

SIRIUS SAFETY RELAY STANDARD SERIES DEVICE RELAY  
 ENABLING CIRCUITS 3 NO CONTACTS + RELAY SIGNALING  
 CIRCUIT 1 NC CONTACT US = 24 V AC/DC SCREW TERMINAL



Figure similar

General technical data	
product brandname	SIRIUS
Product category	Safety relays
Product designation	safety relays
Protection class IP of the enclosure	IP20
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	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	4 000 V
EMC emitted interference	IEC 60947-5-1, IEC 61000

<b>Installation environment regarding EMC</b>	This product is suitable for Class B environments and can also be used in domestic environments.
<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>	none
<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
<b>Performance level (PL)</b>	
• 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>	0.0000000017 1/h
<b>PFDavg with low demand rate acc. to IEC 61508</b>	0.000001
<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 A
<b>Number of outputs as contact-affected switching element</b>	
• as NC contact	
— for signaling function instantaneous contact	1
— 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	3
— safety-related delayed switching	0
<b>Number of outputs as contact-less semiconductor switching element</b>	
• safety-related	
— delayed switching	0
— instantaneous contact	0
• for signaling function instantaneous contact	0
<b>Stop category acc. to DIN EN 60204-1</b>	0

## General technical data

### Design of input

<ul style="list-style-type: none"> <li>• cascading input/functional switching</li> </ul>	No
<ul style="list-style-type: none"> <li>• feedback input</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Start input</li> </ul>	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> </ul>	5 A 0.2 A 0.1 A  5 A 5 A
<ul style="list-style-type: none"> <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>	1 A 0.2 A 0.1 A  1.5 A 1.5 A
<b>Thermal current of the switching element with contacts maximum</b>	5 A
<b>Operating current at 17 V minimum</b>	5 mA
<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 Neozed 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 320 ms 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 320 ms
<b>Make time with monitored start</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	20 ms

• typical	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>	
• typical	65 ms
• maximum	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

Control circuit/ Control	
<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	
— rated value	24 V
• at AC	
— at 50 Hz	
— rated value	24 V
— at 60 Hz	
— rated value	24 V
<b>Operating range factor control supply voltage rated value of magnet coil</b>	
• at AC	
— at 50 Hz	0.85 ... 1.1
— at 60 Hz	0.85 ... 1.1
• at DC	0.85 ... 1.2
<b>Power loss [W] typical</b>	2 W

Installation/ mounting/ dimensions	
<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










### Connections/Terminals

Type of electrical connection	screw-type terminals
Type of connectable conductor cross-sections	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (1.0 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded</li> <li>— with core end processing</li> </ul>	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
Type of connectable conductor cross-sections at AWG conductors	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	1x (20 ... 14), 2x (18 ... 16) 1x (20 ... 16), 2x (20 ... 16)

### Product Function

Product function parameterizable	Sensor floating / sensor non-floating, monitored start / autostart
Suitability for operation Device connector 3ZY12	No
Suitability for interaction press control	No
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 Yes Yes Yes Yes

### Certificates/approvals

General Product Approval			EMC	Functional Safety/Safety of Machinery
 CCC	 CSA	 UL	 EAC	 C-Tick
				<a href="#">Baumusterbescheinigung</a>
Declaration of Conformity	Test Certificates	Shipping Approval		other
 EG-Konf.	<a href="#">Typprüfbescheinigung/Werkszeugnis</a>	 LRS	 RINA	 RMRS
				<a href="#">Bestätigungen</a>

<b>Railway</b>
<a href="#">Bestätigungen</a>

## 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?mfb=3SK1111-1AB30>

### **Cax online generator**

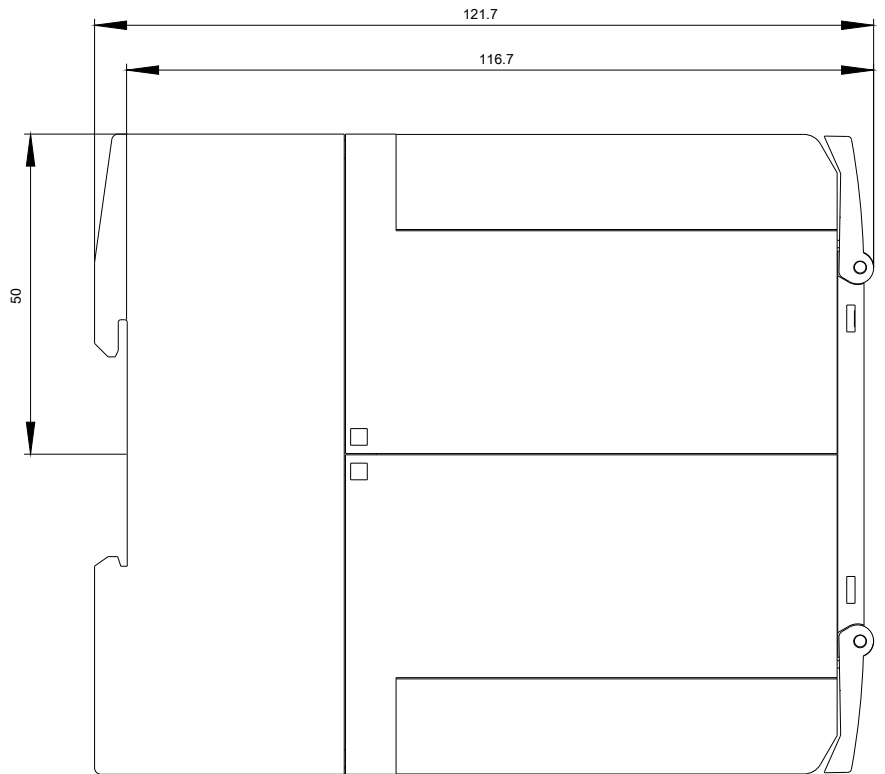
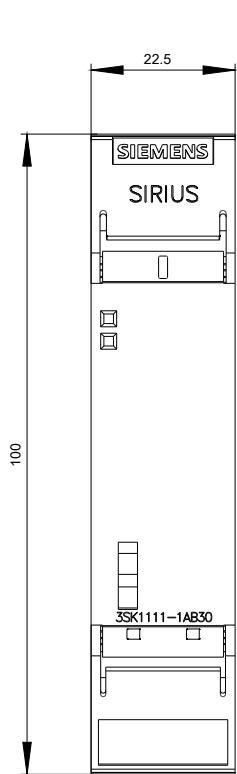
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3SK1111-1AB30>

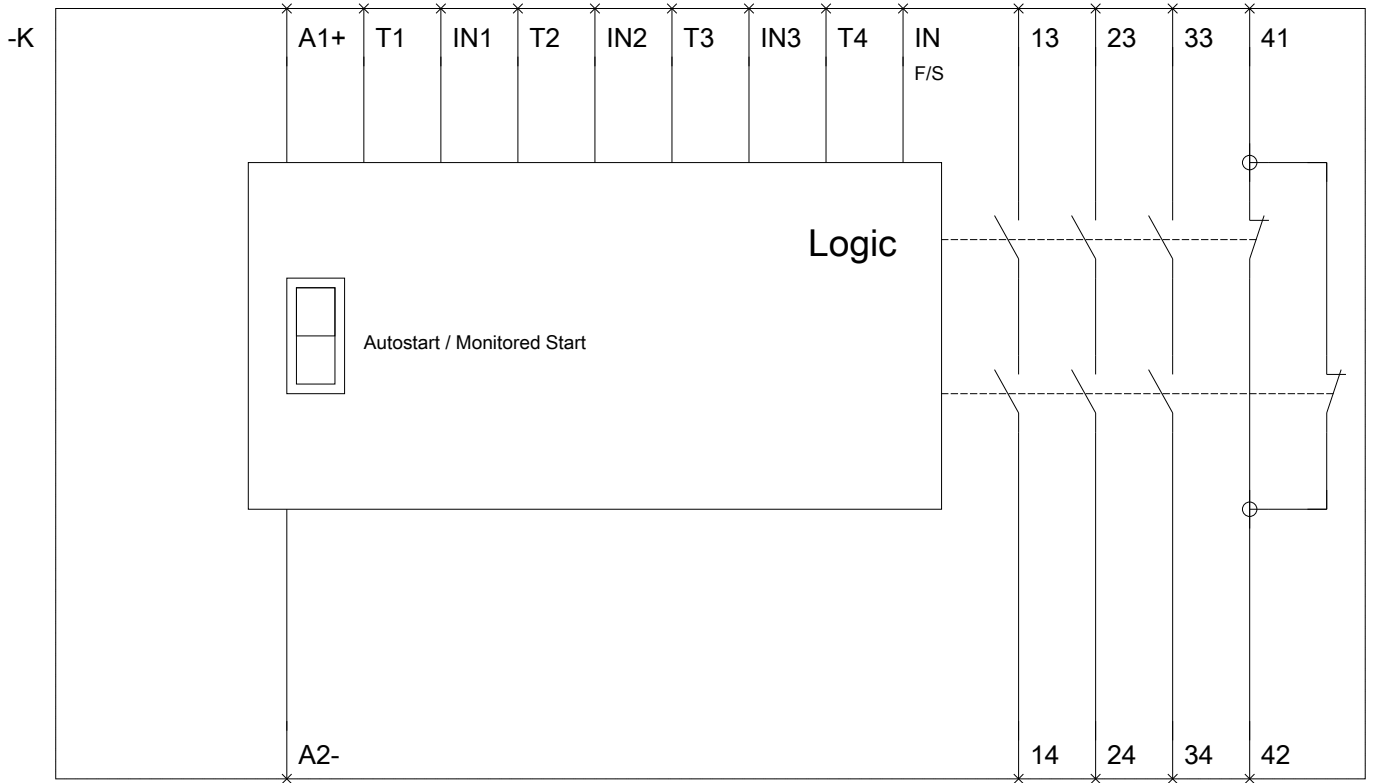
### **Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

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

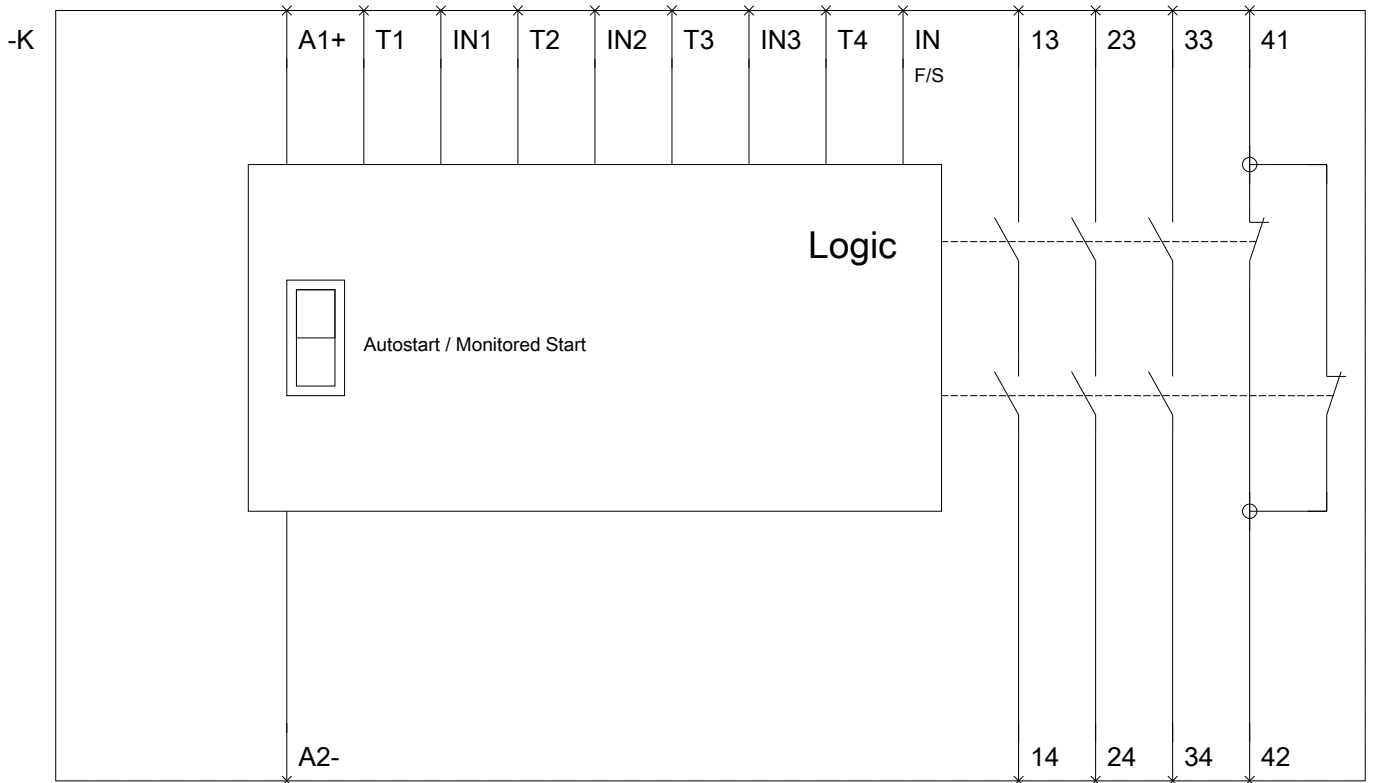
### **Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**

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









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