

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

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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°C to $+70^\circ\text{C}$, 1 N/O contact, input: 24 V DC, output: 12 - 140 V DC/3 A

Why buy this product

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



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 508964
GTIN	4046356508964
Weight per Piece (excluding packing)	31.200 g
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

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Technical data

Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

Input data

Nominal input voltage U_N	24 V DC
Input voltage range in reference to U_N	0.7 ... 1.25 ($t < 1 \text{ s} = 0.6 \dots 1.4 \times U_N$)
Input voltage range	16.8 V DC ... 30 V DC
Switching threshold "0" signal in reference to U_N	< 0.4
Switching threshold "1" signal in reference to U_N	> 0.6
Typical input current at U_N	12 mA
Typical response time	400 μs
Typical turn-off time	200 μs
Operating voltage display	Yellow LED
Type of protection	Reverse polarity protection
	Surge protection
Protective circuit/component	Series polarity protection diode
Surge voltage protection	> 150 V
Transmission frequency	50 Hz
Power dissipation for nominal condition	0.29 W

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	Reverse polarity protection
	Surge protection
Protective circuit/component	Parallel polarity protection diode

Connection data, input side

Connection name	Input side
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid	0.14 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross section AWG	26 ... 14

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Technical data

Connection data, output side

Connection name	Output side
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid	0.14 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross section AWG	26 ... 14

General

Test voltage input/output	2.5 kV _{rms}
Mounting position	any
Assembly instructions	In rows with zero spacing
Operating mode	100% operating factor
Flammability rating according to UL 94	V0
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	IEC 60664
	EN 50178
Degree of pollution	2
Overvoltage category	III

Standards and Regulations

Connection in acc. with standard	CUL
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	IEC 60664
	EN 50178
Rated insulation voltage	160 V DC
Rated surge voltage	4 kV
Insulation	Basic insulation
Degree of pollution	2
Overvoltage category	III
Flammability rating according to UL 94	V0

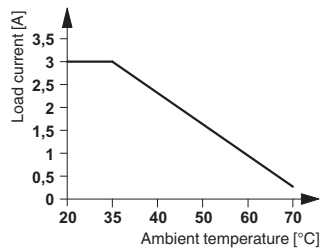
Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

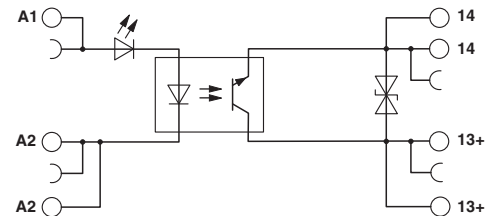
Drawings

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Diagram



Circuit diagram



Classifications

eCl@ss

eCl@ss 5.0	27371001
eCl@ss 5.1	27371001
eCl@ss 6.0	27371604
eCl@ss 7.0	27371604
eCl@ss 8.0	27371604
eCl@ss 9.0	27371604

ETIM

ETIM 2.0	EC001504
ETIM 3.0	EC001504
ETIM 4.0	EC001504
ETIM 5.0	EC001504
ETIM 6.0	EC001504

UNSPSC

UNSPSC 6.01	30211916
UNSPSC 7.0901	39121542
UNSPSC 11	39121542
UNSPSC 12.01	39121542
UNSPSC 13.2	39122326

Approvals

Approvals

Approvals

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

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Approvals

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
EAC			RU C- DE.A*30.B.01082
cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	
cULus Listed			

Accessories

Accessories

Bridge

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Accessories

Continuous plug-in bridge - FBST 500-PLC RD - 2966786



Continuous plug-in bridge, length: 500 mm, color: red

Continuous plug-in bridge - FBST 500-PLC BU - 2966692



Continuous plug-in bridge, length: 500 mm, color: blue

Continuous plug-in bridge - FBST 500-PLC GY - 2966838



Continuous plug-in bridge, length: 500 mm, color: gray

Single plug-in bridge - FBST 6-PLC RD - 2966236



Single plug-in bridge, length: 6 mm, number of positions: 2, color: red

Single plug-in bridge - FBST 6-PLC BU - 2966812



Single plug-in bridge, length: 6 mm, number of positions: 2, color: blue

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Accessories

Single plug-in bridge - FBST 6-PLC GY - 2966825



Single plug-in bridge, length: 6 mm, number of positions: 2, color: gray

Single plug-in bridge - FBST 8-PLC GY - 2967688



Single plug-in bridge, length: 8 mm, number of positions: 2, color: gray

DIN rail

DIN rail, unperforated - NS 35/ 7,5 V2A UNPERF 2000MM - 0801377

DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, in acc. with EN 60715: 2001, material: Stainless steel V2A, uncoated, length: 2000 mm, color: silver

DIN rail perforated - NS 35/ 7,5 PERF 2000MM - 0801733



DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, in acc. with EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 CU UNPERF 2000MM - 0801762



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, in acc. with EN 60715: 2001, material: Copper, uncoated, length: 2000 mm, color: copper-colored

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Accessories

DIN rail, unperforated - NS 35/15 UNPERF 2000MM - 1201714



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/15 CU UNPERF 2000MM - 1201895



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715: 2001, material: Copper, uncoated, length: 2000 mm, color: copper-colored

DIN rail, unperforated - NS 35/15-2,3 UNPERF 2000MM - 1201798



DIN rail, unperforated, Standard profile 2.3 mm, width: 35 mm, height: 15 mm, in acc. with EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/15 AL UNPERF 2000MM - 1201756



DIN rail, unperforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715: 2001, material: Aluminum, uncoated, length: 2000 mm, color: silver

DIN rail perforated - NS 35/15 PERF 2000MM - 1201730



DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

Solid-state relay module - PLC-OPT- 24DC/110DC/3RW - 2900391

Accessories

DIN rail, unperforated - NS 35/ 7,5 UNPERF 2000MM - 0801681



DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, in acc. with EN 60715: 2001, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

Partition plate

Separating plate - PLC-ATP BK - 2966841



Separating plate, 2 mm thick, required at the start and end of a PLC terminal strip. Furthermore, it is used for: visual separation of groups, safe isolation of different voltages of neighboring PLC relays in acc. with DIN VDE 0106-101, isolation

Power module

Power terminal block - PLC-ESK GY - 2966508



Power terminal block, for the input of up to four potentials, for mounting on NS 35/7.5

Screwdriver tools

Screwdriver - SZF 1-0,6X3,5 - 1204517



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip