

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Multi-channel electronic circuit breaker that can be preconfigured, for protecting four loads at 24 V DC in the event of overload and short circuit. With electronic locking of the set nominal currents. For installation on DIN rails.

Your advantages

- Easy device replacement without replanning, thanks to compact design and options for individual adjustments
- Circuits can be adjusted without any tools by means of one single pushable LED button
- Pre-configuration available – for device protection that meets the specific requirements of your system
- Reliable protection against unintentional adjustment of current values, thanks to electronic locking
- Status LEDs in traffic light colors enable instantaneous determination of operating states

Commercial data

Item number	2908716
Packing unit	1 pc
Minimum order quantity	6 pc
Note	Made to order (non-returnable)
Sales key	CL99
Product key	CLA152
Catalog page	Page 373 (C-4-2019)
Weight per piece (including packing)	142 g
Weight per piece (excluding packing)	123 g
Customs tariff number	85362010
Country of origin	DE

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Technical data

Notes

General

Note	Repeated hard short circuits can reduce the melting integral of the integrated backup fuse.
------	---------------------------------------------------------------------------------------------

Product properties

Product type	Device circuit breakers
Product family	CBMC
Type	DIN rail module, one-piece
Number of positions	1
No. of channels	4

Data management status

Article revision	10
------------------	----

Insulation characteristics

Protection class	III
Pollution degree	2

Electrical properties

General

Operating voltage	18 V DC ... 30 V DC
Rated voltage	24 V DC
Rated current I_N	max. 40 A DC (IN+) max. 40 A DC (per terminal position when bridging additional devices via IN+)
Rated current I_N	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 A DC (adjustable or fixed per output channel)
Rated surge voltage	0.5 kV
Tripping method	E (electronic)
Feedback resistance	max. 35 V DC
Required backup fuse	Only required if I_{max} of the power supply > the short-circuit switching capacity. Integrated failsafe element.
Short-circuit switching capacity	300 A
Dielectric strength	max. 35 V DC (Load circuit)
Fuse	electronic
Efficiency	> 99 %
Closed circuit current I_0	typ. 25 mA
Power dissipation	typ. 0.6 W (No-load operation) < 9 W (Nominal operation)
Module initialization time	1.6 s
Waiting time after switch off of a channel	5 s (at overload / short circuit)

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Measuring tolerance I	± 15 %
Temperature derating	24 A DC (at 60 °C)
	28 A DC (at 54 °C)
	32 A DC (at 47 °C)
	36 A DC (at 41 °C)
	40 A DC (at 35 °C)
MTBF (IEC 61709, SN 29500)	8403361 h (at 25 °C with 21 % load)
	3067484 h (at 40 °C with 34.25% load)
	534188 h (at 35 °C with 100 % load)
Fail-safe element	15 A DC (per output channel)
Contact switching type	without electrical isolation

Load circuit

Shutdown time	≤ 10 ms (for short circuit > 2.0 x I _N)
	1 s (1.2 ... 2.0 x I _N)
Undervoltage switch-off	≤ 17.8 V DC (active)
	≥ 18.8 V DC (inactive)
Overvoltage switch-off	≥ 30.5 V DC (active)
	≤ 29.5 V DC (inactive)
Max. capacitive load	45000 µF (Depending on the current setting and the short-circuit current available)
Switch-on delay	0.1 s (per output channel)

Indicator/remote signaling

Connection name	Remote indication circuit
Switching function	N/O contact
Operating voltage	0 V DC ... 30 V DC
Operating current	100 mA DC

Connection data

Main circuit IN+

Connection method	Push-in connection
Stripping length	15 mm
Conductor cross section rigid	0.2 mm ² ... 10 mm ²
Conductor cross section AWG	24 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 4 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 6 mm ²

Main circuit IN-

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
-----------------------------------------------------------------------	----------------------------------------------

Main circuit OUT

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²

Remote indication circuit

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²

Signaling

Channel LED off	off (Channel switched off)
Channel LED yellow	lit (Channel switched on, channel load > 80%)
	flashing (Programming mode active)
Channel LED green	lit (Channel switched on)
Channel LED red	lit (Channel switched off, over- or undervoltage active)
	ON temporarily (Channel switched off, 5 s cool-down phase, overload or short-circuit release)
	flashing (Channel switched off, ready to be switched back on, overload or short-circuit release)
	two flashes (Channel switched off, device total current limit 40 A exceeded)

Dimensions

Dimensional drawing	
Width	36 mm
Height	90 mm
Depth	98 mm (incl. DIN rail 7.5 mm)

Material specifications

PC

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Material	PA 6.6
	PA 6.3T
	POM
Flammability rating according to UL 94	V-0

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	≤ 3000 m up to 52 °C (amsl)
	≤ 4000 m up to 46 °C (amsl)
Humidity test	96 h, 95 % RH, 40 °C
Shock (operation)	30g (IEC 60068-2-27, Test Ea)
Vibration (operation)	10 Hz ... 57.6 Hz (Amplitude ±0.35 mm; in accordance with IEC 60068-2-6, Test Fc)
	57.6 Hz ... 150 Hz (Acceleration 5g; in accordance with IEC 60068-2-6, Test Fc)

Approvals

UL approval

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

Corrosive gas test

Identification	ISA S71.04.2013 G3 Harsh Group A
----------------	----------------------------------

Standards and regulations

Standards/specifications	EN 61000-6-2
Note	EMC – Immunity for industrial areas
Standards/specifications	EN 61000-6-3
Note	EMC – Emission for residential, business and commercial properties and small operations
Standards/specifications	EN 60068-2-6
Note	Environmental influences – Vibrations (sinusoidal)
Standards/specifications	EN 60068-2-27
Note	Environmental influences – Shocks
Standards/specifications	EN 60068-2-78
Note	Environmental influences – Moisture and heat, constant
Standards/specifications	EN 50178
Note	Equipping power installations with electronic equipment

Mounting

Mounting type	DIN rail: 35 mm
---------------	-----------------

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker

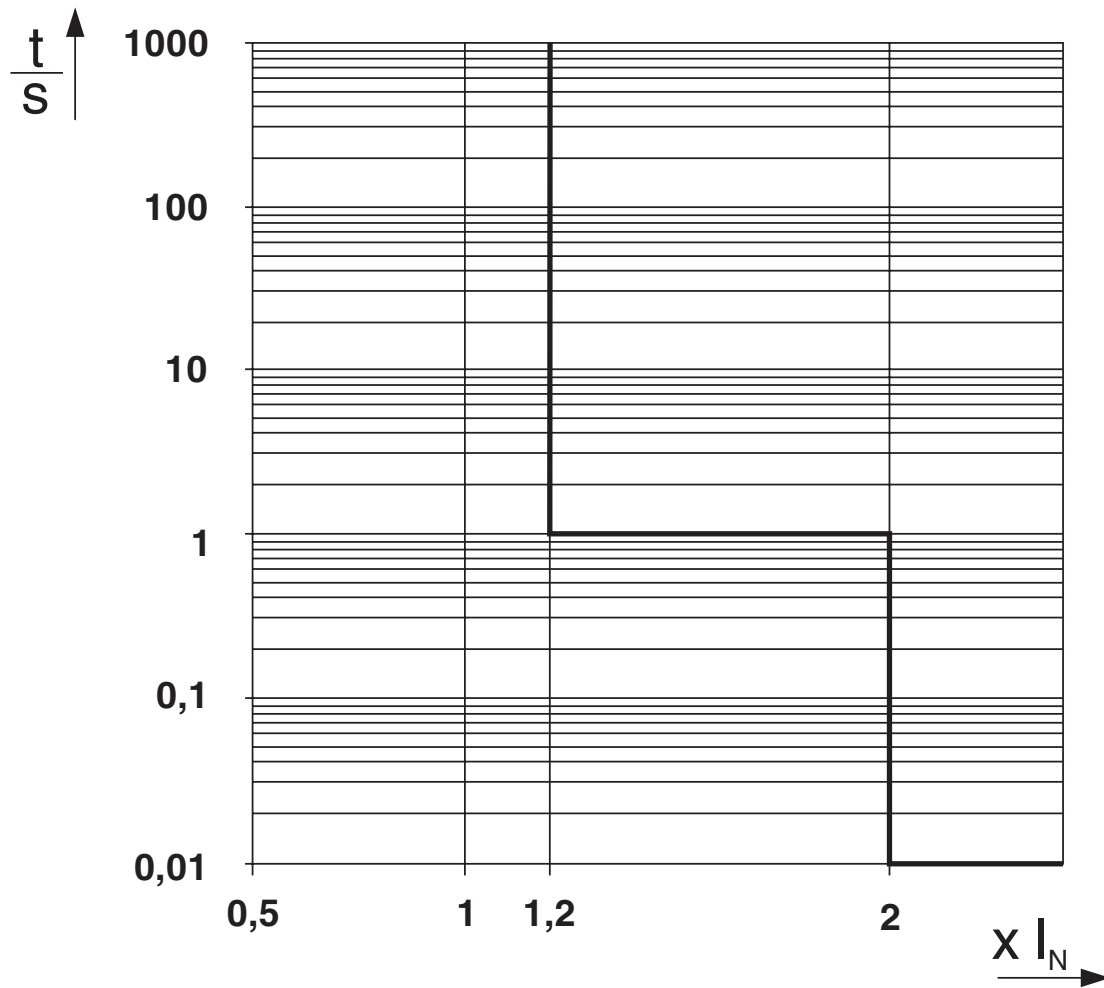


2908716

<https://www.phoenixcontact.com/us/products/2908716>

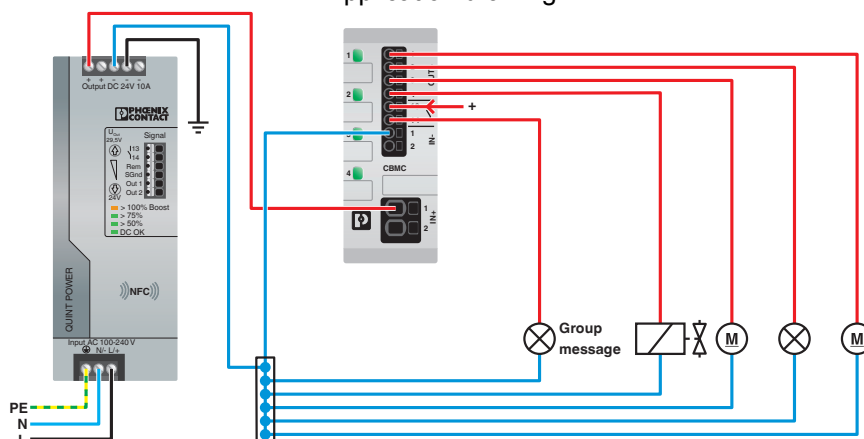
Drawings

Diagram



Trigger characteristic in the DC range

Application drawing

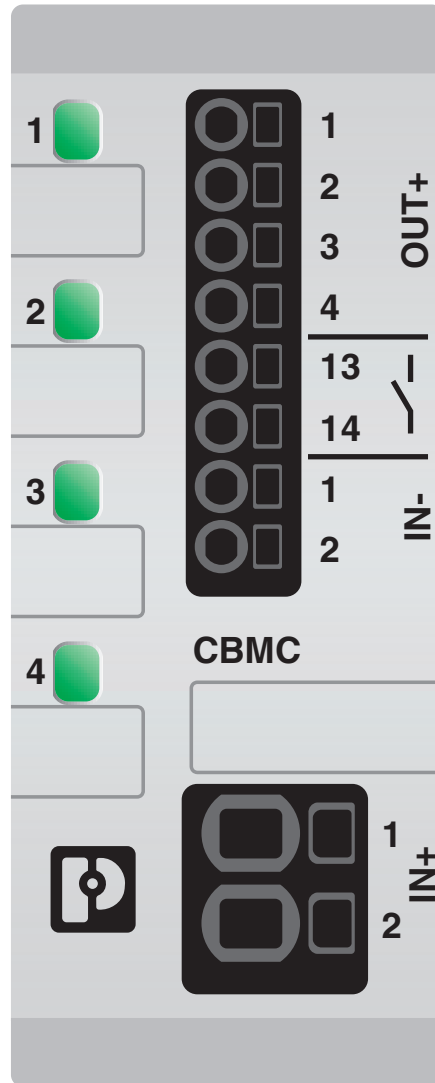


CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker

2908716

<https://www.phoenixcontact.com/us/products/2908716>

Product drawing



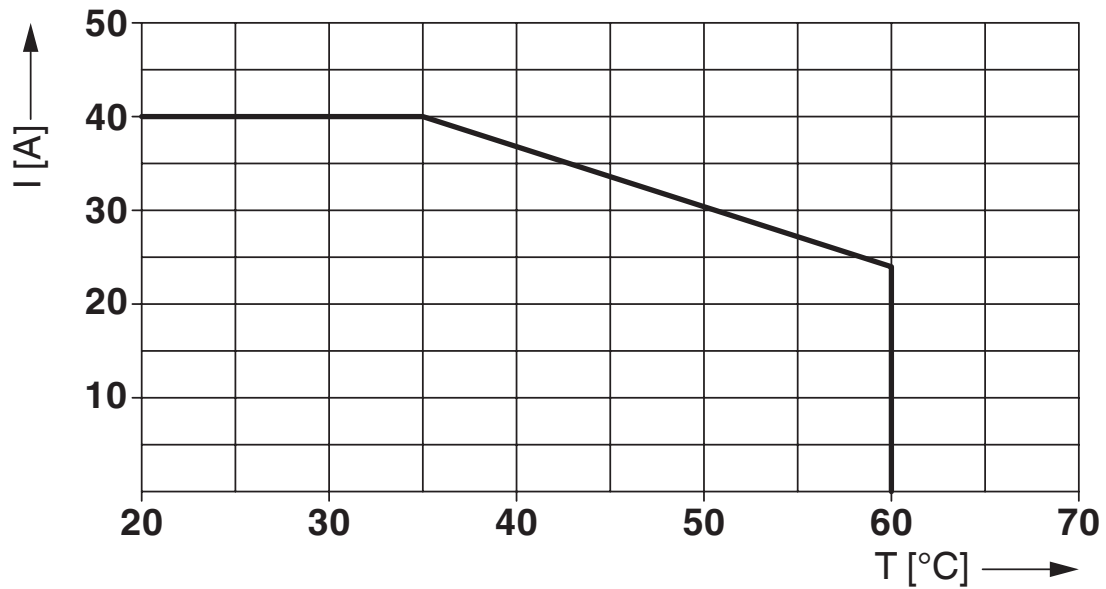
CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

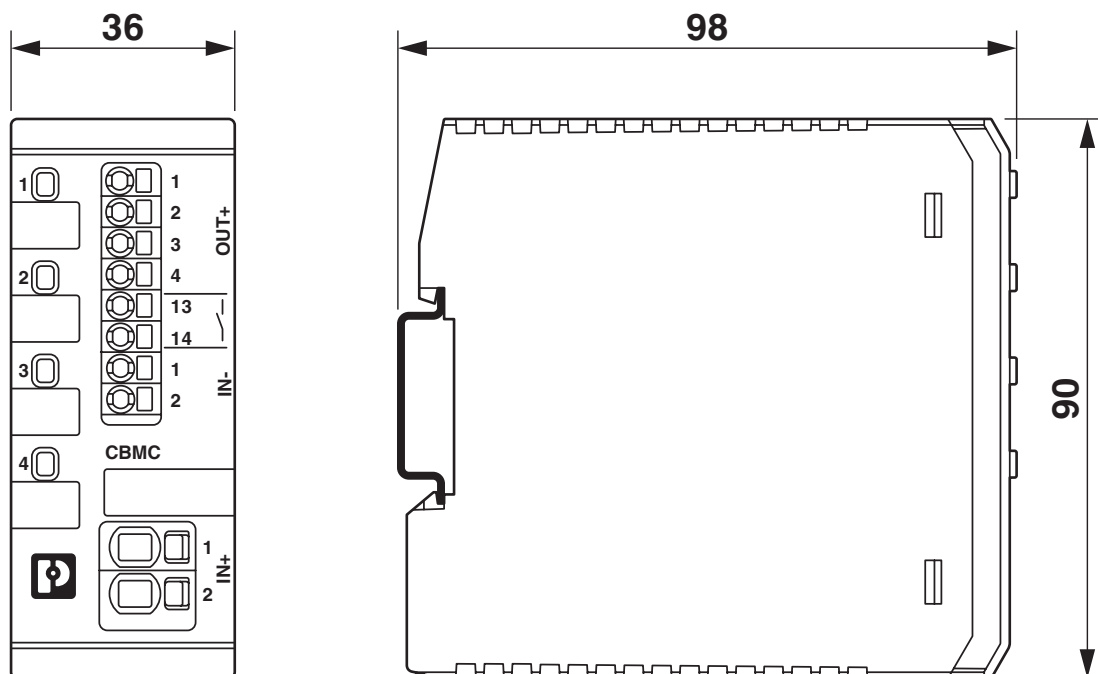
<https://www.phoenixcontact.com/us/products/2908716>

Diagram



Max. permissible current in relation to the ambient temperature

Dimensional drawing



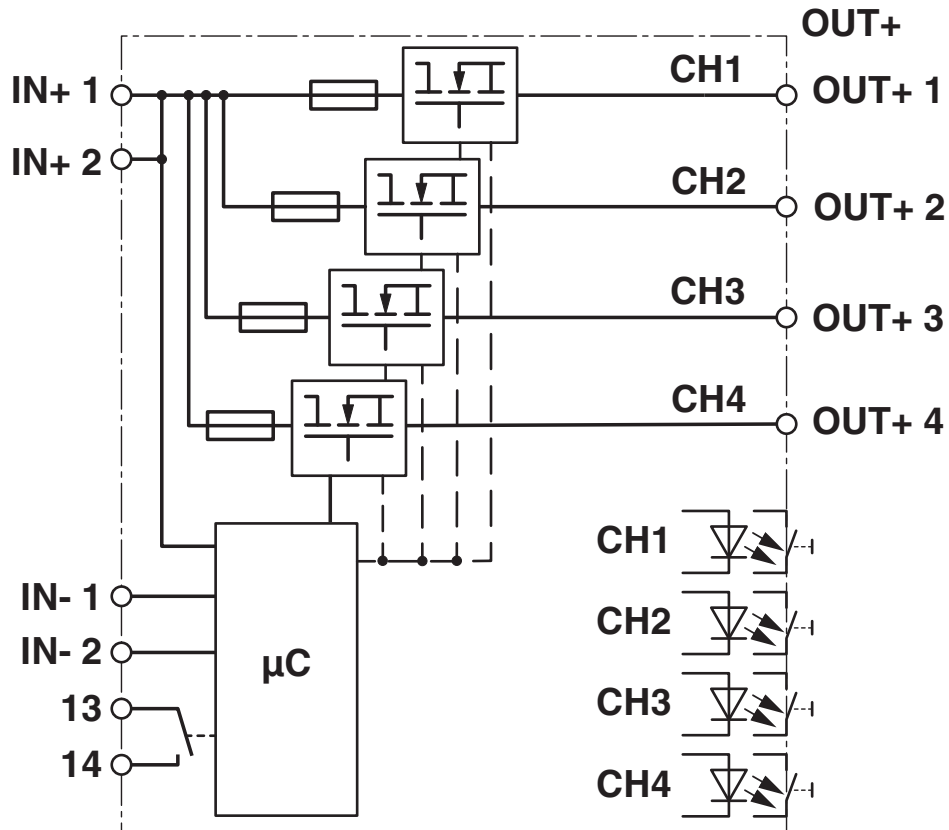
CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Block diagram



CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2908716>



UL Recognized

Approval ID: FILE E 317172



UL Listed

Approval ID: E123528



cUL Listed

Approval ID: E123528

cULus Listed

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Classifications

ECLASS

ECLASS-11.0	27140401
ECLASS-12.0	27140401
ECLASS-13.0	27140401

ETIM

ETIM 9.0	EC003538
----------	----------

UNSPSC

UNSPSC 21.0	39121400
-------------	----------

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
	Perfluorobutane sulfonic acid (PFBS) and its salts(CAS: n/a)

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

Accessories

EML (10X7)R - Label

0816663

<https://www.phoenixcontact.com/us/products/0816663>



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, Number of individual labels: 10000, text field height: 7 mm, text field width: 10 mm

EML-ESD (20X7)R - Equipment marking

0830567

<https://www.phoenixcontact.com/us/products/0830567>



Equipment marking, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, Number of individual labels: 4000, text field height: 7 mm, text field width: 20 mm

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

QUINT4-PS/1AC/24DC/10 - Power supply unit

2904601

<https://www.phoenixcontact.com/us/products/2904601>



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 1-phase, output: 24 V DC/10 A

QUINT4-PS/1AC/24DC/20 - Power supply unit

2904602

<https://www.phoenixcontact.com/us/products/2904602>



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 1-phase, output: 24 V DC/20 A

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

QUINT4-PS/3AC/24DC/10 - Power supply unit

2904621

<https://www.phoenixcontact.com/us/products/2904621>



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 3-phase, output: 24 V DC/10 A

QUINT4-PS/3AC/24DC/20 - Power supply unit

2904622

<https://www.phoenixcontact.com/us/products/2904622>



Primary-switched QUINT POWER power supply with free choice of output characteristic curve, SFB (selective fuse breaking) technology, and NFC interface, input: 3-phase, output: 24 V DC/20 A

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

TRIO-PS-2G/1AC/24DC/10 - Power supply unit

2903149

<https://www.phoenixcontact.com/us/products/2903149>



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: single phase, output: 24 V DC/10 A

TRIO-PS-2G/1AC/24DC/20 - Power supply unit

2903151

<https://www.phoenixcontact.com/us/products/2903151>



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: single-phase, output: 24 V DC/20 A

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

TRIO-PS-2G/3AC/24DC/5 - Power supply unit

2903153

<https://www.phoenixcontact.com/us/products/2903153>



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/5 A

TRIO-PS-2G/3AC/24DC/10 - Power supply unit

2903154

<https://www.phoenixcontact.com/us/products/2903154>



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/10 A

CBMC E4 24DC/1-10A NO-C - Electronic circuit breaker



2908716

<https://www.phoenixcontact.com/us/products/2908716>

TRIO-PS-2G/3AC/24DC/20 - Power supply unit

2903155

<https://www.phoenixcontact.com/us/products/2903155>



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/20 A

TRIO-PS-2G/3AC/24DC/40 - Power supply unit

2903156

<https://www.phoenixcontact.com/us/products/2903156>



Primary-switched TRIO power supply for DIN rail mounting, input: 3-phase, output: 24 V DC/40 A, dynamic boost, tool-free fast connection technology for solid and stranded conductors with ferrule

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com