

Electronic device circuit breaker - PTCB E1 24DC/3A NO - 2909904

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Single-channel electronic circuit breaker for protecting 24 V DC loads against overload and short circuit. Simple potential distribution using components from the CLIPLINE complete terminal block system. With fixed nominal current. For installation on DIN rails.

Why buy this product

- ✓ Simple application setup due to bridging option to CLIPLINE complete terminal block system
- ✓ More space in the control cabinet: narrowest protection on just 6 mm width
- ✓ Individual setup for suitable protection, exactly according to your requirements
- ✓ Optimum protection for cables and sensors as well as NEC Class 2 circuits by means of an additional internal output fuse

RoHS

Key Commercial Data

Packing unit	1 STK
GTIN	 4 055626 408729
GTIN	4055626408729

Technical data

Dimensions

Height	105.8 mm
Width	6.2 mm
Depth	55.6 mm

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Humidity test	96 h, 95% RH, 40°C
Altitude	≤ 2000 m (amsl (above mean sea level))
Shock (operation)	30g (IEC 60068-2-27, Test Ea)
Vibration (operation)	10 Hz ... 59.6 Hz (Amplitude ±0.35 mm; in accordance with IEC 60068-2-6, Test Fc)
	59.6 Hz ... 150 Hz (Acceleration 5g; in accordance with IEC 60068-2-6, Test Fc)

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Technical data

Ambient conditions

Degree of protection	IP20
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General

Flammability rating according to UL 94	V-0
Mounting type	DIN rail: 35 mm
Color	traffic grey A RAL 7042
Number of positions	1
Protection class	III
Type	DIN rail module, one-piece

Electrical data

Fuse type	electronic
Rated surge voltage	0.5 kV
Operating voltage	18 V DC ... 27.5 V DC
Rated voltage	24 V DC
Rated current I_N	24 A DC (Total current input)
	3 A DC (Channel current output)
Measuring tolerance I	± 15 %
Feedback resistance	max. 35 V DC
Fail-safe element	4 A DC (per output channel)
Efficiency	> 99 %
Closed circuit current I_0	typ. 12 mA
Power dissipation	typ. 0.3 W (No-load operation)
	< 0.9 W (Nominal operation)
Module initialization time	1 s
Waiting time after switch off of a channel	5 s (at overload / short circuit)
Temperature derating	21 A (Total current at 60°C)
	24 A (Total current at 50°C)
	3 A (Channel current at 60°C)
	3 A (Channel current at 50°C)
Tripping method	E (electronic)
Required backup fuse	not required, integrated failsafe element
Dielectric strength	max. 35 V DC (Load circuit)
Voltage drop	0.06 V (at 2 A)
Contact type	without electrical isolation
MTBF (IEC 61709, SN 29500)	28571428 h (at 25°C with 21% load)
	14084507 h (at 40°C with 34.25% load)
	2053388 h (at 60°C with 100% load)
Shutdown time load circuit	≤ 10 ms (for short circuit > 2.0 x I_N)
	1 s (1.2 ... 2.0 x I_N)
Undervoltage shutdown load circuit	≤ 17.8 V DC (active)

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	≥ 18.8 V DC (inactive)
Surge voltage shutdown load circuit	≥ 27.5 V DC (active)
	≤ 27 V DC (inactive)
Max. capacitive load load circuit	20000 μ F (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 ² ... 4 mm ²
Conductor cross section AWG	24 ... 14
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²
DC operating voltage	0 V DC ... 30 V DC
DC operating current	100 mA DC

Connection data

Connection name	Main circuit IN+
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²
Connection name	Main circuit IN-
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²
Connection name	Main circuit OUT
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm ² ... 2.5 mm ²

Standards and Regulations

Standards/specifications	EN 61000-6-2
	EN 61000-6-3

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Technical data

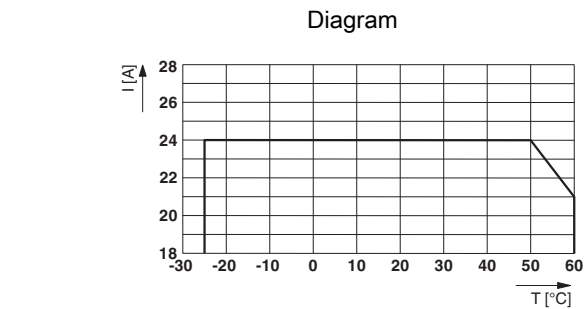
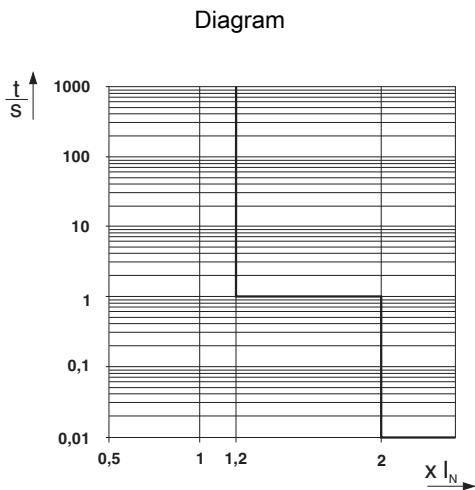
Standards and Regulations

	EN 60068-2-78
	EN 50178
	EN 60068-2-6
	EN 60068-2-27
	UL 508
	UL 2367
	UL 1310 Class 2 Power Units

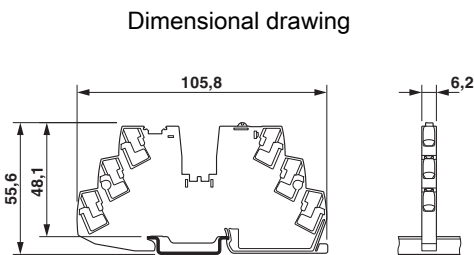
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Drawings



Trigger characteristic in the DC range



Approvals

Approvals

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Approvals

Approvals

UL Recognized / UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 317172
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cULus Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	

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