



SIRIUS SAFETY RELAY OUTPUT EXTENSION 4RO  
WITH RELAY ENABLING CIRCUITS 4 NO CONTACTS  
+ RELAY FEEDBACK CIRCUIT 1 NC CONTACT US =  
115-230 V AC SPRING-LOADED CONNECTION

Figure similar

General technical data:

product brand name		SIRIUS
Product designation		safety relays
Design of the product		Expansion unit
Protection class IP of the enclosure		IP20
Protection against electrical shock		finger-safe
Insulation voltage Rated value	V	300
Ambient temperature		
• during storage	°C	-40 ... +80
• during operation	°C	-25 ... +60
Air pressure acc. to SN 31205	kPa	90 ... 106
Relative humidity during operation	%	10 ... 95
Installation altitude at height above sea level maximum	m	2 000
Vibration resistance acc. to IEC 60068-2-6		5 ... 500 Hz: 0,75 mm
Shock resistance		10g / 11 ms
Surge voltage resistance Rated value	V	4 000
EMC emitted interference		IEC 60947-5-1, Class A
Installation environment regarding EMC		This product is suitable for Class A environments only. It can cause undesired radio-frequency interference in residential environments. If this is the case, the user must take appropriate measures.
Overvoltage category		Installation category III
Degree of pollution		3
Equipment marking acc. to DIN EN 61346-2		F
Safety Integrity Level (SIL) acc. to IEC 61508		SIL3

Performance level (PL) acc. to EN ISO 13849-1		e
Category acc. to EN ISO 13849-1		4
PFHD with high demand rate acc. to EN 62061	1/h	0.0000000017
Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508	1/y	0.000001
T1 value for proof test interval or service life acc. to IEC 61508	y	20
Hardware fault tolerance acc. to IEC 61508		1
Safety device type acc. to IEC 61508-2		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> <li>— for signaling function delayed switching</li> <li>— safety-related instantaneous contact</li> <li>— safety-related delayed switching</li> </ul> </li> <li>• as NO contact <ul style="list-style-type: none"> <li>— for signaling function instantaneous contact</li> <li>— for signaling function delayed switching</li> <li>— safety-related instantaneous contact</li> <li>— safety-related delayed switching</li> </ul> </li> </ul>		0 0 0 0 0 0 4 0
Stop category acc. to DIN EN 60204-1		0

**General technical data:**

Type of electrical connection Plug-in socket		No
Operating frequency maximum	1/h	360
<b>Switching capacity current of the NO contacts of the relay outputs</b>		
<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 24 V</li> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> </ul>	A A A A A A	5 0.2 0.1 5 5 5
Thermal current of the switching element with contacts maximum	A	5
Operating current at 17 V minimum	mA	5
Mechanical service life (switching cycles) typical		10 000 000
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required		gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A

Make time with automatic start		
• typical	ms	35
• with AC maximum	ms	35
Make time with automatic start after power failure		
• typical	ms	35
• maximum	ms	35
Backslide delay time in the event of power failure		
• typical	ms	200
• maximum	ms	300
<b>Recovery time after power failure typical</b>	s	0.32

#### Control circuit/ Control:

<b>Type of voltage of the control supply voltage</b>		AC/DC
<b>Control supply voltage frequency</b>		
• 1 Rated value	Hz	50
• 2 Rated value	Hz	60
<b>Control supply voltage</b>		
• for DC		
— Rated value	V	110 ... 240
• with AC		
— at 50 Hz		
— Rated value	V	110 ... 240
— at 60 Hz		
— Rated value	V	110 ... 240
Operating range factor control supply voltage rated value of the magnet coil		
• with AC		
— at 50 Hz		0.85 ... 1.1
— at 60 Hz		0.85 ... 1.1
• for DC		0.85 ... 1.1
<b>Active power loss typical</b>	W	2

#### Installation/ mounting/ dimensions:

<b>mounting position</b>		any
<b>Required spacing for grounded parts at the side</b>	mm	5
<b>Required spacing with side-by-side mounting at the side</b>	mm	0
<b>Mounting type</b>		screw and snap-on mounting
<b>Width</b>	mm	22.5
<b>Height</b>	mm	100
<b>Depth</b>	mm	121.6

#### Connections/ Terminals:

<b>Type of electrical connection</b>		spring-loaded terminals
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Type of connectable conductor cross-section		
<ul style="list-style-type: none"> <li>• solid</li> </ul>		1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <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 ... 1.0 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) 1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
Type of connectable conductor cross-section for AWG conductors		
<ul style="list-style-type: none"> <li>• solid</li> </ul>		1x (20 ... 16), 2x (20 ... 16)
<ul style="list-style-type: none"> <li>• stranded</li> </ul>		1x (20 ... 16), 2x (20 ... 16)

**Product Function:**

<b>Suitability for operation Device connector 3ZY12</b>		No
<b>Suitability for use</b>		
<ul style="list-style-type: none"> <li>• safety-related circuits</li> </ul>		Yes

**Certificates/ approvals:**

<b>Certificate of suitability</b>		
<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

<b>General Product Approval</b>	<b>EMC</b>	<b>Functional Safety/Safety of Machinery</b>	<b>Declaration of Conformity</b>
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[Type Examination](#)



<b>Test Certificates</b>	<b>other</b>
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[Type Test Certificates/Test Report](#)

[Confirmation](#)

**Further information**

**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

<http://www.siemens.com/industrymall>

**Cax online generator**

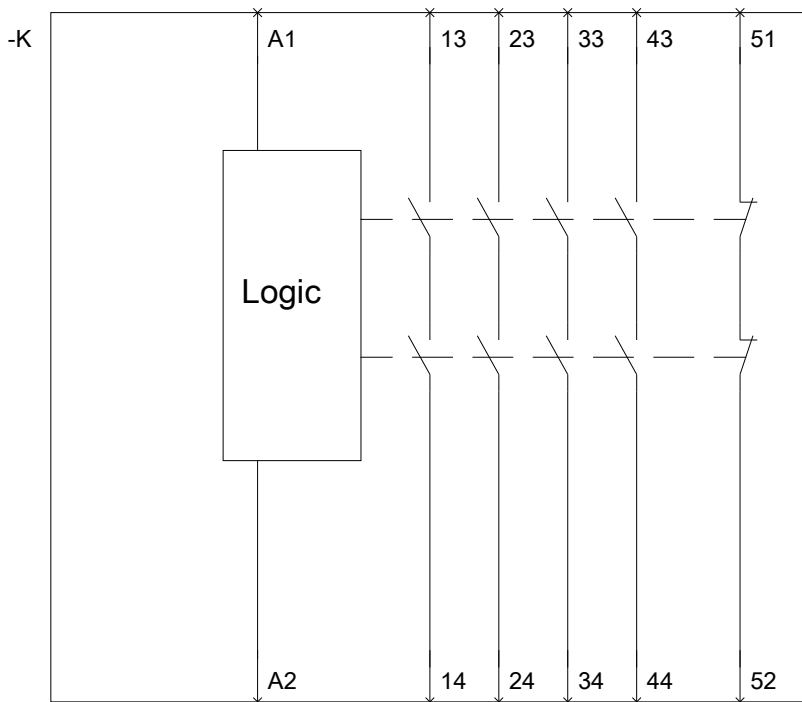
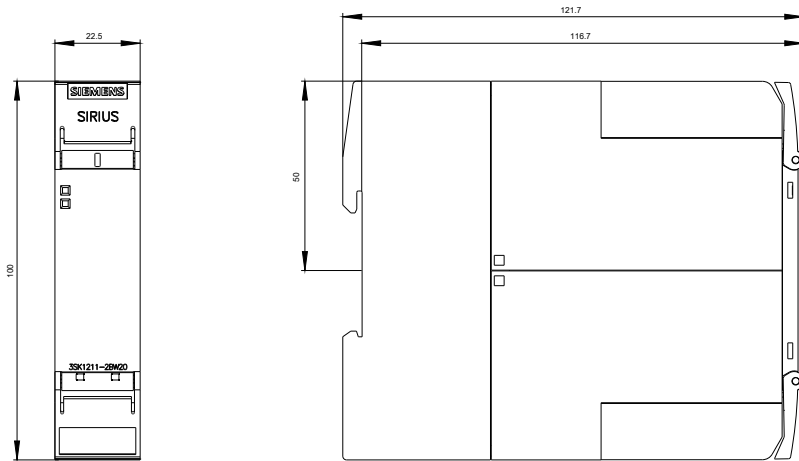
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mf=3SK12112BW20>

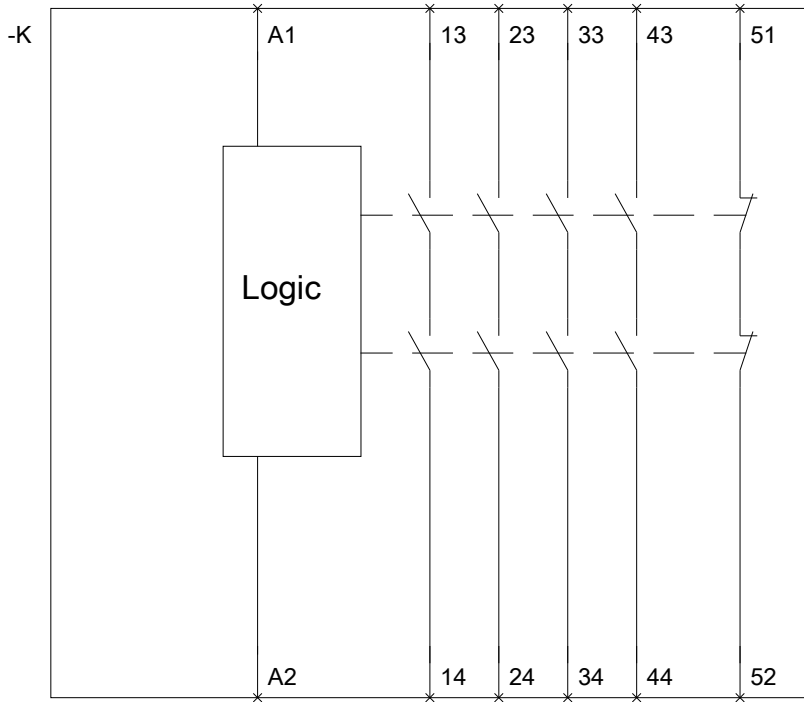
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<http://support.automation.siemens.com/WW/view/en/3SK12112BW20/all>

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

<http://www.automation.siemens.com/bilddb/index.aspx?attID9=3SK12112BW20&lang=en>





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