

SIRIUS SAFETY RELAY BASIC UNIT ADVANCED SERIES WITH  
TIME DELAY 0.5-30S ELECTRONIC ENABLING CIRCUITS 2  
INSTANTANEOUS 2 DELAYED US = 24 V DC SPRING-LOADED  
TERMINAL



Figure similar

| General technical data:                                 |                                    |
|---------------------------------------------------------|------------------------------------|
| product brand name                                      | SIRIUS                             |
| Product designation                                     | Advanced basic units               |
| Design of the product                                   | For autonomous safety applications |
| Protection class IP of the enclosure                    | IP20                               |
| Protection against electrical shock                     | finger-safe                        |
| Insulation voltage rated value                          | 50 V                               |
| Ambient temperature                                     |                                    |
| • during storage                                        | -40 ... +80 °C                     |
| • during operation                                      | -25 ... +60 °C                     |
| Air pressure acc. to SN 31205                           | 90 kPa ... 106 kPa                 |
| Relative humidity during operation                      | 10 ... 95 %                        |
| Installation altitude at height above sea level maximum | 2 000 m                            |
| Vibration resistance acc. to IEC 60068-2-6              | 5 ... 500 Hz: 0,75 mm              |
| Shock resistance                                        | 10g / 11 ms                        |
| Surge voltage resistance rated value                    | 500 V                              |
| EMC emitted interference                                | IEC 60947-5-1, Class A             |

|                                                                           |                                                                                                                                                                                                        |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Installation environment regarding EMC</b>                             | This product is suitable for Class A environments only. It can cause undesired radio-frequency interference in residential environments. If this is the case, the user must take appropriate measures. |
| <b>Overvoltage category</b>                                               | 3                                                                                                                                                                                                      |
| <b>Degree of pollution</b>                                                | 3                                                                                                                                                                                                      |
| <b>Number of sensor inputs 1-channel or 2-channel</b>                     | 1                                                                                                                                                                                                      |
| <b>Design of the cascading</b>                                            | yes                                                                                                                                                                                                    |
| <b>Type of the safety-related wiring of the inputs</b>                    | single-channel and two-channel                                                                                                                                                                         |
| <b>Product feature cross-circuit-proof</b>                                | Yes                                                                                                                                                                                                    |
| <b>Safety Integrity Level (SIL)</b>                                       |                                                                                                                                                                                                        |
| • acc. to IEC 61508                                                       | SIL3                                                                                                                                                                                                   |
| • for delayed release circuit acc. to IEC 61508                           | SIL3                                                                                                                                                                                                   |
| <b>Performance level (PL)</b>                                             |                                                                                                                                                                                                        |
| • acc. to EN ISO 13849-1                                                  | e                                                                                                                                                                                                      |
| • for delayed release circuit acc. to EN ISO 13849-1                      | e                                                                                                                                                                                                      |
| <b>Category acc. to EN ISO 13849-1</b>                                    | 4                                                                                                                                                                                                      |
| <b>Safe failure fraction (SFF)</b>                                        | 99 %                                                                                                                                                                                                   |
| <b>PFHD with high demand rate acc. to EN 62061</b>                        | 0.0000000015 1/h                                                                                                                                                                                       |
| <b>PFDavg with low demand rate acc. to IEC 61508</b>                      | 0.000007                                                                                                                                                                                               |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 20 y                                                                                                                                                                                                   |
| <b>Hardware fault tolerance acc. to IEC 61508</b>                         | 1                                                                                                                                                                                                      |
| <b>Safety device type acc. to IEC 61508-2</b>                             | Type B                                                                                                                                                                                                 |
| <b>Number of outputs as contact-affected switching element</b>            |                                                                                                                                                                                                        |
| • as NC contact                                                           |                                                                                                                                                                                                        |
| — for signaling function instantaneous contact                            | 0                                                                                                                                                                                                      |
| — for signaling function delayed switching                                | 0                                                                                                                                                                                                      |
| — safety-related instantaneous contact                                    | 0                                                                                                                                                                                                      |
| — safety-related delayed switching                                        | 0                                                                                                                                                                                                      |
| • as NO contact                                                           |                                                                                                                                                                                                        |
| — for signaling function instantaneous contact                            | 0                                                                                                                                                                                                      |
| — for signaling function delayed switching                                | 0                                                                                                                                                                                                      |
| — safety-related instantaneous contact                                    | 0                                                                                                                                                                                                      |
| — safety-related delayed switching                                        | 0                                                                                                                                                                                                      |
| <b>Number of outputs as contact-less semiconductor switching element</b>  |                                                                                                                                                                                                        |
| • safety-related                                                          |                                                                                                                                                                                                        |
| — delayed switching                                                       | 2                                                                                                                                                                                                      |
| — instantaneous contact                                                   | 2                                                                                                                                                                                                      |

|                                                                                                              |              |
|--------------------------------------------------------------------------------------------------------------|--------------|
| • for signaling function instantaneous contact                                                               | 0            |
| <b>Stop category acc. to DIN EN 60204-1</b>                                                                  | 0 / 1        |
| <b>General technical data:</b>                                                                               |              |
| <b>Design of input</b>                                                                                       |              |
| • cascading input/functional switching                                                                       | Yes          |
| • feedback input                                                                                             | Yes          |
| • Start input                                                                                                | Yes          |
| <b>Type of electrical connection Plug-in socket</b>                                                          | No           |
| <b>Operating frequency maximum</b>                                                                           | 2 000 1/h    |
| <b>Switching capacity current</b>                                                                            |              |
| • of semiconductor outputs at DC-13 at 24 V                                                                  | 2 A          |
| <b>Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required</b> | not required |
| <b>Wire length</b>                                                                                           |              |
| • with Cu 1.5 mm <sup>2</sup> and 150 nF/km per sensor circuit maximum                                       | 4 000 m      |
| <b>Make time with automatic start</b>                                                                        |              |
| • at DC maximum                                                                                              | 85 ms        |
| <b>Make time with automatic start after power failure</b>                                                    |              |
| • typical                                                                                                    | 6 500 ms     |
| • maximum                                                                                                    | 6 500 ms     |
| <b>Make time with monitored start</b>                                                                        |              |
| • maximum                                                                                                    | 85 ms        |
| <b>Backslide delay time after opening of the safety circuits typical</b>                                     | 40 ms        |
| <b>Backslide delay time in the event of power failure</b>                                                    |              |
| • typical                                                                                                    | 0 ms         |
| • maximum                                                                                                    | 0 ms         |
| <b>Adjustable OFF-delay time after opening of the safety circuits</b>                                        | 0.5 ... 30   |
| <b>Recovery time after opening of the safety circuits typical</b>                                            | 30 ms        |
| <b>Recovery time after power failure typical</b>                                                             | 6.5 s        |
| <b>Pulse duration</b>                                                                                        |              |
| • of the sensor input minimum                                                                                | 60 ms        |
| • of the ON pushbutton input minimum                                                                         | 0.15 s       |
| <b>Control circuit/ Control:</b>                                                                             |              |
| <b>Type of voltage of the control supply voltage</b>                                                         | DC           |
| <b>Control supply voltage</b>                                                                                |              |
| • at DC                                                                                                      |              |
| — rated value                                                                                                | 24 V         |
| <b>Operating range factor control supply voltage rated value of magnet coil</b>                              |              |

|                                                                       |                                                                                                                                                                                                        |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • at DC                                                               | 0.8 ... 1.2                                                                                                                                                                                            |
| <b>Power loss [W] typical</b>                                         | 2 W                                                                                                                                                                                                    |
| <b>Installation/ mounting/ dimensions:</b>                            |                                                                                                                                                                                                        |
| <b>Mounting position</b>                                              | any                                                                                                                                                                                                    |
| <b>Required spacing for grounded parts at the side</b>                | 5 mm                                                                                                                                                                                                   |
| <b>Required spacing with side-by-side mounting at the side</b>        | 0 mm                                                                                                                                                                                                   |
| <b>Mounting type</b>                                                  | screw and snap-on mounting                                                                                                                                                                             |
| <b>Width</b>                                                          | 22.5 mm                                                                                                                                                                                                |
| <b>Height</b>                                                         | 100 mm                                                                                                                                                                                                 |
| <b>Depth</b>                                                          | 121.6 mm                                                                                                                                                                                               |
| <b>Connections/ Terminals:</b>                                        |                                                                                                                                                                                                        |
| <b>Type of electrical connection</b>                                  | Push-in terminal                                                                                                                                                                                       |
| <b>Type of connectable conductor cross-sections</b>                   |                                                                                                                                                                                                        |
| • solid                                                               | 1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )                                                                                                                                   |
| • finely stranded                                                     |                                                                                                                                                                                                        |
| — with core end processing                                            | 1x (0.5 ... 1.0 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )                                                                                                                                   |
| — without core end processing                                         | 1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )                                                                                                                                   |
| <b>Type of connectable conductor cross-sections at AWG conductors</b> |                                                                                                                                                                                                        |
| • solid                                                               | 1x (20 ... 16), 2x (20 ... 16)                                                                                                                                                                         |
| • stranded                                                            | 1x (20 ... 16), 2x (20 ... 16)                                                                                                                                                                         |
| <b>Product Function:</b>                                              |                                                                                                                                                                                                        |
| <b>Product function parameterizable</b>                               | Sensor floating / sensor non-floating, monitored start / autostart, 1-channel / 2-channel sensor connection, cross-circuit detection, startup testing, antivalent sensors, 2-hand switches, time delay |
| <b>Suitability for operation Device connector 3ZY12</b>               | Yes                                                                                                                                                                                                    |
| <b>Suitability for interaction press control</b>                      | Yes                                                                                                                                                                                                    |
| <b>Suitability for use</b>                                            |                                                                                                                                                                                                        |
| • safety switch                                                       | Yes                                                                                                                                                                                                    |
| • Monitoring of floating sensors                                      | Yes                                                                                                                                                                                                    |
| • Monitoring of non-floating sensors                                  | Yes                                                                                                                                                                                                    |
| • magnetically operated switch monitoring                             | Yes                                                                                                                                                                                                    |
| • safety-related circuits                                             | Yes                                                                                                                                                                                                    |
| <b>Certificates/approvals</b>                                         |                                                                                                                                                                                                        |

|                          |     |                                       |
|--------------------------|-----|---------------------------------------|
| General Product Approval | EMC | Functional Safety/Safety of Machinery |
|--------------------------|-----|---------------------------------------|



[Baumusterbescheinigung](#)

|                           |                   |                   |       |         |
|---------------------------|-------------------|-------------------|-------|---------|
| Declaration of Conformity | Test Certificates | Shipping Approval | other | Railway |
|---------------------------|-------------------|-------------------|-------|---------|



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#### Further information

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

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

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1122-2CB42>

**Cax online generator**

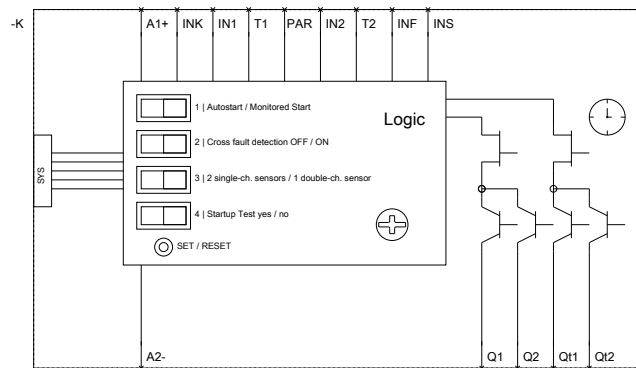
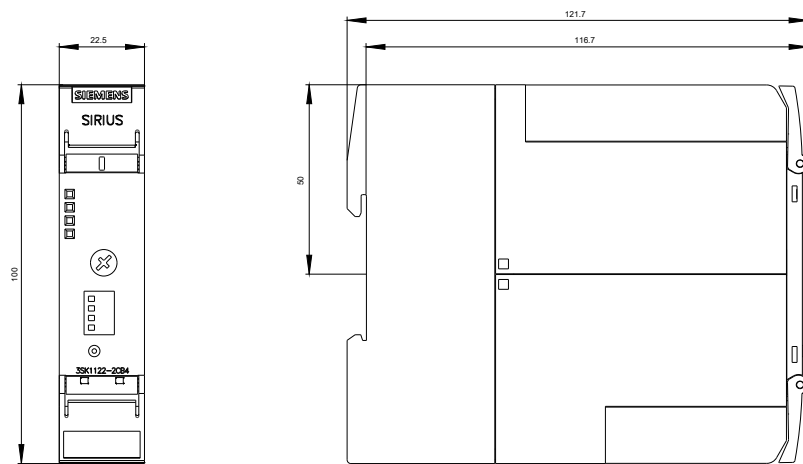
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1122-2CB42>

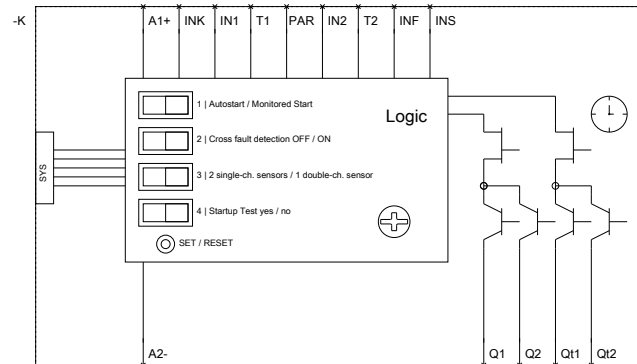
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3SK1122-2CB42>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK1122-2CB42&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1122-2CB42&lang=en)





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