PHŒNIX CONTACT

Relay Module - PLC-RPT- 48DC/21HC - 2900294

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PLC-INTERFACE for high continuous currents, consisting of PLC-BPT.../21 HC basic terminal block with Push-in connection and plug-in miniature relay, for mounting on DIN rail NS 35/7,5, limiting continuous current up to 10 A, 1 changeover contact, input voltage 48 V DC

Your advantages

☑ All common input voltages of 12 V DC to 230 V AC

☑ Long electrical service life thanks to 16 A relay

☑ Efficient connection to system cabling using V8 adapter

☑ Safe isolation according to DIN EN 50178 between coil and contact

☑ Max. continuous current of 10 A

☑ Functional plug-in bridges

RoHS   **D W H** COMPLETE line

Key Commercial Data

Packing unit	10 pc
GTIN	4 046356 509886
GTIN	4046356509886

Technical data

Note

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

Dimensions

Width	14 mm
Height	80 mm
Depth	94 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	RT II (Relay)

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Technical data

Ambient conditions

	IP20 (Relay base)

Coil side

Nominal input voltage U_N	48 V DC
Typical input current at U_N	20 mA
Typical response time	8 ms
Typical release time	10 ms
Protective circuit	Reverse polarity protection Polarity protection diode
	Free-wheeling diode Damping diode
Operating voltage display	Yellow LED
Power dissipation for nominal condition	0.96 W

Contact side

Contact type	1 changeover contact
Type of switch contact	Single contact
Contact material	AgNi
Maximum switching voltage	250 V AC/DC (The separating plate PLC-ATP should be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal blocks in adjacent modules. Potential bridging is then carried out with FBST 8-PLC... or ...FBST 500...)
Minimum switching voltage	12 V DC (at 10 mA)
Min. switching current	10 mA (at 12 V)
Maximum inrush current	30 A (300 ms)
Limiting continuous current	10 A
	6 A (value applies to connections 12. If connections 12 are bridged, the normal value applies.)
Interrupting rating (ohmic load) max.	240 W (at 24 V DC)
	58 W (at 48 V DC)
	48 W (at 60 V DC)
	50 W (at 110 V DC)
	80 W (at 220 V DC)
	2500 VA (for 250 V AC)
Interrupting rating (ohmic load) max. bridged	144 W (for 24 V DC. Value applies to connections 12. If connections 12 are bridged, the normal value applies.)
	1500 VA (for 250 V AC. Value applies to connections 12. If connections 12 are bridged, the normal value applies.)
Switching capacity	2 A (at 24 V, DC13)
	0.2 A (at 110 V, DC13)
	0.2 A (at 250 V, DC13)
	6 A (at 24 V, AC15)
	6 A (at 120 V, AC15)
	6 A (at 250 V, AC15)

General

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Technical data

General

Operating mode	100% operating factor
Flammability rating according to UL 94	V0 (Housing)
Mechanical service life	$3x\ 10^7$ cycles
Mounting position	any
Assembly instructions	in rows with zero spacing

Connection data

Connection name	Coil side
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid	0.14 mm² ... 2.5 mm²
Conductor cross section flexible	0.14 mm² ... 2.5 mm²
	0.2 mm² ... 2.5 mm² (Single ferrule)
	2x 0.5 mm² ... 1 mm² (TWIN ferrule)
Conductor cross section AWG	26 ... 14

Connection data 2

Connection name	Contact side
Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid	0.14 mm² ... 2.5 mm²
Conductor cross section flexible	0.14 mm² ... 2.5 mm²
	0.2 mm² ... 2.5 mm² (Single ferrule)
	2x 0.5 mm² ... 1 mm² (TWIN ferrule)
Conductor cross section AWG	26 ... 14

Standards and Regulations

Connection in acc. with standard	CUL
Designation	Standards/regulations
Standards/regulations	IEC 60664
	EN 50178
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	3
Overvoltage category	III

Conformance/approvals

Designation	Corrosive gas test
Identification	ISA-S71.04. G3 Harsh Group
	EN 60068-2-60

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years

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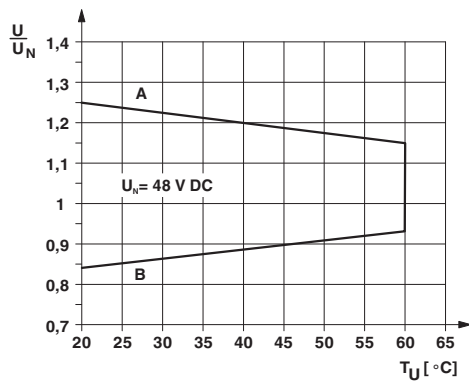
Relay Module - PLC-RPT- 48DC/21HC - 2900294
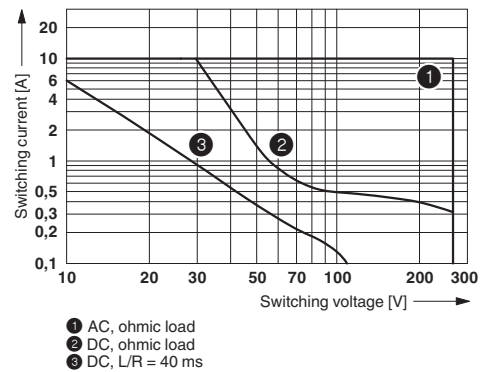
Technical data

Environmental Product Compliance

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

Drawings

Diagram

U_N= 48 V DC

T_U [°C]

Diagram

Switching current [A]

Switching voltage [V]

❶ AC, ohmic load
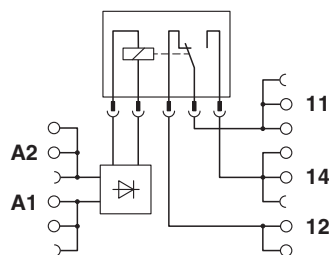❷ DC, ohmic load
❸ DC, L/R = 40 ms

Interrupting rating

Curve A
Maximum permissible continuous voltage U_{max} with limiting continuous current on the contact side (see relevant technical data)
Curve B
Minimum permissible operate voltage U_{op} after pre-excitation (see relevant technical data)

Circuit diagram

A2
A1
11
14
12

Articles in set

Relay base - PLC-BPT- 48DC/21HC - 2900256

14 mm PLC basic terminal block for high continuous currents with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 48 V DC

Relay Module - PLC-RPT- 48DC/21HC - 2900294

Articles in set

Single relay - REL-MR- 24DC/21HC - 2961312

Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 24 V DC

Classifications

eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 4.0	27371000
eCl@ss 4.1	27371000
eCl@ss 5.0	27371600
eCl@ss 5.1	27371600
eCl@ss 6.0	27371600
eCl@ss 7.0	27371601
eCl@ss 9.0	27371601

ETIM

ETIM 2.0	EC001437
ETIM 3.0	EC001437
ETIM 4.0	EC001437
ETIM 6.0	EC001437
ETIM 7.0	EC001437

UNSPSC

UNSPSC 6.01	30211916
UNSPSC 7.0901	39121515
UNSPSC 11	39121515
UNSPSC 12.01	39121515
UNSPSC 13.2	39122334
UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334

Approvals

Approvals

Relay Module - PLC-RPT- 48DC/21HC - 2900294

Approvals

Approvals

DNV GL / UL Listed / UL Recognized / cUL Recognized / cUL Listed / EAC / RC FRT / cULus Recognized / cULus Listed

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Ex Approvals

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAE0000196-03

UL 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

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140

EAC			TR_TS_D_00573_c

RC FRT			B.00094

cULus Recognized	

Relay Module - PLC-RPT- 48DC/21HC - 2900294

Approvals

cULus Listed

Accessories

Accessories

Bridge

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

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Accessories

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

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

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

Single plug-in bridge - FBST 14-PLC BK - 2967691

Single plug-in bridge, length: 14 mm, number of positions: 2, color: black

DIN rail

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

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

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Accessories

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

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

DIN rail perforated - NS 35/ 7,5 WH PERF 2000MM - 1204119

DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 WH UNPERF 2000MM - 1204122

DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/ 7,5 AL UNPERF 2000MM - 0801704

DIN rail, unperforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Aluminum, uncoated, length: 2000 mm, color: silver

DIN rail perforated - NS 35/ 7,5 ZN PERF 2000MM - 1206421

DIN rail perforated, Standard profile, width: 35 mm, height: 7.5 mm, acc. to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

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Accessories

DIN rail, unperforated - NS 35/ 7,5 ZN UNPERF 2000MM - 1206434

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

End cap - NS 35/ 7,5 CAP - 1206560

DIN rail end piece, for DIN rail NS 35/7.5

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

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

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

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

Relay Module - PLC-RPT- 48DC/21HC - 2900294

Accessories

DIN rail perforated - NS 35/15 WH PERF 2000MM - 0806602

DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, Galvanized, white passivated, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/15 WH UNPERF 2000MM - 1204135

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

DIN rail perforated - NS 35/15 ZN PERF 2000MM - 1206599

DIN rail perforated, Standard profile, width: 35 mm, height: 15 mm, similar to EN 60715, material: Steel, galvanized, length: 2000 mm, color: silver

DIN rail, unperforated - NS 35/15 ZN UNPERF 2000MM - 1206586

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

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Accessories

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, material: Copper, uncoated, length: 2000 mm, color: copper-colored

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End cap - NS 35/15 CAP - 1206573

DIN rail end piece, for DIN rail NS 35/15

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, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 2000 mm, color: silver

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Labeled terminal marker

Zack marker strip - ZB 10 CUS - 0824941

Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

Zack marker strip - ZB10,LGS:FORTL.ZAHLEN - 1053014

Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

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Accessories

Zack marker strip - ZB10,QR:FORTL.ZAHLEN - 1053027

Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

Marker for terminal blocks - ZB10,LGS:L1-N,PE - 1053412

Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, horizontal: L1, L2, L3, N, PE, L1, L2, L3, N, PE, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

Marker for terminal blocks - ZB10,LGS:U-N - 1053438

Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, horizontal: U, V, W, N, GND, U, V, W, N, GND, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.15 x 10.5 mm, Number of individual labels: 10

Marker for terminal blocks - UC-TM 10 CUS - 0824605

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 9.6 x 10.5 mm, Number of individual labels: 48

Marker for terminal blocks - UCT-TM 10 CUS - 0829623

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

Relay Module - PLC-RPT- 48DC/21HC - 2900294

Accessories

Zack marker strip - ZB 12 CUS - 0824942

Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 12.2 mm, lettering field size: 10.5 x 12.15 mm, Number of individual labels: 5

Zack marker strip - ZB 12,LGS:L1-N,PE - 0812146

Zack marker strip, Strip, white, labeled, printed horizontally: L1, L2, L3, N, PE, mounting type: snap into tall marker groove, for terminal block width: 12.2 mm, lettering field size: 10.5 x 12.15 mm, Number of individual labels: 5

Marker for terminal blocks - UC-TM 12 CUS - 0824613

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 12 mm, lettering field size: 11.45 x 10.5 mm, Number of individual labels: 40

Marker for terminal blocks - UCT-TM 12 CUS - 0829630

Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 12 mm, lettering field size: 10.8 x 9.6 mm, Number of individual labels: 30

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

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Accessories

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

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Terminal marking

Zack marker strip - ZB 10:UNBEDRUCKT - 1053001

Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10.5 x 10.15 mm, Number of individual labels: 10

Marker for terminal blocks - UC-TM 10 - 0818069

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 9.6 x 10.5 mm, Number of individual labels: 48

Marker for terminal blocks - UCT-TM 10 - 0829142

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

Relay Module - PLC-RPT- 48DC/21HC - 2900294

Accessories

Zack marker strip - ZB 12:UNPRINTED - 0812120

Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 12.2 mm, lettering field size: 12 x 10.5 mm, Number of individual labels: 5

Marker for terminal blocks - UC-TM 12 - 0819194

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 12 mm, lettering field size: 11.45 x 10.5 mm, Number of individual labels: 40

Marker for terminal blocks - UCT-TM 12 - 0829144

Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snap into tall marker groove, for terminal block width: 12 mm, lettering field size: 10.8 x 9.6 mm, Number of individual labels: 30

Spare parts

Relay base - PLC-BPT- 48DC/21HC - 2900256

14 mm PLC basic terminal block for high continuous currents with Push-in connection, without relay or solid-state relay, for mounting on DIN rail NS 35/7,5, 1 changeover contact, input voltage 48 V DC

Single relay - REL-MR- 24DC/21HC - 2961312

Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 24 V DC

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
http://www.phoenixcontact.com