

## Electronic device circuit breaker - CBMC E4 24DC/1-10A NO - 2906032

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Multi-channel electronic device circuit breaker 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
- ✓ Reliable protection against unintentional adjustment of current values, thanks to electronic locking
- ✓ Status LEDs in traffic light colors enable instantaneous determination of operating states



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 149356
GTIN	4055626149356
Weight per Piece (excluding packing)	180.000 g
Custom tariff number	85363090
Country of origin	Germany

### Technical data

#### Dimensions

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

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
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## Technical data

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Humidity test	96 h, 95 % RH, 40 °C
Altitude	≤ 3000 m up to 52 °C (amsl (above mean sea level))
	≤ 4000 m up to 46 °C (amsl (above mean sea level))
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)
Degree of protection	IP20

### General

Flammability rating according to UL 94	V-0
Mounting type	DIN rail: 35 mm
Color	light grey RAL 7035
Number of positions	1
Protection class	III
Degree of pollution	2
Type	DIN rail module, one-piece

### Electrical data

Fuse type	electronic
Rated surge voltage	0.5 kV
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+)
	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 A DC (adjustable per output channel)
Measuring tolerance I	± 15 %
Feedback resistance	max. 35 V DC
Fail-safe element	15 A DC (per output channel)
Efficiency	> 99 %
Closed circuit current $I_0$	typ. 33 mA
Power dissipation	typ. 0.8 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)
Temperature derating	24 A DC (at 60 °C)

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## Technical data

### Electrical data

	28 A DC (at 54°C)
	32 A DC (at 47°C)
	36 A DC (at 41 °C)
	40 A DC (at 35 °C)
Tripping method	E (electronic)
Required backup fuse	not required, integrated failsafe element
Dielectric strength	max. 35 V DC (Load circuit)
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)
Shutdown time load circuit	≤ 10 ms (for short circuit > 2.0 x I <sub>N</sub> )
	1 s (1.2 ... 2.0 x I <sub>N</sub> )
Undervoltage shutdown load circuit	≤ 17.8 V DC (active)
	≥ 18.8 V DC (inactive)
Surge voltage shutdown load circuit	≥ 30.5 V DC (active)
	≤ 29.5 V DC (inactive)
Max. capacitive load load circuit	45000 μF (Depending on the current setting and the short-circuit current available)

### Remote indication contact

Connection name	Remote indication circuit
Switching function	N/O contact
Stripping length	10 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
DC operating voltage	0 V DC ... 30 V DC
DC operating current	100 mA DC

### Signaling

Channel LED off	off (Channel switched off)
Channel LED green	lit (Channel switched on)
Channel LED yellow	lit (Channel switched on, channel load > 80% )
	flashing (Programming mode active)
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)

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## Technical data

### Signaling

	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)

### Connection data

Connection name	Main circuit IN+
Connection method	Push-in connection
Stripping length	15 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross section AWG	24 ... 8
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Connection name	Main circuit IN-
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Connection name	Main circuit OUT
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

### Standards and Regulations

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

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years

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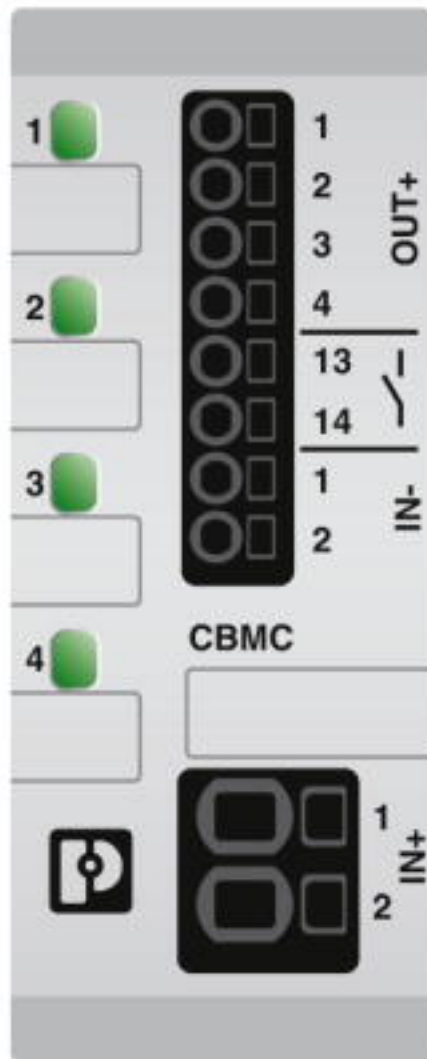
## Technical data

### Environmental Product Compliance

For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

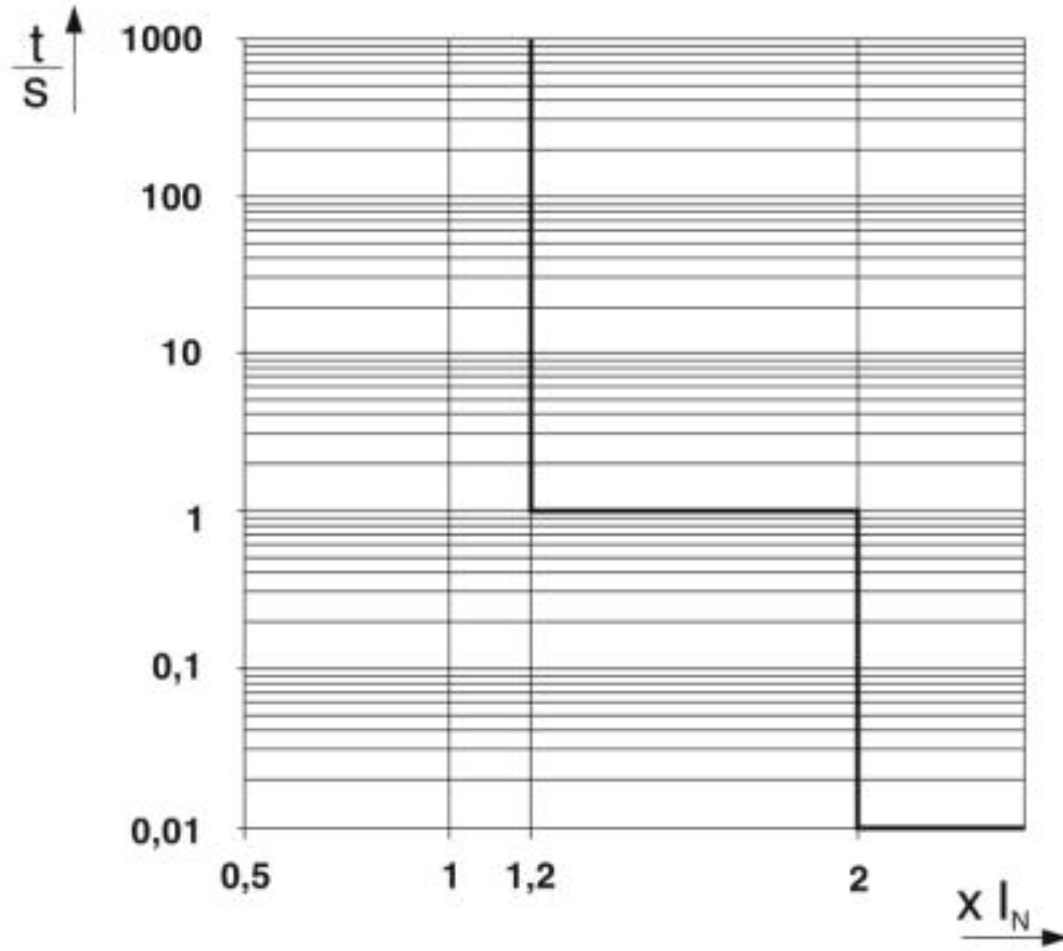
## Drawings

Product drawing



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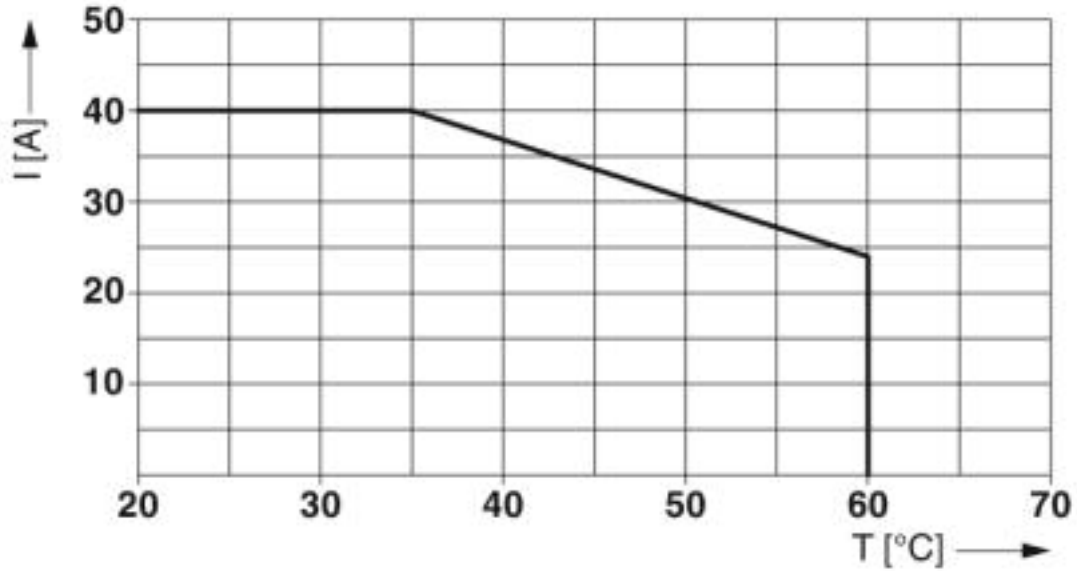
Diagram



Trigger characteristic in the DC range

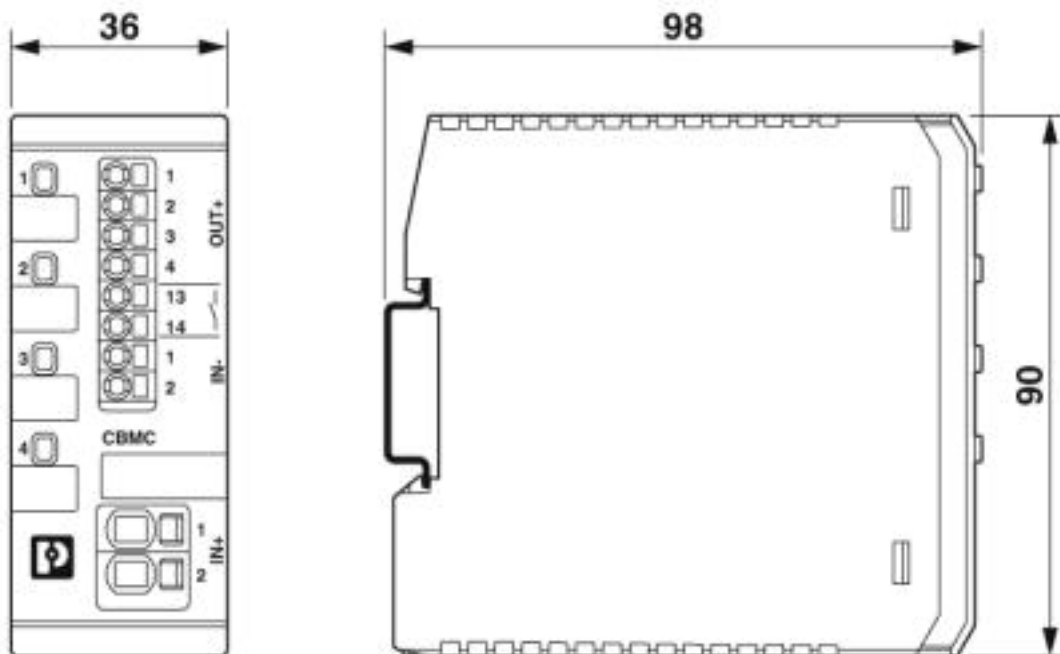
# Electronic device circuit breaker - CBMC E4 24DC/1-10A NO - 2906032

Diagram



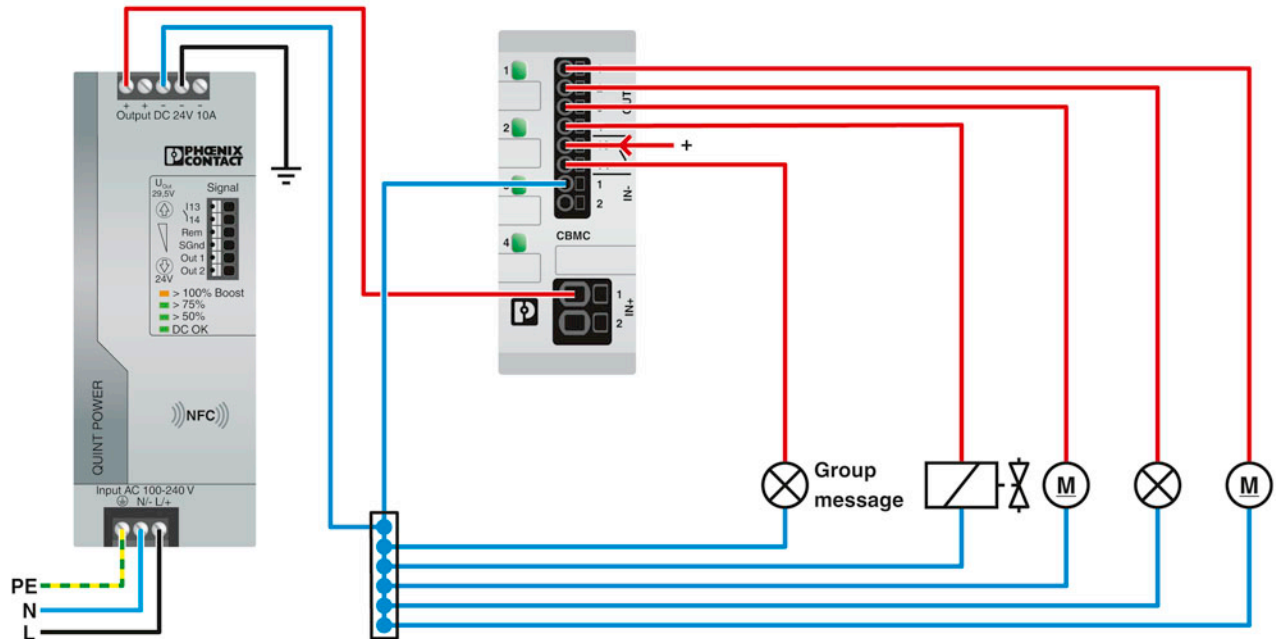
Max. permissible current in relation to the ambient temperature

Dimensional drawing



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Application drawing





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## Classifications

### eCl@ss

eCl@ss 10.0.1	27140401
eCl@ss 4.0	27141100
eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
eCl@ss 5.1	27141100
eCl@ss 6.0	27141100
eCl@ss 7.0	27141116
eCl@ss 8.0	27141116
eCl@ss 9.0	27141116

### ETIM

ETIM 5.0	EC000899
ETIM 6.0	EC000899
ETIM 7.0	EC000899

### UNSPSC

UNSPSC 13.2	39121410
UNSPSC 18.0	39121410
UNSPSC 19.0	39121410
UNSPSC 20.0	39121410
UNSPSC 21.0	39121410

## Approvals

### Approvals

#### Approvals

UL Listed / UL Recognized / cUL Listed / EAC / cULus Listed

#### Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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## Approvals

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 317172
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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EAC			RU C- DE.A*30.B01561
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cULus Listed			
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## Accessories

### Additional products

Label - EML (10X7)R - 0816663



Label, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: 10 x 7 mm, Number of individual labels: 10000

Equipment marking - EML-ESD (20X7)R - 0830567



Equipment marking, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, THERMOMARK ROLL X1, THERMOMARK ROLL 2.0, THERMOMARK ROLL, mounting type: adhesive, lettering field size: 20 x 7 mm, Number of individual labels: 4000

## Electronic device circuit breaker - CBMC E4 24DC/1-10A NO - 2906032

### Accessories

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

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

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

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

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Power supply unit - TRIO-PS-2G/1AC/24DC/10 - 2903149



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

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## Electronic device circuit breaker - CBMC E4 24DC/1-10A NO - 2906032

### Accessories

Power supply unit - TRIO-PS-2G/1AC/24DC/20 - 2903151



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

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Power supply unit - TRIO-PS-2G/3AC/24DC/5 - 2903153



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

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Power supply unit - TRIO-PS-2G/3AC/24DC/10 - 2903154



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

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Power supply unit - TRIO-PS-2G/3AC/24DC/20 - 2903155



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

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

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