

1135752

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1-channel, electronic fuse for protecting 24 V loads. Easy potential distribution with terminal blocks from the CLIPLINE complete system. With status output, reset input, and electronic interlock. For installation on DIN rails.

### Your advantages

- 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
- · Flexible use and reduction of inventory due to adjustable amp values on each device for wide range of applications
- · Enhanced diagnostic and control options, thanks to integrated status output and reset input

#### Commercial data

Item number	1135752
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CL10
Product key	CLA135
GTIN	4063151068554
Weight per piece (including packing)	34 g
Weight per piece (excluding packing)	27.64 g
Customs tariff number	85363010
Country of origin	DE



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## Technical data

#### Notes

General
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Note	EN 50121-3-2: Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock – Apparatus
	Connection for signal line tested in accordance with EN 61000-4-4 with 1 kV; if necessary, customer must provide appropriate protective measures
	Repeated hard short circuits can reduce the melting integral of the integrated backup fuse.

### Product properties

Product type	Device circuit breakers
Product family	PTCB
Туре	DIN rail module, one-piece
Number of positions	1
Data management status	
Article revision	08
Insulation characteristics	
Protection class	

2

## Electrical properties

Pollution degree

#### General

Operating voltage	18 V DC 30 V DC
Rated voltage	24 V DC
Rated current I <sub>N</sub>	24 A DC (Total current input)
	8 A DC (Rated current output)
Rated current I <sub>N</sub>	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 A DC (adjustable)
Rated current (pre-adjusted)	4 A
Rated surge voltage	0.5 kV
Tripping method	E (electronic)
Feedback resistance	max. 35 V DC
Required backup fuse	Only required if I <sub>max</sub> 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 <sub>0</sub>	typ. 8 mA
Power dissipation	typ. 0.15 W (No-load operation)
	< 1.4 W (Nominal operation)



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Module initialization time after switch off of a channel         < 0.5 % (at overload / short circuit)           Measuing tolerance I         ± 15 %           Temperature derating         21 A (Total current at 60°C)           7 A (Channel current at 60°C)         7 A (Channel current at 60°C)           8 A (Channel current at 60°C)         8 A (Channel current at 60°C)           MTBF (IEC 61709, SN 29500)         24390243 h (at 25° C with 21 % load)           Voltage drop         0.2 V (at 8 A)           Fail-safe element         15 A DC           and circuit         15 Y (both chrowth 100% load)           Voltage drop         5 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           and circuit         15 (1.2 2.0 x l <sub>10</sub> )           Undervoltage switch-off         \$ 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           Undervoltage switch-off         \$ 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           Undervoltage switch-off         \$ 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           Undervoltage switch-off         \$ 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           Water capacitive load         \$ 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           Water capacitive load         \$ 10 ms (for short circuit > 2.0 x l <sub>10</sub> )           Water capacitive load         \$ 20 ms (for short circuit > 2.0 x l <sub>10</sub> )           Water capacitive load         \$ 20 ms (for short circuit >		
Measuring tolarance I         ± 15 %           Temperature derating Augustian Language (2 of A (Total current at 60°C)         24 A (Total current at 60°C)           A (Channel current at 60°C)         8 A (Channel current at 60°C)           MTBF (IEC 61709, SN 29500)         24 389924 h (at 25° C with 21 % load)           M18F (IEC 61709, SN 29500)         24 389924 h (at 60°C with 34 25% load)           M18F (IEC 61709, SN 29500)         0.2 V (at 8 A)           Voltage drop         0.2 V (at 8 A)           Fall-safe element         5 DC           and circuit         5 Home (for short circuit > 2.0 x I <sub>N</sub> )           Shutdown time         ≤ 10 ms (for short circuit > 2.0 x I <sub>N</sub> )           Undervoltage switch-off         ≤ 17.8 V DC (carbive)           Current seems         ≤ 17.8 V DC (carbive)           Max. capacitive load         250.9 V DC (carbive)           Max. capacitive load         250.9 V DC (carbive)           West         250.9 V DC (carbive)           Seet         250.9 V DC (mactive)           Seet         250.0 M (Feppending on the current setting and the short-circuit current available)           Full selegith         7 V DC 30 V DC (Reset with falling edge)           Voltage         5 V DC (cov state)           So ms (Loov)           Voltage         5 V DC (brigh state)	Module initialization time	< 0.55 s
Temperature derating         21 A (Total current at 60°C)           24 A (Total current at 60°C)         7.4 (Channel current at 60°C)           8 A (Channel current at 60°C)         8.4 (Channel current at 60°C)           8 A (Channel current at 60°C)         8.4 (Channel current at 60°C)           8 A (Channel current at 60°C)         8.4 (Channel current at 60°C)           8 A (Channel current at 60°C)         9.2 V (et 8.4)           104 16666 h (at 40°C with 34.25% load)         1345895 h (at 60°C with 100% load)           10 Voltage drop         0.2 V (et 8.4)           2 circuit         2 10 ms (for short circuit ≥ 2.0 x I <sub>N</sub> )           2 circuit         1 s (1.2	Waiting time after switch off of a channel	5 s (at overload / short circuit)
24 A (Total current at 50°C)   7 A (Channel current at 50°C)   7 A (Channel current at 50°C)   8 A (Channel current at 50°C)   24 390243 h (at 25° C with 21 % load)   10416666 h (at 40°C with 34.25% load	Measuring tolerance I	± 15 %
MTBF (IEC 61709, SN 29500)	Temperature derating	21 A (Total current at 60°C)
MTBF (IEC 61709, SN 29500)   A (Channel current at 50°C)   MTBF (IEC 61709, SN 29500)   A (2390243 h (at 25°C with 21 % load)   10416666 h (at 40°C with 34.25k load)   1345895 h (at 60°C with 100% load)   Voltage drop		24 A (Total current at 50°C)
MTBF (IEC 61709, SN 29500)         24390243 h (at 25 °C with 21 % load)           M146866 h (at 40°C with 34.25% load)         10416866 h (at 40°C with 100% load)           Voltage drop         0.2 V (at 8 A)           Fall-safe element         15 A DC           Part of circuit         25 10 ms (for short circuit ≥ 2.0 x l <sub>N</sub> )           Shutdown time         ≤ 10 ms (for short circuit ≥ 2.0 x l <sub>N</sub> )           Undervoltage switch-off         ≤ 18.8 V DC (active)           ≥ 18.8 V DC (circuitye)         ≥ 30.5 V DC (active)           ≤ 29.5 V DC (inactive)         ≥ 30.5 V DC (active)           description of the current setting and the short-circuit current available)         ≥ 30.5 V DC (active)           eset         ≥ 50 ms (High)           current consumption         typ. 0.4 mA (at 24 V DC)           Pulse length         ≥ 50 ms (High)           ≥ 50 ms (High)         ≥ 50 ms (High)           ≥ 50 ms (Ling)         ≥ 50 ms (Ling)           Stripping length         8 mm           Conductor cross section figid         2 m² 2.5 mm²           Conductor cross section flexible, with ferrule, with pulsatic sleeve         0.25 mm² 2.5 mm²           Conductor cross section flexible, with ferrule without plastic sleeve         0.25 mm² 2.5 mm²           Output current         max. 0.015 A (Short-circuit-proof)     <		7 A (Channel current at 60°C)
10416666 h (at 40°C with 34.25% load)   1345895 h (at 60°C with 100% load)   Voltage drop		8 A (Channel current at 50°C)
Voltage drop	MTBF (IEC 61709, SN 29500)	24390243 h (at 25 °C with 21 % load)
Voltage drop   0.2 V (at 8 A)		10416666 h (at 40°C with 34.25% load)
Fail-safe element  and circuit  Shutdown time		1345895 h (at 60°C with 100% load)
Shutdown time    ≤ 10 ms (for short circuit > 2.0 x I <sub>N</sub> )   1 s (1.2 2.0 x I <sub>N</sub> )   Undervoltage switch-off   ≤ 17.8 V DC (active)   ≥ 18.8 V DC (inactive)   ≥ 18.8 V DC (inactive)   ≥ 18.8 V DC (inactive)   ≥ 29.5 V DC (inactive)   ≥ 29.5 V DC (inactive)   ≥ 29.5 V DC (inactive)   ≥ 20.00 μF (Depending on the current setting and the short-circuit current available)   esest	Voltage drop	0.2 V (at 8 A)
Shutdown time         ≤ 10 ms (for short circuit > 2.0 x I <sub>N</sub> )           Undervoltage switch-off         ≤ 17.8 ∨ DC (active)           Overvoltage switch-off         ≥ 30.5 ∨ DC (active)           Max. capacitive load         ≥ 29.5 ∨ DC (inactive)           Sest         ≤ 29.5 ∨ DC (inactive)           Input voltage range         7 ∨ DC 30 ∨ DC (Reset with falling edge)           Current consumption         typ. 0.4 mA (at 24 ∨ DC)           Pulse length         ≥ 50 ms (Low)           Voltage         ≤ 5 ∨ DC (Low state)           Stripping length         ≈ 8 ∨ DC (High state)           Conductor cross section rigid         0.2 mm² 2.5 mm²           Conductor cross section AWG         24 12           Conductor cross section flexible, with ferrule without plastic sleeve         0.25 mm² 2.5 mm²           Conductor cross section flexible, with ferrule without plastic sleeve         0.25 mm² 2.5 mm²           Output voltage         24 ∨ DC (Error)           Output current         max. 0.015 A (Short-circuit-proof)           Stripping length         8 mm           Conductor cross section rigid         0.2 mm² 4 mm²           Conductor cross section rigid         0.2 mm² 4 mm²           Conductor cross section rigid         0.2 mm² 4 mm²           Conductor cross section	Fail-safe element	15 A DC
Shutdown time         ≤ 10 ms (for short circuit > 2.0 x I <sub>N</sub> )           Undervoltage switch-off         ≤ 17.8 ∨ DC (active)           Overvoltage switch-off         ≥ 30.5 ∨ DC (active)           Max. capacitive load         ≥ 29.5 ∨ DC (inactive)           Sest         ≤ 29.5 ∨ DC (inactive)           Input voltage range         7 ∨ DC 30 ∨ DC (Reset with falling edge)           Current consumption         typ. 0.4 mA (at 24 ∨ DC)           Pulse length         ≥ 50 ms (Low)           Voltage         ≤ 5 ∨ DC (Low state)           Stripping length         ≈ 8 ∨ DC (High state)           Conductor cross section rigid         0.2 mm² 2.5 mm²           Conductor cross section AWG         24 12           Conductor cross section flexible, with ferrule without plastic sleeve         0.25 mm² 2.5 mm²           Conductor cross section flexible, with ferrule without plastic sleeve         0.25 mm² 2.5 mm²           Output voltage         24 ∨ DC (Error)           Output current         max. 0.015 A (Short-circuit-proof)           Stripping length         8 mm           Conductor cross section rigid         0.2 mm² 4 mm²           Conductor cross section rigid         0.2 mm² 4 mm²           Conductor cross section rigid         0.2 mm² 4 mm²           Conductor cross section		
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  East of the switch and the short-circuit current available)  Sest  Input voltage range  Current consumption  Pulse length  Voltage  Voltage  Stripping length  Conductor cross section rigid  Conductor cross section flexible, with ferrule without plastic sleeve  Curput voltage  Curput voltage  24 V DC (Error)  0 V DC (incerror)  0 Uput current  Output current  Stripping length  A W DC (Error)  0 V DC (incerror)  Output current  Stripping length  Conductor cross section rigid  Conductor cross section flexible, with ferrule without plastic sleeve  24 V DC (Error)  0 V DC (incerror)  0 V DC (incerror)  Output current  Stripping length  A W DC (Error)  0 V DC (incerror)  Output current  Stripping length  A W DC (Error)  0 V DC (incerror)  0 V DC (incerror)  0 V DC (incerror)  A W DC (Error)  0 V DC (incerror)  Output current  Stripping length  A W M  Conductor cross section rigid  0.2 mm² 2.5 mm²  Conductor cross section rigid  0.2 mm² 2.5 mm²  Conductor cross section flexible, with ferrule without plastic sleeve  24 V DC (Error)  0 V DC (incerror)  Output current  Stripping length  A mm  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve		< 10 mg (for short circuit > 2.0 v L.)
Undervoltage switch-off  ≥ 17.8 V DC (active)  ≥ 18.8 V DC (inactive)  ≥ 18.8 V DC (inactive)  ≥ 29.5 V DC (active)  ≤ 29.5 V DC (inactive)  Max. capacitive load  ≥ 25000 µF (Depending on the current setting and the short-circuit current available)  seset  Input voltage range  Current consumption  ↑ V DC 30 V DC (Reset with falling edge)  Current consumption  typ. 0.4 mA (at 24 V DC)  Pulse length  ≥ 50 ms (High)  ≥ 50 ms (High)  ≥ 50 ms (High)  ≥ 50 ms (Low)  Voltage  ⟨ 5 V DC (Low state)  > 8 V DC (High state)  Stripping length  8 mm  Conductor cross section rigid  0.2 mm² 2.5 mm²  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  tatus output  Output voltage  Q 4 V DC (Error)  OV DC (no error)  Output current  Stripping length  8 mm  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section section flexible, with ferrule, with plastic sleeve  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section flexible, with ferrule, with plastic sleeve	Shudown time	
Example 1       ≥ 18.8 V DC (inactive)         Overvoltage switch-off       ≥ 30.5 V DC (active)         Max. capacitive load       25000 µF (Depending on the current setting and the short-circuit current available)         seset         Input voltage range       7 V DC 30 V DC (Reset with falling edge)         Current consumption       typ. 0.4 mA (at 24 V DC)         Pulse length       ≥ 50 ms (High)         ≥ 50 ms (Low)       ≥ 50 ms (Low)         Voltage       < 5 V DC (Low state)	Under altere quitab off	
Overvoltage switch-off       ≥ 30.5 V DC (active)         ≤ 29.5 V DC (inactive)         Max. capacitive load       25000 µF (Depending on the current setting and the short-circuit current available)         eset         Input voltage range       7 V DC 30 V DC (Reset with falling edge)         Current consumption       typ. 0.4 mA (at 24 V DC)         Pulse length       ≥ 50 ms (High)         ≥ 50 ms (Low)       ≥ 50 ms (Low)         Voltage       ≤ 5 V DC (Low state)         Stripping length       8 mm         Conductor cross section rigid       0.2 mm² 2.5 mm²         Conductor cross section, flexible, with ferrule, with plastic sleeve       0.25 mm² 2.5 mm²         Conductor cross section flexible, with ferrule without plastic sleeve       0.25 mm² 2.5 mm²         Latus output       0 V DC (Error)         Output voltage       24 V DC (Error)         Output current       max. 0.015 A (Short-circuit-proof)         Stripping length       8 mm         Conductor cross section rigid       0.2 mm² 4 mm²         Conductor cross section flexible, with ferrule, with plastic sleeve       0.25 mm² 4 mm²         Conductor cross section, flexible, with ferrule, with plastic sleeve       0.25 mm² 2.5 mm²	Ondervoltage switch-on	
sest  Input voltage range Current consumption  Voltage  Stripping length  Conductor cross section rigid  Conductor cross section, flexible, with ferrule without plastic sleeve  Toutput voltage  Curput voltage  Conductor cross section flexible, with ferrule without plastic sleeve  Cutput current  Conductor cross section rigid  Cutput voltage  Cutput current  Conductor cross section flexible, with ferrule, with plastic sleeve  Cutput current  Stripping length  Cutput current  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  24 ∨ DC (Error)  0 ∨ DC (no error)  Output current  Stripping length  Conductor cross section rigid  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve	Over allege with all	
Max. capacitive load  25000 µF (Depending on the current setting and the short-circuit current available)  eset  Input voltage range  7 ∨ DC 30 ∨ DC (Reset with falling edge)  Current consumption  1 vp. 0.4 mA (at 24 ∨ DC)  Pulse length  2 50 ms (High)  2 50 ms (Low)  Voltage  4 5 ∨ DC (High state)  Stripping length  8 mm  Conductor cross section rigid  0.2 mm² 2.5 mm²  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  tatus output  Output voltage  24 ∨ DC (Error)  0 ∨ DC (no error)  Output current  Max. 0.015 A (Short-circuit-proof)  Stripping length  8 mm  Conductor cross section rigid  0.2 mm² 2.5 mm²  24 ∨ DC (Error)  0 ∨ DC (no error)  Output current  Max. 0.015 A (Short-circuit-proof)  Stripping length  Conductor cross section AWG  24 12  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section flexible, with ferrule, with plastic sleeve  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section, flexible, with ferrule, with plastic sleeve	Overvoltage switch-off	
eset  Input voltage range 7 V DC 30 V DC (Reset with falling edge)  Current consumption typ. 0.4 mA (at 24 V DC)  Pulse length 2 50 ms (High) 2 50 ms (High) 2 50 ms (Low)  Voltage 4 5 V DC (Low state) 3 8 V DC (High state)  Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 2.5 mm²  Conductor cross section, flexible, with ferrule without plastic sleeve 0.25 mm² 2.5 mm²  Conductor cross section flexible, with ferrule without plastic sleeve 1 24 V DC (Error) 0 V DC (no error)  Output voltage 24 V DC (Error) 0 V DC (no error)  Output current max. 0.015 A (Short-circuit-proof)  Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section flexible, with ferrule, with plastic sleeve 0.25 mm² 4 mm²  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section AWG 24 12  Conductor cross section flexible, with ferrule, with plastic sleeve 0.25 mm² 4 mm²  Conductor cross section flexible, with ferrule, with plastic sleeve 0.25 mm² 2.5 mm²	Manager of the design of the d	, , ,
Input voltage range 7 V DC 30 V DC (Reset with falling edge)  Current consumption typ. 0.4 mA (at 24 V DC)  Pulse length 2 50 ms (High) 2 50 ms (Low)  Voltage 5 V DC (Low state) 8 mm  Conductor cross section rigid 0.2 mm² 2.5 mm²  Conductor cross section, flexible, with ferrule, with plastic sleeve cleaves  Conductor cross section flexible, with ferrule without plastic sleeve 1 24 V DC (Error) 0 V DC (no error)  Output voltage 24 V DC (Error) 0 V DC (no error)  Output current max. 0.015 A (Short-circuit-proof)  Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section AWG 24 12  Conductor cross section AWG 0.2 mm² 4 mm²  Conductor cross section AWG 0.25 mm² 2.5 mm²  Conductor cross section AWG 0.25 mm² 2.5 mm²	Max. capacitive load	
Current consumption       typ. 0.4 mA (at 24 V DC)         Pulse length       ≥ 50 ms (High)         ≥ 50 ms (Low)         Voltage       < 5 V DC (Low state)         Stripping length       8 mm         Conductor cross section rigid       0.2 mm² 2.5 mm²         Conductor cross section AWG       24 12         Conductor cross section, flexible, with ferrule, with plastic sleeve       0.25 mm² 2.5 mm²         Conductor cross section flexible, with ferrule without plastic sleeve       0.25 mm² 2.5 mm²         datus output       24 V DC (Error)         Output voltage       24 V DC (Error)         Output current       max. 0.015 A (Short-circuit-proof)         Stripping length       8 mm         Conductor cross section rigid       0.2 mm² 4 mm²         Conductor cross section AWG       24 12         Conductor cross section, flexible, with ferrule, with plastic sleeve       0.25 mm² 2.5 mm²	eset	
Pulse length  ≥ 50 ms (High) ≥ 50 ms (Low)  Voltage	Input voltage range	7 V DC 30 V DC (Reset with falling edge)
≥ 50 ms (Low)  Voltage	Current consumption	typ. 0.4 mA (at 24 V DC)
Voltage	Pulse length	≥ 50 ms (High)
Stripping length  Stripping length  Conductor cross section rigid  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  24 V DC (Error)  0 V DC (no error)  Output current  max. 0.015 A (Short-circuit-proof)  Stripping length  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²		≥ 50 ms (Low)
Stripping length Conductor cross section rigid  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  24 V DC (Error)  0 V DC (no error)  Output current  max. 0.015 A (Short-circuit-proof)  Stripping length  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²	Voltage	< 5 V DC (Low state)
Conductor cross section rigid  Conductor cross section AWG  24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  tatus output  Output voltage  24 V DC (Error)  0 V DC (no error)  Output current  max. 0.015 A (Short-circuit-proof)  Stripping length  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²  0.25 mm² 2.5 mm²  0.25 mm² 2.5 mm²		> 8 V DC (High state)
Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Coutput  Output voltage  24 V DC (Error)  0 V DC (no error)  Output current  max. 0.015 A (Short-circuit-proof)  Stripping length  8 mm  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section AWG  24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²	Stripping length	8 mm
Conductor cross section, flexible, with ferrule, with plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Conductor cross section flexible, with ferrule without plastic sleeve  Coutput voltage  Cutput voltage  Cutput current  Cutput current  Conductor cross section rigid  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  Cutput current  Cutput	Conductor cross section rigid	0.2 mm² 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve  tatus output  Output voltage  24 V DC (Error)  0 V DC (no error)  Output current  Stripping length  Conductor cross section rigid  Conductor cross section AWG  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²  A V DC (Error)  0 V DC (no error)  max. 0.015 A (Short-circuit-proof)  8 mm  Conductor cross section rigid  0.2 mm² 4 mm²  24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²	Conductor cross section AWG	24 12
tatus output  Output voltage  24 V DC (Error)  0 V DC (no error)  Output current  max. 0.015 A (Short-circuit-proof)  Stripping length  8 mm  Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section AWG  24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²	Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² 2.5 mm²
Output voltage  24 V DC (Error)  0 V DC (no error)  Output current max. 0.015 A (Short-circuit-proof)  Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section AWG 24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve 0.25 mm² 2.5 mm²	·	0.25 mm² 2.5 mm²
O V DC (no error)  Output current max. 0.015 A (Short-circuit-proof)  Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section AWG 24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve 0.25 mm² 2.5 mm²	tatus output	
Output current max. 0.015 A (Short-circuit-proof)  Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section AWG 24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve 0.25 mm² 2.5 mm²	Output voltage	24 V DC (Error)
Stripping length 8 mm  Conductor cross section rigid 0.2 mm² 4 mm²  Conductor cross section AWG 24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve 0.25 mm² 2.5 mm²		0 V DC (no error)
Conductor cross section rigid  0.2 mm² 4 mm²  Conductor cross section AWG  24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²	Output current	max. 0.015 A (Short-circuit-proof)
Conductor cross section AWG  24 12  Conductor cross section, flexible, with ferrule, with plastic sleeve  0.25 mm² 2.5 mm²	Stripping length	8 mm
Conductor cross section AWG 24 12 Conductor cross section, flexible, with ferrule, with plastic sleeve 0.25 mm² 2.5 mm²	Conductor cross section rigid	0.2 mm² 4 mm²
	Conductor cross section AWG	24 12
	Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² 2.5 mm²
		0.25 mm² 2.5 mm²



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sleeve	
nnection data	
Main circuit IN+	
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section flexible	0.2 mm² 2.5 mm²
Conductor cross section rigid	0.2 mm² 4 mm²
Conductor cross section AWG	24 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² 2.5 mm²
Main circuit IN-	
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section flexible	0.2 mm² 2.5 mm²
Conductor cross section rigid	0.2 mm² 4 mm²
Conductor cross section AWG	24 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² 2.5 mm²
Main circuit OUT	
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section flexible	0.2 mm² 2.5 mm²
Conductor cross section rigid	0.2 mm² 4 mm²
Conductor cross section AWG	24 12
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm² 2.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm² 2.5 mm²
gnaling	
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)

flashing quickly (Channel switched off, external voltage at the

output, possible installation error)



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#### **Dimensions**

Dimensional drawing	105,8
Width	6.2 mm
Height	105.8 mm
Depth	55.6 mm (incl. DIN rail 7.5 mm)

### Material specifications

Color	gray (RAL 7042)
Material	PBT
	PBT
Flammability rating according to UL 94	V-0

#### Environmental and real-life conditions

#### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-30 °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 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)
	5 Hz 100 Hz (Resonance search 4g; resonance frequency 4g; 90 min in accordance with DNV GL Class B)

### Approvals

#### UL approval

Identification	UL/C-UL Listed UL 508
	UL Recognized UL 2367
	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D; T4 (Hazardous Location)
Shipbuilding approval	
Identification	DNV GL
Corrosive gas test	



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#### DNV GL data

Temperature	D
Humidity	В
Vibration	В
EMC	В
Enclosure	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 60068-2-78         Note       Environmental influences – Moisture and heat, constant         Standards/specifications       EN 50178         Note       Equipping power installations with electronic equipment         Standards/specifications       EN 60068-2-6         Note       Environmental influences – Vibrations (sinusoidal)         Standards/specifications       EN 60068-2-27         Note       Environmental influences – Shocks         Standards/specifications       EN 60068-2-30         Note       Environmental influences – Part 2-30: Tests – Test Db: Damp heat, cyclical         Standards/specifications       EN 61373         Note       Railway applications - Rolling stock equipment - Shock and vibration tests         Standards/specifications       EN 45545-2         Note       Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behavior of materials and components		
Standards/specifications       EN 61000-6-3         Note       EMC – Emission for residential, business and commercial properties and small operations         Standards/specifications       EN 60068-2-78         Note       Environmental influences – Moisture and heat, constant         Standards/specifications       EN 50178         Note       Equipping power installations with electronic equipment         Standards/specifications       EN 60068-2-6         Note       Environmental influences – Vibrations (sinusoidal)         Standards/specifications       EN 60068-2-27         Note       Environmental influences – Shocks         Standards/specifications       EN 60068-2-30         Note       Environmental influences – Part 2-30: Tests – Test Db: Damp heat, cyclical         Standards/specifications       EN 61373         Note       Railway applications - Rolling stock equipment - Shock and vibration tests         Standards/specifications       EN 45545-2         Note       Railway applications - Fire protection on railway vehicles - Part 2:	Standards/specifications	EN 61000-6-2
Note EMC – Emission for residential, business and commercial properties and small operations  Standards/specifications EN 60068-2-78  Note Environmental influences – Moisture and heat, constant  Standards/specifications EN 50178  Note Equipping power installations with electronic equipment  Standards/specifications EN 60068-2-6  Note Environmental influences – Vibrations (sinusoidal)  Standards/specifications EN 60068-2-27  Note Environmental influences – Shocks  Standards/specifications EN 60068-2-30  Note Environmental influences – Part 2–30: Tests – Test Db: Damp heat, cyclical  Standards/specifications EN 61373  Note Railway applications - Rolling stock equipment - Shock and vibration tests  Standards/specifications EN 45545-2  Note Railway applications - Fire protection on railway vehicles - Part 2:	Note	EMC – Immunity for industrial areas
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vibration tests  Standards/specifications EN 45545-2  Note Railway applications - Fire protection on railway vehicles - Part 2:	Standards/specifications	EN 61373
Note Railway applications - Fire protection on railway vehicles - Part 2:	Note	,
	Standards/specifications	EN 45545-2
	Note	, , ,

### Mounting

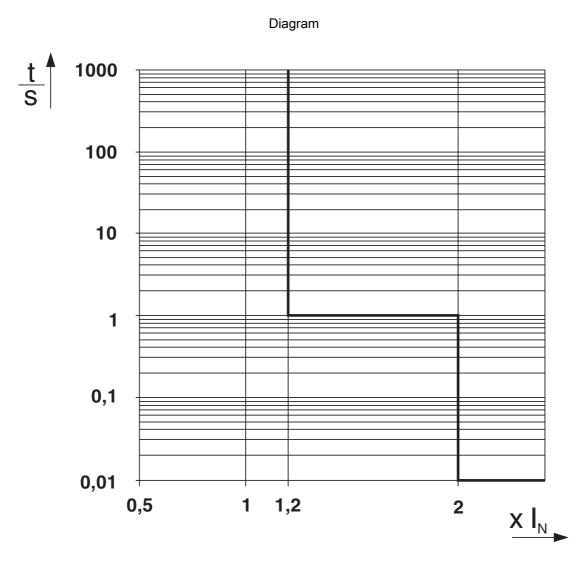
Mounting type	DIN rail: 35 mm
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## Drawings

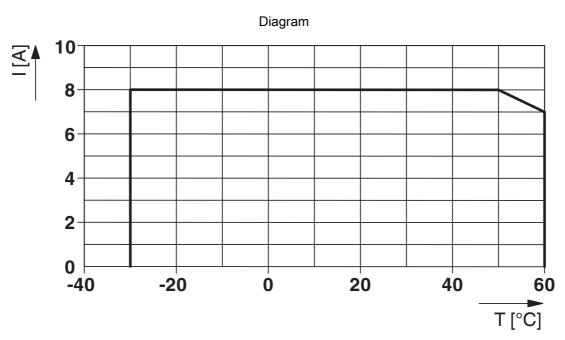


Trigger characteristic in the DC range

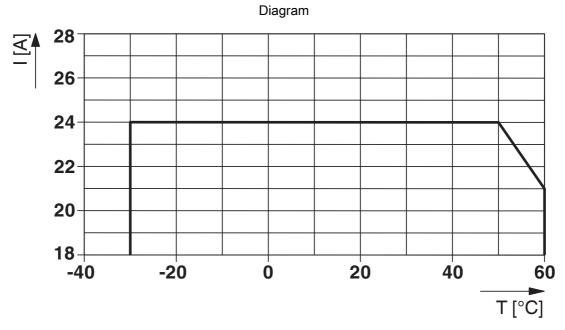


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Channel current output



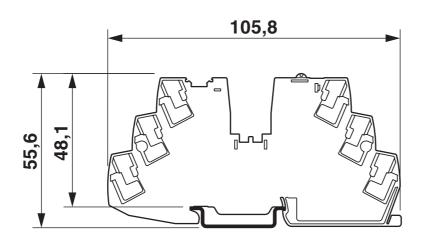
Total current input

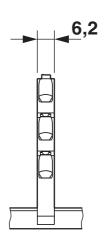


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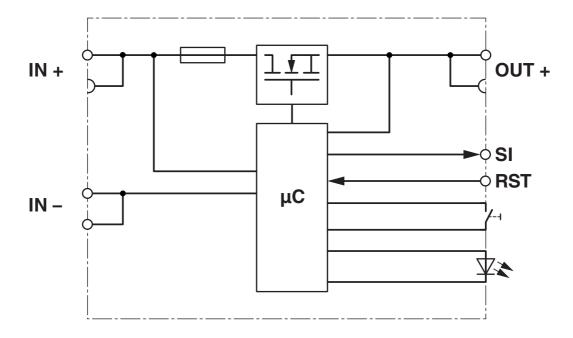
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## Dimensional drawing





### Block diagram





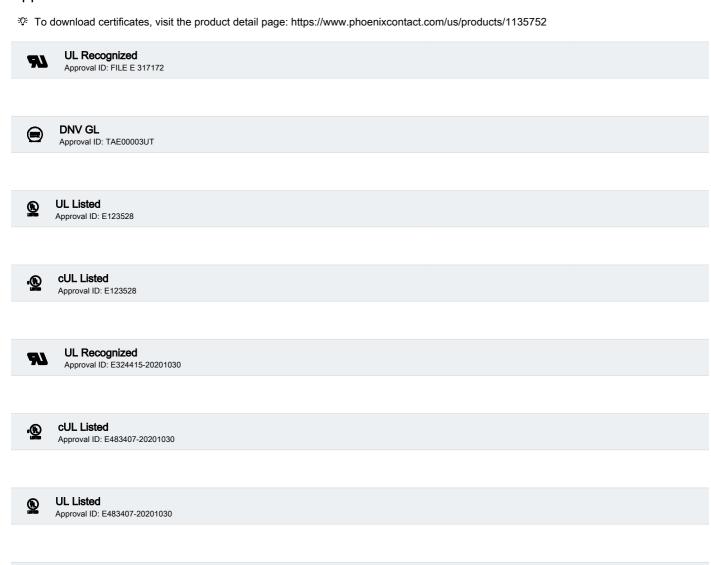
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## **Approvals**

**cULus Listed** 

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## Classifications

#### **ECLASS**

	ECLASS-11.0	27140401		
	ECLASS-13.0	27140401		
	ECLASS-12.0	27140401		
ETIM				
	ETIM 9.0	EC003538		
UNSPSC				
	UNSPSC 21.0	39121400		



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## Environmental product compliance

#### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-l
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)
SCIP	d99adf7a-3292-403a-8fd5-c9125e7c0d45
EF3.0 Climate Change	
CO2e kg	0.824 kg CO2e

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