



SIRIUS safety relay Basic unit Standard series Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact  $U_s = 24 \text{ V AC/DC}$  screw terminal

| General technical data   |  |
|--|--|
| product brand name   | SIRIUS   |
| product category   | Safety relays  |
| product designation  | safety relays  |
| design of the product  | Relay enabling circuits  |
| protection class IP of the enclosure                               | 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 acc. to SN 31205                                      | 900 ... 1 060 hPa  |
| 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                               | 4 000 V  |
| EMC emitted interference   | IEC 60947-5-1, IEC 61000   |
| installation environment regarding EMC                             | This product is suitable for Class B environments and can also be used in domestic environments. |
| overvoltage category   | 3  |
| degree of pollution  | 3  |
| reference code acc. to IEC 81346-2                                 | F  |
| power loss [W] maximum   | 2 W  |
| 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)                                       |  |
| • acc. to IEC 61508  | 3  |
| performance level (PL)   |  |
| • acc. to EN ISO 13849-1   | e  |
| category acc. to EN ISO 13849-1                                    | 4  |
| Safe failure fraction (SFF)  | 99 %   |
| PFHD with high demand rate acc. to EN 62061                        | 0.0000000017 1/h   |
| PFDavg with low demand rate acc. to IEC 61508                      | 0.000001   |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y   |
| hardware fault tolerance acc. to IEC 61508                         | 1  |

|  |  |
|--|--|
| <b>safety device type acc. to IEC 61508-2</b>  | Type A   |
| <b>number of outputs as contact-affected switching element</b>   |  |
| <ul style="list-style-type: none"> <li>● as NC contact <ul style="list-style-type: none"> <li>— for signaling function instantaneous contact</li> </ul> </li> </ul>  | 1  |
| <ul style="list-style-type: none"> <li>● as NO contact <ul style="list-style-type: none"> <li>— safety-related instantaneous contact</li> <li>— safety-related delayed switching</li> </ul> </li> </ul>  | 3<br>0   |
| <b>stop category acc. to DIN EN 60204-1</b>  | 0  |
| <b>General technical data</b>  |  |
| <b>design of input</b>   |  |
| <ul style="list-style-type: none"> <li>● cascading input/functional switching</li> <li>● feedback input</li> <li>● start input</li> </ul>  | No<br>Yes<br>Yes   |
| <b>type of electrical connection plug-in socket</b>  | No   |
| <b>operating frequency maximum</b>   | 360 1/h  |
| <b>switching capacity current</b>  |  |
| <ul style="list-style-type: none"> <li>● of the NO contacts of the relay outputs <ul style="list-style-type: none"> <li>— at DC-13 <ul style="list-style-type: none"> <li>— at 24 V</li> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> <li>— at AC-15 <ul style="list-style-type: none"> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> </ul> </li> <li>● of the NC contacts of the relay outputs <ul style="list-style-type: none"> <li>— at DC-13 <ul style="list-style-type: none"> <li>— at 24 V</li> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> <li>— at AC-15 <ul style="list-style-type: none"> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> </ul> </li> </ul> | 5 A<br>0.2 A<br>0.1 A<br><br>5 A<br>5 A<br><br>1 A<br>0.2 A<br>0.1 A<br><br>1.5 A<br>1.5 A                   |
| <b>thermal current of the switching element with contacts maximum</b>  | 5 A  |
| <b>operational current at 17 V minimum</b>   | 5 mA   |
| <b>total current maximum</b>   | 12 A   |
| <b>mechanical service life (switching cycles) typical</b>  | 10 000 000   |
| <b>design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required</b>   | gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A          |
| <b>design of the fuse link for short circuit protection of the NC contacts of the relay outputs required</b>   | Diazed or Neoazed 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 |
| <b>wire length</b>   |  |
| <ul style="list-style-type: none"> <li>● for total of all sensor circuits with Cu 1.5 mm<sup>2</sup> and 150 nF/km maximum</li> </ul>  | 2 000 m  |
| <b>make time with automatic start</b>  |  |
| <ul style="list-style-type: none"> <li>● typical</li> <li>● at DC maximum</li> <li>● at AC maximum</li> </ul>  | 200 ms<br>320 ms<br>320 ms   |
| <b>make time with automatic start after power failure</b>  |  |
| <ul style="list-style-type: none"> <li>● typical</li> <li>● maximum</li> </ul>   | 200 ms<br>320 ms   |
| <b>make time with monitored start</b>  |  |
| <ul style="list-style-type: none"> <li>● maximum</li> <li>● typical</li> </ul>   | 20 ms<br>15 ms   |
| <b>backslide delay time after opening of the safety circuits typical</b>   | 10 ms  |
| <b>backslide delay time in the event of power failure</b>  |  |
| <ul style="list-style-type: none"> <li>● typical</li> <li>● maximum</li> </ul>   | 65 ms<br>75 ms   |
| <b>recovery time after opening of the safety circuits typical</b>  | 10 ms  |

|   |  |                                       |
|---|--|---------------------------------------|
| <b>recovery time after power failure typical</b>                                | 0.09 s   |                                       |
| <b>pulse duration</b>   |  |                                       |
| • of the sensor input minimum   | 150 ms   |                                       |
| • of the ON pushbutton input minimum  | 0.015 s  |                                       |
| <b>Control circuit/ Control</b>   |  |                                       |
| <b>type of voltage of the control supply voltage</b>                            | AC/DC  |                                       |
| <b>control supply voltage frequency</b>   |  |                                       |
| • 1 rated value   | 50 Hz  |                                       |
| • 2 rated value   | 60 Hz  |                                       |
| <b>control supply voltage</b>   |  |                                       |
| • at DC   | 24 V   |                                       |
| — rated value   |  |                                       |
| • at AC   | 24 V   |                                       |
| — at 50 Hz  |  |                                       |
| — rated value   |  |                                       |
| — at 60 Hz  |  |                                       |
| — rated value   | 24 V   |                                       |
| <b>operating range factor control supply voltage rated value of magnet coil</b> |  |                                       |
| • at AC   | 0.85 ... 1.1   |                                       |
| — at 50 Hz  |  |                                       |
| — at 60 Hz  | 0.85 ... 1.1   |                                       |
| • at DC   | 0.85 ... 1.2   |                                       |
| <b>Installation/ mounting/ dimensions</b>                                       |  |                                       |
| <b>mounting position</b>  | any  |                                       |
| <b>required spacing for grounded parts at the side</b>                          | 5 mm   |                                       |
| <b>fastening method</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>  | screw-type terminals   |                                       |
| <b>type of connectable conductor cross-sections</b>                             |  |                                       |
| • solid   | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (1.0 ... 1.5 mm <sup>2</sup> ) |                                       |
| • finely stranded   |  |                                       |
| — with core end processing  | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |                                       |
| <b>type of connectable conductor cross-sections at AWG cables</b>               |  |                                       |
| • solid   | 1x (20 ... 14), 2x (18 ... 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   |                                       |
| <b>suitability for operation device connector 3ZY12</b>                         | No   |                                       |
| <b>suitability for interaction press control</b>                                | No   |                                       |
| <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 |



[Type Examination Certificate](#)

|                           |                   |                   |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|



[Type Test Certificates/Test Report](#)



|       |         |
|-------|---------|
| other | Railway |
|-------|---------|

[Confirmation](#)

[Confirmation](#)

**Further information**

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=3SK1111-1AB30>

Cax online generator

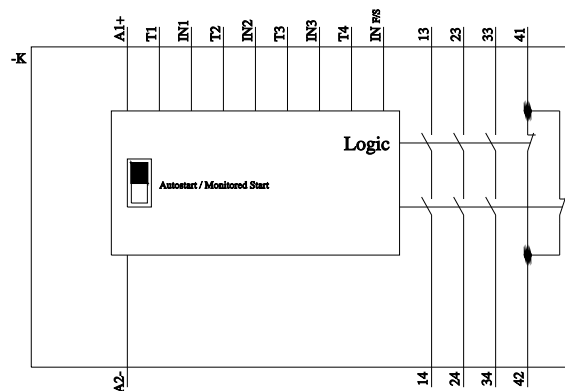
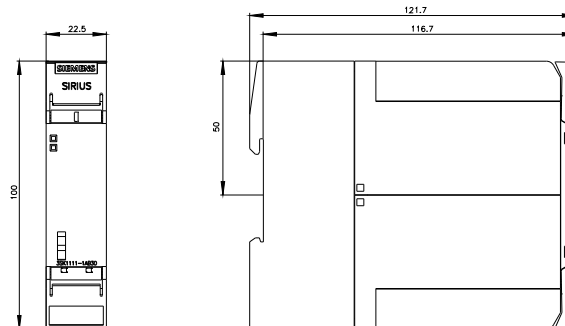
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1111-1AB30>

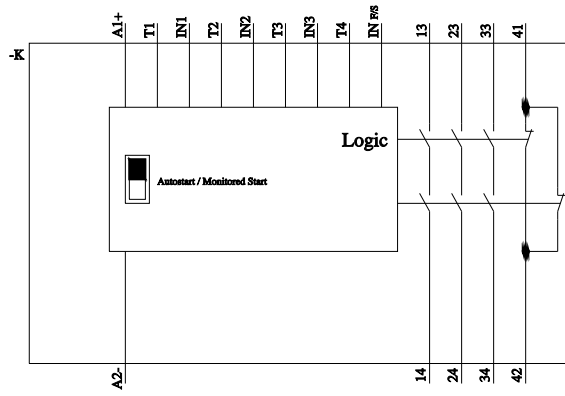
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3SK1111-1AB30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK1111-1AB30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1111-1AB30&lang=en)





last modified:

12/23/2020 