



SIRIUS safety relay Basic unit Standard series electronic enabling circuits 2 enabling circuits plus 1 signaling circuit  $U_s = 24\text{ V DC}$  Spring-type terminal (push-in)

product brand name	SIRIUS
product category	Safety relays
product designation	safety relays
design of the product	Solid-state 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	50 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	800 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 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
performance level (PL)	
• according to 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	1E-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 IEC 61508	20 a
hardware fault tolerance according to IEC 61508	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	0
— safety-related delayed switching	0
<b>number of outputs as contact-less semiconductor switching element</b>	
• safety-related	
— instantaneous contact	2
• for signaling function instantaneous contact	1
<b>stop category according to EN 60204-1</b>	0
<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>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
— rated value	24 ... 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>	
<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>	91.6 mm
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	spring-loaded terminal (push-in)
<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 for AWG cables</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	1x (20 ... 16), 2x (20 ... 16) 1x (20 ... 16), 2x (20 ... 16)
<b>Product Function</b>	
<b>product function parameterizable</b>	sensor floating / sensor non-floating, monitored start-up / automatic start, 1-channel / 2-channel sensor connection, cross-circuit detection, startup testing
<b>suitability for operation device connector 3ZY12</b>	No
<b>suitability for interaction press control</b>	No
<b>suitability for use</b> <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 Yes Yes Yes Yes

#### Certificates/ approvals

<b>General Product Approval</b>	<b>EMC</b>
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[Confirmation](#)



<b>Functional Safety/Safety of Machinery</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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[Type Examination Certificate](#)



[Type Test Certificates/Test Report](#)



<b>Marine / Shipping</b>	<b>other</b>	<b>Railway</b>
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[Confirmation](#)

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#### 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=3SK1112-2BB40>

Cax online generator

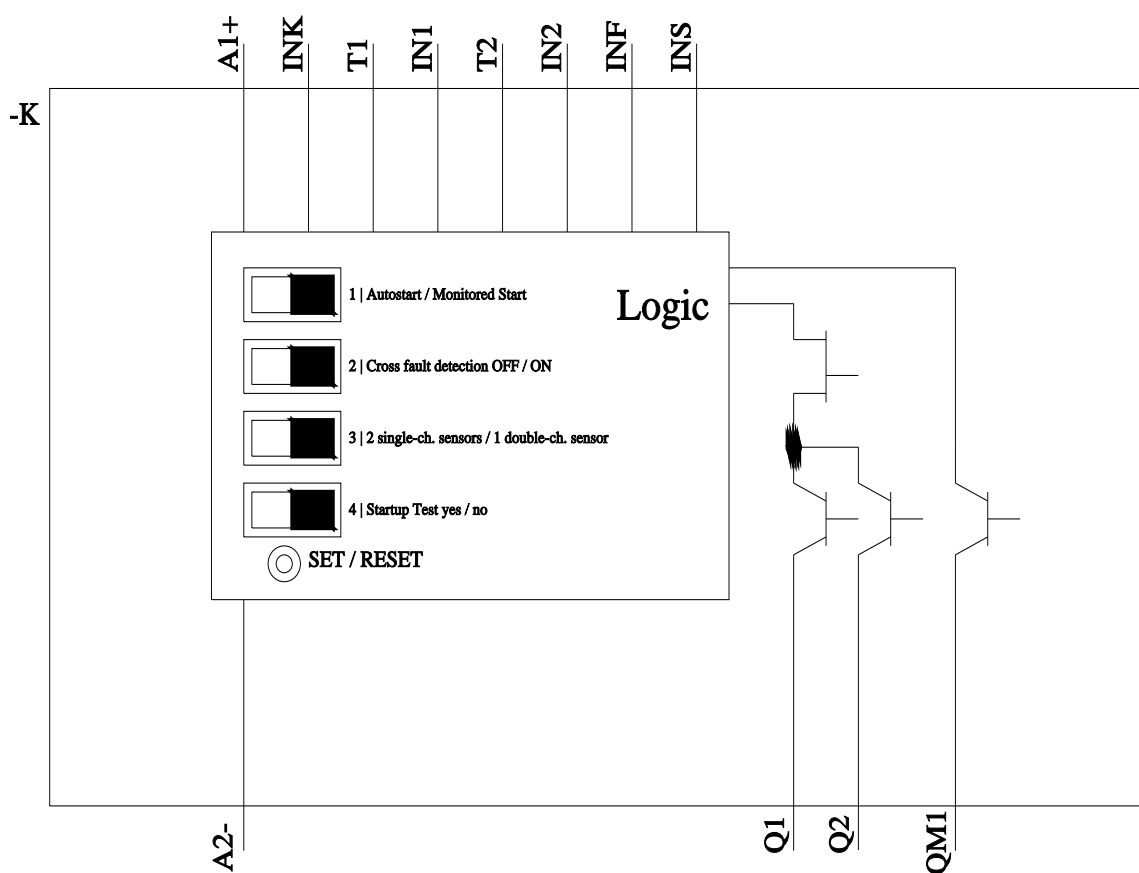
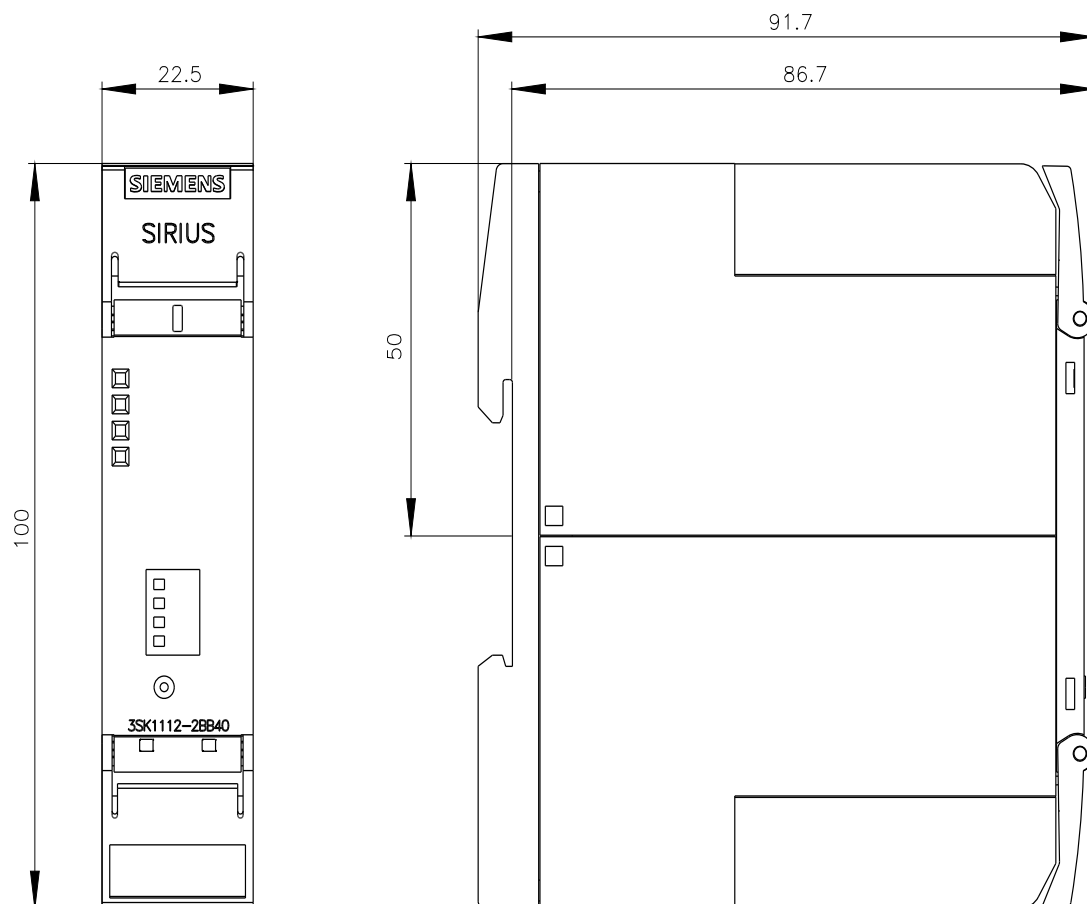
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1112-2BB40>

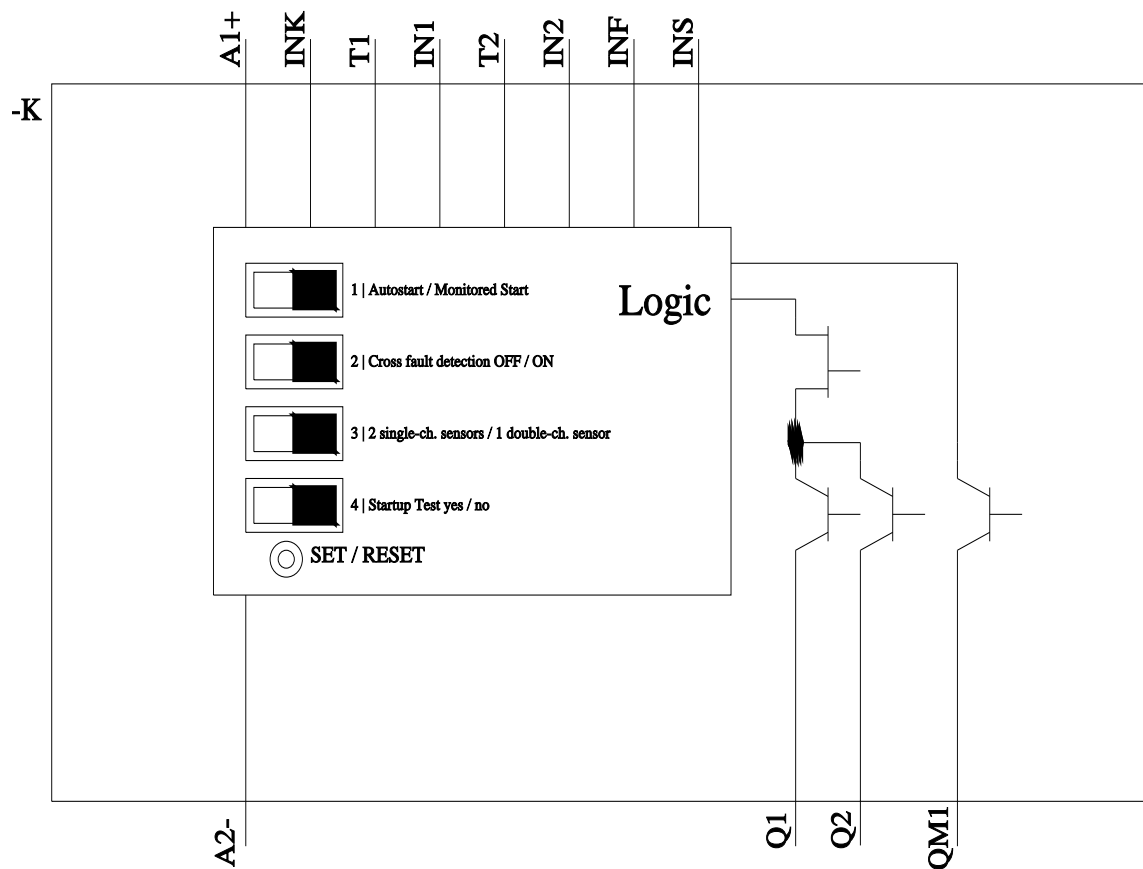
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3SK1112-2BB40>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3SK1112-2BB40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1112-2BB40&lang=en)





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