


## PSR – Phoenix Safety Relay PSR-THC4

- Two-hand and safety door control module according to EN 574 Type IIIC
- Safety Category 4, EN 954-1
- Plug-in screw-cage or spring-cage terminal blocks
- Two-channel circuit
- Safe isolation
- Cross-circuit detection
- Housing width 22.5 mm (0.886 in.)
- Two enable contacts
- One signaling contact
- Approvals:  US Listed;

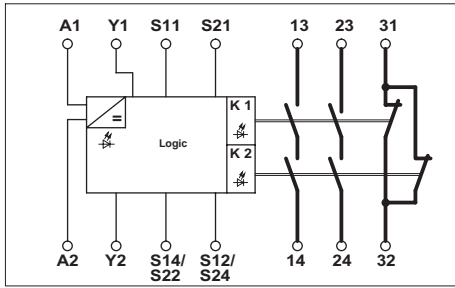


### 1. Short Description

The PSR-...-24UC/THC4/2x1/1x2 safety relays can be used to monitor two-hand control systems according to EN 574 Type IIIC and safety doors.

The module monitors the simultaneity of both inputs in < 0.5 seconds. In this way, up to Safety Category 4 can be achieved in safety circuits according to VDE 0113 Part 1 and EN 954-1. External contactors or expansion modules can be monitored. The module has two enable current paths and one signaling current path with Stop Category 0 according to EN 60204-1/ VDE 0113 Part 1.

## 2. Technical Data



**PSR-THC4**



	solid	flexible	
	[mm <sup>2</sup> ]		AWG
Connection data:	0.2 - 2.5	0.2 - 2.5	25 - 14
Stripping length:	Screw-cage version 7 mm (0.28 in.)		
	Spring-cage version 10 mm (0.39 in.)		

Housing width 22.5 mm (0.886 in.)

Description	
Safety relay, Category 4	Screw-cage Spring-cage

Type	Order No.	Pcs. Pkt.
PSR-SCP-24UC/THC4/2X1/1X2	29 63 72 1	1
PSR-SPP-24UC/THC4/2X1/1X2	29 63 98 3	1

### Technical Data

#### Input Data

Nominal input voltage  $U_N$   
 Permissible range  
 Typical current consumption at  $U_N$   
 Voltage at input, start, and feedback circuit  
 Typical response time (K1, K2) at  $U_N$   
 Typical release time (K1, K2) at  $U_N$   
 Simultaneity input 1/2  
 Recovery time

24 V AC/DC  
 0.85 - 1.1 x  $U_N$   
 125 mA AC, 60 mA DC  
 24 V DC, approximately  
 50 ms  
 20 ms  
 < 0.5 s  
 < 1 s

#### Output Data

Contact version

Contact material  
 Maximum switching voltage  
 Minimum switching voltage  
 Limiting continuous current  
 Maximum inrush current  
 Minimum switching current  
 Maximum shutdown power

2 enable current paths,  
 1 signaling current path  
 Silver stannic oxide, gold-flashed (AgSnO<sub>2</sub> 0.2 μm Au)  
 250 V AC/DC  
 15 V AC/DC  
 6 A (Form A contact/Form B contact)  
 6 A  
 25 mA  
 Ohmic load  
 Inductive load  
 $\tau = 0$  ms  
 $\tau = 40$  ms  
 144 W  
 42 W  
 48 V DC  
 288 W  
 42 W  
 110 V DC  
 110 W  
 42 W  
 220 V DC  
 88 W  
 42 W  
 250 V AC  
 1500 VA  
 0.4 W  
 10<sup>7</sup> cycles, approximately  
 24 V (DC 13) 4 A  
 24 V (DC 13) 2.5 A  
 6 A fast-blow

Minimum switching power  
 Mechanical life  
 Breaking capacity according to  
 DIN EN 60947-5-1/VDE 0660 Part 20  
 Short-circuit protection of the output circuits,  
 external

Cycles: 360/h  
 3600/h

**General Data**

Permissible ambient operating temperature	-20°C to +55°C (-4°F to +131°F)
Nominal operating mode	100% ED
Degree of protection	According to DIN EN 60529/VDE 0470 Part 1
- Housing	IP 40
- Connection terminal blocks	IP 20
- Mounting location	IP 54, minimum
Mounting position	Any
Mounting	Can be mounted without spacing
Air and creepance distances between circuits	According to DIN EN 50 178:1998-04, safe isolation, reinforced insulation
Impulse voltage withstand level	6 kV
Degree of pollution	2
Surge Voltage Category	III
Dimensions (W x H x D)	22.5 mm x 99 mm x 114.5 mm (0.886 x 3.898 x 4.508 in.)
Cable cross section	0.2 - 2.5 mm <sup>2</sup> (25 - 14 AWG)
Housing material	Polyamide PA, not reinforced

**Note:** When operating relay modules the operator must meet the requirements for emitted interference for electrical and electronic equipment (EN 50081-2) on the contact side and, if required, take appropriate measures.

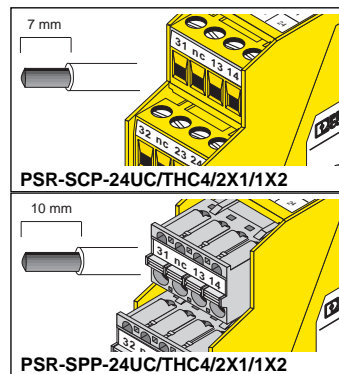
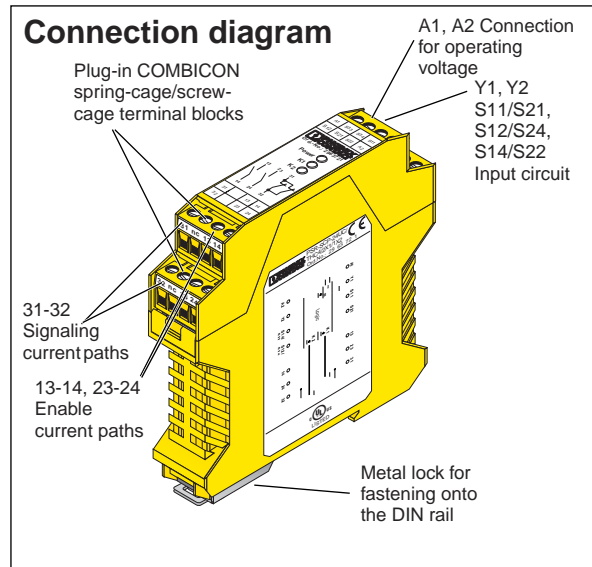
### 3. Connection Notes and Safety Instructions

#### 3.1. Safety Instructions

- Please observe the safety regulations of electrical engineering and industrial safety and liability associations.
- Disregarding these safety regulations may result in death or serious damage to persons or property.
- Before working on the device, disconnect the power.
- Startup, mounting, modifications, and upgrades should only be carried out by a skilled electrical engineer.
- Protective covers must not be removed when operating electrical switching devices.
- During operation, parts of electrical switching devices carry hazardous voltages.
- Keep the instruction sheet in a safe place.
- In the event of an error, replace the device immediately.

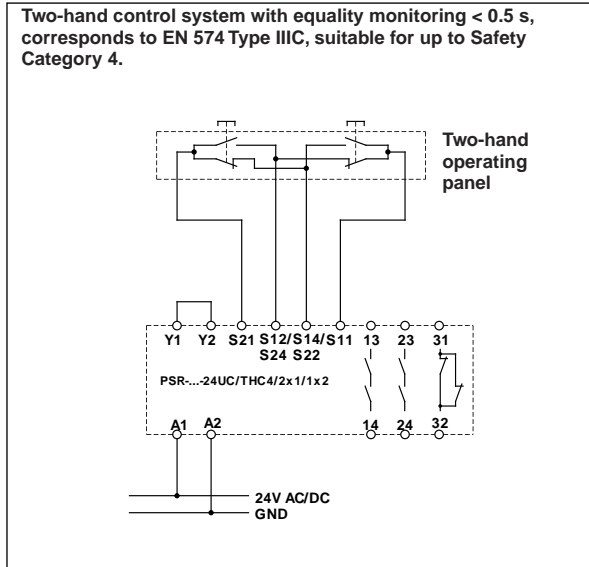
#### 3.2. Connection Notes

To maintain the UL, use copper cables, which are designed for operating temperatures of 75°C (167°F). For reliable and safe contacts, strip the connector ends accordingly.

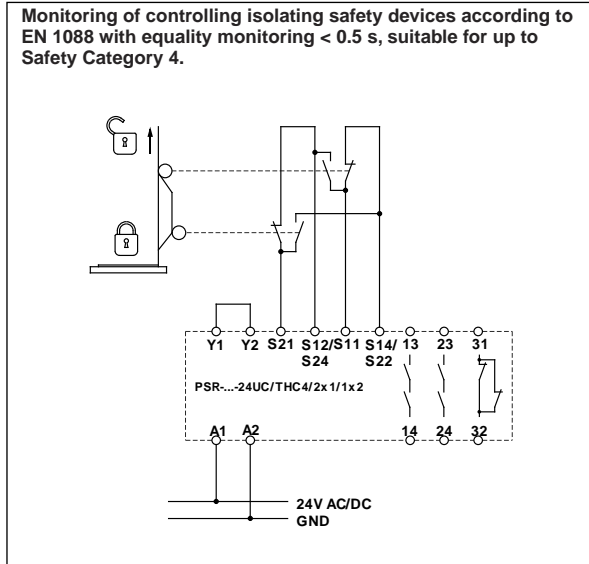


## 4. Connection Examples

Two-hand control system with equality monitoring < 0.5 s, corresponds to EN 574 Type IIIC, suitable for up to Safety Category 4.



Monitoring of controlling isolating safety devices according to EN 1088 with equality monitoring < 0.5 s, suitable for up to Safety Category 4.



Two-hand control system with equality monitoring < 0.5 s and monitored contact expansion, corresponds to EN 574 Type IIIC, suitable for up to Safety Category 4.

