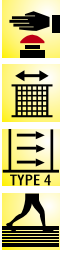


Basic device – SNO 4062K/KM



Function

SNO 4062K

The device is a two-channel switching device for emergency stop applications with self-monitoring on each ON-OFF cycle. It complies with EN 60204-1 and is equipped with forcibly guided relays.

Basic function:

With supply voltage applied to terminals A1/A2 and the safety inputs closed, pressing the reset button closes the enabling current paths (manual start). When the safety inputs are opened/de-energized the enabling current paths will open.

Operating modes / system functions

- **Single or two-channel control** With single-channel control both CH1 and CH2 safety channels are connected in parallel; with two-channel control they are switched separately.
- **Without cross monitoring** Both safety channels are switched to the positive potential (S12 and S31 to S11).
- **With cross monitoring** Safety channel CH1 is switched to positive potential (S11 to S12), and safety channel CH2 to negative potential (S21 to S22).
- **Manual start** When the safety inputs are closed, a button is used to open reset input S34 (triggering with falling edge) or to close reset input S35 (triggering with rising edge).
- **Automatic start** Reset input S35 is connected to S33. The device starts with the rising edge of the signal on safety input S12.
- **Start inhibit** After supply voltage has been applied and the safety inputs closed, the enabling paths will not close. Starting is only possible after the reset button has been operated. For start inhibit the reset inputs have to be controlled with the button, as with manual start mode.
- **Restart inhibit** No restart after the safety inputs have been opened and closed. Restarting is only possible after the reset button has been operated. For restart inhibit the reset inputs have to be activated with the button, as in manual start mode.
- **Semiconductor compatible** OSSD (output signal switching devices) signals from a light curtain or other safety sensors with semiconductor outputs can be processed. Test pulses $< t_{TP}$ do not influence the device functions. Test pulses $> t_{TP}$ can lock the device.

Applications

- Protection of people and machinery
- Monitoring of emergency stop applications
- Monitoring of safety gates
- Monitoring of light barriers
- Up to PL e/Category 4 (EN ISO 13849-1)
- Up to SIL_{CL} 3 (EN 62061)

Features

- Stop Category 0 according to EN 60204-1
- Reset button monitoring
- Manual or automatic start
- Single-channel or two-channel control
- Cross monitoring
- 2 enabling current paths, 1 signal current path

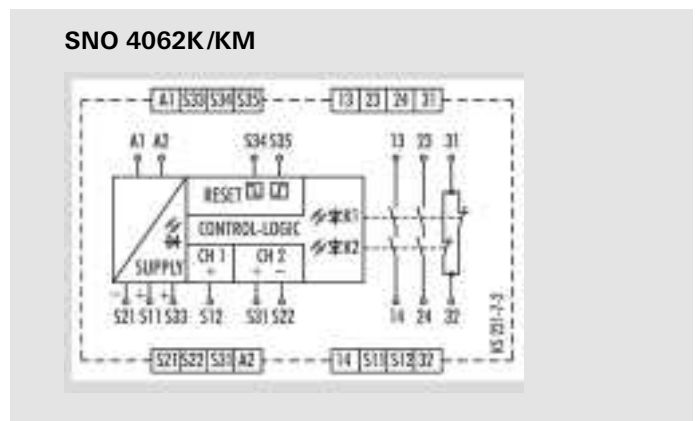
SNO 4062KM

The function of this device corresponds to that of the SNO 4062K without synchrocheck. The device is suitable for connecting to light curtains for Type 4 (EN 61496-1) and connecting to short-circuit forming 4-wire safety mats, switching strips or switching edges (without monitoring resistance).

- **Safety mats** The device must be operated with two channels and cross monitoring. If there is resistance $< 50 \Omega$ / channel and a short circuit between the channels (S11/S12 and S21/S22) the enabling paths open and the SUPPLY LEDs flashes.
- **Light curtain for Type 4 (EN 61496-1)** The device will be operated with two channels and without cross monitoring, if the light curtain connected to the OSSD detects a shunt fault on its own.

For applications with tactile operating modes (rapid ON-OFF cycles, for example with manual supply) we recommend using SNO 4062KM.

Circuit diagram




Basic device – SNO 4062K/KM

Overview of devices | part numbers

Type	Rated voltage	Terminals	Part no.	Std. pack
SNO 4062K	24 V AC/DC	Screw terminals, fixed	R1.188.0690.2	1
SNO 4062K-A	24 V AC/DC	Screw terminals, pluggable	R1.188.0700.2	1
SNO 4062KM	24 V AC/DC	Screw terminals, fixed	R1.188.0710.2	1
SNO 4062KM-A	24 V AC/DC	Screw terminals, pluggable	R1.188.0720.2	1
SNO 4062K-C	24 V AC/DC	Cage clamp, pluggable	R1.188.2000.0	1

Technical data

Function	Emergency stop relay	
Function display	3 LEDs, green	
Power supply circuit		
Rated voltage U_N	A1, A2	24 V AC/DC
Rated consumption	24 V DC (K / KM)	2.0 W / 2.1 W
Rated frequency		50 - 60 Hz
Operating voltage range U_B		0,85 - 1,1 x U_N
Electrical isolation supply circuit - control circuit		no
Control circuit		
Rated output voltage	S11, S33/S21	22 V DC
Input current / peak current	S12, S31/S22	40 mA / 100 mA
	S34, S35	5 mA / 50 mA
Response time t_{A1} / t_{A2}		40 ms / 500 ms (KM: 40 ms / 80 ms)
Minimum ON time t_M		50 ms
Recovery time t_w		150 ms
Release time t_R		15 ms
Synchronous time t_s		200 ms (CH1 → CH2)
Permissible test pulse time t_{TP}		< 1ms
Max. resistivity, per channel ¹⁾		$\leq (5 + (1.176 \times U_B / U_N - 1) \times 100) \Omega$
Output circuit		
Enabling paths	13/14, 23/24	normally open contact
Signaling paths	31/32	normally closed contact
Contact assignment		forceably guided
Contact type		Ag-alloy, gold-plated
Rated switching voltage	enabling / signaling path	230 V AC
Max. thermal current I_{th}	enabling / signaling path	6 A / 3 A
Max. total current I^2 of all current path	($T_u = 55^\circ\text{C}$)	9 A ²
Application category (NO)	AC-15	U_o 230 V, I_o 3 A
	DC-13	U_o 24 V, I_o 2.5A
Short-circuit protection (NO), lead fuse / circuit breaker		6 A class gG / melting integral < 100 A ² s
Mechanical life		10 ⁷ switching cycles
General data		
Creepage distances and clearances between the circuits		EN 60664-1
Protection degree according to DIN EN 60529 (housing / terminals)		IP40 / IP20
Ambient temperature / storage temperature		-25 °C - +55 °C / -25 °C - + 75 °C
Wire ranges screw terminals,	fine-stranded / solid	1 x 0.14 mm ² – 2.5 mm ² / 2 x 0.14 mm ² – 0.75 mm ²
	fine-stranded with ferrules	1 x 0.25 mm ² – 2.5 mm ² / 2 x 0.25 mm ² – 0.5 mm ²
Permissible torque		0.5 - 0.6 Nm
Wire ranges cage clamp terminals		1 x 0.25 mm ² – 1.5 mm ²
Weight	24 V AC/DC device / AC device	0.21 kg
Standards		EN ISO 13849-1, EN 62061
Approvals		

¹⁾ If two-channel devices are installed as single channel, the value is halved.