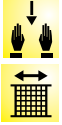


Basic device – SNZ 4052K



Applications

- Protection of people and machinery
- Monitoring of two-hand applications
- Monitoring of safety gates
- According to EN 574 Type IIIC
- 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
- Two-channel actuation; 1 NO contact and 1 NC contact for each channel
- Cross monitoring
- Monitoring of synchronous activation
- 2 enabling current paths, 1 signaling current path

Function

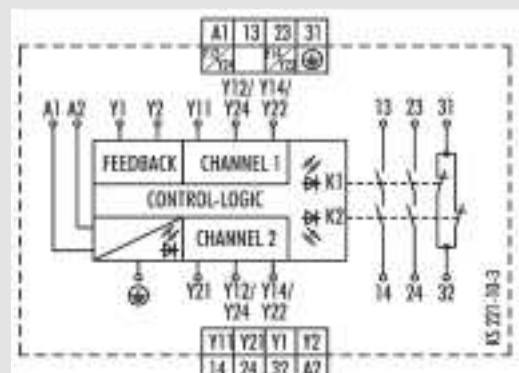
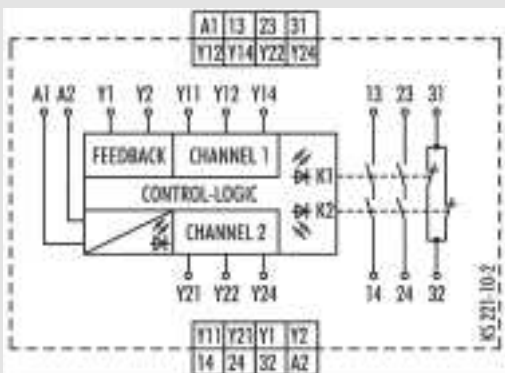
The device complies with EN 574 Type III C safety requirements. The safety behavior of the device is designed for applications according to Category 4 (EN 954-1). The device is single-fault safe and self-monitoring. Synchronous activation of both actuators (two-hand momentary contact or safety gate contacts) is monitored. Each of the two actuators is connected to the device with an NO contact and an NC contact. The technical design of the input circuit provides cross connection and ground fault monitoring. The output function is designed with 2 NO contacts as an enabling current path and 1 NC contact as signaling current path (all forcibly guided).

With supply voltage applied to terminals A1/A2 and the feedback loop (terminals Y1/Y2) closed, the enabling current paths are closed by simultaneously activating the actuators (S1+S2). Both actuators must be activated within 0.5 s for the output contacts to be enabled. If only one of the two actuators is released, the

device is immediately de-energized. The enabling current paths open. The device can be restarted only after both actuators have returned to their initial position (for example when the two-hand momentary contact switches have been released) and the feedback circuit is closed again. The feedback circuit should only be opened again after both actuators are activated. Otherwise the device will remain in the OFF position. The current status of the device is indicated by 3 LEDs: application of the supply voltage with LED SUPPLY, activation of both actuators with LED K1 and additionally with LED K2 in case of synchronous activation.

Circuit diagram

SNZ 4052K




Basic device – SNZ 4052K

Overview of devices | part numbers

| Type | Rated voltage | Terminals | Part no. | Std. pack |
|-------------|----------------|----------------------------|---------------|-----------|
| SNZ 4052K | 24 V AC/DC | Screw terminals, fixed | R1.188.0450.1 | 1 |
| | 115 – 120 V AC | Screw terminals, fixed | R1.188.0920.1 | 1 |
| | 230 V AC | Screw terminals, fixed | R1.188.0930.1 | 1 |
| SNZ 4052K-A | 24 V AC/DC | Screw terminals, pluggable | R1.188.0530.1 | 1 |
| | 115 – 120 V AC | Screw terminals, pluggable | R1.188.0940.1 | 1 |
| | 230 V AC | Screw terminals, pluggable | R1.188.0950.1 | 1 |
| SNZ 4052K-C | 24 V AC/DC | Cage clamp, pluggable | R1.188.2020.0 | 1 |

Technical data

| | | |
|---|---|--|
| Function | Two-hand control relay | |
| Function display | 3 LEDs, green | |
| Power supply circuit | | |
| Rated voltage U_N | A1, A2 | 24 V AC/DC, 115-120 V AC, 230 V AC |
| Rated consumption | 24 V DC | 2.4 W |
| | 115-120 V AC, 230 V AC | 2.2 W / 3.1 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 $U_N = 115-230$ V AC, 230 V AC) | |
| Control circuit | | |
| Rated output voltage | Y12/Y14, Y22/Y24, Y1 | 24 V DC |
| Input current / peak current | Y11, Y21 | 60 mA / 1000 mA |
| | Y2 | < 100 mA |
| Response time t_{A1} / t_{A2} | 40 ms | |
| Recovery time t_w | 250 ms | |
| Release time t_R | 50 ms | |
| Synchronous time t_s | ≤ 500 ms | |
| Max. resistivity, per channel | 24 V AC/DC | ≤ (2.5 + (1.176 x $U_B / U_N - 1$) x 50) Ω |
| | 115-120 V AC, 230 V AC | ≤ (2.5 + (1.176 x $U_B / U_N - 1$) x 50) Ω |
| Output circuit | | |
| Enabling paths | 13/14, 23/24 | normally open contact |
| Signaling paths | 31/32 | normally closed contact |
| Contact assignment | forcefully 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 / 2 A |
| Max. total current I^2 of all current path | ($T_u = 55$ °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 / lead fuse / < 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) | | |
| 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 | 0.20 kg / 0.25 kg | |
| Standards | EN ISO 13849-1, EN 62061, EN 574 | |
| Approvals |  | |