



SIRIUS SAFETY RELAY STANDARD SERIES DEVICE
 RELAY ENABLING CIRCUITS 3 NO CONTACTS + RELAY
 SIGNALING CIRCUIT 1 NC CONTACT US = 24 V AC/DC
 SCREW TERMINAL

| General technical data: | | |
|--|-----|------------------------------------|
| product brand name | | SIRIUS |
| Product designation | | safety relays |
| Design of the product | | For autonomous safety applications |
| protection type IP / of the enclosure | | IP20 |
| Protection against electrical shock | | finger-safe |
| Insulation voltage / rated value | V | 300 |
| Ambient temperature | | |
| • during storage | °C | -40 ... +80 |
| • 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 | | 5 ... 500 Hz: 0,75 mm |
| Resistance against shock | | 10g / 11 ms |
| Impulse voltage resistance / rated value | V | 4,000 |
| EMC emitted interference | | IEC 60947-5-1, IEC 61000 |

| | | |
|--|-----|--|
| Installation environment relating to EMC | | This product is suitable for Class B environments and can also be used in domestic environments. |
| Overvoltage class | | Installation category III |
| Degree of pollution | | 3 |
| Number of sensor inputs / 1-channel or 2-channel | | 1 |
| Design of the cascading | | none |
| Type of the safety-related wiring / of the inputs | | single-channel and two-channel |
| Product feature / transverse contact-secure | | Yes |
| Safety Integrity Level (SIL) • according to IEC 61508 | | SIL3 |
| Performance Level (PL) • according to EN ISO 13849-1 | | e |
| Category / according to EN ISO 13849-1 | | 4 |
| Safe failure fraction (SFF) | % | 99 |
| Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061 | 1/h | 0.17E-8 |
| Average probability of failure on demand (PFDavg) / with low demand rate / according to IEC 61508 | 1/y | 0.1E-5 |
| T1 value / for proof test interval or service life / according to IEC 61508 | a | 20 |
| Hardware fault tolerance / according to IEC 61508 | | 1 |
| Safety device type / according to IEC 61508-2 | | Type A |
| Number of outputs / as contact-affected switching element • as NC contact / for reporting function / instantaneous switching • as NO contact / for reporting function / instantaneous switching • as NC contact / for reporting function / delayed switching • as NO contact / for reporting function / delayed switching • as NC contact / safety-related / instantaneous switching • as NO contact / safety-related / instantaneous switching • as NC contact / safety-related / delayed switching | | 1 0 0 0 0 3 0 |
| Number of outputs / as contact-less semiconductor switching element • safety-related • delayed switching • non-delayed • for reporting function / non-delayed | | 0 0 0 |
| Stop category / according to DIN EN 60204-1 | | 0 |

General technical data:

Design of the input

| | |
|--|-----|
| • cascading-input/functional switching | No |
| • feedback input | Yes |

| | | |
|--|-----|---|
| • start input | | Yes |
| Design of the electrical connection / jumper socket | | No |
| Operating cycles / maximum | 1/h | 360 |
| Switching capacity current | | |
| • of the NO contacts of the relay outputs | | |
| • at DC-13 | | |
| • at 24 V | A | 5 |
| • at 115 V | A | 0.2 |
| • at 230 V | A | 0.1 |
| • at AC-15 | | |
| • at 115 V | A | 5 |
| • at 230 V | A | 5 |
| • of the NC contacts of the relay outputs | | |
| • at DC-13 | | |
| • at 24 V | A | 1 |
| • at 115 V | A | 0.2 |
| • at 230 V | A | 0.1 |
| • at AC-15 | | |
| • at 115 V | A | 1.5 |
| • at 230 V | A | 1.5 |
| Thermal current / of the contact-affected switching element / maximum | A | 5 |
| Mechanical operating cycles as operating time / typical | | 10,000,000 |
| Design of the fuse link / for short-circuit protection of the NO contacts of the relay outputs / required | | gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A |
| Design of the fuse insert / for short circuit protection of the NC contacts of the relay outputs / required | | Diazed or Neozed fuses, operating class gL/gG: 6 A or MCB type A: 2 A or MCB type B: 2 A or MCB type C: 1 A |
| Cable length | | |
| • for total of all sensor circuits / with Cu 1.5 mm ² and 150 nF/km / maximum | m | 2,000 |
| Make time / with automatic start | | |
| • typical | ms | 200 |
| • for DC / maximum | ms | 320 |
| • for AC / maximum | ms | 320 |
| Make time / with automatic start / after mains power cut | | |
| • typical | ms | 200 |
| • maximum | ms | 320 |
| Make time / with monitored start | | |
| • maximum | ms | 20 |
| • typical | ms | 15 |

| | | |
|--|----|-------|
| Backslide delay time / after opening of the safety circuits / typical | ms | 10 |
| Backslide delay time / at mains power cut | | |
| • typical | ms | 65 |
| • maximum | ms | 75 |
| Recovery time / after opening of the safety circuits / typical | ms | 10 |
| Recovery time / after mains power cut / typical | s | 0.09 |
| Pulse duration | | |
| • of the sensor input / minimum | ms | 150 |
| • of the ON pushbutton input / minimum | s | 0.015 |

Control circuit/ Control:

| | | |
|---|----|--------------|
| Voltage type / of control feed voltage | | AC/DC |
| Control supply voltage frequency | | |
| • 1 / rated value | Hz | 50 |
| • 2 / rated value | Hz | 60 |
| Control supply voltage | | |
| • for DC / rated value | V | 24 |
| • at 50 Hz / at AC / rated value | V | 24 |
| • at 60 Hz / at AC / rated value | V | 24 |
| Operating range factor control supply voltage rated value / of the magnet coil | | |
| • at 50 Hz | | 0.85 ... 1.1 |
| • for AC | | 0.85 ... 1.1 |
| • at 60 Hz | | 0.85 ... 1.1 |
| • for AC | | 0.85 ... 1.1 |
| • for DC | | 0.85 ... 1.2 |
| Active power loss / typical | W | 2 |

Installation/ mounting/ dimensions:

| | | |
|---|----|----------------------------|
| mounting position | | any |
| Distance, to be maintained, to earthed part / sideways | mm | 5 |
| Distance, to be maintained, to the ranks assembly / sideways | mm | 0 |
| Mounting type | | screw and snap-on mounting |
| Width | mm | 22.5 |
| Height | mm | 100 |
| Depth | mm | 121.6 |






Connections/ terminals:

| | | |
|--|--|----------------------|
| Design of the electrical connection | | screw-type terminals |
| Type of the connectable conductor cross-section | | |

| | |
|--|--|
| <ul style="list-style-type: none"> • solid • finely stranded • with wire end processing | 1x (0.5 ... 2.5 mm ²), 2x (1.0 ... 1.5 mm ²) |
| Type of the connectable conductor cross-sections / for AWG conductors <ul style="list-style-type: none"> • solid • stranded | 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (20 ... 14), 2x (18 ... 16) 1x (20 ... 16), 2x (20 ... 16) |

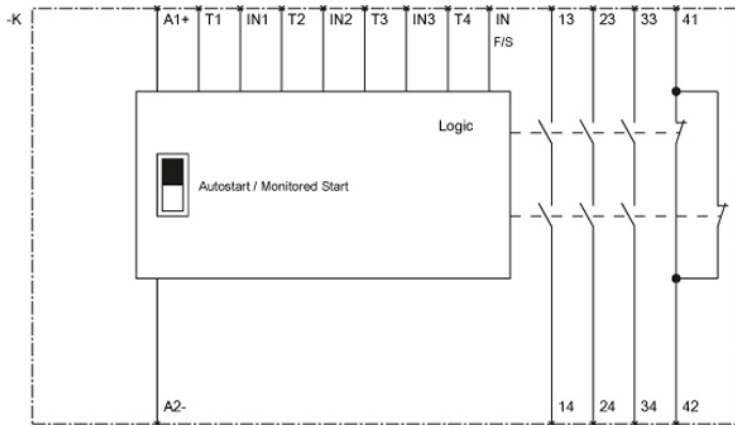
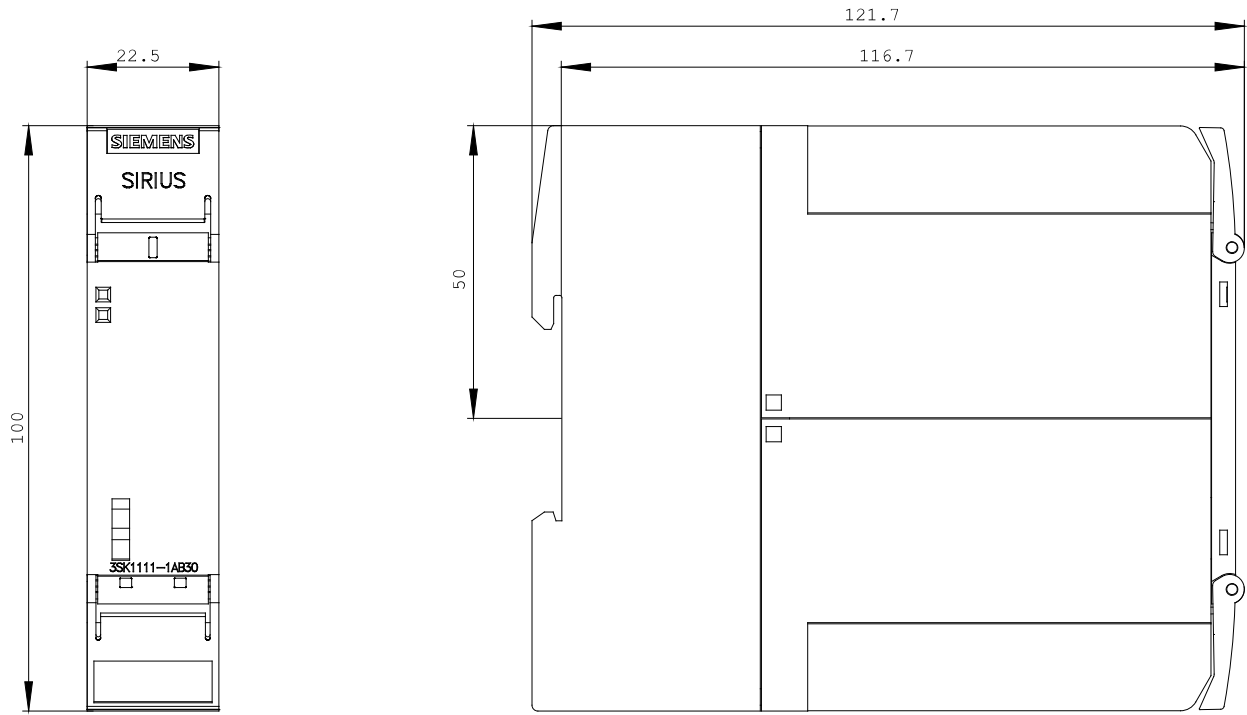
| Product Function: | |
|--|--|
| Product function / parameterizable | Sensor floating / sensor non-floating, monitored start / autostart |
| Suitability for use / device connector 3ZY12 | No |
| Suitability for interaction / pressing control | No |
| Suitability for use <ul style="list-style-type: none"> • safety cut-out switch • monitoring of floating sensors • monitoring of non-floating sensors • magnetically operated switches monitoring • safety-related circuits | Yes Yes Yes Yes Yes |

Certificates/ approvals:

| General Product Approval | EMC | Declaration of Conformity | Test Certificates |
|--|--|--|--|
|  CCC  CSA  UL |  C-TICK |  EG-Konf. | Type Test Certificates/Test Report |

Further information:

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|---|
| 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/WWW/view/en/3SK1111-1AB30/all |
| Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3SK1111-1AB30 |



last change:

Apr 14, 2014