

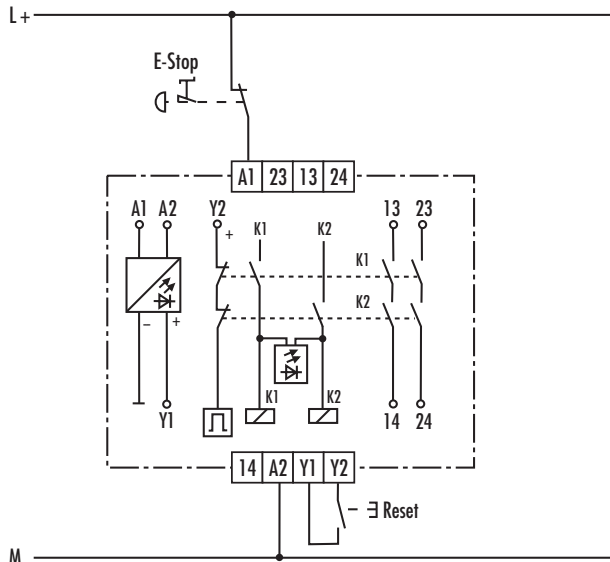




### Application Example

A 1086

#### Single-Channel E-Stop Circuit

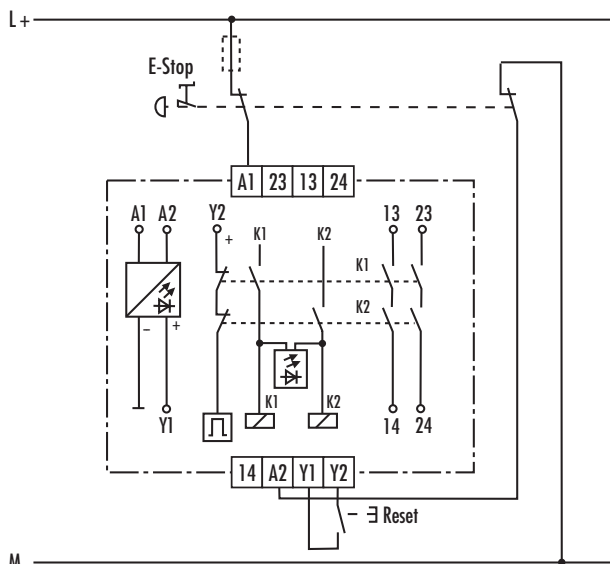


The single channel E-Stop circuit complies with the requirements of the Stop category 0 acc. to the EN 60204-1 norm and the Safety category 2 acc. to EN 954-1. However the circuit of the E-Stop momentary contact is not redundant. Ground faults in the E-Stop circuit are immediately detected.

### Application Example

A 1087

#### Dual-Channel E-Stop Circuit (with cross monitoring)

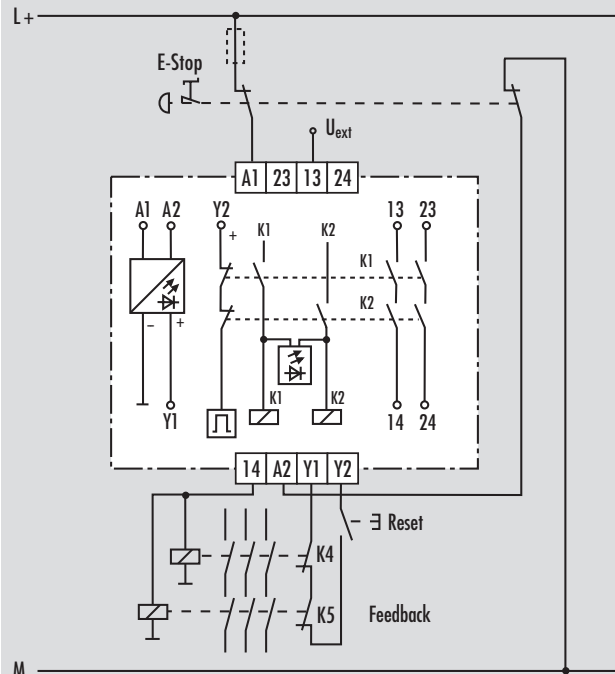


The dual-channel E-Stop circuit disconnects reliably even if one of the two contacts of the E-Stop switch does not open. If a fault occurs (for example, if the E-Stop contact connected at A1 does not open), the safety circuit is activated by the second (redundant) contact at A2. Enabling current paths 13/14 and 23/24 open. In the event of a short circuit or short circuit to ground of the conductors leading to the E-Stop switch, the voltage available at Y1 collapses. In case of a short circuit to ground of the cable leading to the RESET switch, the voltage applied at Y1/Y2 is short-circuited. Relays K1 and K2 return immediately to the de-energized position and the electronic fuse is triggered. This example meets Stop category 0 according to EN 60204-1 and Safety category 3 according to EN 954-1.

### Application Example

A 1088

#### External Contact Expansion



If the number of enable current paths is not sufficient, two external contactors can be used for expansion. They are driven through one of the enable current paths of the SNO 2004-17. The function of the external contactors is monitored through their own NC contacts. The NC contacts are connected in series to the RESET switch. Contactors K4 and K5 must have positively driven contacts.

### Notes

- Applies to application examples A 1087 and A 1088:  
To avoid loss of control voltage L1/L+ in the event of a bridge fault in the E-Stop control circuit, a fuse can be connected in series (previous) to the E-Stop switch.





## TECHNICAL DATA

**FUNCTION** According to EN 60204-1  
Function Display  
Function Diagram

### POWER SUPPLY DATA

Rated Voltage $U_N$	V AC/DC
Rated Consumption at 50 Hz and $U_N$ (AC)	VA
Rated Consumption at 50 Hz and $U_N$ (AC)	W
Rated Consumption at $U_N$ (DC)	W
Residual Ripple	V <sup>ss</sup>
Rated Frequency	Hz
Operating Voltage Range	

### CONTROL CIRCUIT

only for supplying the control inputs

Control Output Y1 with respect to A2:	
Line Resistance (Control Inputs)	$\Omega$
Rated Output Voltage	V DC
Rated Current	mA
Rated Short-Circuit Current $I_K$ max.	mA
Fuse	-
Response Time (PTC)	s
Recovery Time (PTC)	s

Control Inputs Y2:	
Rated Current Input Y2	mA
Response Time $t_A$ K1, K2	ms
Release Time $t_r$ for the E-Stop K1, K2	ms
Minimum Switch-ON Time $t_M$ for Y2	ms

### OUTPUT CIRCUIT

Contact Equipment	
Contact Type	
Contact Material	
Switching Voltage $U_n$	V AC/DC
Maximum Rated Current $I_n$ per Contact	A
Maximum Total Current for all Contacts	A
Application Category According to EN 60947-5-1:1991	
Short-Circuit Protection, Max. Fuse Element Class gG	A
Permissible Switching Frequency	Switching Cycle/h
Mechanical Lifetime	Switching Cycle

### GENERAL DATA

Creepage and Clearance Distances Between Circuits According to DIN VDE 0110-1:04.97: Rated Withstand Voltage	kV
Over-Voltage Category	
Contamination Level	
Design Voltage	V AC
Test Voltage $U_{eff}$ 50 Hz acc. to DIN VDE 0110-1, Table A.1	kV
Protection Class Housing/Terminals acc. to DIN VDE 0470 Sec. 1:11.92	
Radiated Noise	
Noise Immunity	

Ambient Temperature, Working Range	$^{\circ}C$
Dimension Diagram	
Connection Diagram	
Weight	kg
Accessories	
Approvals	

### GENERAL TECHNICAL SPECIFICATIONS

## SNO 2004-17

Emergency - Stop Relay  
2 LEDs, green  
FD 0221-6 W1

<b>24</b>
2,5
1,5
1,2
2,4
50 to 60
0,8 to 1,1 x $U_N$

$\leq 70$
24
12
-
-
-
-

12
20
50
30

2 N.O. Safety Contact
Forced Contact
Ag-Alloy; Gold-Plated
230/300
4
8
AC-15: $U_e$ 230 V AC, $I_e$ 2 A
DC-13: $U_e$ 24 V DC, $I_e$ 2 A
4
3600
$3 \times 10^6$

4
III
3 Outside, 2 Inside
300
2,21
IP 40/IP 20
EN 50081-1:03.93, -2:03.94
EN 50082-2:1995

- 25 to + 55
K 1 - 12
KS 0344-1 W1
0,16
Adaptor Z 15
BG, CSA, SAG, UL

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