



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## Safety relays - PSR-MC34-3NO-1DO-24DC-SP - 2700548

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Safety relay for emergency stop and safety doors up to SILCL 3, Cat. 4, PL e, 2-channel operation, automatic or manual, monitored start, cross-circuit detection, 3 enabling current paths,  $U_s = 24 \text{ V DC}$ , plug-in spring-cage terminal block

The figure shows a version with a screw connection

### Why buy this product

- ✓ Up to Cat.4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061
- ✓ Low housing width of just 12.5 mm
- ✓ Two-channel control
- ✓ 3 enabling current paths, 1 digital signal output
- ✓ Manually monitored and automatic activation in a single device
- ✓ Cross-circuit detection



### Key Commercial Data

Packing unit	1 STK
Weight per Piece (excluding packing)	180.000 g
Custom tariff number	85371099
Country of origin	Germany

### Technical data

#### Note

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

#### Dimensions

Width	12.5 mm
Height	116.6 mm

# Safety relays - PSR-MC34-3NO-1DO-24DC-SP - 2700548

## Technical data

### Dimensions

Depth	114.5 mm
-------	----------

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g
Maximum altitude	≤ 2000 m (Above sea level)

### Input data

Rated control circuit supply voltage $U_s$	24 V DC -15 % / +10 %
Power consumption at $U_s$	typ. 2 W
Rated control supply current $I_s$	typ. 84 mA
Inrush current	5 A ( $\Delta t = 200 \mu s$ at $U_s$ )
Current consumption	< 5 mA (with $U_s/I_x$ to S12)
	< 5 mA (with $U_s/I_x$ to S22)
	> -5 mA (with $U_s/I_x$ to S22/0V)
	> -5 mA (with $U_s/I_x$ to S34)
	< 10 mA (with $U_s/I_x$ to S34)
Voltage at input/start and feedback circuit	24 V DC -15 % / +10 %
Typical response time	< 175 ms (automatic start)
	< 175 ms (manual, monitored start)
Typ. starting time with $U_s$	< 250 ms (when controlled via A1)
Typical release time	< 20 ms (when controlled via A1 or S12 and S22.)
Recovery time	< 500 ms
Status display	3 x green LED
Maximum switching frequency	0.5 Hz
Max. permissible overall conductor resistance	150 $\Omega$
Filter time	1 ms (at A1 in the event of voltage dips at $U_s$ )
	max. 1.5 ms (at S12, S22; test pulse width)
	min. 7.5 ms (at S12, S22; test pulse rate)
	Test pulse rate = 5 x Test pulse width

### Output data

Contact type	3 enabling current paths
Contact material	AgSnO <sub>2</sub>

## Safety relays - PSR-MC34-3NO-1DO-24DC-SP - 2700548

### Technical data

#### Output data

Minimum switching voltage	12 V AC/DC
Maximum switching voltage	250 V AC/DC (Observe the load curve)
Limiting continuous current	6 A (observe derating)
Inrush current, minimum	3 mA
Maximum inrush current	6 A
Sq. Total current	72 A <sup>2</sup> (observe derating)
Switching capacity	min. 60 mW
Output fuse	6 A gL/gG (N/O contact)
	4 A gL/gG (for low-demand applications)

#### Alarm outputs

Number of outputs	1 (digital, PNP)
Voltage	22 V DC ( $U_s - 2 V$ )
Current	max. 100 mA
Maximum inrush current	500 mA ( $\Delta t = 1 \text{ ms at } U_s$ )
Short-circuit protection	no

#### General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205)
Mechanical service life	10 x 10 <sup>6</sup> cycles
Nominal operating mode	100% operating factor
Net weight	173.7 g
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Mounting position	vertical or horizontal
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Control	Two-channel
Housing material	PBT
Housing color	yellow

#### Connection data

Connection method	Spring-cage connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>



## Safety relays - PSR-MC34-3NO-1DO-24DC-SP - 2700548

### Technical data

#### Connection data

Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

#### Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	3
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	3
Designation	EN ISO 13849
Performance level (PL)	e (4 A DC13; 5 A AC15; 8760 switching cycles/year)
Category	4
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	3

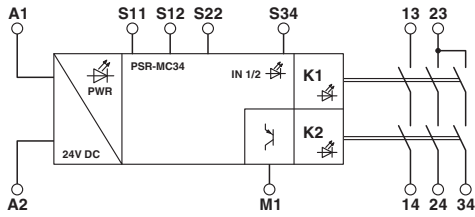
#### Standards and Regulations

Shock	15g
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV: Between input circuit and enabling current path (23/24/34) Between all current paths and housing Safe isolation, reinforced insulation 6 kV: Between input circuit and enabling current path (13/14) Between enabling current path (13/14) and enabling current path (23/24/34)
Degree of pollution	2
Overvoltage category	III
Vibration (operation)	10 Hz ...150 Hz, 2g

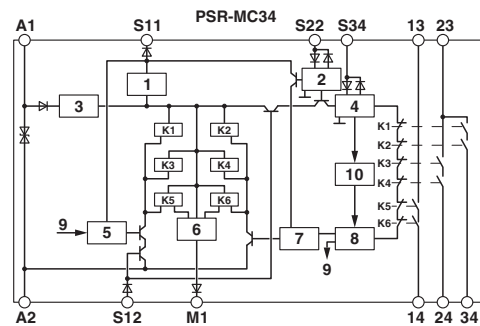
### Drawings

# Safety relays - PSR-MC34-3NO-1DO-24DC-SP - 2700548

Block diagram



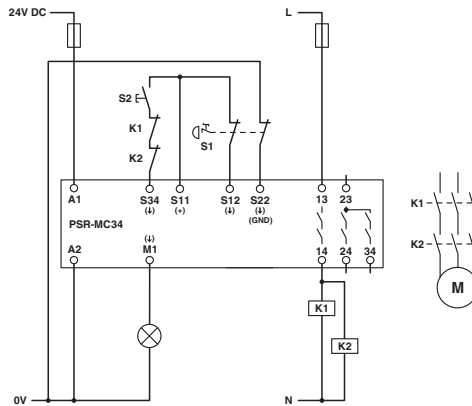
Block diagram



**Key:**

- 1 = Current limitation
- 2 = Input circuit
- 3 = Voltage limitation
- 4 = Start circuit
- 5 = Control circuit channel 1
- 6 = Control circuit signal output
- 7 = Control circuit channel 2
- 8 = Start channel 1 and 2
- 9 = Channel 1
- 10 = Diagnostics
- K1, K2 ... K6 = Force-guided elementary relays

Circuit diagram



## Classifications

eCl@ss

eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

# Safety relays - PSR-MC34-3NO-1DO-24DC-SP - 2700548

## Classifications

ETIM

ETIM 5.0	EC001449
----------	----------

## Approvals

Approvals

---

Approvals


UL Listed / cUL Listed / EAC / Functional Safety / cULus Listed


---

Ex Approvals

---

## Approval details

UL Listed  <http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm> FILE E 140324

cUL Listed  <http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm> FILE E 140324

EAC 7500651.22.01.00244

Functional Safety 44-205-13755201

cULus Listed 