

SIRIUS SAFETY RELAY FOR SAFETY-ORIENTED
STANDSTILL MONITORING,
400V AC, 45.0MM, SCREW TERMINAL,
FK INSTANT.: 3NO 1NC, FK DELAYED: 0,
MK: 3, AUTO START, BASIC UNIT,
MAX. ACHIEV. CAT. EN954-1: 4,
MAX. ACHIEV. SIL TO IEC61508:3,

General technical details:

| | | |
|--|-----|------------------------------|
| Product brand name | | SIRIUS |
| product designation | | safety relays |
| Design of the product | | for safe stoppage monitoring |
| protection class IP / of the housing | | IP20 |
| Protection class IP / of the terminal | | IP20 |
| Protection against electrical shock | | finger-safe |
| Insulation voltage / rated value | V | 690 |
| Ambient temperature | | |
| • during storage | °C | -40 ... +75 |
| • during operating | °C | -25 ... +60 |
| Air pressure | | |
| • according to SN 31205 | kPa | 90 ... 106 |
| Relative humidity | | |
| • during operating phase | % | 10 ... 95 |
| Installation altitude / at a height over sea level / maximum | m | 2,000 |
| Resistance against vibration / according to IEC 60068-2-6 | | 10 ... 55 Hz: 0.35 mm |
| Resistance against shock | | 8g / 10 ms |
| Impulse voltage resistance / rated value | V | 6,000 |
| EMC emitted interference | | IEC 61000-6-2, IEC 61000-6-3 |

| | | |
|---|-----|------------------|
| Item designation | | |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 | | KT |
| • according to DIN EN 61346-2 | | F |
| Number of sensor inputs | | |
| • 1-channel or 2-channel | | 1 |
| Design of the cascading | | none |
| Type of the safety-related wiring / of the inputs | | measuring inputs |
| Product feature / transverse contact-secure | | No |
| safety Integrated Level / according to IEC 61508 | | SIL3 |
| SIL claim limit (for a subsystem) / according to EN 62061 | | 3 |
| Performance level (PL) / according to ISO 13849-1 | | e |
| Category / according to EN 954-1 | | 4 |
| Category / according to ISO 13849-1 | | 4 |
| Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061 | 1/h | 0.15E-8 |
| T1 value / for proof test interval or service life / according to IEC 61508 | a | 20 |
| Number of outputs / as contact-affected switching element | | |
| • as NC contact / for reporting function / instantaneous switching | | 2 |
| • as NO contact / safety-related / instantaneous switching | | 4 |
| • as NO contact / safety-related/ delayed switching | | 0 |
| Number of outputs / as contact-less semiconductor switching element | | |
| • safety-related | | |
| • delayed switching | | 0 |
| • non-delayed | | 0 |
| • for reporting function | | |
| • delayed switching | | 0 |
| • non-delayed | | 2 |
| Stop category / according to DIN EN 60204-1 | | 0 |

General technical details:

| | | |
|--|-----|-------|
| Design of the input | | |
| • cascading-entrance/operation-even switching | | No |
| • reducing-entrance | | Yes |
| • start-up entrance | | No |
| Design of the electrical connection / jumper socket | | Yes |
| Operating cycles / maximum | 1/h | 1,200 |
| Switching capacity current / of semiconductor outputs | | |
| • for signaling function / for DC-13 / at 24 V | A | 0.1 |

| | | |
|--|---|------------|
| Switching capacity current / of the NO contacts of the relay outputs | | |
| • at DC-13 | | |
| • at 24 V | A | 2 |
| • at AC-15 | | |
| • at 115 V | A | 3 |
| • at 230 V | A | 3 |
| Switching capacity current / of the NC contacts of the relay outputs | | |
| • at DC-13 | | |
| • at 24 V | A | 2 |
| • at AC-15 | | |
| • at 115 V | A | 2 |
| • at 230 V | A | 2 |
| Thermal current / of the contact-affected switching element / maximum | A | 5 |
| Electrical operating cycles as operating time / typical | | 200,000 |
| Mechanical operating cycles as operating time / typical | | 50,000,000 |
| Design of the fuse link / for short-circuit protection of the NO contacts of the relay outputs / required | | quick: 5 A |

Control circuit:

| | | |
|---|----|-------------|
| Type of voltage / of the controlled supply voltage | | AC |
| Control supply voltage frequency | | |
| • 1 / rated value | Hz | 50 |
| • 2 / rated value | Hz | 60 |
| Control supply voltage / 1 / at 50 Hz / for AC / rated value | V | 400 |
| Control supply voltage / 1 / at 60 Hz / for AC / rated value | V | 400 |
| Working range factor supply voltage rated value / of the magnet coil | | |
| • at 50 Hz | | |
| • for AC | | 0.8 ... 1.1 |
| • at 60 Hz | | |
| • for AC | | 0.8 ... 1.1 |

Installation/mounting/dimensions:

| | | |
|-----------------------------|----|----------------------------|
| Built in orientation | | any |
| Type of mounting | | screw and snap-on mounting |
| Width | mm | 45 |
| Height | mm | 138.5 |
| Depth | mm | 120 |

Connections:

| | | |
|--|--|--|
| Design of the electrical connection | | screw-type terminals |
| Type of the connectable conductor cross-section <ul style="list-style-type: none">• solid• finely stranded<ul style="list-style-type: none">• with wire end processing | | 1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) |
| Type of the connectable conductor cross-section / for AWG conductors <ul style="list-style-type: none">• solid• stranded | | 2x (24 ... 16) 2x (24 ... 16) |

Product Function:

| | | |
|---|--|---|
| Product function <ul style="list-style-type: none">• light barrier monitoring• standstill monitoring• protective door monitoring• automatic start• magnetic switch monitoring Normally closed contact-Normally open contact• rotation speed monitoring• laser scanner monitoring• monitored start-up• light grid monitoring• magnetic switch monitoring Normally closed contact-Normally closed contact• emergency stop function• step mat monitoring | | No Yes No No No No No No No No No No |
| Suitability for interaction / pressing control | | No |
| Acceptability for application <ul style="list-style-type: none">• safety cut-out switch• position switch monitoring• EMERGENCY-OFF circuit monitoring• opto-electronical protection device monitoring• magnetically operated switches monitoring• proximity switches monitoring• safety-related circuits | | Yes No No No No No Yes |

Certificates/approvals:

| | | |
|--|--|--|
| Verification of suitability <ul style="list-style-type: none">• TÜV (German technical inspectorate) certificate• UL-registration | | UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508 Yes Yes |
|--|--|--|

- BG BIA certificate

Yes

General Product Approval

Functional Safety / Safety of Machinery

Test Certificates



[ROSTEST](#)



[BG](#)

[TÜV](#)

[Manufacturer](#)

other

[Manufacturer](#)

Further information:

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

CAX-Online-Generator

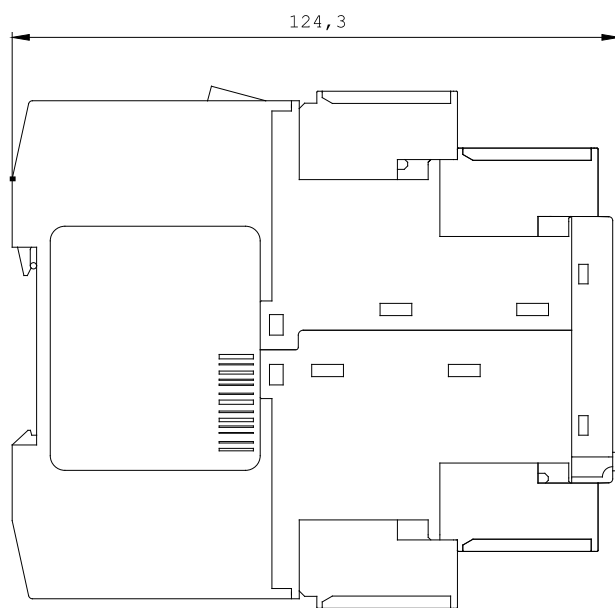
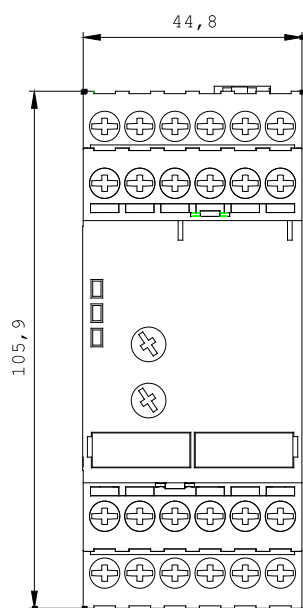
<http://www.siemens.com/cax>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3TK2810-0JA01/all>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3TK2810-0JA01



last change:

Dec 14, 2011