

SNO 4062K/KM

MONITORING OF EMERGENCY STOP, SAFETY GATES AND LIGHT BARRIERS



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

FUNCTION

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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.

- **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.

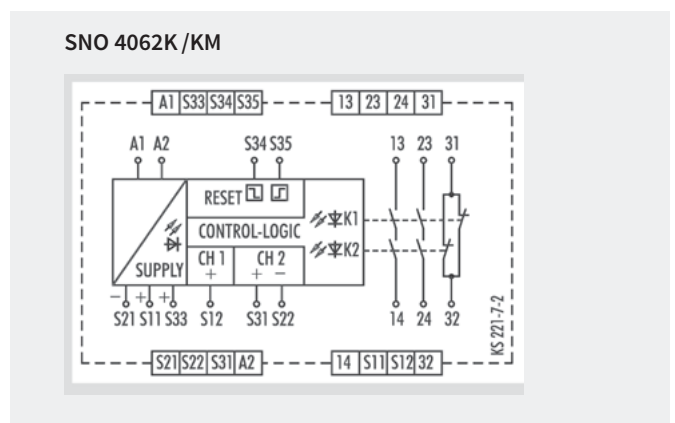
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The function of this device corresponds to that of the SNO 4062K without synchrocheck. The device is suitable for connecting to light curtains for Type 4 (EN 61496-1) and connecting to short-circuit forming 4-wire safety mats, switching strips or switching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





OVERVIEW OF DEVICES | PART NUMBERS

Type	Rated voltage	Terminals	Part no.	P.U.
SNO 4062K-A	24 V AC/DC	Screw terminals, pluggable	R1.188.0700.2	1
SNO 4062KM-A	24 V AC/DC	Screw terminals, pluggable	R1.188.0720.2	1
SNO 4062K-C	24 V AC/DC	Push-in terminals, 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		< 25 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		forcebly 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	($T_u = 55^\circ C$)	$9 A^2$
Application category (NO)	AC-15	$U_e 230 V, I_e 3 A$
	DC-13	$U_e 24 V, I_e 2.5 A$
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 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	$1 \times 0.2 \text{ mm}^2 - 2.5 \text{ mm}^2 / 2 \times 0.2 \text{ mm}^2 - 1.0 \text{ mm}^2$
	fine-stranded with ferrules	$1 \times 0.25 \text{ mm}^2 - 2.5 \text{ mm}^2 / 2 \times 0.25 \text{ mm}^2 - 1.0 \text{ mm}^2$
Permissible torque		0.5 - 0.6 Nm
Wire ranges push-in terminals		$1 \times 0.25 \text{ mm}^2 - 1.5 \text{ mm}^2$
Weight	24 V AC/DC device / AC device	0.21 kg
Standards		EN ISO 13849-1, EN 62061
Approvals		DGUV, cULus, CCC

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