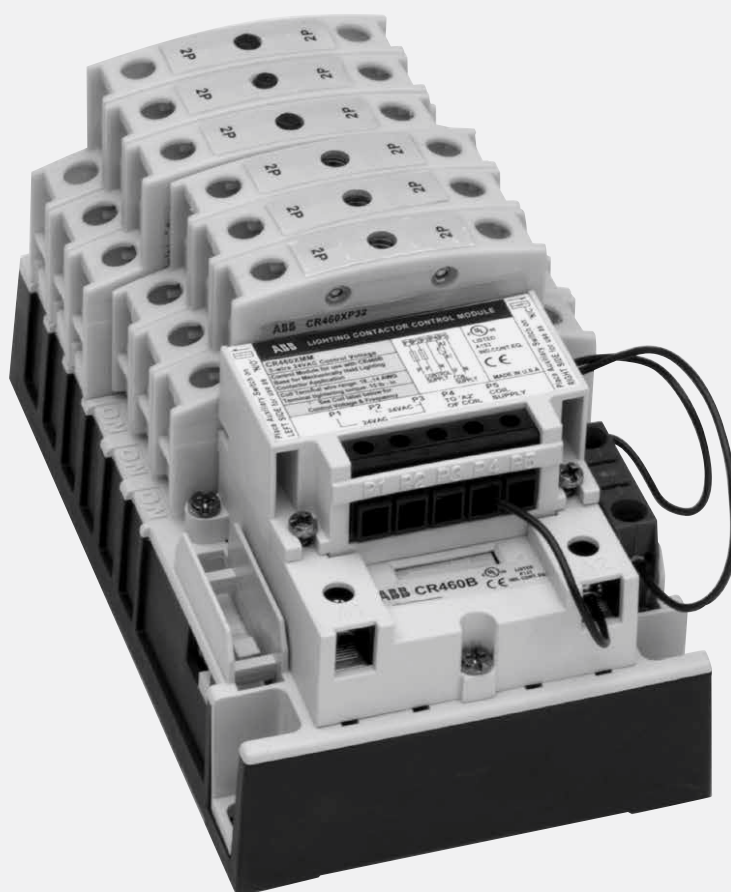


# Lighting contactors

The ultimate in versatility,  
simplicity and performance



- CR460 series electrically held lighting contactors
- CR460 series mechanically held lighting contactors
- CR360L electrically held lighting contactors
- CR160MC mechanically held lighting contactors

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**CR460 series lighting contactors deliver unprecedented versatility in application, simplicity in configuration and performance in operation. Ingenious design, rugged construction and a host of truly useful features make them uniquely appealing to all those who use them.**

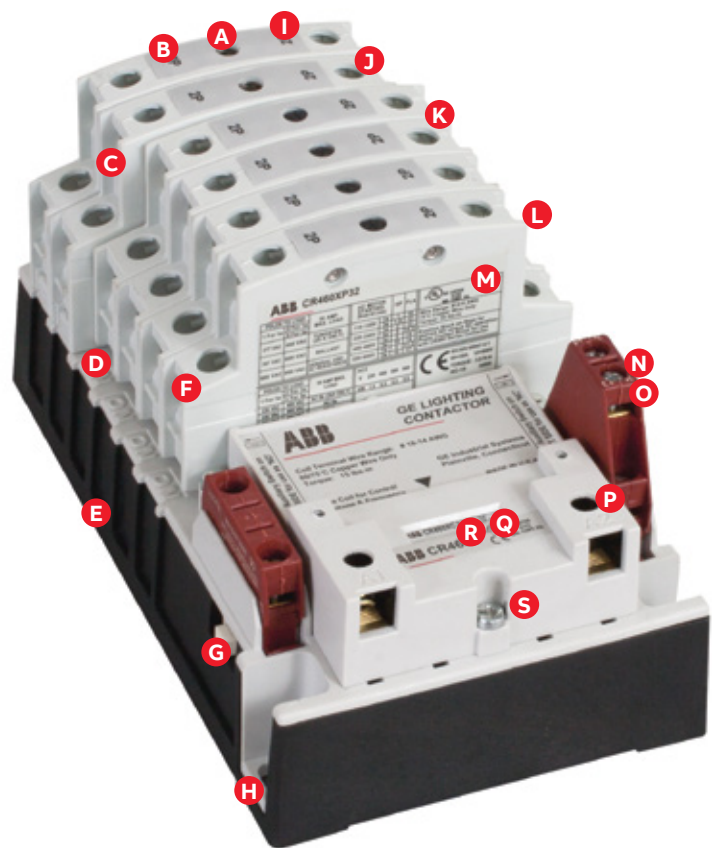
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# CR460 series

## Electrical features and benefits



—  
Electrically held  
contactor

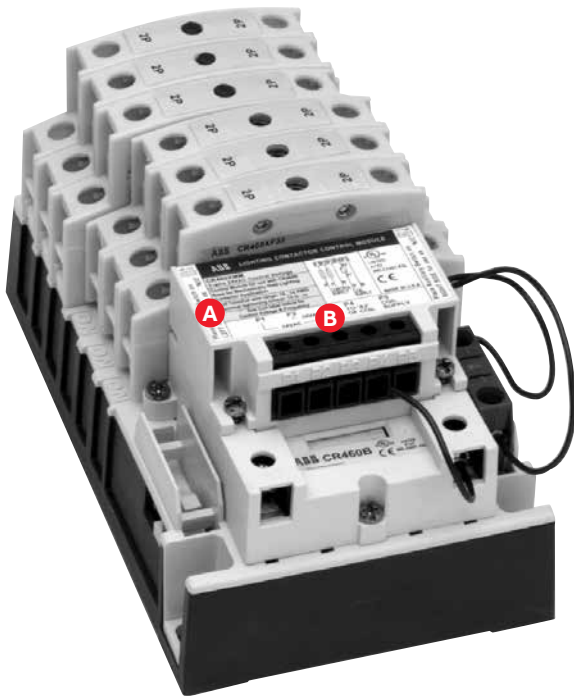
- A** Contact position indication – when button protrudes, contact is closed
- B** Power poles are available as single or double poles, creating 74 different circuit combinations
- C** Convenient side-access field power wiring
- D** Contact configuration indicator
- E** Standard base for all pole configurations
- F** Robust pole terminals accept up to two #8 AWG wires
- G** Manual operator
- H** Fast, sure three-point mounting
- I** Enclosed contacts resist contaminants for greater reliability
- J** Combination slotted/#2 Phillips screws
- K** Common, easily installed power poles change from NO to NC (or vice versa) simply by unlatching and rotating 180°
- L** Power poles rated for the range of tasks:
  - 30 A rated contacts
  - LED Driver/Electronic Ballast Rating: 3A/277V or 10A/120V
  - 15 A motor rated
  - A600 pilot-duty rated
- M** Easy-to-read rating label
- N** Auxiliary contacts, rated A600, are suitable for use on low-level circuits down to 12 V, 5 mA
- O** Plug-in auxiliary contacts are NO when installed on the left side of the base, NC on the right
- P** Finger and back-of-hand safe power terminals
- Q** Quick-view coil voltage
- R** Easy-change coil
- S** Low magnetic noise results in quiet operation

Check out this useful selection tool on the web!

Select a lighting contactor for your specific application. Visit our lighting contactor information page at: [https://empower.abb.com/ecatalog/ec/EN\\_NA/c/Lighting\\_Contactors\\_1056](https://empower.abb.com/ecatalog/ec/EN_NA/c/Lighting_Contactors_1056)

# CR460 series

## Mechanical features and benefits



Mechanically held contactor

### Mechanically held contactors also feature:

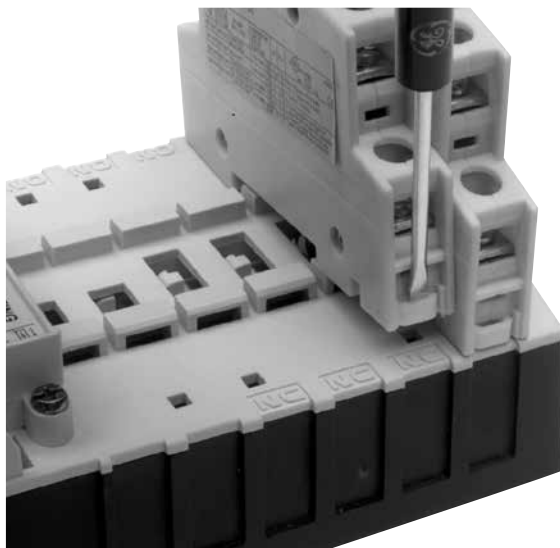
- A** Two- or three-wire control module:
  - Low input VA permits long wire runs
  - Verifies contact status and has built-in delays that minimize excessively frequent signals from faulty controllers
  - Come in a wide range of input voltages: Four modules cover input voltages from 24–277 V AC and 12–24 VDC; all modules may be used with coil voltage from 24 V AC–277 V AC
- B** Clear labeling shows control module rating, wire size and torque

Field configurable from standard electrically held contactor with simple, easy-to-install kits of control modules, latch mechanisms and auxiliary contacts.

### The ultimate in versatility, simplicity and performance

All CR460 series lighting contactors deliver unprecedented versatility in application, simplicity in configuration and performance in operation. Their revolutionary design and unique features meet most lighting control needs better than ever before.

- Modular design permits fast, on-site configuration
- 2–12 power poles
- 30 amp rating (LED Driver/Electronic Ballast Rating: 3A/277V or 10A/120V)
- Snap-in auxiliary contacts
- Common components for both electrically and mechanically held versions
- Continuously rated, interchangeable coils
- Finger-safe terminals



Power poles latch easily onto the base, and designating them as NO or NC is a simple matter of left or right positioning. Additional poles may be added at any time.

## CR460 series

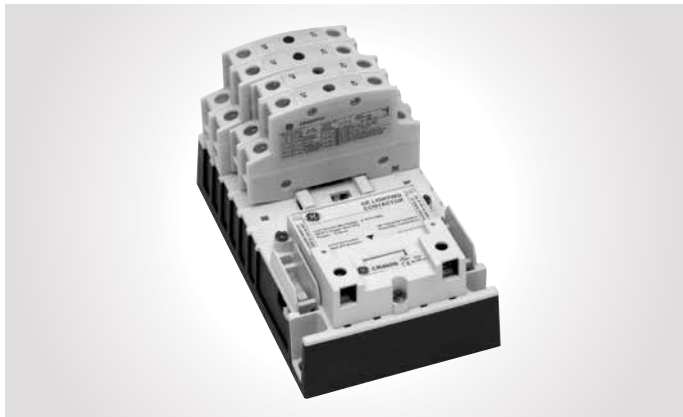
### Application information

CR460 lighting contactors switch ballast (fluorescent or HID), tungsten, LED driver/electronic ballast, and general-use loads and carry motor load, resistive and pilot duty ratings as well.

#### CR463L electrically held contactors

##### Operational mode

- 3-wire control is typically used when control is desired from multiple locations. The contactor is operated from a momentary pilot device and requires an auxiliary contact to be used as a holding interlock.
- 2-wire control is used for single-location control with power continuously supplied to the coil for contactor operation.



CR463L electrically held



CR463M mechanically held

#### CR463M mechanically held contactors

A mechanical latch with a 2- or 3-wire electronic control module delivers reliable performance and protection from such application abnormalities as line noise, leakage currents from controller outputs or short repetitive commands burst from faulty controllers.

##### Mechanical operation

- Latches after contactor command and removes coil from circuit for noise-free operation
- Eliminates all coil losses after contactor is latched

##### Control module

- Coil operation and control circuit at same or different voltages
- Allows longer control wiring runs
- Microprocessor validates control signal before operation:
  - Will not respond to momentary voltage spikes or noise
  - Operation command has built-in delay (0.4 sec.) to avoid multiple short-term commands that can cause contact fatigue or failure
  - Feedback loop prevents contactor from getting out of sequence with switches, even after power failures

##### Operational modes

- 3-wire control is the choice for use with momentary devices, allowing operation from multiple locations:
  - A momentary pulse of energy operates contactor
  - A second pulse on alternate leg returns contactor to original state
- 2-wire control is the choice for single-output automatic operation or for operation from single-pole devices:
  - Latches contactor into position when voltage is applied to input terminals (coil is removed from circuit while control voltage is continuously supplied)
  - Disengages latch and returns contactor to original state when control voltage is removed

## CR460 series

### Ordering options



CR463L80AJA (8 NO)



Contactor reconfigured as 4 NO/4 NC

#### Ways to order CR460 series lighting contactors

Ordering the correct contactor for your application may be accomplished in any of three ways. Choose the one that's right for you.

##### 1. Order components and assemble in minutes (see pages 8–9).

- Cost-effective
- Allows late-point configuration
- Greatest flexibility
- Parts in stock for immediate delivery

##### 2. Order standard assembled contactor and rotate poles to meet pole requirements (see pages 14–17).

- Available from stock or short cycle for timely delivery
- Single product number to order
- Allows local stocking of most common assembled forms via pole reconfiguration

When you receive the contactor, simply reconfigure it to the NO/NC arrangement you require by rotating the appropriate power plates. It just takes a minute.

Example: 4 NO/4 NC required. Order CR463L80AJA.

##### 3. Order assembled contactor configured to the exact application need (see pages 12–13)

- Order contactor as required by application
- Arrives fully assembled, ready to install

## CR460 series

### Components

#### Basic contactor

Combined with other appropriate components, basic contactors allow configuration into any available electrically or mechanically held model. Includes two power poles.

	Contact configuration	Product number
CR463L basic contactor	1 NO/1 NC	CR463L11A*A
	2 NO	CR463L20A*A

Replace \* in the product number with the appropriate digits from the coil voltage table. The resulting product number will be for an assembled contactor with no additional auxiliary contacts, pilot devices, pilot lights, control circuit fuses or CPTs.

#### Coil voltage

V AC, 60 Hz	V AC, 50 Hz	Electrically held	Mechanically held	Coil digit
24	20	✓	✓	C
28	24	✓	✓	D
115–120	110	✓	✓	J
200–208	–	✓	✓	L
230–240	220	✓	✓	S
277	240	✓	✓	N
347	–	✓	1	T
460–480	440	✓	1	U
575–600	550	✓	1	Y

<sup>1</sup>Control module switching device rated 277 V max; use CPT for higher voltage

#### Power poles

CR460 series basic contactors accept up to 6 single- or double-pole power poles. These can be used to form up to:

- 12 NO poles when 6 double poles are used in the NO positions (1–6) or
- 8 NC poles with 4 double poles in the NC positions (1–4) + 4 NO poles with 2 double poles in the 2 NO positions (5–6)

	Type	Product number
CR460XP power poles	Single pole	CR460XP31
	Double pole	CR460XP32



Packaged individually and overpacked in multiple of 5.

#### Conversion kits for mechanically held contactors

Kits for converting an electrically held contactor to a mechanically held version. Kits includes control module, latch, latch cover and auxiliary contact(s) plus installation instructions. Conversion kits are suitable for coil voltages 277 V and below. Use CPT to reduce coil voltage if line voltage is higher than 277 V.

	Coil voltage range (V AC)	Control circuit	Auxiliary contacts <sup>1</sup>	Control circuit voltage	Product number
CR460XM conversion kits	24–277	2-wire	(1) 1 pole	24 V AC	CR460XMB
	24–277	2-wire	(1) 1 pole	110–120 V AC	CR460XMC
	24–277	2-wire	(1) 1 pole	200–277 V AC	CR460XMD
	24–277	2-wire	(1) 1 pole	12–28 V DC	CR460XME
	24–277	3-wire	(2) 1 pole	24 V AC	CR460XMM
	24–277	3-wire	(2) 1 pole	110–120 V AC	CR460XMN
	24–277	3-wire	(2) 1 pole	200–277 V AC	CR460XMP
	24–277	3-wire	(2) 1 pole	12–28 V DC	CR460XMR

<sup>1</sup>Auxiliary contact block required for feedback loop, alternate 2-pole blocks may be required for status feedback and/or pilot lights. See fuse and transformer kits table on page 9 for CPT selection. See wiring diagrams on page 19.

#### Auxiliary contacts

Each contactor may use one single or one double auxiliary contact block on each side of the base. When installed on the left side the contacts are NO; when installed on the right side the contacts are NC. This allows a total of 2 NO + 2 NC contacts maximum.

	Type	Product number
CR460XB auxiliary contacts	Single pole	CR460XB1
	Double pole	CR460XB2



See additional auxiliary contacts tables on page 12 for contact selection data.

#### Spare coils

	Coil voltage at 60 Hz (V)	Coil voltage at 50 Hz (V)	Product number
CR460XC spare coils	24	20	CR460XCC
	28	24	CR460XCD
	115–120	110	CR460XCJ
	200–208	–	CR460XCL
	230–240	220	CR460XCS
	277	240	CR460XCN
	347	–	CR460XCT
	460–480	440	CR460XCU
	575–600	550	CR460XCY



## CR460 series

### Enclosure accessories

#### Enclosure kits (with no CPT or pilot light devices, lights)

Description	Enclosure type	Product number
<b>Standard</b>		
With no CPT or pilot device	NEMA Type 1	CR460XE1B
With no CPT or pilot device	NEMA Type 1 flush mount	CR460XE8B
With no CPT or pilot device	NEMA Type 12/3R	CR460XE2B
<b>Oversized</b>		
With provision for CPT and/or pilot devices, lights	NEMA Type 1	CR460XE1D
With provision for CPT and/or pilot devices, lights	NEMA Type 12/3R	CR460XE2D
With provision for CPT and/or pilot devices, lights	NEMA Type 4	CR460XE4D

See pages 20–23 for enclosure dimensions.

#### Pilot devices (requires oversize enclosure)

Pilot device type	For use with	Product number
Momentary ON/OFF pushbutton	Electrically held with mechanically held 3-wire control module interlock aux.	CR460XP1
Maintained ON/OFF or OFF/AUTO	Electrically held without interlock aux. Mechanically held 2-wire control module Mechanically held 3-wire control module	CR460XP2
Momentary ON/OFF selector switch	Electrically held with interlock aux. Mechanically held 3-wire control module	CR460XP3
Maintained H-O-A or ON/OFF/AUTO	Electrically held without interlock aux. Mechanically held 3-wire control module	CR460XP4
Maintained H-O-A or ON/OFF/AUTO (key removal all positions)	Electrically held without interlock aux. Mechanically held 3-wire control module	CR460XP5

Enclosure accessory kits contain accessory and complete installation wiring and hardware. Some kits contain multiple nameplates for alternate markings.

#### Pilot lights (requires oversize enclosure)

Pilot light type	Nameplate	Product number
Standard	ON or OFF	CR460XLB*
Push-to-test	ON or OFF	CR460XLD*

Pilot light kits come with interchangeable red and green lenses. Pilot lights may require auxiliary contacts.

Replace \* in pilot light product number with appropriate voltage digit from the following table.

See extra contact limitations in the additional auxiliary contacts tables on page 12.

#### Pilot light voltage

Voltage	Digit
24 V AC/DC	C
120 V AC	J
208 V AC	L
240 V AC	S
277 V AC	N
347 V AC	T
480 V AC	U
600 V AC	Y

#### Transformer kits – Includes 2 primary and 2 secondary fuses (requires oversize enclosure)

	CPT primary volts (V)	CPT secondary volts (V)	Product number
100 VA CPT kit <sup>1</sup>	208	120	CR460XTB
100 VA CPT kit <sup>1</sup>	220–240	120	CR460XTC
100 VA CPT kit <sup>1</sup>	277	120	CR460XTD
100 VA CPT kit <sup>1</sup>	440–480 <sup>1</sup>	120	CR460XTE
100 VA CPT kit <sup>1</sup>	600	120	CR460XTF
100 VA CPT kit <sup>1</sup>	120	24	CR460XTL
100 VA CPT kit <sup>1</sup>	208	24	CR460XTM
100 VA CPT kit <sup>1</sup>	220–240 <sup>1</sup>	24	CR460XTN
100 VA CPT kit <sup>1</sup>	277	24	CR460XTP
100 VA CPT kit <sup>1</sup>	440–480	24	CR460XTR
100 VA CPT kit <sup>1</sup>	600	24	CR460XTS

<sup>1</sup>May be reconnected in field for 440–480 volts; requires substitution of two 0.5 amp primary fuses.

#### Control circuit fuse kit

For use with	Product number
Contactors without CPT	CR460XF



Extended button



Standard



Push-to-test



Control power transformer

CR460 series

Project submittal form

Item no.

Proposition no.

- CR460 series lighting contactors feature:
- A modular design that permits fast, on-site configuration
  - 2–12 power poles that latch easily onto the base as either NO or NC and that can be added at any time
  - 30 amp rating
  - Snap-in auxiliary contacts
  - Common components for both electrically and mechanically held versions
  - Continuously rated, interchangeable coils
  - Finger-safe terminals

—

Main power pole ratings

Maximum AC voltage and amp ratings

Load type	Amps continuous	1-Phase (V AC)	3-Phase (V AC)
Ballast	30	347	600
General use	30	600	600
Tungsten	20	277	480
AC resistive	30	600	600
LED Driver/	10	120	—
Electronic Ballast	3	277	

—

Maximum horsepower rating (normal starting duty)

	1-Pole, single-phase				3-Pole, three-phase	
Volts	110–120 V	220–240 V	200–208 V	220–240 V	440–480 V	550–600 V
HP	1	2	3	5	10	15

Power pole configuration		Electrically held contactor		Mechanically held contactor	
NO	NC	Standard type 1 enclosure	Oversized type 1 enclosure	Standard type 1 enclosure	Oversized type 1 enclosure
2	0	□ CR463L20A*A10A0	□ CR463L20A*A10AA	□ CR463M20##A10A0	□ CR463M20##A10AA
3	0	□ CR463L30A*A10A0	□ CR463L30A*A10AA	□ CR463M30##A10A0	□ CR463M30##A10AA
4	0	□ CR463L40A*A10A0	□ CR463L40A*A10AA	□ CR463M40##A10A0	□ CR463M40##A10AA
6	0	□ CR463L60A*A10A0	□ CR463L60A*A10AA	□ CR463M60##A10A0	□ CR463M60##A10AA
8	0	□ CR463L80A*A10A0	□ CR463L80A*A10AA	□ CR463M80##A10A0	□ CR463M80##A10AA
10	0	□ CR463LB0A*A10A0	□ CR463LB0A*A10AA	□ CR463MB0##A10A0	□ CR463MB0##A10AA
12	0	□ CR463LD0A*A10A0	□ CR463LD0A*A10AA	□ CR463MD0##A10A0	□ CR463MD0##A10AA
---	---	-----	-----	-----	-----

—

\* 60 Hz coil voltage (✓) for electrically held

24 V	115–120 V	200–208 V	230–240 V	277 V	460–488 V	575–600 V
□ C	□ J	□ L	□ S	□ T	□ U	□ Y

—

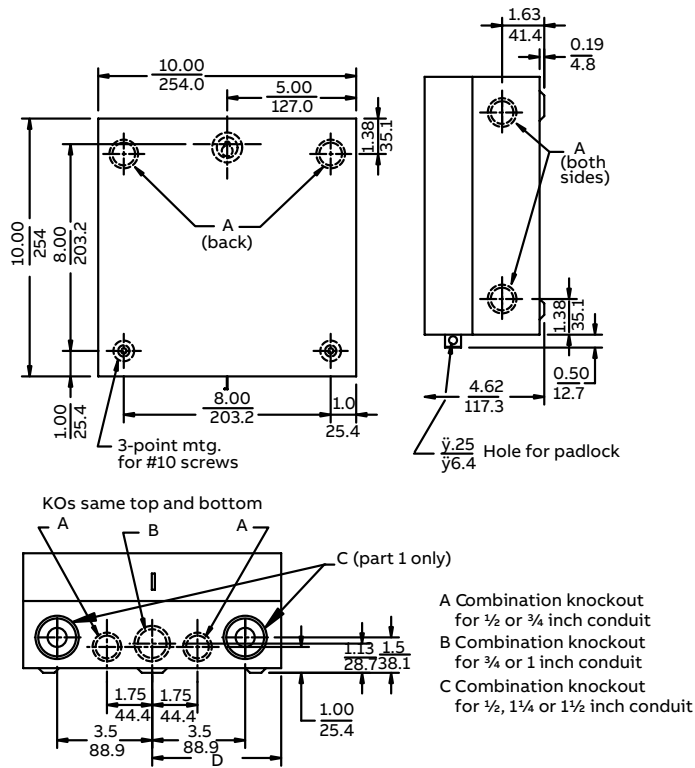
## Control module (✓) for mechanically held

	2-Wire control coil voltage		3-Wire control coil voltage	
Control volts	115–120 V	277 V	115–120 V	277 V
24–28 V	□ BJ	□ BN	□ MJ	□ MN
110–120 V	□ CJ	□ CN	□ NJ	□ NN
200–277 V	—	□ PN	—	□ PN

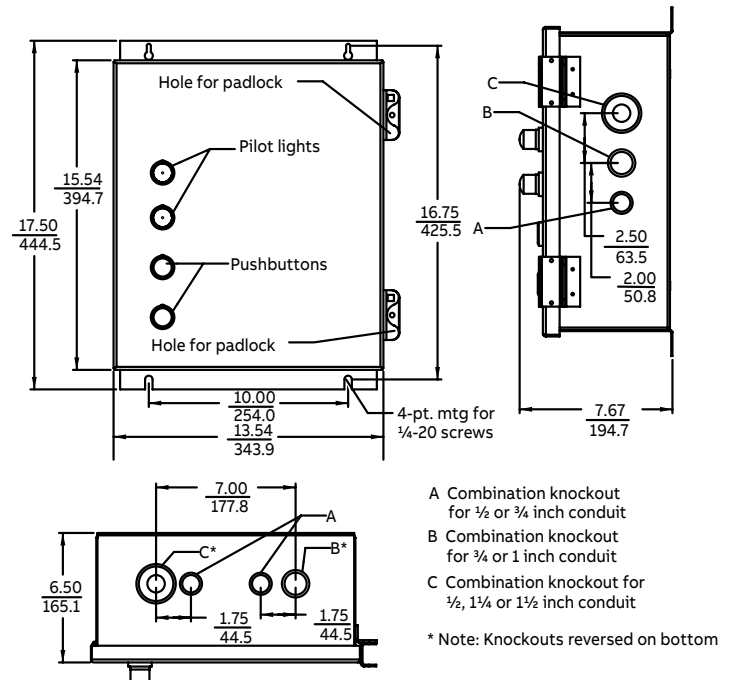
Extended description (if any):

## CR460 series

### Drawings



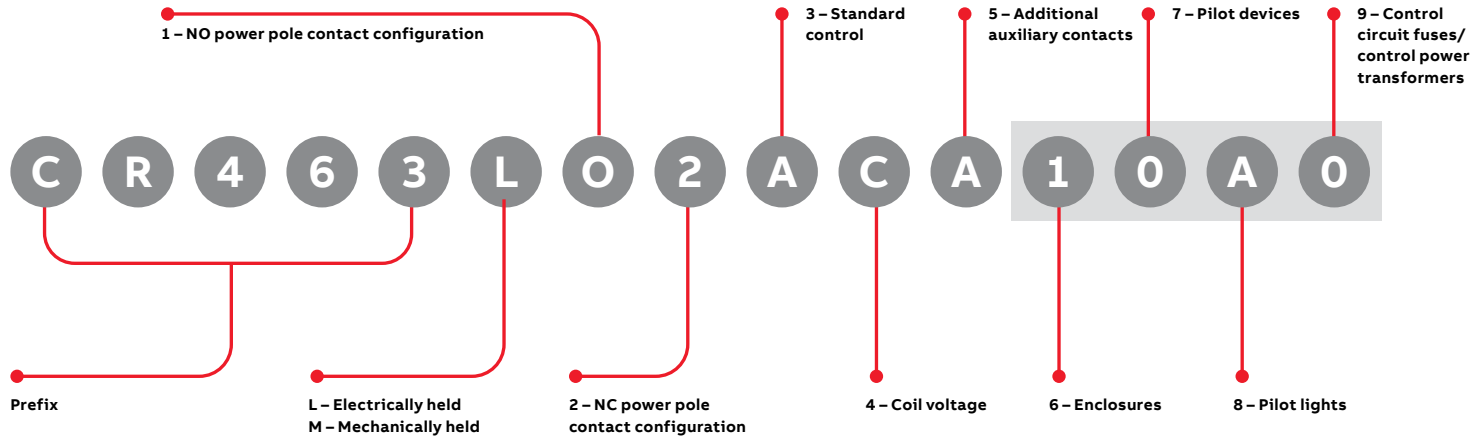
Type 1, standard enclosure



Type 1, oversized enclosure

## CR460 series

### Assembled form ordering code



#### 1–2 – Power pole contact configuration

1 – Number of NO contacts	2 – Number of NC contacts
Digit 1	Digit 2
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	
B (10) <sup>1</sup>	
C (11) <sup>1</sup>	
D (12) <sup>1</sup>	

<sup>1</sup> For digit 1 with 10 NO contacts use B; for 11 NO contacts, use C; for 12 NO contacts, use D.

#### 3 – Standard control

Digit 3
A

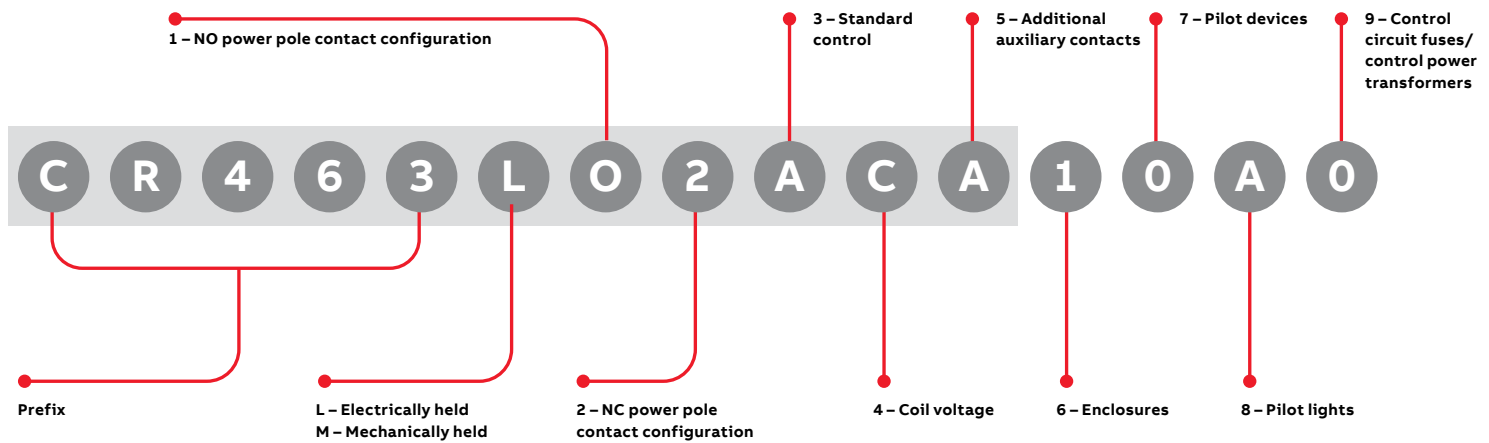
#### 4 – Coil voltage

Coil voltage		
V AC, 60 Hz	V AC, 50 Hz	Digit 4
24	20	C
28	24	D
115–120	110	J
200–208	–	L
230–240	220	S
277	240	N
347	–	T
460–480	440	U
575–600	550	Y

#### 5 – Additional auxiliary contacts

Each side of the contactor base will accept one single- or double-pole auxiliary contact block, for a maximum of 2 NO/2 NC contacts. Enclosures with OFF pilot lights require 1NC contact. Specify an additional 1NO contact if a holding interlock is required and “not” selected as part of Digit 7 (1 or 3). For open forms, this is the final digit.

Additional (field use) auxiliary contacts	Enclosed with pilot device codes (Digit 7) 0, 2, 4, 5, 6, 7, 8 below						Enclosed with pilot device codes (Digit 7) 1, 3 below					
	Digit 5 (Aux)	Open type	No pilot devices or pilot lights digit 8 = A		ON light across OFF light thru coil and OFF light NC contact digit 8 = C,E		Digit 5 (Aux)	Open type	No pilot devices or pilot lights digit 8 = A		ON light across OFF light thru coil and OFF light NC contact digit 8 = C,E	
			ON light across coil digit 8 = B,D	thru NC contact digit 8 = F,G	thru NC contact digit 8 = F,G	thru NC contact digit 8 = F,G			ON light across coil digit 8 = B,D	thru NC contact digit 8 = F,G	thru NC contact digit 8 = F,G	thru NC contact digit 8 = F,G
None	A	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	✓
1 NO	B	✓	✓	✓	✓	✓	B	✓	✓	✓	✓	✓
1 NC	C	✓	✓	✓	✓	✓	C	✓	✓	✓	✓	✓
1 NO/1 NC	D	✓	✓	✓	✓	✓	D	✓	✓	✓	✓	✓
2 NO	E	✓	✓	✓	✓	✓	E	–	–	–	–	–
2 NO/1 NC	F	✓	✓	✓	✓	✓	F	–	–	–	–	–
2 NC	G	✓	✓	✓	–	–	G	✓	✓	–	–	–
1 NO/2 NC	H	✓	✓	✓	–	–	H	✓	✓	–	–	–
2 NO/2 NC	J	✓	✓	✓	–	–	J	–	–	–	–	–



#### 6 – Enclosures

Enclosure type	Digit 6
Type 1 surface for 2–4 pole contactors	1
Type 1 surface for 5–12 pole contactors	1
Type 1 flush	8
Type 12/3R	2
Type 4/4X	4

#### 8 – Pilot lights

Heavy-duty 30 mm pilot lights with interchangeable red and green lenses. See the additional auxiliary contacts table above for contact limitations. OFF light includes extra auxiliary contact. Not available in type 1 flush enclosure.

Type	Pilot light(s)	Digit 8
—	None	A
Standard <sup>3</sup>	ON	B
	OFF	C
	ON and OFF	F
Push-to-test <sup>3</sup>	ON	D
	OFF	E
	ON and OFF	G

<sup>3</sup> ON is across coil; OFF is through NC contact, which is included in pilot light digit and pricing

#### 7 – Pilot devices

Heavy-duty, 30 mm pilot devices. Contactor supplied in oversize enclosures with these options. Not available in Type 1 flush enclosure.

Pilot device	Holding interlock		Digit 7
	Not required	Included <sup>2</sup>	
None	–	–	0
ON/OFF push button (momentary)	–	✓	1
ON/OFF Selector switch (maintained)	✓	–	2
ON-OFF selector switch, spring return to center (momentary)	–	✓	3
H-O-A selector switch (maintained)	✓	–	4
ON-OFF-AUTO keyed selector switch (removal all positions) (maintained)	✓	–	5
H-O-A keyed selector switch (removal all positions) (maintained)	✓	–	6
OFF-AUTO selector switch (maintained)	✓	–	7
ON-OFF-AUTO selector switch (maintained)	✓	–	8

<sup>2</sup> One holding interlock is included in pilot device digit.

#### 9 – Control circuit fuses/control power transformers

CPT secondary voltage must match control voltage. Not available in type 1 flush enclosure.

Contact type	Description	Digit 9	
—	None	0	
Without CPT	Control circuit fuses	1	
	CPT primary volts	CPT secondary volts	
With 100 VA CPT <sup>4</sup>	208	120	B
	220–240		C
	277		D
	440–480		E
	600		F
	120	24	L
	208		M
	220–240		N
	277		P
	440–480		R
	600		S

<sup>4</sup> Contactor supplied in oversize enclosure with these options.

## CR460 series

### CR463L electrically held contactors – Standard assembled forms

#### CR463L – 30 A (2–12 pole) Standard assembled forms



#### Product number selection instructions

Replace \* in the product number with the appropriate digits from the coil voltage table. The resulting product number will be for an assembled contactor with no additional auxiliary contacts, pilot devices, pilot lights, control circuit fuses or CPTs.

For modified assembled forms with those modifications, see pages 12–13.

- Items listed here are the most common pole configurations.
- Poles may be reconfigured by the user into alternative combinations of NO and NC contacts.
- All configurations are available as factory-assembled forms.

—  
Open

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A
2	2 NO	CR463L20A*A
3	3 NO	CR463L30A*A
4	3 NO/1 NC	CR463L31A*A
4	4 NO	CR463L40A*A
5	5 NO	CR463L50A*A
6	5 NO/1 NC	CR463L51A*A
6	6 NO	CR463L60A*A
7	7 NO	CR463L70A*A
8	7 NO/1 NC	CR463L71A*A
8	8 NO	CR463L80A*A
9	9 NO	CR463L90A*A
10	9 NO/1 NC	CR463L91A*A
10	10 NO	CR463LB0A*A
11	11 NO	CR463LC0A*A
12	12 NO	CR463LD0A*A

—  
Enclosed NEMA type 1 surface mount

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A10A0
2	2 NO	CR463L20A*A10A0
3	3 NO	CR463L30A*A10A0
4	3 NO/1 NC	CR463L31A*A10A0
4	4 NO	CR463L40A*A10A0
5	5 NO	CR463L50A*A10A0
6	5 NO/1 NC	CR463L51A*A10A0
6	6 NO	CR463L60A*A10A0
7	7 NO	CR463L70A*A10A0
8	7 NO/1 NC	CR463L71A*A10A0
8	8 NO	CR463L80A*A10A0
9	9 NO	CR463L90A*A10A0
10	9 NO/1 NC	CR463L91A*A10A0
10	10 NO	CR463LB0A*A10A0
11	11 NO	CR463LC0A*A10A0
12	12 NO	CR463LD0A*A10A0

—  
Enclosed NEMA type 1 surface mount (oversize)<sup>1</sup>

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A10AA
2	2 NO	CR463L20A*A10AA
3	3 NO	CR463L30A*A10AA
4	3 NO/1 NC	CR463L31A*A10AA
4	4 NO	CR463L40A*A10AA
5	5 NO	CR463L50A*A10AA
6	5 NO/1 NC	CR463L51A*A10AA
6	6 NO	CR463L60A*A10AA
7	7 NO	CR463L70A*A10AA
8	7 NO/1 NC	CR463L71A*A10AA
8	8 NO	CR463L80A*A10AA
9	9 NO	CR463L90A*A10AA
10	9 NO/1 NC	CR463L91A*A10AA
10	10 NO	CR463LB0A*A10AA
11	11 NO	CR463LC0A*A10AA
12	12 NO	CR463LD0A*A10AA

<sup>1</sup>Oversize enclosures required for field-installed pilot devices, pilot lights and control power transformers.

## CR463L – 30 A (2–12 pole)

### Standard assembled forms

#### Enclosed NEMA type 1 flush mount

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A80A0
2	2 NO	CR463L20A*A80A0
3	3 NO	CR463L30A*A80A0
4	3 NO/1 NC	CR463L31A*A80A0
4	4 NO	CR463L40A*A80A0
5	5 NO	CR463L50A*A80A0
6	5 NO/1 NC	CR463L51A*A80A0
6	6 NO	CR463L60A*A80A0
7	7 NO	CR463L70A*A80A0
8	7 NO/1 NC	CR463L71A*A80A0
8	8 NO	CR463L80A*A80A0
9	9 NO	CR463L90A*A80A0
10	9 NO/1 NC	CR463L91A*A80A0
10	10 NO	CR463LB0A*A80A0
11	11 NO	CR463LC0A*A80A0
12	12 NO	CR463LD0A*A80A0

#### Enclosed NEMA type 12/3R

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A20A0
2	2 NO	CR463L20A*A20A0
3	3 NO	CR463L30A*A20A0
4	3 NO/1 NC	CR463L31A*A20A0
4	4 NO	CR463L40A*A20A0
5	5 NO	CR463L50A*A20A0
6	5 NO/1 NC	CR463L51A*A20A0
6	6 NO	CR463L60A*A20A0
7	7 NO	CR463L70A*A20A0
8	7 NO/1 NC	CR463L71A*A20A0
8	8 NO	CR463L80A*A20A0
9	9 NO	CR463L90A*A20A0
10	9 NO/1 NC	CR463L91A*A20A0
10	10 NO	CR463LB0A*A20A0
11	11 NO	CR463LC0A*A20A0
12	12 NO	CR463LD0A*A20A0

#### Enclosed NEMA type 12/3R (oversize)<sup>1</sup>

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A20AA
2	2 NO	CR463L20A*A20AA
3	3 NO	CR463L30A*A20AA
4	3 NO/1 NC	CR463L31A*A20AA
4	4 NO	CR463L40A*A20AA
5	5 NO	CR463L50A*A20AA
6	5 NO/1 NC	CR463L51A*A20AA
6	6 NO	CR463L60A*A20AA
7	7 NO	CR463L70A*A20AA
8	7 NO/1 NC	CR463L71A*A20AA
8	8 NO	CR463L80A*A20AA
9	9 NO	CR463L90A*A20AA
10	9 NO/1 NC	CR463L91A*A20AA
10	10 NO	CR463LB0A*A20AA
11	11 NO	CR463LC0A*A20AA
12	12 NO	CR463LD0A*A20AA

<sup>1</sup>Oversize enclosures required for field-installed pilot devices, pilot lights and control power transformers.

#### Enclosed NEMA type 4/4X

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463L11A*A40A0
2	2 NO	CR463L20A*A40A0
3	3 NO	CR463L30A*A40A0
4	3 NO/1 NC	CR463L31A*A40A0
4	4 NO	CR463L40A*A40A0
5	5 NO	CR463L50A*A40A0
6	5 NO/1 NC	CR463L51A*A40A0
6	6 NO	CR463L60A*A40A0
7	7 NO	CR463L70A*A40A0
8	7 NO/1 NC	CR463L71A*A40A0
8	8 NO	CR463L80A*A40A0
9	9 NO	CR463L90A*A40A0
10	9 NO/1 NC	CR463L91A*A40A0
10	10 NO	CR463LB0A*A40A0
11	11 NO	CR463LC0A*A40A0
12	12 NO	CR463LD0A*A40A0

#### Coil voltage

Insert coil digit in place of \* in digit 10.

Coil voltage		
V AC, 60 Hz	V AC, 50 Hz	Coil digit
24	20	C
28	24	D
115/120	110	J
200/208	–	L
230/240	220	S
277	240	N
347	–	T
460/480	440	U
575/600	550	Y

## CR460 series

### CR463M mechanically held contactors – Standard assembled forms

#### CR463M – 30A (2–12 pole) Standard assembled forms

##### Product number selection instructions

To specify control and coil voltage, replace \*\* in the product number with the appropriate digits from the control circuit table. The resulting product number will be for an assembled contactor with no additional auxiliary contacts, pilot devices, pilot lights, control circuit fuses or CPTs. If coil supply voltage is greater than 277 V, use a CPT.

For modified assembled forms with those modifications, see pages 12–13. Items listed here are the most common pole configurations.

#### Open

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A
2	2 NO	CR463M20**A
3	3 NO	CR463M30**A
4	3 NO/1 NC	CR463M31**A
4	4 NO	CR463M40**A
5	5 NO	CR463M50**A
6	5 NO/1 NC	CR463M51**A
6	6 NO	CR463M60**A
7	7 NO	CR463M70**A
8	7 NO/1 NC	CR463M71**A
8	8 NO	CR463M80**A
9	9 NO	CR463M90**A
10	9 NO/1 NC	CR463M91**A
10	10 NO	CR463MB0**A
11	11 NO	CR463MC0**A
12	12 NO	CR463MD0**A

#### Enclosed NEMA type 1 surface mount

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A10A0
2	2 NO	CR463M20**A10A0
3	3 NO	CR463M30**A10A0
4	3 NO/1 NC	CR463M31**A10A0
4	4 NO	CR463M40**A10A0
5	5 NO	CR463M50**A10A0
6	5 NO/1 NC	CR463M51**A10A0
6	6 NO	CR463M60**A10A0
7	7 NO	CR463M70**A10A0
8	7 NO/1 NC	CR463M71**A10A0
8	8 NO	CR463M80**A10A0
9	9 NO	CR463M90**A10A0
10	9 NO/1 NC	CR463M91**A10A0
10	10 NO	CR463MB0**A10A0
11	11 NO	CR463MC0**A10A0
12	12 NO	CR463MD0**A10A0

#### Enclosed NEMA type 1 surface mount (oversize)<sup>1</sup>

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A10AA
2	2 NO	CR463M20**A10AA
3	3 NO	CR463M30**A10AA
4	3 NO/1 NC	CR463M31**A10AA
4	4 NO	CR463M40**A10AA
5	5 NO	CR463M50**A10AA
6	5 NO/1 NC	CR463M51**A10AA
6	6 NO	CR463M60**A10AA
7	7 NO	CR463M70**A10AA
8	7 NO/1 NC	CR463M71**A10AA
8	8 NO	CR463M80**A10AA
9	9 NO	CR463M90**A10AA
10	9 NO/1 NC	CR463M91**A10AA
10	10 NO	CR463MB0**A10AA
11	11 NO	CR463MC0**A10AA
12	12 NO	CR463MD0**A10AA

<sup>1</sup> Oversize enclosures required for field-installed pilot devices, pilot lights and control power transformers.

## CR463M – 30A (2–12 pole) Standard assembled forms

### Enclosed NEMA type 1 flush mount

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A80A0
2	2 NO	CR463M20**A80A0
3	3 NO	CR463M30**A80A0
4	3 NO/1 NC	CR463M31**A80A0
4	4 NO	CR463M40**A80A0
5	5 NO	CR463M50**A80A0
6	5 NO/1 NC	CR463M51**A80A0
6	6 NO	CR463M60**A80A0
7	7 NO	CR463M70**A80A0
8	7 NO/1 NC	CR463M71**A80A0
8	8 NO	CR463M80**A80A0
9	9 NO	CR463M90**A80A0
10	9 NO/1 NC	CR463M91**A80A0
10	10 NO	CR463MB0**A80A0
11	11 NO	CR463MC0**A80A0
12	12 NO	CR463MD0**A80A0

### Enclosed NEMA type 12/3R

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A20A0
2	2 NO	CR463M20**A20A0
3	3 NO	CR463M30**A20A0
4	3 NO/1 NC	CR463M31**A20A0
4	4 NO	CR463M40**A20A0
5	5 NO	CR463M50**A20A0
6	5 NO/1 NC	CR463M51**A20A0
6	6 NO	CR463M60**A20A0
7	7 NO	CR463M70**A20A0
8	7 NO/1 NC	CR463M71**A20A0
8	8 NO	CR463M80**A20A0
9	9 NO	CR463M90**A20A0
10	9 NO/1 NC	CR463M91**A20A0
10	10 NO	CR463MB0**A20A0
11	11 NO	CR463MC0**A20A0
12	12 NO	CR463MD0**A20A0

### Enclosed NEMA type 12/3R (oversize)<sup>1</sup>

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A20AA
2	2 NO	CR463M20**A20AA
3	3 NO	CR463M30**A20AA
4	3 NO/1 NC	CR463M31**A20AA
4	4 NO	CR463M40**A20AA
5	5 NO	CR463M50**A20AA
6	5 NO/1 NC	CR463M51**A20AA
6	6 NO	CR463M60**A20AA
7	7 NO	CR463M70**A20AA
8	7 NO/1 NC	CR463M71**A20AA
8	8 NO	CR463M80**A20AA
9	9 NO	CR463M90**A20AA
10	9 NO/1 NC	CR463M91**A20AA
10	10 NO	CR463MB0**A20AA
11	11 NO	CR463MC0**A20AA
12	12 NO	CR463MD0**A20AA

<sup>1</sup> Oversize enclosures required for field-installed pilot devices, pilot lights and control power transformers.

### Enclosed NEMA type 4/4X

No. of poles	Contact configuration	Product number
2	1 NO/1 NC	CR463M11**A40A0
2	2 NO	CR463M20**A40A0
3	3 NO	CR463M30**A40A0
4	3 NO/1 NC	CR463M31**A40A0
4	4 NO	CR463M40**A40A0
5	5 NO	CR463M50**A40A0
6	5 NO/1 NC	CR463M51**A40A0
6	6 NO	CR463M60**A40A0
7	7 NO	CR463M70**A40A0
8	7 NO/1 NC	CR463M71**A40A0
8	8 NO	CR463M80**A40A0
9	9 NO	CR463M90**A40A0
10	9 NO/1 NC	CR463M91**A40A0
10	10 NO	CR463MB0**A40A0
11	11 NO	CR463MC0**A40A0
12	12 NO	CR463MD0**A40A0

### Control circuit rating

Insert control circuit rating digits in place of the \*\* digit 9 and 10 of product number.

Product no. digits by coil voltage (60 Hz) <sup>2</sup>			
Control	Control module input (V AC)	115–120 V AC	277 V AC
2-Wire	110–120	CJ	–
	200–277	–	DN
3-Wire	110–120	NJ	–
	200–277	–	PN

<sup>2</sup> For 50 Hz coil ratings, see coil table, page 8.

## CR460 series

### Technical data

#### Main power poles ratings

##### Maximum AC voltage and amp ratings

Load type	Amps continuous	Poles (V AC)	
		1-Phase	3-Phase
Ballast	30	347	600
Tungsten	20	277	480
General use/ AC resistive	30	600	600
LED Driver/	10	120	—
Electronic Ballast	3	277	—

##### Maximum horsepower rating (normal starting duty)

	1-Pole single-phase			3-Pole, three-phase		
Volts	110–120	220–240	200–208	220–240	440–480	550–600
HP	1	2	3	5	10	15

#### Short circuit current ratings

##### For 463 series contactors – Available amps (RMS) symmetrical

Circuit breakers inverse trip type		Enclosure type CR460X*B				Enclosure type CR460X*D or larger		
		All other inverse trip			TEY	All other inverse trip		
AC service voltage	Breaker size (A)	TEY/ THHQB	breakers	THHQB		SE	breakers	
240	30	22,000	14,000	22,000	65,000	100,000	22,000	
	40	14,000	10,000	22,000	65,000	100,000	22,000	
277	30	14,000 <sup>1</sup>	10,000	—	14,000	30,000	14,000	
	40	14,000 <sup>1</sup>	5,000	—	14,000	30,000	14,000	
480	40	—	5,000	—	—	30,000	14,000	
600	40	—	5,000	—	—	14,000	10,000	

<sup>1</sup>TEY only

#### Withstand current ratings

##### For 463 series contactors – Available amps (RMS) symmetrical fuses

AC service voltage	Enclosure type CR460X*B				Enclosure type CR460X*D or larger	
	Fuse size (A)	Fuse type J	RK1	J/RK1/RK5	Fuse type K	Fuse type H
600 and below	30	100,000	50,000	100,000	50,000	10,000

#### Control circuit characteristics

##### Coil

Inrush VA	340
Sealed VA	45

##### Control module

Input voltage	Steady state current at rated voltage (mA)	Maximum VA
12–28 V DC	42	2
24 V AC	80	5
115–120 V AC	83	12
200–277 V AC	91	30

Minimum pulse duration (3-wire control module)	250 ms
Maximum allowable leakage current	1.8 mA
EMI	35 V/m
Surge transient peak	6 kV
Frequency range	40–70 Hz

#### Auxiliary contacts rating

- A600, 10 A, 600 V AC

#### Wire size ratings

Component	Number of cables	Wire range (AWG) (solid or stranded)	Wire temp.
Power poles	1	#14–8	75° C Cu
Power poles	2	#14–8 <sup>2</sup>	75° C Cu
Coil	1 or 2	#18–14	60°/75° C Cu
Control module	1 or 2	#22–12	60°/75° C Cu
Auxiliary contacts	1 or 2	#22–12	60°/75° C Cu

<sup>2</sup>#8 AWG stranded only.

#### Standards and listings

- UL 508 File, E1811 Vol 19, cUL, CE

#### Ambient operating temperature

- -25 °C to 40 °C

#### Reference publications

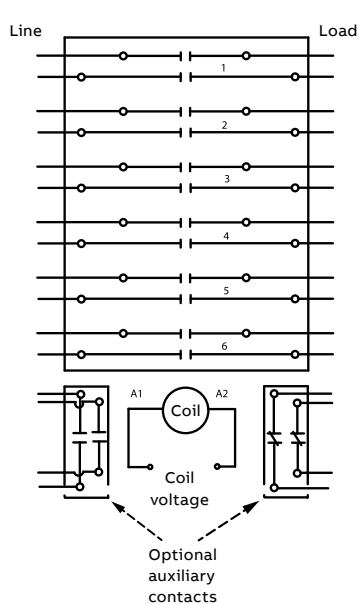
- Instructions: DEH-40460

#### Wiring diagrams

Wiring diagrams and outline drawings	Reference page
CR463L electrically held	21
CR463M mechanically held	21
55–217114P01	22
55–217069 (CR460XE1B)	23
55–217105 (CR460XE1D)	23
55–217108 (CR460XE8B)	24
55–217109 (CR460XE2B)	24
55–217106 (CR460XE2D)	25
55–217107 (CR460XE4D)	25

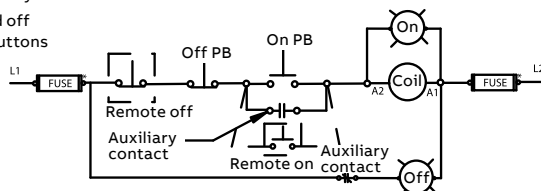
## CR460 series

### CR463L and CR463M series wiring diagrams

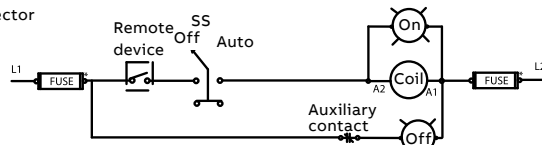


Optional pilot devices for electrically held contactor

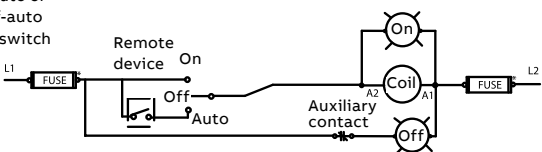
On and off pushbuttons



Off-on or off-auto selector switch



On-off-auto or hand-off-auto selector switch



CR463L electrically held

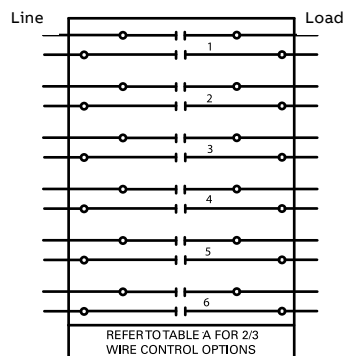
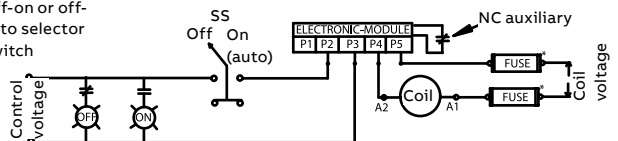


Table B – Optional pilot devices for 2-wire control

Off-on or off-auto selector switch



Hand-off-auto or on-off-auto selector switch

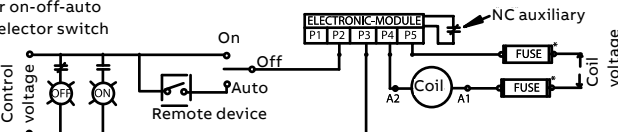
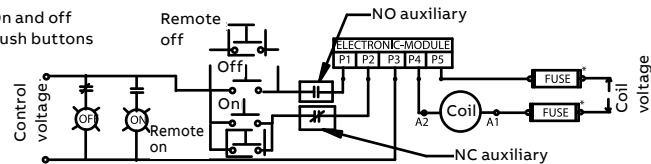


Table C – Optional pilot devices for 3-wire control

On and off push buttons



On-off selector switch with spring return to center

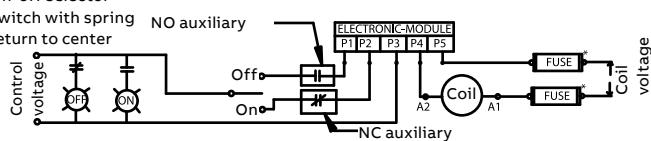
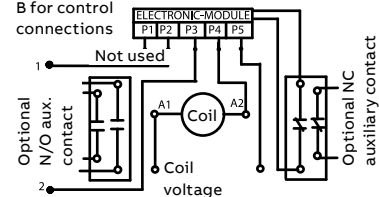
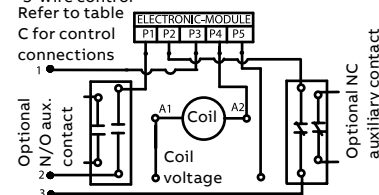


Table A  
2-wire control  
Refer to table  
B for control  
connections

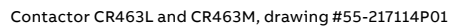


3-wire control  
Refer to table  
C for control  
connections



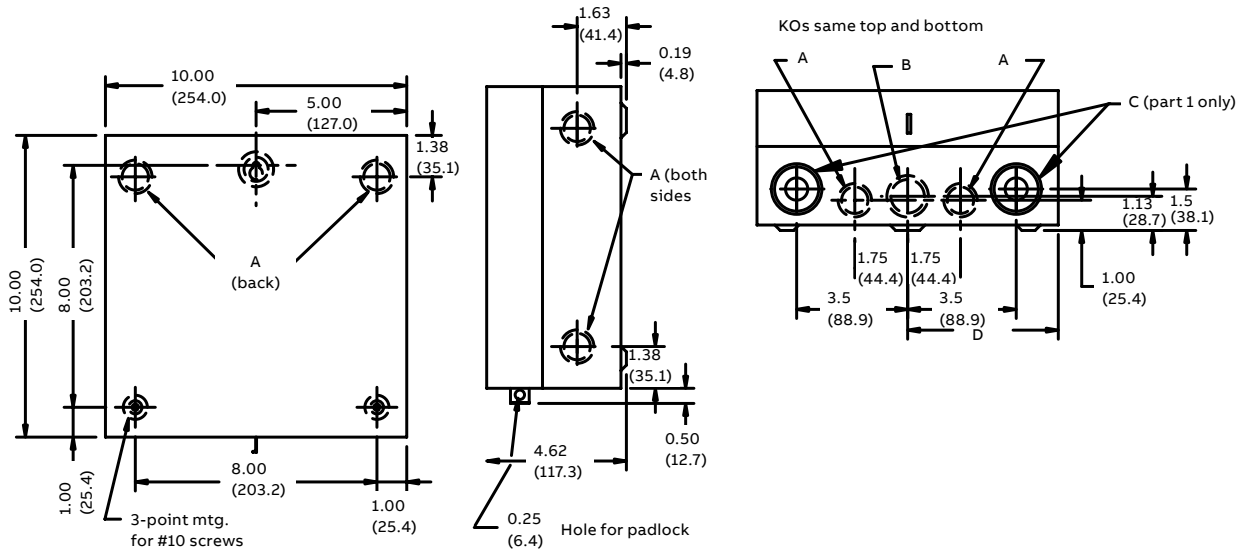
CR463M mechanically held

## CR463L and CR463M outlines and dimensions



1. Mounting dimensions remain the same for 1 to 12 poles.
2. Line and load terminals are interchangeable.
3. Up to 2 NO and 2 NC auxiliary contacts can be added onto the base product.
4. Same power pole can be configured as NO type or NC type in pole positions 1-4; NO type only in positions 5-6.

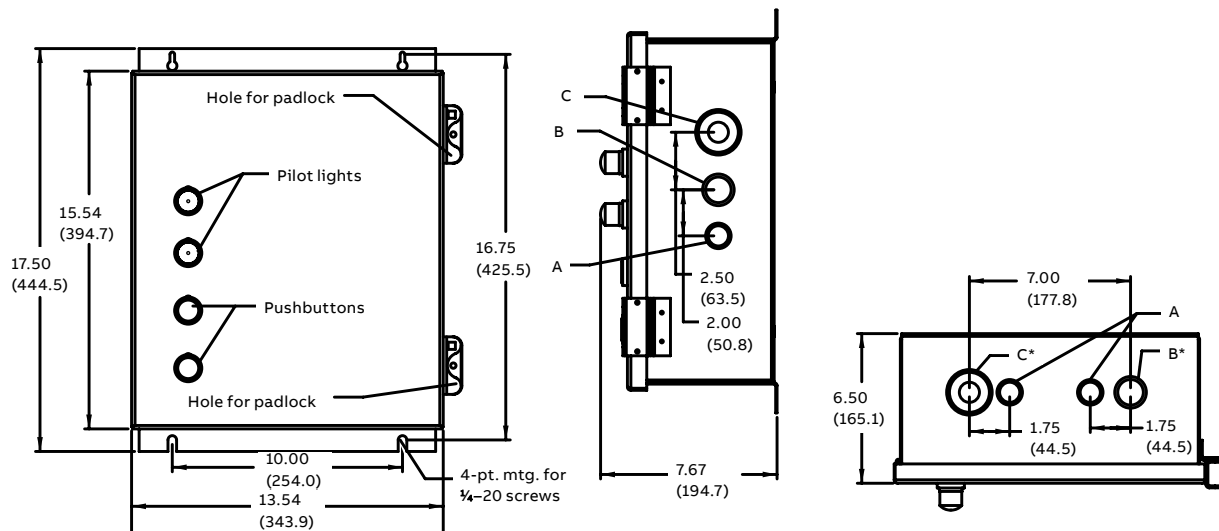
Dimensions shown are in inches with millimeters in parentheses.



NEMA type 1 with no CPT, pilot devices or pilot lights, drawing #55-217069 (CR460XE1B)

KOs same top and bottom

- A. Combination knockout for  $\frac{1}{2}$  or  $\frac{3}{4}$  inch conduit
- B. Combination knockout for  $\frac{3}{4}$  or 1 inch conduit
- C. Combination knockout for  $\frac{1}{2}$ ,  $1\frac{1}{4}$  or  $1\frac{1}{2}$  inch conduit



NEMA type 1 oversized or with provision for CPT and/or pilot device/pilot lights, drawing #55-217105 (CR460XE1D)

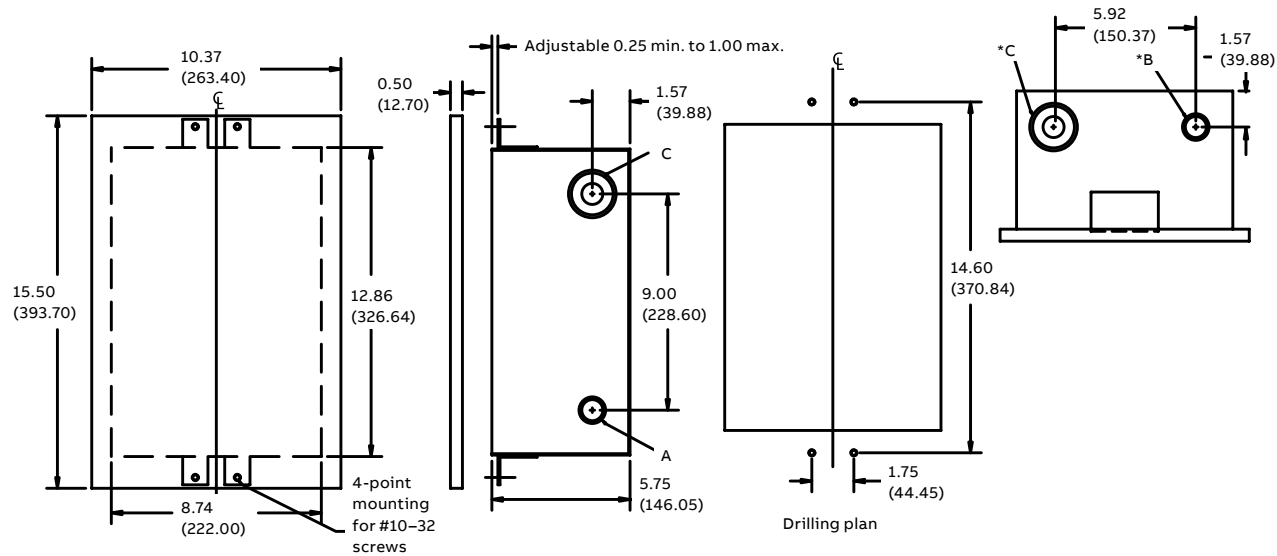
- A. Combination knockout for  $\frac{1}{2}$  or  $\frac{3}{4}$  inch conduit
- B. Combination knockout for  $\frac{3}{4}$  or 1 inch conduit
- C. Combination knockout for  $\frac{1}{2}$ ,  $1\frac{1}{4}$  or  $1\frac{1}{2}$  inch conduit

\*Features: Knockouts reversed on bottom

Dimensions shown are in inches with millimeters in parentheses.

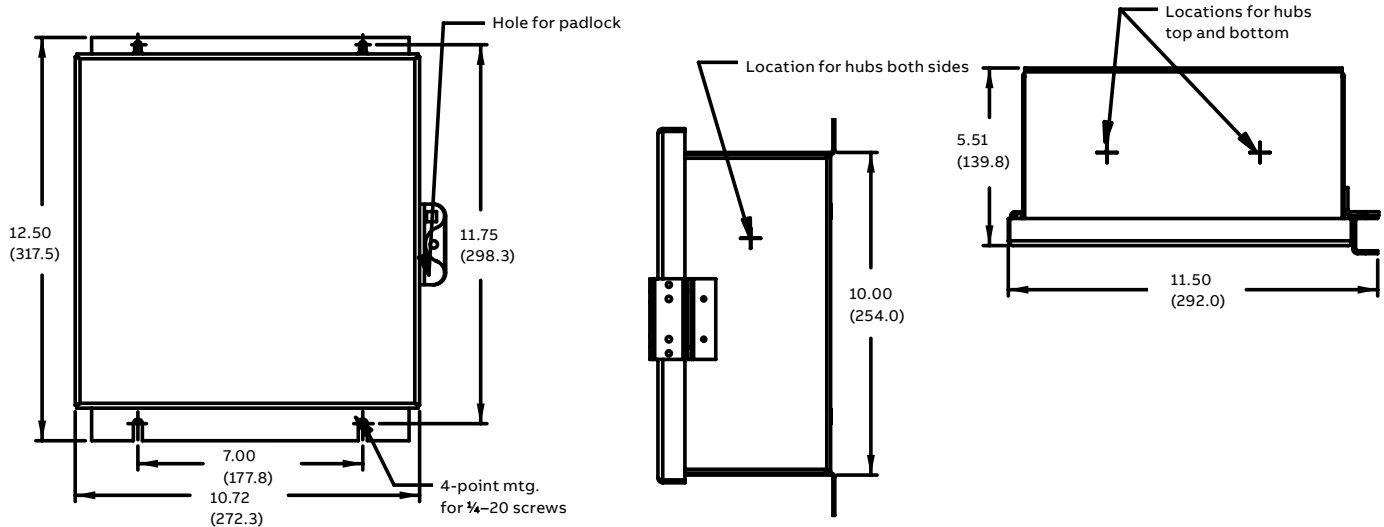
## CR460 series

### CR463L and CR463M outlines and dimensions



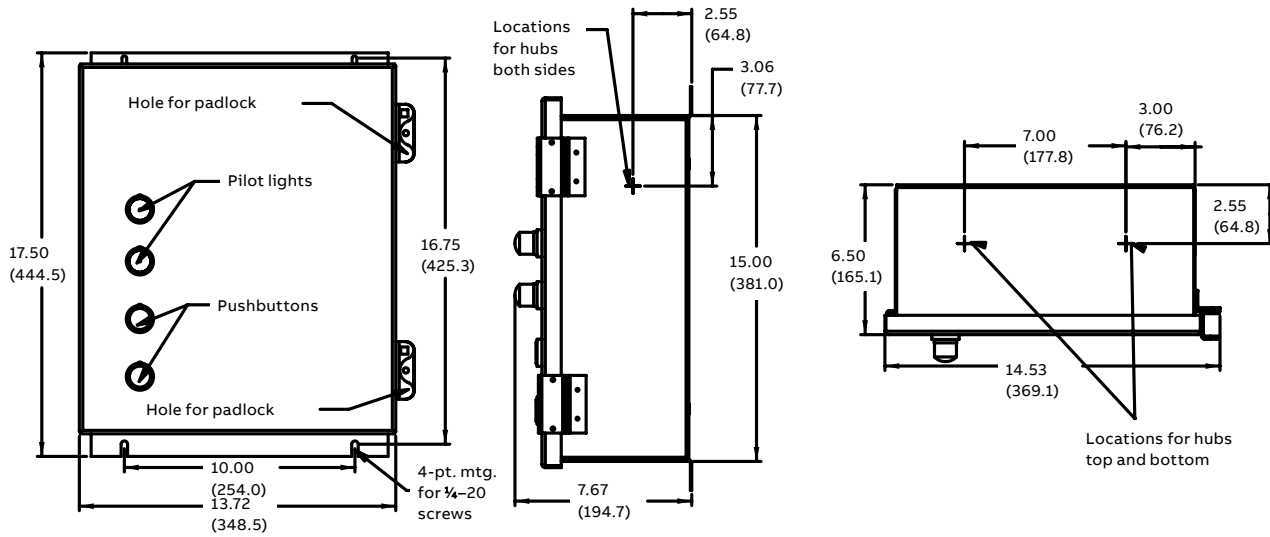
NEMA type 1 flush drawing #55-217108 (CR460XE8B)

- A. Combination knockout for  $\frac{1}{2}$  or  $\frac{3}{4}$  inch conduit
  - B. Combination knockout for  $\frac{3}{4}$  or 1 inch conduit
  - C. Combination knockout for  $\frac{1}{2}$ ,  $1\frac{1}{4}$  or  $1\frac{1}{2}$  inch conduit
- \*Features: Knockouts reversed on bottom

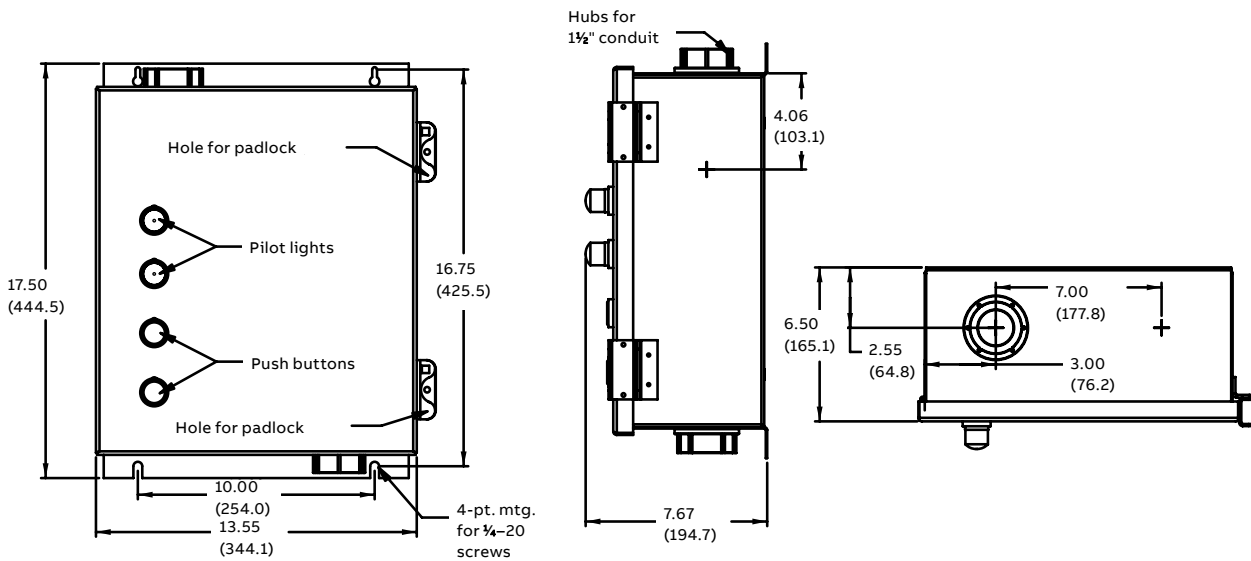


NEMA Type 12/3R with no CPT, pilot device or pilot lights, drawing #55-217109 (CR460XE2B)

Dimensions shown are in inches with millimeters in parentheses.



NEMA Type 12/3R oversized with provision for CPT and/or pilot device/pilot lights, drawing #55-217106 (CR460XE2D)



NEMA Type 4/4X oversized with provision for CPT and/or pilot devices/pilot lights, drawing #55-217107 (CR460XE4D)

# CR360L series electrically held contactors

## Application information

### CR360L – 30 A–300 A (2-, 3- and 4-pole)

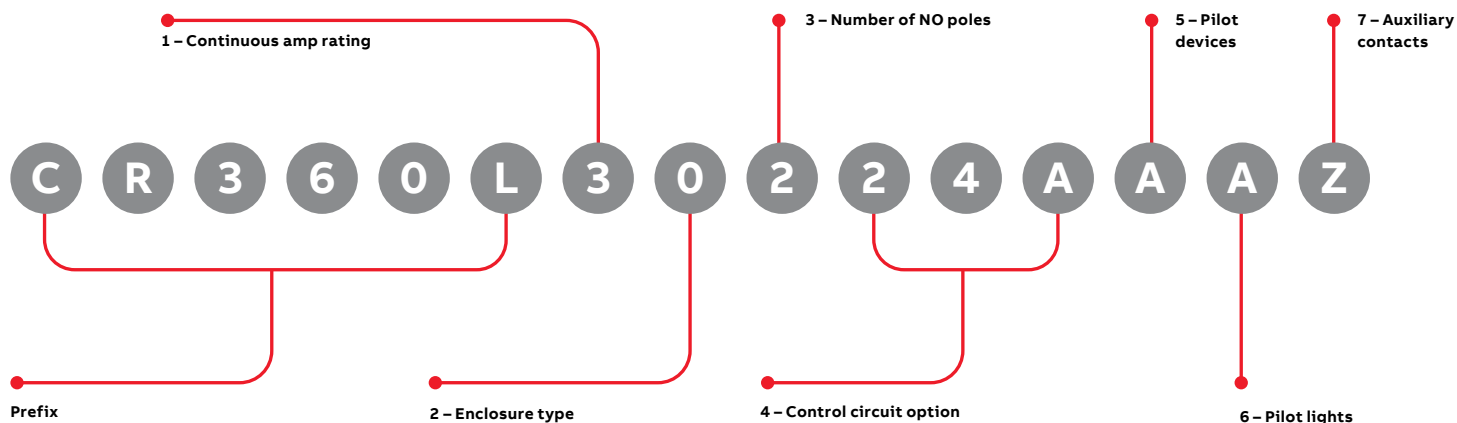


Open 60-Amp electrically held lighting contactor

CR360L series lighting contactors are electrically held and offer solutions for applications between 30 and 300 amps. This is accomplished in five frame sizes, all built on the successful and long-established NEMA starters. The ratings are established for fluorescent, mercury arc, tungsten and sodium lamp loads, covering a wide spectrum of industrial and commercial applications.

The CR360L contactors offer a wide range of features that include:

- NEMA type 1, type 12, type 3R, and type 4 stainless steel enclosures
- A full selection of pilot devices, including pushbuttons, selector switches and multi-colored indicating lights wired in needed configurations
- Main contactors with 2, 3 and 4 power poles
- Generous offering of auxiliary contacts
- Complete list of renewal parts for field installation
- Stock or quick delivery on the majority of products
- UL listing and CSA certification
- Order by complete product number
- Coils will be connected line-to-line unless otherwise specified
- Complete product number must contain 15 digits



## CR360L series electrically held contactors

### Selection

#### CR360L – 30 A–300 A (2-, 3- and 4-pole)

##### 1 – Continuous amp rating

Current	Digit
30 A	3
60 A	4
100 A	5
200 A	6
300 A	7

##### 2 – Enclosure type

Enclosure	Digit
Open	0
Enclosed NEMA type 1	1
Enclosed NEMA type 12	2
Enclosed NEMA type 3R	6
Enclosed NEMA type 4 stainless steel	4

##### 3 – Number of NO poles

Number of poles	Digit
2	2
3	3
4	4

##### 4 – Coil voltage and control circuit type (following available only with enclosure)

Continuous ampere rating		30 A	60 A	100 A	200 A	300 A
Control circuit options	Coil voltage	Digits	Digits	Digits	Digits	Digits
None	24	2 4 A	2 4 A	2 4 A	2 4 A	2 4 A
	120	0 2 A	0 2 A	0 2 A	0 2 A	0 2 A
	208 <sup>1</sup>	2 3 A	2 3 A	2 3 A	2 3 A	2 3 A
	240 <sup>1</sup>	0 3 A	0 3 A	0 3 A	0 3 A	0 3 A
	277 <sup>1</sup>	1 3 A	1 3 A	1 3 A	1 3 A	1 3 A
	480 <sup>1</sup>	0 4 A	0 4 A	0 4 A	0 4 A	0 4 A
2 Control circuit fuses	24	2 4 D	2 4 D	2 4 D	2 4 D	2 4 D
	120	0 2 D	0 2 D	0 2 D	0 2 D	0 2 D
	208	2 3 D	2 3 D	2 3 D	2 3 D	2 3 D
	240	0 3 D	0 3 D	0 3 D	0 3 D	0 3 D
	277	1 3 D	1 3 D	1 3 D	1 3 D	1 3 D
	480	0 4 D	0 4 D	0 4 D	0 4 D	0 4 D
CPT primary volts						
CPT with 120 V secondary, includes 2 primary, 1 secondary fuse	208	8 2 T	8 2 T	6 2 T	4 8 T	4 0 T
	240	0 3 T	0 3 T	0 3 T	0 3 T	0 3 T
	277	6 1 T	6 1 T	6 1 T	6 1 T	6 1 T
	480	0 4 T	0 4 T	0 4 T	0 4 T	0 4 T

<sup>1</sup>Control circuit fuses required for 200 and 300 amp forms if pilot devices selected in steps 3 or 4.

##### 5 – Pushbuttons or selector switch

Pushbutton, selector switch options	NEMA type 1 only standard-duty	Any enclosure heavy-duty
	Digit	Digit
None	A	A
On-off push button	C <sup>2</sup>	K
Hand-off-auto selector switch	D	L
Off-on selector switch	E	M
Hand-off-auto selector switch with key	–	N
On-off-auto selector switch	F	P

<sup>2</sup> Add holding interlock with this modification

##### 6 – Indicating lights

Light option	NEMA type 1 only standard-duty	Any enclosure heavy-duty
	Digit	Digit
None	A	A
Red across coil	B	J
Green across coil	–	K

##### 7 – Auxiliary contacts

	Digit
None	Z
Holding interlock	A
Holding interlock plus 1 NO	B
Holding interlock plus 1 NC	C
Holding interlock plus 1 NO, 1 NC	D
Holding interlock plus 2 NO	E
Holding interlock plus 2 NC	F
Holding interlock plus 2 NO, 1 NC	G

# CR360L series electrically held contactors

Technical data

## CR360L – 30 A–300 A (2-, 3- and 4-pole)

For your convenience, examples of possible wiring schemes are provided on this page. Please review the ratings tables below and use the quick step-by-step selection guide provided to choose the exact product required for your application.

### Ratings

Open or enclosed ratings are 30-, 60-, 100-, 200- and 300-ampere, AC full-load current.

#### Maximum AC voltage rating

Lighting load	Line (V)	Load (V)
Tungsten	480	480
Ballast: fluorescent, mercury, sodium, e.g.	600	600

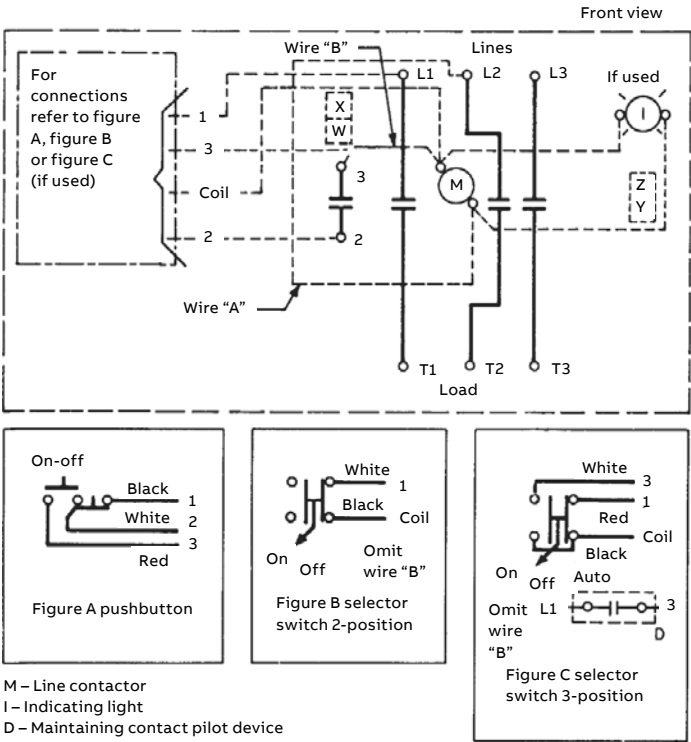
#### DC tungsten rating

Contactor size, continuous ampere rating	No. poles in series for:	
	125 V maximum	250 V maximum
30	2	3
60	2	4
100–300	2	2

### Reference publications

#### Instructions

Continuous ampere rating	CR360L contactors
30	GEH-5099
60	GEH-5100
100	GEH-5101
200	GEH-5102
300	GEH-5103



Typical schematic diagram for CR360L lighting contactor

## CR360L series electrically held contactors

### Outlines, dimensions and weights

#### Outlines, dimensions in. (mm) and weights (for estimating only)

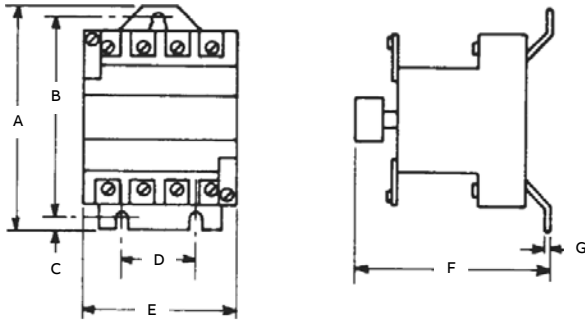


Fig. 1, Open CR360L 30- to 300-ampere 2- and 3-pole forms

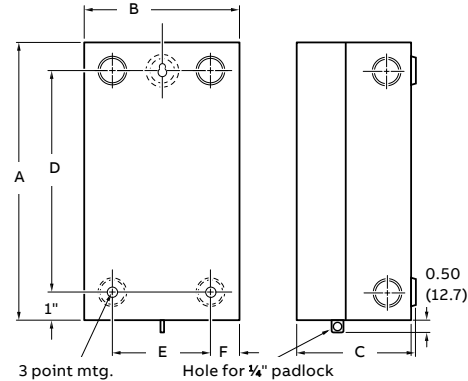


Fig. 2, Enclosed CR360L type 1, 30-100 A with standard pilot devices

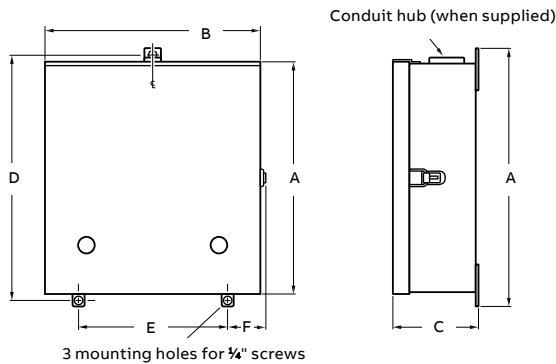


Fig. 3, Enclosed CR360L type 12, 3R, 4/4X 3-point mounting

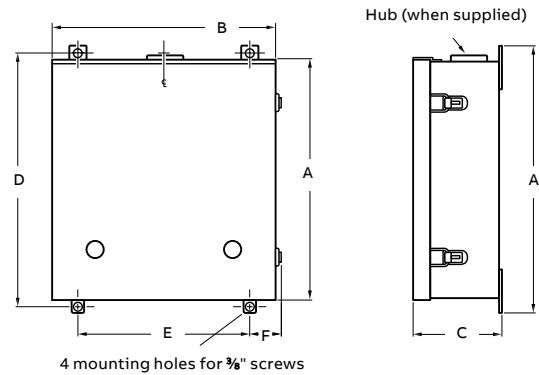


Fig. 4, Enclosed CR360L type 1, 12, 3R, 4/4X 4-point mounting

#### Open CR360L – 30 A–00 A (2-, 3- and 4-pole)

Product number	Figure no.	Dimension in. (mm)							Approx. shipping wt. (lbs)
		A	B	C	D	E	F	G	
CR360L302	1	4.50 (114.3)	4.00 (101.6)	0.25 (6.4)	1.50 (38.1)	3.06 (77.7)	3.81 (96.7)	0.06 (1.5)	2.8
CR360L402	1	6.63 (168.4)	6.00 (152.4)	0.31 (7.8)	2.00 (50.8)	3.75 (95.2)	5.38 (136.6)	0.09 (2.2)	7
CR360L502	1	8.75 (222.2)	7.75 (196.8)	0.63 (16.0)	4.50 (114.3)	5.75 (146.0)	6.50 (165.1)	–	17.5
CR360L602	1	12.00 (304.8)	10.88 (276.4)	0.63 (16.0)	3.00 (76.2)	11.50 (292.1)	9.00 (228.6)	0.12 (3.0)	48
CR360L702	1	12.00 (304.8)	10.88 (276.4)	0.63 (16.0)	3.00 (76.2)	11.50 (292.1)	9.00 (228.6)	0.12 (3.0)	50

Dimensions shown are in inches with millimeters in parentheses.

CR360L series electrically held contactors

Outlines, dimensions and weights

Outlines, dimensions in. (mm) and weights (for estimating only)

Enclosed CR360L NEMA type 1

Device	Fig. no.	Hub size	Dimension in. (mm)							Approx. shipping wt. (lbs.)
			A	A'	B	C	D	E	F	
(30 A) without CPT	2	–	10 (254)	–	6 (152.4)	4.63 (117.6)	8 (203.2)	4 (101.6)	1 (25.4)	6
(30 A) with CPT	2	–	10 (254)	–	10 (254)	4.63 (117.6)	8 (203.2)	8 (203.2)	1 (25.4)	10
(30 A) with heavy duty pilot devices	4	–	17.4 (442)	14.75 (374.7)	13 (330.2)	5.14 (130.6)	16.4 (416.6)	8 (203.2)	3.25 (82.6)	18
(60 A) without CPT, 2- to 3-pole	2	–	13.25 (336.6)	–	7.38 (187.5)	6.13 (155.7)	11 (279.4)	5 (127)	1.19 (30.2)	13
(60 A) with CPT	2	–	13.25 (336.6)	–	12 (304.8)	6.13 (155.7)	11 (279.4)	9 (228.6)	1.5 (38.1)	18
(60 A) with heavy duty pilot devices	4	–	19.4 (492.8)	16.68 (423.7)	15 (381)	6.62 (168.1)	18.4 (467.4)	10 (254)	3.25 (82.6)	27
(100 A) without CPT, 2- to 3-pole	2	–	20.25 (514.4)	–	8.75 (222.3)	7.31 (185.7)	17 (431.8)	5.75 (146.1)	1.5 (38.1)	35
(100 A) All other	2	–	24.2 (614.7)	21.62 (549.1)	18 (457.2)	8.4 (213.4)	23.2 (589.3)	13 (330.2)	3.25 (82.6)	50
(200 A) without CPT, 2- to 3-pole	4	–	45.5 (1155.7)	42.75 (1085.9)	17 (431.8)	10.75 (273.1)	44.5 (1130.3)	12 (304.8)	2.5 (63.5)	38
(200 A) All other	4	–	45.5 (1155.7)	42.75 (1085.9)	23 (584.2)	10.75 (273.1)	44.5 (1130.3)	18 (457.2)	2.5 (63.5)	55
(300 A) without CPT, 2- to 3-pole	4	–	45.5 (1155.7)	42.75 (1085.9)	17 (431.8)	10.75 (273.1)	44.5 (1130.3)	12 (304.8)	2.5 (63.5)	130
(300 A) All other	4	–	45.5 (1155.7)	42.75 (1085.9)	23 (584.2)	10.75 (273.1)	44.5 (1130.3)	18 (457.2)	2.5 (63.5)	140

Enclosed CR360L NEMA type 12

Device	Fig. no.	Hub size	Dimension in. (mm)							Approx. shipping wt. (lbs.)
			A	A'	B	C	D	E	F	
(30 A) without CPT	3	–	15.62 (396.7)	14.25 (362)	6.28 (159.5)	5.5 (139.7)	15 (381)	3 (76.2)	2.26 (57.4)	16
(30 A) All other	3	–	15.62 (396.7)	14.25 (362)	14.25 (362)	5.5 (139.7)	15 (381)	11 (279.4)	2.26 (57.4)	20
(60 A) without CPT, 2- to 3-pole	3	–	17.62 (447.5)	16.25 (412.8)	7.63 (193.8)	6.25 (158.8)	17 (431.8)	4.38 (111.3)	2.26 (57.4)	29
(60 A) All other	3	–	17.62 (447.5)	16.25 (412.8)	12.25 (311.2)	6.25 (158.8)	17 (431.8)	9 (228.6)	2.26 (57.4)	38
(100 A) without CPT, 2- to 3-pole	4	–	30 (762)	27.25 (692.2)	10.5 (266.7)	7.25 (184.2)	29 (736.6)	5.75 (146.1)	3.25 (82.6)	40
(100 A) All other	4	–	24 (609.6)	21.38 (543.1)	18 (457.2)	7.88 (200.2)	23 (584.2)	13 (330.2)	3.25 (82.6)	55
(200 A) without CPT, 2- to 3-pole	4	–	45.5 (1155.7)	42.75 (1085.9)	17 (431.8)	10.25 (260.4)	44.5 (1130.3)	12 (304.8)	3.25 (82.6)	44
(200 A) All other	4	–	45.5 (1155.7)	42.75 (1085.9)	23 (584.2)	10.25 (260.4)	44.5 (1130.3)	18 (457.2)	3.25 (82.6)	60
(300 A) without CPT, 2- to 3-pole	4	–	45.5 (1155.7)	42.75 (1085.9)	17 (431.8)	10.25 (260.4)	44.5 (1130.3)	12 (304.8)	3.25 (82.6)	140
(300 A) All other	4	–	45.5 (1155.7)	42.75 (1085.9)	23 (584.2)	10.25 (260.4)	44.5 (1130.3)	18 (457.2)	3.25 (82.6)	150

## CR360L series electrically held contactors

### Outlines, dimensions and weights

#### Outlines, dimensions in. (mm) and weights (for estimating only)

##### Enclosed CR360L NEMA type 3R

Device	Fig. no.	Hub size	Dimension in. (mm)							Approx. shipping wt. (lbs.)
			A	A'	B	C	D	E	F	
(30 A) without CPT	3	1"	15.62 (396.7)	14.5 (368.3)	6.88 (174.8)	5.5 (139.7)	15 (381)	3 (76.2)	2.31 (58.7)	16
(30 A) All other	3	1"	15.62 (396.7)	14.5 (368.3)	10.38 (263.7)	5.5 (139.7)	15 (381)	7 (177.8)	2.31 (58.7)	20
(60 A) without CPT	3	1.5"	17.62 (447.5)	16.5 (419.1)	7.84 (199.1)	6.5 (165.1)	17 (431.8)	4.38 (111.3)	2.32 (58.9)	29
(60 A) All other	3	1.5"	17.62 (447.5)	16.5 (419.1)	12.5 (317.5)	6.5 (165.1)	17 (431.8)	8 (203.2)	2.88 (73.2)	38
(100 A) All	4	2"	24.5 (622.3)	22 (558.8)	17.2 (436.9)	7.25 (184.2)	23.5 (596.9)	11 (279.4)	3.62 (91.9)	55
(200 A) All	4	3"	44.5 (1130.3)	41.5 (1054.1)	22 (558.8)	10.25 (260.4)	43.5 (1104.9)	16 (406.4)	3.62 (91.9)	60
(300 A) All	4	3"	44.5 (1130.3)	42 (1066.8)	22 (558.8)	10.25 (260.4)	43.5 (1104.9)	16 (406.4)	3.62 (91.9)	150

##### Enclosed CR360L NEMA type 4/4X

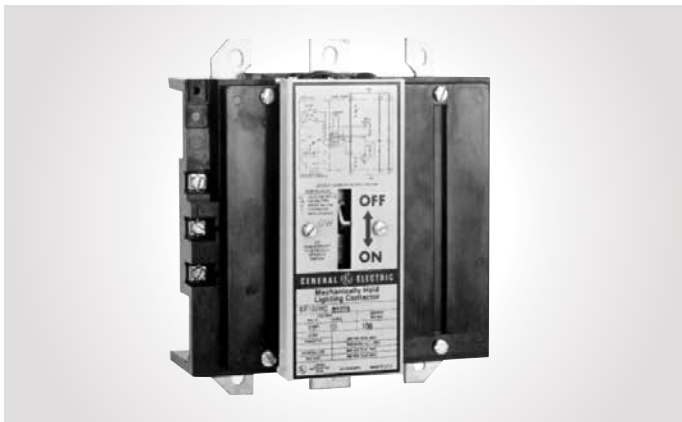
Device	Fig. no.	Hub size	Dimension in. (mm)							Approx. shipping wt. (lbs.)
			A	A'	B	C	D	E	F	
(30 A) without CPT	3	1"	15.62 (396.7)	14.5 (368.3)	6.38 (162.1)	5.5 (139.7)	15 (381)	3 (76.2)	1.69 (42.9)	16
(30 A) All other	3	1"	15.52 (394.2)	14.5 (368.3)	10.38 (263.7)	5.5 (139.7)	15 (381)	7 (177.8)	1.69 (42.9)	20
(60 A) without CPT	3	1.5"	17.62 (447.5)	16.5 (419.1)	7.75 (196.9)	6.5 (165.1)	17 (431.8)	4.38 (111.3)	1.69 (42.9)	29
(60 A) All other	3	1.5"	17.62 (447.5)	16.5 (419.1)	12.5 (317.5)	6.25 (158.8)	17 (431.8)	8 (203.2)	2.25 (57.2)	38
(100 A) All	4	2"	24.5 (622.3)	22 (558.8)	17 (431.8)	7.25 (184.2)	23.5 (596.9)	11 (279.4)	3 (76.2)	55
(200 A) All	4	3.5"	44.5 (1130.3)	41.5 (1054.1)	22 (558.8)	10.25 (260.4)	43.5 (1104.9)	16 (406.4)	3 (76.2)	60
(300 A) All	4	3.5"	44.5 (1130.3)	41.5 (1054.1)	22 (558.8)	10.25 (260.4)	43.5 (1104.9)	16 (406.4)	3 (76.2)	150

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# CR160MC series mechanically held contactors

## Application information

### CR160MC shallow mount 30 A–225 A (2- and 3-pole)



CR160MC lighting contactor for bus mounting

The CR160MC mechanically held lighting contactors are designed for control of lighting loads such as tungsten, fluorescent, mercury and sodium, as well as for general noninductive loads. The shallow-type design makes these contactors particularly adaptable for wall-cavity mounting applications.

The silver cadmium oxide main contacts and silver tungsten arcing contacts give the devices capability to handle a wide variety of lighting loads. Built-in clearing interlocks allow control from either momentary or maintained pilot devices.

#### Features

- Can be mounted in enclosures that fit six-inch thick walls.
- Device is listed by Underwriters Laboratories, Inc.
- Front connected — for convenient wiring.
- Manually operated — by screwdriver or similar tool, which reduces chances of tampering.
- Direct bus-mounted forms — for space savings, reduced mounting and wiring costs.
- Withstand current rating — 22,000 amperes rms symmetrical at 480 volts AC maximum and when used with molded case circuit breaker.

## CR160MC series mechanically held contactors

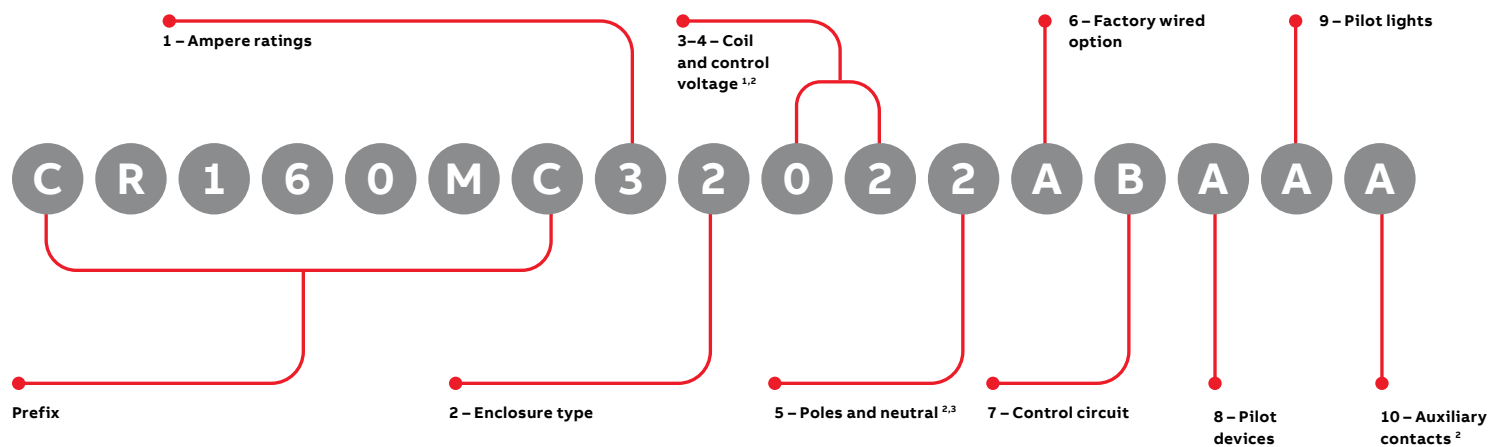
### Modified assembled forms

#### Product number selection instructions

Order by complete product number.

#### CR160MC mechanically held contactors

Follow the diagram and tables below to select the options and corresponding product number digits for your modified contactor.



See charts on pages 32–33 for ordering code digits 1, 2 and 5.

See charts on page 34 for ordering code digits 3 and 4.

See charts on page 35 for ordering code digits 6, 7, 8, 9, and 10.

<sup>1</sup>Separate control voltages may be ordered.

<sup>2</sup>When no auxiliary contacts are needed with an open bus mounting and open sub-panel device, the 12 digit product number must be ordered. If auxiliary contacts are required, digits 13 through 16 must be "ACAA" and digit 17 should reflect the needed contacts.

<sup>3</sup>Replace digits 2 or A for 2 or 3 poles with correct digit if a neutral terminal board is required. Neutral terminal board is not available with flush mount or sub panel with baseplate controllers.

## CR160MC series mechanically held contactors

### Modified assembled forms

#### CR160MC shallow mount 30 A–225 A (2- and 3-pole)

1–2 and 5 – Ampere rating, enclosure type and number of poles

1–2 and 5A product number digits <sup>1,2</sup>	Continuous amp rating	Enclosure type	No. of poles
3 2 ** 2	30 A	Enclosed NEMA type 1	2
3 2 ** A	30 A	Enclosed NEMA type 1	3
3 G ** 2	30 A	Enclosed NEMA type 1 flush mount	2
3 G ** A	30 A	Enclosed NEMA type 1 flush mount	3
3 E ** 2	30 A	Enclosed NEMA type 12/3R	2
3 E ** A	30 A	Enclosed NEMA type 12/3R	3
3 F ** 2	30 A	Enclosed NEMA type 4/4X	2
3 F ** A	30 A	Enclosed NEMA type 4/4X	3
3 S ** 2	30 A	Open bus mounting	2
3 S ** A	30 A	Open bus mounting	3
3 I ** 2	30 A	Open sub panel	2
3 I ** A	30 A	Open sub panel	3
3 H ** 2	30 A	Sub panel with baseplate	2
3 H ** A	30 A	Sub panel with baseplate	3
4 2 ** 2	60 A	Enclosed NEMA type 1	2
4 2 ** A	60 A	Enclosed NEMA type 1	3
4 G ** 2	60 A	Enclosed NEMA type 1 flush mount	2
4 G ** A	60 A	Enclosed NEMA type 1 flush mount	3
4 E ** 2	60 A	Enclosed NEMA type 12/3R	2
4 E ** A	60 A	Enclosed NEMA type 12/3R	3
4 F ** 2	60 A	Enclosed NEMA type 4/4X	2
4 F ** A	60 A	Enclosed NEMA type 4/4X	3
4 S ** 2	60 A	Open bus mounting	2
4 S ** A	60 A	Open bus mounting	3
4 I ** 2	60 A	Open sub panel	2
4 I ** A	60 A	Open sub panel	3
4 H ** 2	60 A	Sub panel with baseplate	2
4 H ** A	60 A	Sub panel with baseplate	3
5 2 ** 2	75 A	Enclosed NEMA type 1	2
5 2 ** A	75 A	Enclosed NEMA type 1	3
5 G ** 2	75 A	Enclosed NEMA type 1 flush mount	2
5 G ** A	75 A	Enclosed NEMA type 1 flush mount	3
5 E ** 2	75 A	Enclosed NEMA type 12/3R	2
5 E ** A	75 A	Enclosed NEMA type 12/3R	3
5 F ** 2	75 A	Enclosed NEMA type 4/4X	2
5 F ** A	75 A	Enclosed NEMA type 4/4X	3
5 S ** 2	75 A	Open bus mounting	2
5 S ** A	75 A	Open bus mounting	3
5 I ** 2	75 A	Open sub panel	2
5 I ** A	75 A	Open sub panel	3
5 H ** 2	75 A	Sub panel with baseplate	2

1–2 and 5A product number digits <sup>1,2</sup>	Continuous amp rating	Enclosure type	No. of poles
8 H ** A	75 A	Sub panel with baseplate	3
5 2 ** 2	100 A	Enclosed NEMA type 1	2
5 2 ** A	100 A	Enclosed NEMA type 1	3
5 G ** 2	100 A	Enclosed NEMA type 1 flush mount	2
5 G ** A	100 A	Enclosed NEMA type 1 flush mount	3
5 E ** 2	100 A	Enclosed NEMA type 12/3R	2
5 E ** A	100 A	Enclosed NEMA type 12/3R	3
5 F ** 2	100 A	Enclosed NEMA type 4/4X	2
5 F ** A	100 A	Enclosed NEMA type 4/4X	3
5 S ** 2	100 A	Open bus mounting	2
5 S ** A	100 A	Open bus mounting	3
5 I ** 2	100 A	Open sub panel	2
5 I ** A	100 A	Open sub panel	3
5 H ** 2	100 A	Sub panel with baseplate	2
5 H ** A	100 A	Sub panel with baseplate	3
6 2 ** 2	150 A	Enclosed NEMA type 1	2
6 2 ** A	150 A	Enclosed NEMA type 1	3
6 G ** 2	150 A	Enclosed NEMA type 1 flush mount	2
6 G ** A	150 A	Enclosed NEMA type 1 flush mount	3
6 E ** 2	150 A	Enclosed NEMA type 12/3R	2
6 E ** A	150 A	Enclosed NEMA type 12/3R	3
6 F ** 2	150 A	Enclosed NEMA type 4/4X	2
6 F ** A	150 A	Enclosed NEMA type 4/4X	3
6 S ** 2	150 A	Open bus mounting	2
6 S ** A	150 A	Open bus mounting	3
6 I ** 2	150 A	Open sub panel	2
6 I ** A	150 A	Open sub panel	3
6 H ** 2	150 A	Sub panel with baseplate	2
6 H ** A	150 A	Sub panel with baseplate	3
7 2 ** 2	200 A	Enclosed NEMA type 1	2
7 2 ** A	200 A	Enclosed NEMA type 1	3
7 G ** 2	200 A	Enclosed NEMA type 1 flush mount	2
7 G ** A	200 A	Enclosed NEMA type 1 flush mount	3
7 E ** 2	200 A	Enclosed NEMA type 12/3R	2
7 E ** A	200 A	Enclosed NEMA type 12/3R	3
7 F ** 2	200 A	Enclosed NEMA type 4/4X	2
7 F ** A	200 A	Enclosed NEMA type 4/4X	3
7 S ** 2	200 A	Open bus mounting	2
7 S ** A	200 A	Open bus mounting	3
7 I ** 2	200 A	Open sub panel	2
7 I ** A	200 A	Open sub panel	3

## CR160MC series mechanically held contactors

### Modified assembled forms

#### CR160MC shallow mount 30 A–225 A (2- and 3-pole)

1–2 and 5 – Ampere rating, enclosure type and number of poles

1–2 and 5A product number digits <sup>1,2</sup>	Continuous amp rating	Enclosure type	No. of poles
7 H ** 2	200 A	Sub-panel with baseplate	2
7 H ** A	200 A	Sub-panel with baseplate	3
9 2 ** 2	225 A	Enclosed NEMA type 1	2
9 2 ** A	225 A	Enclosed NEMA type 1	3
9 G ** 2	225 A	Enclosed NEMA type 1 flush mount	2
9 G ** A	225 A	Enclosed NEMA type 1 flush mount	3
9 E ** 2	225 A	Enclosed NEMA type 12/3R	2
9 E ** A	225 A	Enclosed NEMA type 12/3R	3
9 F ** 2	225 A	Enclosed NEMA type 4/4X	2
9 F ** A	225 A	Enclosed NEMA type 4/4X	3
9 S ** 2	225 A	Open bus mounting	2
9 S ** A	225 A	Open bus mounting	3
9 I ** 2	225 A	Open sub-panel	2
9 I ** A	225 A	Open sub-panel	3
9 H ** 2	225 A	Sub-panel with baseplate	2
9 H ** A	225 A	Sub-panel with baseplate	3

<sup>1</sup>Replace \*\* with coil and control voltages selection.

<sup>2</sup>Replace digits 2 or A for 2 or 3 poles with correct digit if a neutral terminal board is required. Neutral terminal board is not available with flush mount or sub-panel with baseplate controllers.

#### 5B – Neutral terminal option

Use in place of the last 2 or A for 2 or 3 poles if a neutral terminal board is required. Only available on enclosed products except flush mount or sub-panel with baseplate controllers.

5B product number digit	Description
7	30 to 100 Amps, 2-pole
8	30 to 100 Amps, 3-pole
7	150 to 225 Amps, 2-pole
8	150 to 225 Amps, 3-pole

## CR160MC series mechanically held contactors

### Modified assembled forms

#### CR160MC shallow mount 30 A–225 A (2- and 3-pole)

3–4 – Contactor, coil, control module and relay voltages <sup>1,2</sup>

3–4 product no. digits	Contact and coil voltage <sup>3,4</sup>	Control module and relay voltage <sup>2,3,5</sup>	Enclosure type	Factory wiring	CPT and fusing
0 2	115–120 V 60 Hz	115–120 V 60 Hz	Open or enclosed	No	No CPT or fusing
2 3	200–208 V 60 Hz	200–208 V 60 Hz	Open or enclosed	No	No CPT or fusing
0 3	230–240 V 60 Hz	230–240 V 60 Hz	Open or enclosed	No	No CPT or fusing
8 2	265–277 V 60 Hz	265–277 V 60 Hz	Open or enclosed	No	No CPT or fusing
0 4	460–480 V 60 Hz	460–480 V 60 Hz	Open or enclosed	No	No CPT or fusing
3 0	115–120 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
3 2	200–208 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
3 4	230–240 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
3 6	265–277 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
3 8	460–480 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
4 0	115–120 V 60 Hz	24 V DC	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
4 2	200–208 V 60 Hz	24 V DC	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
4 4	230–240 V 60 Hz	24 V DC	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
4 6	265–277 V 60 Hz	24 V DC	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
4 8	460–480 V 60 Hz	24 V DC	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
5 2	200–208 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
5 4	230–240 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
5 6	265–277 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
5 8	460–480 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	No CPT, 2 fuses for coil circuit and user-supplied control voltage
6 0	115–120 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
6 2	200–208 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
6 4	230–240 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
6 6	265–277 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
6 8	460–480 V 60 Hz	24 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
9 2	200–208 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
9 4	230–240 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
9 6	265–277 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses
9 8	460–480 V 60 Hz	120 V 60 Hz	Enclosed only	Yes	CPT with 2 primary and 1 secondary fuse and 2 coil circuit fuses

<sup>1</sup>For open bus mounting and open sub-panel devices, no other selections are needed unless auxiliary contacts are required. If auxiliary contacts are not needed, the 12 digit product number must be ordered.

<sup>2</sup>For products where factory wiring is provided, an interposing relay is supplied. The relay energizes contactor and has a coil voltage equal to the selected control voltage. See wiring diagrams for details.

<sup>3</sup>Contacts used to operate the device's coil and control module must have a B600 rating as a minimum.

<sup>4</sup>For applications where the coil is energized independently, the source must be able to switch 3000 VA.

<sup>5</sup>For applications where the control module will be independently energized, the source must be able to switch 26 VA inrush and 4 VA holding (AC circuits) or 3 VA inrush and holding (DC circuits).

## CR160MC series mechanically held contactors

### Modified assembled forms

#### CR160MC shallow mount 30 A–225 A (2- and 3-pole)

##### 6 – Factory wiring

Factory control wiring	Product no. digit	Enclosure type
No	A	Open or enclosed
Yes	B	Enclosed

Note: Factory wiring must be "B" when coil and control voltages are different, or if pilot devices or pilot lights are required.

##### 7 – Control circuit type<sup>6</sup>

Control circuit	Product no. digit	Enclosure type
2-Wire control	B	Enclosed only
3-Wire control	C	Open or enclosed

<sup>6</sup>Devices with factory wiring "A" are only available with 3-wire control circuits.

##### 8 – Enclosure-mounted pilot devices<sup>7</sup>

(Available only when there is an enclosure.)

Heavy-duty, 30mm operators	Product no. digit
None	A
On-off pushbuttons <sup>8</sup>	B
Off-on selector switch <sup>8,9</sup>	C
On-off-auto selector switch <sup>9</sup>	D
Hand-off-auto selector switch <sup>9</sup>	E
Off-auto selector switch <sup>8,9</sup>	F
Off-on selector switch with spring return to center <sup>8</sup>	G
On-off-auto keyed selector switch <sup>9,10</sup>	H
Hand-off-auto keyed selector switch <sup>9,10</sup>	J

<sup>7</sup>Not available in flush mount or sub-panel with baseplate controllers.

<sup>8</sup>Momentary operation of pilot device to control contactor. Available with 3-wire control.

<sup>9</sup>Maintained operation of pilot device to control contactor. Available with 2-wire control.

<sup>10</sup>Key removable in all positions.

##### 9 – Enclosure-mounted pilot lights<sup>11,12</sup>

(Available only when there is an enclosure.)

Heavy-duty, 30 mm pilot lights with interchangeable red and green lenses	Type	Product no. digit
None	—	A
Red/green light ("on")	Standard	B
Red/green light ("off")	Standard	C
Red/green ("on") and red/green ("off") lights	Standard	F
Red/green light ("on")	Push-to-test	D
Red/green light ("off")	Push-to-test	E
Red/green ("on") and red/green ("off") lights	Push-to-test	G

<sup>11</sup>Not available in flush mount or sub-panel with baseplate controllers.

<sup>12</sup>"On" pilot lights use the NO auxiliary contact; for "off" lights, use the NC auxiliary contact.

##### 10 – Auxiliary contacts

Description	Product no. digit
None	A
1 NO extra	B
1 NC extra	C
1 NO and 1 NC extra	D

Note: "On" pilot lights use NO auxiliary contact. "Off" pilot lights use NC auxiliary contact.

CR160MC series mechanically held contactors

Technical data

CR160MC shallow mount 30 A–225 A (2- and 3-pole)

Maximum AC voltage ratings

Type of load	Maximum AC volts		
	Line	Load	Load
Tungsten	480	277	480
Ballast	600	277	600
General use	600	277	600

Control line wiring

Control lines extending several hundred feet from the voltage source and pilot device(s) to the lighting contactor may require special consideration. Select a wire size adequate to provide not less than 85% of rated coil voltage at the coil, for pickup, while passing inrush current through the control circuit. Suggested wire sizes, for use with a “stiff” source of control voltage, are listed below. Interposing control relays are available for greater distances, and for use with pilot devices having ratings lower than those required for direct operation of the contactor coils.

Control line wiring

Contactor size	Wire size (AWG)	Approx. resistance of single conductor copper wire ohms/1000 ft	Max. control line distance <sup>1</sup>	
			115 V–60 Hz	230 V–60 Hz
30–225 A	10	1	500 ft	1500 ft
30–225 A	12	1.6	315 ft	950 ft
30–225 A	14	2.5	200 ft	600 ft

<sup>1</sup>The use of two contactors on one remote control station would reduce the maximum control line distance to ½ the specified table value, etc.

Coil inrush current and recommended control circuit fuse size

Voltage 60 Hz	Inrush (amperes)	NEC fuse size (amperes)
	CR160MC	CR160MC
115	26	8
230	13	4
277 <sup>2</sup>	10	3
460 <sup>2</sup>	7	2

<sup>2</sup>Breaking all lines  
Note: Use of energy management systems, multiple control stations or signals requires prime control logic or use of a 2-wire control relay/module, to assure that on and off signals are never applied simultaneously to a mechanically held contactor.

Control transformer data

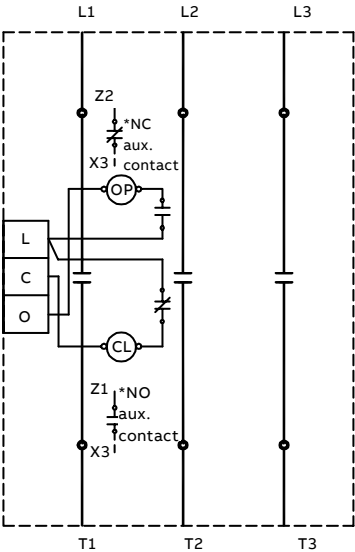
When the lighting contactor is used on the secondary of a transformer, the transformer must be sized to provide the required inrush current with 90% voltage applied to the transformer primary. As an alternative, use an interposing relay with a lower VA CPT. Connect the circuit with the line voltage driving the coil and the control voltage driving the relay coil.

Reference publications

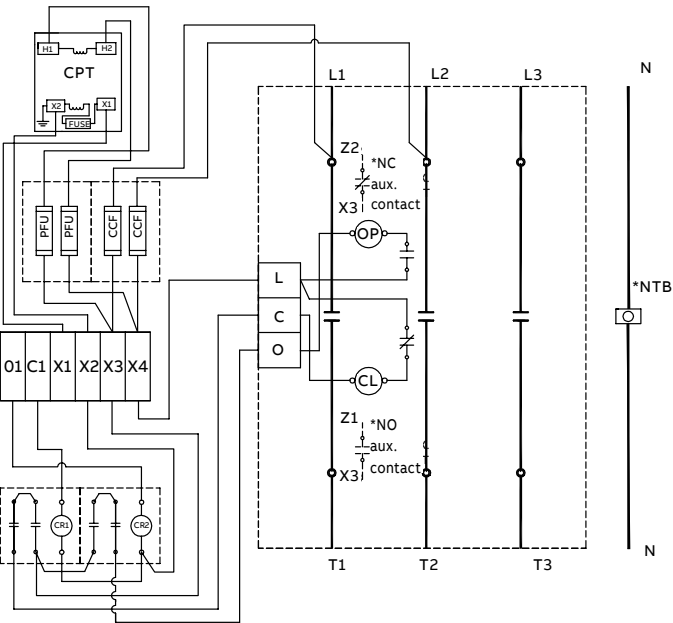
- Instructions: GEH-3202

**CR160MC series mechanically held contactors**  
Outlines, dimensions and weights

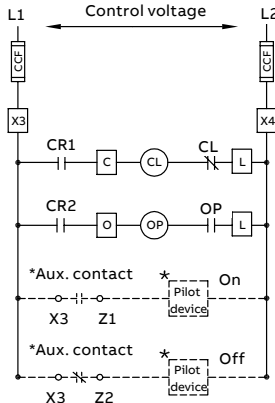
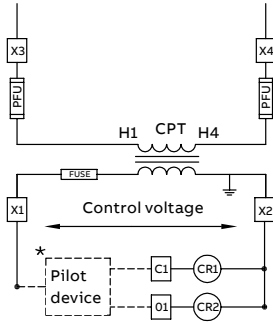
**Outlines, dimensions and weights (for estimating only)**



Open wiring example



Enclosed wiring example



CR160MC series mechanically held contactors

Outlines, dimensions and weights

Outlines, dimensions and weights (for estimating only)

Open bus mounting contactor

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30, 60, 75 and 100	9.0	4.1	8.31 x 7.13 x 3.13	211.0 x 181.1 x 79.5	55-172305
150, 200 and 225	10.0	4.5	9.50 x 7.13 x 3.13	241.3 x 181.1 x 79.5	55-172305

30, 60, 75 and 100 amp

150, 200 and 225 amp

Type 1 enclosures

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30, 60, 75 and 100	62.0	28.10	25.0 x 15.9 x 6.5	635.0 x 404.4 x 165.9	55-217830
150, 200 and 225	92.0	41.70	42.6 x 18.3 x 6.6	1081.0 x 463.3 x 167.9	55-217831

Door open 160° max.

2 mtg. holes for 3/8" bolts

Holes for padlock

Open sub panel contactor

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30	13.0	5.9	10.5 x 7.5 x 3.8	266.7 x 190.5 x 95.3	55-172306
60, 75 and 100	14.0	6.4	11.4 x 7.8 x 3.8	289.1 x 196.8 x 95.3	55-172306
150	16.5	7.5	13.3 x 9.0 x 3.8	336.6 x 228.3 x 95.3	55-172306
200 and 225	16.5	7.5	14.0 x 9.0 x 3.8	355.6 x 228.6 x 95.3	55-172306

## CR160MC series mechanically held contactors

### Outlines, dimensions and weights

#### Outlines, dimensions and weights (for estimating only)

##### Open sub panel contactor with baseplate

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30, 60, 75, 100, 150, 200 and 225	32.0	14.5	20.5 x 13.0 x 4.6	519.2 x 330.2 x 116.0	55-217838

##### Type 1 flush mount enclosures

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30, 60, 75 and 100	62.0	28.10	21.6 x 14.5 x 5.0	549.1 x 368.3 x 127.0	55-217836
150, 200 and 225	92.0	41.70	39.2 x 14.5 x 5.0	999.5 x 368.3 x 127.0	55-217837

Note: Dimensions do not include flange.

##### Type 12/3R enclosures

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30, 60, 75 and 100	62.0	28.10	28.2 x 17.8 x 7.7	715.8 x 452.1 x 194.2	55-217832
150, 200 and 225	92.0	41.70	45.7 x 21.2 x 7.7	1161.8 x 537.7 x 194.2	55-217833

##### Type 4/4X enclosures

Amp rating	Weight (lb)	Weight (kg)	H x W x D (in.)	H x W x D (mm)	Drawing no.
30, 60, 75 and 100	62.0	28.10	25.0 x 15.9 x 6.5	635.0 x 404.4 x 165.9	55-217834
150, 200 and 225	92.0	41.70	42.6 x 18.3 x 6.5	1081.0 x 463.3 x 165.9	55-217835

##### Wiring diagrams

Control circuit	Enclosure type	Drawing no.
3-wire	Open	55-686607
2-wire, no CPT, control and coil voltage same	Enclosed	55-686608
3-wire, no CPT, control and coil voltage same	Enclosed	55-686609
2-wire, no CPT, control and coil voltage different	Enclosed	55-686610
3-wire, no CPT, control and coil voltage different	Enclosed	55-686611
2-wire, CPT	Enclosed	55-686612
3-wire, CPT	Enclosed	55-686613

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