

SIRIUS safety relay Output expansion 3RO Power, with Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact  $U_s = 24 \text{ V DC}$  screw terminal



### General technical data

Product brand name	SIRIUS
Product category	Safety relays
Product designation	Output expansion
Design of the product	Relay enabling circuits
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	5 g / 10 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>Reference code acc. to DIN EN 61346-2</b>	F
<b>Safety Integrity Level (SIL) acc. to IEC 61508</b>	3
<b>Performance level (PL) acc. to EN ISO 13849-1</b>	e
<b>Category acc. to EN ISO 13849-1</b>	4
<b>PFHD with high demand rate acc. to EN 62061</b>	0.000000001 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 delayed switching	0
— for feedback circuit instantaneous contact	1
— 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>Stop category acc. to DIN EN 60204-1</b>	0

#### General technical data

<b>Type of electrical connection Plug-in socket</b>	No
<b>Operating frequency maximum</b>	360 1/h
<b>Switching capacity current of the NO contacts of the relay outputs</b>	
• at DC-13	
— at 24 V	6 A
— at 115 V	1.1 A
— at 230 V	0.55 A
• at AC-15	
— at 24 V	10 A
— at 115 V	10 A
— at 230 V	10 A
<b>Thermal current of the switching element with contacts maximum</b>	10 A

Operating current at 17 V minimum	5 mA
Mechanical service life (switching cycles) typical	10 000 000
maximum permissible voltage for safe isolation between electronic evaluation device and enabling circuit acc. to EN 60947-1	300 V
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	gL/gG: 16 A or MCB type A: 6 A or MCB type B: 4 A or MCB type C: 4 A
Make time with automatic start <ul style="list-style-type: none"> <li>• typical</li> <li>• at DC maximum</li> </ul>	50 ms 70 ms
Make time with automatic start after power failure <ul style="list-style-type: none"> <li>• typical</li> <li>• maximum</li> </ul>	50 ms 70 ms
Backslide delay time in the event of power failure <ul style="list-style-type: none"> <li>• typical</li> <li>• maximum</li> </ul>	20 ms 20 ms
Recovery time after power failure typical	0 s

#### Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage <ul style="list-style-type: none"> <li>• at DC <ul style="list-style-type: none"> <li>— rated value</li> </ul> </li> </ul>	24 V
Operating range factor control supply voltage rated value of magnet coil <ul style="list-style-type: none"> <li>• at DC</li> </ul>	0.8 ... 1.2
Power loss [W] typical	5.5 W

#### Installation/ mounting/ dimensions

Mounting position	on horizontal standard mounting rail
Required spacing for grounded parts at the side	5 mm
Required spacing with side-by-side mounting at the side	0 mm
Mounting type	screw and snap-on mounting
Width	90 mm
Height	100 mm
Depth	121.6 mm

#### Connections/Terminals

Type of electrical connection	screw-type terminals
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> </ul> </li> </ul>	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)  1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)

Type of connectable conductor cross-sections at AWG conductors	
<ul style="list-style-type: none"> <li>solid</li> </ul>	1x (20 ... 12), 2x (20 ... 14)

<b>Product Function</b>	
Product function parameterizable	undelayed/delayed (only with system connector)
Suitability for operation Device connector 3ZY12	Yes
Suitability for use	
<ul style="list-style-type: none"> <li>safety-related circuits</li> </ul>	Yes

<b>Certificates/approvals</b>		
Certificate of suitability		
<ul style="list-style-type: none"> <li>TÜV (German technical inspectorate) certificate</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>UL approval</li> </ul>	Yes	
General Product Approval	EMC	Functional Safety/Safety of Machinery

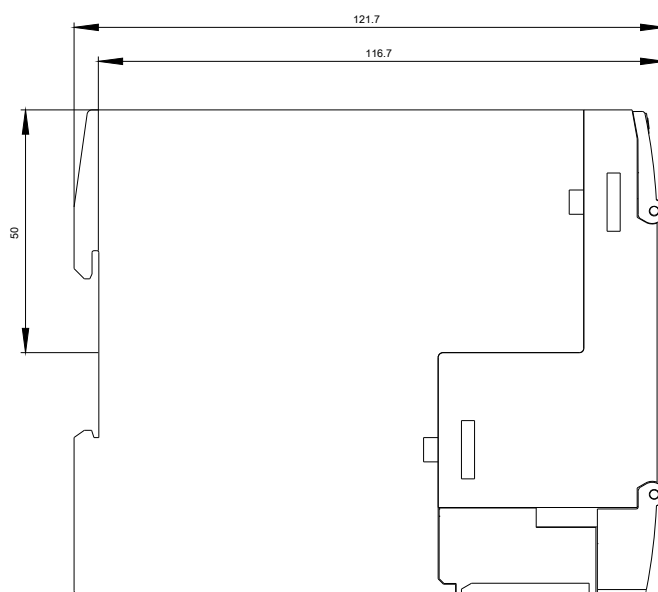
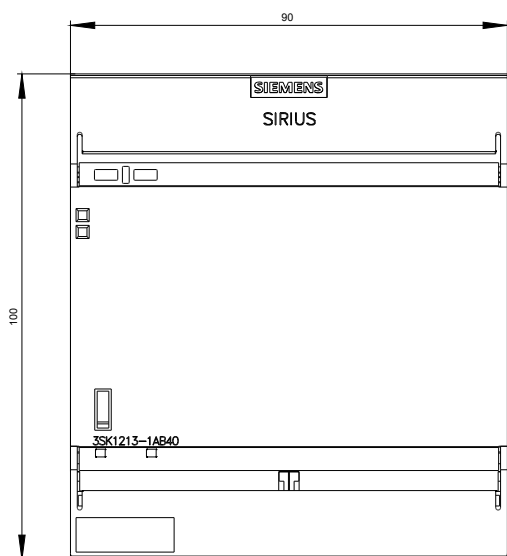


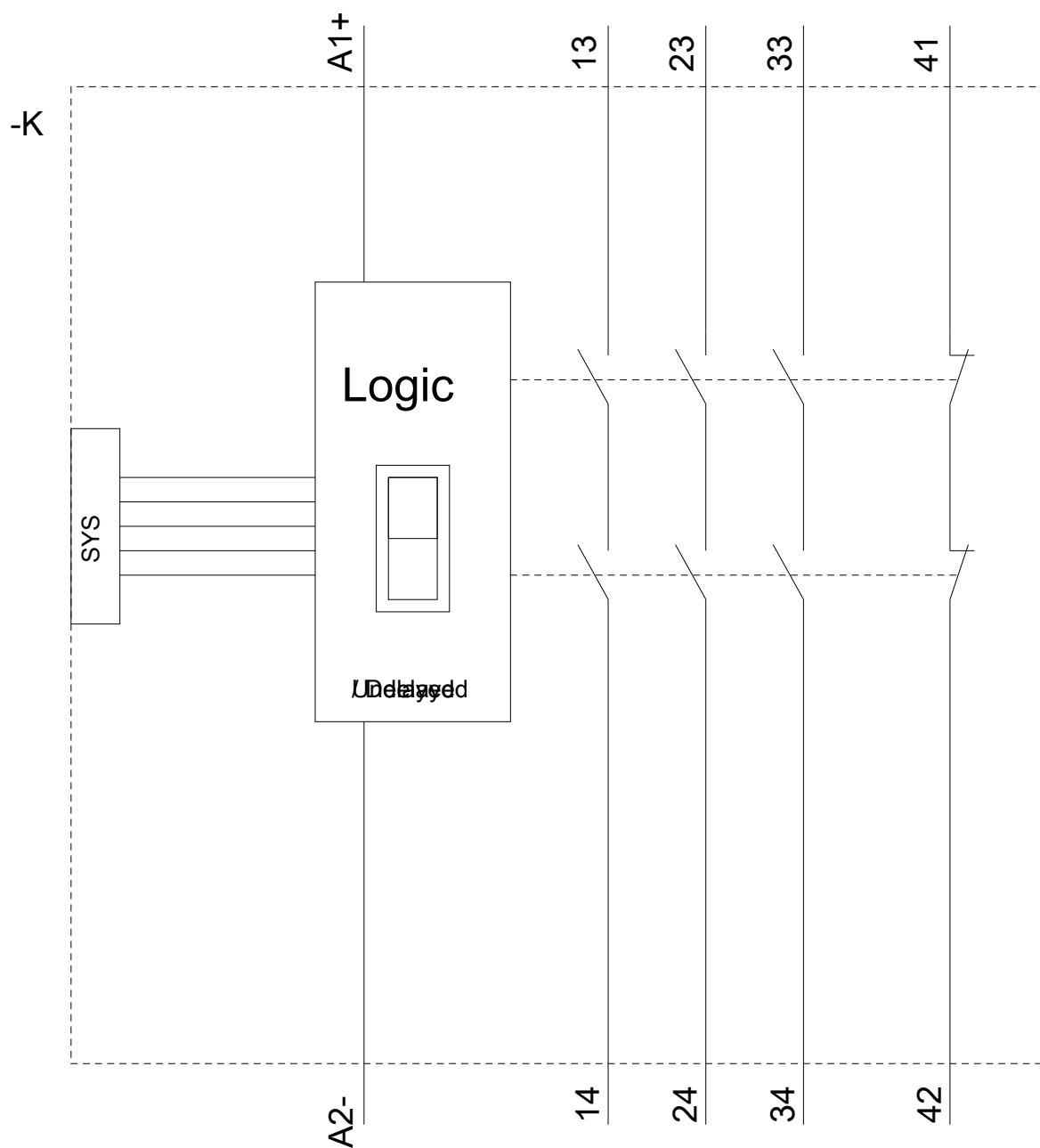
[Type Examination Certificate](#)

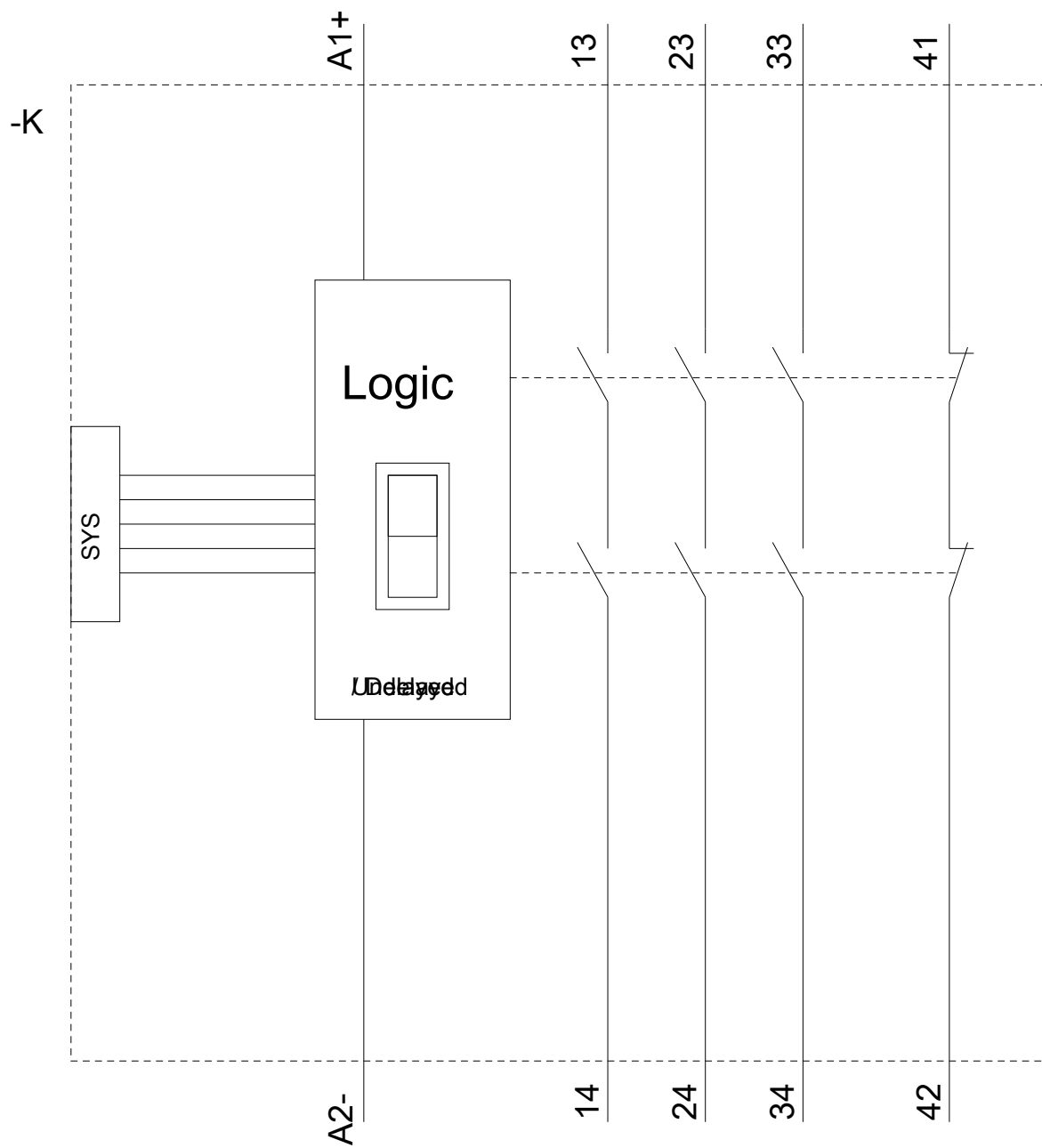
Declaration of Conformity	Test Certificates	Shipping Approval			other
<p>EG-Konf.</p>	<a href="#">Type Test Certificates/Test Report</a>	<p>LRS</p>	<p>RINA</p>	<p>RMRS</p>	<a href="#">Confirmation</a>

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

<b>Further information</b>
<b>Information- and Downloadcenter (Catalogs, Brochures,...)</b> <a href="http://www.siemens.com/industrial-controls/catalogs">http://www.siemens.com/industrial-controls/catalogs</a>
<b>Industry Mall (Online ordering system)</b> <a href="https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1213-1AB40">https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1213-1AB40</a>
<b>Cax online generator</b> <a href="http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3SK1213-1AB40">http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3SK1213-1AB40</a>
<b>Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)</b> <a href="https://support.industry.siemens.com/cs/ww/en/ps/3SK1213-1AB40">https://support.industry.siemens.com/cs/ww/en/ps/3SK1213-1AB40</a>
<b>Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)</b> <a href="http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1213-1AB40&amp;lang=en">http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1213-1AB40&amp;lang=en</a>







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