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6.2 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 5 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
Custom tariff number	85366990
Country of origin	Germany

### Technical data

#### Note

Type of note	Notes on operation
Note	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Type of note	Notes on operation
Note	The outputs are not suitable for switching different outer conductors with appropriate switching output (applies to the AC optocoupler variants and relays).
Type of note	Notes on operation
Note	The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact.
Type of note	Notes on operation
Note	At least one functional insulation against adjacent modules is complied with in the support rail direction.  If the application has higher requirements on the insulation (basic or reinforced insulation), then these must be realized through suitable measures (e. g., partition plates).



# Technical data

#### Note

Type of note	Notes on operation
I NOTE	Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)

#### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m
Degree of protection	IP20

## Input data

Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	9 mA
Rated actuating current I <sub>C</sub>	1 mA
Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to $\ensuremath{U}_{\ensuremath{S}}$	0.8 1.2
Rated control supply current I <sub>S</sub>	≥ 8 mA (depends on type)
Nominal input voltage U <sub>N</sub>	5 V DC
Input voltage range in reference to $U_{N}$	0.9 1.2
Status display	Yellow LED
Surge voltage protection	> 33 V

### Output data

Fitting of components	REL-MR-24DC/21
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)



# Technical data

## Output data

	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	REL-MR-24DC/21AU
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO, hard gold-plated
Note	If the specified maximum values are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact.
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching capacity min.	100 μW
Fitting of components	REL-MR-24DC/21MS
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	OPT-24DC/48DC/100
Maximum switching voltage	48 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	100 mA



# Technical data

## Output data

Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	<1 V
Fitting of components	OPT-24DC/24DC/2
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	3 A
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 200 mV
Fitting of components	OPT-24DC/230AC/1
Maximum switching voltage	253 V AC (Partition plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC orFBST 500)
Minimum switching voltage	24 V AC
Limiting continuous current	0.75 A
Maximum inrush current	30 A (10 ms)
Output circuit	2-conductor, floating
Protective circuit	RCV circuit
	Surge protection
Voltage drop at max. limiting continuous current	<1V
Leakage current	< 1 mA
Max. load value	4.5 A <sup>2</sup> s

## General

Operating mode	100% operating factor
Color	gray
Mounting position	any
Assembly instructions	in rows with zero spacing

#### Connection data

Connection name	Input side
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.14 mm² 2.5 mm²
Conductor cross section flexible	0.14 mm² 2.5 mm²



## Technical data

#### Connection data

	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	Output side
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.14 mm² 2.5 mm²
Conductor cross section flexible	0.14 mm² 2.5 mm²
	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> (Single ferrule)
	2x 0.5 mm² 1 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

## Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	2
Overvoltage category	III

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

# Classifications

## eCl@ss

eCl@ss 10.0.1	27371603
eCl@ss 11.0	27371603
eCl@ss 9.0	27371603



# Classifications

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ETIM 7.0		EC001456		
UNSPSC		20001400		
UNSPSC				
UNSPSC 18.0		39122335		
UNSPSC 19.0		39122335		
UNSPSC 20.0		39122335		
UNSPSC 21.0		39122335	39122335	
Approvals				
Approvals				
Approvals				
UL Recognized / cUL Recogniz	ed / EAC / EAC / cUL	us Recognized		
Ex Approvals				
Approval details				
UL Recognized	<i>9</i> 1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705	
cUL Recognized	. <b>511</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705	
EAC	EAC		RU*C- DE.*08.B.00010	
EAC	EAC		RU D-DE.B*00573/18	



## Approvals

cULus Recognized



#### 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



#### 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

#### 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

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



#### Accessories

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

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



#### Accessories

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

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



#### Accessories

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

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



#### Accessories

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

#### Labeled terminal marker

Zack marker strip - ZB 6 CUS - 0824992



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

Zack marker strip - ZB 6,LGS:FORTL.ZAHLEN - 1051016



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

Zack marker strip - ZB 6,QR:FORTL.ZAHLEN - 1051029



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 491 ... 500, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10



#### Accessories

Zack marker strip - ZB 6,LGS:GLEICHE ZAHLEN - 1051032



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: Identical numbers 1 or 2, etc. up to 100, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

Marker for terminal blocks - ZB 6,LGS:L1-N,PE - 1051414



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: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

Marker for terminal blocks - ZB 6,LGS:U-N - 1051430



Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: U, V, W, N, GND, U, V, W, N, GND, mounting type: snap into tall marker groove, for terminal block width: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10

Marker for terminal blocks - UC-TM 6 CUS - 0824589



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: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

Marker for terminal blocks - UCT-TM 6 CUS - 0829602



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: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 60

Partition plate



#### Accessories

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:  $0.6 \times 3.5 \times 100$  mm, 2-component grip, with non-slip grip

#### Terminal marking

Zack marker strip - ZB 6:UNBEDRUCKT - 1051003



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: 6.2 mm, lettering field size: 6.15 x 10.5 mm, Number of individual labels: 10



#### Accessories

Marker for terminal blocks - UC-TM 6 - 0818085



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: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 80

Marker for terminal blocks - UCT-TM 6 - 0828736



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: 6.2 mm, lettering field size: 5.6 x 10.5 mm, Number of individual labels: 60

#### Necessary add-on products

Single relay - REL-MR- 24DC/21 - 2961105



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

Single relay - REL-MR- 24DC/21AU - 2961121



Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 24 V DC

Single relay - REL-MR- 24DC/21/MS - 2909642



Plug-in miniature power relay, with power contact, 1 changeover contact, manual operation, 24 V DC input voltage



#### Accessories

Miniature solid-state relay - OPT-24DC/ 48DC/100 - 2966618



Plug-in miniature solid-state relay, input solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 48 V DC/100 mA

Miniature solid-state relay - OPT-24DC/ 24DC/ 2 - 2966595



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 ... 33 V DC/3 A

Miniature solid-state relay - OPT-24DC/230AC/ 1 - 2967950



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 24 - 253 V AC/0.75 A

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6.2 mm PLC basic terminal block with screw connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 24 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 921242
GTIN	4055626921242
Custom tariff number	85366990
Country of origin	Germany

### Technical data

#### Note

Type of note	Notes on operation
Note	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Type of note	Notes on operation
Note	The outputs are not suitable for switching different outer conductors with appropriate switching output (applies to the AC optocoupler variants and relays).
Type of note	Notes on operation
Note	The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact.
Type of note	Notes on operation



# Technical data

#### Note

Note	At least one functional insulation against adjacent modules is complied with in the support rail direction.  If the application has higher requirements on the insulation (basic or reinforced insulation), then these must be realized through suitable measures (e. g., partition plates).
Type of note	Notes on operation
Note	Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)

### Dimensions

Width	6.2 mm
Height	80 mm
Depth	94 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m
Degree of protection	IP20

## Input data

Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	9 mA
Rated actuating current I <sub>C</sub>	1 mA
Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	≥ 8 mA (depends on type)
Nominal input voltage U <sub>N</sub>	24 V DC
Input voltage range in reference to U <sub>N</sub>	0.8 1.2
Status display	Yellow LED
Surge voltage protection	> 33 V

## Output data

Fitting of components	REL-MR-24DC/21
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request



# Technical data

## Output data

Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	REL-MR-24DC/21AU
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO, hard gold-plated
Note	If the specified maximum values are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact.
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching capacity min.	100 μW
Fitting of components	REL-MR-24DC/21MS
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	OPT-24DC/48DC/100



# Technical data

## Output data

Maximum switching voltage	48 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	100 mA
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	<1V
Fitting of components	OPT-24DC/24DC/2
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	3 A
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 200 mV
Fitting of components	OPT-24DC/230AC/1
Maximum switching voltage	253 V AC (Partition plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC orFBST 500)
Minimum switching voltage	24 V AC
Limiting continuous current	0.75 A
Maximum inrush current	30 A (10 ms)
Output circuit	2-conductor, floating
Protective circuit	RCV circuit
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Leakage current	< 1 mA
Max. load value	4.5 A <sup>2</sup> s

## General

Operating mode	100% operating factor
Color	gray
Mounting position	any
Assembly instructions	in rows with zero spacing

### Connection data

Connection name	Input side
Connection method	Screw connection



# Technical data

### Connection data

Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.14 mm² 2.5 mm²
Conductor cross section flexible	0.14 mm² 2.5 mm²
	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> (Single ferrule)
	2x 0.5 mm² 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

### Connection data 2

Connection name	Output side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

## Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	2
Overvoltage category	III

## Conformance/approvals

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

# **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"



## Classifications

### eCl@ss

eCl@ss 9.0	27371603
eCl@ss 11.0	27371603
eCl@ss 10.0.1	27371603

#### **ETIM**

ETIM 7.0	EC001456

### **UNSPSC**

UNSPSC 18.0	39122335
UNSPSC 19.0	39122335
UNSPSC 20.0	39122335
UNSPSC 21.0	39122335

## Approvals

#### Approvals

#### Approvals

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

Ex Approvals

#### Approval details

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.\*08.B.00010



## Approvals

EAC

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RU D-DE.B\*00573/18

cULus Recognized



#### Accessories

Necessary add-on products

Single relay - REL-MR- 24DC/21 - 2961105



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

Single relay - REL-MR- 24DC/21AU - 2961121



Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 24 V DC

Single relay - REL-MR- 24DC/21/MS - 2909642



Plug-in miniature power relay, with power contact, 1 changeover contact, manual operation, 24 V DC input voltage



### Accessories

Miniature solid-state relay - OPT-24DC/ 48DC/100 - 2966618



Plug-in miniature solid-state relay, input solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 48 V DC/100 mA

Miniature solid-state relay - OPT-24DC/ 24DC/ 2 - 2966595



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 ... 33 V DC/3 A

Miniature solid-state relay - OPT-24DC/230AC/ 1 - 2967950



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 24 - 253 V AC/0.75 A

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PLC-INTERFACE, consisting of basic terminal block with screw connection and plug-in miniature relay with internal amplifier circuit and an appropriate auxiliary supply for weak signal sources, 1 N/O contact, 5 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 918891
GTIN	4055626918891
Weight per Piece (excluding packing)	36.000 g
Custom tariff number	85364190
Country of origin	Germany

### Technical data

#### Note

Dimensions	
Utilization restriction EM are	MC: class A product, see manufacturer's declaration in the download ea

#### Dimensions

Width	6.2 mm
Height	80 mm
Depth	94 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C



# Technical data

#### Ambient conditions

Maximum altitude	≤ 2000 m
Degree of protection	IP20 (Relay base)
	≥ IP54 (Installation location)

## Supply

Nominal supply voltage	24 V DC
Input current	9 mA

### Coil side

Nominal input voltage U <sub>N</sub>	5 V DC
Typical input current at U <sub>N</sub>	1 mA
Typical response time	5 ms
Typical release time	7 ms
Protective circuit	Reverse polarity protection
	Surge protection
Operating voltage display	Yellow LED

### Contact side

Contact type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Min. switching current	10 mA
Maximum inrush current	on request
Limiting continuous current	6 A
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW

#### General

Operating mode	100% operating factor
Mechanical service life	2x 10 <sup>7</sup> cycles
Mounting position	any
Assembly instructions	in rows with zero spacing



# Technical data

#### Connection data

Connection name	Coil side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

#### Connection data 2

Connection name	Contact side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

### Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

# Drawings



## Circuit diagram



### Articles in set

Relay base - PLC-BSC- 5DC/1/SSI - 1094751



6.2 mm PLC basic terminal block with screw connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 5 V DC nominal input voltage

## Single relay - REL-MR- 24DC/21 - 2961105



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

## Classifications

### eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 9.0	27371601

### **ETIM**

ETIM 7.0	EC001437
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#### **UNSPSC**

UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334

cULus Recognized



# Relay Module - PLC-RSC- 5DC/1/SSI - 1094759

Relay Module -	PLC-RSC	- 5DC/1/SSI - 1094759	
Approvals			
Approvals			
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	II Recognized / cl.II	Listed / EAC / EAC / cULus Recognized / cULus Listed	
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Ex Approvals			
Approval details			
UL Listed	LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
UL Recognized	<i>9</i> 1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Recognized	<b>.71</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed	CUL	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
EAC	EAC		RU*C- DE.*08.B.00010
EAC	EAC		RU D-DE.B*00573/18



# Approvals

cULus Listed



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6.2 mm PLC basic terminal block with screw connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 5 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
Custom tariff number	85366990
Country of origin	Germany

### Technical data

#### Note

Type of note	Notes on operation
Note	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Type of note	Notes on operation
Note	The outputs are not suitable for switching different outer conductors with appropriate switching output (applies to the AC optocoupler variants and relays).
Type of note	Notes on operation
Note	The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact.
Type of note	Notes on operation
Note	At least one functional insulation against adjacent modules is complied with in the support rail direction.  If the application has higher requirements on the insulation (basic or reinforced insulation), then these must be realized through suitable measures (e. g., partition plates).



# Technical data

#### Note

Type of note	Notes on operation
I NOTE	Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)

#### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m
Degree of protection	IP20

## Input data

Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	9 mA
Rated actuating current I <sub>C</sub>	1 mA
Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	≥ 8 mA (depends on type)
Nominal input voltage U <sub>N</sub>	5 V DC
Input voltage range in reference to U <sub>N</sub>	0.9 1.2
Status display	Yellow LED
Surge voltage protection	> 33 V

### Output data

Fitting of components	REL-MR-24DC/21
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)



# Technical data

## Output data

	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	REL-MR-24DC/21AU
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO, hard gold-plated
Note	If the specified maximum values are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact.
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching capacity min.	100 μW
Fitting of components	REL-MR-24DC/21MS
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	OPT-24DC/48DC/100
Maximum switching voltage	48 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	100 mA



# Technical data

## Output data

Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Fitting of components	OPT-24DC/24DC/2
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	3 A
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 200 mV
Fitting of components	OPT-24DC/230AC/1
Maximum switching voltage	253 V AC (Partition plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC orFBST 500)
Minimum switching voltage	24 V AC
Limiting continuous current	0.75 A
Maximum inrush current	30 A (10 ms)
Output circuit	2-conductor, floating
Protective circuit	RCV circuit
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Leakage current	< 1 mA
Max. load value	4.5 A <sup>2</sup> s

## General

Operating mode	100% operating factor
Color	gray
Mounting position	any
Assembly instructions	in rows with zero spacing

#### Connection data

Connection name	Input side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.14 mm² 2.5 mm²



## Technical data

#### Connection data

Conductor cross section flexible	0.14 mm² 2.5 mm²
	0.2 mm² 2.5 mm² (Single ferrule)
	2x 0.5 mm² 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

## Connection data 2

Connection name	Output side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

## Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	2
Overvoltage category	III

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Classifications

## eCl@ss

eCl@ss 10.0.1	27371603



## Classifications

eCl	നട
COI	$\omega$

eCl@ss 11.0	27371603
eCl@ss 9.0	27371603

### **ETIM**

ETIM 7.0	EC001456

### **UNSPSC**

UNSPSC 18.0	39122335
UNSPSC 19.0	39122335
UNSPSC 20.0	39122335
UNSPSC 21.0	39122335

# Approvals

### Approvals

#### Approvals

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

Ex Approvals

### Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
	74.4		

cUL Recognized http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E 238705

EAC RU\*C-DE.\*08.B.00010



# Relay base - PLC-BSC- 5DC/1/SSI - 1094751

## Approvals

EAC

EHE

RU D-DE.B\*00573/18

cULus Recognized



### Accessories

Necessary add-on products

Single relay - REL-MR- 24DC/21 - 2961105



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

Single relay - REL-MR- 24DC/21AU - 2961121



Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 24 V DC

Single relay - REL-MR- 24DC/21/MS - 2909642



Plug-in miniature power relay, with power contact, 1 changeover contact, manual operation, 24 V DC input voltage



# Relay base - PLC-BSC- 5DC/1/SSI - 1094751

### Accessories

Miniature solid-state relay - OPT-24DC/ 48DC/100 - 2966618



Plug-in miniature solid-state relay, input solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 48 V DC/100 mA

Miniature solid-state relay - OPT-24DC/ 24DC/ 2 - 2966595



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 ... 33 V DC/3 A

Miniature solid-state relay - OPT-24DC/230AC/ 1 - 2967950



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 24 - 253 V AC/0.75 A

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6.2 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 24 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
Custom tariff number	85366990
Country of origin	Germany

## Technical data

### Note

Type of note	Notes on operation
Note	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Type of note	Notes on operation
Note	The outputs are not suitable for switching different outer conductors with appropriate switching output (applies to the AC optocoupler variants and relays).
Type of note	Notes on operation
Note	The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact.
Type of note	Notes on operation
Note	At least one functional insulation against adjacent modules is complied with in the support rail direction.  If the application has higher requirements on the insulation (basic or reinforced insulation), then these must be realized through suitable measures (e. g., partition plates).



## Technical data

### Note

Type of note	Notes on operation
I NOTE	Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)

### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m
Degree of protection	IP20

## Input data

Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	9 mA
Rated actuating current I <sub>C</sub>	1 mA
Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>s</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	≥ 8 mA (depends on type)
Nominal input voltage U <sub>N</sub>	24 V DC
Input voltage range in reference to U <sub>N</sub>	0.8 1.2
Status display	Yellow LED
Surge voltage protection	> 33 V

### Output data

Fitting of components	REL-MR-24DC/21
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)



## Technical data

## Output data

	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	REL-MR-24DC/21AU
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO, hard gold-plated
Note	If the specified maximum values are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact.
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching capacity min.	100 μW
Fitting of components	REL-MR-24DC/21MS
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	OPT-24DC/48DC/100
Maximum switching voltage	48 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	100 mA



## Technical data

## Output data

Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Fitting of components	OPT-24DC/24DC/2
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	3 A
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 200 mV
Fitting of components	OPT-24DC/230AC/1
Maximum switching voltage	253 V AC (Partition plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC orFBST 500)
Minimum switching voltage	24 V AC
Limiting continuous current	0.75 A
Maximum inrush current	30 A (10 ms)
Output circuit	2-conductor, floating
Protective circuit	RCV circuit
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Leakage current	< 1 mA
Max. load value	4.5 A <sup>2</sup> s

### General

Operating mode	100% operating factor
Color	gray
Mounting position	any
Assembly instructions	in rows with zero spacing

### Connection data

Connection name	Input side
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.14 mm² 2.5 mm²
Conductor cross section flexible	0.14 mm² 2.5 mm²



## Technical data

### Connection data

	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	Output side
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.14 mm² 2.5 mm²
Conductor cross section flexible	0.14 mm² 2.5 mm²
	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> (Single ferrule)
	2x 0.5 mm² 1 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

## Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	2
Overvoltage category	III

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

# Classifications

## eCl@ss

eCl@ss 10.0.1	27371603
eCl@ss 11.0	27371603
eCl@ss 9.0	27371603



# Classifications

	11	١л

ETIM 7.0		EC001456	
UNSPSC		20001400	
UNSPSC			
UNSPSC 18.0		39122335	
UNSPSC 19.0		39122335	
UNSPSC 20.0		39122335	
UNSPSC 21.0		39122335	
Approvals			
Approvals			
Approvals			
UL Recognized / cUL Recogniz	ed / EAC / EAC / cUL	us Recognized	
Ex Approvals			
Approval details			
UL Recognized	<i>9</i> 1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Recognized	. <b>511</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
EAC	EAC		RU*C- DE.*08.B.00010
EAC	EAC		RU D-DE.B*00573/18



## Approvals

cULus Recognized



#### Accessories

Necessary add-on products

Single relay - REL-MR- 24DC/21 - 2961105



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

Single relay - REL-MR- 24DC/21AU - 2961121



Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 24 V DC

Single relay - REL-MR- 24DC/21/MS - 2909642



Plug-in miniature power relay, with power contact, 1 changeover contact, manual operation, 24 V DC input voltage

Miniature solid-state relay - OPT-24DC/ 48DC/100 - 2966618



Plug-in miniature solid-state relay, input solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 48 V DC/100 mA



### Accessories

Miniature solid-state relay - OPT-24DC/ 24DC/ 2 - 2966595



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 ... 33 V DC/3 A

Miniature solid-state relay - OPT-24DC/230AC/ 1 - 2967950



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 24 - 253 V AC/0.75 A

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PLC-INTERFACE, consisting of basic terminal block with screw connection and plug-in miniature relay with internal amplifier circuit and an appropriate auxiliary supply for weak signal sources, 1 N/O contact, 24 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 918938
GTIN	4055626918938
Weight per Piece (excluding packing)	36.000 g
Custom tariff number	85364190
Country of origin	Germany

### Technical data

#### Note

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

#### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C



## Technical data

### Ambient conditions

Maximum altitude	≤ 2000 m
Degree of protection	IP20 (Relay base)
	≥ IP54 (Installation location)

## Supply

Nominal supply voltage	24 V DC
Input current	9 mA

### Coil side

Nominal input voltage U <sub>N</sub>	24 V DC
Typical input current at U <sub>N</sub>	1 mA
Typical response time	5 ms
Typical release time	7 ms
Protective circuit	Reverse polarity protection
	Surge protection
Operating voltage display	Yellow LED

### Contact side

Contact type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Min. switching current	10 mA
Maximum inrush current	on request
Limiting continuous current	6 A
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW

### General

Operating mode	100% operating factor
Mechanical service life	2x 10 <sup>7</sup> cycles
Mounting position	any
Assembly instructions	in rows with zero spacing



## Technical data

### Connection data

Connection name	Coil side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

### Connection data 2

Connection name	Contact side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

### Conformance/approvals

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

### **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings



Circuit diagram



### Articles in set

Relay base - PLC-BSC-24DC/1/SSI - 1094753



6.2 mm PLC basic terminal block with screw connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 24 V DC nominal input voltage

## Classifications

### eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 9.0	27371601

### **ETIM**

ETIM 7.0	EC001437

### **UNSPSC**

UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334

## Approvals

### Approvals

### Approvals

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



# Approvals

Ex Approvals

## Approval details

UL Listed UL Listed http://d	atabase.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E 172140
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UL Recognized	<b>7.1</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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EAC	RU*C- DE.*08.B.00010
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EAC	FAC	RU D-DE.B*00573/18
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PLC-INTERFACE, consisting of basic terminal block with Push-in connection and plug-in miniature relay with internal amplifier circuit and an appropriate auxiliary supply for weak signal sources, 1 N/O contact, 5 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 921334
GTIN	4055626921334
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
-------------------------	---

#### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m



## Technical data

### Ambient conditions

Degree of protection	IP20 (Relay base)
	≥ IP54 (Installation location)

## Supply

Nominal supply voltage	24 V DC
Input current	9 mA

### Coil side

Nominal input voltage U <sub>N</sub>	5 V DC
Typical input current at U <sub>N</sub>	1 mA
Typical response time	5 ms
Typical release time	7 ms
Protective circuit	Surge protection
Operating voltage display	Yellow LED

#### Contact side

Contact type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Min. switching current	10 mA
Maximum inrush current	on request
Limiting continuous current	6 A
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW

### General

Operating mode	100% operating factor
Mechanical service life	2x 10 <sup>7</sup> cycles
Mounting position	any
Assembly instructions	in rows with zero spacing

## Connection data

Connection name	Coil side



## Technical data

### Connection data

Connection method	Push-in connection	
Stripping length	8 mm	
Conductor cross section solid	0.14 mm² 2.5 mm² 0.14 mm² 2.5 mm²	
Conductor cross section flexible		
	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	

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1	
China RoHS	Environmentally Friendly Use Period = 50 years	
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"	

# Drawings

Circuit diagram





## Articles in set

Relay base - PLC-BPT- 5DC/1/SSI - 1094755



6.2 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 5 V DC nominal input voltage

Single relay - REL-MR- 24DC/21 - 2961105



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

### Classifications

### eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 9.0	27371601

#### **ETIM**

Е	TIM 7.0	EC001437

### **UNSPSC**

UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334

## Approvals

### Approvals

### Approvals

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



# Approvals

Ex Approvals

## Approval details

UL Listed http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E	172140
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UL Recognized	<i>5</i> 1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Recognized	. <b>51</b> 2	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm FILE E 172140
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EAC	FAC	RU D-DE.B*00573/18



cULus Listed cULus



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6.2 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 12 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
Custom tariff number	85366990
Country of origin	Germany

## Technical data

### Note

Type of note	Notes on operation
Note	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Type of note	Notes on operation
Note	The outputs are not suitable for switching different outer conductors with appropriate switching output (applies to the AC optocoupler variants and relays).
Type of note	Notes on operation
Note	The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact.
Type of note	Notes on operation
Note	At least one functional insulation against adjacent modules is complied with in the support rail direction.  If the application has higher requirements on the insulation (basic or reinforced insulation), then these must be realized through suitable measures (e. g., partition plates).



## Technical data

### Note

Type of note	Notes on operation
I Note	Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)

### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m
Degree of protection	IP20

## Input data

Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	9 mA
Rated actuating current I <sub>C</sub>	1 mA
Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	≥ 8 mA (depends on type)
Nominal input voltage U <sub>N</sub>	12 V DC
Input voltage range in reference to U <sub>N</sub>	0.8 1.2
Status display	Yellow LED
Surge voltage protection	> 33 V

### Output data

Fitting of components	REL-MR-24DC/21
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)



## Technical data

## Output data

	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	REL-MR-24DC/21AU
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO, hard gold-plated
Note	If the specified maximum values are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact.
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching capacity min.	100 μW
Fitting of components	REL-MR-24DC/21MS
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	OPT-24DC/48DC/100
Maximum switching voltage	48 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	100 mA



## Technical data

## Output data

Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current < 1 V	
Fitting of components	OPT-24DC/24DC/2
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	3 A
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current < 200 mV	
Fitting of components	OPT-24DC/230AC/1
Maximum switching voltage	253 V AC (Partition plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC orFBST 500)
Minimum switching voltage	24 V AC
Limiting continuous current	0.75 A
Maximum inrush current	30 A (10 ms)
Output circuit	2-conductor, floating
Protective circuit	RCV circuit
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Leakage current	< 1 mA
Max. load value	4.5 A <sup>2</sup> s

### General

Operating mode	100% operating factor
Color	gray
Mounting position	any
Assembly instructions	in rows with zero spacing

### Connection data

Connection name	Input side
Connection method	Push-in connection
Stripping length	10 mm
Conductor cross section solid	0.14 mm² 2.5 mm²
Conductor cross section flexible	0.14 mm² 2.5 mm²



## Technical data

### Connection data

	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	Output side
Connection method	Push-in connection
Stripping length	10 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

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	2
Overvoltage category	III

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

# Classifications

## eCl@ss

eCl@ss 10.0.1	27371603
eCl@ss 11.0	27371603
eCl@ss 9.0	27371603



# Classifications

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ETIM 7.0		EC001456		
UNSPSC		20001400		
UNSPSC				
UNSPSC 18.0		39122335		
UNSPSC 19.0		39122335		
UNSPSC 20.0		39122335		
UNSPSC 21.0		39122335	39122335	
Approvals				
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UL Recognized / cUL Recogniz	ed / EAC / EAC / cUL	us Recognized		
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Approval details				
UL Recognized	<i>9</i> 1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705	
cUL Recognized	. <b>511</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705	
EAC	EAC		RU*C- DE.*08.B.00010	
EAC	EAC		RU D-DE.B*00573/18	



## Approvals

cULus Recognized



#### Accessories

Necessary add-on products

Single relay - REL-MR- 24DC/21 - 2961105



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

Single relay - REL-MR- 24DC/21AU - 2961121



Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 24 V DC

Single relay - REL-MR- 24DC/21/MS - 2909642



Plug-in miniature power relay, with power contact, 1 changeover contact, manual operation, 24 V DC input voltage

Miniature solid-state relay - OPT-24DC/ 48DC/100 - 2966618



Plug-in miniature solid-state relay, input solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 48 V DC/100 mA



### Accessories

Miniature solid-state relay - OPT-24DC/ 24DC/ 2 - 2966595



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 ... 33 V DC/3 A

Miniature solid-state relay - OPT-24DC/230AC/ 1 - 2967950



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 24 - 253 V AC/0.75 A

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PLC-INTERFACE, consisting of basic terminal block with Push-in connection and plug-in miniature relay with internal amplifier circuit and an appropriate auxiliary supply for weak signal sources, 1 N/O contact, 24 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 921600
GTIN	4055626921600
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	94 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m



## Technical data

### Ambient conditions

Degree of protection	IP20 (Relay base)
	≥ IP54 (Installation location)

## Supply

Nominal supply voltage	24 V DC
Input current	9 mA

### Coil side

Nominal input voltage U <sub>N</sub>	24 V DC
Typical input current at U <sub>N</sub>	1 mA
Typical response time	5 ms
Typical release time	7 ms
Protective circuit	Surge protection
Operating voltage display	Yellow LED

#### Contact side

Contact type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Min. switching current	10 mA
Maximum inrush current	on request
Limiting continuous current	6 A
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW

### General

Operating mode	100% operating factor
Mechanical service life	2x 10 <sup>7</sup> cycles

### Connection data

Connection name	Coil side
Connection method	Push-in connection
Stripping length	8 mm



## Technical data

### Connection data

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

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Circuit diagram





## Articles in set

Relay base - PLC-BPT-24DC/1/SSI - 1094758



6.2 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 24 V DC nominal input voltage

### Classifications

### eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 9.0	27371601

### **ETIM**

ETIM 7.0	EC001437

### **UNSPSC**

UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334

## Approvals

### Approvals

## Approvals

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

Ex Approvals

## Approval details

**UL Listed** 



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FILE E 172140



# Approvals

UL Recognized	<i>7</i> .1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Recognized	. <b>A</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed	CUL	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
EAC	EAC		RU*C- DE.*08.B.00010
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PLC-INTERFACE, consisting of basic terminal block with screw connection and plug-in miniature relay with internal amplifier circuit and an appropriate auxiliary supply for weak signal sources, 1 N/O contact, 12 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 921501
GTIN	4055626921501
Custom tariff number	85364190
Country of origin	Germany

### Technical data

#### Note

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

### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m



## Technical data

### Ambient conditions

Degree of protection	IP20 (Relay base)
	≥ IP54 (Installation location)

## Supply

Nominal supply voltage	24 V DC
Input current	9 mA

### Coil side

Nominal input voltage U <sub>N</sub>	12 V DC
Typical input current at U <sub>N</sub>	1 mA
Typical response time	5 ms
Typical release time	7 ms
Protective circuit	Reverse polarity protection
	Surge protection
Operating voltage display	Yellow LED

### Contact side

Contact type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Min. switching current	10 mA
Maximum inrush current	on request
Limiting continuous current	6 A
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW

### General

Operating mode	100% operating factor
Mechanical service life	2x 10 <sup>7</sup> cycles
Mounting position	any
Assembly instructions	in rows with zero spacing

Connection data



## Technical data

### Connection data

Connection name	Coil side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

### Connection data 2

Connection name	Contact side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

## Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

# Drawings



Circuit diagram



### Articles in set

Relay base - PLC-BSC-12DC/1/SSI - 1094752



6.2 mm PLC basic terminal block with screw connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 12 V DC nominal input voltage

Single relay - REL-MR- 24DC/21 - 2961105



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

### Classifications

### eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 9.0	27371601

### **ETIM**

ETIM 7.0	EC001437
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### **UNSPSC**

UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334



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cULus Recognized

•	FLC-NSC	C-12DC/1/SSI - 1094760	
Approvals			
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Ex Approvals			
Approval details			
UL Listed	LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
UL Recognized	<b>7.</b> 1	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Recognized	. <b>71</b>	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed	CUL	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 172140
EAC	EAC		RU*C- DE.*08.B.00010
EAC	EAC		RU D-DE.B*00573/18



## Approvals

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6.2 mm PLC basic terminal block with screw connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 12 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
Custom tariff number	85366990
Country of origin	Germany

### Technical data

### Note

Type of note	Notes on operation
Note	Do not connect adjacent channels to SELV/ PELV and voltages dangerous to the touch.
Type of note	Notes on operation
Note	The outputs are not suitable for switching different outer conductors with appropriate switching output (applies to the AC optocoupler variants and relays).
Type of note	Notes on operation
Note	The system installer must ensure the touch protection of the product (at voltages > 25 V AC/60 V DC). The product is a built-in device without protection against direct contact.
Type of note	Notes on operation
Note	At least one functional insulation against adjacent modules is complied with in the support rail direction.  If the application has higher requirements on the insulation (basic or reinforced insulation), then these must be realized through suitable measures (e. g., partition plates).



## Technical data

### Note

Type of note	Notes on operation
I Note	Do not use to separate SELV/PELV circuits from other circuits, because safe isolation is not guaranteed. (applies to the optocoupler variants)

### **Dimensions**

Width	6.2 mm
Height	80 mm
Depth	94 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m
Degree of protection	IP20

### Input data

Rated control circuit supply voltage U <sub>s</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	9 mA
Rated actuating current I <sub>C</sub>	1 mA
Rated control circuit supply voltage U <sub>S</sub>	24 V DC
Voltage range with reference to U <sub>S</sub>	0.8 1.2
Rated control supply current I <sub>S</sub>	≥ 8 mA (depends on type)
Nominal input voltage U <sub>N</sub>	12 V DC
Input voltage range in reference to U <sub>N</sub>	0.8 1.2
Status display	Yellow LED
Surge voltage protection	> 33 V

### Output data

Fitting of components	REL-MR-24DC/21
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)



## Technical data

## Output data

	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	REL-MR-24DC/21AU
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO, hard gold-plated
Note	If the specified maximum values are exceeded, the gold plating is destroyed. The maximum values of the power contact relay are then valid. This can result in a shorter service life than with a pure power contact.
Maximum switching voltage	30 V AC
	36 V DC
Minimum switching voltage	100 mV
Limiting continuous current	50 mA
Maximum inrush current	50 mA
Min. switching current	1 mA
Interrupting rating (ohmic load) max.	1.2 W (at 24 V DC)
Switching capacity min.	100 μW
Fitting of components	REL-MR-24DC/21MS
Contact type	Single contact, 1 N/O contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Limiting continuous current	6 A
Maximum inrush current	on request
Min. switching current	10 mA
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW
Fitting of components	OPT-24DC/48DC/100
Maximum switching voltage	48 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	100 mA



## Technical data

## Output data

Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	<1 V
Fitting of components	OPT-24DC/24DC/2
Maximum switching voltage	33 V DC
Minimum switching voltage	3 V DC
Limiting continuous current	3 A
Output circuit	2-conductor, floating
Protective circuit	Reverse polarity protection
	Surge protection
Voltage drop at max. limiting continuous current	< 200 mV
Fitting of components	OPT-24DC/230AC/1
Maximum switching voltage	253 V AC (Partition plate PLC-ATP must be installed for voltages larger than 250 V (L1, L2, L3) between identical terminal points in adjacent modules. Potential bridging is then carried out with FBST 8-PLC orFBST 500)
Minimum switching voltage	24 V AC
Limiting continuous current	0.75 A
Maximum inrush current	30 A (10 ms)
Output circuit	2-conductor, floating
Protective circuit	RCV circuit
	Surge protection
Voltage drop at max. limiting continuous current	< 1 V
Leakage current	< 1 mA
Max. load value	4.5 A <sup>2</sup> s

### General

Operating mode	100% operating factor
Color	gray
Mounting position	any
Assembly instructions	in rows with zero spacing

### Connection data

Connection name	Input side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.14 mm² 2.5 mm²



## Technical data

### Connection data

Conductor cross section flexible	0.14 mm² 2.5 mm²
	0.2 mm <sup>2</sup> 2.5 mm <sup>2</sup> (Single ferrule)
	2x 0.5 mm <sup>2</sup> 1.5 mm <sup>2</sup> (TWIN ferrule)
Conductor cross section AWG	26 14

### Connection data 2

Connection name	Output side
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
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 1.5 mm² (TWIN ferrule)
Conductor cross section AWG	26 14

### Standards and Regulations

Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage	6 kV
Insulation	Safe isolation, reinforced insulation
Pollution degree	2
Overvoltage category	III

### Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Classifications

## eCl@ss

eCl@ss 10.0.1	27371603



## Classifications

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eCl@ss 11.0	27371603
eCl@ss 9.0	27371603

### **ETIM**

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	ETIM 7.0	EC001456

### **UNSPSC**

UNSPSC 18.0	39122335
UNSPSC 19.0	39122335
UNSPSC 20.0	39122335
UNSPSC 21.0	39122335

## Approvals

### Approvals

#### Approvals

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Ex Approvals

### Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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### Approvals

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cULus Recognized



### Accessories

Necessary add-on products

Single relay - REL-MR- 24DC/21 - 2961105



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

Single relay - REL-MR- 24DC/21AU - 2961121



Plug-in miniature power relay, with multi-layer gold contact, 1 changeover contact, input voltage 24 V DC

Single relay - REL-MR- 24DC/21/MS - 2909642



Plug-in miniature power relay, with power contact, 1 changeover contact, manual operation, 24 V DC input voltage



### Accessories

Miniature solid-state relay - OPT-24DC/ 48DC/100 - 2966618



Plug-in miniature solid-state relay, input solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 - 48 V DC/100 mA

Miniature solid-state relay - OPT-24DC/ 24DC/ 2 - 2966595



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 3 ... 33 V DC/3 A

Miniature solid-state relay - OPT-24DC/230AC/ 1 - 2967950



Plug-in miniature solid-state relay, power solid-state relay, 1 N/O contact, input: 24 V DC, output: 24 - 253 V AC/0.75 A

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PLC-INTERFACE, consisting of basic terminal block with Push-in connection and plug-in miniature relay with internal amplifier circuit and an appropriate auxiliary supply for weak signal sources, 1 N/O contact, 12 V DC nominal input voltage



## **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	10 pc
GTIN	4 055626 918945
GTIN	4055626918945
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	94 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C 60 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Maximum altitude	≤ 2000 m



## Technical data

### Ambient conditions

Degree of protection	IP20 (Relay base)
	≥ IP54 (Installation location)

## Supply

Nominal supply voltage	24 V DC
Input current	9 mA

### Coil side

Nominal input voltage U <sub>N</sub>	12 V DC
Typical input current at U <sub>N</sub>	1 mA
Typical response time	5 ms
Typical release time	7 ms
Protective circuit	Surge protection
Operating voltage display	Yellow LED

#### Contact side

Contact type	1 N/O contact
Type of switch contact	Single contact
Contact material	AgSnO
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	12 V AC/DC
Min. switching current	10 mA
Maximum inrush current	on request
Limiting continuous current	6 A
Interrupting rating (ohmic load) max.	140 W (at 24 V DC)
	20 W (at 48 V DC)
	18 W (at 60 V DC)
	23 W (at 110 V DC)
	40 W (at 220 V DC)
	1500 VA (for 250 V AC)
Switching capacity min.	120 mW

### General

Operating mode	100% operating factor
Mechanical service life	2x 10 <sup>7</sup> cycles

### Connection data

Connection name	Coil side
Connection method	Push-in connection
Stripping length	8 mm



## Technical data

### Connection data

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

### Conformance/approvals

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

## **Environmental Product Compliance**

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Circuit diagram





### Articles in set

Relay base - PLC-BPT-12DC/1/SSI - 1094757



6.2 mm PLC basic terminal block with Push-in connection, without relay or solid-state relay, internal amplifier circuit, and an appropriate auxiliary supply for weak signal sources, 12 V DC nominal input voltage

Single relay - REL-MR- 24DC/21 - 2961105



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

### Classifications

### eCl@ss

eCl@ss 10.0.1	27371601
eCl@ss 11.0	27371601
eCl@ss 9.0	27371601

#### **ETIM**

ETIM 7.0	EC001437

### **UNSPSC**

UNSPSC 18.0	39122334
UNSPSC 19.0	39122334
UNSPSC 20.0	39122334
UNSPSC 21.0	39122334

### Approvals

### Approvals

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## Approvals

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