



Original Manual 2CCC444013M0201 Rev. 1.0, Date of Release: 02/2016

Remote Power Panel Operation instructions

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Technical Data

RPP- 250A -X3-X4-X5-X6-X7-X8	14
RPP- 500A -X3-X4-X5-X6-X7-X8	14
RPP- 750A -X3-X4-X5-X6-X7-X8	15
RPP- 1000A -X3-X4-X5-X6-X7-X8	15

Pictures in this manual are given for the Remote Power Panel 500A according to the following type code:

RPP-500A-P-INT-RTI-BCM-PQL-TL

All other cabinets (250A, 750A, 1000A) can be derived from this manual.

For installation/assembly, please refer to the “Assembly instruction manual”. (2CCR123456R7890)

Unpacking and checking the cabinet



Fig.1: Unpacked cabinet

Visual control of the packaging

- Check the packaging carefully for damage

Unpacking the cabinet

- Do not use a knife to cut the package sealing.
- After unpacking, the cabinet should look as shown in Fig.1
- The size of the cabinet can vary, depending to your order
 - RPP-250A-X3-X4-X5-X6-X7-X8 (Fig.1.1)
 - RPP-500A-X3-X4-X5-X6-X7-X8 (Fig.1.1)
 - RPP-750A-X3-X4-X5-X6-X7-X8 (Fig.1.2)
 - RPP-1000A-X3-X4-X5-X6-X7-X8 (Fig.1.3)
- Attention! The cabinet is top-heavy!

Fig.1.1: Cabinet small – 250/500A | Fig.1.2: Cabinet medium – 750 A | Fig.1.3: Cabinet large – 1000 A



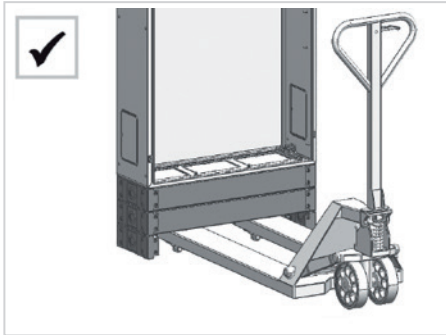


Fig.2.1: Correct transportation of the cabinet

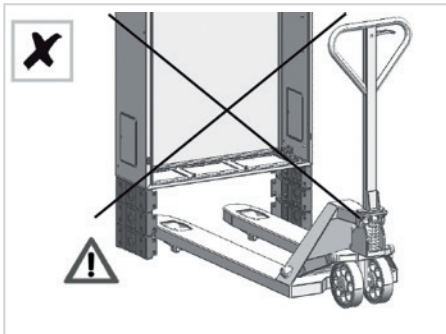


Fig.2.2: Incorrect transportation of the cabinet

Transportation of the cabinet

- To transport the cabinet it is only allowed as mentioned on the left hand side in Fig.2.1
- Fig.2.2 shows the incorrect transportation of the cabinet
- For further information please refer to the manual of the enclosure socket, which will be delivered with the cabinet
- Otherwise or for detailed information, please contact ABB or download the specific instruction manual on the following homepage:
<https://www.striebelundjohn.com/mounting-instructions/category/allgemein-sockel-bausatz-0>



Fig.3: cabinet key

Opening cabinet

- Only authorized/skilled persons people are allowed to open the cabinet
- To open the electrical cabinet it is necessary to use a common cabinet key, displayed in Fig.3
- Each door can be open to an maximum angle of 180°

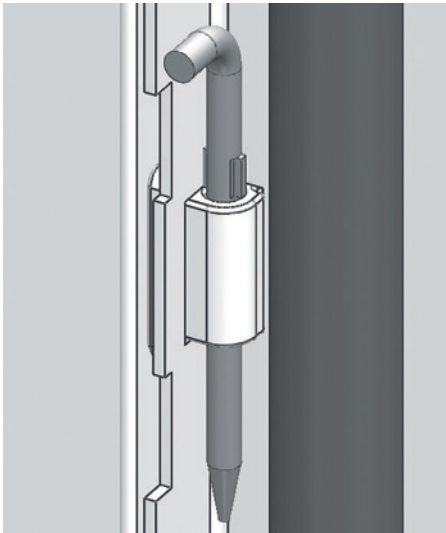


Fig.3.1:Correct positiont

Checking door hinge

- Check that all bolts from the door hinge are positioned as shwon in Fig.3.1
- Fig.3.2 shows the forbidden position
- The bolts are an addional protection if the earthing cable e.g. are damaged

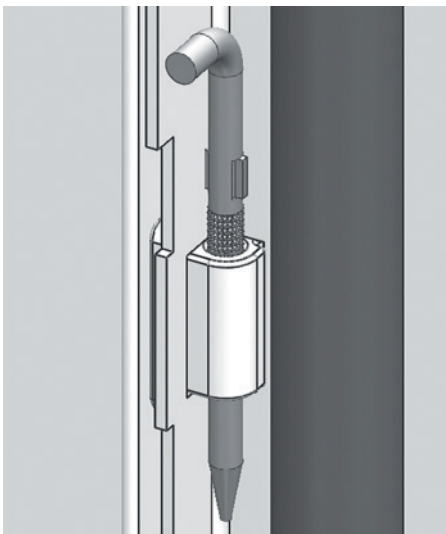


Fig.3.2: Forbidden position

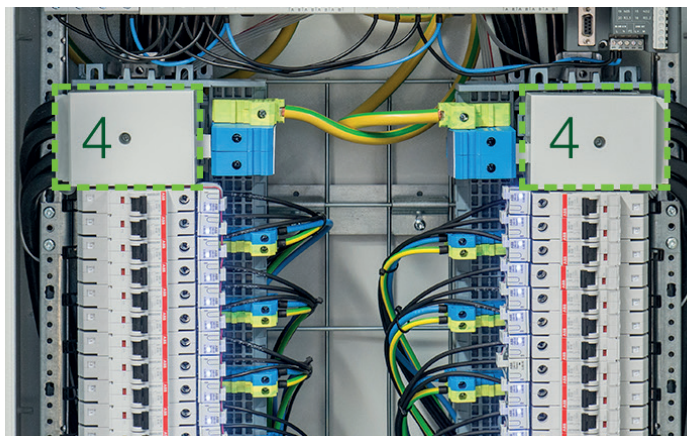
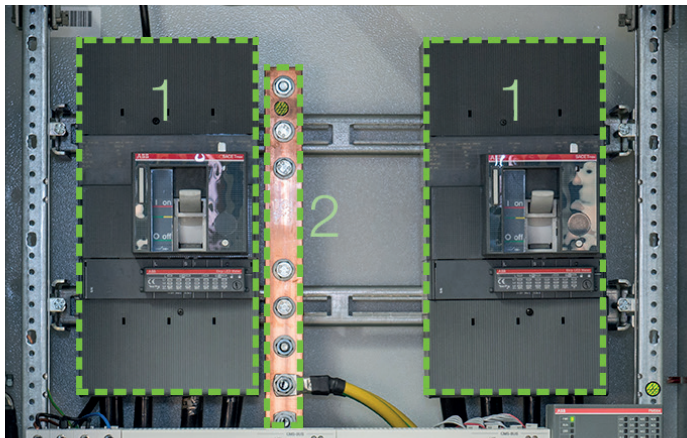


Fig.4: Overview of all screws which shall be checked after transportation

Checking proper function and screws

- Check all screws and nuts in the cabinet after transportation. (Fig.4)
- Retighten all screws and nuts in the cabinet after transportation, if necessary. (Fig.4)
- Especially pay attention to the screws which are in contact with conductive parts
 1. All screws for each “XT4N 250A”
 2. All screws for the earthing terminal (8 Nm)
 3. All screws for the earthing of the cabinet (8 Nm)
 4. All screws at the incoming terminal blocks – ZLS224
 5. All screws for the earthing of the door (8 Nm)
 6. All screws at the devices on the DIN rail
 - 6.1.CMS600/CMS700
 - 6.2.AC500-eco
 - 6.3.4-pole RCCB/MCB
 7. All screws of additional controlling devices which are mounted on the DIN rail
 8. All screws of the controlling devices in the front door of the panel

For further Details of the each tightening torque please check the technical specification of each device.

In case of use of terminal blocks for copper conductors, there is no need to check these terminals, due to the innovative “Power cage clamp” technology, provided from WAGO

- All other parts shall be checked

Checking touch proof security IP20B

- Ensure that all required items are in the correct position in the cabinet, especially the parts which are responsible for touch proof security
- Parts that shall be in place are
 - Terminal covers of all ZLS224
 - Terminal covers of all XT4
 - Protection covers of all unused terminals “Power cage clamp”
- Ensure that the minimum cross section of all power cables feeding the SMISSLINE busbar system including neutral are 50 mm²
- Only if these parts are mounted correctly the panel is protected IP20B
- Checking the complete cabinet for touch proof security
- If there is anything not correctly installed, it is not allowed to go further with the installing

Cabinet mounting

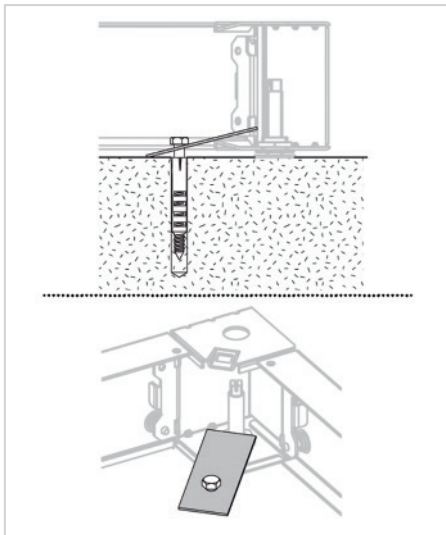
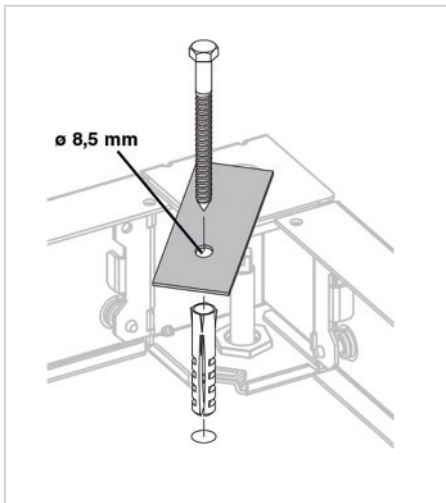


Fig.5: Floor fastener for plinth

Bottom fastening

- Up to three sockets may be delivered with the cabinet
- At least one socket shall be mounted below the cabinet
 - Needed for fixation of the cable
 - Needed for fixation of the cabinet to the ground/floor
- The maximum amount of sockets, mounted simultaneously, are three
- To mount the electrical cabinet to the floor, use all four “Floor fastener for plinth” brackets which are delivered with the cabinet (Fig.5)
- For mounting instruction please refer to manual “RZ3P4” provided from Striebel&John
- For safety reasons it is forbidden to install the cabinet without the “Floor fastener for plinth”
- The maximum weight of the cabinet including SMISLINE is mentioned in the technical data

Load connections

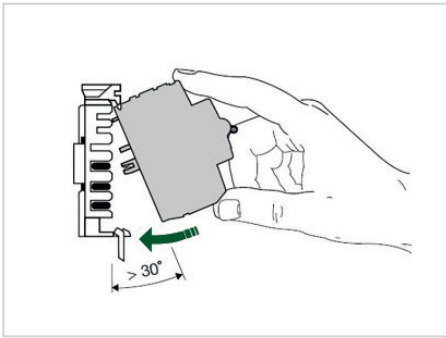


Fig.6: Assembly of an SMISSLINE device

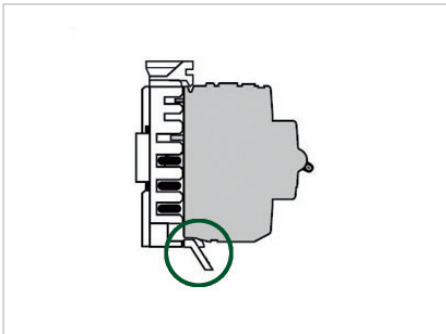


Fig.7: Plug-in position

For detailed information please contact ABB or download the specific instruction manual for SMISSLINE TP on the ABB homepage:

<http://new.abb.com/low-voltage/products/system-pro-m/smisse-line-tp>

Installation of SMISSLINE TP devices

- Ensure that each powerbus does not exceed 250A rated current, referring to the consumption of the servers
 - Note: For Datacenter applications it might be preferable to feed each MCCB with maximum 125A due to redundancy in case of a breakdown/failure of the other MCCB
- Load connection of SMISSLINE TP devices.
- To ensure that the devices are correctly connected, please check the position of the fixing clip of each MCB
- The position shall be in the upper position as in Fig.7

Wiring of SMISSLINE TP devices

- Wiring of each SMISSLINE TP device depends on the local regulations and standards
- Only authorized personnel are allowed to wire electrical devices/parts inside the cabinet
- Tightening torque for the screws are 2.8 Nm

For detailed information please contact ABB or download the specific technical instructions manual on the ABB homepage:

<https://library.e.abb.com/public/3fe78b04ddd7fc08c1257c1c0027f812/2CCC451059C0202.pdf>

- Document Number: 2CCC451059C0202

Line connection of „XT4N 250A“

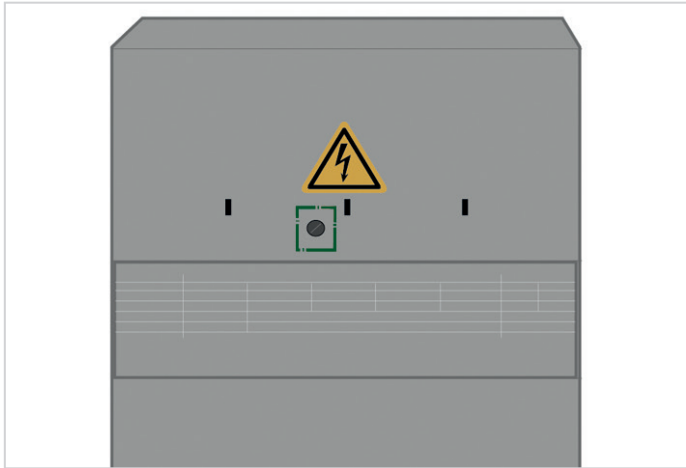


Fig.8: Protection housing of “XT4 250A”

For detailed information please contact ABB or download the specific instructions manual for XT4 250A on the ABB homepage:

<https://library.e.abb.com/public/c20e61ae4e76eeeeec1257cf600557bee/1SDH000722R0001.pdf>

– Document Number: 1SDH000722R0001

<https://library.e.abb.com/public/2ff5cd347413bee2c1257cf90028c0b9/1SDH000721R0506.pdf>

– Document Number: 1SDH000721R0506

<https://library.e.abb.com/public/5943237ca6a34bcb832a4002dfcc6eea/1SDC007406G0202%20.pdf>

– Document Number: 1SDC007406G0202

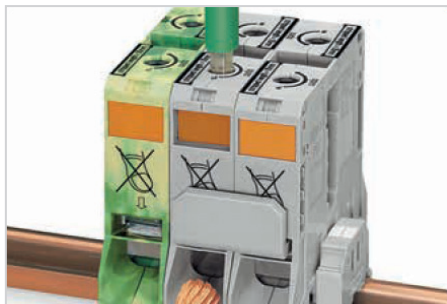


Fig.9: Opening of the “Power Cage Clamp”

Removing protection housing

- Unbolt the tiny screw in the center of the housing (one or two screws)

- Remove protection housing

Opening of „Power Cage Clamp”

- Use the tool 285-172 from WAGO to open the terminal according to fig.9

- Press the orange button to lock the open position



Fig.10: indent crimping



Fig.11: indent crimping; practical example

Bars/Cable lugs	
Tightening torques [Nm]	Supplied clamping screw
8	M8

Fig.12: Details on connection of XT4

Connecting main power supply

- All electrical connections shall always correspond to the national and local standards
- Connect the Cu cable in the same way as they connected on the load side (N L1 L2 L3)
 - Each cable cross-section shall be according to current load of XT4N 250A or the terminal blocks for copper “POWER Cage Clamp”
 - N, L1, L2, L3: min.120mm²; Cu
 - PE: : min. 70mm²; Cu
- Cable shall be according to IEC 60228 Class 5 or Class 6, 105 °C
- For connection to XT4N 250A use cable lugs according to Fig.11
 - Cable lugs shall be suitable for Cu 120 mm² and switchgear connection (or bigger, depending on the cross section of the line/incoming cable)
 - We recommend “Tubular cable lugs for switchgear connection – “9SG8C1K” from Klauke®
- To comply with the required minimum force according to IEC 61238 T1 we recommend the crimp-type-method “indent crimping” as illustrated in the Fig.10 and 11
 - Example: Minimum 7200N when 120mm² is installed
- Use for each phase a heat shrinking tube to isolate the cable lug
- For more connection options , please refer to the Document: 1SDC007406G0202 provided from ABB
- Connect the cable with “XT4 250A”and fix the screws with a torque of 8 Nm as shown in Fig.12
- For connection to the terminal blocks for copper “POWER Cage Clamp” please refer to instruction manuel , provided from Wago
 - There is no need for cable lugs
- For detailed information please refer to the assembly instruction of the RPP

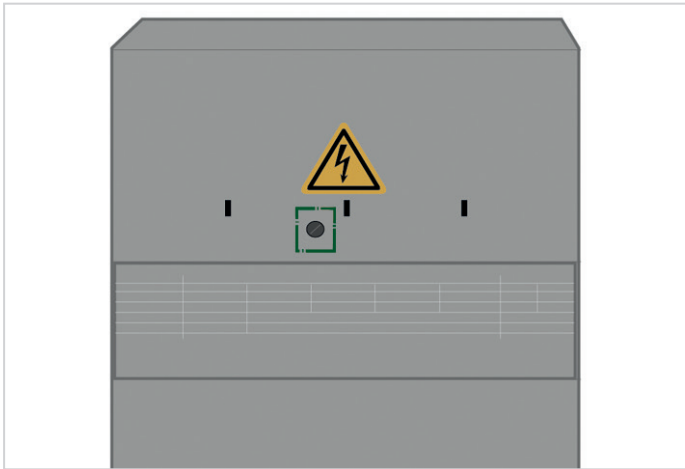


Fig.13: Protection housing of "XT4 250A"

Mounting of protection housing

- Reassemble the dismantled electrical shock protection
- Fix the protection housing using the previously unfastened screw

Closing of the „Power Cage Clamp“ terminals

- Use the tool 285-172 from WAGO to close the terminal according to Fig.14



Fig.14: Closing of the "Power Cage Clamp"

Operation

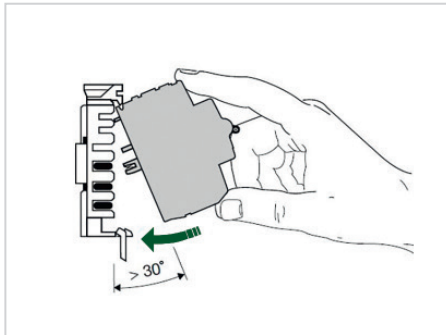


Fig.15: Assembly of a SMISSLINE device

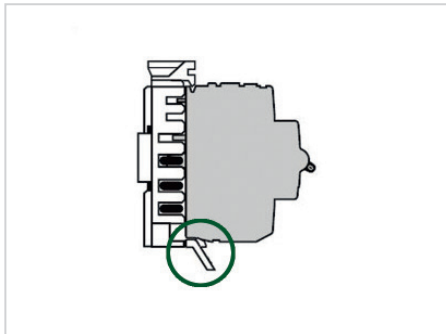


Fig.16: Plug-in position

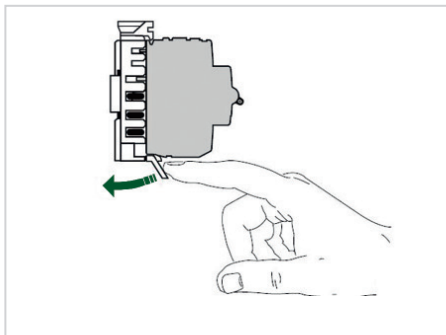


Fig.17: Disconnecting a device

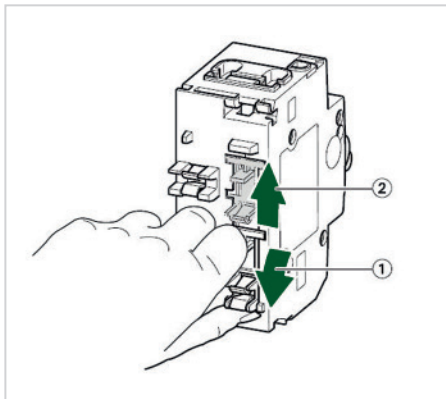


Fig.18: Change position of plug contacts

Ekip Display for “XT4N 250A”

For further information please refer to the user and operator manual.

Address of ABB library:

<https://library.e.abb.com/public/248ef6f757ef2bd6c125799f005ca1dd/1SDH000892R0002.pdf>

– Document Number: 1SDH000892R0002

Mounting of plug-in SMISSLINE TP devices

– Before plug-in the device, it shall be switched off!

– Mount all devices onto the SMISSLINE TP system as pictured in Fig.15

– Ensure that each powerbus does not exceed 250 A

– see also technical data

– Note: For datacenter applications/critical power applications it might be preferable to feed each powerbus with maximum 125 A due to redundancy in case of a breakdown/failure of one MCCB

Load connection of SMISSLINE TP devices.

– To ensure that the device is correctly connected please check the position of the fixing clip

– The position shall be in the upper position as in Fig.16

Disconnection of a device

– Before disconnecting, the device shall be switched off!

– To dismount the device open the fixing clip, displayed in Fig.17

– Remove or change device

Position plug-in connector

– First: Lift contact gate (Fig.18)

– Second: Bring plug contacts to required position (L1, L2 or L3) (Fig.18)

Maintenance

No maintenance necessary.

Approved SMISSLINE TP devices

Only the listed devices may be used in combination with the RPP Panel.

MCB 1pole

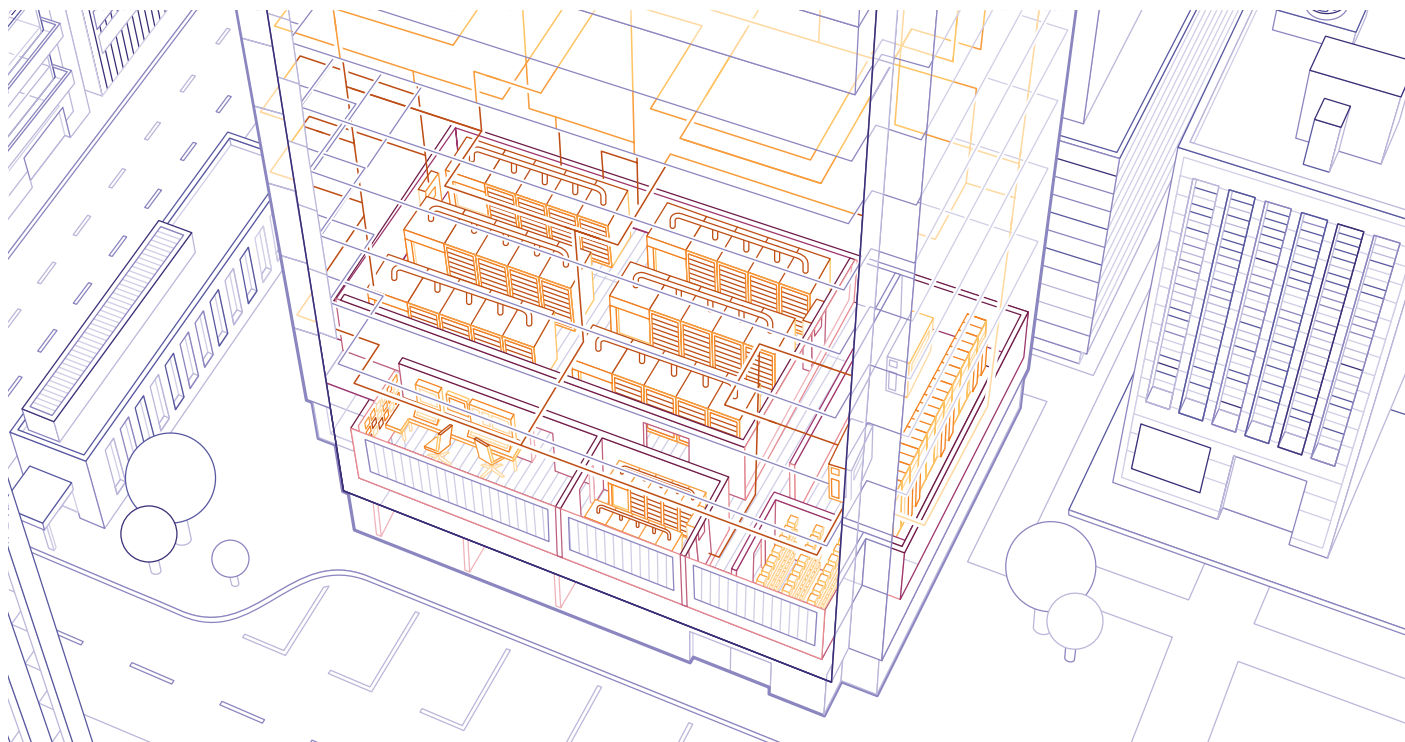
Rated current	Product ID	Catalog description
16A	2CCS571001R0164	S401M-C16
16A	2CCS571001R0467	S401M-K16
32A	2CCS571001R0324	S401M-C32
32A	2CCS571001R0537	S401M-K32

Signal contact collective alarm

Rated current	Product ID	Catalog description
1NO (right side mounting)	2CCS500900R0216	SK40010-R SA
1NO (left side mounting)	2CCS500900R0141	SK40010-L SA

MCB 2pole (with protected neutral)

Rated current	Product ID	Catalog description
16A	2CCS571103R8164	S401M-C16NP
16A	2CCS571103R8467	S401M-K16NP
32A	2CCS571103R8324	S401M-C32NP
32A	2CCS571103R8537	S401M-K32NP



Technical data

RPP-250A-X3-X4-X5-X6-X7-X8

Rated voltage (U_n)	240/415 V
Rated insulation voltage of a circuit (U)	440 V
Rated impulse withstand voltage of the assembly (U_{imp})	Line/input 8 kV Load/output 4 kV
Rated frequency (f_n)	50/60 Hz
Rated current assembly (I_{nA})	max. 250 A
Rated current of each circuit/powerbus (I_{nc})	max. 250 A
Number of outgoing circuits	max. 128
Rated current of all outgoing circuits (I_{nc})	max. 32 A
Rated peak withstand current (I_{pk})	52.5 kA (with internal MCCB) max. 17 kA (with external MCCB)
Rated conditional short-circuit current assembly (I_{cc})	25 kA (with internal MCCB) max. 10 kA (with external MCCB)
Rated diversity factor (RDF)	0.8
Type of current	AC
Ambient air temperature	-5° ... +40°
Storage temperature	-25° ... +70°
Pollution degree	3
Material group	III
Protection against mechanical impact	IK07 (with steel door)
Protection against mechanical impact	IK06 (with glass door)
Degree of protection (Vertical planes)	IP55
Degree of protection (Top and bottom)	IP20B
Earthing system	TN-S
Assembly is intended for use by	Skilled persons
Weight without SMISSLINE TP devices	150 kg
Climatic compatibility	IEC 61439-2
Vibration	IEC 61439-2

Dimensions	
Depth	350 mm
Height (min. with one socket)	1950 mm
Height of socket	100 mm
Maximum Height (max. three sockets)	2150 mm
Width	550 mm

RPP-500A-X3-X4-X5-X6-X7-X8

Rated voltage (U_n)	240/415 V
Rated insulation voltage of a circuit (U)	440 V
Rated impulse withstand voltage of the assembly (U_{imp})	Line/input 8 kV Load/output 4 kV
Rated frequency (f_n)	50/60 Hz
Rated current assembly (I_{nA})	max. 500 A
Rated current of each circuit/powerbus (I_{nc})	max. 250 A
Number of outgoing circuits	128
Rated current of all outgoing circuits (I_{nc})	max. 32 A
Rated peak withstand current (I_{pk})	52.5 kA (with internal MCCB) max. 17 kA (with external MCCB)
Rated conditional short-circuit current assembly (I_{cc})	25 kA (with internal MCCB) max. 10 kA (with external MCCB)
Rated diversity factor (RDF)	0.8
Type of current	AC
Ambient air temperature	-5° ... +40°
Storage temperature	-25° ... +70°
Pollution degree	3
Material group	III
Protection against mechanical impact	IK07 (with steel door)
Protection against mechanical impact	IK06 (with glass door)
Degree of protection (Vertical planes)	IP55
Degree of protection (Top and bottom)	IP20B
Earthing system	TN-S
Assembly is intended for use by	Skilled persons
Weight without SMISSLINE TP devices	160 kg
Climatic compatibility	IEC 61439-2
Vibration	IEC 61439-2

Dimensions	
Depth	350 mm
Height (min. with one socket)	1950 mm
Height of socket	100 mm
Maximum Height (max. three sockets)	2150 mm
Width	550 mm

RPP-750A-X3-X4-X5-X6-X7-X8

Rated voltage (U_n)	240/415 V
Rated insulation voltage of a circuit (U)	440 V
Rated impulse withstand voltage of the assembly (U_{imp})	Line/input 8 kV Load/output 4 kV
Rated frequency (f_n)	50/60Hz
Rated current assembly (I_{nA})	max. 750A
Rated current of each circuit/powerbus (I_{nc})	max. 250A
Number of outgoing circuits	max. 192
Rated current of all outgoing circuits (I_{nc})	max. 32 A
Rated peak withstand current (I_{pk})	52.5 kA (with internal MCCB) max. 17 kA (with external MCCB)
Rated conditional short-circuit current assembly (I_{cc})	25 kA (with internal MCCB) max. 10 kA (with external MCCB)
Rated diversity factor (RDF)	0.8
Type of current	AC
Ambient air temperature	-5° ... +40°
Storage temperature	-25° ... +70°
Pollution degree	3
Material group	III
Protection against mechanical impact	IK07 (with steel door)
Protection against mechanical impact	IK06 (with glass door)
Degree of protection (Vertical planes)	IP55
Degree of protection (Top and bottom)	IP20B
Earthing system	TN-S
Assembly is intended for use by	Skilled persons
Weight without SMISSLINE TP devices	175 kg
Climatic compatibility	IEC 61439-2
Vibration	IEC 61439-2

Dimensions	
Depth	350 mm
Height (min. with one socket)	1950 mm
Height of socket	100 mm
Maximum Height (max. three sockets)	2150 mm
Width	800 mm

RPP-1000A-X3-X4-X5-X6-X7-X8

Rated voltage (U_n)	240/415 V
Rated insulation voltage of a circuit (U)	440 V
Rated impulse withstand voltage of the assembly (U_{imp})	Line/input 8 kV Load/output 4 kV
Rated frequency (f_n)	50/60 Hz
Rated current assembly (I_{nA})	max. 1000 A
Rated current of each circuit/powerbus (I_{nc})	max. 250 A
Number of outgoing circuits	max. 256
Rated current of all outgoing circuits (I_{nc})	max. 32 A
Rated peak withstand current (I_{pk})	52.5 kA (with internal MCCB) max. 17 kA (with external MCCB)
Rated conditional short-circuit current assembly (I_{cc})	25 kA (with internal MCCB) max. 10 kA (with external MCCB)
Rated diversity factor (RDF)	0.8
Type of current	AC
Ambient air temperature	-5° ... +40°
Storage temperature	-25° ... +70°
Pollution degree	3
Material group	III
Protection against mechanical impact	IK07 (with steel door)
Protection against mechanical impact	IK06 (with glass door)
Degree of protection (Vertical planes)	IP55
Degree of protection (Top and bottom)	IP20B
Earthing system	TN-S
Assembly is intended for use by	Skilled persons
Weight without SMISSLINE TP devices	200 kg
Climatic compatibility	IEC 61439-2
Vibration	IEC 61439-2

Dimensions	
Depth	350 mm
Height (min. with one socket)	1950 mm
Height of socket	100 mm
Maximum Height (max. three sockets)	2150 mm
Width	1050 mm

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