW	250 kW	355 kW	425 kW	–	500 kW	630 kW	630 kW	–
	440 V	220 kW	250 kW	355 kW	450 kW	–	560 kW	710 kW	710 kW	–
	500 V	250 kW	315 kW	400 kW	520 kW	–	560 kW	710 kW	–	–
	690 V	315 kW	355 kW	500 kW	600 kW	–	800 kW	1000 kW	1000 kW	–
	1000 V	220 kW	280 kW	355 kW	400 kW	–	–	–	–	–
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1								
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1								
Short-circuit protection device for contactors										
without thermal overload relay										
Motor protection excluded (2)										
Ue ≤ 500 V AC - gG type fuse		630 A	800 A	1000 A	1000 A	Please consult us for coordination with circuit-breaker				
Rated short-time withstand current Icw	**1 s**	4600 A	4600 A	7000 A	7000 A	8000 A	10000 A	12000 A	12000 A	12000 A
at 40 °C ambient temperature,	**10 s**	4400 A	4400 A	6400 A	6400 A	7200 A	8000 A	10000 A	10000 A	10000 A
in free air from a cold state	**30 s**	3100 A	3100 A	4500 A	4500 A	5200 A	6000 A	7500 A	7500 A	7500 A
	1 min	2500 A	2500 A	3500 A	3500 A	4000 A	4500 A	5500 A	5500 A	5500 A
	15 min	840 A	840 A	1300 A	1300 A	1500 A	1600 A	2200 A	2200 A	2800 A
Maximum breaking capacity										
cos φ = 0.45	**at 440 V**	4000 A	5000 A	6000 A	7500 A		10000 A	12000 A	8400 A	8400 A
(cos φ = 0.35 for Ie > 100 A)	**at 690 V**	3500 A	4500 A	5000 A	7000 A		–	–	–	–
Power dissipation per pole	**Ie / AC-1**	30 W	42 W	32 W	50 W	80 W	80 W	80 W	125 W	200 W
	Ie / AC-3	16 W	21 W	17 W	28 W	–	50 W	50 W	–	–
Max. electrical switching frequency	**AC-1**	300 cycles/h		300 cycles/h		300 cycles/h	60 cycles/h		60 cycles/h	15 cycles/h
	AC-3	300 cycles/h		300 cycles/h		–	60 cycles/h		–	–
	AC-2, AC-4	60 cycles/h		60 cycles/h		–	60 cycles/h		–	–

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".
(2) For the protection of motor starters against short circuits, see "Coordination with short-circuit protection devices".
(3) Conductors with preparation.
(4) Max. connection bar width 50 mm.
(5) Max. connection bar width 100 mm.

AF09 ... AF38 3-pole contactors
Technical data

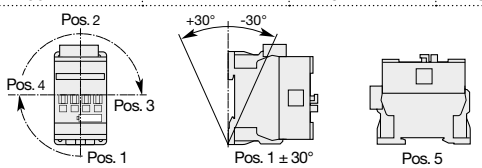
General technical data

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Rated insulation voltage Ui							
acc. to IEC 60947-4-1		690 V					
acc. to UL / CSA		600 V					
Rated impulse withstand voltage Uimp.		6 kV					
Electromagnetic compatibility		Devices complying with IEC 60947-1 / EN 60947-1 - Environment A					
Ambient air temperature close to contactor							
Operation Fitted with thermal overload relay		-25...+60 °C					
Without thermal overload relay		-40...+70 °C					
Storage		-60...+80 °C					
Climatic withstand		Category B according to IEC 60947-1 Annex Q					
Maximum operating altitude (without derating)		3000 m					
Mechanical durability							
Number of operating cycles		10 millions operating cycles					
Max. switching frequency		3600 cycles/h					
Shock withstand							
acc. to IEC 60068-2-27 and EN 60068-2-27							
Mounting position 1							
	**Shock direction**	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position					
	A	30 g					
	B1	25 g closed position / 5 g open position					
	B2	15 g					
	C1	25 g					
	C2	25 g					
Vibration withstand		5...300 Hz					
acc. to IEC 60068-2-6		4 g closed position / 2 g open position					

Magnet system characteristics

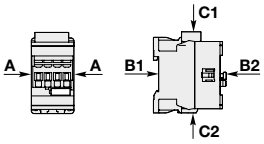
Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Coil operating limits acc. to IEC 60947-4-1	**AC supply**	At $\theta \leq 60$ °C 0.85 x Uc min...1.1 x Uc max. At $\theta \leq 70$ °C 0.85 x Uc min...Uc max.					
	DC supply	At $\theta \leq 60$ °C 0.85 x Uc min...1.1 x Uc max. At $\theta \leq 70$ °C (AF) 0.85 x Uc min...Uc max. - (AF..Z) 0.85 x Uc min...1.1 x Uc max.					
AC control voltage 50/60 Hz							
Rated control circuit voltage Uc		24...500 V AC					
Coil consumption	**Average pull-in value**	(AF) 50 VA - (AF..Z) 16 VA					
	Average holding value	(AF) 2.2 VA / 2 W - (AF..Z) 1.7 VA / 1.5 W					
DC control voltage							
Rated control circuit voltage Uc		12...500 V DC					
Coil consumption	**Average pull-in value**	(AF) 50 W - (AF..Z) 12...16 W					
	Average holding value	(AF) 2 W - (AF..Z) 1.7 W					
PLC-output control		(AF..Z) ≥ 500 mA 24 V DC					
Drop-out voltage		≤ 60 % of Uc min.					
Voltage sag immunity acc. to SEMI F47-0706		(AF..Z) conditions of use on request					
Dips withstand -20 °C ≤ θ ≤ +60 °C		(AF..Z) 22 ms average for Uc ≥ 24 V 50/60 Hz or Uc ≥ 20 V DC					
Operating time							
Between coil energization and:	**N.O. contact closing**	40...95 ms					
	N.C. contact opening	38...90 ms					
Between coil de-energization and:	**N.O. contact opening**	11...95 ms					
	N.C. contact closing	13...98 ms					

Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Mounting positions							
		Max. N.C. built-in and add-on N.C. auxiliary contacts: see accessory fitting details for a 3-pole contactor AF09 ... AF38					
Mounting distances		The contactors can be assembled side by side					
Fixing							
On rail according to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm					
By screws (not supplied)		2 x M4 screws placed diagonally					

AF40 ... AF96 3-pole contactors
Technical data

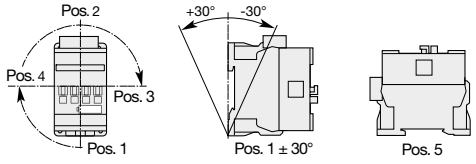
General technical data

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Rated insulation voltage Ui						
acc. to IEC 60947-4-1		690 V			1000 V	
acc. to UL / CSA		600 V				
Rated impulse withstand voltage Uimp.		6 kV			8 kV	
Electromagnetic compatibility		Devices complying with IEC 60947-1 / EN 60947-1 - Environment A and B				
Ambient air temperature close to contactor						
Operation Fitted with thermal overload relay		-25...+60 °C				
Without thermal overload relay		-40...+70 °C				
Storage		-60...+80 °C				
Climatic withstand		Category B according to IEC 60947-1 Annex Q				
Maximum operating altitude (without derating)		3000 m				
Mechanical durability						
Number of operating cycles		10 millions operating cycles				
Maximum switching frequency		3600 cycles/h				
Shock withstand						
acc. to IEC 60068-2-27 and EN 60068-2-27						
Mounting position 1						
	**Shock direction**	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position				
	A	25 g				
	B1	25 g closed position / 5 g open position				
	B2	15 g				
	C1	25 g				
	C2	25 g				
Vibration withstand		5...300 Hz				
acc. to IEC 60068-2-6		3 g closed position / 3 g open position				

Magnet system characteristics

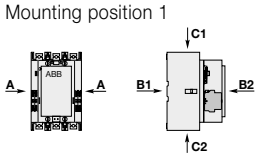
Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Coil operating limits	**AC supply**	At θ ≤ 70 °C 0.85 x Uc min...1.1 x Uc max.				
acc. to IEC 60947-4-1	**DC supply**	At θ ≤ 70 °C 0.85 x Uc min...1.1 x Uc max.				
AC control voltage 50/60 Hz						
Rated control circuit voltage Uc		24...500 V AC				
Coil consumption	**Average pull-in value**	25 VA			40 VA	
	Average holding value	4 VA / 2 W				
DC control voltage						
Rated control circuit voltage Uc		20...500 V DC				
Coil consumption	**Average pull-in value**	25 W			40 W	
	Average holding value	2 W				
PLC-output control		-				
Drop-out voltage		≤ 60 % of Uc min.				
Voltage sag immunity						
acc. to SEMI F47-0706		conditions of use on request				
Dips withstand						
-20 °C ≤ θ ≤ +60°C		24 ms average				
Operating time						
Between coil energization and:	**N.O. contact closing**	42...100 ms				
	N.C. contact opening	38...95 ms				
Between coil de-energization and:	**N.O. contact opening**	17...100 ms				
	N.C. contact closing	19...105 ms				

Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Mounting positions						
		Max. N.C. built-in and add-on N.C. auxiliary contacts: see accessory fitting details for a 3-pole contactor AF40 ... AF96				
Mounting distances		The contactors can be assembled side by side				
Fixing						
On rail according to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm			35 x 15 mm	
By screws (not supplied)		2 x M4 or 2 x M6 screws placed diagonally				

AF116 ... AF370 3-pole contactors
Technical data

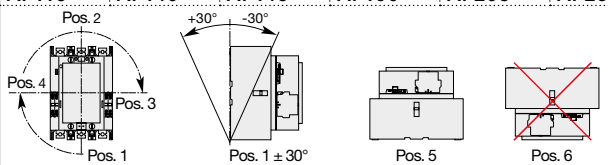
General technical data

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Rated insulation voltage Ui									
acc. to IEC 60947-4-1		1000 V							
acc. to UL / CSA		600 V							
Rated impulse withstand voltage Uimp.		8 kV							
Electromagnetic compatibility		AF contactors comply with IEC 60947-1 / EN 60947-1 - Environment A							
Ambient air temperature close to contactor									
Operation	Fitted with thermal overload relay	-25 to +55 °C							
	Without thermal overload relay	-40 to +70 °C							
Storage		-40 to +70 °C							
Maximum operating altitude (without derating)		3000 m							
Mechanical durability									
Number of operating cycles		5 million operating cycles							
Maximum switching frequency		300 cycles/h							
Shock withstand									
acc. to IEC 60068-2-27 and EN 60068-2-27									
Mounting position 1		No change in contact position, closed or open position							
	**Shock direction**	1/2 sinusoidal shock for 11 ms				1/2 sinusoidal shock for 30 ms			
	A	20 g				20 g			
	B1	15 g closed position / 3 g open position				15 g closed position / 3 g open position			
	B2	15 g closed position / 3 g open position				15 g closed position / 3 g open position			
	C1	20 g				20 g			
	C2	20 g				20 g			
Vibration withstand									
acc to IEC 60068-2-6		0.7 g closed position / 0.7 g open position 13.2...100 Hz							

Magnet system characteristics

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Coil operating limits	**AC supply**	At θ ≤ 70 °C 0.85 x Uc min ... 1.1 x Uc max							
acc. to IEC 60947-4-1	**DC supply**	At θ ≤ 70 °C 0.80 x Uc min ... 1.1 x Uc max							
Rated control circuit voltage Uc		24...500 V AC, 20...500 V DC							
Coil consumption									
AC control voltage 50/60 Hz									
24...60 V AC	**Average pull-in value**	225 VA			165 VA		475 VA		
	Average holding value	5.5 VA			6 VA		8.5 VA		
48...130 V AC	**Average pull-in value**	170 VA			175 VA		340 VA		
	Average holding value	4 VA			4 VA		17 VA		
100...250 V AC	**Average pull-in value**	130 VA			220 VA		385 VA		
	Average holding value	6 VA			7 VA		17.5 VA		
250...500 V AC	**Average pull-in value**	205 VA			185 VA		420 VA		
	Average holding value	16 VA			16 VA		21 VA		
DC control voltage									
20...60 V DC	**Average pull-in value**	210 W			205 W		400 W		
	Average holding value	2.5 W			2.5 W		3.5 W		
48...130 V DC	**Average pull-in value**	130 W			130 W		360 W		
	Average holding value	2.5 W			2.5 W		2.5 W		
100...250 V DC	**Average pull-in value**	135 W			190 W		410 W		
	Average holding value	3 W			2.5 W		4.5 W		
250...500 V DC	**Average pull-in value**	205 W			190 W		600 W		
	Average holding value	4 W			4 W		4.7 W		
Drop-out voltage		55 % of Uc min							
Voltage sag immunity		Conditions of use on request							
acc. to SEMI F47									
Dips withstand		≥ 20 ms							
Operating time									
Coil supply between A1 - A2									
Between coil energization and:	**N.O. contact closing**	20...55 ms			25...60 ms		30...60 ms		
Between coil de-energization and:	**N.O. contact opening**	40..70 ms			45...80 ms		45...80 ms		

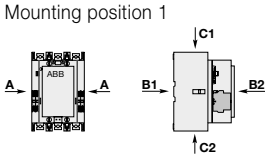
Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Mounting positions									
		Max. add-on N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AF116 ... AF370							
Mounting distances		The contactors can be assembled side by side							
Fixing									
On rail acc. to IEC 60715, EN 60715		–							
By screws (not supplied)		4 x M5							

AF400 ... AF2650 3-pole contactors
Technical data

General technical data

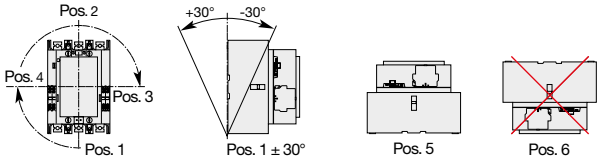
Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Rated insulation voltage Ui										
acc. to IEC 60947-4-1		1000 V								
acc. to UL / CSA		600 V					1000 V			
Rated impulse withstand voltage Uimp.		8 kV								
Electromagnetic compatibility		AF contactors complying with IEC 60947-1 / EN 60947-1 - Environment A								
Ambient air temperature close to contactor										
Operation	Fitted with electronic overload relay	-25 to +70 °C								
	Without electronic overload relay	-40 to +70 °C								
Storage		-40 to +70 °C								
Maximum operating altitude (without derating)		3000 m								
Mechanical durability										
Number of operating cycles		3 millions operating cycles				0.5 million operating cycles				0.3 million operating cycles
Max. switching frequency		300 cycles/h					60 cycles/h			
Shock withstand										
acc. to IEC 60068-2-27 and EN 60068-2-27										
Mounting position 1										
	Shock direction	1/2 sinusoidal shock for 30 ms: no change in contact position, closed or open position								
	A	5 g					–			
	B1	5 g					–			
	B2	5 g					–			
	C1	5 g					–			
	C2	5 g					–			



Magnet system characteristics

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Coil operating limits	**AC supply**	At θ ≤ 70 °C 0.85 x Uc min ... 1.1 x Uc max								
acc. to IEC 60947-4-1	**DC supply**	At θ ≤ 70 °C 0.80 x Uc min ... 1.1 x Uc max								
Rated control circuit voltage Uc		48...500 V AC, 24...500 V DC					100...250 V AC or DC			
Coil consumption										
AC control voltage 50/60 Hz										
48...130 V AC	**Average pull-in value**	1215 VA		1100 VA			-			
	Average holding value	12 VA		12 VA			-			
100...250 V AC	**Average pull-in value**	955 VA		880 VA			2450 VA			
	Average holding value	12 VA		12 VA			48 VA			
250 ... 500 V AC	**Average pull-in value**	950 VA		985 VA			-			
	Average holding value	12 VA		12 VA			-			
DC control voltage										
24...60 V DC	**Average pull-in value**	900 VA		785 VA			-			
	Average holding value	5 VA		5.5 VA			-			
48...130 V DC	**Average pull-in value**	1150 VA		1020 VA			-			
	Average holding value	5 VA		5 VA			-			
100...250 V DC	**Average pull-in value**	895 VA		880 VA			2290 VA			
	Average holding value	5 VA		5 VA			20.5 VA			
250 ... 500 V DC	**Average pull-in value**	885 VA		910 VA			-			
	Average holding value	7.5 VA		7.5 VA			-			
Drop-out voltage		55 % of Uc min.								
Voltage sag immunity		Conditions of use on request								
acc. to SEMI F47										
Dips withstand		≥ 20 ms								
Operating time										
Coil supply between A1 - A2										
Between coil energization and:	**Main contact closing**	50...120 ms					50...80 ms			
Between coil de-energization and:	**Main contact opening**	33...70 ms					35...55 ms			
Control input for PLC's										
Between coil energization and:	**Main contact closing**	40...60 ms		40...90 ms			40...65 ms			
Between coil de-energization and:	**Main contact opening**	10...30 ms					10...30 ms			

Mounting characteristics and conditions for use

Contactor types	AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Mounting positions										
		Max. add-on N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AF400 ... AF2650								
Mounting distances		The contactors can be assembled side by side								
Fixing										
On rail according to IEC 60715, EN 60715		–								
By screws (not supplied)		4 x M5		4 x M6			4 x M8			

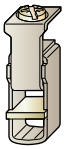
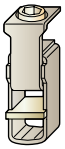
AF09 ... AF38 3-pole contactors
Technical data

Connecting characteristics

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38
Main terminals		Screw terminals with cable clamp					
Connection capacity (min. ... max.)							
Main conductors (poles)							
Rigid Solid (≤ 4 mm²)	**1 x**	1...6 mm²			2.5...10 mm²		
Stranded (≥ 6 mm²)	**2 x**	1...6 mm²			2.5...10 mm²		
Flexible with non insulated ferrule	**1 x**	0.75...6 mm²			1.5...10 mm²		
	2 x	0.75...6 mm²			1.5...10 mm²		
Flexible with insulated ferrule	**1 x**	0.75...4 mm²			1.5...10 mm²		
	2 x	0.75...2.5 mm²			1.5...4 mm²		
Bars or lugs	**L <**	9.6 mm			12.5 mm		
Connection capacity acc. to UL/CSA	**1 or 2 x**	AWG 16...10			AWG 14...8		
Stripping length		10 mm			14 mm		
Tightening torque		1.5 Nm / 13 lb.in			2.5 Nm / 22 lb.in		
Auxiliary conductors							
(built-in auxiliary terminals + coil terminals)							
Rigid solid	**1 x**	1...2.5 mm²					
	2 x	1...2.5 mm²					
Flexible with non insulated ferrule	**1 x**	0.75...2.5 mm²					
	2 x	0.75...2.5 mm²					
Flexible with insulated ferrule	**1 x**	0.75...2.5 mm²					
	2 x	0.75...1.5 mm²					
Lugs	**L <**	8 mm					
Connection capacity acc. to UL/CSA	**1 or 2 x**	AWG 18...14					
Stripping length		10 mm					
Tightening torque							
Coil terminals		1.2 Nm / 11 lb.in					
Built-in auxiliary terminals		1.2 Nm / 11 lb.in					
Degree of protection							
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529							
Main terminals		IP20					
Coil terminals		IP20					
Built-in auxiliary terminals		IP20					
Screw terminals		Delivered in open position, screws of unused terminals must be tightened					
Main terminals		M3.5			M4		
	Screwdriver type	Flat Ø 5.5 / Pozidriv 2			Flat Ø 6.5 / Pozidriv 2		
Coil terminals		M3.5					
	Screwdriver type	Flat Ø 5.5 / Pozidriv 2					
Built-in auxiliary terminals		M3.5					
	Screwdriver type	Flat Ø 5.5 / Pozidriv 2					

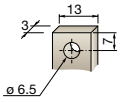
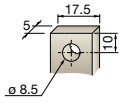
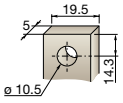
AF40 ... AF96 3-pole contactors
Technical data

Connecting characteristics

Contactor types	AC / DC operated	AF40	AF52	AF65	AF80	AF96
Main terminals		 Screw terminals with double connector 2 x (9.3 width x 7.9/10.3 depth)			 Screw terminals with double connector 2 x (12.4 width x 9.3/11.1 depth)	
Connection capacity (min. ... max.)						
Main conductors (poles)						
Rigid Solid (≤ 4 mm²)	**1 x**	6...35 mm²			6...70 mm²	
Stranded (≥ 6 mm²)	**2 x**	6...35 mm²			6...50 mm²	
Flexible with non insulated ferrule	**1 x**	4...35 mm²			6...50 mm²	
	2 x	4...35 mm²			6...50 mm²	
Flexible with insulated ferrule	**1 x**	4...35 mm²			6...50 mm²	
	2 x	4...35 mm²			6...50 mm²	
Bars or lugs	**L <**	9.2 mm			12.2 mm	
Connection capacity acc. to UL/CSA	**1 or 2 x**	AWG 10...2			AWG 6...1	
Stripping length		16 mm			17 mm	
Tightening torque		4 Nm / 35 lb.in			6 Nm / 53 lb.in	
Auxiliary conductors (built-in auxiliary terminals + coil terminals)						
Rigid solid	**1 x**	1...2.5 mm²				
	2 x	1...2.5 mm²				
Flexible with non insulated ferrule	**1 x**	0.75...2.5 mm²				
	2 x	0.75...2.5 mm²				
Flexible with insulated ferrule	**1 x**	0.75...2.5 mm²				
	2 x	0.75...1.5 mm²				
Lugs	**L <**	8 mm				
Connection capacity acc. to UL/CSA	**1 or 2 x**	AWG 18...14				
Stripping length		10 mm				
Tightening torque						
Coil terminals		1.2 Nm / 11 lb.in				
Built-in auxiliary terminals		1.2 Nm / 11 lb.in				
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529						
Main terminals		IP10				
Coil terminals		IP20				
Built-in auxiliary terminals		IP20				
Screw terminals		Delivered in open position, screws of unused terminals must be tightened				
Main terminals		M6			M8	
	Screwdriver type	Flat Ø 6.5 / Pozidriv 2			Hexagon socket (s = 4 mm)	
Coil terminals		M3.5				
	Screwdriver type	Flat Ø 5.5 / Pozidriv 2				
Built-in auxiliary terminals		M3.5				
	Screwdriver type	Flat Ø 5.5 / Pozidriv 2				

AF116 ... AF370 3-pole contactors
Technical data

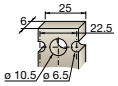
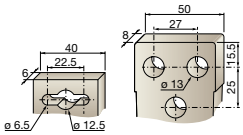
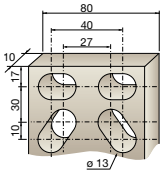
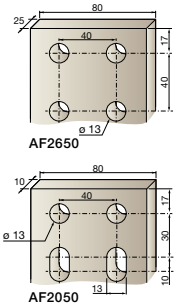
Connecting characteristics

Contactor types	AC / DC operated	AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370
Main terminals Flat type									
Connection capacity (min. ... max.)									
Main conductors (poles)									
Cu cable - Stranded	**1 x**	10...95 mm²			6...150 mm²		16...300 mm²		
Clamp type		LD... included (1)			1SDA066917R1		1SDA055016R1		
Tightening torque		8 Nm			14 Nm		25 Nm		
Cu cable - Stranded	**2 x**	10...95 mm²			50...120 mm²		70...185 mm²		
Clamp type		LD... included (1)			1SFN074709R1000, LZ185-2C/120		1SCA022194R0890, OZXB4		
Tightening torque		8 Nm			16 Nm		22 Nm		
Al cable - Stranded	**1 x**	–			95...185 mm²		185...240 mm²		
Clamp type		–			1SDA054988R1		1SDA055020R1		
Tightening torque		–			31 Nm		43 Nm		
Cu cable - Flexible	**1 x**	10...70 mm²			6...120 mm²		16...240 mm²		
Clamp type		LD... included (1)			1SDA066917R1		1SDA055016R1		
Tightening torque		8 Nm			14 Nm		25 Nm		
Cu cable - Flexible	**2 x**	10...70 mm²			50...95 mm²		70...185 mm²		
Clamp type		LD... included (1)			1SFN074709R1000, LZ185-2C/120		1SCA022194R0890, OZXB4		
Tightening torque		8 Nm			16 Nm		22 Nm		
Lugs	**L ≤**	22 mm (.866 in)			24 mm (.945 in)		32 mm (1.260 in)		
	Ø >	6 mm (.236 in)			8 mm (.315 in)		10 mm (.394 in)		
Socket type		LL... included			LL... included		LL... included		
Tightening torque		9 Nm / 80 lb.in			18 Nm / 160 lb.in		28 Nm / 248 lb.in		
Connection capacity acc. to UL / CSA	**1 x**	AWG 6...3/0			6...300 MCM		4...400 MCM		
Clamp type		LD... included (1)			ATK185 (2)		ATK300 (2)		
Tightening torque		8 Nm / 71 lb.in			34 Nm / 301 lb.in		42 Nm / 372 lb.in		
Connection capacity acc. to UL / CSA	**2 x**	AWG 6...3/0			–		4...500 MCM		
Clamp type		LD... included (1)			–		ATK300/2 (2)		
Tightening torque		8 Nm / 71 lb.in			–		42 Nm / 372 lb.in		
Auxiliary conductors (coil terminals)									
Solid / stranded	**1 x**	1...4 mm²							
	2 x	1...4 mm²							
Flexible	**1 x**	0.75...2.5 mm²							
	2 x	0.75...2.5 mm²							
Flexible with non insulated ferrule	**1 x**	0.75...2.5 mm²							
	2 x	0.75...2.5 mm²							
Flexible with insulated ferrule	**1 x**	0.75...2.5 mm²							
	2 x	0.75...2.5 mm²							
Lugs	**L <**	8 mm							
	l >	3.5 mm							
Connection capacity acc. to UL / CSA	**1 or 2 x**	AWG 18...14							
Stripping length		9 mm							
Tightening torque		1.00 Nm / 9 lb.in							
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529									
Main terminals		IP00							
Coil terminals		IP20							
Screw terminals									
Main terminals		M6			M8		M10		
Screwdriver type		Screws and bolts							
Coil terminals (delivered in open position)		M3.5							
Screwdriver type		Flat Ø 5.5 mm / Pozidriv 2							

(1) LD... not included for AF116 ... AF146-30-..B.
(2) Available in North America only.

AF400 ... AF2650 3-pole contactors
Technical data

Connecting characteristics

Contactor types		AC / DC operated	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Main terminals Flat type											
Connection capacity (min. ... max.)											
Main conductors (poles)											
Cu cable - Stranded		**2 x**	240 mm²			–					
	Clamp type		1SDA013922R1			–					
	Tightening torque		35 Nm			–					
Cu cable - Stranded		**3 x**	–		185 mm²		–				
	Clamp type		–		1SDA013956R1		–				
	Tightening torque		35 Nm		45 Nm		–				
Al cable - Stranded		**2 x**	240 mm²			–					
	Clamp type		1SDA013922R1			–					
	Tightening torque		35 Nm			–					
		3 x	–		185 mm²		–				
	Clamp type		–		1SDA013956R1		–				
	Tightening torque		35 Nm		45 Nm		–				
Lugs		**L ≤**	47 mm		50 mm			100 mm			
		Ø >	10 mm		12 mm						
	Tightening torque		35 Nm / 310 lb.in		45 Nm / 398 lb.in						
Connection capacity acc. to UL / CSA		**2 x**	250-500 MCM alt. 2/0 AWG-400 MCM		–		2// 3 x 0.25 in	4/0 AWG - 500 MCM		4//4 x 0.25 in	
	Clamp type		K6TH alt. ATK580		–		bars, use LW1250	K7TK ATK1350/4	K7TK	bars	
	Tightening torque		275 lb.in		–			375 lb.in		–	
Connection capacity acc. to UL / CSA		**3 x**	2/0 AWG-400 MCM		2/0 AWG-500 MCM			1/0-750 MCM		–	
	Clamp type		K6TJ		ATK750/3			K8TL, K8TM, ATK1650/4	K8TL, K8TM, ATK1650/4, ATK1650/6	–	
	Tightening torque		275 lb.in		375 lb.in			500 lb.in		–	
Auxiliary conductors (coil terminals)											
Solid / stranded		**1 x**	1...4 mm²								
		2 x	1...4 mm²								
Flexible		**1 x**	0.75...2.5 mm²								
		2 x	0.75...2.5 mm²								
Flexible with non insulated ferrule		**1 x**	0.75...2.5 mm²								
		2 x	0.75...2.5 mm²								
Flexible with insulated ferrule		**1 x**	0.75...2.5 mm²								
		2 x	0.75...2.5 mm²								
Lugs		**L ≤**	8 mm								
		l >	3.7 mm								
Connection capacity acc. to UL / CSA		**1 or 2 x**	AWG 18...14								
Tightening torque	Recommended		1.00 Nm / 9 lb.in								
	Max.		1.20 Nm								
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529											
Main terminals			IP00								
Coil terminals			IP20								
Screw terminals											
Main terminals			M10		M12						
			Screws and bolts								
Coil terminals (delivered in open position)			M3.5								
		Screwdriver type	Flat Ø 5.5 mm / Pozidriv 2								

AF09 ... AF96 3-pole contactors
Technical data

Built-in auxiliary contacts according to IEC

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
Rated operational voltage Ue max.		690 V										
Rated frequency (without derating)		50 / 60 Hz										
Conventional free air thermal current Ith - θ ≤ 40 °C		16 A										
Ie / Rated operational current AC-15												
acc. to IEC 60947-5-1	24-127 V 50/60 Hz	6 A										
	220-240 V 50/60 Hz	4 A										
	400-440 V 50/60 Hz	3 A										
	500 V 50/60 Hz	2 A										
	690 V 50/60 Hz	2 A										
Making capacity AC-15		10 x Ie AC-15 acc. to IEC 60947-5-1										
Breaking capacity AC-15		10 x Ie AC-15 acc. to IEC 60947-5-1										
Ie / Rated operational current DC-13												
acc. to IEC 60947-5-1	24 V DC	6 A / 144 W										
	48 V DC	2.8 A / 134 W										
	72 V DC	1 A / 72 W										
	110 V DC	0.55 A / 60 W										
	125 V DC	0.55 A / 69 W										
	220 V DC	0.27 A / 60 W										
	250 V DC	0.27 A / 68 W										
	400 V DC	0.15 A / 60 W										
	500 V DC	0.13 A / 65 W										
	600 V DC	0.1 A / 60 W										
Short-circuit protection device gG type fuse		10 A										
Rated short-time withstand current Icw	for 1.0 s	100 A										
	for 0.1 s	140 A										
Minimum switching capacity		12 V / 3 mA										
with failure rate acc. to IEC 60947-5-4		10^{-7}										
Non-overlapping time between N.O. and N.C. contacts		≥ 2 ms										
Power dissipation per pole at 6 A		0.1 W										
Max. electrical switching frequency	AC-15	1200 cycles/h										
	DC-13	900 cycles/h										
Mechanically linked contacts		Built-in N.O. or N.C. auxiliary contacts and additional N.O. or N.C. auxiliary contacts (CA4, CAL4, CAT4 aux. contact blocks) are mechanically linked contacts.										
acc. to annex L of IEC 60947-5-1												
Mirror contacts		Built-in N.C. auxiliary contacts or additional N.C. auxiliary contacts (CA4, CAL4, CAT4 aux. contact blocks) are mirror contacts.										
acc. to annex F of IEC 60947-4-1												

Built-in auxiliary contacts according to UL / CSA

Contactor types	AC / DC operated	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
Max. operational voltage		600 V AC, 600 V DC										
Pilot duty		A600, Q600										
AC thermal rated current		10 A										
AC maximum volt-ampere making		7200 VA										
AC maximum volt-ampere breaking		720 VA										
DC thermal rated current		2.5 A										
DC maximum volt-ampere making-breaking		69 VA										

AF09 ... AF80 4-pole contactors
Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC / DC operated	AF09	AF16	AF26	AF38	AF40	AF52	AF80
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1						
Rated operational voltage Ue max.		690 V						
Rated frequency (without derating)		50 / 60 Hz						
Conventional free-air thermal current Ith								
acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C		35 A	35 A	55 A	55 A	105 A	105 A	125 A
With conductor cross-sectional area		6 mm²	6 mm²	16 mm²	16 mm²	35 mm²	35 mm²	50 mm²
AC-1 Utilization category								
For air temperature close to contactor								
Ie / Rated operational current AC-1	**θ ≤ 40 °C**	25 A	30 A	45 A	55 A	70 A	100 A	125 A
Ue max. ≤ 690 V, 50/60 Hz	**θ ≤ 60 °C**	25 A	30 A	40 A	45 A	60 A	80 A	105 A
	θ ≤ 70 °C	22 A	26 A	32 A	37 A	50 A	70 A	90 A
With conductor cross-sectional area		4 mm²	6 mm²	10 mm²	16 mm²	35 mm²	35 mm²	50 mm²
AC-3 Utilization category								
For air temperature close to contactor θ ≤ 60 °C								
Ie / Max. rated operational current AC-3 (1)								
	220-230-240 V	9 A	18 A	23.2 A	23.2 A	40 A	53 A	80 A
M 3~ 3-phase motors	**380-400 V**	9 A	18 A	22 A	22 A	40 A	53 A	80 A
	415 V	9 A	18 A	21.2 A	21.2 A	40 A	53 A	80 A
	440 V	9 A	18 A	20 A	20 A	40 A	53 A	80 A
	500 V	9.5 A	15 A	17.6 A	17.6 A	35 A	45 A	65 A
	690 V	7 A	10.5 A	10.5 A	10.5 A	25 A	35 A	49 A
Rated operational power AC-3 (1)								
	220-230-240 V	2.2 kW	4 kW	5.5 kW	5.5 kW	11 kW	15 kW	22 kW
M 3~ 1500 r.p.m. 50 Hz, 1800 r.p.m. 60 Hz, 3-phase motors	**380-400 V**	4 kW	7.5 kW	11 kW (3)	11 kW (3)	18.5 kW	22 kW	37 kW
	415 V	4 kW	9 kW	11 kW	11 kW	22 kW	30 kW	45 kW
	440 V	4 kW	9 kW	11 kW	11 kW	22 kW	30 kW	45 kW
	500 V	5.5 kW	9 kW	11 kW	11 kW	22 kW	30 kW	45 kW
	690 V	5.5 kW	9 kW	9 kW	9 kW	22 kW	30 kW	45 kW
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1						
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1						
Short-circuit protection device for contactors								
Without thermal overload relay - Motor protection excluded								
Ue ≤ 500 V AC - gG type fuse		25 A	32 A	50 A	63 A	80 A	110 A	160 A
Rated short-time withstand current Icw	**1 s**	300 A	300 A	450 A	450 A	1000 A	1000 A	1200 A
At 40 °C ambient temperature,	**10 s**	150 A	150 A	300 A	300 A	600 A	600 A	780 A
in free air from a cold state	**30 s**	80 A	80 A	225 A	225 A	350 A	350 A	450 A
	1 min	60 A	60 A	150 A	150 A	250 A	250 A	300 A
	15 min	35 A	35 A	55 A	55 A	110 A	110 A	140 A
Maximum breaking capacity N.O. main pole	**at 440 V**	250 A	250 A	-	-	950 A	950 A	1100 A
cos φ = 0.45	**at 690 V**	106 A	106 A	-	-	600 A	600 A	750 A
N.C. Main pole	**at 440 V**	-	-	-	-	600 A	-	900 A
	at 690 V	-	-	-	-	300 A	-	750 A
Power dissipation per pole	**Ie / AC-1**	0.8 W	1.2 W	1.6 W	2.3 W	3 W	6.3 W	8 W
	Ie / AC-3	0.1 W	0.35 W	0.42 W	0.42 W	1 W	1.7 W	3.2 W
Max. electrical switching frequency	**AC-1**	600 cycles/h						

(1) For the corresponding kW/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor Rated Operational Powers and Currents"
(2) For the protection of motor starters against short circuits, see "Coordination with Short-circuit Protection Devices".
(3) 400 V 3-phase motors only.

AF116 ... AF370 4-pole contactors
Technical data

Main pole - Utilization characteristics according to IEC

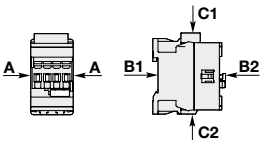
Contactor types	AC / DC operated	AF116	AF140	AF190	AF205	AF265	AF305	AF370	EK550	EK1000
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1								
Rated operational voltage Ue max.		690 V		1000 V						
Rated frequency (without derating)		50 / 60 Hz								
Conventional free-air thermal current Ith										
acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C		160 A	200 A	275 A	350 A	400 A	500 A	525 A	800 A	1000 A
With conductor cross-sectional area		70 mm²	95 mm²	150 mm²	240 mm² (3)	240 mm²	300 mm² (4)	2x 185 mm² (4)	2x 240 mm²	2x 300 mm²
AC-1 Utilization category										
For air temperature close to contactor										
Ie / Rated operational current AC-1	**θ ≤ 40 °C**	160 A	200 A	275 A	350 A	400 A	500 A	525 A	800 A	1000 A
Ue max. ≤ 690 V, 50/60 Hz	**θ ≤ 60 °C**	145 A	175 A	250 A	300 A	350 A	400 A	425 A	650 A	800 A
	θ ≤ 70 °C	130 A	160 A	200 A	240 A	290 A	325 A	350 A	575 A	720 A
Ue max. ≤ 1000 V, 50/60 Hz	**θ ≤ 40 °C**	-	-	250 A	275 A	350 A	375 A	400 A	800 A	1000 A
	θ ≤ 60 °C (2)	-	-	225 A	250 A	300 A	325 A	350 A	650 A	800 A
	θ ≤ 70 °C	-	-	185 A	200 A	240 A	260 A	290 A	575 A	720 A
With conductor cross-sectional area		70 mm²	95 mm²	150 mm²	240 mm² (3)	240 mm²	300 mm² (4)	2x 185 mm² (4)	2x 240 mm²	2x 300 mm²
AC-3 Utilization category										
For air temperature close to contactor θ ≤ 60 °C (2)										
Ie / Max. rated operational current AC-3 (1)										
	220-230-240 V	116 A	140 A	190 A	205 A	265 A	305 A	370 A	550 A	-
	380-400 V	116 A	140 A	190 A	205 A	265 A	305 A	370 A	550 A	-
M 3~ 3-phase motors	**415 V**	116 A	140 A	190 A	205 A	265 A	305 A	370 A	550 A	-
	440 V	116 A	140 A	190 A	205 A	265 A	305 A	370 A	550 A	-
	500 V	-	-	-	-	-	-	-	550 A	-
	690 V	-	-	-	-	-	-	-	550 A	-
	1000 V	-	-	-	-	-	-	-	175 A	-
Rated operational power AC-3 (1)										
	220-230-240 V	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW	110 kW	160 kW	-
	380-400 V	55 kW	75 kW	90 kW	110 kW	132 kW	160 kW	200 kW	280 kW	-
M 3~ 1500 r.p.m. 50 Hz, 1800 r.p.m. 60 Hz, 3-phase motors	**415 V**	55 kW	75 kW	90 kW	110 kW	132 kW	160 kW	200 kW	315 kW	-
	440 V	75 kW	90 kW	110 kW	132 kW	160 kW	160 kW	200 kW	315 kW	-
	500 V	-	-	-	-	-	-	-	400 kW	-
	690 V	-	-	-	-	-	-	-	500 kW	-
	1000 V	-	-	-	-	-	-	-	250 kW	-
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1								
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1								
Short-circuit protection device for contactors										
Without thermal overload relay - Motor protection excluded										
Ue ≤ 500 V AC - gG type fuse		200 A	250 A	355 A	400 A	630 A	630 A	630 A	800 A	1000 A
Rated short-time withstand current Icw	**1 s**	1300 A	1460 A	1900 A	2050 A	2650 A	3050 A	3700 A	5500 A	6800 A
At 40 °C ambient temperature,	**10 s**	928 A	1168 A	1520 A	1640 A	2120 A	2440 A	2960 A	5300 A	6400 A
in free air from a cold state	**30 s**	536 A	674 A	878 A	947 A	1224 A	1409 A	1709 A	3700 A	4400 A
	1 min	379 A	477 A	621 A	670 A	865 A	996 A	1208 A	3000 A	3400 A
	15 min	160 A	200 A	275 A	350 A	400 A	500 A	525 A	1000 A	1200 A
Maximum breaking capacity	**at 440 V**	2000 A	3000 A	3300 A	3500 A	3800 A	4600 A	5000 A	5400 A	-
cos φ = 0.45	**at 690 V**	-	-	-	-	-	-	-	5400 A	-
Power dissipation per pole	**Ie / AC-1**	12 W	18 W	15 W	25 W	32 W	50 W	72 W	60 W	80 W
	Ie / AC-3	-	-	-	-	-	-	-	25 W	-
Max. electrical switching frequency	**AC-1**	300 cycles/h								
	AC-3	300 cycles/h								-
	AC-2, AC4	-							120 cycles/h	-

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m, 50 Hz or 1800 r.p.m, 60 Hz, 3-phase motors, see "Motor rated operational powers and currents".
(2) θ ≤ 55 °C for EK550, EK1000
(3) For currents above 275 A use terminal enlargements or terminal extensions.
(4) For currents above 450 A use terminal enlargements or terminal extensions.

AF09 ... AF80 4-pole contactors
Technical data

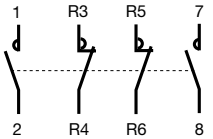
General technical data

Contactor types	AC / DC operated	AF09	AF16	AF26	AF38	AF40	AF52	AF80
Rated insulation voltage Ui								
acc. to IEC 60947-4-1		690 V						1000 V
acc. to UL / CSA		600 V						
Rated impulse withstand voltage Uimp.		6 kV						8 kV
Electromagnetic compatibility		Devices complying with IEC 60947-1 / EN 60947-1 - Environment A				Devices complying with IEC 60947-1 / EN 60947-1 - Environments A and B		
Ambient air temperature close to contactor								
Operation		-40...+70 °C						
Storage		-60...+80 °C						
Climatic withstand		Category B according to IEC 60947-1 Annex Q						
Maximum operating altitude (without derating)		3000 m						
Mechanical durability								
Number of operating cycles		10 millions operating cycles						
Max. switching frequency		3600 cycles/h						
Shock withstand								
acc. to IEC 60068-2-27 and EN 60068-2-27								
Mounting position 1								
	Shock direction	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position						
4 N.O. Main poles	**A**	30 g				(1)		
	B1	25 g closed position / 5 g open position				(1)		
	B2	15 g				(1)		
	C1	25 g				(1)		
	C2	25 g				(1)		
2 N.O. + 2 N.C. Main poles	**A**	30 g				(1)		
	B1	25 g closed position / 5 g open position				(1)		
	B2	15 g				(1)		
	C1	25 g				(1)		
	C2	25 g				(1)		
Vibration withstand		5...300 Hz				(1)		
acc. to IEC 60068-2-6		4 g closed position / 2 g open position						



(1) On request

Remark for 4-pole contactors fitted with 2 N.O. + 2 N.C. main poles

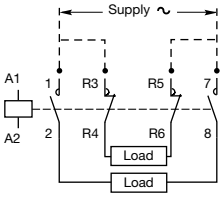


These contactors are suitable for controlling 2 separate circuits, i.e. 2 loads with 2 separate supplies, or 1 circuit comprising 2 separate loads with a single supply (see diagrams below). When the contactor operates there is no mechanical overlapping between the N.O. poles and the N.C. poles: BREAK before MAKE.

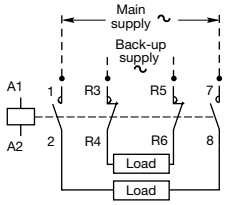
These contactors are not suitable for a reversing starter or for controlling a single load from 2 separate supplies.

Block diagrams

– Single supply and 2 separate loads

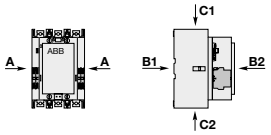


– 2 separate supplies and 2 separate loads

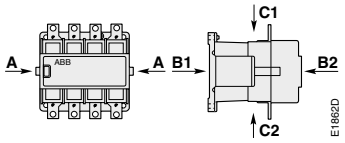


AF116 ... EK1000 4-pole contactors
Technical data

General technical data

Contactor types	AC / DC operated	AF116	AF140	AF190	AF205	AF265	AF305	AF370
Rated insulation voltage Ui								
acc. to IEC 60947-4-1		1000 V						
acc. to UL / CSA		600 V						
Rated impulse withstand voltage Uimp.		8 kV						
Electromagnetic compatibility		AF contactors comply with IEC 60947-1 / EN 60947-1 - Environment A						
Ambient air temperature close to contactor								
Operation		-40 to +70 °C						
Storage		-40 to +70 °C						
Maximum operating altitude (without derating)		3000 m						
Mechanical durability								
Number of operating cycles		5 million operating cycles						
Maximum switching frequency		300 cycles/h						
Shock withstand								
acc. to IEC 60068-2-27 and EN 60068-2-27								
Mounting position 1		No change in contact position, closed or open position						
	**Shock direction**	1/2 sinusoidal shock for 11 ms			1/2 sinusoidal shock for 30 ms			
	A	20 g			20 g			
	B1	15 g closed position / 3 g open position			15 g closed position / 3 g open position			
	B2	15 g closed position / 3 g open position			15 g closed position / 3 g open position			
	C1	20 g			20 g			
	C2	20 g			20 g			
Vibration withstand								
acc to IEC 60068-2-6		0.7 g closed position / 0.7 g open position 13.2…100 Hz						

General technical data

Contactor types	AC or DC operated	EK550	EK1000
Rated insulation voltage Ui			
acc. to IEC 60947-4-1		1000 V	
acc. to UL		600 V	
Rated impulse withstand voltage Uimp.		8 kV	
Electromagnetic compatibility		EK contactors complying with IEC 60947-1 / EN 60947-1 - Environment A	
Ambient air temperature close to contactor			
Operation	Fitted with thermal overload relay	-25 to +55 °C	-
	Without thermal overload relay	-40 to +70 °C	-
Storage		-50 to +70 °C	-
Climatic withstand		Category B acc. to IEC 60068-2-30	
Maximum operating altitude (without derating)		≤ 3000 m	
Mechanical durability			
Number of operating cycles		5 millions operating cycles	3 millions operating cycles
Max. switching frequency		60 cycles/h	
Shock withstand			
acc. to IEC 60068-2-27 and EN 60068-2-27			
Mounting position 1			
Closed or open position			
	**Shock direction**	1/2 sinusoidal shock for 15 ms: no change in contact position, closed or open position	
	A	10 g	
	B1	10 g	
	B2	10 g	
	C1	10 g	
	C2	10 g	

Overlastvern EF19/EF45 og TF42
Tekniske data

Generelle tekniske data

Overlastverntype					EF19	EF45	TF42	
					opptil 18.9 A	opptil 45.0 A	opptil 20A	opptil 38/40A
Standarder	Ihht. standard				IEC/EN60947-1, IEC/EN60947-4-1, IEC/EN60947-5-1, UL 508, CSA C22.2 No. 14			
	Fasebortfallsensitivitet	(ihht. IEC/EN 60947-4-1)			Ja			
Generelle data	Monteringsposisjon				Alle		Posisjon 1	
	Kapslingsgrad	(ihht. IEC 60947-1)			IP 20			
IEC								
Hovedkrets	Nominell spenning U_e				690 V AC			
	Nominell strøm AC-3 I_e				opptil 18.9 A	opptil 45.0 A	opptil 20A	
	Termisk strøm I_{th}				opptil 18.9 A	opptil 45.0 A	opptil 20A	opptil 38/42A (50 °C)
	Nominell frekvens				50 / 60 Hz			
	Trippklasse				10E, 20E, 30E		10	
Isolasjonsdata	Nominell impulsspenning U_{imp}				6 kV			
(ihht. IEC/EN 60947-1)	Nominell isolasjonsspenning U_i				690 V			
Miljødata	Omgivelsestemperatur							
	Under drift	Åpen - kompensert			-25 ... +70 °C		-25...+60 °C	
		Åpen			-25 ... +70 °C		-25...+60 °C	
	Ved oppbevaring				-50 ... +85 °C		-50...+80 °C	
	Vibrasjon	(ihht. IEC/EN 60068-2-6)			1 g / 3-150 Hz		1g/3-150Hz	
	Støt/slag	(ihht. IEC/EN 60068-2-27)			15 g / 11 ms		25g/11ms	
	Høyde over havet						2000m	
Signalkrets	Nominell spenning U_e	(ihht. IEC/EN 60947-5-1)			600 V			
	Nominell strøm I_e	(ihht. IEC/EN 60947-5-1 applikasjonskategori)						
	AC-15 (resistiv)	110-120 V		**N.C.**	3 A		3A	
				N.O.	3 A		0,75A	
		220-230-240 V		**N.C.**	3 A		3A	
				N.O.	3 A		0,75A	
		400 V		**N.C.**	1.1 A		0,75A	
				N.O.	1.1 A		0,75A	
		480-500 V		**N.C.**	0.75 A		0,75A	
				N.O.	0.75 A		0,75A	
	DC-13 (resistiv)	24 V		**N.C.**	1.5 A		1,25A	
				N.O.	1.5 A		1,25A	
		110-120-125 V		**N.C.**	0.55 A		0,55A	
				N.O.	0.55 A		0,55A	
		250 V		**N.C.**	0.27 A		0,27A	
				N.O.	0.27 A		0,27A	
	Minste strøm/spenning						17V 3mA	
Kabeltilkobling	Hovedkrets	Massiv	**1 eller 2 x**		1.0 ... 4 mm²	2.5 ... 16 mm²	0,75...4mm²	1.5..25mm²-25..10mm²
		Fleksibel med endehylse	**1 eller 2 x**		0.75 ... 2.5 mm²	2.5 ... 10 mm²	0,75...4mm²	1.5 ... 6 mm²
		Fleksibel uten endehylse	**1 eller 2 x**		0.75 ... 2.5 mm²	2.5 ... 10 mm²	0,75...4mm²	2.5...4 mm² - 4...6 mm²
		Avmantlingslengde			9 mm	13 mm	12 mm	
		Tiltrekningsmoment			0.8 ... 1.5 Nm	2.3... 2.5 Nm	1..5 ... 2.5 Nm	2.5 ... 2.7 Nm
	Signalkrets	Massiv	**1 eller 2 x**		0.75 ... 2.5 mm²		0.75 ... 4 mm²	
		Fleksibel med endehylse	**1 eller 2 x**		0.75 ... 2.5 mm²		0.75 ... 2.5 mm²	
		Fleksibel uten endehylse	**1 eller 2 x**		0.75 ... 2.5 mm²		0.75 ... 1 mm² - 1 ... 2.5 mm²	
		Avmantlingslengde			9 mm		9 mm	
		Tiltrekningsmoment			0.8 ... 1.2 Nm		1.0 ... 1.5 Nm	
UL/CSA								
Hovedkrets	Maks nominell spenning				600 V AC			

TF65 thermal overload relays – 22.0 to 67.0 A
Technical data

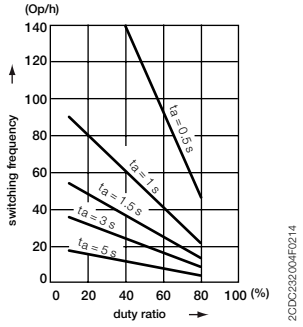
Main circuit – Utilization characteristics according to IEC/EN

Type	TF65
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_e	690 V AC
Rated frequency	50/60 Hz
Trip class	10
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	8 kV
Rated insulation voltage U_i	690 V

Auxiliary circuit according to IEC/EN

Type		TF65
Rated operational voltage U_e		600 V
Conventional free air thermal current I_{th}	**N.C., 95-96**	6 A
	N.O., 97-98	4 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.O. + 1 N.C.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	0.75 A
220-230-240 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	0.75 A
440 V	**N.C., 95-96**	0.75 A
	N.O., 97-98	0.75 A
480-500 V	**N.C., 95-96**	0.75 A
	N.O., 97-98	0.75 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V	**N.C., 95-96**	1.25 A
	N.O., 97-98	1.25 A
110-120-125 V	**N.C., 95-96**	0.55 A
	N.O., 97-98	0.55 A
250 V	**N.C., 95-96**	0.27 A
	N.O., 97-98	0.27 A
Minimum switching capacity		17 V / 3 mA
Short-circuit protective device	**N.C., 95-96**	6 A, gG Type Fuses
	N.O., 97-98	4 A, gG Type Fuses
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690 V

Technical diagram – Intermittent periodic duty



t_a: Motor starting time

TF65 thermal overload relays – 22.0 to 67.0 A
Technical data

General technical data

Type		**TF65**
Pollution degree		3
Phase loss sensitive		Yes
Ambient air temperature		
Operation	Open - compensated	-25 ... +60 °C
	Open	-25 ... +60 °C
Storage		-50 ... +80 °C
Ambient air temperature compensation		Acc. to IEC/EN 60947-4-1
Maximum operating altitude permissible		2000 m
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz
Mounting position		Position 1
Mounting		Mount on the contactor and tighten the screws of the main circuit terminals or with single mounting kit on DIN rail (35 mm)
Degree of protection	Housing	IP20
	Main circuit terminals	IP10

5

Electrical connection

Main circuit			
Type			**TF65**
Connecting capacity			
	Rigid	**1 x or 2 x**	2.5 ... 16 mm²
		1 x	2.5 ... 35 mm²
	Flexible with ferrule	**1 x or 2 x**	2.5 ... 10 mm²
		1 x	2.5 ... 35 mm²
	Flexible with insulated ferrule	**1 x or 2 x**	2.5 ... 4 mm²
		1 x	2.5 ... 35 mm²
	Flexible	**1 x or 2 x**	2.5 ... 16 mm²
		1 x	2.5 ... 35 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 12 ... 2
		2 x	AWG 12 ... 6
	Flexible acc. to UL/CSA	**1 x**	AWG 12 ... 2
		2 x	AWG 12 ... 6
Stripping length			17 mm
Tightening torque			4.0 - 4.5 Nm / 35 ... 40 lb.in
Recommended screw driver			M6 (Pozidriv 2)

[1] Only connect two different "conductor/wire" cross-sections, if they are within the indicated ranges

Auxiliary circuit			
Type			**TF65**
Connecting capacity			
	Rigid	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible with ferrule	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible with insulated ferrule	**1 x**	0.75 ... 2.5 mm²
		2 x	0.75 ... 1.5 mm²
	Flexible	**1 x or 2 x**	0.75 ... 1 mm² or 1 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 x or 2 x**	AWG 18 ... 12
	Flexible acc. to UL/CSA	**1 x or 2 x**	AWG 18 ... 12
Stripping length			9 mm
Tightening torque			1.1 ... 1.5 Nm / 9 ... 13 lb.in
Recommended screw driver			M3 (Pozidriv 2)

TF96 thermal overload relays – 40.0 to 96.0 A
Technical data

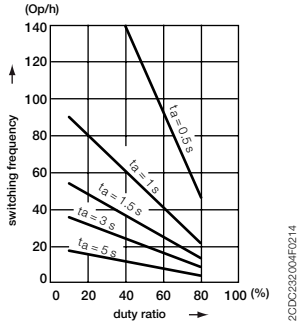
Main circuit – Utilization characteristics according to IEC/EN

Type	TF96
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_e	690 V AC
Rated frequency	50/60 Hz
Trip class	10
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	8 kV
Rated insulation voltage U_i	690 V

Auxiliary circuit according to IEC/EN

Type		TF96
Rated operational voltage U_e		600 V
Conventional free air thermal current I_{th}	**N.C., 95-96**	6 A
	N.O., 97-98	4 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.O. + 1 N.C.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	0.75 A
220-230-240 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	0.75 A
440 V	**N.C., 95-96**	0.75 A
	N.O., 97-98	0.75 A
480-500 V	**N.C., 95-96**	0.75 A
	N.O., 97-98	0.75 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V	**N.C., 95-96**	1.25 A
	N.O., 97-98	1.25 A
110-120-125 V	**N.C., 95-96**	0.55 A
	N.O., 97-98	0.55 A
250 V	**N.C., 95-96**	0.27 A
	N.O., 97-98	0.27 A
Minimum switching capacity		17 V / 3 mA
Short-circuit protective device	**N.C., 95-96**	6 A, fuse type gG
	N.O., 97-98	4 A, fuse type gG
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690 V

Technical diagram – Intermittent periodic duty



t_a: Motor starting time

TF96 thermal overload relays – 40.0 to 96.0 A
Technical data

General technical data

Type		**TF96**
Pollution degree		3
Phase loss sensitive		Yes
Ambient air temperature		
Operation	Open - compensated	-25 ... +60 °C
	Open	-25 ... +60 °C
Storage		-50 ... +80 °C
Ambient air temperature compensation		Acc. to IEC/EN60947-4-1
Maximum operating altitude permissible		2000 m
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz
Mounting position		Position 1
Mounting		Mount on the contactor and tighten the screws of the main circuit terminals or with single mounting kit on DIN rail (35 mm)
Degree of protection	Housing	IP20
	Main circuit terminals	IP10

5

Electrical connection

Main circuit

Type			**TF96**
Connecting capacity			
	Rigid	**1 x or 2 x**	6 ... 35 mm²
		1 x	6 ... 50 mm²
	Flexible with ferrule	**1 x or 2 x**	6 ... 35 mm²
		1 x	6 ... 50 mm²
	Flexible with insulated ferrule	**1 x or 2 x**	6 ... 16 mm²
		1 x	6 ... 50 mm²
	Flexible	**1 x or 2 x**	6 ... 35 mm²
		1 x	6 ... 50 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 8 ... 1
		2 x	AWG 8 ... 3
	Flexible acc. to UL/CSA	**1 x**	AWG 8 ... 1
		2 x	AWG 8 ... 3
Stripping length			22 mm
Tightening torque			6.5 - 9 Nm / 57 ... 80 lb.in
Recommended screw driver			M8 (Hexagon)

[1] Only connect two different "conductor/wire" cross-sections, if they are within the indicated ranges

Auxiliary circuit

Type			**TF96**
Connecting capacity			
	Rigid	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible with ferrule	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible with insulated ferrule	**1 x**	0.75 ... 2.5 mm²
		2 x	0.75 ... 1.5 mm²
	Flexible	**1 x or 2 x**	0.75 ... 1 mm² or 1 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 x or 2 x**	AWG 18 ...12
	Flexible acc. to UL/CSA	**1 x or 2 x**	AWG 18 ... 12
Stripping length			9 mm
Tightening torque			1.1 ... 1.5 Nm / 9 ... 13 lb.in
Recommended screw driver			M3 (Pozidriv 2)

TF140DU thermal overload relays – 66 to 142 A
Technical data

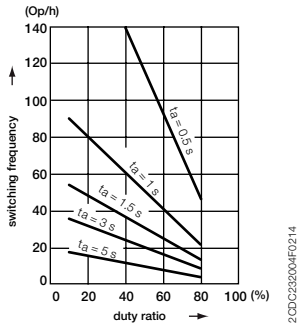
Main circuit – Utilization characteristics according to IEC/EN

Type	**TF140DU / TF140DU-V1000**
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_e	690 V AC
Rated frequency	DC, 50/60 Hz
Frequency range	0 ... 400 Hz
Trip class	10A
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	8 kV
Rated insulation voltage U_i	690 V

Auxiliary circuit according to IEC/EN

Type		**TF140DU / TF140DU-V1000**
Rated operational voltage U_e		500 V AC, 440 V DC
Conventional free air thermal current I_{th}	**N.C., 95-96**	10 A
	N.O., 97-98	6 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.O. + 1 N.C.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	1.50 A
220-230-240 V	**N.C., 95-96**	1.50 A
	N.O., 97-98	1.50 A
440 V	**N.C., 95-96**	1.00 A
	N.O., 97-98	1.00 A
480-500 V	**N.C., 95-96**	1.00 A
	N.O., 97-98	1.00 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V	**N.C., 95-96**	1.25 A
	N.O., 97-98	1.25 A
60 V	**N.C., 95-96**	0.25 A
	N.O., 97-98	0.25 A
110-120-125 V	**N.C., 95-96**	0.25 A
	N.O., 97-98	0.25 A
250 V	**N.C., 95-96**	0.12 A
	N.O., 97-98	0.04 A
Minimum switching capacity		17 V / 3 mA
Short-circuit protective device	**N.C., 95-96**	10 A, fuse type gG
	N.O., 97-98	6 A, fuse type gG
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690 V

Technical diagram – Intermittent periodic duty



t_a: Motor starting time

TF140DU thermal overload relays – 66 to 142 A
Technical data

General technical data

Type			**TF140DU / TF140DU-V1000**
Pollution degree			3
Phase loss sensitive			Yes
Ambient air temperature			
Operation	Open - compensated		-25 ... +55 °C
	Open		-25 ... +55 °C
Storage			-40 ... +70 °C
Ambient air temperature compensation			Acc. to IEC/EN 60947-4-1
Maximum operating altitude permissible			2000 m
Resistance to shock acc. to IEC 60068-2-27			12g / 11 ms
Mounting position			Position 1-5
Mounting			Mount on the contactor and tighten the screws of the main circuit terminals
Degree of protection	Housing		IP20
	Main circuit terminals		IP00

5

Electrical connection

Main circuit			
Type			**TF140DU / TF140DU-V1000**
Connecting capacity			
	Rigid	**1 x**	16 ... 70 mm²
		2 x	-
	Flexible	**1 x**	16 ... 70 mm²
		2 x	-
	Stranded acc. to UL/CSA	**1 x or 2 x**	AWG 6-2/0
	Flexible acc. to UL/CSA	**1 x or 2 x**	AWG 6-2/0
Stripping length			25 mm
Tightening torque			8 ... 10 Nm / 77 ... 88 lb.in
Recommended screw driver			M8 (Hexagon)

Auxiliary circuit			
Type			**TF140DU / TF140DU-V1000**
Connecting capacity			
	Rigid	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible with ferrule	**1 x or 2 x**	0.75 ... 2.5 mm²
	Flexible with insulated ferrule	**1 x or 2 x**	0.75 ... 2.5 mm²
	Flexible	**1 x or 2 x**	0.75 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 x or 2 x**	AWG 18-14
	Flexible acc. to UL/CSA	**1 x or 2 x**	AWG 18-14
Stripping length			9 mm
Tightening torque			0.8 ... 1.3 Nm / 12 lb.in
Recommended screw driver			M3.5 (Pozidriv 2)

TA200DU thermal overload relays – 66 to 200 A
Technical data

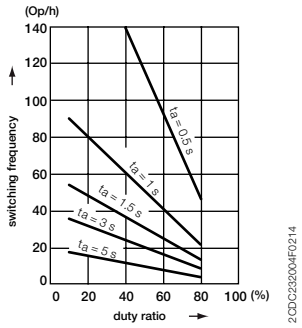
Main circuit – Utilization characteristics according to IEC/EN

Type	**TA200DU**
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1
Rated operational voltage U_e	690 V AC
Rated frequency	DC, 50/60 Hz
Frequency range	0 ... 400 Hz
Trip class	10A
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	690 V AC

Auxiliary circuit according to IEC/EN

Type		**TA200DU**
Rated operational voltage U_e		500 V AC, 440 V DC
Conventional free air thermal current I_{th}	**N.C., 95-96**	10 A
	N.O., 97-98	6 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.O. + 1 N.C.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	1.50 A
220-230-240 V	**N.C., 95-96**	3.00 A
	N.O., 97-98	1.50 A
440 V	**N.C., 95-96**	1.00 A
	N.O., 97-98	1.00 A
480-500 V	**N.C., 95-96**	1.00 A
	N.O., 97-98	1.00 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V	**N.C., 95-96**	1.25 A
	N.O., 97-98	1.25 A
60 V	**N.C., 95-96**	0.25 A
	N.O., 97-98	0.25 A
110-120-125 V	**N.C., 95-96**	0.25 A
	N.O., 97-98	0.25 A
250 V	**N.C., 95-96**	0.12 A
	N.O., 97-98	0.04 A
Minimum switching capacity		17 V / 3 mA
Short-circuit protective device	**N.C., 95-96**	10 A, fuse type gG
	N.O., 97-98	6 A, fuse type gG
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690 V

Technical diagram – Intermittent periodic duty



t_a: Motor starting time

TA200DU thermal overload relays – 66 to 200 A
Technical data

General technical data

Type		**TA200DU**
Pollution degree		3
Phase loss sensitive		Yes
Ambient air temperature		
Operation	Open - compensated	-25 ... +55 °C
	Open	-25 ... +55 °C
Storage		-40 ... +70 °C
Ambient air temperature compensation		Acc. to IEC/EN60947-4-1
Maximum operating altitude permissible		2000 m
Resistance to shock acc. to IEC 60068-2-27		12g / 15 ms
Mounting position		Position 1-6
Mounting		Mount on the contactor and tighten the screws of the main circuit terminals or with single mounting kit
Degree of protection	Housing	IP20
	Main circuit terminals	IP00

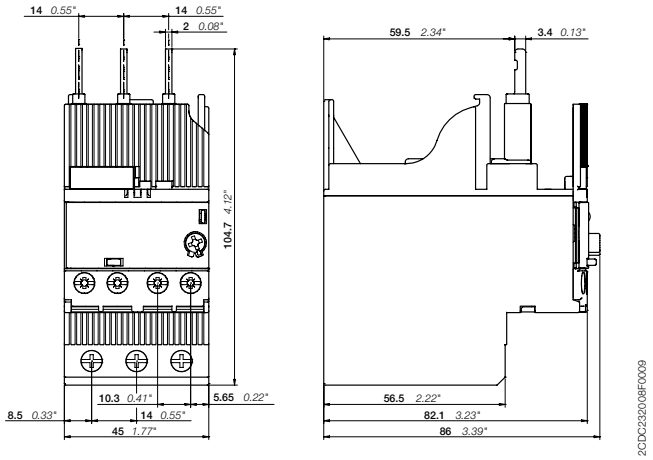
5

Electrical connection

Main circuit			
Type			**TA200DU**
Connecting capacity			
	Rigid	**1 x**	25 ... 120 mm²
	Flexible	**1 x**	25 ... 120 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 4 ... 0000
	Flexible acc. to UL/CSA	**1 x**	AWG 4 ... 0000
	Lugs		L > 10 mm
Tightening torque			25 Nm / 220 lb.in
Recommended screw driver			Open bars

Auxiliary circuit			
Type			**TA200DU**
Connecting capacity			
	Rigid	**1 x or 2 x**	0.75 ... 4 mm²
	Flexible with ferrule	**1 x or 2 x**	0.75 ... 2.5 mm²
	Flexible with insulated ferrule	**1 x or 2 x**	0.75 ... 2.5 mm²
	Flexible	**1 x or 2 x**	0.75 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 x or 2 x**	AWG 18 ... 14
	Flexible acc. to UL/CSA	**1 x or 2 x**	AWG 18 ... 14
Stripping length			9 mm
Tightening torque			0.8 ... 1.3 Nm / 12 lb.in
Recommended screw driver			M3.5 (Pozidriv 2)

E16DU, EF19, EF45 electronic overload relays – 0.10 to 45.0 A
Technical data



EF45

Main circuit – Utilization characteristics according to IEC/EN

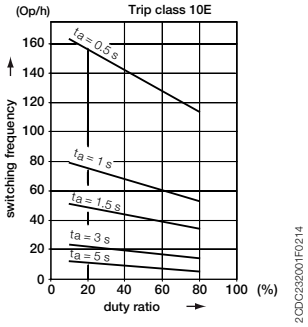
Type	E16DU	EF19	EF45
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1		
Rated operational voltage U_e	690 V AC		
Rated frequency	50/60 Hz – not suitable for DC applications		
Trip class	10E, 20E, 30E, selectable		
Number of poles	3		
Duty time	100 %		
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"		
Rated impulse withstand voltage U_{imp}	6 kV		
Rated insulation voltage U_i	690 V AC		

Auxiliary circuit according to IEC/EN

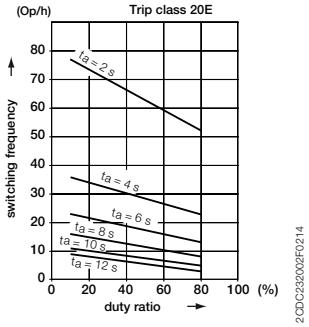
Type		E16DU	EF19	EF45
Rated operational voltage U_e		600 V AC / DC		
Conventional free air thermal current I_{th}		6 A		
Rated frequency		DC, 50/60 Hz		
Number of poles		1 N.C. + 1 N.O.		
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category				
110-120 V	**50/60 Hz**	3.00 A		
220-230-240 V	**50/60 Hz**	3.00 A		
440 V	**50/60 Hz**	1.10 A		
480-500 V	**50/60 Hz**	0.75 A		
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category				
24 V		1.50 A		
60 V		0.55 A		
110-120-125 V		0.55 A		
250 V		0.27 A		
Minimum switching capacity		12 V / 3 mA		
Short-circuit protective devices		6 A, fuse type gG		
Rated impulse withstand voltage U_{imp}		6 kV		
Rated insulation voltage U_i		690 V		

E16DU, EF19, EF45 electronic overload relays – 0.10 to 45.0 A
Technical data

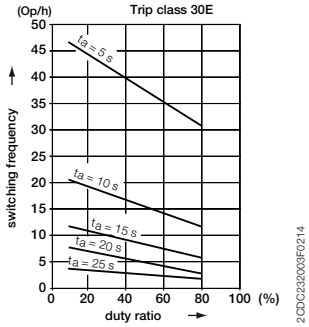
Technical diagram – Intermittent periodic duty



Trip class 10E



Trip class 20E



Trip class 30E

5

General data

Type			E16DU	EF19	EF45
Pollution degree			3		
Phase loss sensitive			Yes		
Ambient air temperature					
	Operation	Open - compensated	-25 ... +70 °C		
	Storage		-50 ... +85 °C		
Ambient air temperature compensation			Acc. to IEC/EN60947-4-1		
Maximum operating altitude permissible			2000 m		
Resistance to shock acc. to IEC 60068-2-27			15g / 11 ms pulse	25g / 11 ms pulse	
Resistance to vibrations acc. to IEC 60068-2-6			5g / 3 ... 150 Hz	3g / 3 ... 150 Hz	
Mounting position			Position 1-6		
Mounting			Mount on the contactor and tighten the screws of the main circuit terminals		
Degree of protection		Housing	IP20		
		Main circuit terminals	IP20		

Electrical connection

Main circuit					
Type			E16DU	EF19	EF45
Connecting capacity					
	Rigid	**1 or 2 x**	1 ... 4 mm²	1 ... 4 mm²	2.5 ... 16 mm²
	Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²	2.5 ... 10 mm²
	Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-10	AWG 16-10	AWG 14-6
	Flexible acc. to UL/CSA	**1 or 2 x**	AWG 16-10	AWG 16-10	AWG 14-6
Stripping length			9 mm	9 mm	13 mm
Tightening torque			0.8 ... 1.5 Nm / 7 ... 13 lb.in	0.8 ... 1.5 Nm / 7 ... 13 lb.in	2.3 ... 2.6 Nm / 20 ... 22 lb.in
Recommended screw driver			M3.5 (Pozidriv 2)	M3.5 (Pozidriv 2)	M3.5 (Pozidriv 2)

Auxiliary circuit					
Type			E16DU	EF19	EF45
Connecting capacity					
	Rigid	**1 or 2 x**	1 ... 4 mm²	1 ... 4 mm²	1 ... 4 mm²
	Flexible with ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²
	Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²
	Flexible	**1 or 2 x**	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²	0.75 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-10	AWG 18-10	AWG 18-10
	Flexible acc. to UL/CSA	**1 or 2 x**	AWG 16-10	AWG 18-10	AWG 18-10
Stripping length			9 mm	9 mm	9 mm
Tightening torque			0.8 ... 1.2 Nm / 7 ... 11 lb.in	0.8 ... 1.2 Nm / 7 ... 11 lb.in	0.8 ... 1.2 Nm / 7 ... 11 lb.in
Recommended screw driver			M3 (Pozidriv 2)	M3 (Pozidriv 2)	M3 (Pozidriv 2)

EF65, EF96, EF146 electronic overload relays – 20 to 150 A
Technical data

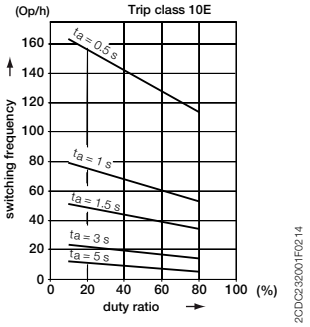
Main circuit – Utilization characteristics according to IEC/EN

Type	EF65, EF96, EF146
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_e	1000 V AC
Rated frequency	50/60 Hz – not suitable for DC applications
Trip class	10E, 20E, 30E, selectable
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	8 kV
Rated insulation voltage U_i	1000 V

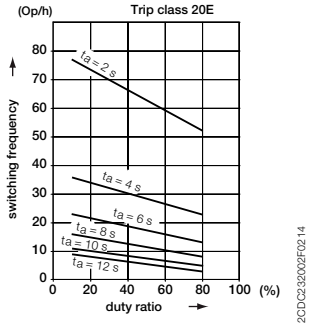
Auxiliary circuit according to IEC/EN

Type		EF65, EF96, EF146
Rated operational voltage U_e		600 V AC / DC
Conventional free air thermal current I_{th}		6 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.C. + 1 N.O.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	**50/60 Hz**	3.00 A
220-230-240 V	**50/60 Hz**	3.00 A
400 V	**50/60 Hz**	1.10 A
480-500 V	**50/60 Hz**	0.75 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V		1.50 A
60 V		0.55 A
110-120-125 V		0.55 A
250 V		0.27 A
Minimum switching capacity		12 V / 3 mA
Short-circuit protective device		6 A, fuse type gG
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690 V

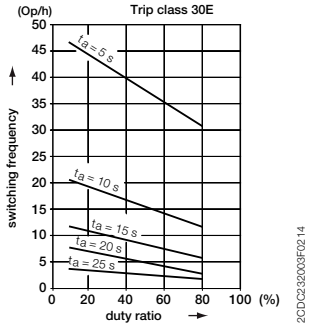
Technical diagram – Intermittent periodic duty



Trip class 10E



Trip class 20E



Trip class 30E

EF65, EF96, EF146 electronic overload relays – 20 to 150 A
Technical data

General data

Type			**EF65, EF96, EF146**
Pollution degree			3
Phase loss sensitive			Yes
Ambient air temperature			
	Operation	Open - compensated	-25 ... +70 °C
	Storage		-50 ... +85 °C
Ambient air temperature compensation			Acc. to IEC/EN 60947-4-1
Maximum operating altitude permissible			2000 m
Resistance to shock acc. to IEC 60068-2-27			15g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6			5g / 3 ... 150 Hz
Mounting position			Position 1-6
Mounting			Mount on the contactor and tighten the screws of the main circuit terminals
Degree of protection	Housing		IP20
	Main circuit terminals		IP10

5

Electrical connection

Main circuit					
Type			**EF65**	**EF96**	**EF146**
Connecting capacity					
	Rigid	**1 x**	4 ... 35 mm²	6 ... 70 mm²	10 ... 95 mm²
		2 x	4 ... 35 mm²	6 ... 35 mm²	10 ... 35 mm²
	Flexible	**1 x**	4 ... 35 mm²	6 ... 50 mm²	10 ... 70 mm²
		2 x	4 ... 35 mm²	6 ... 35 mm²	10 ... 35 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 10-2	AWG 8-2	AWG 6-00
		2 x			AWG 6-2
	Flexible acc. to UL/CSA	**1 x**	AWG 10-2	AWG 8-2	AWG 6-00
		2 x			AWG 6-2
Stripping length			20 mm	20 mm	20 mm
Tightening torque			4 Nm / 35 lb.in	6 Nm / 55 lb.in	8 Nm / 70 lb.in
Recommended screw driver			M8 (Pozidriv 2)	M8 (Hexagon 4)	M8 (Hexagon 4)

Auxiliary circuit			
Type			**EF65, EF96, EF146**
Connecting capacity			
	Rigid	**1 or 2 x**	1 ... 4 mm²
	Flexible with ferrule	**1 or 2 x**	0.75 ... 2.5 mm²
	Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 2.5 mm²
	Flexible	**1 or 2 x**	0.75 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 or 2 x**	AWG 18-10
	Flexible acc. to UL/CSA	**1 or 2 x**	AWG 18-10
Stripping length			9 mm
Tightening torque			0.8 ... 1.2 Nm / 7 ... 11 lb.in
Recommended screw driver			M3.5 (Pozidriv 2)

EF205, EF370 electronic overload relays – 63 to 380 A
Technical data

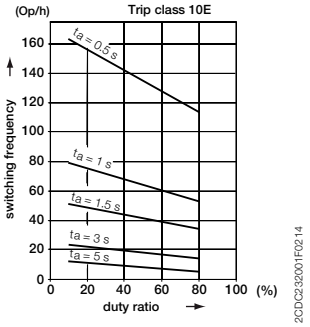
Main circuit – Utilization characteristics according to IEC/EN

Type	EF205, EF370
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_e	1000 V AC
Rated frequency	50/60 Hz – not suitable for DC applications
Trip class	10E, 20E, 30E, selectable
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	8 kV
Rated insulation voltage U_i	1000 V

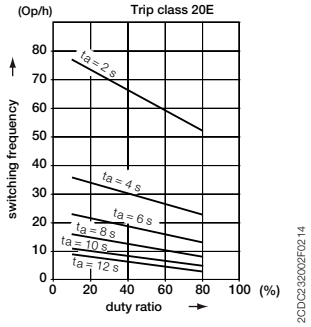
Auxiliary circuit according to IEC/EN

Type		EF205, EF370
Rated operational voltage U_e		600 V AC / DC
Conventional free air thermal current I_{th}		6 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.C. + 1 N.O.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	**50/60 Hz**	3.00 A
220-230-240 V	**50/60 Hz**	3.00 A
400 V	**50/60 Hz**	1.10 A
480-500 V	**50/60 Hz**	0.75 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V		1.50 A
60 V		0.55 A
110-120-125 V		0.55 A
250 V		0.27 A
Minimum switching capacity		12 V / 3 mA
Short-circuit protective device		6 A, fuse type gG
Rated impulse withstand voltage U_{imp}		6 kV
Rated insulation voltage U_i		690 V

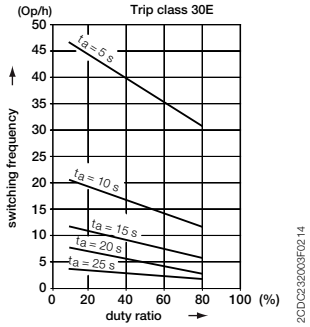
Technical diagram – Intermittent periodic duty



Trip class 10E



Trip class 20E



Trip class 30E

EF205, EF370 electronic overload relays – 63 to 380 A
Technical data

General data

			EF205	EF370
Type				
Pollution degree			3	
Phase loss sensitive			Yes	
Ambient air temperature				
	Operation	Open - compensated	-25 ... +70 °C	
	Storage		-50 ... +85 °C	
Ambient air temperature compensation			Acc. to IEC/EN 60947-4-1	
Maximum operating altitude permissible			2000 m	
Resistance to shock acc. to IEC 60068-2-27			25g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6			5g / 3 ... 150 Hz	
Mounting position			Position 1-6	
Mounting			Mount on the contactor and tighten the screws of the main circuit terminals	
Degree of protection	Housing		IP20	
	Main circuit terminals		IP20	

5

Electrical connection

Main circuit				
Type			**EF205**	**EF370**
Connecting capacity				
	Rigid	**1 x** **2 x**	16 ... 185 mm² 16 ... 120 mm²	50 ... 240 mm² 50 ... 150 mm²
	Flexible	**1 x** **2 x**	16 ... 185 mm² 16 ... 120 mm²	50 ... 240 mm² 50 ... 150 mm²
	Lugs	**L ≤**	24 mm	32 mm
	Bars	**Ø >**	8 mm	10 mm
	Stranded acc. to UL/CSA	**1 x** **2 x**	AWG 6-0000 AWG 6-0000	AWG 1-500 kcmil AWG 1-500 kcmil
	Flexible acc. to UL/CSA	**1 x** **2 x**	AWG 6-0000 AWG 6-0000	AWG 1-500 kcmil AWG 1-500 kcmil
Stripping length			-	-
Tightening torque			18 Nm / 160 lb.in	28 Nm / 247 lb.in
Recommended screw driver			M8	M10

Auxiliary circuit			
Type			**EF205, EF370**
Connecting capacity			
	Rigid	**1 or 2 x**	1 ... 4 mm²
	Flexible with ferrule	**1 or 2 x**	0.75 ... 2.5 mm²
	Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 2.5 mm²
	Flexible	**1 or 2 x**	0.75 ... 2.5 mm²
	Stranded acc. to UL/CSA	**1 or 2 x**	AWG 18-10
	Flexible acc. to UL/CSA	**1 or 2 x**	AWG 18-10
Stripping length			9 mm
Tightening torque			0.8 ... 1.2 Nm / 7 ... 11 lb.in
Recommended screw driver			M3.5 (Pozidriv 2)

EF460, EF750 electronic overload relays – 150 to 800 A
Technical data

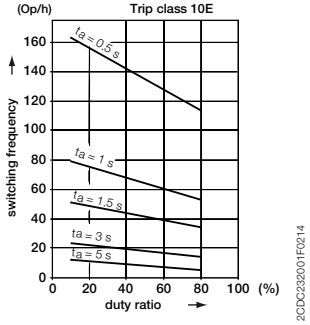
Main circuit – Utilization characteristics according to IEC/EN

Type	EF460	EF750
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1	
Rated operational voltage U_e	1000 V AC	
Rated frequency	50/60 Hz – not suitable for DC applications	
Trip class	10E, 20E, 30E, selectable	
Number of poles	3	
Duty time	100 %	
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"	
Rated impulse withstand voltage U_{imp}	8 kV	
Rated insulation voltage U_i	1000 V AC	

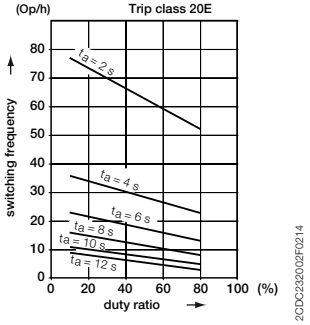
Auxiliary circuit according to IEC/EN

Type		EF460	EF750
Rated operational voltage U_e		600 V AC / DC	
Conventional free air thermal current I_{th}		6 A	
Rated frequency		DC, 50/60 Hz	
Number of poles		1 N.C. + 1 N.O.	
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category			
110-120 V	**50/60 Hz**	3.00 A	
220-230-240 V	**50/60 Hz**	3.00 A	
400 V	**50/60 Hz**	1.10 A	
480-500 V	**50/60 Hz**	0.75 A	
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category			
24 V		1.50 A	
60 V		0.55 A	
110-120-125 V		0.55 A	
250 V		0.27 A	
Minimum switching capacity		12 V / 3 mA	
Short-circuit protective device		6 A, fuse type gG	
Rated impulse withstand voltage U_{imp}		6 kV	
Rated insulation voltage U_i		690 V	

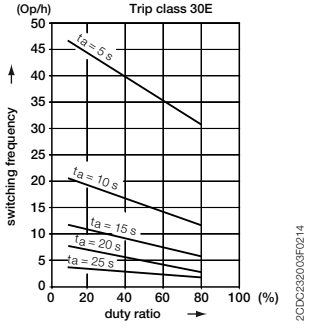
Technical diagram – Intermittent periodic duty



Trip class 10E



Trip class 20E



Trip class 30E

EF460, EF750 electronic overload relays – 150 to 800 A
Technical data

Main circuit – Utilization characteristics according to UL/CSA

Type	EF460	EF750
Standards	UL60947-1, UL60947-4-1	
Maximum operational voltage	600 V AC	
Trip rating	125 % of FLA	

Auxiliary circuit according to UL/CSA

Type		EF460	EF750
Contact rating	N.C., 95-96	B600, Q300	
	N.O., 97-98	B600, Q300	
Conventional thermal current		5 A	

General data

Type		EF460	EF750
Pollution degree		3	
Phase loss sensitive		Yes	
Ambient air temperature			
Operation	Open - compensated	-25 ... +70 °C	
Storage		-25 ... +70 °C	
Ambient air temperature compensation		Acc. to IEC/EN60947-4-1	
Maximum operating altitude permissible		2000 m	
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6		3g / 3 ... 150 Hz	
Degree of protection	Housing	IP20	
	Main circuit terminals	IP00	

Electrical connection

Auxiliary circuit			
Type		EF460	EF750
Connecting capacity			
Rigid	1 or 2 x	1 ... 4 mm²	
Flexible with ferrule	1 or 2 x	0.75 ... 2.5 mm²	
Flexible with insulated ferrule	1 or 2 x	0.75 ... 2.5 mm²	
Flexible	1 or 2 x	0.75 ... 2.5 mm²	
Stranded acc. to UL/CSA	1 or 2 x	AWG 18-10	
Flexible acc. to UL/CSA	1 or 2 x	AWG 18-10	
Stripping length		9 mm	
Tightening torque		0.8 ... 1.2 Nm / 7 ... 11 lb.in	
Recommended screw driver		M3.5 (Pozidriv 2)	

E1250DU electronic overload relays – 375 to 1250 A
Technical data

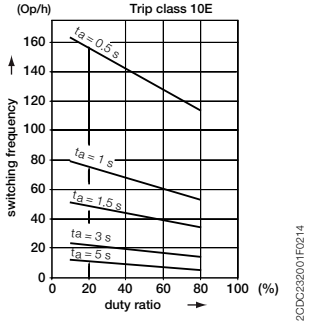
Main circuit – Utilization characteristics according to IEC/EN

Type	E1250DU
Standards	IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1
Rated operational voltage U_e	1000 V AC
Rated frequency	50/60 Hz – not suitable for DC applications
Trip class	10E, 20E, 30E, selectable
Number of poles	3
Duty time	100 %
Operating frequency without early tripping	Up to 15 operations/h, see "Technical diagram – Intermittent periodic duty"
Rated impulse withstand voltage U_{imp}	8 kV
Rated insulation voltage U_i	1000 V AC

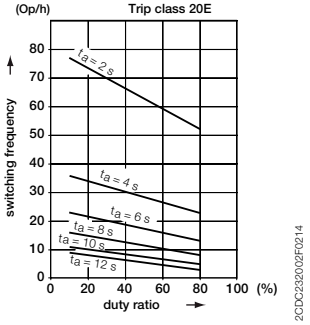
Auxiliary circuit according to IEC/EN

Type		E1250DU
Rated operational voltage U_e		600 V AC / DC
Conventional free air thermal current I_{th}		6 A
Rated frequency		DC, 50/60 Hz
Number of poles		1 N.C. + 1 N.O.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category		
110-120 V	50/60 Hz	3.00 A
220-230-240 V	50/60 Hz	3.00 A
440 V	50/60 Hz	1.10 A
480-500 V	50/60 Hz	0.72 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category		
24 V		1.50 A
60 V		0.55 A
110-120-125 V		0.55 A
250 V		0.27 A
Minimum switching capacity		12 V / 3 mA
Short-circuit protective device		6 A, fuse type gG
Rated impulse withstand voltage U_{imp}		8 kV
Rated insulation voltage U_i		690 V

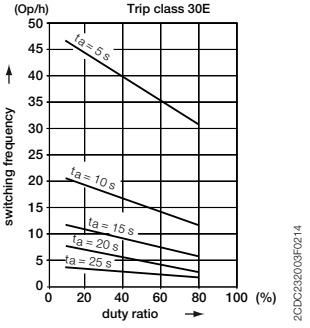
Technical diagram – Intermittent periodic duty



Trip class 10E



Trip class 20E



Trip class 30E

AF09 ... AF96 contactors
DC circuit switching

General

The arc switching on DC is more difficult than on AC.

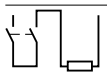
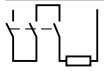
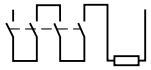
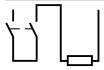
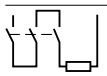
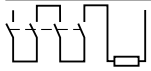
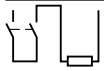
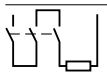
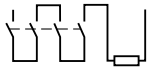
– For selecting a contactor it is essential to determine the current, the voltage and the L/R time constant of the controlled load
– For information, typical time constant values are quoted hereafter: non inductive loads such as resistance furnaces (L/R ≈ 1 ms), inductive loads such as shunt motors (L/R ≈ 2 ms) or series motors (L/R ≈ 7.5 ms)
– The addition of a resistor in parallel with an inductive winding helps in the elimination of the arcs
– All the poles required for breaking must be connected in series between the load and the source polarity not linked to earth (or chassis).

Technical data

– The tables indicate for the standard contactors the Ie max. operating currents depending on: the utilization category (i.e. L/R) DC-1, DC-3, DC-5 as defined in the IEC 60947-4-1 publication, the operating voltage Ue and the pole coupling details.
Ampere values quoted in these tables are valid for a -25…+70 °C temperature close to the contactors, as long as these values do not exceed the AC-1 Ampere values for the corresponding ambient temperature
– Max. switching frequency: 300 cycles/h.

5

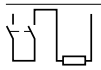
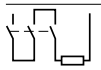
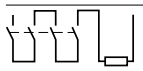
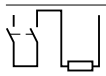
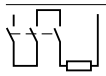
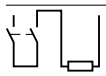
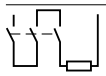
Selection table

Contactor types		AF09	AF12	AF16	AF26		AF30	AF38		AF40	AF52	AF65	AF80	AF96
		3 or 4-pole			3-pole	4-pole	3-pole	3-pole	4-pole	3-pole	3-pole	3-pole	3-pole	3-pole
Utilization category DC-1, L/R ≤ 1 ms														
	≤ 72 V	25 A	27 A	30 A	45 A	45 A	50 A	50 A	55 A	70 A	100 A	105 A	125 A	130 A
	110 V	10 A	15 A	20 A	-	-	-	-	-	-	-	-	-	-
	220 V	-	-	-	-	-	-	-	-	-	-	-	-	-
	≤ 72 V	25 A	27 A	30 A	45 A	45 A	50 A	50 A	55 A	70 A	100 A	105 A	125 A	130 A
	110 V	25 A	27 A	30 A	45 A	45 A	50 A	50 A	55 A	70 A	100 A	105 A	125 A	130 A
	220 V	10 A	15 A	20 A	-	-	-	-	-	-	-	-	-	-
	≤ 72 V	25 A	27 A	30 A	45 A	45 A	50 A	50 A	55 A	70 A	100 A	105 A	125 A	130 A
	110 V	25 A	27 A	30 A	45 A	45 A	50 A	50 A	55 A	70 A	100 A	105 A	125 A	130 A
	220 V	25 A	27 A	30 A	45 A	45 A	50 A	50 A	55 A	70 A	100 A	105 A	125 A	130 A
	≤ 72 V	25 A	-	30 A	-	45 A	-	-	55 A	-	-	-	-	-
	110 V	25 A	-	30 A	-	45 A	-	-	55 A	-	-	-	-	-
	220 V	25 A	-	30 A	-	45 A	-	-	55 A	-	-	-	-	-
	440 V	10 A	-	20 A	-	-	-	-	-	-	-	-	-	-
Utilization category DC-3, L/R ≤ 2 ms														
	≤ 72 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	110 V	6 A	7 A	8 A	-	-	-	-	-	-	-	-	-	-
	220 V	-	-	-	-	-	-	-	-	-	-	-	-	-
	≤ 72 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	110 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	220 V	6 A	7 A	8 A	-	-	-	-	-	-	-	-	-	-
	≤ 72 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	110 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	220 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	≤ 72 V	25 A	-	30 A	-	-	-	-	-	-	-	-	-	-
	110 V	25 A	-	30 A	-	-	-	-	-	-	-	-	-	-
	220 V	25 A	-	30 A	-	-	-	-	-	-	-	-	-	-
	440 V	6 A	-	8 A	-	-	-	-	-	-	-	-	-	-
Utilization category DC-5, L/R ≤ 7.5 ms														
	≤ 72 V	9 A	12 A	16 A	20 A	-	25 A	25 A	-	70 A	100 A	105 A	125 A	130 A
	110 V	4 A	4 A	4 A	-	-	-	-	-	-	-	-	-	-
	220 V	-	-	-	-	-	-	-	-	-	-	-	-	-
	≤ 72 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	110 V	10 A	15 A	20 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	220 V	4 A	4 A	4 A	-	-	-	-	-	-	-	-	-	-
	≤ 72 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	110 V	25 A	27 A	30 A	45 A	-	50 A	50 A	-	70 A	100 A	105 A	125 A	130 A
	220 V	9 A	12 A	16 A	20 A	-	25 A	25 A	-	70 A	100 A	105 A	125 A	130 A
	≤ 72 V	25 A	-	30 A	-	-	-	-	-	-	-	-	-	-
	110 V	25 A	-	30 A	-	-	-	-	-	-	-	-	-	-
	220 V	10 A	-	20 A	-	-	-	-	-	-	-	-	-	-
	440 V	4 A	-	4 A	-	-	-	-	-	-	-	-	-	-

For additional ratings ≥ 440 V, please consult us.

AF116 ... AF2050 contactors
DC circuit switching

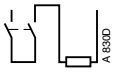
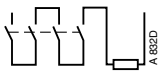
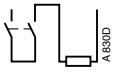
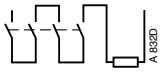
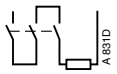
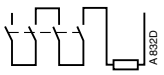
Selection table

Contactor types		AF116	AF140	AF146	AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050
		3 or 4-pole		3-pole	3 or 4-pole					3-pole							
Utilization category DC-1, L/R ≤ 1 ms																	
	≤ 72 V	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	90 V	160	200	200	250	350	400	500	520	-	-	-	-	-	-	-	-
	100 V	-	-	-	250	350	400	500	520	-	-	-	-	-	-	-	-
	110 V	-	-	-	-	-	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	**≤ 72 V**	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	110 V	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	175 V	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	-	-	-	-
	200 V	-	-	-	250	350	400	500	520	600 A	700 A	800 A	1050 A	-	-	-	-
	220 V	-	-	-	-	-	400	500	520	600 A	700 A	800 A	1050 A	-	-	-	-
	**≤ 72 V**	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	110 V	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	220 V	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	260 V	160	200	200	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	300 V	-	-	-	250	350	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	340 V	-	-	-	-	-	400	500	520	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	440 V	-	-	-	-	-	-	-	-	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	600 V	-	-	-	-	-	-	-	-	600 A	700 A	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	850 V	-	-	-	-	-	-	-	-	-	-	800 A	1050 A	1250 A	1350 A	1650 A	2050 A
	**< 350 V**	200	200	-	250	350	400	500	520	-	-	-	-	-	-	-	-
	400 V	-	-	-	250	350	400	500	520	-	-	-	-	-	-	-	-
	440 V	-	-	-	-	-	400	500	520	-	-	-	-	-	-	-	-
Utilization category DC-3, L/R ≤ 2 ms																	
	≤ 72 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	110 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	**≤ 72 V**	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	110 V	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	220 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	**≤ 72 V**	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	110 V	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	220 V	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	440 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	600 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
Utilization category DC-5, L/R ≤ 7.5 ms																	
	≤ 72 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	110 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	**≤ 72 V**	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	110 V	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	220 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	**≤ 72 V**	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	110 V	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	220 V	145 A	160 A		250 A	275 A	350 A	400 A	450 A	600 A	700 A	800 A	1050 A	-	-	-	-
	440 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-
	600 V	-	-		-	-	-	-	-	600 A	700 A	800 A	1050 A	-	-	-	-

For additional ratings ≥ 440 V, please consult us.

EK110 ... EK1000 contactors
DC circuit switching

Selection table

Contactor types			EK110	EK150	EK175	EK210	EK370	EK550	EK1000
Utilization category DC-1, L/R ≤ 1 ms									
A 829D	≤ 72 V	**A**	120	145	210	210	370	550	–
	110 V	**A**	120	145	210	210	370	550	–
 A 830D	≤ 72 V	**A**	200	200	300	300	550	800	–
	110 V	**A**	200	200	300	300	550	800	–
	220 V	**A**	200	200	300	300	550	800	–
A 831D	≤ 72 V	**A**	200	200	300	300	550	800	–
	110 V	**A**	200	200	300	300	550	800	–
	220 V	**A**	200	200	300	300	550	800	–
	440 V	**A**	–	–	210	210	450	650	–
	600 V	**A**	–	–	–	–	450	650	–
 A 832D	≤ 72 V	**A**	200	200	300	300	550	800	–
	110 V	**A**	200	200	300	300	550	800	–
	220 V	**A**	200	200	300	300	550	800	–
	440 V	**A**	200	200	260	260	450	650	–
	600 V	**A**	–	–	260	260	450	650	–
Utilization category DC-3, L/R ≤ 2 ms									
A 829D	≤ 72 V	**A**	120	145	210	210	370	550	–
 A 830D	≤ 72 V	**A**	135	145	210	210	450	650	–
	110 V	**A**	135	135	210	210	450	650	–
	220 V	**A**	135	135	210	210	450	650	–
A 831D	≤ 72 V	**A**	135	145	210	210	450	650	–
	110 V	**A**	135	135	210	210	450	650	–
	220 V	**A**	135	135	210	210	450	650	–
	440 V	**A**	–	–	210	210	450	650	–
	600 V	**A**	–	–	–	–	450	650	–
 A 832D	≤ 72 V	**A**	135	145	210	210	450	650	–
	110 V	**A**	135	135	210	210	450	650	–
	220 V	**A**	135	135	210	210	450	650	–
	440 V	**A**	135	135	210	210	450	650	–
	600 V	**A**	–	–	170	210	450	650	–
Utilization category DC-5, L/R ≤ 7.5 ms									
A 830D	≤ 72 V	**A**	135	145	210	210	450	650	–
	110 V	**A**	135	135	210	210	450	650	–
	220 V	**A**	135	135	210	210	450	650	–
 A 831D	≤ 72 V	**A**	135	145	210	210	450	650	–
	110 V	**A**	135	135	210	210	450	650	–
	220 V	**A**	135	135	210	210	450	650	–
	440 V	**A**	–	–	210	210	450	650	–
	600 V	**A**	–	–	–	–	450	650	–
 A 832D	≤ 72 V	**A**	135	145	210	210	450	650	–
	110 V	**A**	135	135	210	210	450	650	–
	220 V	**A**	135	135	210	210	450	650	–
	440 V	**A**	135	135	210	210	450	650	–
	600 V	**A**	–	–	170	210	450	650	–

Lighting circuit switching
Contactor selection

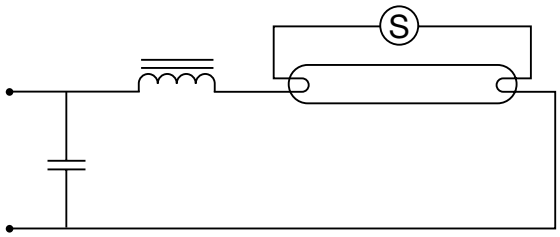
General

Contactor selection criteria for control of lighting circuits are as follows:
- type, power rating and number of lamps
- connection mode
- current values on closing and in steady state
- power factor
- presence or not of correction capacitors.

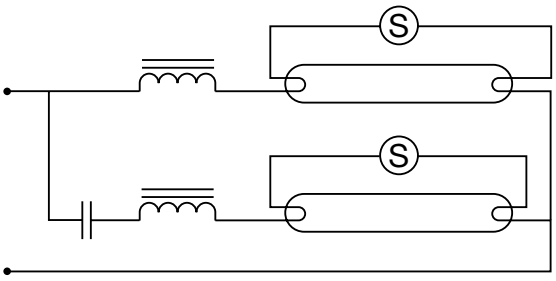
Lighting circuits

In a given circuit, the number and power rating of lamps are defined and cannot result in overload. Only short-circuit protection has to be provided. gG fuses or modular circuit-breakers will be chosen for this purpose.
The lamps have very specific technical data, according to their construction type.
- Incandescent lamps have a very high current on closing: more than 15 times nominal current.
  They do not introduce a large phase displacement between current and voltage
- Fluorescent tubes are equipped with a ballast whose purpose is two-fold: contribute to ignition and limit current to nominal value once steady state is reached. This ballast is a reactor that considerably lowers the power factor. It may or may not be compensated.

Individual compensation (parallel compensation)



Serial compensation in dual mounting



Selection of contactors

The following tables indicate, for each contactor type, the maximum permissible number of lamps per phase. Air temperature, near the contactor, must be limited to 60 °C. Numbers are given for a 230 V voltage distributed between phase and neutral: single-phase (phase + neutral) or three-phase (3 phases + neutral) distribution, lamps are wired in star connection. In the case of a three-phase supply without neutral, 230 V phase-to-phase, the permissible number of lamps per phase will be that given in the tables multiplied by 0.58.

Example:

120 x 100 W / 230 V incandescent lamps - 400 V three-phase network with distributed neutral.
Calculate the number of lamps per phase: 120 : 3 = 40. On the 100 W line of the incandescent lamp table, contactor AF09 is limited to 38 lamps per phase, you must thus select contactor AF12 which accepts up to 43 lamps per phase.

Lighting circuit switching
Contactor selection AF09 ... AF146 3-pole contactors

Selection table

3-pole AC / DC operated contactors			AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Incandescent and halogen lamps																**according to AC-5b**
Voltage: 220/240 V AC																
60	0.27	-	64	72	77	103	129	148	177	207	233	259	277	430	519	541
100	0.45	-	38	43	46	62	77	89	106	124	140	155	166	258	311	324
200	0.91	-	19	21	23	30	38	44	52	61	69	77	82	127	154	160
300	1.37	-	12	14	15	20	25	29	35	41	46	51	54	85	102	107
500	2.28	-	7	8	9	12	15	17	21	24	27	30	33	51	61	64
1000	4.55	-	3	4	4	6	7	8	10	12	13	15	16	25	31	32
Fluorescent lamps without compensation - Fluorescent lamps with electronic starter																**according to AC-5a**
Voltage: 220/240 V AC																
20	0.38	-	46	51	55	73	84	92	126	147	157	184	210	305	368	384
40	0.45	-	38	43	46	62	71	77	106	124	133	155	177	258	311	324
65	0.70	-	25	27	30	40	45	50	68	80	85	100	114	166	200	209
80	0.80	-	21	24	26	35	40	43	60	70	75	87	100	145	175	183
100	1.15	-	15	16	18	24	27	30	41	48	52	60	69	101	122	127
110	1.20	-	14	16	17	23	26	29	40	46	50	58	66	97	117	122
Fluorescent lamps with parallel compensation																**according to AC-5a**
Voltage: 220/240 V AC																
20	0.18	5	53	53	53	155	168	176	266	309	325	388	444	644	778	811
40	0.26	5	53	53	53	107	123	134	184	215	230	269	307	446	538	562
65	0.42	7	37	37	37	66	76	83	114	133	142	166	190	276	333	348
80	0.52	7	33	37	37	53	61	67	92	107	115	134	153	223	269	281
100	0.65	16	16	16	16	43	49	53	73	86	92	107	123	178	215	225
110	0.70	18	14	14	14	40	45	49	68	80	85	100	114	166	200	209
Fluorescent lamps in dual mounting																**according to AC-5a**
Voltage: 220/240 V AC																
2 x 20	2 x 0.14	-	62	69	75	100	114	125	171	200	214	250	285	414	500	521
2 x 40	2 x 0.25	-	35	39	42	56	64	70	96	112	120	140	160	232	280	292
2 x 65	2 x 0.40	-	21	24	26	35	40	43	60	70	75	87	100	145	175	183
2 x 80	2 x 0.48	-	18	20	21	29	33	36	50	58	62	72	83	121	146	152
2 x 100	2 x 0.60	-	14	16	17	23	26	29	40	46	50	58	66	97	117	122
2 x 110	2 x 0.65	-	13	15	16	21	24	26	36	43	46	53	61	89	108	112
Compact fluorescent lamps																**according to AC-5a**
Voltage: 220/240 V AC																
5	0.045	-	388	433	466	622	711	777	1066	1244	1333	1555	1777	2578	3111	3244
7	0.075	-	233	260	280	373	426	466	640	746	800	933	1066	1547	1867	1947
11	0.105	-	166	185	200	266	304	333	457	533	571	666	761	1105	1333	1390
15	0.135	-	129	144	155	207	237	259	355	414	444	518	592	859	1037	1081
20	0.160	-	109	121	131	175	200	218	300	350	375	437	500	725	875	913
23	0.180	-	97	108	116	155	177	194	266	311	333	388	444	644	778	811

Lighting circuit switching
Contactor selection AF190 ... AF2650 3-pole contactors

Selection table

3-pole AC / DC operated contactors			AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Incandescent and halogen lamps **according to AC-5b**																
Voltage: 220/240 V AC																
60	0.27	-	704	759	981	1130	1370	1481	1704	2148	2778	3009	3250	3972	4935	6380
100	0.45	-	422	456	589	678	822	889	1022	1289	1667	1806	1950	2383	2961	3828
200	0.91	-	209	225	291	335	407	440	505	637	824	893	964	1179	1464	1893
300	1.37	-	139	150	193	223	270	292	336	423	547	593	641	783	973	1257
500	2.28	-	83	90	116	134	162	175	202	254	329	356	385	470	584	755
1000	4.55	-	42	45	58	67	81	88	101	127	165	179	193	236	293	379
Fluorescent lamps without compensation - Fluorescent lamps with electronic starter **according to AC-5a**																
Voltage: 220/240 V AC																
20	0.38	-	500	539	697	803	974	1053	1211	1526	1974	2138	2309	2822	3507	4533
40	0.45	-	422	456	589	678	822	889	1022	1289	1667	1806	1950	2383	2961	3828
65	0.70	-	271	293	379	436	529	571	657	829	1071	1161	1254	1532	1904	2461
80	0.80	-	238	256	331	381	463	500	575	725	938	1016	1097	1341	1666	2153
100	1.15	-	165	178	230	265	322	348	400	504	652	707	763	933	1159	1498
110	1.20	-	158	171	221	254	308	333	383	483	625	677	731	894	1110	1435
Fluorescent lamps with parallel compensation **according to AC-5a**																
Voltage: 220/240 V AC																
20	0.18	5	1056	1139	1472	1694	2056	2222	2556	3222	4167	4514	4875	5958	7403	9569
40	0.26	5	731	788	1019	1173	1423	1538	1769	2231	2885	3125	3375	4125	5125	6625
65	0.42	7	452	488	631	726	881	952	1095	1381	1786	1935	2089	2554	3173	4101
80	0.52	7	365	394	510	587	712	769	885	1115	1442	1563	1688	2063	2563	3313
100	0.65	16	292	315	408	469	569	615	708	892	1154	1250	1350	1650	2050	2650
110	0.70	18	271	293	379	436	529	571	657	829	1071	1161	1254	1532	1904	2461
Fluorescent lamps in dual mounting **according to AC-5a**																
Voltage: 220/240 V AC																
2 x 20	2 x 0.14	-	679	732	946	1089	1321	1429	1643	2071	2679	2902	3134	3830	4759	6152
2 x 40	2 x 0.25	-	380	410	530	610	740	800	920	1160	1500	1625	1755	2145	2665	3445
2 x 65	2 x 0.40	-	238	256	331	381	463	500	575	725	938	1016	1097	1341	1666	2153
2 x 80	2 x 0.48	-	198	214	276	318	385	417	479	604	781	846	914	1117	1388	1794
2 x 100	2 x 0.60	-	158	171	221	254	308	333	383	483	625	677	731	894	1110	1435
2 x 110	2 x 0.65	-	146	158	204	235	285	308	354	446	577	625	675	825	1025	1325
Compact fluorescent lamps **according to AC-5a**																
Voltage: 220/240 V AC																
5	0.045	-	4222	4556	5889	6778	8222	8889	10222	12889	16667	18056	19500	23833	29611	38278
7	0.075	-	2533	2733	3533	4067	4933	5333	6133	7733	10000	10833	11700	14300	17767	22967
11	0.105	-	1810	1952	2524	2905	3524	3810	4381	5524	7143	7738	8357	10214	12690	16405
15	0.135	-	1407	1519	1963	2259	2741	2963	3407	4296	5556	6019	6500	7944	9870	12759
20	0.160	-	1188	1281	1656	1906	2313	2500	2875	3625	4688	5078	5484	6703	8328	10766
23	0.180	-	1056	1139	1472	1694	2056	2222	2556	3222	4167	4514	4875	5958	7403	9569

Lighting circuit switching
Contactor selection AF09 ... AF146 3-pole contactors

Selection table

3-pole AC / DC operated contactors			AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Low pressure sodium vapour lamps without compensation																
Voltage: 220/240 V AC																
35	1.4	-	9	10	12	15	15	16	23	31	35	39	42	70	85	89
55	1.4	-	9	10	12	15	15	16	23	31	35	39	42	70	85	89
90	2.1	-	6	7	8	10	10	10	15	20	23	26	28	47	57	59
135	3.1	-	4	4	5	6	7	7	10	14	15	17	19	32	38	40
180	3.1	-	4	4	5	6	7	7	10	14	15	17	19	32	38	40
Low pressure sodium vapour lamps with parallel compensation																
Voltage: 220/240 V AC																
35	0.6	20	12	12	12	35	36	38	55	73	81	91	100	164	198	207
55	0.6	20	12	12	12	35	36	38	55	73	81	91	100	164	198	207
90	0.9	25	10	10	10	23	24	25	36	48	55	61	66	110	132	138
135	0.9	45	5	5	5	18	18	19	34	34	36	57	59	110	132	138
180	0.9	45	5	5	5	18	18	19	34	34	36	57	59	110	132	138
High pressure sodium vapour lamps without compensation																
Voltage: 220/240 V AC																
150	1.8	-	7	8	9	11	12	12	18	24	27	30	33	45	54	57
250	3.0	-	4	5	5	7	7	7	11	14	16	18	20	27	33	34
400	4.4	-	3	3	3	4	5	5	7	10	11	12	13	18	22	23
600	6.2	-	2	2	2	3	3	3	5	7	7	8	9	13	16	16
1000	10.3	-	1	1	1	2	2	2	3	4	4	5	5	8	10	10
High pressure sodium vapour lamps with parallel compensation																
Voltage: 220/240 V AC																
150	1.0	20	12	12	12	21	22	23	33	43	49	55	60	93	112	117
250	1.5	36	7	7	7	14	14	15	22	29	33	36	40	62	75	78
400	2.5	48	5	5	5	8	8	9	13	17	19	22	24	37	45	47
600	3.3	65	3	3	3	6	6	6	10	13	15	16	18	28	34	35
1000	6.2	100	2	2	2	3	3	3	5	7	7	8	9	15	18	19
High pressure mercury vapour lamps without compensation																
Voltage: 220/240 V AC																
50	0.60	-	22	25	28	35	36	38	55	73	82	91	100	152	190	214
80	0.80	-	16	18	21	26	27	28	41	55	61	68	75	114	143	160
125	1.15	-	11	13	14	18	19	20	28	38	43	47	52	79	99	112
250	2.15	-	6	6	7	9	10	10	15	20	23	25	27	42	53	60
400	3.25	-	4	4	5	6	6	7	10	13	15	16	18	28	35	39
700	5.40	-	2	2	3	3	4	4	6	8	9	10	11	17	21	24
1000	7.50	-	1	2	2	2	2	3	4	5	6	7	8	12	15	17
Voltage: 380/415 V AC																
2000	8.00	-	1	1	2	2	2	2	4	5	6	6	7	11	14	16
High pressure mercury vapour lamps with compensation																
Voltage: 220/240 V AC																
50	0.28	7	36	36	36	75	78	82	117	157	176	196	214	326	407	458
80	0.43	8	31	31	31	48	51	53	76	102	115	127	139	212	265	298
125	0.66	10	20	22	25	31	33	34	50	66	75	83	90	138	173	194
250	1.28	18	10	11	13	16	17	17	25	34	38	42	46	71	89	100
400	2.05	25	6	7	8	10	10	11	16	21	24	26	29	44	56	63
700	3.55	40	3	4	4	5	6	6	9	12	13	15	16	26	32	36
1000	4.83	60	2	3	3	4	4	4	6	9	10	11	12	19	24	27
Voltage: 380/415 V AC																
2000	5.45	35	2	2	3	3	4	4	6	8	9	10	11	17	21	24

Lighting circuit switching
Contactor selection AF190 ... AF2650 3-pole contactors

Selection table

3-pole AC / DC operated contactors			AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Low pressure sodium vapour lamps without compensation																
Voltage: 220/240 V AC																
35	1.4	-	115	124	161	185	225	243	279	352	455	493	533	651	809	1046
55	1.4	-	115	124	161	185	225	243	279	352	455	493	533	651	809	1046
90	2.1	-	77	83	107	123	150	162	186	235	304	329	355	434	539	697
135	3.1	-	52	56	73	84	101	110	126	159	206	223	241	294	365	472
180	3.1	-	52	56	73	84	101	110	126	159	206	223	241	294	365	472
Low pressure sodium vapour lamps with parallel compensation																
Voltage: 220/240 V AC																
35	0.6	20	269	290	375	432	524	567	652	822	1063	1151	1243	1519	1888	2440
55	0.6	20	269	290	375	432	524	567	652	822	1063	1151	1243	1519	1888	2440
90	0.9	25	179	194	250	288	349	378	434	548	708	767	829	1013	1258	1627
135	0.9	45	179	194	250	288	349	378	434	548	708	767	829	1013	1258	1627
180	0.9	45	179	194	250	288	349	378	434	548	708	767	829	1013	1258	1627
High pressure sodium vapour lamps without compensation																
Voltage: 220/240 V AC																
150	1.8	-	74	80	103	119	144	156	179	226	292	313	338	413	513	663
250	3.0	-	44	48	62	71	86	93	107	135	175	188	203	248	308	398
400	4.4	-	30	33	42	49	59	64	73	92	119	128	138	169	210	271
600	6.2	-	21	23	30	34	42	45	52	65	85	91	98	120	149	192
1000	10.3	-	13	14	18	21	25	27	31	39	51	55	59	72	90	116
High pressure sodium vapour lamps with parallel compensation																
Voltage: 220/240 V AC																
150	1.0	20	152	164	212	244	296	320	368	464	600	625	675	825	1025	1325
250	1.5	36	101	109	141	163	197	213	245	309	400	417	450	550	683	883
400	2.5	48	61	66	85	98	118	128	147	186	240	250	270	330	410	530
600	3.3	65	46	50	64	74	90	97	112	141	182	189	205	250	311	402
1000	6.2	100	25	26	34	39	48	52	59	75	97	101	109	133	165	214
High pressure mercury vapour lamps without compensation																
Voltage: 220/240 V AC																
50	0.60	-	261	333	380	475	570	570	665	760	998	1188	1283	1568	1948	2518
80	0.80	-	196	249	285	356	428	428	499	570	748	891	962	1176	1461	1888
125	1.15	-	136	173	198	248	297	297	347	397	520	620	669	818	1016	1313
250	2.15	-	73	93	106	133	159	159	186	212	278	331	358	437	543	703
400	3.25	-	48	61	70	88	105	105	123	140	184	219	237	289	360	465
700	5.40	-	29	37	42	53	63	63	74	84	111	132	143	174	216	280
1000	7.50	-	21	27	30	38	46	46	53	61	80	95	103	125	156	201
Voltage: 380/415 V AC																
2000	8.00	-	20	25	29	36	43	43	50	57	75	89	96	118	146	189
High pressure mercury vapour lamps with compensation																
Voltage: 220/240 V AC																
50	0.28	7	560	713	814	1018	1221	1221	1425	1629	2138	2545	2748	3359	4173	5395
80	0.43	8	365	464	530	663	795	795	928	1060	1392	1657	1790	2187	2717	3513
125	0.66	10	238	302	345	432	518	518	605	691	907	1080	1166	1425	1770	2289
250	1.28	18	122	156	178	223	267	267	312	356	468	557	601	735	913	1180
400	2.05	25	76	97	111	139	167	167	195	222	292	348	375	459	570	737
700	3.55	40	44	56	64	80	96	96	112	128	169	201	217	265	329	425
1000	4.83	60	32	41	47	59	71	71	83	94	124	148	159	195	242	313
Voltage: 380/415 V AC																
2000	5.45	35	29	37	42	52	63	63	73	84	110	131	141	173	214	277

Lighting circuit switching
Contactor selection AF09 ... AF146 3-pole contactors

Selection table

3-pole AC / DC operated contactors			AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96	AF116	AF140	AF146
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Metal halide vapour lamps without compensation																
Voltage: 220/240 V AC																
250	3	-	4	5	5	7	7	7	11	14	16	18	20	27	33	38
400	4	-	3	3	4	5	5	5	8	11	12	13	15	20	25	28
1000	9.5	-	1	1	1	2	2	2	3	4	5	5	6	8	11	12
2000	16.5	-	0	0	1	1	1	1	2	2	3	3	3	5	6	7
Voltage: 380/415 V AC																
2000	10.5	-	1	1	1	2	2	2	3	4	4	5	5	8	10	11
Metal halide vapour lamps with compensation																
Voltage: 220/240 V AC																
250	1.32	33	7	7	7	15	16	17	25	33	37	41	45	69	86	97
400	2.22	45	5	5	5	9	9	10	14	19	22	24	27	41	51	58
1000	5.14	85	2	2	3	4	4	4	6	8	9	10	11	18	22	25
2000	11.5	148	1	1	1	1	1	2	2	3	4	4	5	8	10	11
Voltage: 380/415 V AC																
2000	6.10	60	2	2	2	3	3	3	5	7	8	9	9	15	19	21

Lighting circuit switching
Contactor selection AF190 ... AF2650 3-pole contactors

Selection table

3-pole AC / DC operated contactors			AF190	AF205	AF265	AF305	AF370	AF400	AF460	AF580	AF750	AF1250	AF1350	AF1650	AF2050	AF2650
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Metal halide vapour lamps without compensation																
Voltage: 220/240 V AC																
250	3	-	46	58	67	83	100	100	117	133	175	208	225	275	342	442
400	4	-	34	44	50	63	75	75	88	100	131	156	169	206	256	331
1000	9.5	-	14	18	21	26	32	32	37	42	55	66	71	87	108	139
2000	16.5	-	8	11	12	15	18	18	21	24	32	38	41	50	62	80
Voltage: 380/415 V AC																
2000	10.5	-	13	17	19	24	29	29	33	38	50	60	64	79	98	126
Metal halide vapour lamps with compensation																
Voltage: 220/240 V AC																
250	1.32	33	119	151	173	216	259	259	302	345	453	540	583	713	885	1144
400	2.22	45	71	90	103	128	154	154	180	205	270	321	347	424	526	680
1000	5.14	85	30	39	44	55	67	67	78	89	116	139	150	183	227	294
2000	11.5	148	14	17	20	25	30	30	35	40	52	62	67	82	102	131
Voltage: 380/415 V AC																
2000	6.10	60	26	33	37	47	56	56	65	75	98	117	126	154	192	248

Lighting circuit switching
Contactor selection AF09 ... AF370 4-pole contactors

Selection table

4-pole AC / DC operated contactors			AF09	AF16	AF26	AF38	AF40	AF52	AF80	AF116	AF140	AF190	AF205	AF265	AF305	AF370
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
Incandescent and halogen lamps																**according to AC-5b**
Voltage: 220/240 V AC																
60	0.27	-	64	77	103	114	177	207	259	430	519	704	759	981	1130	1370
100	0.45	-	38	46	62	68	106	124	155	258	311	422	456	589	678	822
200	0.91	-	19	23	30	34	52	61	77	127	154	209	225	291	335	407
300	1.37	-	12	15	20	22	35	41	51	85	102	139	150	193	223	270
500	2.28	-	7	9	12	13	21	24	30	51	61	83	90	116	134	162
1000	4.55	-	3	4	6	6	10	12	15	25	31	42	45	58	67	81
Fluorescent lamps without compensation - Fluorescent lamps with electronic starter																**according to AC-5a**
Voltage: 220/240 V AC																
20	0.38	-	46	55	73	81	126	147	184	305	368	500	539	697	803	974
40	0.45	-	38	46	62	68	106	124	155	258	311	422	456	589	678	822
65	0.70	-	25	30	40	44	68	80	100	166	200	271	293	379	436	529
80	0.80	-	21	26	35	38	60	70	87	145	175	238	256	331	381	463
100	1.15	-	15	18	24	26	41	48	60	101	122	165	178	230	265	322
110	1.20	-	14	17	23	25	40	46	58	97	117	158	171	221	254	308
Fluorescent lamps with parallel compensation																**according to AC-5a**
Voltage: 220/240 V AC																
20	0.18	5	53	53	110	110	266	309	309	644	778	1056	1139	1472	1694	2056
40	0.26	5	53	53	107	110	184	215	269	446	538	731	788	1019	1173	1423
65	0.42	7	37	37	66	73	114	133	166	276	333	452	488	631	726	881
80	0.52	7	33	37	53	59	92	107	134	223	269	365	394	510	587	712
100	0.65	16	16	16	34	34	73	86	96	178	215	292	315	408	469	569
110	0.70	18	14	14	30	30	68	80	86	166	200	271	293	379	436	529
Fluorescent lamps in dual mounting																**according to AC-5a**
Voltage: 220/240 V AC																
2 x 20	2 x 0.14	-	62	75	100	110	171	200	250	414	500	679	732	946	1089	1321
2 x 40	2 x 0.25	-	35	42	56	62	96	112	140	232	280	380	410	530	610	740
2 x 65	2 x 0.40	-	21	26	35	38	60	70	87	145	175	238	256	331	381	463
2 x 80	2 x 0.48	-	18	21	29	32	50	58	72	121	146	198	214	276	318	385
2 x 100	2 x 0.60	-	14	17	23	25	40	46	58	97	117	158	171	221	254	308
2 x 110	2 x 0.65	-	13	16	21	23	36	43	53	89	108	146	158	204	235	285
Compact fluorescent lamps																**according to AC-5a**
Voltage: 220/240 V AC																
5	0.045	-	388	466	622	688	1066	1244	1555	2578	3111	4222	4556	5889	6778	8222
7	0.075	-	233	280	373	413	640	746	933	1547	1867	2533	2733	3533	4067	4933
11	0.105	-	166	200	266	295	457	533	666	1105	1333	1810	1952	2524	2905	3524
15	0.135	-	129	155	207	229	355	414	518	859	1037	1407	1519	1963	2259	2741
20	0.160	-	109	131	175	193	300	350	437	725	875	1188	1281	1656	1906	2313
23	0.180	-	97	116	155	172	266	311	388	644	778	1056	1139	1472	1694	2056
Low pressure sodium vapour lamps without compensation																
Voltage: 220/240 V AC																
35	1.4	-	9	12	15	16	23	31	39	70	85	115	124	161	185	225
55	1.4	-	9	12	15	16	23	31	39	70	85	115	124	161	185	225
90	2.1	-	6	8	10	10	15	20	26	47	57	77	83	107	123	150
135	3.1	-	4	5	6	7	10	14	17	32	38	52	56	73	84	101
180	3.1	-	4	5	6	7	10	14	17	32	38	52	56	73	84	101
Low pressure sodium vapour lamps with parallel compensation																
Voltage: 220/240 V AC																
35	0.6	20	12	12	27	27	55	73	77	164	198	269	290	375	432	524
55	0.6	20	12	12	27	27	55	73	77	164	198	269	290	375	432	524
90	0.9	25	10	10	22	22	36	48	61	110	132	179	194	250	288	349
135	0.9	45	5	5	12	12	34	34	34	110	132	179	194	250	288	349
180	0.9	45	5	5	12	12	34	34	34	110	132	179	194	250	288	349

Lighting circuit switching
Contactor selection AF09 ... AF370 4-pole contactors

Selection table

4-pole AC / DC operated contactors			AF09	AF16	AF26	AF38	AF40	AF52	AF80	AF116	AF140	AF190	AF205	AF265	AF305	AF370
Lamp characteristics			Maximum permissible number of lamps per phase													
W	A	µF														
High pressure sodium vapour lamps without compensation																
Voltage: 220/240 V AC																
150	1.8	-	7	9	11	12	18	24	30	45	54	74	80	103	119	144
250	3,0	-	4	5	7	7	11	14	18	27	33	44	48	62	71	86
400	4.4	-	3	3	4	5	7	10	12	18	22	30	33	42	49	59
600	6.2	-	2	2	3	3	5	7	8	13	16	21	23	30	34	42
1000	10.3	-	1	1	2	2	3	4	5	8	10	13	14	18	21	25
High pressure sodium vapour lamps with parallel compensation																
Voltage: 220/240 V AC																
150	1,0	20	12	12	21	23	33	43	55	93	112	152	164	212	244	296
250	1.5	36	7	7	14	15	22	29	36	62	75	101	109	141	163	197
400	2.5	48	5	5	8	9	13	17	22	37	45	61	66	85	98	118
600	3.3	65	3	3	6	6	10	13	16	28	34	46	50	64	74	90
1000	6.2	100	2	2	3	3	5	7	8	15	18	25	26	34	39	48
High pressure mercury vapour lamps without compensation																
Voltage: 220/240 V AC																
50	0.60	-	22	28	35	38	55	73	91	152	190	261	333	380	475	570
80	0.80	-	16	21	26	28	41	55	68	114	143	196	249	285	356	428
125	1.15	-	11	14	18	20	28	38	47	79	99	136	173	198	248	297
250	2.15	-	6	7	9	10	15	20	25	42	53	73	93	106	133	159
400	3.25	-	4	5	6	7	10	13	16	28	35	48	61	70	88	105
700	5.40	-	2	3	3	4	6	8	10	17	21	29	37	42	53	63
1000	7.50	-	1	2	2	3	4	5	7	12	15	21	27	30	38	46
Voltage: 380/415 V AC																
2000	8	-	1	2	2	2	4	5	6	11	14	20	25	29	36	43
High pressure mercury vapour lamps with compensation																
Voltage: 220/240 V AC																
50	0.28	7	36	36	75	79	117	157	196	326	407	560	713	814	1018	1221
80	0.43	8	31	31	48	53	76	102	127	212	265	365	464	530	663	795
125	0.66	10	20	25	31	34	50	66	83	138	173	238	302	345	432	518
250	1.28	18	10	13	16	17	25	34	42	71	89	122	156	178	223	267
400	2.05	25	6	8	10	11	16	21	26	44	56	76	97	111	139	167
700	3.55	40	3	4	5	6	9	12	15	26	32	44	56	64	80	96
1000	4.83	60	2	3	4	4	6	9	11	19	24	32	41	47	59	71
Voltage: 380/415 V AC																
2000	5,45	35	2	3	3	4	6	8	10	17	21	29	37	42	52	63
Metal halide vapour lamps without compensation																
Voltage: 220/240 V AC																
250	3	-	4	5	7	7	11	14	18	27	33	46	58	67	83	100
400	4	-	3	4	5	5	8	11	13	20	25	34	44	50	63	75
1000	9.5	-	1	1	2	2	3	4	5	8	11	14	18	21	26	32
2000	16.5	-	0	1	1	1	2	2	3	5	6	8	11	12	15	18
Voltage: 380/415 V AC																
2000	10.5	-	1	1	2	2	3	4	5	8	10	13	17	19	24	29
Metal halide vapour lamps with compensation																
Voltage: 220/240 V AC																
250	1.32	33	7	7	15	16	25	33	41	69	86	119	151	173	216	259
400	2.22	45	5	5	9	10	14	19	24	41	51	71	90	103	128	154
1000	5.14	85	2	3	4	4	6	8	10	18	22	30	39	44	55	67
2000	11.5	148	1	1	1	2	2	3	4	8	10	14	17	20	25	30
Voltage: 380/415 V AC																
2000	6.10	60	2	2	3	3	5	7	9	15	19	26	33	37	47	56

Tabell for lyslaster
ESB kobling av lysanlegg

Kobling av belysningsanlegg

De følgende tabellene viser antall lamper som kan tilkobles pr. fase ved 230 V / 50 Hz.
Vær oppmerksom på følgende:

Hvis angitt kapasitiv belastning overskrides kan det oppstå for høye innkoblingsstrøm-topper. Andre faktorer som virker inn på innkoblingsstrømtoppene er:

- Lengde og tverrsnitt på tilførselskablene
- Type elektroniske forkoblinger
- Lampefabrikat

Verdiene i tabellene nedenfor over lampebelastning er derfor kun retningsgivende

Lampetype	Lampedata		Tillatt antall lamper pr. fase (230 V, 50 Hz) for kontaktortype				Kondensatorlast i µF
	Watt	I_n A	**ESB 20**	**ESB 24**	**ESB 40**	**ESB 63**	
Glødelamper	60	0,26	21	25	54	83	
	100	0,43	13	15	32	50	
	200	0,87	7	7	16	25	
	300	1,30	4	5	11	16	
	500	2,17	3	3	6	10	
	1000	4,35	1	1	3	5	
Lysstoffrør, ukompensert og serie-kompensering	15	0,33	25	30	100	155	
	20	0,37	22	26	85	135	
	40	0,43	17	20	65	105	
	58	0,67	10	12	40	65	
	65	0,67	10	12	40	65	
	115	1,5	4	5	18	28	
	140	1,5	4	5	18	28	
Parkobling (NB! Brukes ikke i Norge)	2 x 20	2 x 0,13	2 x 22	2 x 26	2 x 85	2 x 140	
	2 x 40	2 x 0,22	2 x 17	2 x 20	2 x 65	2 x 105	
	2 x 58	2 x 0,32	2 x 10	2 x 12	2 x 40	2 x 65	
	2 x 65	2 x 0,34	2 x 10	2 x 12	2 x 40	2 x 65	
	2 x 115	2 x 0,65	2 x 4	2 x 5	2 x 18	2 x 28	
	2 x 140	2 x 0,75	2 x 4	2 x 5	2 x 18	2 x 28	
Parallellkom-pensert	15	0,11	6	8	16	67	4,5
	20	0,13	6	8	16	67	4,5
	40	0,22	6	8	16	67	4,5
	58	0,32	4	5	10	43	7
	65	0,34	4	5	10	43	7
	115	0,65	1	2	4	17	18
	140	0,75	1	2	4	17	18
Kvikksølv-damp Høytrykks-lamper, ukompensert	50	0,61	12	14	36	50	
	80	0,8	7	10	27	38	
	125	1,15	5	7	19	26	
	250	2,15	3	4	10	14	
	400	3,25	1	2	7	10	
	700	5,40	–	1	4	6	
	1000	7,5	–	1	3	4	
	2000/ 400 V	8	–	1	3	4	
Parallell-kompensert	50	0,28	4	5	10	43	7
	80	0,41	3	4	8	37	8
	125	0,65	2	3	6	26	10
	250	1,22	1	2	3	15	18
	400	1,95	–	1	3	10	25
	700	3,45	–	–	1	5	45
	1000	4,8	–	–	1	4	60
	2000/ 400 V	5,45	–	1	2	3	35
Lamper med elektronisk forkoblings-utstyr (EVG)	EVG für Hz) Watt		Tillatt antall elektronisk forkoblingsutstyr pr. fase (230 V, 50				
	1 x 18	–	15	24	55	76	
	2 x 18	–	8	18	34	48	
	1 x 36	–	12	16	34	47	
	2 x 36	–	7	11	20	29	
	1 x 58	–	11	14	32	46	
	2 x 58	–	6	8	17	24	

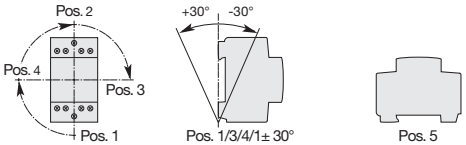
Lampetype	Lampedata		Tillatt antall lamper pr. fase (230 V, 50 Hz) for kontaktortype				Kondensatorlast i µF
	Watt	I_n A	**ESB 20**	**ESB 24**	**ESB 40**	**ESB 63**	
Halogen-metalldamp-Lamper, ukompensert	35	0,53	–	10	28	38	
	70	1	–	5	14	20	
	150	1,8	–	3	8	11	
	250	3	–	2	5	7	
	400	3,5	–	1	4	6	
	1000	9,5	–	–	1	2	
	2000	16,5	–	–	1	1	
	2000	10,5	–	–	2	2	
	3500/ 400 V	18	–	–	1	1	
Parallell-kompensert	35	0,25	–	5	11	30	6
	70	0,45	–	3	5	18	12
	150	0,75	–	1	3	9	20
	250	1,5	–	1	2	7	33
	400	2,5	–	1	2	6	35
	1000	5,8	–	–	–	2	95
	2000	11,5	–	–	–	1	148
	2000/ 3500/ 400 V	6,6 11,6	– – –	– – –	1 – –	2 1 –	58 100
Natrium-damp lavtrykks-lamper, ukompensert	35	1,5	5	8	22	30	
	55	1,5	5	8	22	30	
	90	2,4	3	5	13	19	
	135	3,5	2	3	10	13	
	150	3,3	2	3	10	14	
	180	3,3	2	3	10	14	
	200	2,3	3	5	14	20	
Parallell-kompensert	35	0,31	–	1	4	15	20
	55	0,42	–	1	4	15	20
	90	0,63	–	1	3	10	30
	135	0,94	–	–	2	7	45
	150	1,0	–	–	2	8	40
	180	1,16	–	–	2	8	40
	200	1,32	–	1	3	12	25
Natrium-damp-- høytrykks-lamper, ukompensert	150	1,8	–	4	15	20	
	250	3,0	–	3	9	15	
	330	3,7	–	2	8	10	
	400	4,7	–	1	6	8	
	1000	10,3	–	–	3	4	
Parallell-kompensert	150	0,83	–	1	3	15	20
	250	1,5	–	1	2	9	33
	330	2,0	–	–	2	7	40
	400	2,4	–	–	1	6	48
	1000	6,3	–	–	–	2	106
Transformatorer for halogen-lavvoltlamper	Transformatorer for Watt		Tillatt antall transformatorer pr. fase (230 V, 50 Hz)				
	20		40	52	110	174	
	50		20	24	50	80	
	75		13	16	35	54	
	100		10	12	27	43	
	150		7	9	19	29	
	200		5	6	14	23	
	300		3	4	9	14	

ESB Installasjonskontaktorer
Tekniske data

Main Pole - Utilization Characteristics according to IEC

Contactor types: AC operated / AC/DC operated		ESB20	ESB24	ESB40	ESB63
Rated operational voltage U_e max.	**V**	250	400		
Rated frequency limits	**Hz**	50/60	40...450		
Utilization category AC-1 / AC-7a					
for air temperature close to contactor < 55 °C					
Max. rated operational current I_e AC-1 / AC-7a	**A**	20	24	40	63
Rated operational power AC-1					
230 V - 1 phase	**kW**	4	5.3	8.8	13.8
400 V - 3 phases	**kW**	-	16	26	41
Utilization category AC-3 / AC-7b					
for air temperature close to contactor ≤ 55 °C					
Max. rated operational current I_e AC-3/AC-7b					
230 V - 1 phase	**A**	9	9	22	30
400 V - 3 phases	**A**	-	9	22	30
Rated operational power AC-3					
230 V - 1 phase	**kW**	1.1	2.2	5.5	8
400 V - 3 phases	**kW**	-	4	11	15
Rated making capacity AC-3		10 x I_e / AC-3			
Rated breaking capacity AC-3		8 x I_e / AC-3			
Short-circuit protection for contactors					
gG type fuse	**A**	20	35	63	80
Rated short-time withstand current I_{cw}					
at 40 °C ambient temp.,					
in free air, from a cold state 10 s	**A**	72		176	240
Heat dissipation per pole I_e / AC-1/AC-7a	**W**	1	1.5	3	6
Max. electrical switching frequency					
– for AC-1 / AC-7a	**cycles/h**	300			
– for AC-3 / AC-7b	**cycles/h**	600			
Electrical durability					
– for AC-1 / AC-7a	**cycles**	150000	150000	150000	150000
– for AC-3 / AC-7b	**cycles**	150000	500000	170000	240000
Mechanical durability					
– millions of operating cycles		1			

General Technical Data

Rated insulation voltage U_i			
according to IEC 60947-4-1	**V**	400	500
according to UL/CSA	**V**	240	600
Rated impulse withstand voltage $U_{imp.}$	**kV**	6	
Standards		IEC 60947-4-1 / EN 60947-4-1 and IEC 61095 / EN 61095, UL 508, CSA C22.2 N°14-05	
Air temperature close to contactor			
– for operation at 0.85 ... 1.1 **U_c**	**°C**	-25 ... +55 (Type ESB 24...63: for ambient temperature > 40°C, add ESB-DIS (1/2 module) at every second contactor)	
– for storage	**°C**	-40 ... +80	
Climatic withstand		IEC 60068-2-30, UTE 63-100 execution 1*	
Operating altitude	**m**	≤ 2000	
Shock withstand		10 g / 4 ms / axes X Y Z	
Mounting positions Pos 1, 3, 4, 1±30° Pos 5 : not allowed for ESB20			
Fixing			
on rail acc. to IEC 60715 and EN 60715		35 x 7.5	35 x 15

* ESB20 only

ESB Installasjonskontaktorer
ESB kobling av lysanlegg

Magnet System Characteristics

Contactor types: AC operated / AC/DC operated		ESB20	ESB24	ESB40	ESB63
Rated operational voltage U_e max.					
- at 50 Hz	**V**	12 ... 400	12 ... 415	24 ... 415	
- at 60 Hz	**V**	14 ... 380	12 ... 415	24 ... 415	
- at 400 Hz	**V**	-	12 ... 415	24 ... 415	
DC	**V**	-	12 ... 415	24 ... 415	
Coil operating limits acc. to IEC 60947-4-1		0.85 ... 1.1 x **U_c** (at $\theta \leq 55$ °C)			
Drop-out voltage in % of U_c		approx. 20 ... 75 %	approx. 20 ... 70 %		
Frequency range	**Hz**	50/60	40 ... 450		
Coil consumption					
Average pull-in value	**VA/W**	8 / 5	4 / 4	5 / 5	65 / 65
Average holding value	**VA/W**	3.2 / 1.2	4 / 4	5 / 5	4.2 / 4.2
Operating time					
between coil energization and:					
– N.O. contact closing	**ms**	12	40		
between coil de-energization and:					
– N.O. contact opening	**ms**	12	40		

Connecting Characteristics

Contactor types: AC operated / AC/DC operated		ESB20	ESB24	ESB40	ESB63
Connecting capacity (min. ... max.)					
Main pole terminals					
Rigid	**1 x mm²**	1.5 ... 10		1.5 ... 25	
	2 x mm²	1.5 ... 4		1.5 ... 10	
Capacity acc. to **UL/CSA**	**AWG**	14-8	16-8	16-4	
Coil terminals					
Rigid	**1 x mm²**	0.5 ... 4	1 ... 4		
	2 x mm²	0.75 ... 2.5			
Capacity acc. to **UL/CSA**	**AWG**	18-14	16-10		
Degree of protection					
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529 Protection against direct contact in acc. with EN 50274					
All terminals		IP20			
Screwdriver type					
Main poles		Flat Ø 5 / Pozidriv 1		Flat Ø 7.5 / Pozidriv 2	
Coil terminals		Flat Ø 5 / Pozidriv 1		Flat Ø 5 / Pozidriv 1	
Stripping length					
Main poles	**mm**	10		13	
Coil terminals	**mm**	7			
Tightening torque					
Main poles	**Nm**	1.2	1	2.5	
Coil terminals	**Nm**	0.9			

NF hjelpereléer
Tekniske data

Tekniske data

Hjelperelétype					**NF**
Standarder					IEC 60947-5-1 og EN 60947-5-1, UL 508, CSA C22.2 N°14
Hovedpoler	Nominell spenning U_e maks				690 V
IEC	Nominell frekvens				25 ... 400 Hz
	Nominell termisk strøm I_{th} Ihht. IEC 60947-5-1, åpen kontaktor, θ ≤ 40 °C				16 A
	Nominell strøm I_e / AC-15 Ihht. IEC 60947-5-1		**24-127 V**	**50/60 Hz**	6 A
			220-240 V	**50/60 Hz**	4 A
			400-440 V	**50/60 Hz**	3 A
			500 V	**50/60 Hz**	2 A
			690 V	**50/60 Hz**	2 A
	Nominell strøm I_e / DC-13 Ihht. IEC 60947-5-1			**24 V DC**	6 A / 144 W
				48 V DC	2.8 A / 134 W
				72 V DC	1 A / 72 W
				110 V DC	0.55 A / 60 W
				125 V DC	0.55 A / 69 W
				220 V DC	0.27 A / 60 W
				250 V DC	0.27 A / 68 W
				400 V DC	0.15 A / 60 W
				500 V DC	0.13 A / 65 W
				600 V DC	0.1 A / 60 W
UL/CSA	Maks nominell spenning				600 V AC, 600 V DC
	Pilot Duty				A600, Q600
Kortslutningssikring gG sikring					10 A
Omgivelsestemperatur I reléets umiddelbare nærhet	I drift				-40 ... +70 °C
	Ved lagring				-60 ... +80 °C
Reléspole	Spolens spenningsområde (ihht. IEC 60947-5-1)			**AC-spenning**	ved θ ≤ 60 °C 0.85 x U_c min ... 1.1 x U_c maks ved θ ≤ 70 °C 0.85 x U_c min ... U_c maks
				DC-spenning	ved θ ≤ 60 °C 0.85 x U_c min ... 1.1 x U_c maks ved θ ≤ 70 °C (NF) 0.85 x U_c min ... U_c maks - (NFZ) 0.85 x U_c min ... 1.1 x U_c maks
AC-styrespenning 50/60 Hz	Nominell styrespenning U_c				24 ... 500 V AC
	Spoleforbruk	Innslag			(NF) 50 VA - (NFZ) 16 VA
		Holde			(NF) 2.2 VA / 2 W - (NFZ) 1.7 VA / 1.5 W
DC-styrespenning	Nominell styrespenning U_c				20 ... 500 V DC
	PLS-utgang styrt				(NFZ) ≥ 500 mA 24 V DC
	Spoleforbruk	Innslag			(NF) 50 W - (NFZ) 12 ... 16 W
		Holde			(NF) 2 W - (NFZ) 1.7 W
Elektromagnetisk kompabilitet					Utstyret er ihht. IEC 60947-1 / EN 60947-1 - Environment A
Kabeltilkobling	Hovedpoler	Massiv		**1 eller 2 x**	1 ... 2.5 mm²
		Fleksibel med endehylse		**1 eller 2 x**	0.75 ... 2.5 mm²
		Tiltrekningsmoment			1.2 Nm / 11 lb.in
		Avmantlingslengde			10 mm
	Spole-tilkoblinger	Massiv		**1 eller 2 x**	1 ... 2.5 mm²
		Fleksibel med endehylse		**1 eller 2 x**	0.75 ... 2.5 mm²
		Tiltrekningsmoment			1.2 Nm / 11 lb.in
		Avmantlingslengde			10 mm
Kapslingsgrad	Ihht. IEC 60947-1 / EN 60947-1 og IEC 60529 / EN 60529				IP 20

PSR mykstartere
Tekniske data

Rated insulation voltage U_i	600 V												
Rated operational voltage U_e	208...600 V +10 %/-15 %, 50/60 Hz ±5 %												
Rated control supply voltage U_s	100...240 V AC, 50/60Hz ±5 % or 24 V DC, +10 %/-15 %,												
Power consumption	**PSR3**	**PSR6**	**PSR9**	**PSR12**	**PSR16**	**PSR25**	**PSR30**	**PSR37**	**PSR45**	**PSR60**	**PSR72**	**PSR85**	**PSR105**
Supply circuit													
at 100-240 V AC	12 VA							10 VA					
at 24 V DC	5 W												
Max. Power loss at rated I_e	**PSR3**	**PSR6**	**PSR9**	**PSR12**	**PSR16**	**PSR25**	**PSR30**	**PSR37**	**PSR45**	**PSR60**	**PSR72**	**PSR85**	**PSR105**
	0.7 W	2.9 W	6.5 W	11.5 W	20.5 W	25 W	36 W	5.5 W	8.1 W	3.6 W	5.2 W	7.2 W	6.6 W
Starting capacity at I_e	4 x Ie for 6 sec.												
Number of starts per hour	See table below for details												
standard	10[1)]												
with aux. fan	20[1)]												
Service factor	100 %												
Ambient temperature													
during operation	-25 ºC to + 60 ºC [2)]												
during storage	-40 ºC to + 70 ºC												
Maximum altitude	4000 m [3)]												
Degree of protection	**PSR3**	**PSR6**	**PSR9**	**PSR12**	**PSR16**	**PSR25**	**PSR30**	**PSR37**	**PSR45**	**PSR60**	**PSR72**	**PSR85**	**PSR105**
main circuit	IP20							IP10					
control circuit	IP20												

Connectable cable area,	**PSR3-PSR16**	**PSR25-PSR30**	**PSR37-PSR45**	**PSR60-PSR105**
main circuit	1 x 0.75 - 2.5mm²	1 x 2.5 - 10mm²	1 x 6 - 35mm²	1 x 10 - 95mm²
	2 x 0.75 - 2.5mm²	2 x 2.5 - 10mm²	2 x 6 - 16mm²	2 x 6 - 35mm²
	PSR3-PSR16	**PSR25-PSR105**		
control circuit	1 x 0.75 - 2.5mm²	1 x 0.75 - 2.5mm²		
	2 x 0.75 - 2.5mm²	2 x 0.75 - 1.5mm²		

Signal relays	**PSR3-PSR16**	**PSR25-PSR105**	
for Run signal			
Resistive load	240 V AC, 3 A / 24 V DC, 3 A	240 V AC, 3 A / 24 V DC, 3 A	
AC-15 (Contactor)	240 V AC, 0.5 A / 24 V DC, 0.5 A	240 V AC, 0.5 A / 24 V DC, 0.5 A	
for Top ramp signal			
Resistive load	-	240 V AC, 3 A / 24 V DC, 3 A	
AC-15 (Contactor)	-	240 V AC, 0.5 A / 24 V DC, 0.5 A	

LED	for On/Ready	Green
	for Run/Top Of Ramp	Green
Settings	Ramp time during start	1-20 sec.
	Ramp time during stop	0-20 sec.
	Initial- and End Voltage	40-70%

[1)] Valid for 50 % on time and 50 % off time. 4 x I_e for 6 sec., if other data is required, contact your sales office.
[2)] Above 40 ºC up to max. 60 ºC reduce the rated current with 0.8 % per ºC.
[3)] When used at high altitudes above 1000 meters up to 4000 meters you need to derate the rated current using the following formula.
[% of I_e = 100 - $\frac{x - 1000}{150}$] x = actual altitude for the softstarter

Number of starts per hour using PSR softstarters

Starts/hour without auxiliary fan

Motor current I_e	10	20	30	40	50	60	80	100
3 A	PSR3							PSR6
6 A	PSR6					PSR9		
9 A	PSR9			PSR12			PSR16	PSR25
12 A	PSR12			PSR16	PSR25		PSR30	
16 A	PSR16	PSR25			PSR30		PSR37	
25 A	PSR25	PSR30	PSR37			PSR45		PSR60
30 A	PSR30	PSR37		PSR45		PSR60		PSR72
37 A	PSR37	PSR45		PSR60		PSR72	PSR85	PSR105
45 A	PSR45		PSR60		PSR72	PSR85	PSR105	-
60 A	PSR60		PSR72	PSR85	PSR105		-	-
72 A	PSR72	PSR85	PSR105		-	-	-	-
85 A	PSR85	PSR105		-	-	-	-	-
105 A	PSR105	-	-	-	-	-	-	-

Starts/hour with auxiliary fan

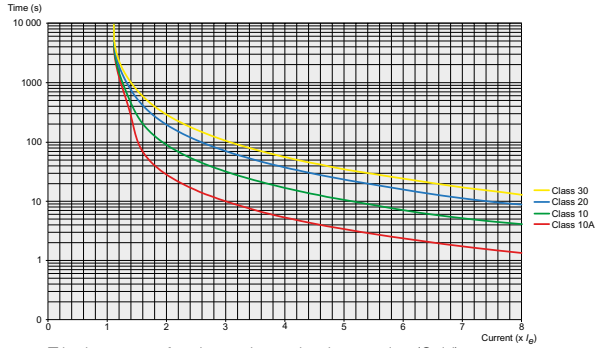
10	20	30	40	50	60	80	100
PSR3							
PSR6							PSR9
PSR9				PSR12			
PSR12				PSR16	PSR25		
PSR16		PSR25			PSR30		
PSR25	PSR30		PSR37				PSR45
PSR30	PSR37		PSR45				
PSR37		PSR45			PSR60		
PSR45			PSR60			PSR72	
PSR60			PSR72		PSR85	PSR105	-
PSR72		PSR85	PSR105		-	-	-
PSR85	PSR105		-	-	-	-	-
PSR105	-	-	-	-	-	-	-

Data based on an ambient temperature of 40°, starting current of 4 x I_e and ramp time 6 seconds.
For more optimized selections, or to use PSR for heavy duty starts, please use the softstarter selection program, ProSoft.

PSR mykstartere
Tekniske data

Rated insulation voltage U_i	600 V
Rated operational voltage U_e	208 ... 600 V +10 %/-15 %
Rated control supply voltage U_s	100 ... 250 V +10 %/-15 %, 50/60 Hz ±5 %
Rated control circuit voltage U_c	Internal 24 V DC
Starting capacity at I_e	4xI_e for 10 sec.
Number of starts per hour	10 [1]
Overload capability,	
Overload Class	10
Ambient temperature	
During operation	-25 … +60 °C [2]
During storage	-40 … +70 °C
Maximum Altitude	4000 m [3]
Degree of protection	
Main circuit	IP00
Supply and Control circuit	IP20
Main circuit	
Built-in By-pass	Yes
Cooling system - Fan cooled (thermostat controlled)	Yes
HMI for settings	
Display	4 7-segments and icons. Illuminated
Keypad	2 selection keys and 2 navigation keys
Main settings	
Setting current	Size dependent
Ramp time during start	1-30 sec
Ramp time during stop	0-30 sec
Initial / end voltage	30-70%
Current limit	1.5-7xI_e
Torque control for start	Yes / No
Torque control for stop	Yes / No
Kick start	Off, 30-100%
Signal relays	
Number of signal relays	3
K2	Run signal
K3	TOR (By-pass) signal
K1	Event signal
Rated operational voltage U_e	250 V AC / 24 V DC [4]
Rated thermal current I_{th}	3 A
Rated operational current I_e at AC-15 (U_e = 250 V)	1.5 A

Analog output	
Output signal reference	4 ... 20 mA
Type of output signal	Amp
Scaling	Fixed at 1.2 x I_e
Control circuit	
Number of inputs	3 (start, stop, reset of faults)
Signal indication LED's	
On / Ready	Green flashing / steady
Run / TOR	Green flashing / steady
Protection	Yellow
Fault	Red
Protections	
Electronic overload	Yes (Class 10A, 10, 20, 30)
Locked rotor protection	Yes
Underload protection	Yes
Field bus connection	
Connection for ABB FieldBusPlug	Yes (option)
External keypad	
Display LCD type	
Ambient temperature	
during operation	-25 … +60 °C
during storage	-40 … +70 °C
Degree of protection	IP66



Tripping curves for electronic overload protection (Cold)

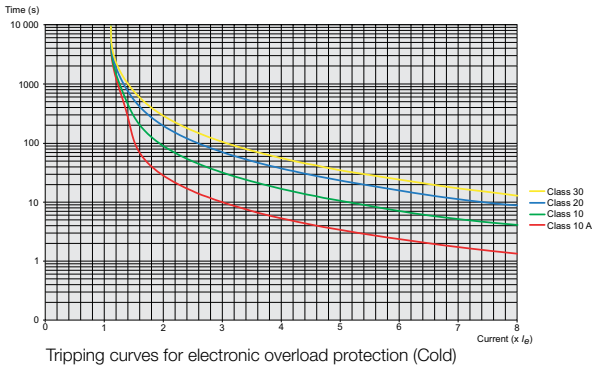
[1] Valid for 50 % on time and 50 % off time, with 3.5 x I_e for 7 seconds. If other data is required, please contact your sales office
[2] Above 40 ºC up to max. 60 ºC reduce the rated current with 0.6 % per ºC.
[3] When used at high altitudes above 1000 meters up to 4000 meters you need to derate the rated current using the following formula.
[% of I_e = 100 - $\frac{x - 1000}{150}$] x = actual altitude for the softstarter
[4] A common voltage needs to be used for all 3 signal relays

Viktig ifm. marineapplikasjoner (og IT-system generelt):
– Klemme for «funksjonsjord» skal ikke tilkobles, da denne kan forårsake alarm på isolasjonsovervåking i IT-system.

PSE – The efficient range
Technical data

Rated insulation voltage U_i	600 V
Rated operational voltage U_e	208 ... 600 V +10%/-15%
Rated control supply voltage U_s	100 ... 250 V +10%/-15%, 50/60 Hz ±5 %
Rated control circuit voltage U_c	Internal 24 V DC
Starting capacity at I_e	4xI_e for 10 sec.
Number of starts per hour	10 [1]
Overload capability,	
Overload class	10
Ambient temperature	
During operation	-25 … +60 °C [2]
During storage	-40 … +70 °C
Maximum Altitude	4000 m [3]
Degree of protection	
Main circuit	IP00
Supply and control circuit	IP20
Main circuit	
Built-in by-pass	Yes
Cooling system - fan cooled (thermostat controlled)	Yes
HMI for settings	
Display	4 7-segments and icons. Illuminated
Keypad	2 selection keys and 2 navigation keys
Main settings	
Setting current	Size dependent
Ramp time during start	1-30 sec
Ramp time during stop	0-30 sec
Initial/end voltage	30-70%
Current limit	1.5-7xI_e
Torque control for start	Yes / No
Torque control for stop	Yes / No
Kick start	Off, 30-100%
Signal relays	
Number of signal relays	3
K2	Run signal
K3	TOR (By-pass) signal
K1	Event signal
Rated operational voltage U_e	250 V AC/24 V DC [4]
Rated thermal current I_{th}	3 A
Rated operational current I_e at AC-15 (U_e = 250 V)	1.5 A

Analog output	
Output signal reference	4 ... 20 mA
Type of output signal	I Amp
Scaling	Fixed at 1.2 x I_e
Control circuit	
Number of inputs	3 (start, stop, reset of faults)
Signal indication LED's	
On / Ready	green flashing / steady
Run / TOR	green flashing / steady
Protection	yellow
Fault	red
Protections	
Electronic overload	Yes (Class 10A, 10, 20, 30)
Locked rotor protection	Yes
Underload protection	Yes
Field bus connection	
Connection for ABB FieldBusPlug	Yes (option)
External keypad	
Display LCD type	
Ambient temperature	
during operation	-25 … +60 °C
during storage	-40 … +70 °C
Degree of protection	IP66



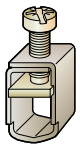
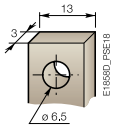
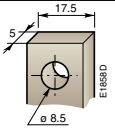
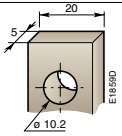
Tripping curves for electronic overload protection (Cold)

[1] Valid for 50% on time and 50% off time. If other data is required, please contact your sales office
[2] Above 40 ºC up to max. 60 ºC reduce the rated current with 0.6% per ºC.
[3] When used at high altitudes above 1000 meters up to 4000 meters you need to derate the rated current using the following formula.
$[\ \%\ \text{of}\ I_e = 100 - \frac{x - 1000}{150}\ ]$ x = actual altitude for the softstarter
[4] A common voltage needs to be used for all 3 signal relays

Viktig ifm. marineapplikasjoner (og IT-system generelt):
– Klemme for «funksjonsjord» skal ikke tilkobles, da denne kan forårsake alarm på isolasjonsovervåking i IT-system.

PSE – The efficient range
Technical data

Cross section of connection cables

		Type of softstarter PSE18 ... PSE105	PSE142 ... PSE170	PSE210 ... PSE370
Main circuit Connection clamp				
Solid/stranded	1 x mm²	2.5–70	See accessories	
Solid/stranded	2 x mm²	2.5–70	See accessories	
Tightening torque (recommended)	Nm	9	See accessories	
Connection bar				
Width and thickness	mm			
Hole diameter	mm			
Tightening torque (recommended)	Nm	9	18	28
Supply and control circuit Connection clamp				
Solid/stranded	1 x mm²	2.5	2.5	2.5
Solid/stranded	2 x mm²	1.5	1.5	1.5
Tightening torque (recommended)	Nm	0.5	0.5	0.5

Fuse ratings and power losses

For softstarter	Recommended ABB's overload protection		Max power loss at rated I_e (Internal by-pass)	Max fuse raiting - main circuit [1]			Power requirements supply circuit Holding (VA) / Pull-in (VA)
				Bussmann fuses, DIN43 620 (Knife)			
Type	Type	Current range A	W	A	Type	Size	
PSE							
PSE18	Integrated	5.4-18	0.2	40	170M1563	000	16/19.9
PSE25	Integrated	7.5-25	0.4	50	170M1564	000	16/19.9
PSE30	Integrated	9-30	0.5	80	170M1566	000	16/19.9
PSE37	Integrated	11.1-37	0.8	100	170M1567	000	16/19.9
PSE45	Integrated	13.5-45	1.2	125	170M1568	000	16/19.9
PSE60	Integrated	18-60	2.2	160	170M1569	000	16/19.9
PSE72	Integrated	21.6-72	3.1	250	170M1571	000	16/19.9
PSE85	Integrated	25.5-85	4.3	315	170M1572	000	16/19.9
PSE105	Integrated	31.8-106	6.6	400	170M3819	1*	16/19.9
PSE142	Integrated	42.9-143	12.1	450	170M5809	2	16/31
PSE170	Integrated	51.3-171	17.6	500	170M5810	2	16/31
PSE210	Integrated	63-210	8.8	630	170M5812	2	30/700
PSE250	Integrated	75-250	12.5	700	170M5813	2	30/700
PSE300	Integrated	90.6-302	18	800	170M6812	3	30/700
PSE370	Integrated	111-370	27.4	900	170M6813	3	30/700

[1] For the supply circuit 6 A delayed, for MCB use C characteristics.

PSTX – The advanced range
Technical data

Softstarter types		PSTX30 ... PSTX1250	
Rated insulation voltage U_i		690V	
Rated operational voltage U_e		208...600 V, 208...690V + 10% / -15%, 50/60Hz ±5%	
Rated control supply voltage U_s		100...250 V +10% / -15%, 50/60Hz ±5%	
Rated control circuit voltage U_c		Internal or external 24 V DC	
Starting capacity at I_e		4 x I_e for 10 sec.	
Number of starts per hour		10 for PSTX30 ... PSTX370 [1]	6 for PSTX470 ... PSTX1250 [1]
Overload capability	Overload class	10	
Ambient temperature	during operation	-25...+60 ºC, (-13...+140 F) [2]	
	during storage	-40...+70 ºC, (-40...+158 F)	
Maximum altitude		4000 m (13123 ft) [3]	
Degree of protection	main circuit	-	
	Supply and control circuit	IP20	
Main circuit	Built-in bypass contactor	Yes	
	Cooling system - Fan cooled	Yes (thermostat controlled)	
HMI for settings (Human Machine Interface)	Display	LCD type, graphical	
	Languages	English, German, Italian, Dutch, Chinese, Finnish, Swedish, French, Spanish, Russian, Portugese, Turkish, Polish and Czech	
	Keypad	2 selection keys, 4 navigation keys, start key, stop key, info key and remote/local key	
Signal relays	Number of programmable signal relays	3 (each relay can be programmed to be Run, Bypass or Event signal)	
	K4	Default as Run signal	
	K5	Default as Top of Ramp (Bypass) signal	
	K6	Default as Event signal	
	Rated operational voltage, U_e	250 V AC/24 V DC	
	Rated thermal current I_{th}	5 A	
	Rated operational current I_e at AC-15 (U_e=250 V)	1.5 A	
Analog output	Output signal reference	0...10 V, 0...20 mA, 4...20 mA	
	Type of output signal	I Amp, U Volt, P kW, P hp, Q kVar, TmpMot, TmpSCR, cosPhi	
Control circuit	Number of inputs	2 (start, stop)	
	Number of additional programmable inputs	3 (Each input can be programmed to be either; Non, Reset, Enable, Jog, Direct on line-On, Start motor 2, Start motor 3 or FieldBus-disable)	
Signalling indication LED	Power on	Green	
	Run	Green	
	Fault	Red	
	Protection	Yellow	
External keypad	Detachable keypad	Yes	
	Display	LCD type, graphical	
	Ambient temperature		
	During operation	-25...+60 ºC, (-13...+140 F)	
	During storage	-40...+70 ºC, (-40...+158 F)	
	Degree of protection	IP66 (Type 1, 4X, 12)	
Start and stop functions	Soft start with voltage ramp	Yes	
	Soft stop with voltage ramp	Yes	
	Soft start with torque control	Yes	
	Soft stop with torque control	Yes	
	Kick start	Yes	
	Full voltage start	Yes	
	Sequence start	Yes, 3 different sets of settings	
	Current limit	Yes	
	Dual current limit	Yes	
	Current ramp	Yes	
	Torque limit	Yes	
	Motor heating	Yes	
	Jog with slow speed, forward and reverse	Yes	
	Anti-backspin	Yes	
	Limp mode with two-phase motor control if one set of thyristors is shorted	Yes	
Field bus connection	Built-in Modbus RTU	Yes	
	Connection for Anybus	Yes	
	Connection for ABB FieldBusPlug	Yes, with adapter	

[1] Valid for normal start (class 10) for 50% on time and 50% off time. If other data if required, contact your sales office.
[2] Above 40 ºC (104 F) reduce the rated current with 0,8% per ºC (0,44% per F).
[3] When used at high alitudes above 1000 meters (3281 ft) up to 4000 meters (13123 ft) you need to derate the rated current using the following formula.
[% of I_e = 100- $\frac{x-1000}{150}$] x = actual altitude for the softstarter, [% of I_e = 100 - $\frac{x-3280}{497}$] x = actual altitude for the softstarter in feet.

PSTX – The advanced range
Technical data

Softstarter types		PSTX30 ... PSTX1250
Protections	Electronic overload protection, EOL	Yes (Class 10A, 10, 20, 30)
	Dual overload (separate overload for start and run)	Yes
	PTC connection	Yes
	PT-100 connection	Yes
	Locked rotor protection	Yes
	Current underload protection	Yes
	Current imbalance protection	Yes
	Power factor underload protection	Yes
	Under voltage protection	Yes
	Over voltage protection	Yes
	Voltage imbalance protection	Yes
	Earth fault protection / ground fault protection	Yes
	High current protection (8 x I_e)	Yes
	Phase reversal protection	Yes
	Fieldbus fault	Yes
	Max number of starts/hour	Yes
	Too long start time protection	Yes
Warnings (pre-warning) and embedded diagnostics	Current underload warning	Yes
	Current imbalance warning	Yes
	Voltage imbalance warning	Yes
	Thyristor overload warning (SCR)	Yes
	Electronic overload Time-to-trip	Yes
	Electronic overload Time-to-cool	Yes
	Over voltage warning	Yes
	Under voltage warning	Yes
	Power factor underload warning	Yes
	Locked rotor warning	Yes
	Faulty fans	Yes
	THD(U) - Total Harmonic Distortion	Yes
	Counted number of start sequences	Yes
	Motor runtime measurement	Yes
	Thyristor runtime measurement	Yes
	Auto phase sequence detection	Yes
	Electricity metering	Yes
	Voltage sags detection	Yes
	EOL warning	Yes
External faults detection	Phase loss	Yes
	Hight current	Yes
	Low control supply voltage	Yes
	Open circuit motor side	Yes
	Faulty connection	Yes
	Bad network quality	Yes
Internal faults detection	Thyristor overload	Yes
	Short circuit	Yes
	Open circuit thyristor or gate	Yes
	Bypass open	Yes
	Shunt fault	Yes
PTC input	Switch off resistance	2825 ohm ± 20%
	Switch on resistance	1200 ohm ± 20%
Other functions	Real time clock	Yes
	Event log	Yes
	Emergency mode	Yes
	Auto restart	Yes
	Secure settings	Yes
	Keypad password	Yes

For all functions and features see installation and commissioning manual.

PSTX – The advanced range
Technical data

Fuse ratings and power losses

For softstarter	Recommended ABB's overload protection		Max power loss at rated I_e	Max fuse raiting - main circuit [1) 2)] Bussmann fuses, DIN43 620 (Knife)			Power requirements supply circuit Holding (VA) / Pull-in(VA)
Type	Type	Current range A	W	A	Type	Size	
PSTX							
PSTX30	Integrated	9 - 30	0.8	100	170M1567	000	49/51
PSTX37	Integrated	11.1 - 37	1.2	125	170M1568	000	49/51
PSTX45	Integrated	13.5 - 45	1.8	160	170M1569	000	49/51
PSTX60	Integrated	18 - 60	3.2	160	170M1569	000	49/51
PSTX72	Integrated	21.6 - 72	4.7	250	170M1571	000	49/51
PSTX85	Integrated	22.5 - 85	6.5	315	170M1572	000	49/51
PSTX105	Integrated	31.8 - 106	10	400	170M3819	1*	49/51
PSTX142	Integrated	42.9 - 143	18	500	170M5810	2	49/53
PSTX170	Integrated	51.3 - 171	26	630	170M5812	2	49/53
PSTX210	Integrated	63 - 210	48	630	170M5812	2	56/276
PSTX250	Integrated	75 - 250	68	700	170M5813	2	56/276
PSTX300	Integrated	90 - 300	97	800	170M6812	3	56/276
PSTX370	Integrated	111 - 370	148	900	170M6813	3	56/276
PSTX470	Integrated	141 - 470	99	900	170M6813	3	67/434
PSTX570	Integrated	171 - 570	146	900	170M6813	3	67/434
PSTX720	Integrated	216 - 720	78	Contact ABB for more information			
PSTX840	Integrated	252 - 840	106	Contact ABB for more information			
PSTX1050	Integrated	315 - 1050	165	Contact ABB for more information			
PSTX1250	Integrated	375 - 1250	234	Contact ABB for more information			

[1)] For the supply circuit 6 A delayed, for MCB use C characteristics.
[2)] For inside delta connection the fuses shall be placed inside the delta. Contact ABB for more information.

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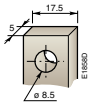
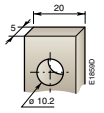
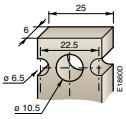
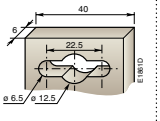
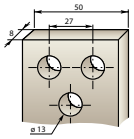
PSTX Integrated bypass ratings

Softstarter	PSTX470	PSTX570	PSTX720	PSTX840	PSTX1050	PSTX1250
Integrated contactor	AF370	AF370	AF750	AF750		AF1250
AC-3 rating (A)	305	460	580	750		-

Viktig ifm. marineapplikasjoner (og IT-system generelt):

- Klemme for «funksjonsjord» skal ikke tilkobles, da denne kan forårsake alarm på isolasjonsovervåking i IT-system.
- Connection: For a unngå unødig feilmelding «fault connection» og «fault LINE/DELTA», ved dårlig/ustabilt nett, låses følgende parameter:
  PST(B): Menu/SETTINGS/All Settings/Connection
  PSTX: Menu/Parameters/Complete list/28 Service/43 Motor Connection
  Endre fra AUTO til LINE ved in-line-kobling og DELTA ved inside-delta kobling.
  (NB - må IKKE stilles feil !)

PSTX – The advanced range
Technical data

Main terminals			PSTX30 ... PSTX105	PSTX142 ... PSTX170	PSTX210 ... PSTX370	PSTX470 ... PSTX570	PSTX720 ... PSTX1050	PSTX1250
								
Cu cable - flexible	1 x mm²		10 - 70mm²	6 - 120 mm²	16 - 240 mm²	-	-	-
	Clamp type		Included	1SDA066917R1	1SDA055016R1	-	-	-
	Tightening torque		8 Nm	14 Nm	25 Nm	-	-	-
Cu cable - flexible	2 x mm²		6 - 35 mm²	50 - 95 mm²	70 - 185 mm²	-	-	-
	Clamp type		Included	LZ185-2C/120 1SFN074709R1000	OZXB4 [1] 1SCA022194R0890	-	-	-
	Tightening torque		8 Nm	16 Nm	22 Nm	-	-	-
Cu cable - Stranded	1 x mm²		10 - 70 mm²	6 - 150 mm²	16 - 300 mm²	-	-	-
	Clamp type		Included	1SDA066917R1	1SDA055016R1	-	-	-
	Tightening torque		8 Nm	14 Nm	25 Nm	-	-	-
Cu cable - Stranded	2 x mm²		6 - 35 mm²	50 - 120 mm²	70 - 185 mm²	120 - 240 mm²	-	-
	Clamp type		Included	LZ185 - 2C/120 1SFN074709R1000	OZXB4 [1] 1SCA022194R0890	1SDA013922R1	-	-
	Tightening torque		8 Nm	16 Nm	22 Nm	35 Nm	-	-
Cu cable - Stranded	3 x mm²		-	-	-	-	70 - 185 mm²	-
	Clamp type		-	-	-	-	1SDA013956R1	-
	Tightening torque		-	-	-	-	45 Nm	-
Al cable - Stranded	1 x mm²		-	95 - 185 mm²	185 - 240 mm²	-	-	-
	Clamp type		-	1SDA0549881R1	1SDA055020R1	-	-	-
	Tightening torque		-	31 Nm	43 Nm	-	-	-
Al cable - Stranded	2 x mm²		-	-	-	120 - 240 mm²	-	-
	Clamp type		-	-	-	1SDA023380R0001	-	-
	Tightening torque		-	-	-	31 Nm	-	-
Lugs		Width ≤	-	24 mm (.945 in)	32 mm (1.260 in)	47 mm (1.850 in)	50 mm (1.969 in)	50 mm (1.969 in)
		Diameter =	-	8 mm (.315 in)	10 mm (.394 in)	10 mm (.394 in)	12 mm (.472 in)	12 mm (.472 in)
	Tightening torque		-	18 Nm / 160 lb.in	28 Nm / 248 lb.in	35 Nm / 310 lb.in	45 Nm / 398 lb.in	45 Nm / 398 lb.in
Connection capacity acc to UL / CSA 1 x AWG / kcmil			6 - 2/0	6 - 300 kcmil	4 - 400 kcmil	-	-	-
	Clamp type		Included	ATK185	ATK300	-	-	-
	Tightening torque		8 Nm / 71 lb. in.	34 Nm / 300 lb.in.	42 Nm / 375 lb. in.	-	-	-
Connection capacity acc to UL / CSA 2 x AWG / kcmil			-	-	4 - 500 kcmil	2/0 - 500 kcmil	2/0 - 500 kcmil	-
	Clamp type		-	-	ATK300/2 [2]	ATK580/2	ATK580/2	-
	Tightening torque		-	-	42 Nm / 375 lb. in.	375 lb. in.	375 lb. in.	-
Connection capacity acc to UL / CSA 3 x AWG / kcmil			-	-	-	2/0 - 500 kcmil	2/0 - 500 kcmil	-
	Clamp type		-	-	-	ATK750/3	ATK750/3	-
	Tightening torque		-	-	-	42 Nm / 375 lb.in	42 Nm / 375 lb.in	-
Connection capacity acc to UL / CSA 4 x AWG / kcmil			-	-	-	-	-	4/0 - 500 kcmil
	Clamp type		-	-	-	-	-	ATK1650/4 [3]
	Tightening torque		-	-	-	-	-	42 Nm /375 lb. In.

[1] Terminal shrouds 1SFN125406R1000 must be used.
[2] Terminal shrouds 1SFN125406R1000 can be used.
[3] Use a wall between ATK1350/5

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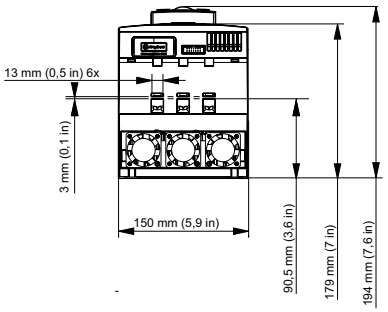
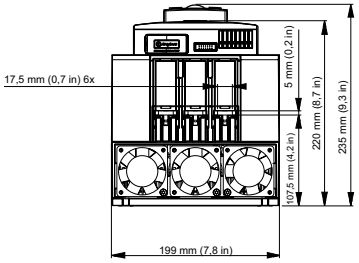
PSTX - The advanced range
Dimensions

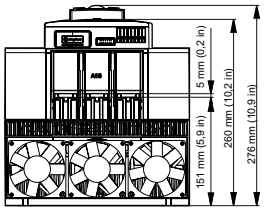
PSTX30 ... PSTX105



PSTX142 ... PSTX170



PSTX210 ... PSTX370



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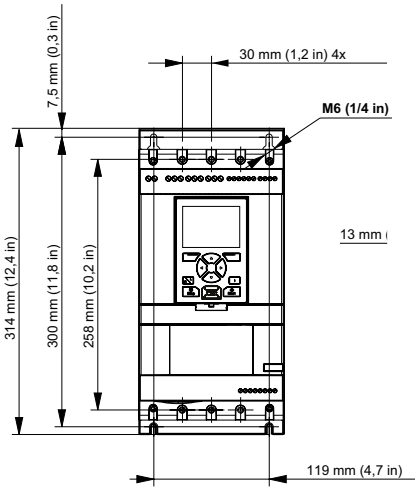
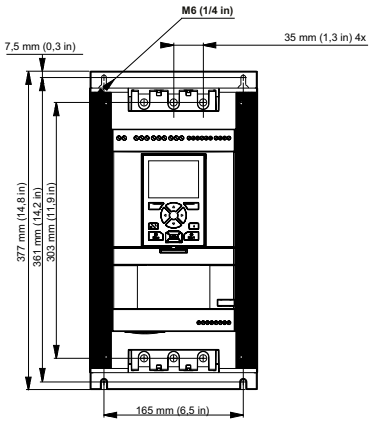
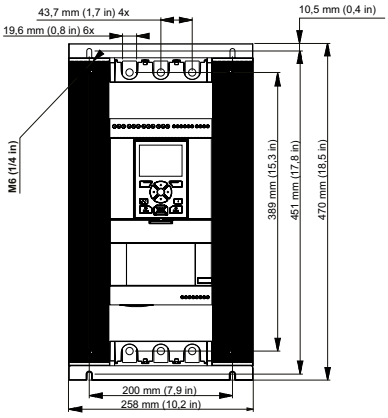
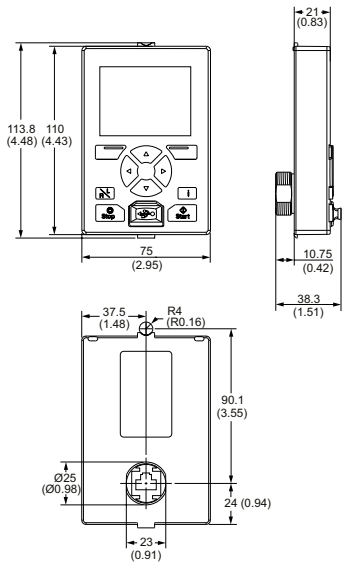






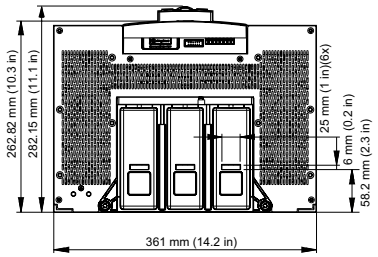
PSTX detachable keypad



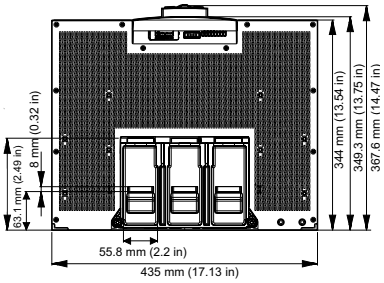
Dimensions in mm (in)

PSTX - The advanced range
Dimensions

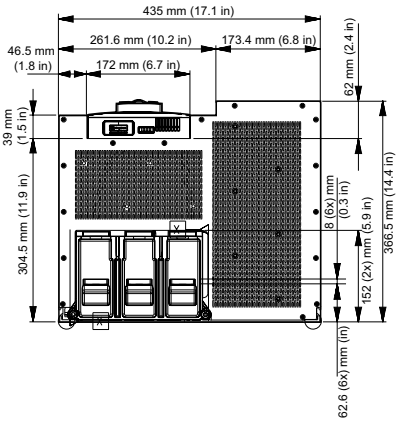
PSTX470 ... PSTX570

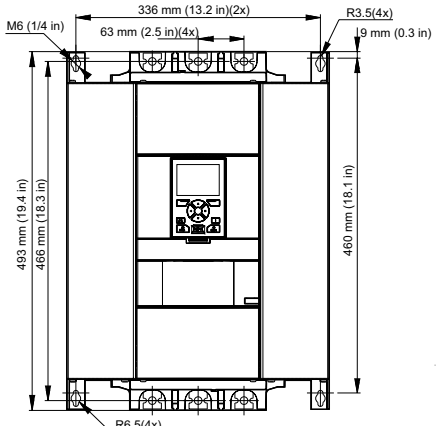


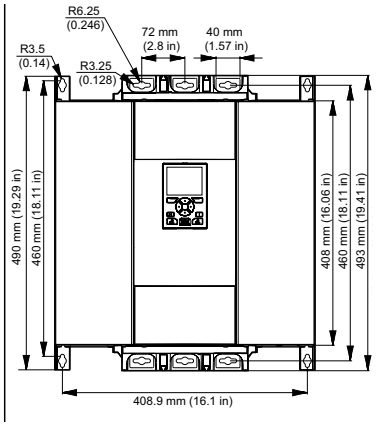
PSTX720 ... PSTX840

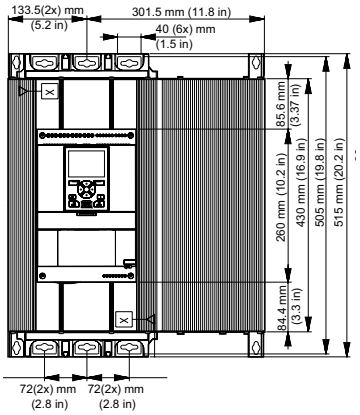


PSTX1050

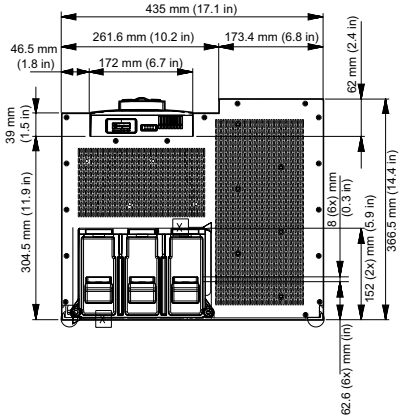


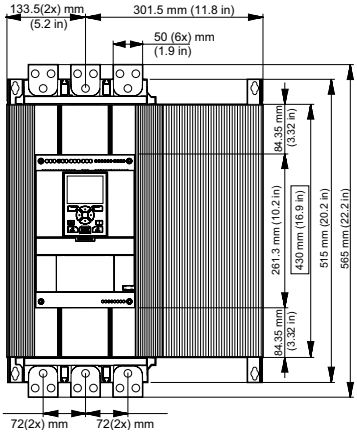






PSTX1250



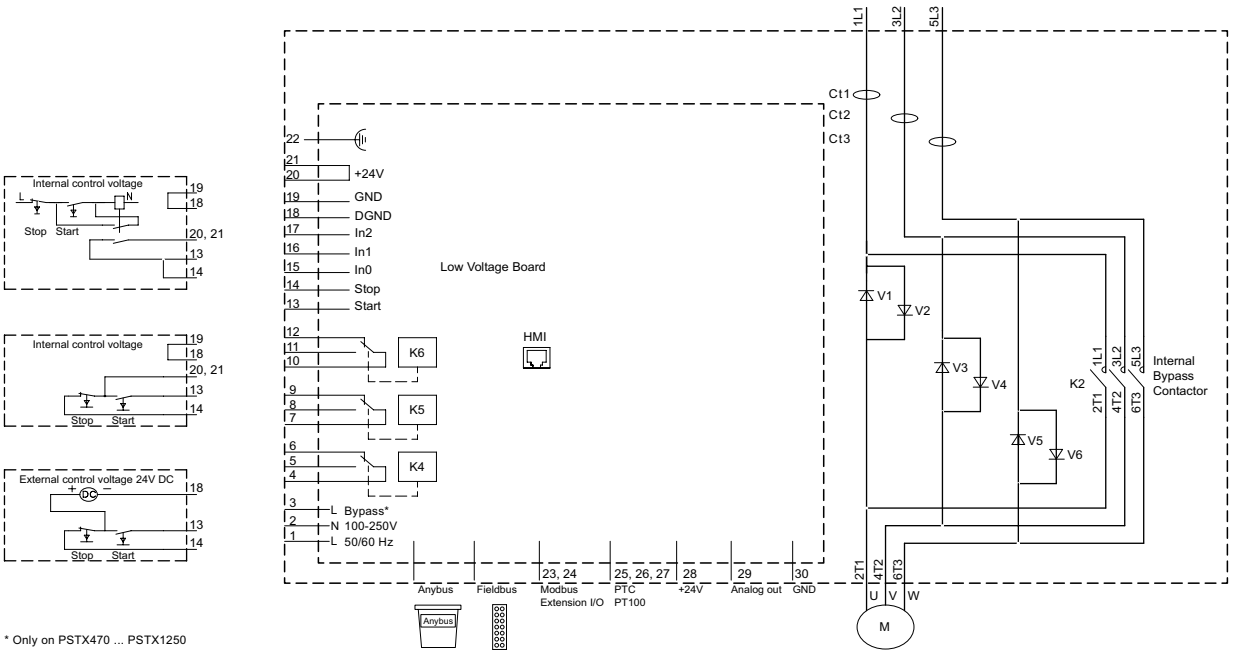


Dimensions in mm (in)

PSTX - The advanced range
Circuit diagrams

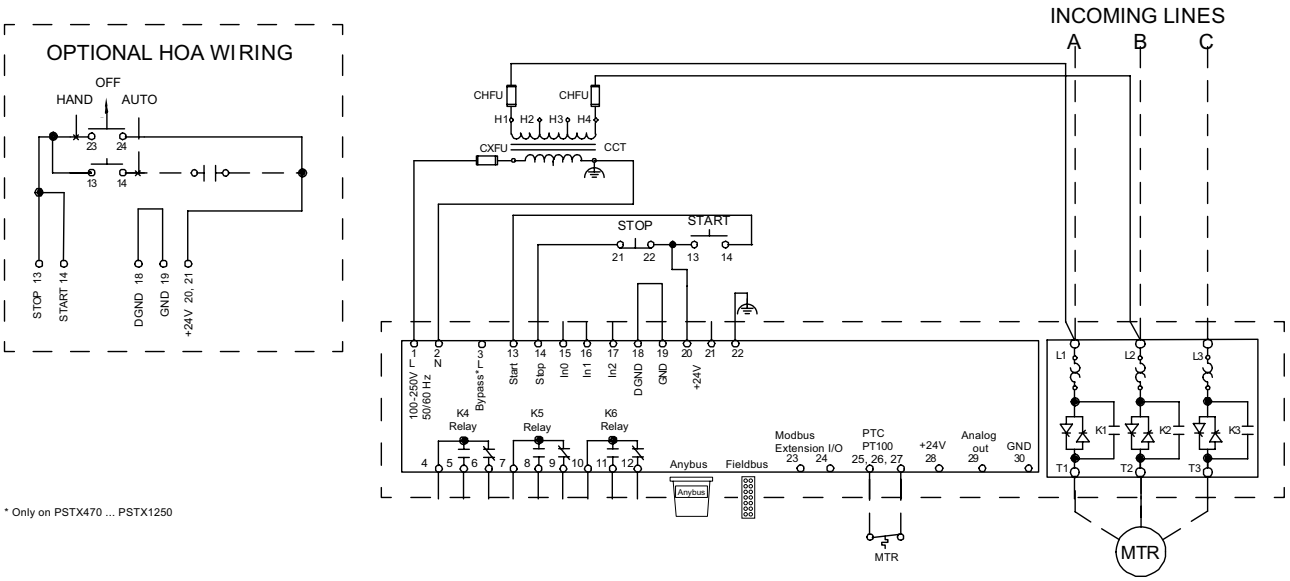
CAUTION
Terminal 22 ⏚ is a function earth, it is not a protective earth. It shall be connected to the mounting plate.

PSTX30 ... PSTX1250 (IEC circuit diagram)



* Only on PSTX470 ... PSTX1250

PSTX30 ... PSTX1250 (UL circuit diagram)

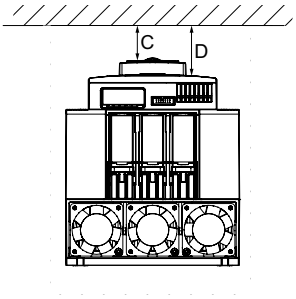


* Only on PSTX470 ... PSTX1250

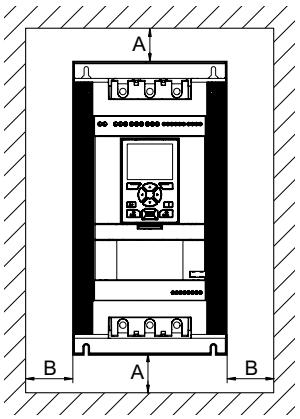
For more circuit diagrams see **new.abb.com/low-voltage/products/softstarters**

PSTX - The advanced range
Wall mounting instructions

Minimum distance to front



Minimum distance to wall

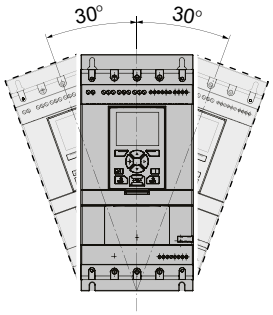


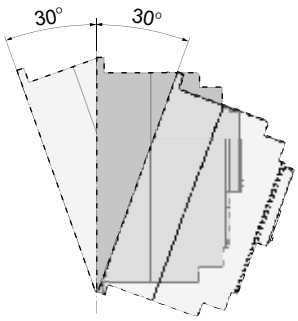
Dimensions mm (in)

Softstarter, type	A	B	C	D
PSTX				
PSTX30 ... PSTX105	100 (3.94)	10 (0.39)	20 (0.79)	35 (1.38)
PSTX142 ... PSTX170	100 (3.94)	10 (0.39)	20 (0.79)	35 (1.38)
PSTX210 ... PSTX370	100 (3.94)	10 (0.39)	20 (0.79)	35 (1.38)
PSTX470 ...PSTX570	150 (5.91)	15 (0.59)	20 (0.79)	35 (1.38)
PSTX720 ... PSTX840	150 (5.91)	15 (0.59)	20 (0.79)	35 (1.38)
PSTX1050 ... PSTX1250	150 (5.91)	15 (0.59)	20 (0.79)	35 (1.38)

5

Maximum mounting angle





Motorvernbrytere
Tekniske data for kortslutningsbeskyttelse for MS49x

Kortslutningsbeskyttelse MS 495, innstillingsområder, bryteevne og maks. forankoblede sikringer

Innstillingsområder in A	Største forankoblede sikringer når $I_{cu} > I_{cu}$ ①														
	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A
28 ... 40	Kortslutningssikker ingen forankoblet sikring nødvendig til I_{cc} = 100kA			25	50	125	20	40	125	6	12	100	6	3	63
36 ... 50				25	50	125	20	40	125	6	12	100	6	3	80
45 ... 63				25	50	160	20	40	160	6	12	100	6	3	80
57 ... 75				25	50	160	20	40	160	4	8	125	5	3	100
70 ... 90				25	50	160	20	40	160	4	8	125	5	3	125
80 ... 100				25	50	160	20	40	160	4	8	125	5	3	125

5

Kortslutningsbeskyttelse MS 496, innstillingsområder, bryteevne og maks. forankoblede sikringer

Innstillingsområder in A	Største forankoblede sikringer når $I_{cu} > I_{cu}$ ①														
	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A
28 ... 40	Kortslutningssikker ingen forankoblet sikring nødvendig til I_{cc} = 100kA						25	50	160	9	18	160	6	12	80
36 ... 50							25	50	160	7,5	15	160	5	10	100
45 ... 63							25	50	200	7,5	15	160	4	7,5	100
57 ... 75							25	50	200	5	10	160	3	6	125
70 ... 90							25	50	200	5	10	160	3	6	160
80 ... 100							25	50	200	5	10	160	3	6	160

Kortslutningsbeskyttelse MS 497, innstillingsområder, bryteevne og maks. forankoblede sikringer

Innstillingsområder in A	Største forankoblede sikringer når $I_{cu} > I_{cu}$ ①														
	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A	I_{cs} in kA	I_{cu} in kA	gL,gG in A
11 .. 16	Kortslutningssikker ingen forankoblet sikring nødvendig til I_{cc} = 100kA						25	50	100	15	30	80	7	15	63
14 ... 20							25	50	100	15	30	80	7	15	63
18 ... 25							25	50	100	15	30	80	7	15	63
22 ... 32							25	50	125	11	22	100	7	15	63
28 ... 40							25	50	160	9	18	160	6	12	80
36 ... 50							25	50	160	7,5	15	160	5	10	100
45 ... 63							25	50	200	7,5	15	160	4	7,5	100
57 ... 75							25	50	200	5	10	160	3	6	125
70 ... 90							25	50	200	5	10	160	3	6	160
80 .. 100							25	50	200	5	10	160	3	6	160

Oppgitt I_{cs} / I_{cu} uten backup, ved backup med oppgitt størrelse, er bryteevnen lik backup sin bryteevne.

① I_{cs} = nominell bryteevne, I_{cu} = maksimal kortslutningsstrøm, I_{cc} = forventet kortslutningsstrøm.

Motorvernbrytere
Tekniske data - bryteevne for MS116/MS132

Kortslutningsbeskyttelse MS116

Innstillingsområde, kortslutnings-bryteevne og maks forankoblet sikring

Maks nominell strøm for forankoblet sikring når $I_{cc} > I_{cs}$ (1)

Innstillings-områder	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cu}	I_{cs}	gG, aM	I_{cu}	I_{cs}	gG, aM	I_{cu}	I_{cs}	gG, aM	I_{cu}	I_{cs}	gG, aM	I_{cu}	I_{cs}	gG, aM
A ... A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A
MS116-0.16	Forankoblet sikring ikke nødvendig opptil I_{cc} = 50 kA						Forankoblet sikring ikke nødvendig opptil I_{cc} = 30 kA								
MS116-0.25															
MS116-0.4															
MS116-0.63															
MS116-1.0															
MS116-1.6															
MS116-2.5							10	10	25	10	10	25	5	5	25
MS116-4.0							6	6	25	6	6	25	2	2	25
MS116-6.3							6	6	63	6	6	63	2	2	40
MS116-10							6	6	63	6	6	63	2	2	50
MS116-12	25	25	80	25	25	80	6	6	63	6	6	63	2	2	50
MS116-16	16	16	80	16	16	80	6	6	63	4	4	63	2	2	63
MS116-20	10	15	-	10	15	-	3	6	-	3	4	-	2	3	-
MS116-25	10	15	-	10	15	-	3	6	-	3	4	-	2	3	-
MS116-32	10	10	-	10	10	-	3	6	-	3	4	-	2	3	-

Kortslutningsbeskyttelse MS132

Innstillingsområde, kortslutnings-bryterevne og maks forankoblet sikring

Maks nominell strøm for forankoblet sikring når $I_{cc} > I_{cs}$ (1)

Innstillings-områder	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cu}	I_{cs}	gG	I_{cu}	I_{cs}	gG	I_{cu}	I_{cs}	gG	I_{cu}	I_{cs}	gG	I_{cu}	I_{cs}	gG
A ... A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A	kA	kA	A
MS116-0.16	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-0.25	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-0.4	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-0.63	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-1.0	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-1.6	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-2.5	100	100	-	100	100	-	100	100	-	100	100	-	100	100	-
MS116-4.0	100	100	-	100	100	-	20	20	På forespørsel	20	20	På forespørsel	3	3	På forespørsel
MS116-6.3	100	100	-	100	100	-	20	20	På forespørsel	20	20	På forespørsel	3	3	På forespørsel
MS116-10	100	100	-	100	100	-	20	20	På forespørsel	20	20	På forespørsel	3	3	På forespørsel
MS116-12	100	100	-	100	100	-	20	20	På forespørsel	20	20	På forespørsel	3	3	På forespørsel
MS116-16	100	100	-	100	100	-	20	20	På forespørsel	20	20	På forespørsel	3	3	På forespørsel
MS116-20	100	100	-	100	100	-	20	20	På forespørsel	20	20	På forespørsel	3	3	På forespørsel
MS116-25	50	50	100	50	50	100	20	20	På forespørsel	10	10	På forespørsel	3	3	På forespørsel
MS116-32	25	50	125	25	50	125	20	20	På forespørsel	10	10	På forespørsel	3	3	På forespørsel

Motorvernbrytere
Tekniske data MS116

Generelle tekniske data				MS116 opp til 16A	MS116 20-32A
Standarder	Ihht. følgende standarder			IEC/EN60947-1, IEC/EN60947-2, IEC/EN60947-4-1, UL 508, CSA C22.2 No. 14	
	Fasebortfall-sensitivitet	(Ihht. IEC/EN 60947-4-1)		ja	
	Frakoblingsfunksjon	(Ihht. IEC/EN 60947-2)		ja	
Generelle data	Montasjeposisjon			Posisjon 1-6	
	Beskyttelsesklasse	(Ihht. IEC 60947-1)		IP 20	
	Mekanisk levetid			100000 koblinger	
	Elektrisk levetid			100000 koblinger	
	Bruksklasse			A	
IEC					
Hovedkrets	Nominell driftsspenning U_e			690 V AC	
	Nominell driftsstrøm I_e			opp til 32 A	
	Konvensjonell termisk strøm I_{th}			opp til 32 A	
	Nominell frekvens			50 / 60 Hz	
	Trippklasse			10A	
Isolasjonsdata	Nominell impulsspenning U_{imp}			6 kV	
(Ihht. IEC/EN 60947-1)	Nominell isolasjonsspenning U_i			690 V	
Miljødata	Omgivelsestemperatur				
	Driftsform	Åpen - kompensert		-25 ... +55 °C	
		Åpen		-25 ... +70 °C	
	Oppbevaring			-50 ... +80 °C	
	Vibrasjon	(Ihht. IEC/EN 60068-2-6)		5 g / 3-150 Hz	
	Slag / støt	(Ihht. IEC/EN 60068-2-27)		25 g / 11 ms	
Kabeltilkobling	Massiv		1 eller 2 x	1 ... 4 mm²	2,5...6 mm²
	Fleksibel med endehylse		1 eller 2 x	0.75 ... 2.5 mm²	1...6 mm²
	Fleksibel uten endehylse		1 eller 2 x	0.75 ... 2.5 mm²	2,5...6mm²
	Avmantlingslengde			9 mm	10 mm
	Tiltrekningsmoment			0.8 ... 1.2 Nm	2 Nm
	Skrue			M3,5 (pozidrive 2/5,5mm)	M4(pozidrive 2/6,5mm)
UL/CSA Se teknisk katalog					

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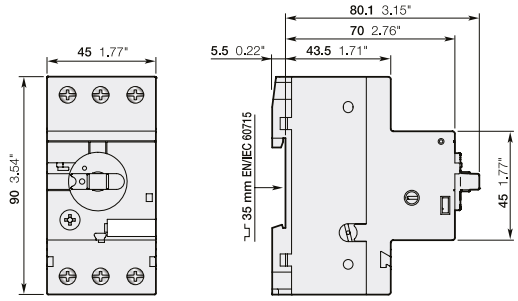
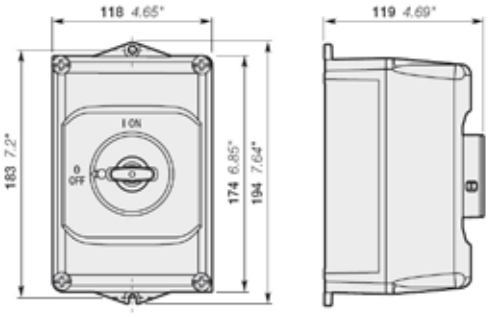
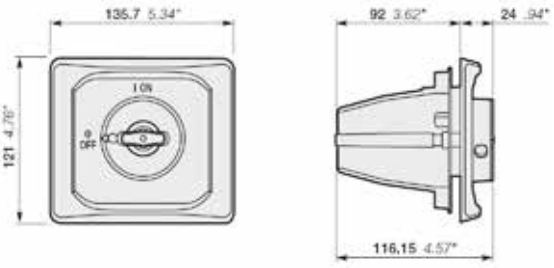
Dimensjoner i mm



Kapsling MS116/MS132



Dørmonteringssett for MS116/MS132



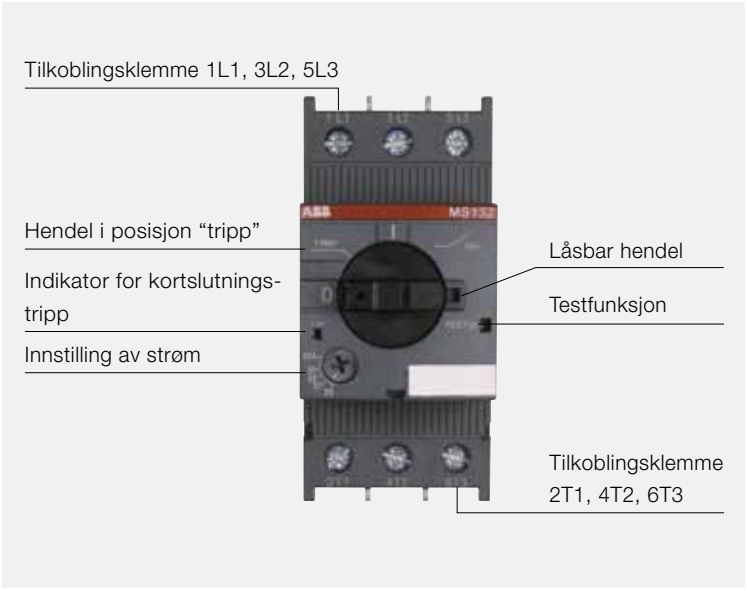
Motorvernbrytere
Tekniske data MS132

Applikasjon

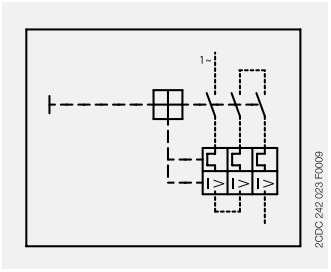
Manuelle motorvernbrytere beskytter motorlasten og installasjonen mot kortslutning og overlast. De er tre-polede beskyttelsesenheter med termisk bimetall for overlastbeskyttelse og magnetisk mekanisme for kortslutningsbeskyttelse. Videre har de en frakoblingsfunksjon for sikkerhetsfrakobling, og kan brukes til manuell til-/frakobling av lasten.

De har en instillingskala i amperé, der man ihht. internasjonale og nasjonale standarder, stiller inn den nominelle motorstrømmen, og ikke tripp-stømmen ("no tripping" ved 1.05 x I, "tripping" ved 1.2 x I; dvs I = instilt verdi).

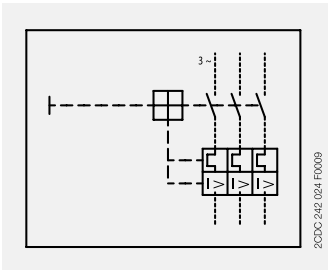
Tilkoblinger



Driftsvarianter



Én-fas bruk



Tre-fas bruk

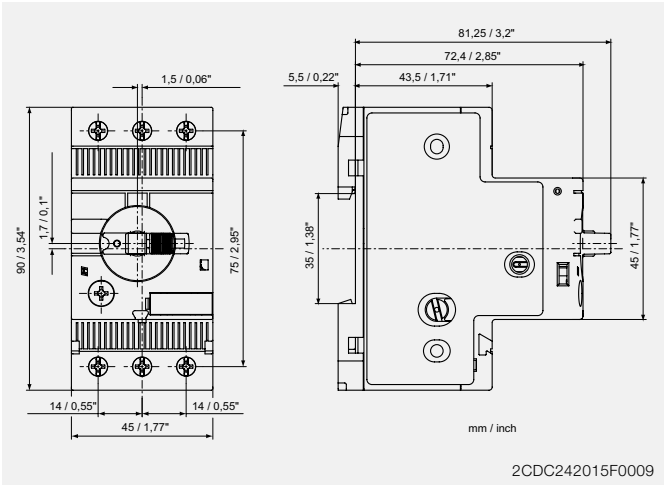
Motstand, momentán kortslutningsstrøm (Ii) og effekttap i hver fase for MS116/MS132

Type (gjelder også MS116)	Laveste innstillingsnivå [A]	Høyeste innstillingsnivå [A]	Ii (A)	Motstand pr. fase [Ω]	Effekttap pr. fase (W) ved: Laveste innstillingsverdi	Høyeste innstillingsverdi
MS132-0.16	0.10	0.16	2,00	66.00	0.7	1.7
MS132-0.25	0.16	0.25	3,13	25.50	0.7	1.7
MS132-0.4	0.25	0.40	5,00	10.38	0.7	1.7
MS132-0.63	0.40	0.63	7,88	4.36	0.7	1.7
MS132-1.0	0.63	1.00	12,50	1.605	0.7	1.7
MS132-1.6	1.00	1.60	20,00	0.648	0.7	1.7
MS132-2.5	1.60	2.50	31,25	0.272	0.7	1.7
MS132-4.0	2.50	4.00	50,0	0.106	0.7	1.7
MS132-6.3	4.00	6.30	78,75	0.046	0.7	1.7
MS132-10	6.30	10.0	150	0.024	0.9	2.4
MS132-12	8.00	12.0	180	0.016	1.0	2.3
MS132-16	10.0	16.0	240	0.011	1.1	2.8
MS132-20	16.0	20.0	300	0.0057	1.5	2.3
MS132-25	20.0	25.0	375	0.0045	1.8	2.8
MS132-32	25.0	32.0	480	0.0030	1.9	3.1

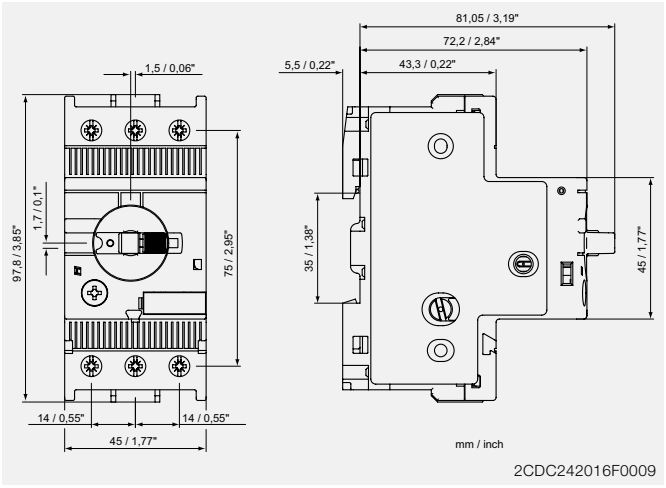
Motorvernbrytere
Tekniske data MS132

Dimensjoner

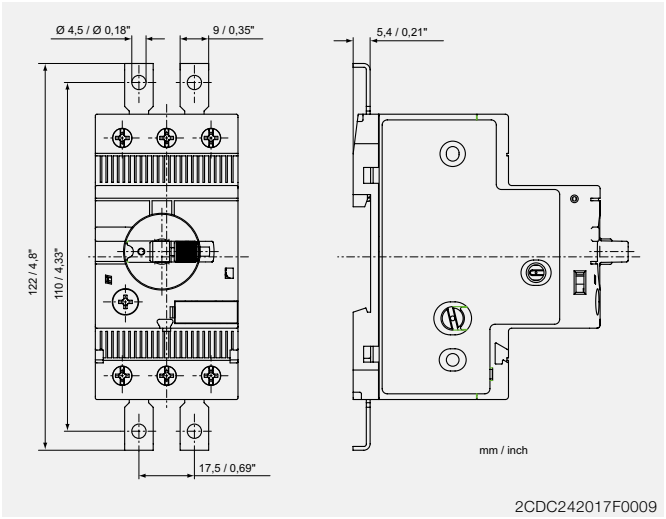
MS132 ≤ 10 A



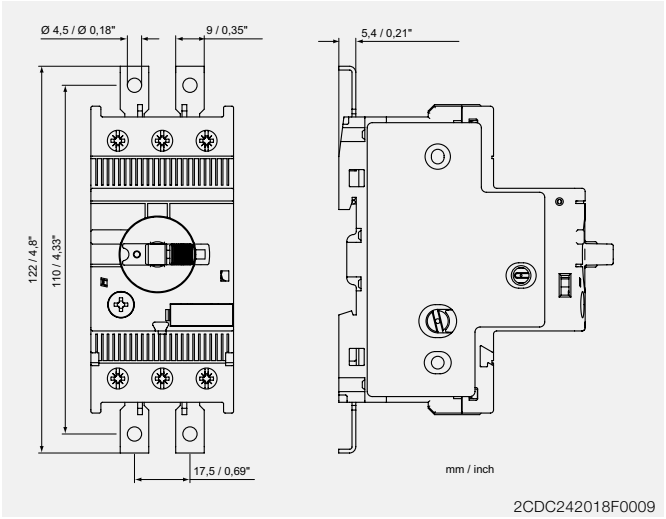
MS132 > 10 A



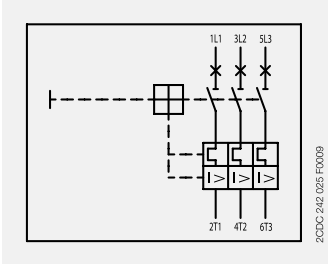
MS132 ≤ 10 A + skrubrakett



MS132 > 10 A + skrubrakett



Funksjonsdiagram



Godkjenninger/sertifikater

cULus UL 508

ABS

CB scheme

CE

GL

TYPE APPROVED

GOST-F

GOST-R

Motorvernbrytere
Tekniske data MS132

Data ved TA = 40 °C ved nominelle verdier, hvis ikke annet er oppgitt

Type			**MS132**
Tekniske data		**Klemmer**	
Hovedstrømskrets		**1L1-3L3-5L5** **2T1-4T2-6T3**	
Nominell spenning U_e ihht. IEC/EN 60947-1	AC		690 V
	DC		250 V
Nominell frekvens ihht. IEC/EN 60947-1			50 / 60 Hz
Antall poler			3

Nominell bryteevne DC Ics, med 3 poler koblet i serie opptil 250V		10kA
Nominell strøm DC opp til 250V med 3 poler i serie		samme som AC

Isolasjonsdata			
Nominell impulsspenning U_{imp} ihht. IEC/EN 60947-1			6 kV
Nominell isolasjonsspenning U_i ihht. IEC/EN 60947-1			690 V
Forurensningsklasse ihht. IEC/EN 60664			3

Tilkoblinger			
MS132 ≤ 10A			
Kabeltverrsnitt	Massiv		1/2 x 1 ... 4 mm²
	Fleksibel med uisolert endehylse		1/2 x 0.75 ... 2.5 mm²
	Fleksibel med isolert endehylse		1/2 x 0.75 ... 2.5 mm²
	Fleksibel uten endehylse		1/2 x 0.75 ... 2.5 mm²
Avmantlingslengde			9 mm
Tiltrekningsmoment			0.8 ... 1.2 Nm
Skruetype			M3.5 (Pozidrive 2)
MS132-12, -16			
Kabeltverrsnitt	Massiv		1/2 x 1 ... 4 mm²
	Fleksibel med uisolert endehylse		1/2 x 0.75 ... 2.5 mm²
	Fleksibel med isolert endehylse		1/2 x 0.75 ... 2.5 mm²
	Fleksibel uten endehylse		1/2 x 0.75 ... 2.5 mm²
Avmantlingslengde			10 mm
Tiltrekningsmoment			1.5 Nm
Skruetype			M4 (Pozidrive 2)
MS132-20, -25, -32			
Kabeltverrsnitt	Massiv		1/2 x 2.5 ... 6 mm²
	Fleksibel med uisolert endehylse		1/2 x 1 ... 6 mm²
	Fleksibel med isolert endehylse		1/2 x 1 ... 6 mm²
	Fleksibel uten endehylse		1/2 x 2.5 ... 6 mm²
Avmantlingslengde			10 mm
Tiltrekningsmoment			2 Nm
Skruetype			M4 (Pozidrive 2)

Technical data
MS116, MS132, MS165, MO132, MO165, MS132-T

Main circuit – Utilization characteristics according to IEC/EN

Type		MS116	MS132	MS165	MO132	MO165	MS132-T
Standards		IEC/EN 60947–2, IEC/EN 60947-4-1, IEC/EN 60947-1					
Rated operational voltage U_e		690 V AC	690 V AC / 250 V DC	690 V AC	690 V AC	690 V AC	690 V AC
Rated frequency		50/60 Hz	DC, 50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Trip class		10A	10 (10A for 1SA M350000R1001)	10	-	-	10
Number of poles		3					
Duty time		100 %					
Mechanical durability		100000 cycles	100000 cycles	50000 cycles	100000 cycles	50000 cycles	100000 cycles
Electrical durability	up to 16 A	100000 cycles	50000 cycles	25000 cycles	50000 cycles	25000 cycles	50000 cycles
	20 ... 65 A	50000 cycles	50000 cycles	25000 cycles	50000 cycles	25000 cycles	50000 cycles
Rated impulse withstand voltage U_{imp}		6 kV	6 kV	8 kV	6 kV	8 kV	6 kV
Rated insulation voltage U_i		690 V	690 V	1000 V	690 V	1000 V	690 V
Rated operational current I_e		See ordering details					
Rated operational current DC-5 I_e 3 conducting paths in series up to 250 V		-	See "Rated operational current I_e"	-	-	-	-
Rated instantaneous short-circuit current setting I_i		See ordering details					
Rated service short-circuit breaking capacity I_{cs}		See table "Short-circuit breaking capacity and back-up fuses"					
Rated ultimate short-circuit breaking capacity I_{cu}		See table "Short-circuit breaking capacity and back-up fuses"					
Rated service short-circuit breaking capacity DC I_{cs} 3 conducting paths in series up to 250 V		-	10 kA	-	-	-	-

5

Short-circuit breaking capacity and back-up fuses

I_{cs} Rated service short-circuit breaking capacity

I_{cu} Rated ultimate short-circuit breaking capacity

I_{cc} Prospective short-circuit current at installation location

Note: Maximum rated current of the back-up fuses if $I_{cc} > I_{cs}$

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A
MS165-16	100	100	-	100	100	-	8	8	125	8	8	125	8	8	63
MS165-20	100	100	-	100	100	-	8	8	125	8	8	125	8	8	63
MS165-25	100	100	-	100	100	-	8	8	125	8	8	125	8	8	80
MS165-32	75	100	-	75	100	-	5	5	125	5	5	125	5	5	100
MS165-42	25	50	125	25	50	125	5	5	125	5	5	125	5	5	100
MS165-54	25	50	125	25	50	125	5	5	125	5	5	125	5	5	100
MS165-65	25	50	125	25	50	125	5	5	125	5	5	125	5	5	100

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A
MO132-0.16	No back-up fuse required up to I_{cc} = 100 kA														
MO132-0.25															
MO132-0.4															
MO132-0.63															
MO132-1.0															
MO132-1.6															
MO132-2.5															
MO132-4.0							20	20	35	20	20	35	3	3	32
MO132-6.3							20	20	63	20	20	63	3	3	50
MO132-10							20	20	100	20	20	100	3	3	50
MO132-12							20	20	100	20	20	100	3	3	63
MO132-16							20	20	125	20	20	125	3	3	63
MO132-20							20	20	125	20	20	125	3	3	80
MO132-25	50	50	125	50	50	125	10	10	125	10	10	125	3	3	100
MO132-32	25	50	125	25	50	125	10	10	125	10	10	125	3	3	100

MO132-20: No need for back-up fuse in networks with a prospective current of up to 100 kA at 400 V.
MO132-32: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.
With an approbiate 125 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Technical data
MO165, MS132-T

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A	I_{cs} kA	I_{cu} kA	gG A
MO165-16	100	100	-	100	100	-	8	8	125	8	8	125	8	8	63
MO165-20	100	100	-	100	100	-	8	8	125	8	8	125	8	8	63
MO165-25	100	100	-	100	100	-	8	8	125	8	8	125	8	8	80
MO165-32	50	100	-	50	100	-	5	5	125	5	5	125	5	5	100
MO165-42	25	50	125	25	50	125	5	5	125	5	5	125	5	5	100
MO165-54	25	50	125	25	50	125	5	5	125	5	5	125	5	5	100
MO165-65	25	50	125	25	50	125	5	5	125	5	5	125	5	5	100

Type	230 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A
MS132-0.16T															
MS132-0.25T															
MS132-0.4T															
MS132-0.63T	No back-up fuse required up to I_{cc} = 100 kA														
MS132-1.0T															
MS132-1.6T															
MS132-2.5T															
MS132-4.0T							30	30	35	20	20	35	3	3	32
MS132-6.3T							30	30	63	20	20	63	3	3	50
MS132-10T							30	30	100	20	20	100	3	3	50
MS132-12T							30	30	100	20	20	100	3	3	63
MS132-16T							30	30	125	20	20	125	3	3	63
MS132-20T							30	30	125	20	20	125	3	3	80
MS132-25T	50	50	125	50	50	125	30	30	125	10	10	125	3	3	100

Technical data
MS116, MS132, MS165, MO132, MO165, MS132-T

General technical data

Type		MS116	MS132	MS165	MO132	MO165	MS132-T
Pollution degree		3	3	3	3	3	3
Phase loss sensitivity		Yes	Yes	Yes	No	No	Yes
Disconnect function acc. to IEC/EN 60947-2		Yes	Yes	Yes	Yes	Yes	Yes
Ambient air temperature							
Operation	Open - compensated	-25 ... +55 °C	-25 ... +60 °C	-25 ... +60 °C	-	-	-25 ... +60 °C
	Open	-25 ... +70 °C	-25 ... +70 °C	-25 ... +60 °C	-25 ... +60 °C	-25 ... +60 °C	-25 ... +70 °C
	Enclosed (IB132)	0 ... +40 °C	0 ... +40 °C	-	-	-	0 ... +40 °C
Storage		-50 ... +80 °C	-50 ... +80 °C	-50 ... +80 °C	-50 ... +80 °C	-50 ... +80 °C	-50 ... +80 °C
Ambient air temperature compensation		Acc. to IEC/ EN60947-4-1	Acc. to IEC/ EN60947-4-1	Acc. to IEC/ EN60947-4-1	-	-	Acc. to IEC/ EN60947-4-1
Maximum operating altitude permissible		2000 m	2000 m	2000 m	2000 m	2000 m	2000 m
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms	25g / 11 ms	25g / 11 ms	25g / 11 ms	25g / 11 ms	25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz	5g / 3 ... 150 Hz
Mounting position		Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)	Position 1-6 (optional for single mounting)
Mounting		DIN-rail (EN 60715)	DIN-rail (EN 60715)	DIN-rail (EN 60715)	DIN-rail (EN 60715)	DIN-rail (EN 60715)	DIN-rail (EN 60715)
Group mounting		On request	On request	On request	On request	On request	-
Minimum distance to other units same type	Horizontal	0 mm	0 mm	0 mm	0 mm	0 mm	0 mm
	Vertical	150 mm	150 mm	150 mm	150 mm	150 mm	150 mm
Minimum distance to electrical conductive board	Horizontal, up to 400 V	0 mm	0 mm	0 mm	0 mm	0 mm	0 mm
	Horizontal, up to 690 V	> 1.5 mm	> 1.5 mm	> 1.5 mm	> 1.5 mm	> 1.5 mm	> 1.5 mm
	Vertical	75 mm	75 mm	75 mm	75 mm	75 mm	75 mm
Degree of protection	Housing	IP20	IP20	IP20	IP20	IP20	IP20
	Main circuit terminals	IP20	IP20	IP10	IP20	IP10	IP20

Technical data
MS116, MS132, MS165, MO132, MO165, MS132-T

Connecting characteristics

Main circuit		
Type		**MS165**
Connecting capacity		
Rigid	**1 or 2 x**	1 ... 50 mm²
Flexible with ferrule	**1 or 2 x**	1 ... 35 mm²
Flexible with insulated ferrule	**1 or 2 x**	1 ... 35 mm²
Flexible	**1 or 2 x**	1 ... 35 mm²
Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-3
Stripping length		16 mm
Tightening torque		4.0 Nm / 35 lb.in
Recommended screw driver		Pozidriv 2

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Main circuit			
Type		**MO132 ≤ 10 A**	**MO132 ≥ 12 A**
Connecting capacity			
Rigid	**1 or 2 x**	1 ... 4 mm²	1 ... 2.5 mm² 2.5 ... 6 mm²
Flexible with ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	0.75 ... 6 mm²
Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	0.75 ... 6 mm²
Flexible	**1 or 2 x**	0.75 ... 2.5 mm²	1 ... 2.5 mm² 2.5 ... 6 mm²
Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-12	AWG 16-8
Stripping length		9 mm	10 mm
Tightening torque		0.8 ... 1.2 Nm / 10 ... 12 lb.in	2.0 Nm / 18 lb.in
Recommended screw driver		Pozidriv 2	Pozidriv 2

Main circuit		
Type		**MO165**
Connecting capacity		
Rigid	**1 or 2 x**	1 ... 50 mm²
Flexible with ferrule	**1 or 2 x**	1 ... 35 mm²
Flexible with insulated ferrule	**1 or 2 x**	1 ... 35 mm²
Flexible	**1 or 2 x**	1 ... 35 mm²
Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-3
Stripping length		16 mm
Tightening torque		4.0 Nm / 35 lb.in
Recommended screw driver		Pozidriv 2

Main circuit			
Type		**MS132-T ≤ 10 A**	**MS132-T ≥ 12 A**
Connecting capacity			
Rigid	**1 or 2 x**	1 ... 4 mm²	1/2 x 1 ... 2.5 mm² 1/2 x 2.5 ... 6 mm²
Flexible with ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	1/2 x 0.75 ... 6 mm²
Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	1/2 x 0.75 ... 6 mm²
Flexible	**1 or 2 x**	0.75 ... 2.5 mm²	1/2 x 1 ... 2.5 mm² 1/2 x 2.5 ... 6 mm²
Stripping length		9 mm	10 mm
Tightening torque		0.8 ... 1.2 Nm / 10 ... 12 lb.in	2.0 Nm / 18 lb.in
Recommended screw driver		Pozidriv 2	Pozidriv 2

Main accessories
MS116, MS132, MS165, MO132, MO165, MS132-T

General technical data

Type		HK1, SK1, CK1	HKF1
Standards		IEC/EN 60947-2, IEC/EN 60947-4-1, IEC/EN 60947-1	
Rated operational voltage U_e		690 V AC / 600 DC	250 V AC / 250 V DC
Conventional free-air thermal current I_{th}		6 A	5 A
Rated frequency		50/60 Hz	
Rated impulse withstand voltage U_{imp}		6 kV	
Rated insulation voltage U_i		690 V AC	250 V AC
Pollution degree		3	
Ambient air temperature	Operation	-25 ... +70 °C	
	Storage	-50 ... +80 °C	
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms	
Resistance to vibrations acc. to IEC 60068-2-6		5g / 3 ... 150 Hz	
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category			
	24 V, 120 V	6 A	3 A
	240 V	4 A	1.5 A
	400 V	3 A	-
	440 V, 690 V	1 A	-
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category			
	24 V	2 A	1 A
	125 V	0.55 A	0.27 A
	250 V	0.27 A	0.11 A
	440 V, 600 V	0.15 A	-
Minimum switching capacity		17 V / 5 mA	
Short-circuit protective device	**N.C., 95-96**	10 A Type gG	
	N.O., 97-98	10 A Type gG	
Duty time		100 %	
Mounting		Right side of MMS / MS132-T	Front of MMS / MS132-T
Mounting positions		1-6	
Mechanical durability		50000 cycles	-
Electrical durability		50000 cycles	-

Contact utilization characteristics according to UL/CSA

Type	HK1, SK1, CK1	HKF1
Standards	UL 60947-1, UL 60947-4-1 (UL 508), CSA C22.2 No.60947-4-1 (CSA C22.2 No.14)	
Rated operational voltage U_e acc. to UL/CSA	600 V AC / 600 V DC	250 V AC / 250 V DC
Pilot duty	A600, Q600	B300, Q300
AC thermal rated current	10 A	5 A
AC maximum volt-ampere making	7200 VA	3600 VA
AC maximum volt-ampere breaking	720 VA	360 VA
DC thermal rated current	2.5 A	2.5 A
DC maximum volt-ampere making-breaking	69 VA	69 VA

Connecting characteristics

Auxiliary circuit			
Type		HK1, SK1, CK1	HKF1
Connecting capacity			
Rigid	**1 or 2 x**	1 ... 1.5 mm²	1 ... 2.5 mm²
Flexible with ferrule	**1 or 2 x**	0.75 ... 1.5 mm²	
Flexible with insulated ferrule	**1 or 2 x**	0.75 ... 1.5 mm²	
Flexible	**1 or 2 x**	0.75 ... 1.5 mm²	
Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-14	
Stripping length		8 mm	
Tightening torque		0.8 ... 1.2 Nm / 7 lb.in	
Recommended screw driver		Pozidriv 2	

Main accessories
MS116, MS132, MS165, MO132, MO165, MS132-T

General technical data

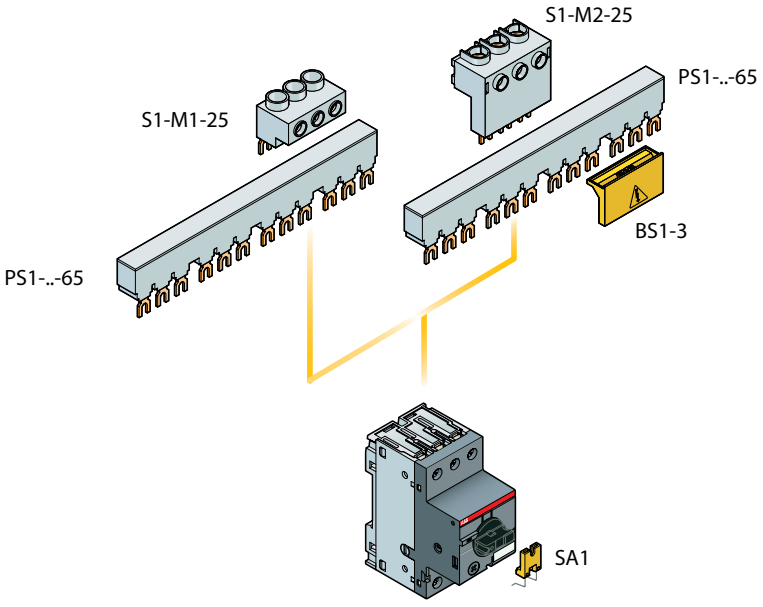
Type			UA1	AA1
Standards			IEC/EN 60947-1, IEC/EN 60947-4-1, UL 60947-1, UL 60947-4-1 (UL 508), CSA C22.2 No.60947-4-1 (CSA C22.2 No.14)	
Rated control supply voltage			see ordering details	AA1-24: 20-24 V 50/60 Hz; 20-70 V 50/60 Hz KB = 5 s, 20-70 V DC KB = 5 s AA1-100: 110 V 50/60 Hz; 110-200 V 50/60 Hz KB = 5 s, 110-200 V DC KB = 5 s AA1-230: 200-240 V 50/60 Hz, 200-350 V 50/60 Hz KB = 5 s, 200-350 V DC KB = 5 s AA1-400: 350-415 V 50/60 Hz, 350-500 V 50/60 Hz KB = 5 s, 350-500 V DC KB = 5 s
Rated frequency			see ordering details	50/60 Hz, DC
Operating voltage	Tripping		0.35 ... 0.7 x U_s	0.7 ... 1.1 x U_s
	Coil operating voltage		0.85 ... 1.1 x U_s	-
Power consumption	Pull-in	**AC**	on request	on request
		DC	on request	on request
	Holding	**AC**	on request	-
		DC	on request	-
Rated impulse withstand voltage U_{imp}			6 kV	6 kV
Rated insulation voltage U_i			690 V	690 V
Pollution degree			3	3
Ambient air temperature	Operation		-25 .... +60 °C	-25 .... +60 °C
	Storage		-50 ...+80 °C	-50 ...+80 °C
Resistance to shock acc. to IEC 60068-2-27			25g / 11 ms	25g / 11 ms
Resistance to vibrations acc. to IEC 60068-2-6			5g / 3 ... 150 Hz	5g / 3 ... 150 Hz
Mounting			left side of MMS / MS132-T	left side of MMS / MS132-T
Mounting positions			-	-

Connecting characteristics

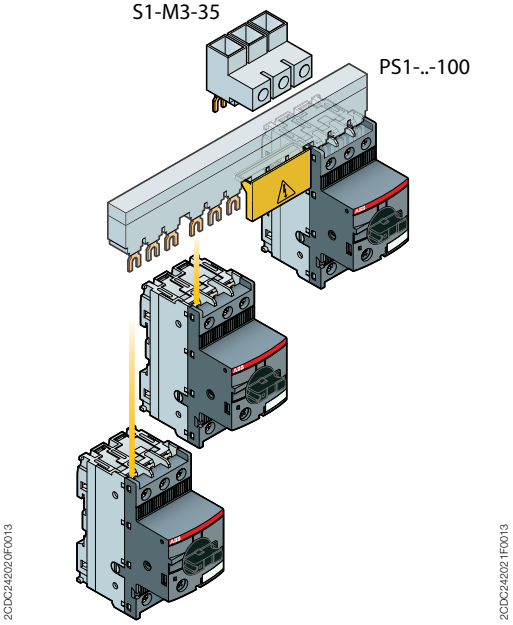
Auxiliary circuit			
Type		UA1	AA1
Connecting capacity			
Rigid	**1 or 2 x**	1 ... 4 mm²	
Flexible with ferrule	**1 or 2 x**	0.75 ... 2.5 mm²	
Flexible with insulated ferrule	**1 x**	0.75 ... 2.5 mm²	
	2 x	0.75 ... 1.5 mm²	
Flexible	**1 or 2 x**	0.75 ... 2.5 mm²	
Stranded acc. to UL/CSA	**1 or 2 x**	AWG 16-12	
Stripping length		10 mm	
Tightening torque		0.8 ... 1.2 Nm / 7 lb.in	
Recommended screw driver		Pozidriv 2	

Main accessories
MS116, MS132, MS165, MO132, MO165

Manual motor starter with three-phase busbar systems (MS116, MS132, MO132)

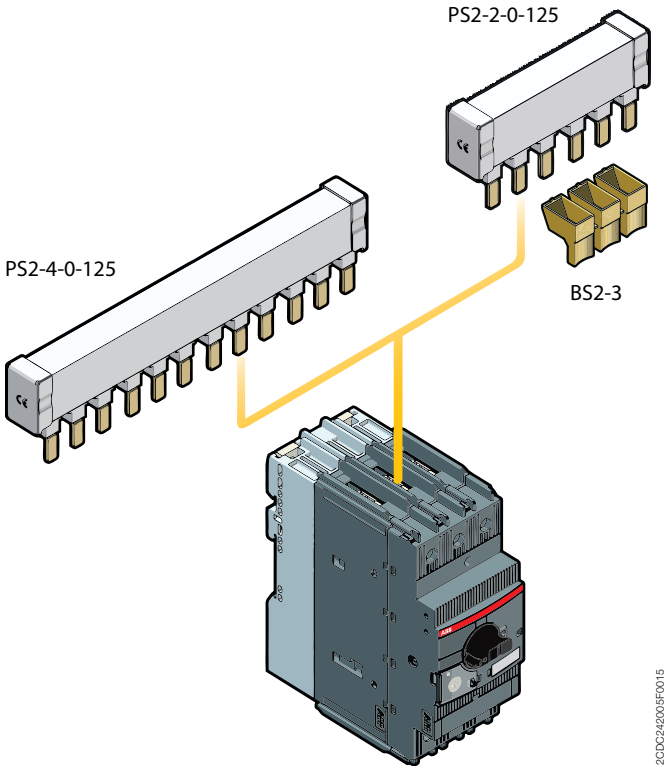


Three-phase busbar up to 65 A

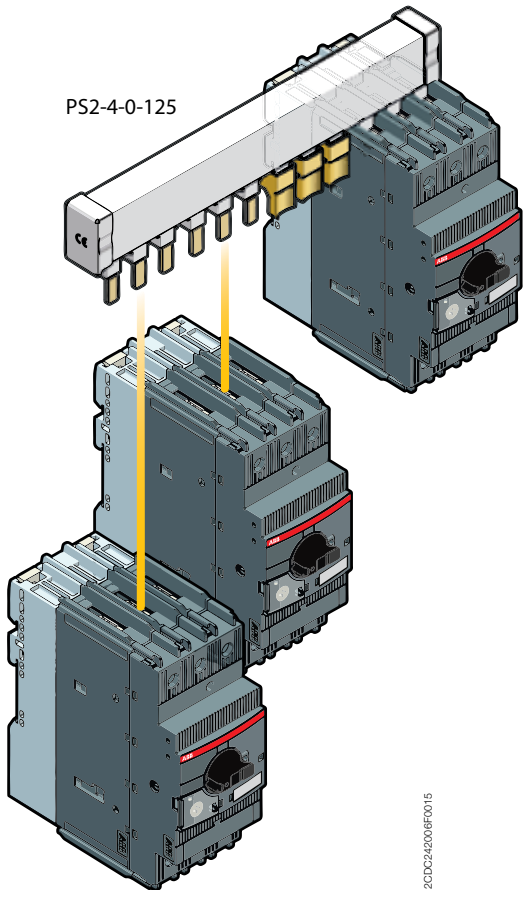


Three-phase busbar up to 100 A

Manual motor starter with three-phase busbar systems (MS165, MO165)



Three-phase busbar up to 125 A



Three-phase busbar up to 125 A

Main accessories
MS116, MS132, MS165, MO132, MO165

General technical data

Type			PS1-xxx-65	PS1-xxx-100	S1-Mx-25	S1-Mx-35
Standards			IEC/EN 60947-4-1, IEC/EN 60947-1, UL 60947-1, UL 60947-4-1 (UL 508), CSA C22.2 No.60947-4-1 (CSA C22.2 No.14)			
Rated operational voltage U_e			690 V			
Rated operational voltage U_e acc. to UL/CSA			600 V AC			
Rated operational current I_e			65 A	100 A	65 A	100 A
Rated operational current I_e acc. to UL/CSA			65 A	92 A	65 A	92 A
Rated frequency			50/60 Hz			
Rated impulse withstand voltage U_{imp}			6 kV			
Rated insulation voltage U_i			690 V AC			
Pollution degree			3			
Cross-section			10 mm²	16 mm²	25 mm²	35 mm²
Ambient air temperature		Operation	-25 ... +70 °C			
		Storage	-50 ... +80 °C			
Resistance to shock acc. to IEC 60068-2-27			25g / 11 ms			
Resistance to vibrations acc. to IEC 60068-2-6			5g / 3 ... 150 Hz			

Electrical connection

Main circuit				
Type		S1-Mx-25	S1-Mx-35	
Connecting capacity				
Rigid	**1 x**	6 ... 25 mm²	10 ... 35 mm²	
Flexible with ferrule	**1 x**	6 ... 16 mm²	10 ... 35 mm²	
Flexible with insulated ferrule	**1 x**	6 ... 16 mm²	10 ... 35 mm²	
Flexible	**1 x**	6 ... 16 mm²	10 ... 35 mm²	
Stranded acc. to UL/CSA	**1 x**	AWG 10-4	AWG 8-2	
Stripping length		10 mm	12 mm	
Tightening torque		2.5 Nm / 22 lb.in	4.5 Nm / 40 lb.in	
Recommended screw driver		Pozidriv 2	Hexagon SW4	

Technical data for PS2-xxx on request.

Technical data
MS450, MS495, MS497 manual motor starters

Main circuit – Utilization characteristics according to IEC/EN

Type	MS450, MS495, MS497
Standards	IEC/EN 60947–2, IEC/EN 60947-4-1, IEC/EN 60947-1
Rated operational voltage U_e	690 V AC / 450 V DC
Rated frequency	50/60 Hz
Trip class	10
Number of poles	3
Duty time	100 %
Mechanical durability	50000 cycles
Electrical durability	25000 cycles
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	690 V AC
Rated operational current I_e	See ordering details
Rated instantaneous short-circuit current setting I_i	See ordering details
Rated service short-circuit breaking capacity I_{cs}	See table "Short-circuit breaking capacity and back-up fuses"
Rated ultimate short-circuit breaking capacity I_{cu}	See table "Short-circuit breaking capacity and back-up fuses"

Short-circuit breaking capacity and back-up fuses

I_{cs} Rated service short-circuit breaking capacity

I_{cu} Rated ultimate short-circuit breaking capacity

I_{cc} Prospective short-circuit current at installation location

Note: Maximum rated current of the back-up fuses if $I_{cc} > I_{cs}$

Type	240 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A
Short-circuit protection MS450															
MS450-40	No back-up fuse required up to I_{cc} = 100 kA			25	50	160	15	50	125	5	10	100	2	4	63
MS450-45				25	50	160	15	50	125	5	10	100	2	4	63
MS450-50				25	50	160	15	50	125	5	10	100	2	4	80

MS450: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.
With an approbiate 160 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Short-circuit protection MS495															
MS495-40	No back-up fuse required up to I_{cc} = 100 kA			25	50	125	20	50	125	6	12	125	3	6	63
MS495-50				25	50	125	20	50	125	6	12	125	3	6	80
MS495-63				25	50	160	20	50	160	6	12	160	3	6	80
MS495-75				25	50	160	20	50	160	6	8	160	3	5	100
MS495-90				25	50	160	20	50	160	6	8	160	3	5	125
MS495-100				25	50	160	20	50	160	6	8	160	3	5	125

MS495-40: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.
With an approbiate 125 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.
MS495-100: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.
With an approbiate 160 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Short-circuit protection MS497															
MS497-32	No back-up fuse required up to I_{cc} = 100 kA			50	100	No back-up fuse required up to I_{cc} = 100 kA	50	100	No back-up fuse required up to I_{cc} = 100 kA	11	22	100	7	12	63
MS497-40				50	100		50	100		9	18	160	6	12	80
MS497-50				50	100		50	100		7.5	15	160	5	10	100
MS497-63				50	100		50	70	200	7.5	15	160	4	7.5	100
MS497-75				50	100		50	70	200	5	10	160	3	6	125
MS497-90				50	100		50	70	200	5	10	160	3	6	160
MS497-100				50	100		50	70	200	5	10	160	3	6	160

MS497-32: No need for back-up fuse in networks with a prospective current of up to 100 kA at 440 V.
MS497-90: No need for back-up fuse in networks with a prospective current of up to 70 kA at 440 V.
With an approbiate 200 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Technical data
MS450, MS495, MS497 manual motor starters

General technical data

Type			MS450	MS495	MS497
Pollution degree			3		
Phase loss sensitivity			Yes		
Disconnect function acc. to IEC/EN 60947-2			Yes		
Ambient air temperature					
	Operation	Open - compensated	-20 ... +60 °C		
		Open	-20 ... +70 °C		
		Enclosed	-20 ... +35 °C		
	Storage		-50 ... +80 °C		
Ambient air temperature compensation			Acc. to IEC/EN60947-4-1		
Maximum operating altitude permissible			2000 m		
Resistance to shock acc. to IEC 60068-2-27			25g / 11 ms	-	
Resistance to vibrations acc. to IEC 60068-2-6			2g / 5-150 Hz		
Mounting position			Position 1-6 (optional for single mounting)		
Mounting			DIN-rail 35 mm (EN 60715)	DIN-rail 15 mm / 75 mm (EN 60715)	
Minimum distance to other units same type		Horizontal	0 mm	0 mm	
		Vertical - up to 240 V	-	50 mm	
		Vertical - up to 440 V	-	70 mm	
		Vertical - up to 500 V	-	110 mm	
		Vertical - up to 690 V	-	150 mm	
		Vertical	50 mm	-	
Minimum distance to electrical conductive board		Horizontal	10 mm	-	
		Horizontal - up to 500 V	-	10 mm	
		Horizontal - up to 690 V	-	30 mm	
		Vertical - up to 240 V	-	50 mm	
		Vertical - up to 440 V	-	70 mm	
		Vertical - up to 500 V	-	110 mm	
		Vertical - up to 690 V	-	150 mm	
		Vertical	50 mm	-	
Degree of protection		Housing	IP20		
		Main circuit terminals	IP00		

Connecting characteristics

Main circuit					
Type			MS450	MS495	MS497
Connecting capacity					
	Rigid	**1 or 2 x**	0.75 ... 16 mm²	2.5 ... 16 mm²	2.5 ... 16 mm²
	Flexible with ferrule	**1 x**	0.75 ... 35 mm²	10 ... 70 mm²	10 ... 70 mm²
		2 x	0.75 ... 25 mm²	10 ... 50 mm²	10 ... 50 mm²
	Flexible	**1 x**	0.75 ... 35 mm²	10 ... 70 mm²	10 ... 70 mm²
		2 x	0.75 ... 25 mm²	10 ... 50 mm²	10 ... 50 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 18-2	AWG 10-2/0	AWG 10-2/0
		2 x	AWG 18-2	AWG 10-1/0	AWG 10-1/0
	Flexible acc. to UL/CSA	**1 x**	AWG 18-2	AWG 10-2/0	AWG 10-2/0
		2 x	AWG 18-2	AWG 10-1/0	AWG 10-1/0
Stripping length			13 mm	17 mm	17 mm
Tightening torque			3 - 4.5 Nm / 27 ... 40 lb.in	4 - 6 Nm / 35 - 53 lb.in	4 - 6 Nm / 35 - 53 lb.in
Recommended screw driver			Pozidriv 2	Hexagon 4	Hexagon 4

Technical data
MO450, MO495, MO496 manual motor starters magnetic only

Main circuit – Utilization characteristics according to IEC/EN

Type	MO450, MO495, MO496
Standards	IEC/EN 60947–2, IEC/EN 60947-4-1, IEC/EN 60947-1
Rated operational voltage U_e	690 V AC / 450 V DC
Rated frequency	50/60 Hz
Number of poles	3
Duty time	100 %
Mechanical durability	50000 cycles
Electrical durability	25000 cycles
Rated impulse withstand voltage U_{imp}	6 kV
Rated insulation voltage U_i	690 V AC
Rated operational current I_e	See ordering details
Rated instantaneous short-circuit current setting I_i	See ordering details
Rated service short-circuit breaking capacity I_{cs}	See table "Short-circuit breaking capacity and back-up fuses"
Rated ultimate short-circuit breaking capacity I_{cu}	See table "Short-circuit breaking capacity and back-up fuses"

Short-circuit breaking capacity and back-up fuses

I_{cs} Rated service short-circuit breaking capacity

I_{cu} Rated ultimate short-circuit breaking capacity

I_{cc} Prospective short-circuit current at installation location

Note: Maximum rated current of the back-up fuses if $I_{cc} > I_{cs}$

Type	240 V AC			400 V AC			440 V AC			500 V AC			690 V AC		
	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A	I_{cs} kA	I_{cu} kA	gG, aM A
Short-circuit protection MO450															
MO450-40	No back-up fuse required up to I_{cc} = 100 kA			25	50	160	15	50	125	5	10	100	2	4	63
MO450-45				25	50	160	15	50	125	5	10	100	2	4	63
MO450-50				25	50	160	15	50	125	5	10	100	2	4	80

MO450: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.
With an approbiate 160 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Short-circuit protection MO495															
MO495-63	No back-up fuse required up to I_{cc} = 100 kA			25	50	160	20	50	160	6	12	160	3	6	80
MO495-75				25	50	160	20	50	160	6	8	160	3	5	100
MO495-90				25	50	160	20	50	160	6	8	160	3	5	125
MO495-100				25	50	160	20	50	160	6	8	160	3	5	125

MO495-100: No need for back-up fuse in networks with a prospective current of up to 50 kA at 400 V.
With an approbiate 160 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Short-circuit protection MO496															
MO496-32	No back-up fuse required up to I_{cc} = 100 kA			50	100	No back-up fuse required up to I_{cc} = 100 kA	50	100	No back-up fuse required up to I_{cc} = 100 kA	11	22	100	7	12	63
MO496-40				50	100		50	100		9	18	160	6	12	80
MO496-50				50	100		50	100		7.5	15	160	5	10	100
MO496-63				50	100		50	70	200	7.5	15	160	4	7.5	100
MO496-75				50	100		50	70	200	5	10	160	3	6	125
MO496-90				50	100		50	70	200	5	10	160	3	6	160
MO496-100				50	100		50	70	200	5	10	160	3	6	160

MO496-32: No need for back-up fuse in networks with a prospective current of up to 100 kA at 440 V.
MO496-90: No need for back-up fuse in networks with a prospective current of up to 70 kA at 440 V.
With an approbiate 200 A type gG fuse the device can be used in a network with a prospective current of up to 100 kA.

Technical data
MO450, MO495, MO496 manual motor starters magnetic only

General technical data

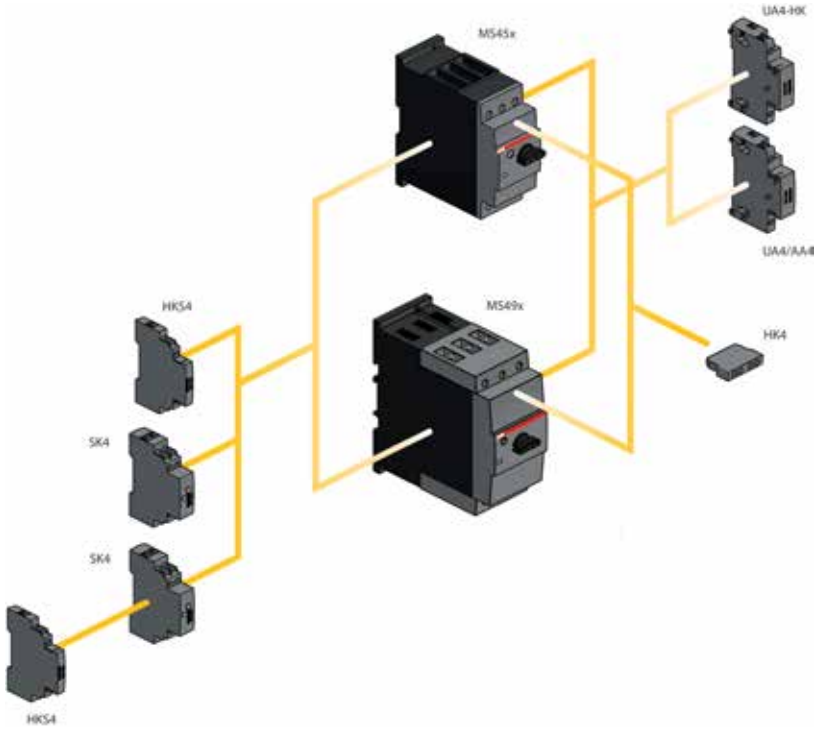
Type		MO450	MO495	MO496
Pollution degree		3		
Phase loss sensitivity		No		
Disconnect function acc. to IEC/EN 60947-2		Yes		
Ambient air temperature				
Operation	Open - compensated	-20 ... +60 °C		
	Open	-20 ... +70 °C (above 60° C, current derating)		
	Enclosed	-20 ... +35 °C		
Storage		-50 ... +80 °C		
Ambient air temperature compensation		-		
Maximum operating altitude permissible		2000 m		
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms		
Resistance to vibrations acc. to IEC 60068-2-6		2g / 5-150 Hz	-	
Mounting position		Position 1-6 (optional for single mounting)		
Mounting		DIN-rail 35 mm (EN 60715)	DIN-rail 15 mm / 75 mm (EN 60715)	
Minimum distance to other units same type	Horizontal	0 mm	0 mm	
	Vertical - up to 240 V	-	50 mm	
	Vertical - up to 440 V	-	70 mm	
	Vertical - up to 500 V	-	110 mm	
	Vertical - up to 690 V	-	150 mm	
	Vertical	50 mm	-	
Minimum distance to electrical conductive board	Horizontal	10 mm	-	
	Horizontal - up to 500 V	-	10 mm	
	Horizontal - up to 690 V	-	30 mm	
	Vertical - up to 240 V	-	50 mm	
	Vertical - up to 440 V	-	70 mm	
	Vertical - up to 500 V	-	110 mm	
	Vertical - up to 690 V	-	150 mm	
	Vertical	50 mm	-	
Degree of protection	Housing	IP20		
	Main circuit terminals	IP20		

Connecting characteristics

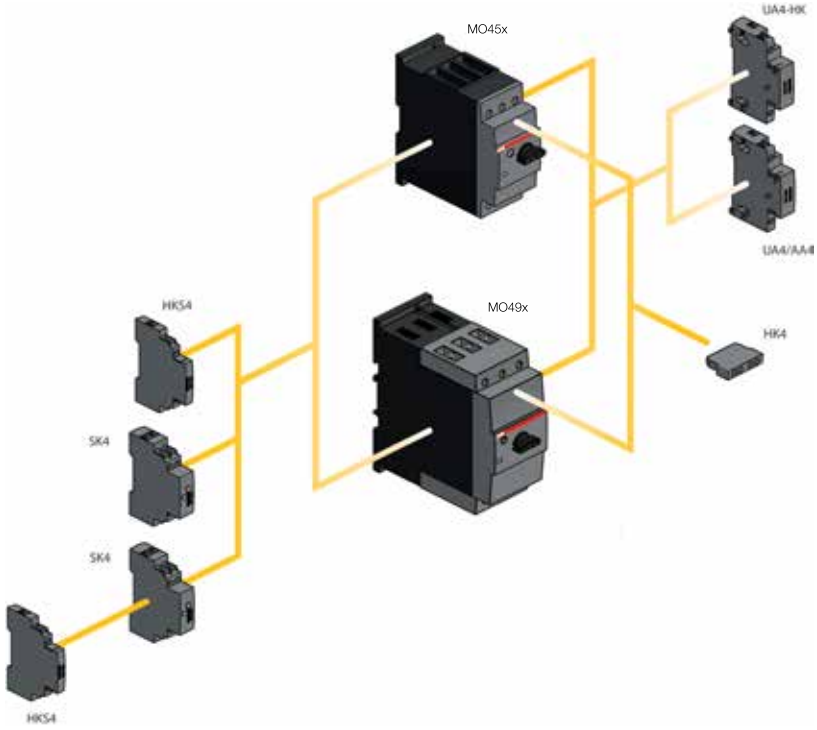
Main circuit					
Type			MO450	MO495	MO496
Connecting capacity					
	Rigid	**1 or 2 x**	0.75 ... 16 mm²	2.5 ... 16 mm²	2.5 ... 16 mm²
	Flexible with ferrule	**1 x**	0.75 ... 35 mm²	10 ... 70 mm²	10 ... 70 mm²
		2 x	0.75 ... 25 mm²	10 ... 50 mm²	10 ... 50 mm²
	Flexible	**1 x**	0.75 ... 35 mm²	10 ... 70 mm²	10 ... 70 mm²
		2 x	0.75 ... 25 mm²	10 ... 50 mm²	10 ... 50 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 18-2	AWG 10-2/0	AWG 10-2/0
		2 x	AWG 18-2	AWG 10-1/0	AWG 10-1/0
	Flexible acc. to UL/CSA	**1 x**	AWG 18-2	AWG 10-2/0	AWG 10-2/0
		2 x	AWG 18-2	AWG 10-1/0	AWG 10-1/0
Stripping length			13 mm	17 mm	17 mm
Tightening torque			3 - 4.5 Nm / 27 ... 40 lb.in	4 - 6 Nm / 35 - 53 lb.in	4 - 6 Nm / 35 - 53 lb.in
Recommended screw driver			Pozidriv 2	Hexagon 4	Hexagon 4

Main accessories
MS45x, MS49x, MO45x, MO49x manual motor starters

Manual motor starters MS45x and MS49x with accessories



Manual motor starters MO45x and MO49x with accessories



Main accessories
MS45x, MS49x, MO45x, MO49x manual motor starters

General technical data

Type		HK4-11	HK4-W	HKS4	SK4
Standards		IEC/EN 60947–1, IEC/EN 60947-5-1, UL 508, CSA22.2 No. 14			
Rated operational voltage U_e		230 V AC / 220 V DC	690 V AC / 220 V DC	690 V AC	690 V AC
Conventional free-air thermal current I_{th}		2.5 A	5 A	10 A	10 A
Rated frequency		DC, 50/60 Hz			
Rated impulse withstand voltage U_{imp}		6 kV			
Rated insulation voltage U_i		300 V	300 V	690 V	690 V
Pollution degree		3			
Ambient air temperature	Operation	-20 ... +70 °C			
	Storage	-50 ... +80 °C			
Resistance to shock acc. to IEC 60068-2-27		25g / 11 ms			
Resistance to vibrations acc. to IEC 60068-2-6		2g / 5 ... 150 Hz			
Number of poles		1 N.C. + 1 N.O.	Changeover	1 N.C. + 1 N.O. / 2 N.O. / 2 N.C.	2 N.C. + 2 N.O.
I_e / Rated operational current AC-15 acc. to IEC/EN 60947-5-1 for utilization category					
	24 V	2 A	4 A	6 A	6 A
	230 V	0.5 A	3 A	4 A	4 A
	400 V	-	1.5 A	3 A	3 A
	690 V	-	0.5 A	1 A	1 A
I_e / Rated operational current DC-13 acc. to IEC/EN 60947-5-1 for utilization category					
	24 V	1 A	1 A	2 A	2 A
	48 V	0.3 A	-	-	-
	60 V	0.15 A	-	-	-
	110 V	-	0.22 A	0.5 A	0.5 A
	230 V	-	0.1 A	0.25 A	0.25 A
Minimum switching capacity		17 V / 1 mA		-	-
Short-circuit protective device		10 A Type gG			
Duty time		100 %			
Mounting		Front of MMS	Front of MMS	Left side of MMS	Left side of MMS
Mounting positions		1-6			
Mechanical durability		100000 cycles			
Electrical durability		100000 cycles			

Type		UA4-xxx	AA4-xxx
Power consumption			
Pull-in	**AC**	20.2/13 VA/W	20.2/13 VA/W
	DC	20 W	13 ... 80 W
Holding	**AC**	7.2/2.4 VA/W	-
	DC	2.1 W	-
Operating voltage			
Tripping		0.35 ... 0.7 V x U_s	0.7 ... 1.1 V x U_s
Coil operating voltage		0.85 ... 1.1 V x U_s	-

Main accessories
MS45x, MS49x, MO45x, MO49x manual motor starters

Connecting characteristics

Auxiliary circuit						
Type			**HK4-11**	**HK4-W**	**HKS4**	**SK4**
Connecting capacity						
	Rigid	**1 x**	0.5... 2.5 mm²			
		2 x	0.5 ... 1.5 mm² or 0.75 ... 2.5 mm			
	Flexible with ferrule	**1 x**	0.5 ... 2.5 mm²			
		2 x	0.5 ... 1.5 mm² or 0.75 ... 2.5 mm			
	Flexible	**1 x**	0.5 ... 2.5 mm²			
		2 x	0.5 ... 1.5 mm² or 0.75 ... 2.5 mm			
	Stranded acc. to UL/CSA	**1 or 2 x**	AWG 18-14			
	Flexible acc. to UL/CSA	**1 or 2 x**	AWG 18-14			
Stripping length			10 mm			
Tightening torque			0.8 ... 1.2 Nm / 7 ... 10.3 lb.in			
Recommended screw driver			Pozidriv 2			

General technical data

Type		**PS4-xxx**	**S4-M1**
Standards		IEC/EN 60947-1	
Rated operational voltage U_e		690 V AC	
Rated operational current I_e		108 A	
Rated frequency		50/60 Hz	
Rated impulse withstand voltage U_{imp}		6 kV	
Rated insulation voltage U_i		690 V AC	
Pollution degree		3	
Cross-section		10 mm²	25 mm²
Ambient air temperature	Operation	-25 ... +70 °C	
	Storage	-50 ... +80 °C	

Connecting characteristics

Main circuit			
Type		**S4-M1**	
Connecting capacity			
	Rigid	**1 x**	2.5 ... 50 mm²
	Flexible with ferrule	**1 x**	4 ... 16 mm²
	Flexible	**1 x**	4 ... 16 mm²
	Stranded acc. to UL/CSA	**1 x**	AWG 14-4
	Flexible acc. to UL/CSA	**1 x**	AWG 14-4
Tightening torque			4 Nm
Recommended screw driver			Pozidriv 2

Please check for further equipment chapter General accessories.

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