



Emergency-Off Relay

SNO 5001K, SNO 5001.1K



EN 60204-1	For Stop Category	0
EN 954-1	Safety Category	4

- Safety switching device acc. to EN 60204-1, category 4 acc. to EN 954-1
- Safe isolation between supply, control and enable circuits
Air and creepage paths ≥ 5.5 mm
- Supply voltage up to 230 V AC
- Controlled through supply circuit
- Control voltage 24 V DC
- Feedback circuit and reset circuit
- Restart block (SNO 5001K)
- 1 Enable contact
- 1 Alarm contact (SNO 5001K) or 1 alarm semi-conductor (SNO 5001.1K)
- LED status indicator

Applications

Emergency-off and safety door monitoring, especially for

- Palleting equipment
- Packaging equipment
- Machine tools
- Construction machinery

with supply voltages from 12 V DC to 230 V AC

Device Description

The SNO 5001K and SNO 5001.1K are enclosed in a 22.5 mm wide case for 35 mm DIN mounting rails acc. to EN 50022. The units are connected by means of screw terminals.

Principle of Operation

These units are suitable for monitoring control stations with a one-channel design. The unit is ready and the "SUPPLY" LED will light up when the safety circuit is closed and supply voltage is applied. In order to enable the unit, the reset/feedback circuit must be closed. The reset/feedback circuit consists of the series-connected contacts of the reset switch (N/O) and the N/C contacts of the post-connected contactors.

Manual start with RESET momentary contact switch monitoring (only for SNO 5001K): RESET momentary contact switch between Y1/Y3.

Manual start without RESET momentary contact switch monitoring: RESET momentary contact switch between Y1/Y2

Automatic start:

Jumper between Y1/Y2

Notes

Please review the connection diagram and the technical specifications of the device when selecting a control station.

The control output Y1 is intended exclusively for the connection of control stations in accordance with the respective instructions for use and not for the connection of external loads, such as lamps, relays, or contactors.

Device Options

Rated voltage	Price list 2002
12 V DC	
24 V DC	
24 V AC	
115 - 120 V AC	
230 V AC	

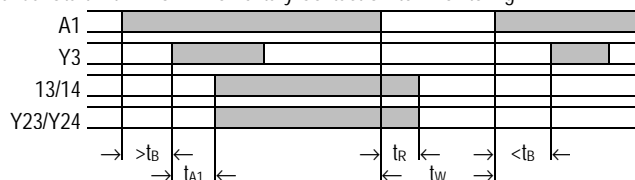
Ordering Example

SNO 5001K	24 V DC
Type	Rated voltage

Function Diagram

SNO 5001K

Manual Start with RESET Momentary Contact Switch Monitoring

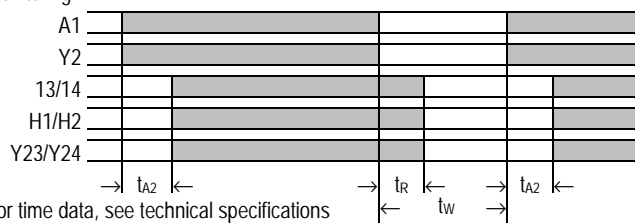


For time data, see technical specifications

Function Diagram

SNO 5001K or SNO 5001.1K

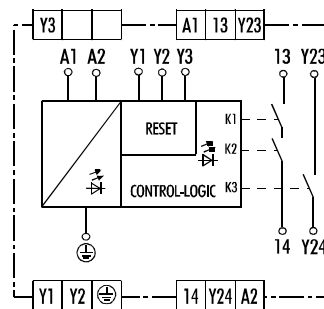
Automatic Start / Manual Start without RESET Momentary Contact Switch Monitoring



For time data, see technical specifications

Connection Diagram

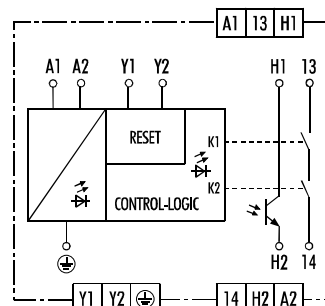
SNO 5001K



KS 221-2-2

Connection Diagram

SNO 5001.1K

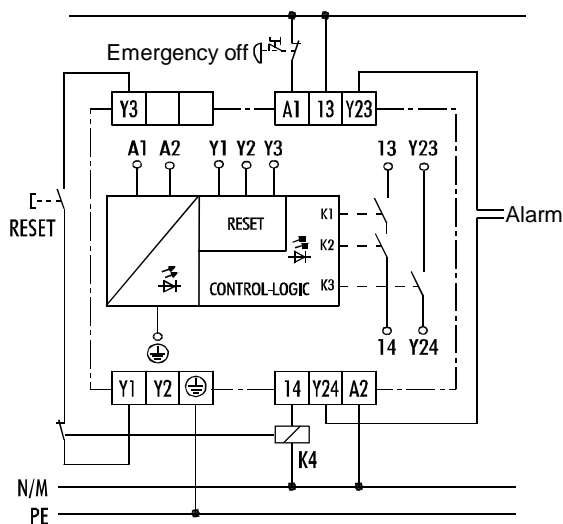


KS 221-1-2

Emergency-Off Relay

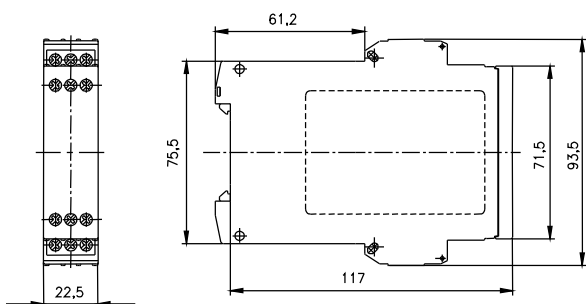
SNO 5001K, SNO 5001.1K

Application Example: Emergency-Off with SNO 5001K

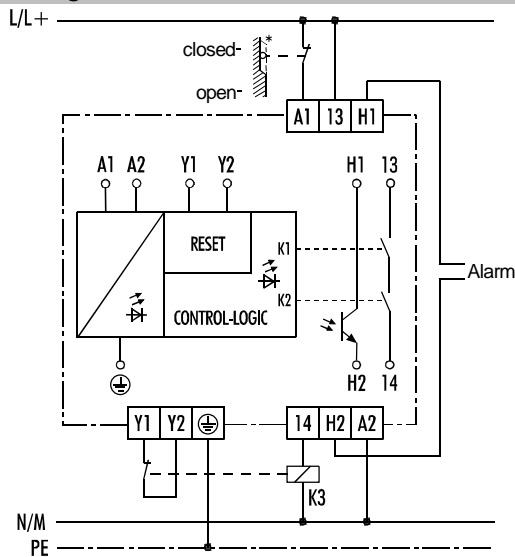


One-channel monitoring of an emergency-off momentary contact switch up to category 2 acc. to EN 954-1. Manual start is activated through the RESET momentary contact switch when the K4 normally closed contact is closed. The internal restart block (RESET to Y3) prevents an automatic start when the RESET circuit is jumpered.

Dimension Diagram



Application Example: Sliding Protective Gate with SNO 5001.1K

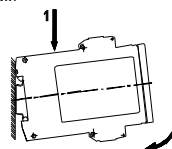


* = Locator with positive operation

One-channel monitoring of a limit switch up to category 2 acc. to EN 954-1. A start is triggered automatically if the K3 normally closed contact is closed.

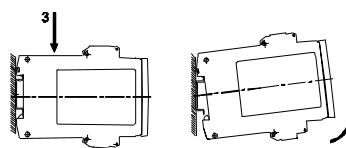
Assembly

- 1 Hang the relay on the top-hat rail.
- 2 Apply light pressure in the direction of the arrow to snap the relay onto the top-hat rail.



Disassembly

- 3 Push the relay down in direction of the arrow.
- 4 While pushing down, pull the relay in the direction of the arrow out of the detent and off the top-hat rail.





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Technical Specifications

General data	
Weight	0.2 kg
Ambient temperature, operating range	-25 to +55 °C
Climate application class	H V G acc. to DIN 40040: 04.87
Air and creepage paths	acc. to DIN VDE 0110 part 1: 04.97
Over-voltage category	IV
Rated surge voltage	6 kV
Contamination level	2
Rated voltage	300 V
Test voltage	2 kV
Safe isolation acc. to DIN EN 50 178 between	Supply circuit - control circuit/alarm circuit (only for AC units) Supply circuit - enable circuit Control circuit/alarm circuit - enable circuit Basic insulation between alarm circuit and control circuit
Supply circuit	
Rated voltage U_N	12 V DC, 24 V DC 24 V AC, 115 - 120 V AC, 230 V AC
Residual ripple, DC supply	2.4 V _{SS}
Rated consumption	
DC supply, SNO 5001K	1.1 W
DC supply, SNO 5001.1K	0.8 W
AC supply, SNO 5001K	2.4 W / 3.0 VA
AC supply, SNO 5001.1K	1.5 W / 1.7 VA
Operating range	0.85 to 1.1 U_N
Fusing	
DC supply	PTC resistor
AC supply	Short-circuit-proof transformer
Control circuit	
Output Y1	
Rated output voltage / non-load voltage	22 V- / < 40 V-
Inputs Y2 and Y3	
Rated current / peak current	45 mA / 200 mA
Times	
t_R , K1 and K2	25 ms
t_{A1} , input Y3	30 ms
t_{A2} , input Y2	300 ms
t_B , standby time	max. 300 ms
t_W , recovery time	max. 200 ms
Output circuits	
Enable contact	1 N/O, undelayed
Contact type	Single contact, positively driven
Contact material	Ag Ni 10 + 0.2 µm Au
Max. continuous current I_n / contact fusing	6 A / 6.3 A fast-acting or 4 A slow-acting
Rated switching voltage U_n	250 V- / 250 V-
Application category acc. to DIN VDE 0660 part 200: 07.92	AC-15: $U_e = 230 V$, $I_e = 1 A$ DC-13: $U_e = 24 V$, $I_e = 1 A$
Alarm contact Y23/Y24 for SNO 5001K	1 N/O, undelayed
Contact type	Single contact
Contact material	Ag Ni 90/10
Max. continuous current I_n	5 A
Rated switching voltage U_n	250 V- / 250 V-
Application category acc. to DIN VDE 0660 part 200: 07.92	AC-15: $U_e = 230 V$, $I_e = 3 A$ DC-13: $U_e = 24 V$, $I_e = 0.1 A$
Alarm semi-conductor H1/H2 for SNO 5001.1K	NPN, short-circuit-proof N/O with polarity protection diode
Max. switching voltage	30 V-
Max. switching current	20 mA
LED indicators (green)	
SUPPLY	Supply voltage ON
K1, K2	Relays K1 and K2 are switched, enable activated
Standards	
DIN VDE 0110-1:1997	DIN EN 60439-1:2000
DIN EN 954-1:1997	DIN EN 60529:2000
DIN EN 50178:1998	DIN EN 60947-1:1999
DIN EN 60204-1:1998	DIN EN 60947-5-1:2000

Subject to Change

SCHLEICHER GmbH & Co.
RELAIS-WERKE KG
Pichelswerderstraße 3-5
D-13597 Berlin

Tel: 030 33005 – 0 Fax: 030 33005 - 378
Hotline 030 33005 - 304
www.schleicher-de.com
info@schleicher-de.com