

Basic device – SNA 4063K/KM, SNA 4064K/KM



Applications

- 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
- Single-channel or two-channel control
- Manual reset with monitoring
- Cross monitoring
- 3 to 4 enabling current paths

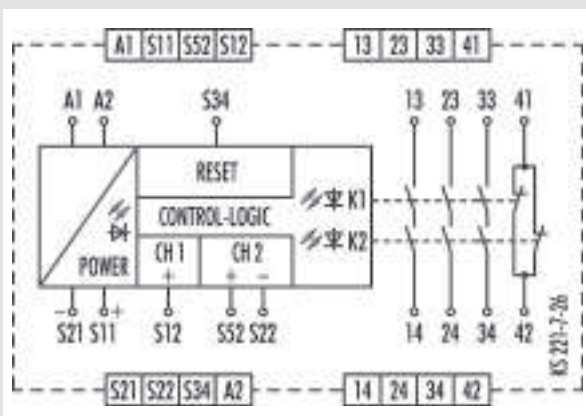
Function

After the supply voltage is applied to terminals A1/A2 and the safety inputs are closed, the enabling current paths (NO contacts) are closed and the signal current path (NC contact) is opened by pressing the reset button (manual start with monitoring). When the safety inputs are opened/de-energized, the enabling current paths (NO contacts) are opened immediately.

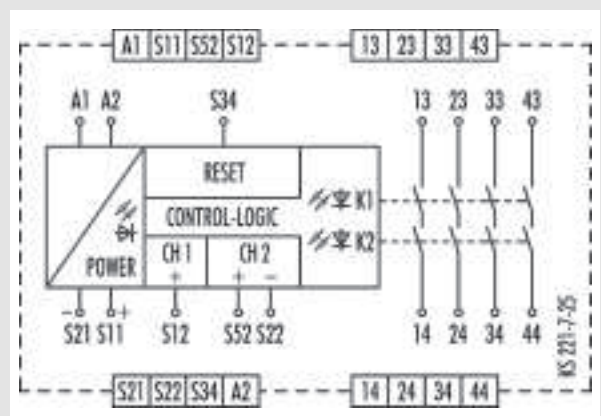
- **Manual start with monitoring** – Reset input S34 is connected to safety input S11 via a RESET button. To monitor external contact blocks (EDM), their NC contacts must be connected in series to the RESET button.
- **Monitoring of light curtains** – The KM device types are especially suitable for the monitoring of very fast tactile switching operations, for example in safety light curtain applications. Very short switch-off procedures of a few milliseconds are detected reliably and lead to the switching off of the internal relays.

Circuit diagram

SNA 4063K/KM



SNA 4064K/KM

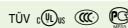


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Overview of devices | part numbers

| Type | Rated voltage | Terminals | Part no. | Std. pack |
|--------------|---------------|----------------------------|---------------|-----------|
| SNA 4063K | 24 V AC/DC | Screw terminals, fixed | R1.188.1620.0 | 1 |
| SNA 4063K | 42-48 V AC | Screw terminals, fixed | R1.188.1720.0 | 1 |
| SNA 4063K | 115-120 V AC | Screw terminals, fixed | R1.188.1420.0 | 1 |
| SNA 4063K | 230 V AC | Screw terminals, fixed | R1.188.1430.0 | 1 |
| SNA 4063K-A | 24 V AC/DC | Screw terminals, pluggable | R1.188.1440.0 | 1 |
| SNA 4063K-A | 42-48 V AC | Screw terminals, pluggable | R1.188.1850.0 | 1 |
| SNA 4063K-A | 115-120 V AC | Screw terminals, pluggable | R1.188.1450.0 | 1 |
| SNA 4063K-A | 230 V AC | Screw terminals, pluggable | R1.188.1460.0 | 1 |
| SNA 4063K-C | 24 V AC/DC | Cage clamp, pluggable | R1.188.1950.0 | 1 |
| SNA 4063KM | 24 V AC/DC | Screw terminals, fixed | R1.188.3140.0 | 1 |
| SNA 4063KM-A | 24 V AC/DC | Screw terminals, pluggable | R1.188.3290.0 | 1 |
| SNA 4063KM-C | 24 V AC/DC | Cage clamp, pluggable | R1.188.3420.0 | 1 |
| SNA 4064K | 24 V AC/DC | Screw terminals, fixed | R1.188.1770.0 | 1 |
| SNA 4064K | 42-48 V AC | Screw terminals, fixed | R1.188.1780.0 | 1 |
| SNA 4064K | 115-120 V AC | Screw terminals, fixed | R1.188.1790.0 | 1 |
| SNA 4064K | 230 V AC | Screw terminals, fixed | R1.188.1800.0 | 1 |
| SNA 4064K-A | 24 V AC/DC | Screw terminals, pluggable | R1.188.1900.0 | 1 |
| SNA 4064K-A | 42-48 V AC | Screw terminals, pluggable | R1.188.1910.0 | 1 |
| SNA 4064K-A | 115-120 V AC | Screw terminals, pluggable | R1.188.1920.0 | 1 |
| SNA 4064K-A | 230 V AC | Screw terminals, pluggable | R1.188.1930.0 | 1 |
| SNA 4064K-C | 24 V AC/DC | Cage clamp, pluggable | R1.188.1970.0 | 1 |
| SNA 4064KM | 24 V AC/DC | Screw terminals, fixed | R1.188.3210.0 | 1 |
| SNA 4064KM-A | 24 V AC/DC | Screw terminals, pluggable | R1.188.3360.0 | 1 |
| SNA 4064KM-C | 24 V AC/DC | Cage clamp, pluggable | R1.188.3430.0 | 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 / 42-48 V AC / 115-120 V AC / 230 V AC | |
| Rated consumption | 24V DC / 24 V AC | 1.6 W / 2.9 VA | |
| | 42-48V AC / 115-120V AC / 230 V AC | 2.3 W / 2.6 VA | |
| Rated frequency | 50 - 60 Hz | | |
| Operating voltage range U_B | 0.85 - 1.1 x U_N | | |
| Electrical isolation supply circuit - control circuit | yes (at $U_N = 42-48 V AC, 115-230 V AC, 230 V AC$) | | |
| Control circuit | | | |
| Rated output voltage | S11/S21 | 24 V DC | |
| Input current / peak current | S12, S52/S22 S34 | 25 mA / 100 mA 5 mA / 50 mA | |
| Response time t_{A1} / t_{A2} | 100 ms / --- | | |
| Minimum ON time t_M | 100 ms | | |
| Recovery time t_w | 750 ms | | |
| Release time t_R | 10 ms | | |
| Synchronous time t_s | no | | |
| Permissible test pulse time t_{TP} | < 1 ms | | |
| Max. resistivity, per channel ¹⁾ | 24V AC/DC | $\leq (5 + (1,176 \times U_B / U_N - 1) \times 100) \Omega$ | |
| | 42-48V AC / 115-120 V AC, 230 V AC | $\leq (5 + (1,176 \times U_B / U_N - 1) \times 100) \Omega$ | |
| Output circuit | SNA 4063K/KM | SNA 4064K/KM | |
| Enabling paths | 13/14, 23/24, 33/34 | 13/14, 23/24, 33/34, 43/44 | normally open contact |
| Signaling paths | 41/42 | --- | 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 | | 8 A / 5 A |
| Max. total current I^2 of all current path | (Tu = 55 °C) / (Tu = 65 °C) | | 25 A ² / 9 A ² |
| Application category (NO) | AC-15 DC-13 | | |
| 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 - +65 °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 bis 1.5 mm ² | | |
| Weight | 24 V AC/DC device / AC device | | 0-21 kg / 0-25 kg |
| Standards | EN ISO 13849-1, EN 62061, EN 81-1, EN 50156-1 | | |
| Approvals |  | | |

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