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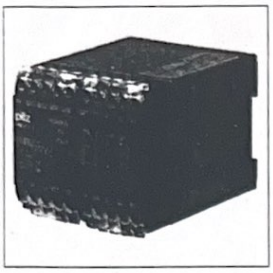
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PNOZ 1-2

Standard Unit



PICONTROL
Emergency Stop Unit and Safety Gate Monitor to VDE 0113, EN 60204-1 and IEC 204-1.

Order Reference

Voltage	Part Number
24 VDC	474 696
110 VAC	474 631
230 VAC	474 652

Special Features

- 24VDC at the Emergency Stop button
- Detects shorts across the input contacts
- Monitored reset button possible via appropriate wiring.

Unit Classification

SUVA A-ET 96110

Description

- 90 mm P-75 Housing, DIN-Rail Mounting
- Feedback control loop for monitoring of external relays/ contactors which increase the number of contacts available
- Connections:
  - emergency stop button or safety gate limit switch
  - reset button
- 2 LEDs
  - channel 1 and 2 status indication
- Relay output:
  - 3 N/O and 1 N/C
- Relay positive guided.

* Electronic Fuse

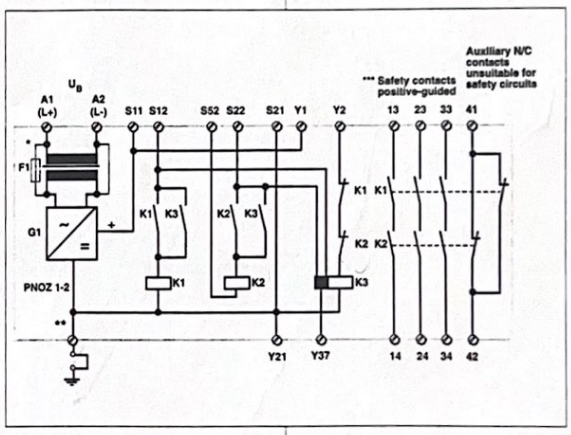
PNOZ units with AC operating voltage have a short-circuit-proof transformer to DIN VDE 0551, DIN EN 60742 and the internal links are removed. In the event of an external earth fault, the supply voltage fails and the output contacts open.

PNOZ units with DC operating voltage have internal links but no transformer. In the event of an input earth fault, the integrated electronic fuse causes the output relay to de-energise and protects the unit from damage. The electronic fuse comes into effect with fault currents ≥ 1.2 A. Once the cause of the disturbance is removed, the unit is ready for operation after 1 s (keeping to the rated voltage) and takes up the original starting position dependent on the input conditions.

** AC units are supplied with an earthing terminal.

*** To prevent contact welding, a fuse(max. 10 A quick / 6 A slow) must be connected externally.

Internal Wiring Diagram

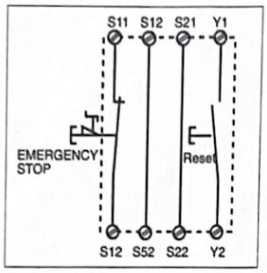


Technical Details, PNOZ 1-2 (for general technical details see appendix)

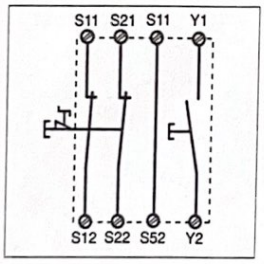
Operating Voltage U_B	24, 42, 48, 110, 115, 120, 230, 240 VAC; 24 VDC
Residual Ripple U_B V DC	160 %
Power Consumption U_B	Approx. 5 VA; 3.5 W
Delay-on Energisation	Approx. 250 ms
Delay-on De-energisation K3	Approx. 150 ms
Delay-on De-energisation	Approx. 50 ms
Simultaneity S11-S12, S12-S22	Approx. 140 ms
Max. Supply Interruption before De-energisation	Approx. 35 ms
Voltage/Current at S11, S22, S21, S22, S52,Y1, Y2	24 V DC/50 mA
Output Contacts	3 N/O and 1 N/C $AgSnO_2$
Switching Capability DIN EN 60947-5-1 in appendix diagram 1	DC1 24V 0.03-6 A; AC1 250 V 6 A, 400 V 3.75 A/1500 VA DC13 24 V 2.5 A; AC15 230 V 4 A
Contact Fuse Protection	10 A quick or 6 A slow (VDE 0660 Pt.200, DIN EN 60947)
Protection	Mounting IP 50, Terminals IP 20
Max. cross section of external conductors	2 x 2.5 mm² single-core 2 x 2.5 mm² multi-core with crimp connectors
Weight	AC 700 g, DC 640 g

External Wiring

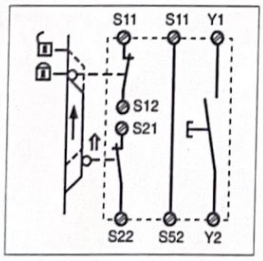
Example 1
If the emergency stop is wired through 1 channel, it meets the requirements of EN 60204, but does not have safe operation redundancy in the emergency stop circuit. Earth faults in the emergency stop circuit are detected.



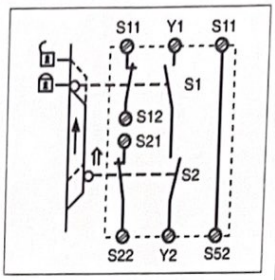
Example 2
If the emergency stop is wired through 2 channels it will also monitor any faults in the emergency stop circuit. Earth faults in the emergency stop circuit and shorts betweeen the emergency stop button will be detected.



Example 3
2 channel safety gate control through 2 forced-contact limit switches with position monitoring.

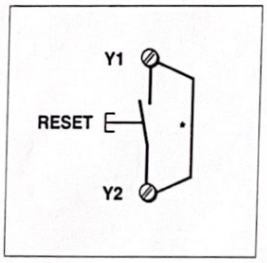


Example 4
2 channel safety gate control through 2 forced-contact limit switches combined in a circuit with function and start testing facilities.

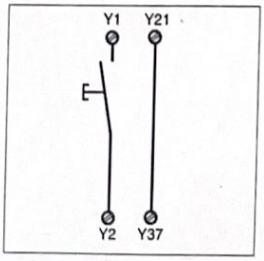


Example 5
Reset Function
Manual Reset: Unit only becomes active once a switch is closed at terminals Y1-Y2.
Therefore it is impossible for the emergency stop unit to activate automatically when voltage is re-applied after a cut in power. This is not possible in connection with Example 4.

* Automatic Reset: Unit is active when terminals Y1-Y2 are linked and operating voltage is applied. Care must be taken when used as an emergency stop. The machine restart must be by an extra input to machine control.



Example 6
Monitored Manual Reset: The unit becomes active once a button at the terminals Y1-Y2 (with Y21-Y37 linked) is closed and opened.



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