Emergency Stop Relays, Safety Gate Monitors

**Category 3, EN 954-1**

**PNOZ V**

---

**Features**

- Single-channel or dual-channel without the detection of shorts across the input contacts
- Supply voltage: 24 VDC
- 1 delay-off safety contact

**Approvals**

- PNOZ V

**Technical Data**

<table>
<thead>
<tr>
<th>Electrical Data</th>
<th>PNOZ V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Tolerance</td>
<td>85 ... 110 %</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Approx. 5 W</td>
</tr>
<tr>
<td>Voltage and Current at the Input and, Reset Circuits and Feedback Control Loop</td>
<td>24 VDC, 50 mA</td>
</tr>
</tbody>
</table>

**Switching Capability**

- Contacts 13-14, 23-24, 33-34, 41-42 in accordance with EN 60947-4-1, 10/91
  - 400 V/5 A/2000 VA
  - DC1: 24 V/8 A/200 W
- Contact 57-58 in accordance with EN 60947-5-1, 10/91
- Contact 13-14, 23-24, 33-34, 41-42 in accordance with EN 60947-4-1, 10/91
  - AC1: 240 V/4 A/1000 VA
  - DC1: 24 V/4 A/100 W
- Contact 57-58 in accordance with EN 60947-5-1, 10/91

**Output Contacts**

- 3 safety contacts (N/O)
- 1 auxiliary contact (N/C)

**Output Contacts with Delay-on De-energisation**

- 1 safety contact (N/O)

**Contact Fuse Protection**

- (EN 60947-5-1, 10/91)
  - Instantaneous contact: 10 A quick or 6 A slow
  - Delayed contact: 6 A quick or 4 A slow

**Times**

- Delay-on Energisation: Approx. 150 ms
- Delay-on De-energisation: Approx. 50 ms
- Delay-on De-energisation, delayed contact 57/58
  - Selectable time ranges:
    - Approx. 0.1 ... 3 s; 0.5 ... 30 s; 0.5 ... 300 s;
    - Fixed time ranges:
      - 3 s; 10 s
- Recovery Time: Approx. 0.3 s
- Simultaneity channel 1/2: Approx. 75 ms
- Max. Supply Interruption before De-energisation: Approx. 35 ms

**Mechanical Data**

- Torque Setting on Connection Terminals: 1.2 Nm (screws)
- Maximum Cross Section of External Conductors: 2 x 2.5 mm²
- Single-core or multi-core with crimp connectors
- Dimensions (H x W x D): 75 x 90 x 110 mm
- Weight: 480 g

**Description**

- 90 mm P-75 housing, DIN Rail mounting
- Positive-guided relay outputs, instantaneous:
  - 3 safety contacts (N/O)
  - 1 auxiliary contact (N/C)
- Positive-guided relay outputs, delay-off:
  - 1 safety contact (N/O)
- Delay-off time can be selected: 12 time periods on units with variable ranges

**Connections**

- E-STOP button
- Safety gate limit switch
- Reset button
- LEDs for channel 1/2 and supply voltage
- Increase in the number of safety contacts available by connecting expander modules.

**Operating Modes**

- Single-channel operation
- Dual-channel operation
- Automatic reset
- Manual reset
Emergency Stop Relays, Safety Gate Monitors

Category 3, EN 954-1
PNOZ V

Internal Wiring Diagram

- Example 1
  Single-channel E-STOP wiring with manual reset.

- Example 2
  Dual-channel E-STOP wiring with manual reset.

- Example 3
  Single-channel safety gate control with manual reset.

- Example 4
  Dual-channel safety gate control with manual reset.

- Example 5
  Dual-channel safety gate control with automatic reset.

- Key
  S1/2: E-STOP or safety gate switch
  S3: Reset button
  Switch operated
  Gate open
  Gate closed

External Wiring

- Increase in safety contacts
  The number of output contacts can be increased by using expander modules or relays/contacts with positive-guided contacts.
Emergency Stop Relays, Safety Gate Monitors

Category 3, EN 954-1
PNOZ V

General Technical Data

Unless stated otherwise in the technical details for the specific unit

Electrical Data

- Frequency Range AC: 50 ... 60 Hz
- Residual Ripple DC: 160 %
- Contact Material: AgSnO₂
- Continuous Duty: 100 %

Environmental Data

- EMC: EN 50081-1, 01/92, EN 50082-2, 03/95
- Vibration in accordance with EN 60068-2-6, 04/95: Frequency: 10 ... 55 Hz, Amplitude: 0.35 mm
- Climatic Suitability: DIN IEC 60068-2-3, 12/86
- Airgap Creepage: DIN VDE 0110 part 1, 04/97
- Ambient Temperature: -10 ... +55 °C
- Storage Temperature: -40 ... +85 °C

Mechanical Data

- Torque Setting on Connection Terminals: 0.6 Nm (screws)
- Mounting Position: Any
- Housing Material: Thermoplast Noryl SE 100
- Protection: Mounting: IP 54, Housing: IP 40, Terminal Range: IP 20

The units were tested in accordance with the relevant standards current at the time of development.

Order References

<table>
<thead>
<tr>
<th>Type</th>
<th>t</th>
<th>Uₑ</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNOZ V</td>
<td>3 s</td>
<td>24 V DC</td>
<td>474 789</td>
</tr>
<tr>
<td>PNOZ V</td>
<td>30 s</td>
<td>24 V DC</td>
<td>474 790</td>
</tr>
<tr>
<td>PNOZ V</td>
<td>3 s fest</td>
<td>24 V DC</td>
<td>474 796</td>
</tr>
<tr>
<td>PNOZ V</td>
<td>10 s fest</td>
<td>24 V DC</td>
<td>474 799</td>
</tr>
<tr>
<td>PNOZ V</td>
<td>300 s</td>
<td>24 V DC</td>
<td>474 791</td>
</tr>
</tbody>
</table>