








Figure similar

SIRIUS safety relay with relay enabling circuits (EC) 24 V DC, 45 mm overall width
 Spring-type terminal EC instantaneous: 2 NO EC delayed: 2NO, 0.05...3 s SC:
 1NC monitored start Basic device Maximum achieved SIL: 3/2, PL: e/d

| | |
|--|--|
| product brand name | SIRIUS |
| product designation | safety relays |
| design of the product | for EMERGENCY-STOP and safety doors |
| General technical data | |
| protection class IP of the enclosure | IP20 |
| protection class IP of the terminal | IP20 |
| touch protection against electrical shock | finger-safe |
| insulation voltage rated value | 300 V |
| ambient temperature | |
| • during storage | -40 ... +80 °C |
| • during operation | -25 ... +60 °C |
| air pressure according to SN 31205 | 90 ... 106 kPa |
| relative humidity during operation | 10 ... 95 % |
| installation altitude at height above sea level maximum | 2 000 m |
| vibration resistance according to IEC 60068-2-6 | 5 ... 500 Hz: 0,075 mm |
| shock resistance | 8g / 10 ms |
| surge voltage resistance rated value | 4 000 V |
| EMC emitted interference | EN 60947-5-1 |
| installation environment regarding EMC | This product is suitable for Class A environments only. In household environments, this device can cause unwanted radio interference. The user is required to implement appropriate measures in this case. |
| reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750 | KT |
| reference code according to 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 | single-channel and two-channel |
| product feature cross-circuit-proof | Yes |
| Safety Integrity Level (SIL) | |
| • according to IEC 61508 | 3 |
| • for delayed release circuit according to IEC 61508 | SIL2 |
| SIL Claim Limit (subsystem) according to EN 62061 | 3 |
| performance level (PL) | |
| • for delayed release circuit according to EN ISO 13849-1 | d |
| category according to EN ISO 13849-1 | 4 |
| hardware fault tolerance according to IEC 61508 | 1 |
| safety device type according to IEC 61508-2 | Type A |
| PFHD with high demand rate according to EN 62061 | 2.7E-9 1/h |
| Average probability of failure on demand (PFDavg) with low | 2.4E-6 1/y |

| | |
|---|----------------------------|
| demand rate acc. to IEC 61508 | |
| T1 value for proof test interval or service life according to IEC 61508 | 20 a |
| number of outputs as contact-affected switching element | |
| <ul style="list-style-type: none"> ● as NC contact <ul style="list-style-type: none"> — for signaling function instantaneous contact | 1 |
| <ul style="list-style-type: none"> ● as NO contact <ul style="list-style-type: none"> — safety-related instantaneous contact — safety-related delayed switching | 2 2 |
| number of outputs as contact-less semiconductor switching element | |
| <ul style="list-style-type: none"> ● safety-related <ul style="list-style-type: none"> — delayed switching — instantaneous contact ● for signaling function <ul style="list-style-type: none"> — delayed switching — instantaneous contact | 0 0 0 0 |
| stop category according to EN 60204-1 | 0 + 1 |
| Inputs | |
| design of input | |
| <ul style="list-style-type: none"> ● cascading input/functional switching ● feedback input ● start input | No Yes Yes |
| Outputs | |
| type of electrical connection plug-in socket | Yes |
| operating frequency maximum | 1 000 1/h |
| switching capacity current | |
| <ul style="list-style-type: none"> ● of the NO contacts of the relay outputs for delayed release circuit <ul style="list-style-type: none"> — at AC-15 at 230 V — at DC-13 at 24 V ● of the NO contacts of the relay outputs for instantaneous enabling circuit <ul style="list-style-type: none"> — at AC-15 at 230 V — at DC-13 at 24 V | 3 A 2 A 5 A 5 A |
| thermal current of the switching element with contacts maximum | 5 A |
| electrical endurance (operating cycles) typical | 100 000 |
| mechanical service life (operating cycles) typical | 10 000 000 |
| design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required | gL/gG: 6 A, or quick: 10 A |
| DC resistance of the cable maximum | 30 Ω |
| wire length between sensor and electronics evaluation device with Cu 1.5 mm² and 150 nF/km maximum | 1 000 m |
| Times | |
| make time with automatic start after power failure | |
| <ul style="list-style-type: none"> ● typical ● maximum | 8 000 ms 8 000 ms |
| make time with monitored start | |
| <ul style="list-style-type: none"> ● maximum | 80 ms |
| backslide delay time in the event of power failure | |
| <ul style="list-style-type: none"> ● maximum | 100 ms |
| recovery time after power failure typical | 200 ms |
| pulse duration | |
| <ul style="list-style-type: none"> ● of the sensor input minimum ● of the ON pushbutton input minimum | 25 ms 0.025 s |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | DC |
| control supply voltage 1 | |
| <ul style="list-style-type: none"> ● at DC rated value | 24 V |
| operating range factor control supply voltage rated value of magnet coil | |
| <ul style="list-style-type: none"> ● at AC | |

| | | | | | |
|---|---|---|---|---|--|
| — at 50 Hz | 0.85 ... 1.1 | | | | |
| — at 60 Hz | 0.85 ... 1.1 | | | | |
| ● at DC | 0.85 ... 1.1 | | | | |
| Installation/ mounting/ dimensions | | | | | |
| mounting position | any | | | | |
| fastening method | screw and snap-on mounting | | | | |
| width | 45 mm | | | | |
| height | 138.5 mm | | | | |
| depth | 120 mm | | | | |
| Connections/ Terminals | | | | | |
| type of electrical connection | screw-type terminals | | | | |
| type of connectable conductor cross-sections | | | | | |
| ● solid | 2x (0.25 ... 1.5 mm ²) | | | | |
| ● finely stranded | | | | | |
| — with core end processing | 2 x (0.25 ... 1.5 mm ²) | | | | |
| — without core end processing | 2x (0.25 ... 1.5 mm ²) | | | | |
| type of connectable conductor cross-sections for AWG cables | | | | | |
| ● solid | 2x (24 ... 16) | | | | |
| ● stranded | 2x (24 ... 16) | | | | |
| Product Function | | | | | |
| product function | | | | | |
| ● light barrier monitoring | No | | | | |
| ● standstill monitoring | No | | | | |
| ● protective door monitoring | No | | | | |
| ● automatic start | No | | | | |
| ● magnetically operated switch monitoring NC-NO | No | | | | |
| ● rotation speed monitoring | No | | | | |
| ● laser scanner monitoring | No | | | | |
| ● monitored start-up | Yes | | | | |
| ● light array monitoring | No | | | | |
| ● magnetically operated switch monitoring NC-NC | No | | | | |
| ● EMERGENCY OFF function | Yes | | | | |
| ● pressure-sensitive mat monitoring | Yes | | | | |
| suitability for interaction press control | No | | | | |
| suitability for use | | | | | |
| ● monitoring of floating sensors | Yes | | | | |
| ● monitoring of non-floating sensors | No | | | | |
| ● safety switch | Yes | | | | |
| ● position switch monitoring | Yes | | | | |
| ● EMERGENCY-OFF circuit monitoring | Yes | | | | |
| ● valve monitoring | No | | | | |
| ● tactile sensor monitoring | No | | | | |
| ● magnetically operated switch monitoring | No | | | | |
| ● safety-related circuits | Yes | | | | |
| Certificates/ approvals | | | | | |
| certificate of suitability | UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508 | | | | |
| ● TÜV (German technical inspectorate) certificate | Yes | | | | |
| ● UL approval | Yes | | | | |
| ● BG BIA approval | Yes | | | | |
| General Product Approval | EMC | Functional Safety/Safety of Machinery | | | |
|  |  |  |  |  | Type Examination Certificate |
| Test Certificates | other | | | | |

Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3TK2827-2BB41>

Cax online generator

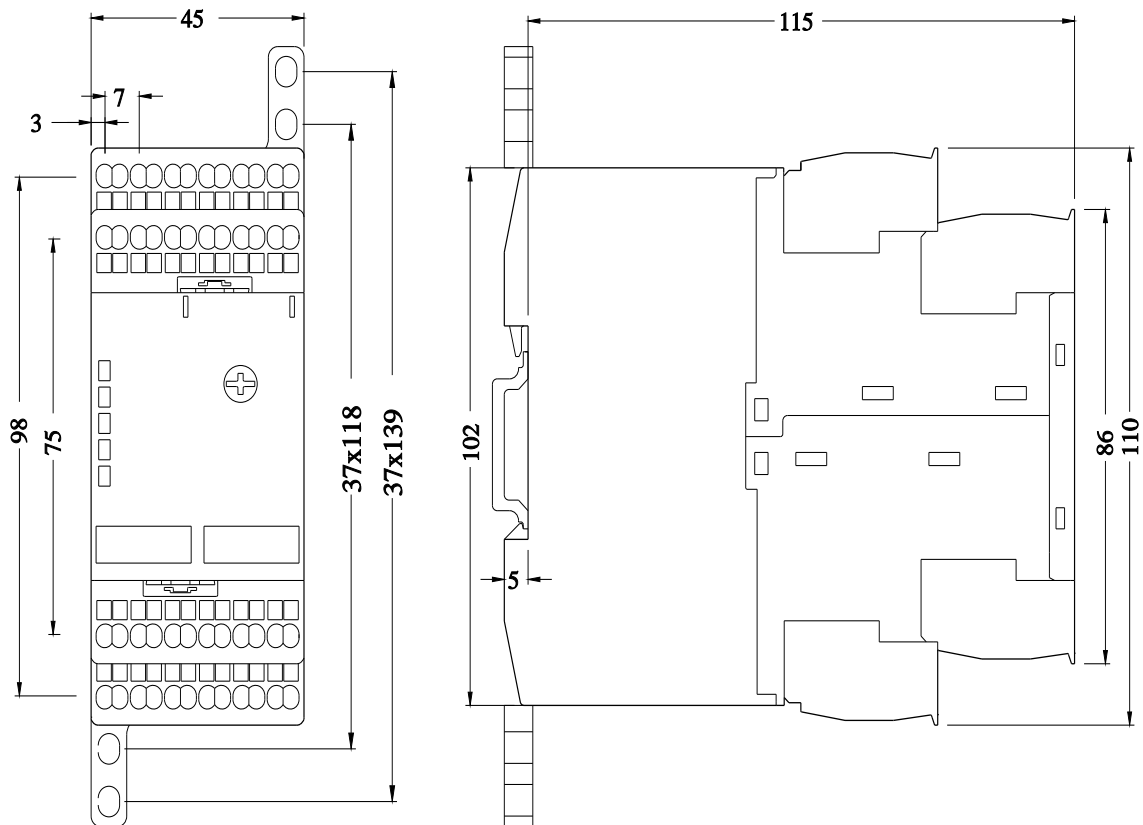
<http://support.automation.siemens.com/WWW/CAXorder/default.aspx?lang=en&mlfb=3TK2827-2BB41>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TK2827-2BB41>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK2827-2BB41&lang=en



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