

# SNO 4062K/KM

## Monitoring of emergency stop, safety gates and light barriers



### 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.

- **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.

### 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<sub>CL</sub> 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

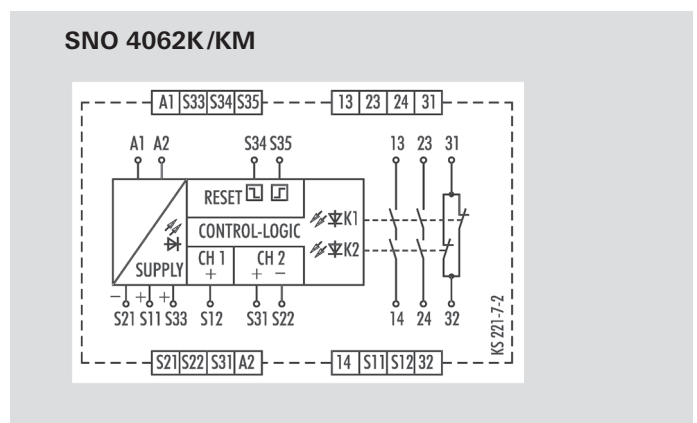
#### SNO 4062KM

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 Ω / 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.	Std. pack
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

<b>Function</b>		Emergency stop relay
Function display		3 LEDs, green
<b>Power supply circuit</b>		
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
<b>Control circuit</b>		
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 <sup>1)</sup>		$\leq (5 + (1.176 \times U_B / U_N - 1) \times 100) \Omega$
<b>Output circuit</b>		
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	( $T_u = 55 \text{ }^\circ\text{C}$ )	9 A <sup>2</sup>
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 <sup>2</sup> s
Mechanical life		10 <sup>7</sup> switching cycles
<b>General data</b>		
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 x 0.2 mm <sup>2</sup> – 2.5 mm <sup>2</sup> / 2 x 0.2 mm <sup>2</sup> – 1.0 mm <sup>2</sup>
	fine-stranded with ferrules	1 x 0.25 mm <sup>2</sup> – 2.5 mm <sup>2</sup> / 2 x 0.25 mm <sup>2</sup> – 1.0 mm <sup>2</sup>
Permissible torque		0.5 - 0.6 Nm
Wire ranges push-in terminals		1 x 0.25 mm <sup>2</sup> – 1.5 mm <sup>2</sup>
Weight	24 V AC/DC device / AC device	0.21 kg
Standards		EN ISO 13849-1, EN 62061
Approvals		DGUV, cULus, CCC

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