



SIRIUS safety relay Basic unit Advanced series with time delay 5-300 s Relay enabling circuits 2 NO instantaneous 2 NO delayed  $U_s = 24\text{ V DC}$  Spring-type terminal (push-in)

|   |  |
|---|--|
| product brand name  | SIRIUS   |
| product category  | Safety relays  |
| product designation   | safety relays  |
| design of the product   | Relay enabling circuits  |
| <b>General technical data</b>                                 |  |
| 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 according to SN 31205                            | 90 ... 106 kPa   |
| relative humidity during operation                            | 10 ... 95 %  |
| installation altitude at height above sea level maximum       | 4 000 m; Derating, see Product Notification 109792701  |
| vibration resistance according 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, Class A   |
| 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. |
| overvoltage category  | 3  |
| degree of pollution   | 3  |
| reference code according to IEC 81346-2                       | F  |
| power loss [W] maximum  | 2.5 W  |
| number of sensor inputs 1-channel or 2-channel                | 1  |
| design of the cascading                                       | yes  |
| 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 62061                                      | 3  |
| • according to IEC 61508                                      | 3  |
| • for delayed release circuit according to IEC 61508          | SIL3   |
| performance level (PL)  |  |
| • according to ISO 13849-1                                    | e  |
| • for delayed release circuit according to EN ISO 13849-1     | e  |
| category according to EN ISO 13849-1                          | 4  |
| Safe failure fraction (SFF)                                   | 99 %   |
| PFHD with high demand rate according to EN 62061              | 3.7E-9 1/h   |
| PFDavg with low demand rate according to IEC 61508            | 7E-6   |
| T1 value for proof test interval or service life according to | 20 a   |

|  |   |
|--|---|
| <b>IEC 61508</b>   |   |
| <b>hardware fault tolerance according to IEC 61508</b>   | 1   |
| <b>safety device type according to IEC 61508-2</b>   | Type B  |
| <b>Inputs/ Outputs</b>   |   |
| <b>number of outputs as contact-affected switching element</b>   |   |
| • as NO contact  |   |
| — safety-related instantaneous contact   | 2   |
| — safety-related delayed switching   | 2   |
| <b>stop category according to EN 60204-1</b>   | 0 / 1   |
| <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>   | 360 1/h   |
| <b>switching capacity current</b>  |   |
| • of the NO contacts of the relay outputs  |   |
| — at DC-13   |   |
| — at 24 V  | 3 A   |
| — at 115 V   | 0.2 A   |
| — at 230 V   | 0.1 A   |
| — at AC-15   |   |
| — at 115 V   | 3 A   |
| — at 230 V   | 3 A   |
| <b>thermal current of the switching element with contacts maximum</b>  | 5 A   |
| <b>total current maximum</b>   | 12 A  |
| <b>operational current at 17 V minimum</b>   | 5 mA  |
| <b>mechanical service life (operating 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>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  | 110 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  | 110 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  | 30 ms   |
| • maximum  | 40 ms   |
| <b>adjustable OFF-delay time after opening of the safety circuits</b>  | 5 ... 300   |
| <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  | 75 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>Installation/ mounting/ dimensions</b>  |   |

|   |                            |
|---|----------------------------|
| mounting position                               | any                        |
| required spacing for grounded parts at the side | 5 mm                       |
| fastening method                                | screw and snap-on mounting |
| width   | 22.5 mm                    |
| height  | 100 mm                     |
| depth   | 121.6 mm                   |

#### Connections/ Terminals

|  |  |
|--|--|
| type of electrical connection  | spring-loaded terminal (push-in)   |
| type of connectable conductor cross-sections <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul> | 1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>1x (0.5 ... 1.0 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )<br>1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| type of connectable conductor cross-sections for AWG cables <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>  | 1x (20 ... 16), 2x (20 ... 16)<br>1x (20 ... 16), 2x (20 ... 16)   |

#### Product Function

|   |   |
|---|---|
| product function parameterizable  | sensor floating / sensor non-floating, monitored start-up / automatic start, 1-channel / 2-channel sensor connection, cross-circuit detection, startup testing, antivalent sensors, 2-hand switches, time delay |
| suitability for operation device connector 3ZY12  | Yes   |
| suitability for interaction press control   | Yes   |
| suitability for use <ul style="list-style-type: none"> <li>• safety switch</li> <li>• monitoring of floating sensors</li> <li>• monitoring of non-floating sensors</li> <li>• magnetically operated switch monitoring</li> <li>• safety-related circuits</li> </ul> | Yes<br>Yes<br>Yes<br>Yes<br>Yes   |

#### Certificates/ approvals

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



[Confirmation](#)



[Type Examination Certificate](#)

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



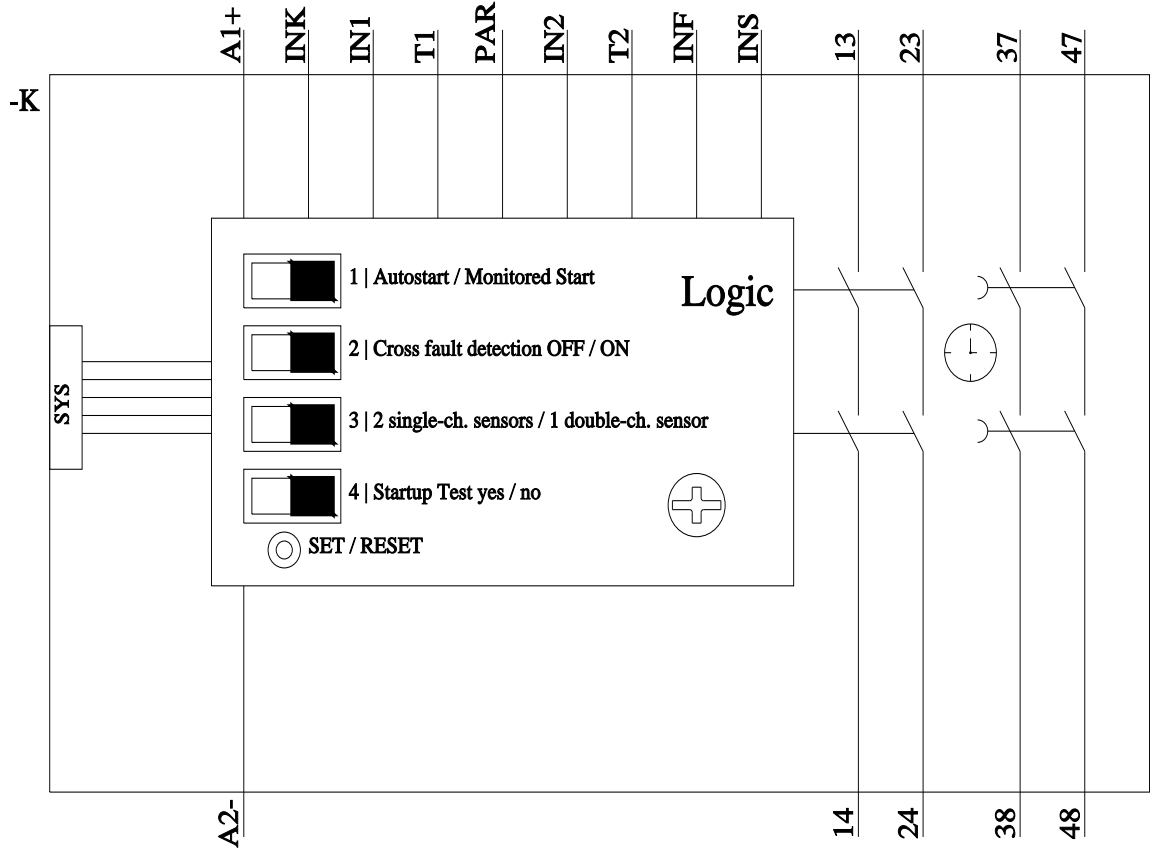
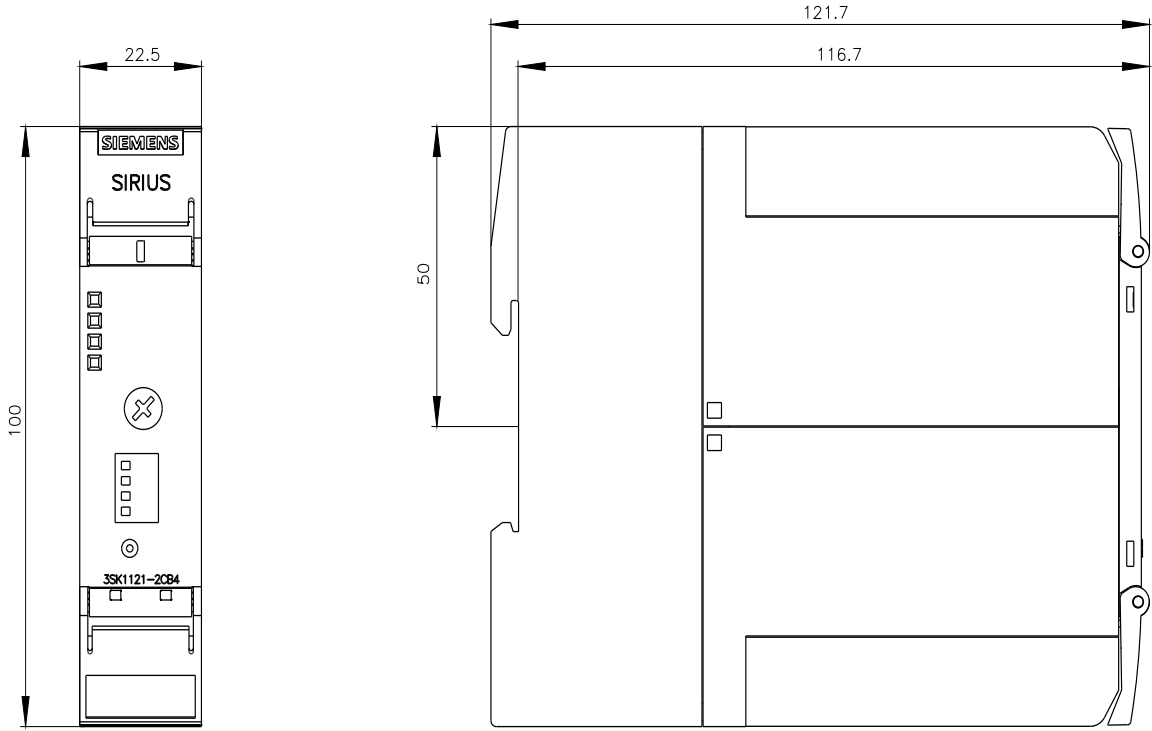
[Type Test Certificates/Test Report](#)

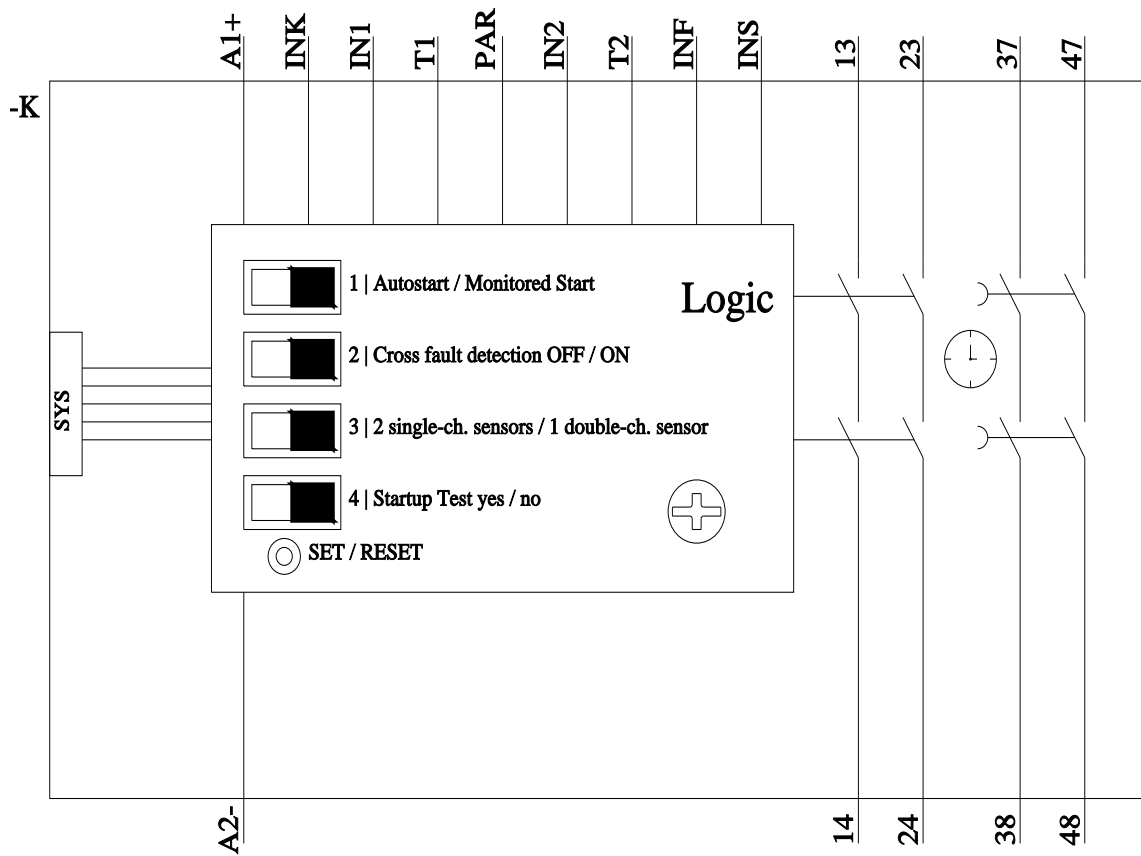


[Confirmation](#)

#### 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=3SK1121-2CB44>  
Cax online generator  
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1121-2CB44>  
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1121-2CB44>  
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK1121-2CB44&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1121-2CB44&lang=en)





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