

## Type IIIC, EN 574 P2HZ X4P



Two-hand control relay in accordance with VDE 0113-1, 11/98, EN 60204-1, 12/97 and IEC 204-1, 11/98

### Features

- 22.5 mm width
- Conforms to Type IIIC, EN 574 and category 4 in accordance with EN 954-1
- Plug-in connection terminals (Either screw terminals or cage clamp terminals)

### Approvals

|  | P2HZ X4P |
|--|----------|
|  | ●        |
|  | ●        |
|  | ●        |

| Technical Details | P2HZ X4P |
|-------------------|----------|
|-------------------|----------|

#### Electrical data

|   |  |
|---|--|
| Supply voltage  | 24 V AC/DC   |
| Tolerance   | 85 ... 110 %   |
| Power consumption   | approx. 3 VA/approx. 2,5 W                               |
| DC residual ripple  | 10 %   |
| Voltage and current at Input circuits 1/2                   | N/C contact; 24 VDC, 20 mA<br>N/O contact: 24 VDC, 10 mA |
| Switching capability in accordance with EN 60947-4-1, 10/91 | AC1: 240 V/5 A/1200 VA<br>DC1: 24 V/4 A/100 W            |
| EN 60947-5-1, 10/91 (DC13: 6 switching cycles/min)          | AC15: 230 V/2.5 A; DC13: 24 V/1.5 A                      |
| Output contacts   | 3 safety contacts (N/O),<br>1 auxiliary contact (N/C)    |
| Contact fuse protection to EN 60947-5-1, 10/91              | 6 A quick or 4 A slow                                    |

#### Times

|                          |  |
|--------------------------|--|
| Delay-on de-energisation | N/O: approx. 15 ms, N/C: approx. 30 ms |
| Recovery time            | min. 250 ms                            |
| Simultaneity channel 1/2 | < 0.5 s                                |

#### Mechanical Data: with cage clamp terminals

|  |   |
|--|---|
| Terminal blocks per connection           | 2   |
| Maximum cross section of ext. conductors | Flexible, without crimp connectors: 0.2 ... 1.5 mm <sup>2</sup> |
| Insulation length                        | 8 mm  |
| Dimensions (H x W x D)                   | 101 x 22,5 x 122 mm   |
| Weight                                   | 220 g   |

#### Mechanical data: with screw terminals

|  |   |
|--|---|
| Max. cross section of external conductor                         |   |
| Single-core conductor  | flexible without crimp connector: 0.2 ... 2.5 mm <sup>2</sup><br>flexible with crimp connector: 0.25 ... 2.5 mm <sup>2</sup>  |
| Multi-core conductor (2 conductors with identical cross section) | flexible with crimp connector without plastic sleeve: 0.25 ... 1 mm <sup>2</sup><br>flexible with TWIN crimp connector with plastic sleeve: 0.5 ... 1.5 mm <sup>2</sup> |
| Dimensions (H x W x D)   | 94 x 22.5 x 122 mm  |
| Weight   | 220 g   |

### Description

- 22.5 mm S 99 housing, DIN-Rail mounting
- Positive-guided relay outputs:
  - 3 safety contacts (N/O)
  - 1 auxiliary contact (N/C)
- Increase in the number of safety contacts available by connecting expander modules
- LED indicators for switching status, channel 1/2 and supply voltage

### Function description

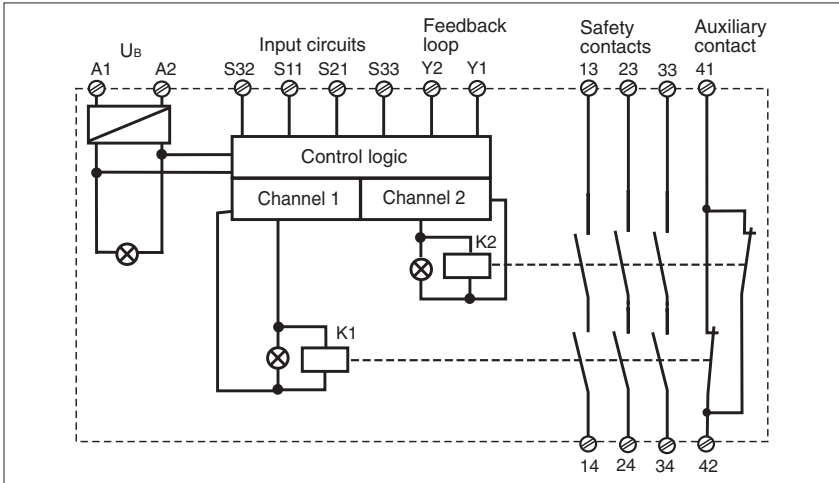
The two-hand control relay is used to ensure that operators keep their hands clear of the danger zone, and is suitable for use with mechanical and hydraulic presses, or in safety circuits. A cycle can only be initiated by pressing the two pushbuttons simultaneously. A cycle is interrupted by releasing one or both buttons to stop the output. The output signal can only be reinitiated after both inputs have been released and the pushbuttons operated again.

# Two-hand Control Relays

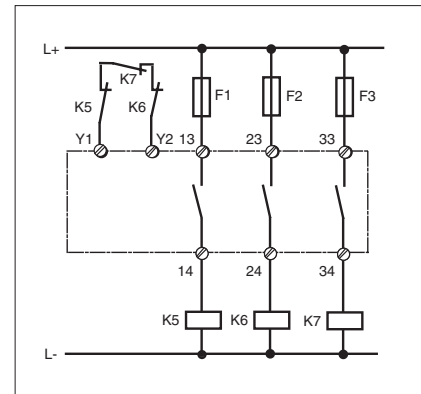


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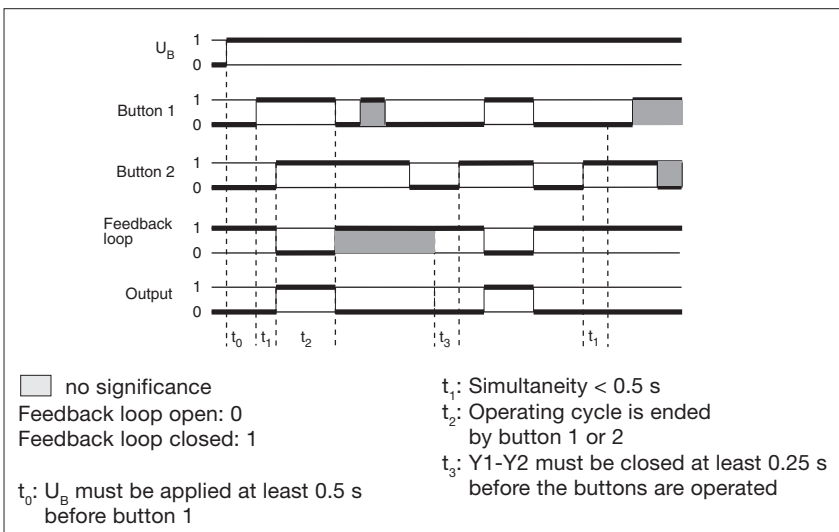
### Schematic internal wiring diagram



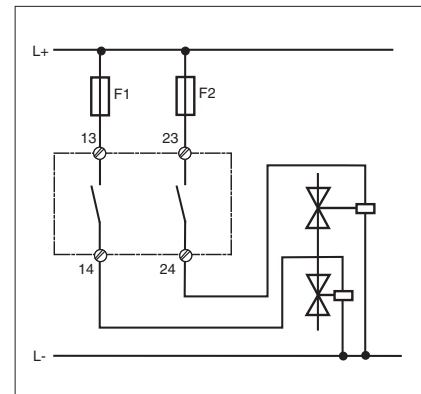
- Increase in safety contacts  
The number of output contacts can be increased by using expander modules or relays/contactors with positive-guided outputs.



### Pulse diagram

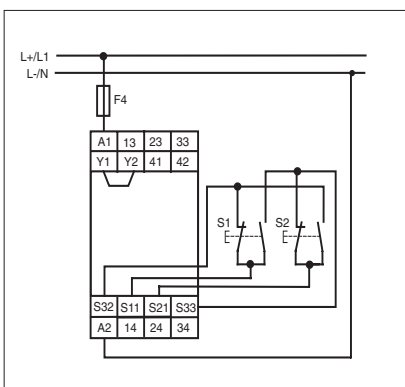


### – Driving a load



### Connection example

P2HZ X4P 24 V DC



### – Key

S1/S2: Two-hand pushbuttons

## Type IIIC, EN 574 P2HZ X4P

### General data

Unless stated otherwise in the technical details for the specific unit

#### Electrical data

|                    |                    |
|--------------------|--------------------|
| AC frequency range | 50 ... 60 Hz       |
| DC residual ripple | 160 %              |
| Contact material   | AgSnO <sub>2</sub> |
| Continuous duty    | 100 %              |

#### Environmental data

|                                  |  |
|----------------------------------|--|
| EMC                              | EN 50081-1, 01/92, EN 50082-2, 03/95           |
| Vibration to EN 60068-2-6, 04/95 | Frequency: 10 ... 55 Hz,<br>Amplitude: 0.35 mm |
| Climatic suitability             | IEC 60068-2-3, 1969                            |
| Airgap creepage                  | DIN VDE 0110-1, 04/97                          |
| Ambient temperature              | -10 ... +55 °C                                 |
| Storage temperature              | -40 ... +85 °C                                 |

#### Mechanical data

|   |   |
|---|---|
| Torque setting for connection terminals | 0.6 Nm (screws)                                       |
| Housing material                        | Thermoplastic Noryl SE 100                            |
| Protection type                         | Mounting: IP 54<br>Housing: IP 40<br>Terminals: IP 20 |

#### Order references

| Type                               | U <sub>B</sub> | Order no. |
|------------------------------------|----------------|-----------|
| P2HZ X4P with cage clamp terminals | 24 V DC        | 787 355   |
| P2HZ X4P with screw terminals      | 24 V DC        | 777 355   |
| P2HZ X4P with cage clamp terminals | 24 V AC        | 787 354   |
| P2HZ X4P with screw terminals      | 24 V AC        | 777 354   |