

SIRIUS safety relay with relay enabling circuits (EC) 24 V AC/DC, 22.5 mm Screw terminal EC instantaneous: 4 NO EC delayed: 0 MK for retraction: 1 Expansion unit Maximum achieved SIL / PL: as basic unit



General technical data	
Product brand name	SIRIUS
Product designation	safety relays
Design of the product	extension unit
Protection class IP of the enclosure	IP40
Protection class IP of the terminal	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 ... 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: 0,075 mm
Shock resistance	8g / 10 ms
Surge voltage resistance rated value	4 000 V
EMC emitted interference	EN 60947-5-1

<b>Installation environment regarding EMC</b>	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.
<b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>	KT
<b>Reference code acc. to DIN EN 61346-2</b>	F
<b>Design of the cascading</b>	none
<b>Product feature cross-circuit-proof</b>	No
<b>Safety Integrity Level (SIL)</b>	
• acc. to IEC 61508	3
<b>SIL Claim Limit (subsystem) acc. to EN 62061</b>	3
<b>Performance level (PL)</b>	
• acc. to EN ISO 13849-1	e
<b>Category acc. to EN ISO 13849-1</b>	4
<b>Hardware fault tolerance acc. to IEC 61508</b>	1
<b>Safety device type acc. to IEC 61508-2</b>	Type A
<b>PFHD with high demand rate acc. to EN 62061</b>	0.0000000012 1/h
<b>Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508</b>	0.000001 1/y
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>Number of outputs as contact-affected switching element</b>	
• as NC contact	
— for signaling function instantaneous contact	0
• as NO contact	
— safety-related instantaneous contact	4
— 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	
— delayed switching	0
— instantaneous contact	0
<b>Stop category acc. to DIN EN 60204-1</b>	0

#### General technical data

<b>Design of input</b>	
• cascading input/functional switching	No
• feedback input	Yes

• Start input	No
Type of electrical connection Plug-in socket	Yes
Operating frequency maximum	1 000 1/h
Switching capacity current	
• of the NO contacts of the relay outputs at DC-13	
— at 24 V	5 A
— at 115 V	0.2 A
— at 230 V	0.1 A
• of the NO contacts of the relay outputs at AC-15	
— at 115 V	5 A
— at 230 V	5 A
• of the NC contacts of the relay outputs at DC-13	
— at 24 V	5 A
— at 115 V	0.2 A
— at 230 V	0.1 A
• of the NC contacts of the relay outputs at AC-15	
— at 115 V	5 A
— at 230 V	5 A
Thermal current of the switching element with contacts maximum	5 A
Electrical endurance (switching cycles) typical	100 000
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: 6 A, or quick: 10 A
DC resistance of the cable maximum	30 $\Omega$
Wire length between sensor and electronic evaluation device with Cu 1.5 mm <sup>2</sup> and 150 nF/km maximum	1 000 m
Make time with automatic start	
• at DC maximum	30 ms
• at AC maximum	30 ms
Make time with automatic start after power failure	
• maximum	30 ms
Backslide delay time in the event of power failure	
• maximum	25 ms
Recovery time after power failure typical	50 ms
<b>Control circuit/ Control</b>	
Type of voltage of the control supply voltage	AC/DC
Control supply voltage frequency	

<ul style="list-style-type: none"> <li>• 1 rated value</li> <li>• 2 rated value</li> </ul>	50 Hz 60 Hz
<b>Control supply voltage 1</b> <ul style="list-style-type: none"> <li>• at DC rated value</li> </ul>	24 V
<b>Control supply voltage 1 at AC</b> <ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <li>• at 60 Hz rated value</li> </ul>	24 V 24 V
<b>Operating range factor control supply voltage rated value of magnet coil</b> <ul style="list-style-type: none"> <li>• at AC               <ul style="list-style-type: none"> <li>— at 50 Hz</li> <li>— at 60 Hz</li> </ul> </li> <li>• at DC</li> </ul>	0.85 ... 1.1 0.85 ... 1.1 0.85 ... 1.2

Installation/ mounting/ dimensions	
<b>Mounting position</b>	any
<b>Mounting type</b>	screw and snap-on mounting
<b>Width</b>	22.5 mm
<b>Height</b>	120 mm
<b>Depth</b>	120 mm

Connections/ Terminals	
<b>Type of electrical connection</b>	screw-type terminals
<b>Type of connectable conductor cross-sections</b> <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 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )  1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
<b>Type of connectable conductor cross-sections at AWG conductors</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	2x (20 ... 14) 2x (20 ... 14)

Product Function	
<b>Product function</b> <ul style="list-style-type: none"> <li>• Light barrier monitoring</li> <li>• Standstill monitoring</li> <li>• protective door monitoring</li> <li>• Automatic start</li> <li>• magnetically operated switch monitoring NC-NO</li> <li>• rotation speed monitoring</li> <li>• laser scanner monitoring</li> <li>• monitored start-up</li> <li>• Light array monitoring</li> </ul>	No No No No No No No No No

• magnetically operated switch monitoring NC-NC	No
• EMERGENCY OFF function	No
• Pressure-sensitive mat monitoring	No
<b>Suitability for interaction press control</b>	No
<b>Suitability for use</b>	
• safety switch	Yes
• position switch monitoring	No
• EMERGENCY-OFF circuit monitoring	No
• valve monitoring	No
• tactile sensor monitoring	No
• magnetically operated switch monitoring	No
• safety-related circuits	No

**Certificates/ approvals**

<b>Certificate of suitability</b>	BG, SUVA, UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508
• TÜV (German technical inspectorate) certificate	Yes
• UL approval	Yes
• BG BIA certificate	No

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

<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>other</b>
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[Miscellaneous](#)

[Special Test Certificate](#)

[Confirmation](#)

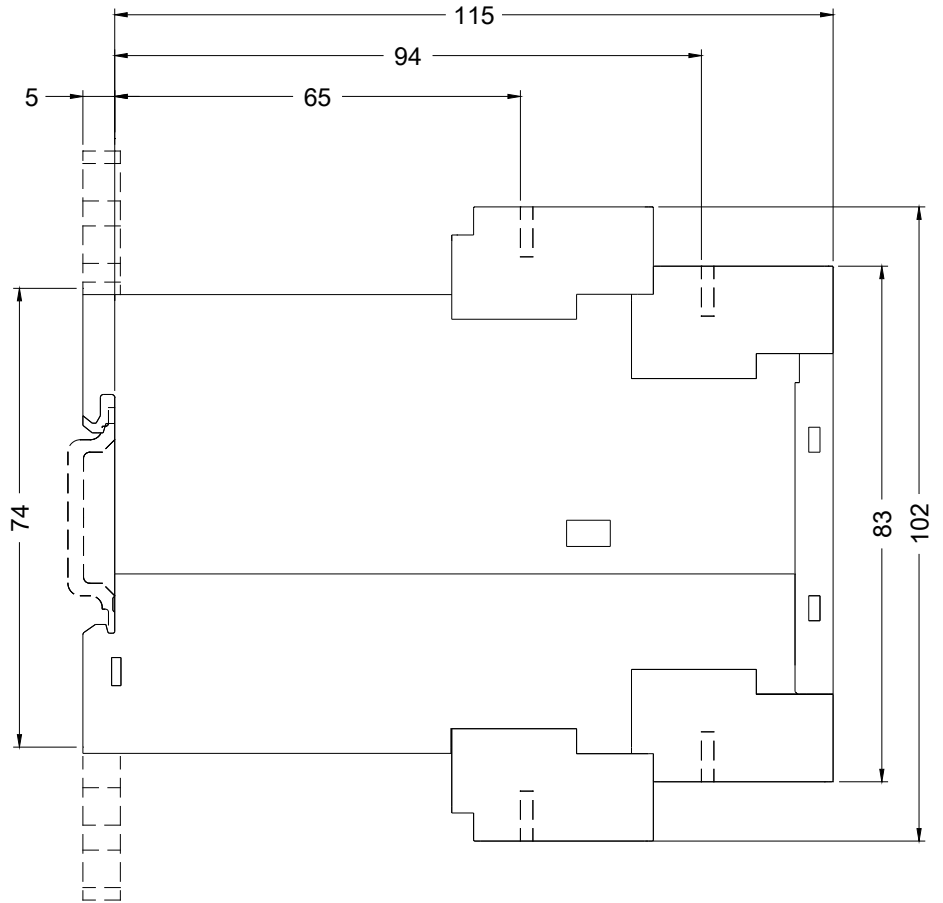
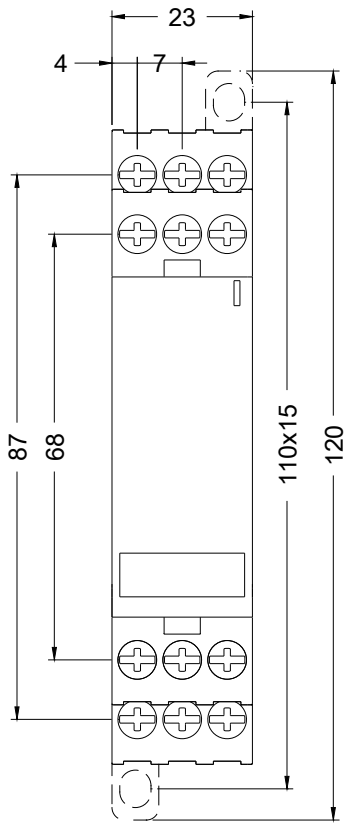
**Further information**

**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=3TK2830-1CB30>

**Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2830-1CB30>

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3TK2830-1CB30>



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