

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

## Description

- 90 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 buttons or
  - Safety switches can be incorporated into the safety circuit.
- Non-volatile short circuit fault indicator
- 4 LEDs
  - Channels 1 and 2 status indicator
  - Mains and fault
- Relay output:
  - N/O + 1 N/C, positive-guided
- Semiconductor output 2 x PNP

## Special Features

- When the emergency stop unit is wired for 2 channels, faults in the pushbutton are also detected.
- 24 VDC at the emergency stop buttons
- Shorts across the key contacts are identified.
- Output contacts 41-42 and PLC signal contact Y32 are not delayed through K3, and switch after K1 + K2.
- The safety cut-out is triggered, should an earth fault or a short across the key contact occur:
  - Mains LED (green) = off
  - Fault LED (red) = on

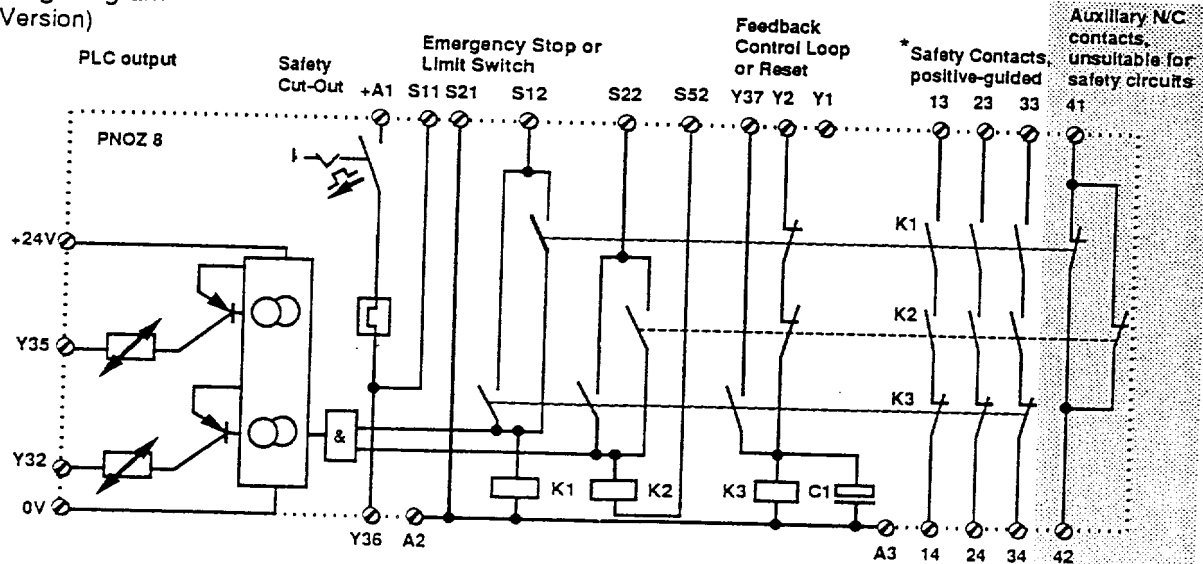
## Order Reference

**PNOZ 8/24 VDC**

P-75 Range  
Emergency Stop Unit

Operating Voltage

## Internal Wiring Diagram (Simplified Version)



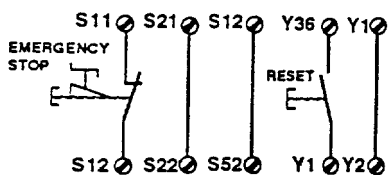
## Technical Details, PNOZ 8 (for general technical details see appendix)

Operating Voltage $U_s$	24 VDC
Voltage Tolerance $U_a$	80-120 % $U_s$
Power Consumption $U_s$	≤ 4.5 W
Delay-on Energisation	150 ms
Delay-on De-Energisation K3	180 ms
Delay-on De-Energisation K1, K2	50 ms
Operating Temperature $T_s$	-10 to +55 °C
Airgap Creepage	DIN VDE 0110 Part 2, Para. 8, 4 kV/3
Voltage/Current at Y1, Y2, S11, S12, S21, S22, S52	24 V=50 mA
Semiconductor Output, PNP	24 VDC, 50 mA, short circuit protected
Relay Contacts	3 N/O + 1 N/C Ag Cd O
Switching Capability	24 V=250 V~0.1-8 A/2000 VA 380 V, 5 A
Contact Fuse Protection (VDE 0660 Pt.2)	10 A quick/6 A slow acting

\*To prevent a welding together of the output contacts, a fuse (max. 6A slow/ 10 A fast acting) must be connected externally.

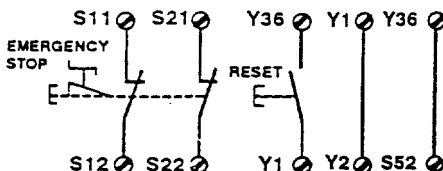
## Example 1

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.



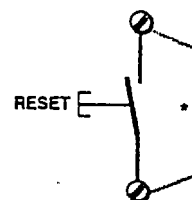
## Example 2

If the emergency stop is wired through 2 channels it will also monitor any faults in the emergency stop contacts. Earth faults in the emergency stop circuit and shorts across the emergency stop pushbutton will be detected.



## Example 3

Reset function  
Conditional Activation: Unit only becomes active once a switch is closed at terminals Y36-Y1. It is impossible, therefore, for the emergency stop unit to activate automatically when voltage is re-applied after a cut in power.



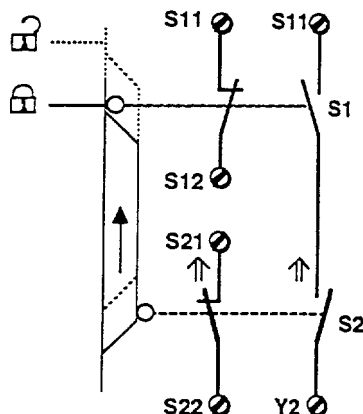
\* Automatic Activation: Unit is active when terminals Y36-Y1 are bridged and operating voltage is applied.

## Example 4

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

Possible application:

For monitoring purposes on automated manufacturing installations and on machines with operator contact.



## Example 5

Time delay extended to  $\infty$  for applications as a safety gate monitor. When driven as in example 4 via 2 limit switches with 1 N/C and 1 N/O contact each, but without a reset switch, terminals Y36-41, Y37-42 may be bridged. This will enable limit switches S1 and S2 to be operated at different times.

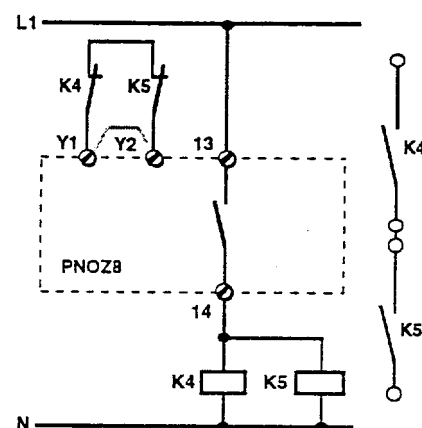


Feedback Control Loop  
(Terminals Y1-Y2)

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 Y1-Y2, which are factory-equipped with a bridge. The use of 1 or 2 channel drive depends on the risk level of your machine.

## Example 6

1 channel drive



## Example 6

2 channel drive

## Connection Diagram

