Power module - CAPAROC PM PN

1110986

https://www.phoenixcontact.com/us/products/1110986

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Power module with PROFINET interface for supplying the CAPAROC circuit breaker system with 12 or 24 V DC. Additional system interface for communication with the power supply. For DIN rail installation via the CAPAROC current rails.

Your advantages

- The benchmark that you can customize by selecting single signals and resets all the way to PROFINET communication
- Particularly easy operation for everyone with tool-free assembly, direct feed-in to the busbar, and clear operating states
- Exceptionally easy design-in thanks to the comprehensive digital data packet and PROFINET function blocks

Commercial Data

Item number	1110986
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
Sales Key	C34
Product Key	CLA231
GTIN	4063151020071
Weight per Piece (including packing)	178.05 g
Weight per Piece (excluding packing)	141.3 g
Customs tariff number	85363030
Country of origin	DE

Technical Data

Notes

General

Note	LABS release – in accordance with test specification VW PV 3. 10.7:2005-0
	When connecting the conductor, make sure that the CAPAROC modules are not pulled apart due to tensile force. Gaps must not be created between the modules.

Product properties

Product type	Device circuit breakers
Number of slots	4

Insulation characteristics

Protection class	III
Pollution degree	2

Electrical properties

General

Operating voltage	10 V DC ... 30 V DC
Rated voltage	12 V DC
	24 V DC
Rated current I_N	45 A DC (Total current input)
Rated surge voltage	0.5 kV
Tripping method	E (electronic)
Feedback resistance	max. 35 V DC
Dielectric strength	35 V DC (Load circuit)
Efficiency	> 99 %
Closed circuit current I_0	typ. 85 mA (no load at 24 V)
Power dissipation	typ. 2 W (no load at 24 V)
	< 3.6 W (at 40 A)
Temperature derating	45 A (Total current at 35°C)
	40 A (Total current at 40°C)
	15 A (Total current at 50°C)
MTBF (IEC 61709, SN 29500)	3985174.15 h (at 25 °C with 21 % load)
	1760834.9 h (at 40°C with 34.25% load)
	601892.76 h (at 35 °C with 100 % load)
Voltage drop	0.048 V (at 40 A)

Connection data

Main circuit IN+

Connection method	Push-in connection

Stripping length	18 mm
Conductor cross section AWG	20 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm² ... 16 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm² ... 16 mm²

Main circuit IN-

Connection method	Push-in connection
Stripping length	18 mm
Conductor cross section AWG	20 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm² ... 16 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm² ... 16 mm²

System communication

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid	0.2 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² ... 0.75 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² ... 1.5 mm²

Interfaces

PROFINET

Maximum system extension	≤ 16 (Modules)
Interface type	Ethernet
Number	2
Transmission speed	100 Mbps (acc. to PROFINET standard)
Transmission physics	Ethernet in RJ45 twisted pair
Protocols supported	PROFINET

System properties

PROFINET

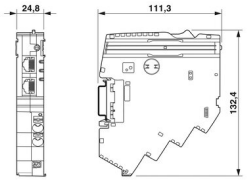
Device function	PROFINET device
Specification	PROFINET-IO RT/IRT, Spec. 2.x
Conformance Class	Conformance-Class C
Redundancy	MRP (Media Redundancy Protocol)

LED signaling

Connection X1 LED green	lit (connect)
Connection X1 LED yellow	lit (traffic)
Connection X2 LED green	lit (connect)
Connection X2 LED yellow	lit (traffic)
	lit (connection status not available)

PROFINET bus fault (BF) LED red	flashing (connection status OK, no communication connection to PROFINET controller)
	off (active communication connection to PROFINET controller)
PROFINET group error (SF) LED red	lit (PROFINET error)
	off (no PROFINET error)
PROFINET ready (RDY) LED green	lit (correct operation)
	flashing (waiting for application startup)
	off (operation not correct)
Power (PWR) LED green	lit (Supply voltage)
Power (PWR) LED red	lit (Supply voltage outside the nominal range)

Dimensions

Dimensional drawing	
Width	24.8 mm
Height	132.4 mm
Depth	111.3 mm (incl. DIN rail 7.5 mm)

Material specifications

Color	light grey RAL 7035
Material	PA 6 (Housing)
	PA 6 (Pusher)
	PA 6 (Release lever)
	PC (Fiber optics)
Flammability rating according to UL 94	V-0

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-30 °C ... 50 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	≤ 4000 m (amsl (above mean sea level))
Humidity test	96 h, 95 % RH, 40 °C
Shock (operation)	30g (11 ms period, half-sine shock pulse, according to IEC 60068-2-27)
	25g (6 ms duration, half-sine shock pulse in accordance with IEC 60068-2-27, continuous shock)
Vibration (operation)	5g (10 ... 150 Hz / 10 cycles / axis / X, Y, Z)

Approval data

UL approval

Identification	UL/C-UL Listed UL 508
	UL Recognized UL 2367

Standards and regulations

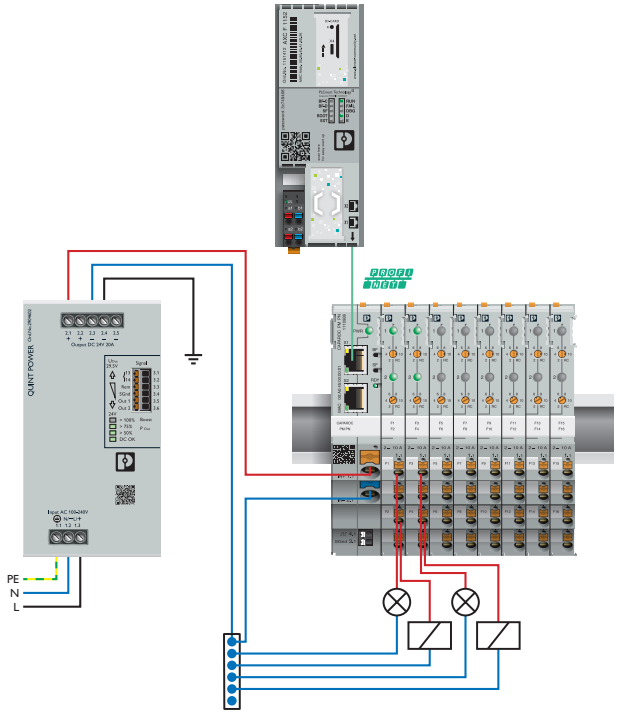
Standards/specifications	EN 61000-6-2
Standards/specifications	EN 61000-6-3
Standards/specifications	EN 60068-2-78
Standards/specifications	EN 50178
Standards/specifications	EN 60068-2-6
Standards/specifications	EN 60068-2-27

Mounting

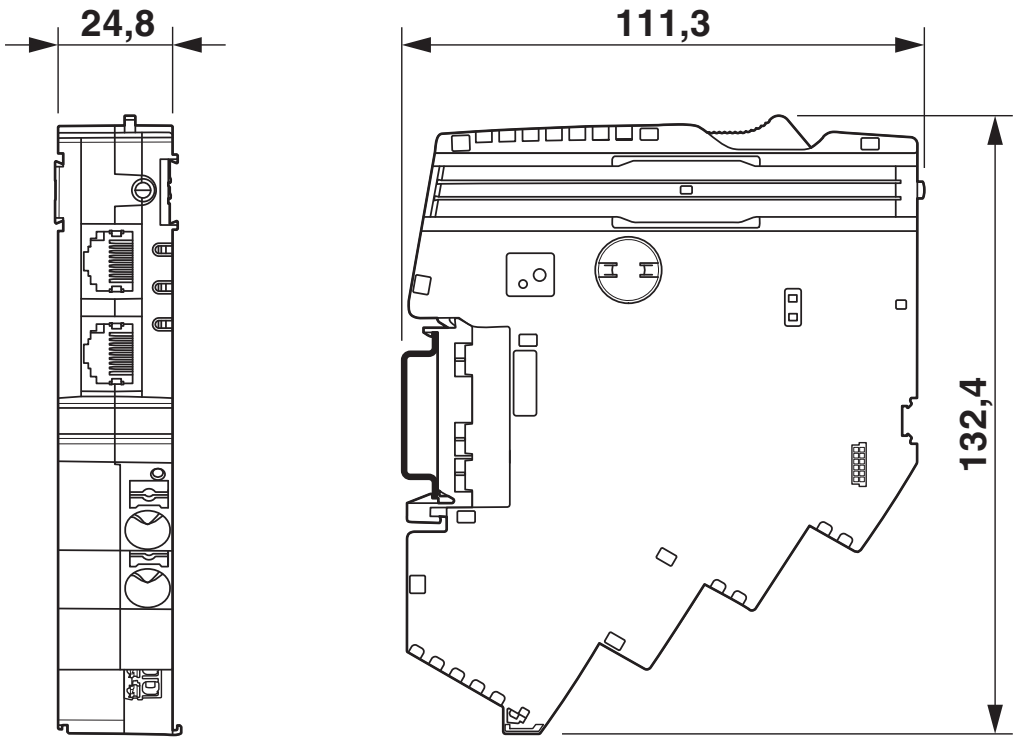
Mounting type	pluggable onto CAPAROC CR… current rail

Drawings

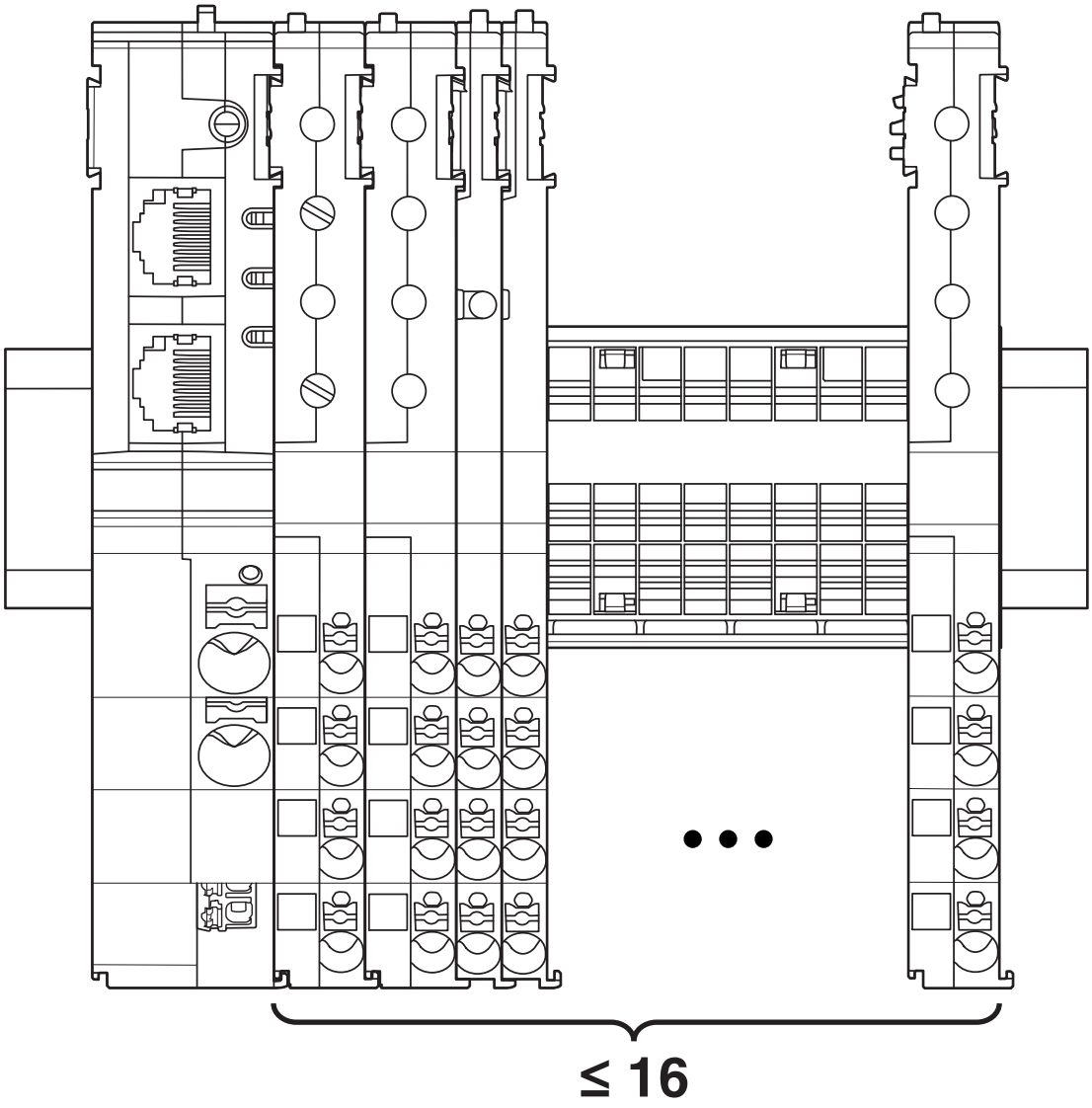
Application drawing



Dimensional drawing

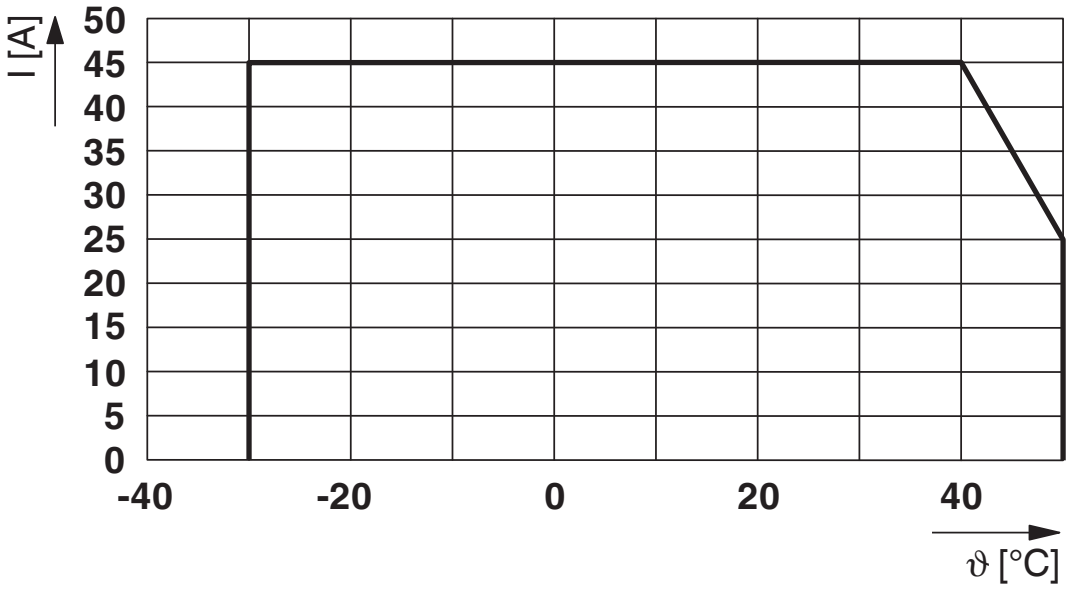


Schematic diagram



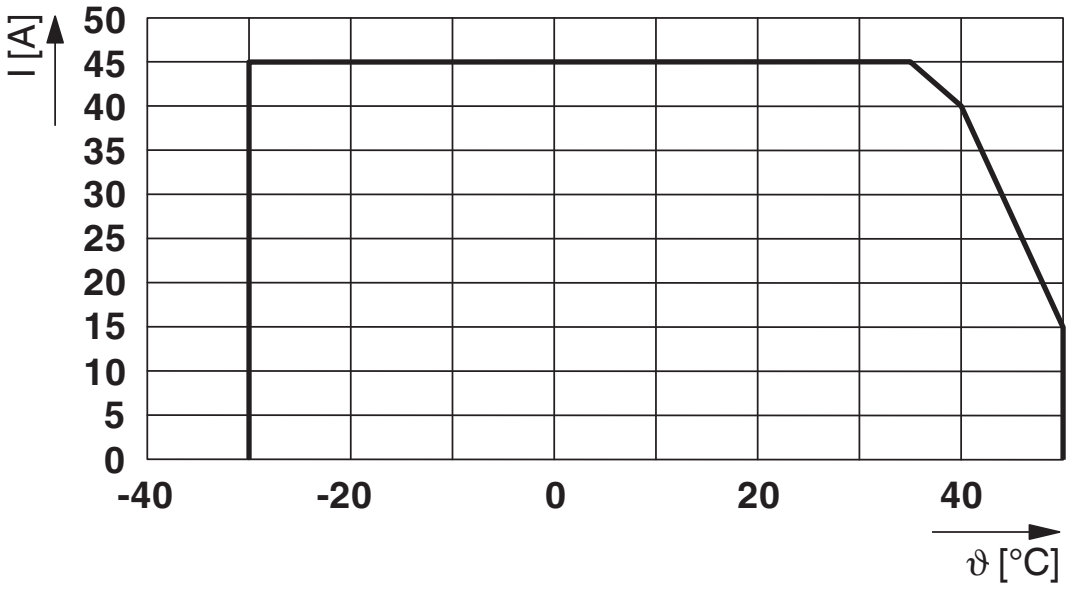
When using the power module with a PROFINET interface (CAPAROC PM PN), max. 16 circuit breaker modules can be set. Any number of extra potential distribution modules can be added.

Diagram



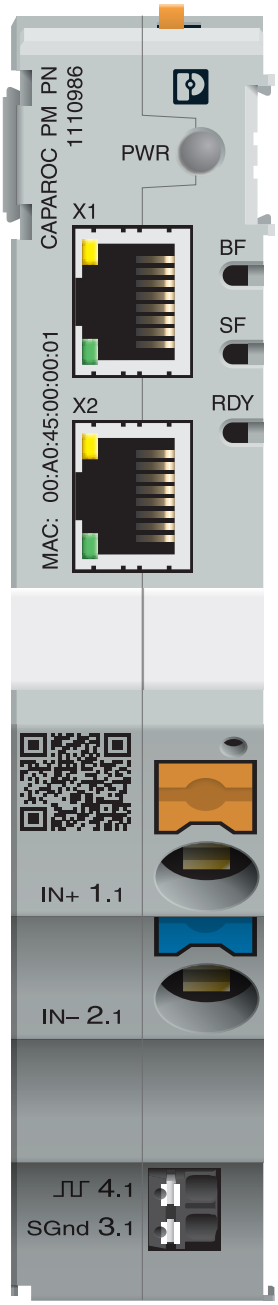
Max. permissible current depending on the ambient temperature for continuous loads with ≤ 8 A per channel

Diagram



Max. permissible current depending on the ambient temperature for continuous loads > 8 A per channel

Product drawing



Approvals

UL Listed
Approval ID: FILE E 123528

cUL Listed
Approval ID: FILE E 123528

PROFINET
Approval ID: Z12936

cULus Listed

Classifications

ECLASS

ECLASS-9.0	27141116
ECLASS-10.0.1	27140401
ECLASS-11.0	27140401

ETIM

ETIM 8.0	EC003538

UNSPSC

UNSPSC 21.0	39121400

Environmental Product Compliance

REACh SVHC	Lead 7439-92-1

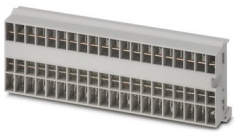
Mandatory Accessories

Busbar

Busbar - CAPAROC CR 20 - 1110989

https://www.phoenixcontact.com/us/products/1110989

Busbar for CAPAROC system with 20 slots. For installation on a DIN rail.



Busbar

Busbar - CAPAROC CR 8 - 1115672

https://www.phoenixcontact.com/us/products/1115672

Busbar for the CAPAROC system with 8 slots. For installation on a DIN rail.



Accessories

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/1-4A - 1115415

https://www.phoenixcontact.com/us/products/1115415



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. Nominal current adjustable from 1 A to 4 A via LED button. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/1-10A - 1115649

https://www.phoenixcontact.com/us/products/1115649



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. Nominal current adjustable from 1 A to 10 A via LED button. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/1A - 1157288

https://www.phoenixcontact.com/us/products/1157288



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/2A - 1157290

https://www.phoenixcontact.com/us/products/1157290



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/4A - 1157285

https://www.phoenixcontact.com/us/products/1157285



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/6A - 1157286

https://www.phoenixcontact.com/us/products/1157286



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/8A - 1157279

https://www.phoenixcontact.com/us/products/1157279



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E1 12-24DC/10A - 1157284

https://www.phoenixcontact.com/us/products/1157284



1-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. With fixed nominal current. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E2 12-24DC/1-4A - 1115655

https://www.phoenixcontact.com/us/products/1115655



2-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. Nominal current adjustable from 1 A to 4 A via step switch. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E2 12-24DC/2-10A - 1110984

https://www.phoenixcontact.com/us/products/1110984



2-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. Nominal current adjustable from 2 A to 10 A via step switch. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E4 12-24DC/1-4A - 1115657

https://www.phoenixcontact.com/us/products/1115657



Four-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. Nominal current adjustable from 1 A to 4 A via LED button. For DIN rail installation via the CAPAROC current rails.

Electronic circuit breaker

Electronic circuit breaker - CAPAROC E4 12-24DC/1-10A - 1115658

https://www.phoenixcontact.com/us/products/1115658



Four-channel electronic circuit breaker module for protecting 12 and 24 V DC loads against overload and short circuit. Nominal current adjustable from 1 A to 10 A via LED button. For DIN rail installation via the CAPAROC current rails.

Potential distributors

Potential distributors - CAPAROC PD 0V - 1110987

https://www.phoenixcontact.com/us/products/1110987



Potential distributor with Push-in connections for directly connecting the 0 V return conductor in the CAPAROC system. For DIN rail installation via the CAPAROC current rails.

Marker for terminal blocks

Marker for terminal blocks - UC-TM 12 - 0819194

https://www.phoenixcontact.com/us/products/0819194



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 12 mm, lettering field size: 11.45 x 10.5 mm, Number of individual labels: 40

Marker for terminal blocks

Marker for terminal blocks - UCT-TM 12 - 0829144

https://www.phoenixcontact.com/us/products/0829144



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 12 mm, lettering field size: 10.8 x 9.6 mm, Number of individual labels: 30

Busbar

Busbar - CAPAROC CR EXT20 - 1115674

https://www.phoenixcontact.com/us/products/1115674

Extension busbar with 20 slots for the CAPAROC system. For installation on a DIN rail.



Busbar

Busbar - CAPAROC CR EXT8 - 1110990

https://www.phoenixcontact.com/us/products/1110990



Extension busbar with 8 slots for CAPAROC system. For installation on a DIN rail.

Busbar

Busbar - CAPAROC CR EXT4 - 1110991

https://www.phoenixcontact.com/us/products/1110991



Extension busbar with 4 slots for the CAPAROC system. For installation on a DIN rail.

Metal part

Metal part - CAPAROC CR CON - 1270955

https://www.phoenixcontact.com/us/products/1270955



Metal extension rails from connecting CAPAROC initial busbars.

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