

## Solid-state relay module - PLC-OPT- 48DC/110DC/3RW - 2900393

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PLC-INTERFACE for railway applications, consisting of basic terminal block with push-in connection and integrated miniature solid-state relay, range:  $0.7 \times U_N$  to  $1.25 \times U_N$ , temperature range:  $-25^\circ\text{C}$  to  $+70^\circ\text{C}$ , 1 N/O contact, input: 48 V DC, output: 12 - 140 V DC/3 A

The figure shows a version with a screw connection

### Product Features

- Shock resistance according to DIN 50155 (requirements according to EN 61373)
- Temperature range of  $-25^\circ\text{C}$  to  $+70^\circ\text{C}$
- Input voltage range of  $0.7 - 1.25 \times U_N$



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	31.89 GRM
Custom tariff number	85364190
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	6.2 mm
Height	80 mm
Depth	86 mm

#### Ambient conditions

Ambient temperature (operation)	$-25^\circ\text{C} \dots 70^\circ\text{C}$
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## Technical data

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

### Input data

Nominal input voltage $U_N$	48 V DC
Input voltage range in reference to $U_N$	0.7 ... 1.25 ( $t < 1 \text{ s} = 0.6 \dots 1.4 \times U_N$ )
Switching threshold "0" signal in reference to $U_N$	< 0.3
Switching threshold "1" signal in reference to $U_N$	> 0.6
Typical input current at $U_N$	5.5 mA
Typical response time	40 $\mu\text{s}$
Typical turn-off time	200 $\mu\text{s}$
Operating voltage display	Yellow LED
Type of protection	Protection against polarity reversal
	Surge protection
Protective circuit/component	Series polarity protection diode
Surge voltage protection	> 150 V
Transmission frequency	300 Hz

### Output data

Output nominal voltage	110 V DC
Output voltage range	12 V DC ... 140 V DC ( $t < 1 \text{ s} = 1.40 \times U_N$ )
Limiting continuous current	3 A (see derating curve)
Surge voltage protection	> 150 V
Voltage drop at max. limiting continuous current	< 150 mV
Output circuit	2-wire, floating
Type of protection	Protection against polarity reversal
	Surge protection
Protective circuit/component	Parallel polarity protection diode

### Connection data

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	14

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### Technical data

#### General

Test voltage input/output	2.5 kV <sub>rms</sub>
Mounting position	any
Assembly instructions	In rows with zero spacing
Operating mode	100% operating factor
Inflammability class according to UL 94	V0
Designation	Air and creepage distances between the power circuits
Standards/regulations	IEC 60664
	EN 50178
	IEC 62103
Rated surge voltage / insulation	4 kV / basic insulation
Rated insulation voltage	160 V DC
Pollution degree	2
Surge voltage category	III

### Classifications

#### eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371001
eCl@ss 5.1	27371001
eCl@ss 6.0	27371001
eCl@ss 7.0	27371001
eCl@ss 8.0	27371001

#### ETIM

ETIM 2.0	EC001504
ETIM 3.0	EC001504
ETIM 4.0	EC000196
ETIM 5.0	EC000196

#### UNSPSC

UNSPSC 6.01	30211916
UNSPSC 7.0901	39121542
UNSPSC 11	39121542
UNSPSC 12.01	39121542
UNSPSC 13.2	39121542

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## Approvals

Approvals

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Approvals

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

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Ex Approvals

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Approvals submitted

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## Approval details

UL Listed 

cUL Listed 

UL Recognized 

cUL Recognized 

cULus Recognized 

cULus Listed 

## Drawings

## Solid-state relay module - PLC-OPT- 48DC/110DC/3RW - 2900393

Diagram



Circuit diagram

