



SIRIUS safety relay with electronic enabling circuits (EC) 24 V DC, 22.5 mm  
Spring-type terminal EC instantaneous: 1 HL EC delayed: 1 HL, 0.05...3 s MK: 0  
Autostart/monitored start Standard device Maximum achieved SIL: 3, PL: e

product brand name	SIRIUS
product designation	safety relays
design of the product	for EMERGENCY-STOP and safety doors
<b>General technical data</b>	
protection class IP of the enclosure	IP40
protection class IP of the terminal	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	2 000 m
vibration resistance according to IEC 60068-2-6	5 ... 500 Hz: 0,075 mm
shock resistance	8g / 10 ms, 15g / 5 ms
surge voltage resistance rated value	500 V
EMC emitted interference	IEC 60947-5-1, IEC 60000-4-3, IEC 60000-4-5, IEC 60000-4-6
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.
reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750	KT
reference code according to EN 61346-2	F
number of sensor inputs	
• 1-channel or 2-channel	1
design of the cascading	cascading or in-service switching
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 61508	3
• for delayed release circuit according to IEC 61508	SIL3
SIL Claim Limit (subsystem) according to EN 62061	3
performance level (PL)	
• for delayed release circuit according to EN ISO 13849-1	e
category according to EN ISO 13849-1	4
hardware fault tolerance according to IEC 61508	1
safety device type according to IEC 61508-2	Type B
PFHD with high demand rate according to EN 62061	5E-11 1/h
T1 value for proof test interval or service life according to IEC 61508	20 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> </ul> </li> </ul>	0
<ul style="list-style-type: none"> <li>● as NO contact <ul style="list-style-type: none"> <li>— safety-related instantaneous contact</li> <li>— safety-related delayed switching</li> </ul> </li> </ul>	0
<b>number of outputs as contact-less semiconductor switching element</b>	
<ul style="list-style-type: none"> <li>● safety-related <ul style="list-style-type: none"> <li>— delayed switching</li> <li>— instantaneous contact</li> </ul> </li> </ul>	1
<ul style="list-style-type: none"> <li>● for signaling function <ul style="list-style-type: none"> <li>— delayed switching</li> <li>— instantaneous contact</li> </ul> </li> </ul>	0
<b>stop category according to EN 60204-1</b>	0 + 1
<b>Inputs</b>	
<b>design of input</b>	
<ul style="list-style-type: none"> <li>● cascading input/functional switching</li> <li>● feedback input</li> <li>● start input</li> </ul>	Yes Yes Yes
<b>Outputs</b>	
<b>type of electrical connection plug-in socket</b>	Yes
<b>operating frequency maximum</b>	2 000 1/h
<b>switching capacity current</b>	
<ul style="list-style-type: none"> <li>● of semiconductor outputs <ul style="list-style-type: none"> <li>— for enabling circuit at DC-13 at 24 V</li> </ul> </li> </ul>	1.5 A
<b>design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required</b>	not required
<b>DC resistance of the cable maximum</b>	1 000 Ω
<b>wire length between sensor and electronics evaluation device with Cu 1.5 mm<sup>2</sup> and 150 nF/km maximum</b>	2 000 m
<b>Times</b>	
<b>make time with automatic start</b>	
<ul style="list-style-type: none"> <li>● typical</li> <li>● at DC maximum</li> </ul>	60 ms 100 ms
<b>make time with automatic start after power failure</b>	
<ul style="list-style-type: none"> <li>● typical</li> <li>● maximum</li> </ul>	6 000 ms 7 000 ms
<b>make time with monitored start</b>	
<ul style="list-style-type: none"> <li>● maximum</li> <li>● typical</li> </ul>	100 ms 60 ms
<b>backslide delay time in the event of power failure</b>	
<ul style="list-style-type: none"> <li>● typical</li> <li>● maximum</li> </ul>	0 ms 0 ms
<b>recovery time after opening of the safety circuits typical</b>	400 ms
<b>recovery time after power failure typical</b>	7 s
<b>pulse duration</b>	
<ul style="list-style-type: none"> <li>● of the sensor input minimum</li> <li>● of the ON pushbutton input minimum</li> <li>● of the cascading input minimum</li> </ul>	45 ms 0.2 s 0.045 s
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage 1</b>	
<ul style="list-style-type: none"> <li>● at DC rated value</li> </ul>	24 V
<b>operating range factor control supply voltage rated value of magnet coil</b>	
<ul style="list-style-type: none"> <li>● at DC</li> </ul>	0.9 ... 1.15
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting
<b>width</b>	22.5 mm
<b>height</b>	120 mm

<b>depth</b>	88 mm
<b>Connections/ Terminals</b>	
<b>type of electrical connection</b>	spring-loaded 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> <li>— without core end processing</li> </ul> </li> </ul>	2x (0.25 ... 1.5 mm <sup>2</sup> )  2 x (0.25 ... 1.5 mm <sup>2</sup> ) 2x (0.25 ... 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>	2x (24 ... 16) 2x (24 ... 16)

<b>Product Function</b>	
<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> <li>• magnetically operated switch monitoring NC-NC</li> <li>• EMERGENCY OFF function</li> <li>• pressure-sensitive mat monitoring</li> </ul>	Yes No Yes Yes No No Yes Yes Yes Yes Yes Yes
<b>suitability for interaction press control</b>	No
<b>suitability for use</b>	
<ul style="list-style-type: none"> <li>• monitoring of floating sensors</li> <li>• monitoring of non-floating sensors</li> <li>• safety switch</li> <li>• position switch monitoring</li> <li>• EMERGENCY-OFF circuit monitoring</li> <li>• valve monitoring</li> <li>• tactile sensor monitoring</li> <li>• magnetically operated switch monitoring</li> <li>• safety-related circuits</li> </ul>	Yes Yes Yes Yes Yes No Yes Yes Yes

<b>Certificates/ approvals</b>	
<b>certificate of suitability</b>	UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508, DIN EN 50156-1
<ul style="list-style-type: none"> <li>• TÜV (German technical inspectorate) certificate</li> <li>• UL approval</li> <li>• BG BIA approval</li> </ul>	Yes Yes Yes

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

<b>Test Certificates</b>	<b>other</b>
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[Special Test Certificate](#)

[Confirmation](#)

**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)**

<http://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3TK2842-2BB41>

**Cax online generator**

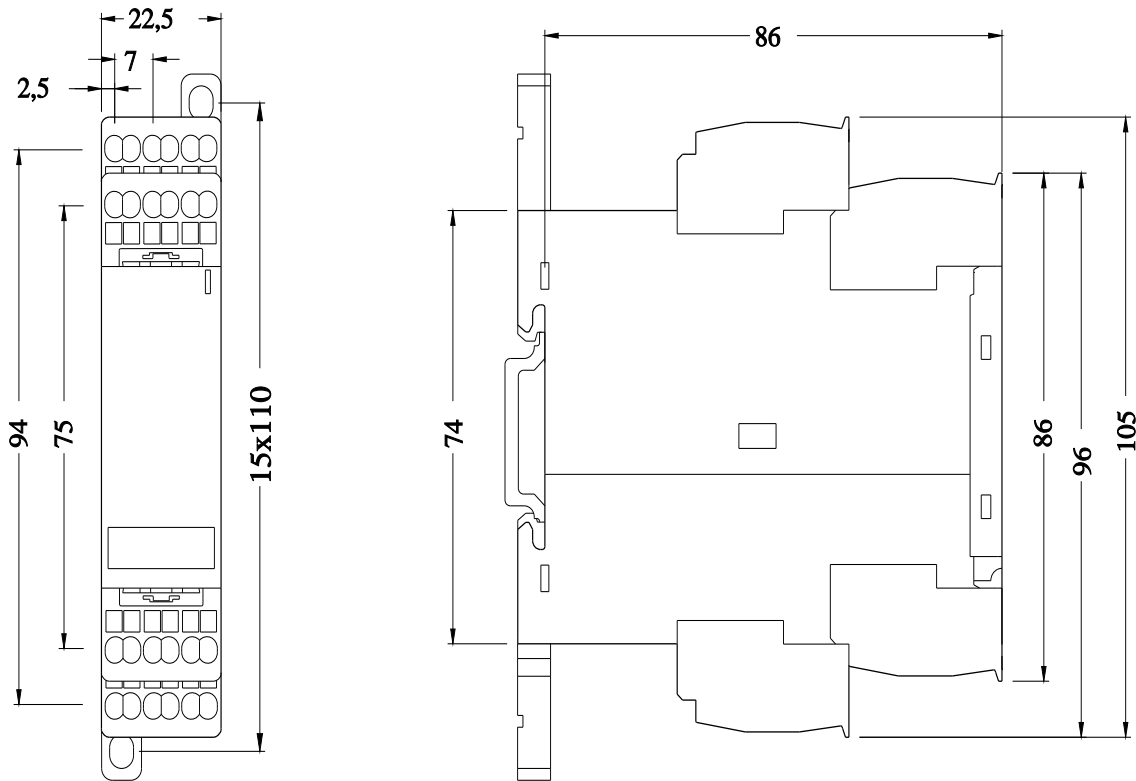
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2842-2BB41>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TK2842-2BB41>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TK2842-2BB41&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK2842-2BB41&lang=en)



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