

## Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

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>)



Multifunctional safety relay for emergency stop and safety doors up to SIL 3, Cat. 4, PL e, automatically or manually monitored activation, 4 N/O contacts, 3 safety functions, 2 shutdown levels, plug-in push-in terminal block

### Your advantages

- ✓ Up to Cat.4/PL e according to EN ISO 13849-1, SILCL 3 according to EN 62061, SIL 3 according to IEC 61508
- ✓ 3 safety functions in one device
- ✓ Low housing width of only 22.5mm
- ✓ No software configuration required
- ✓ Also available with push-in connection



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356729802

### Technical data

#### Note

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

#### Dimensions

Width	22.5 mm
Height	106.4 mm
Depth	114.5 mm

#### Ambient conditions

Ambient temperature (operation)	-20 °C ... 45 °C (see derating curve)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)

# Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

## Technical data

### Ambient conditions

Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Maximum altitude	≤ 2000 m (Above sea level)

### Input data

Nominal input voltage $U_N$	24 V DC
Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	125 mA (with actuated relays)
	55 mA (Two-channel 24 V/0 V + max. 200 mA control (message outputs 32/62) with non-actuated relays)
Current consumption	typ. 5 mA ( $I_{max}/I_x$ inputs)
	20 mA (in electric torque)
Voltage at input/start and feedback circuit	24 V -15 %; +10 % (first channel: 24 V; second channel: 0 V)
Typical response time	175 ms (monitored/manual start)
	250 ms (automatic start)
Typ. starting time with $U_s$	250 ms (when controlled via A1)
Typical release time	25 ms (when controlled via S11/S12 and S21/S22)
	20 ms (when controlled via A1)
Concurrence input 1/2	∞
Recovery time	1 s (Availability time after activation of sensor circuit: 100ms)
Operating voltage display	1 x green LED
Status display	5 green LEDs
Protective circuit	Surge protection Suppressor diode
Maximum switching frequency	0.5 Hz
Max. permissible overall conductor resistance	100 Ω
Filter time	max. 1.5 ms (Test pulse duration; for all equivalent inputs)
	min. 7.5 ms (Test pulse rate; for all equivalent inputs)

### Output data

Contact type	4 enabling current paths
	2 semiconductor alarm outputs
Contact material	AgCuNi, +0.2 -0.4 μm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	10 V AC/DC
Limiting continuous current	6 A (N/O contact)
	max. 100 mA (Alarm output (24 V DC))
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	$72 A^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2)$
Interrupting rating (ohmic load) max.	1500 VA (250 V AC, τ = 0 ms)
	66 W (220 V DC, τ = 0 ms)
	66 W (110 V DC, τ = 0 ms)
	100 W (48 V DC, τ = 0 ms)

# Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

## Technical data

### Output data

	144 W (24 V DC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	48 W (24 V DC, $\tau = 40$ ms)
	43 W (48 V DC, $\tau = 40$ ms)
Switching capacity min.	0.1 W
Mechanical service life	10x 10 <sup>6</sup> cycles
Switching capacity (360/h cycles)	5 A (0,1 Hz; DC13; 24 V)
Output fuse	6 A gL/gG NEOZED (N/O contact)
	4 A gL/gG NEOZED (for low-demand applications)

### General

Relay type	Electromechanical relay with forcibly guided contacts in accordance with EN 50205
Nominal operating mode	100% operating factor
Net weight	204.9 g
Mounting position	vertical or horizontal
Mounting type	DIN rail mounting
Assembly instructions	See derating curve
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing color	yellow

### Connection data

Connection method	Push-in connection
pluggable	no
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	10 mm

### Safety-related characteristic data

Stop category	0
Safety Integrity Level (SIL)	3
	3
Designation	EN ISO 13849
Performance level (PL)	e (5 A DC13; 3 A AC15; 8760 cycles/year)
Category	4
Safety Integrity Level Claim Limit (SIL CL)	3
Designation	EN 50156
Safety Integrity Level (SIL)	3

# Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

## Technical data

### Standards and Regulations

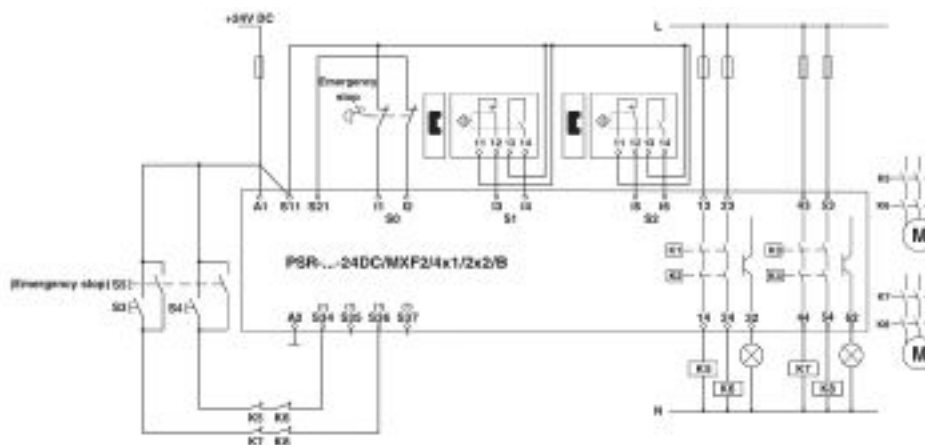
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	4 kV/basic isolation (safe isolation, reinforced insulation and 6 kV between input circuit, enabling current paths and safety circuit 1 (13/14, 23/24) and safety circuit 2 (43/44, 53/54).)
Degree of pollution	2
Overvoltage category	III

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

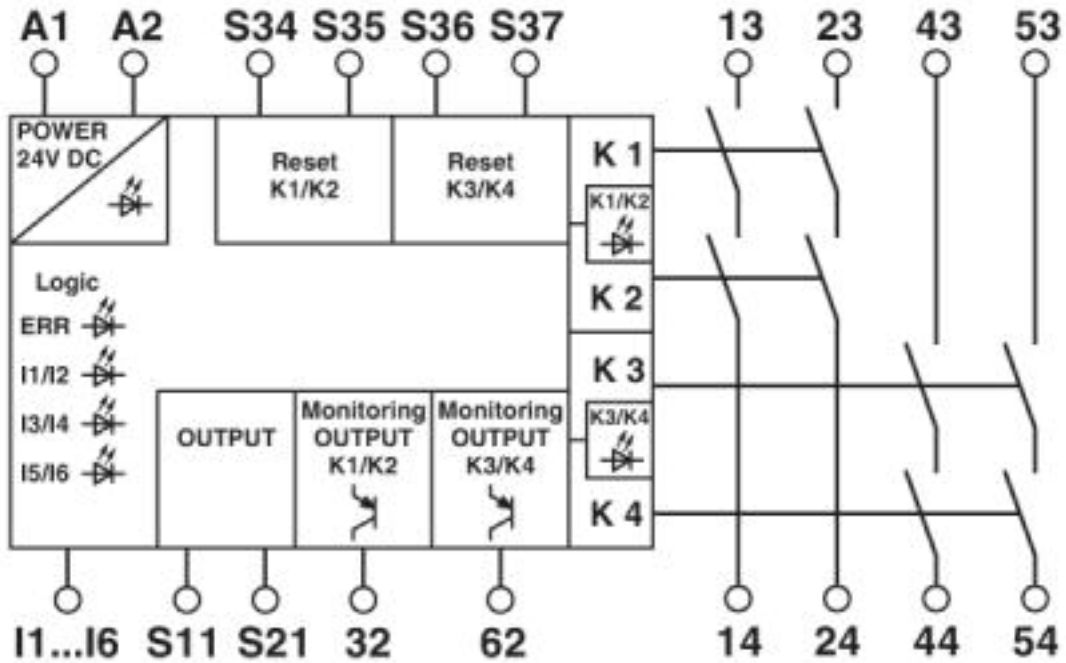
## Drawings

Circuit diagram

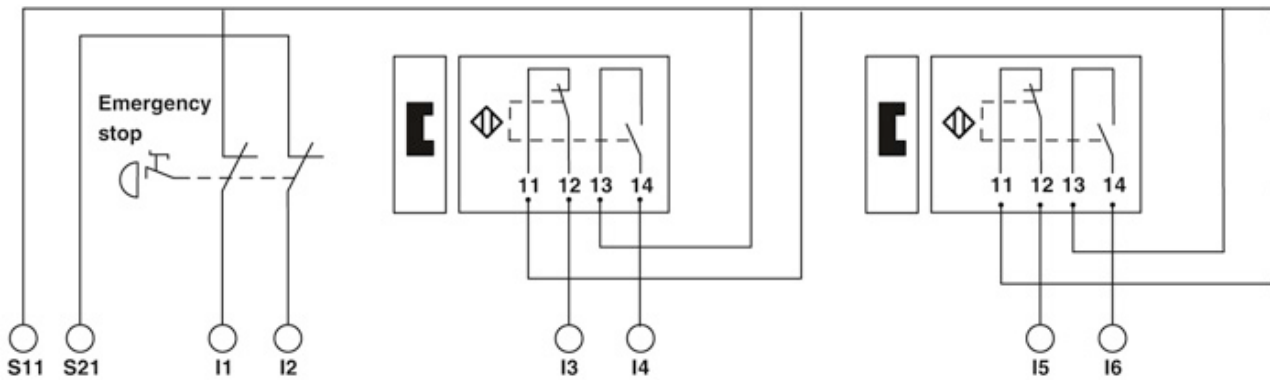


# Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

Circuit diagram

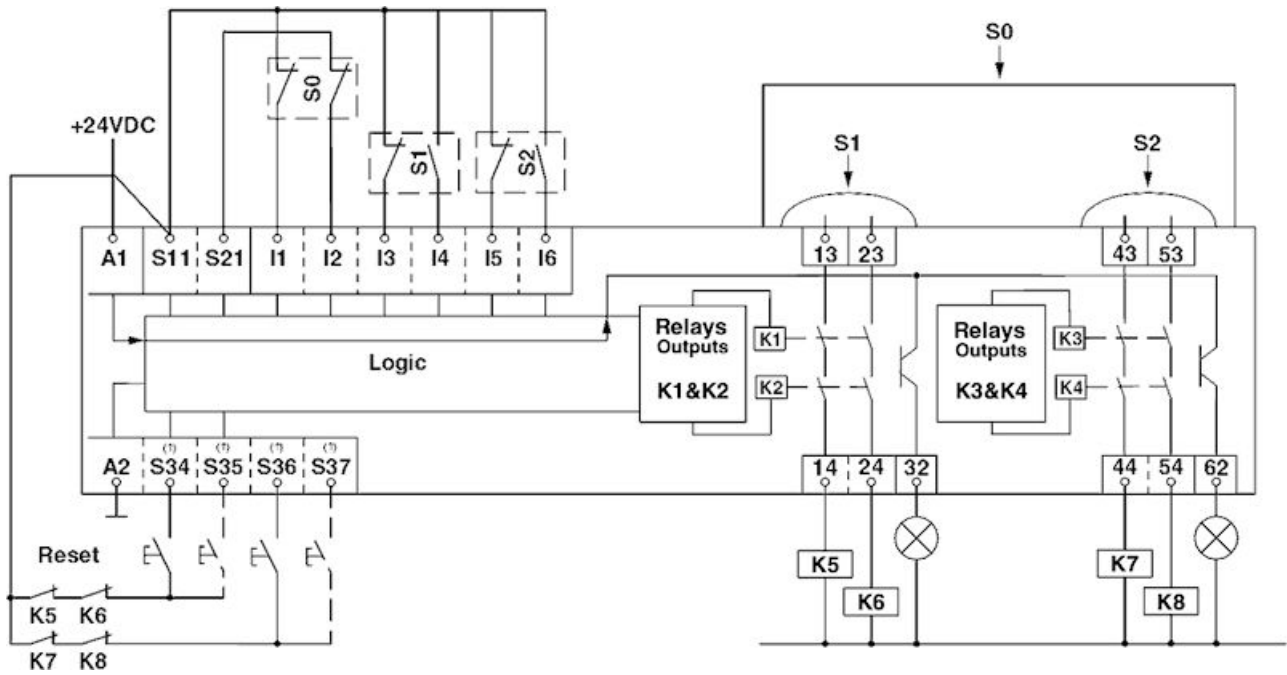


Circuit diagram



# Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

Circuit diagram



## Approvals

Approvals

---

Approvals

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

---






Ex Approvals

---

Approval details

## Safety relays - PSR-PIP-24DC/MXF2/4X1/2X2/B - 2903256

### Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
Functional Safety			01/205/5353.00/13
EAC			RU C- DE.A*30.B.01082
cULus Listed			

Phoenix Contact 2019 © - all rights reserved  
<http://www.phoenixcontact.com>

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