PICONTROL®

530-580

Type PNOZ 5

Emergency Stop Unit
In accordance with VDE 0113, IEC 204-1 and BS 2771

Description

- 45 mm P-75 Housing, DIN-Rail Mounting.
- Feedback control loop for monitoring external contactors/relays which increase the number of contacts available.
- Connections:
  - Emergency stop button
  - Safety switch to incorporate into the safety circuit.
- Relay output:
  2 N/O, positive-guided.

Special Features

- When suitably wired, earth faults in the emergency stop button will be detected and the output contacts will open

- Approvals:

BG

Sweden

TÜV Rheinland

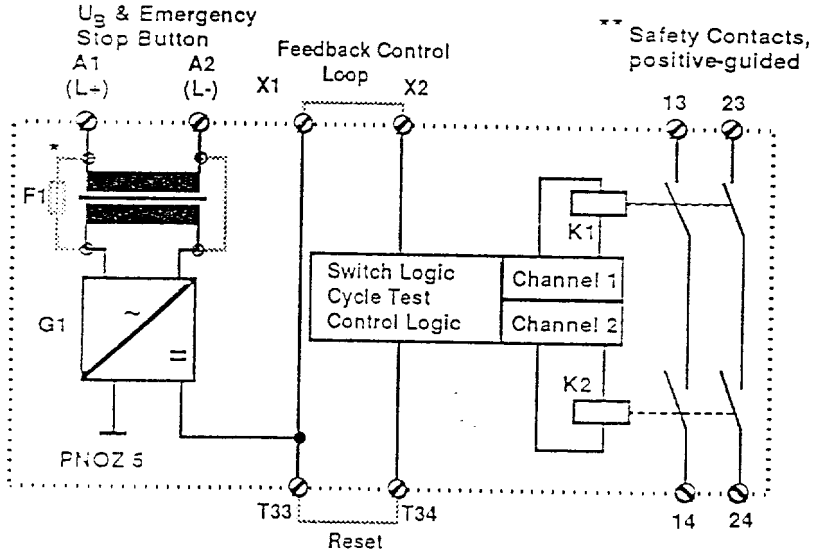
Order Reference

PNOZ 5/110 V~

Operating Voltage

P-75 Range
Emergency Stop Unit

Internal Wiring Diagram
(Simplified Version)



* **Electronic Fuse**
PNOZ units with AC operating voltage have a shortcircuit proof transformer (approved to DIN VDE 0551) and the internal bridges 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 bridges but no transformer. In the event of an input earth fault, the integrated electronic fuse causes a safety oriented opening of the output contacts and protects the unit from damage. The safety release comes into effect with fault currents ≥1.2 A. Once the cause of the disturbance is removed, the unit is ready for operation after 1s (keeping to the rated voltage) and takes up the original starting position dependent on the input conditions.

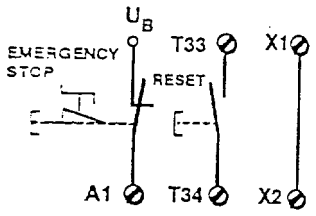
**To prevent a welding together of the output contacts, a fuse (max. 4 A slow/ 6 A fast acting) must be connected externally.

Technical Details, PNOZ 5 (for general technical details see appendix)	
Operating Voltage U_B	24, 42, 48, 100, 110, 115, 120, 127, 230, 240 V~; 24 V=
Voltage Tolerance U_B	80-110 % U_B~; 85-110 % U_B=
Frequency Range U_B~	50-60 Hz
Residual Ripple U_B=	120 %
Power Consumption U_B	≤ 4 VA, ≤ 2.5 W
Delay-on Energisation	120 ms ~, 170 ms =
Delay-on De-Energisation	50 ms ~, 150 ms =
Operating Temperature	-10 to +55 °C
Airgap Creepage	DIN VDE 0110 Part 2 Para. 8, 4 kV/3
Voltage/Current at T33, T34	24 V=/50 mA
Relay Contacts	2 N/O, Ag with 0.1 mm Pd/Ag Cd O
Switching Capability	24 V=/250 V~/0.1-6 A/1300 VA
Contact Fuse Protection (VDE 0660 Pt.2)	6 A quick/4 A slow acting

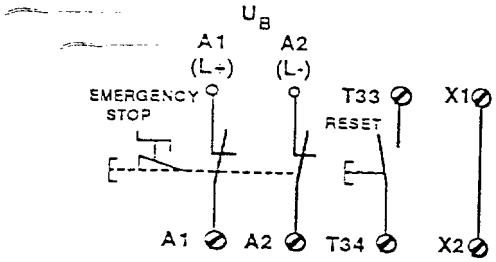
pilz Pilz UK, Willow House, Medlicott Close, Oakley Hay Business Park, Corby, Northants NN18 9NF Telephone (0536) 460 766 Fax (0536) 460 866

External Wiring

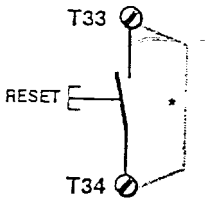
Example 1
If the emergency stop is wired through 1 channel it meets the requirements of VDE 0113, but does not have safe operation redundancy in the emergency stop circuit. Earth faults in the emergency stop circuit are detected.



Example 2
Earth faults in the emergency stop circuit are detected, but shorts across the emergency stop pushbutton will not be detected (see note 1, page 6).



Example 3
Reset function
Conditional Activation: Unit only becomes active once a switch is closed at terminals T33-T34. It is impossible, therefore, for the emergency stop unit to activate automatically when voltage is re-applied after a cut in power.

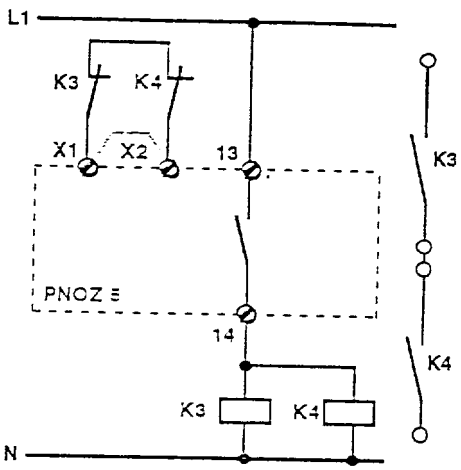


* Automatic Activation: Unit is active when terminals T33-T34 are bridged and operating voltage is applied. Only conditionally suitable when used as an emergency stop.

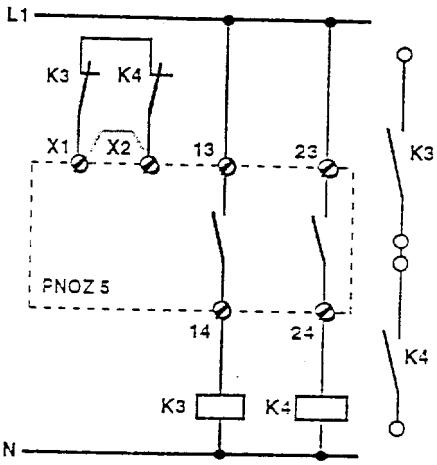
Feedback Control Loop
(Terminals X1-X2)

If required, the number of output contacts on the PNOZ can be increased by using external relays with positive-guided contacts.
The function of the external relays may be monitored by connecting N/C contacts in series to terminals X1-X2, which are factory-equipped with a bridge.
The use of 1 or 2 channel drive depends on the risk level of your machine.

Example 4
1 Channel Drive



Example 5
2 Channel Drive



Connection Diagram