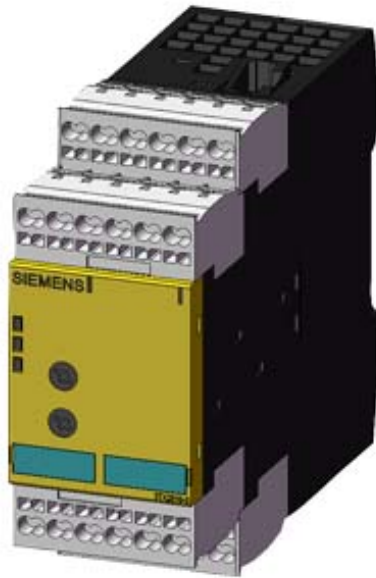


SIRIUS safety relay safety-oriented Standstill monitoring 24 V DC, 45 mm Spring-type terminal EC instantaneous: 3 NO + 1 NC EC delayed: 0 SC: 3 Auto-start Basic unit max. error category EN 954-1: 4 Maximum achievable PL according to EN 13849-1: Maximum achievable SIL according to IEC 61508: 3



General technical data	
Product brand name	SIRIUS
Product designation	Standstill monitor
Design of the product	for safe stoppage monitoring
Protection class IP of the enclosure	IP20
Protection class IP of the terminal	IP20
Protection against electrical shock	finger-safe
Insulation voltage rated value	690 V
Ambient temperature	
• during storage	-40 ... +75 °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	10 ... 55 Hz: 0.35 mm
Shock resistance	8g / 10 ms
Surge voltage resistance rated value	6 000 V
EMC emitted interference	IEC 61000-6-2, IEC 61000-6-3

<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>Number of sensor inputs</b> • 1-channel or 2-channel	1
<b>Design of the cascading</b>	none
<b>Type of the safety-related wiring of the inputs</b>	measuring inputs
<b>Product feature cross-circuit-proof</b>	No
<b>Safety Integrity Level (SIL)</b> • acc. to IEC 61508 • for delayed release circuit acc. to IEC 61508	3 SIL3
<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 B
<b>PFHD with high demand rate acc. to EN 62061</b>	0.0000000015 1/h
<b>Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508</b>	0.002 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 • as NO contact — safety-related instantaneous contact — safety-related delayed switching	2 4 0
<b>Number of outputs as contact-less semiconductor switching element</b> • safety-related — delayed switching — instantaneous contact • for signaling function — delayed switching — instantaneous contact	0 0 0 2
<b>Stop category acc. to DIN EN 60204-1</b>	0

## General technical data

<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>	<p>No</p> <p>Yes</p> <p>No</p>
<b>Type of electrical connection</b> Plug-in socket	Yes
<b>Operating frequency maximum</b>	1 200 1/h
<b>Switching capacity current</b>	
<ul style="list-style-type: none"> <li>• <b>of semiconductor outputs</b> <ul style="list-style-type: none"> <li>— for signaling function at DC-13 at 24 V</li> </ul> </li> <li>• <b>of the NO contacts of the relay outputs at DC-13</b> <ul style="list-style-type: none"> <li>— at 24 V</li> </ul> </li> <li>• <b>of the NO contacts of the relay outputs at AC-15</b> <ul style="list-style-type: none"> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> <li>• <b>of the NC contacts of the relay outputs at DC-13</b> <ul style="list-style-type: none"> <li>— at 24 V</li> </ul> </li> <li>• <b>of the NC contacts of the relay outputs at AC-15</b> <ul style="list-style-type: none"> <li>— at 115 V</li> <li>— at 230 V</li> </ul> </li> </ul>	<p>0.1 A</p> <p>2 A</p> <p>3 A</p> <p>3 A</p> <p>2 A</p> <p>2 A</p> <p>2 A</p>
<b>Thermal current of the switching element with contacts maximum</b>	5 A
<b>Electrical endurance (switching cycles) typical</b>	200 000
<b>Mechanical service life (switching cycles) typical</b>	50 000 000
<b>Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required</b>	quick: 5 A
<b>Adjustable OFF-delay time after opening of the safety circuits</b>	0.2 ... 6 s

## Control circuit/ Control

<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 ... 1.2

## Installation/ mounting/ dimensions

<b>Mounting position</b>	any
<b>Mounting type</b>	screw and snap-on mounting
<b>Width</b>	45 mm

<b>Height</b>	138.5 mm
<b>Depth</b>	120 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> </ul>	2x (0.25 ... 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>	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 at AWG conductors</b>	
<ul style="list-style-type: none"> <li>• solid</li> </ul>	2x (24 ... 16)
<ul style="list-style-type: none"> <li>• stranded</li> </ul>	2x (20 ... 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>	No Yes No No No No No No No No No No
<b>Suitability for interaction press control</b>	No
<b>Suitability for use</b>	
<ul style="list-style-type: none"> <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 No No No No No Yes
<b>Certificates/ approvals</b>	
<b>Certificate of suitability</b>	UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508
<ul style="list-style-type: none"> <li>• TÜV (German technical inspectorate) certificate</li> </ul>	Yes

- UL approval
- BG BIA certificate

Yes

Yes

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



<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>other</b>	<b>Railway</b>
<a href="#">Miscellaneous</a>	<a href="#">Special Test Certificate</a>	<a href="#">Confirmation</a>	<a href="#">Confirmation</a>

#### 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=3TK2810-0BA02>

##### Cax online generator

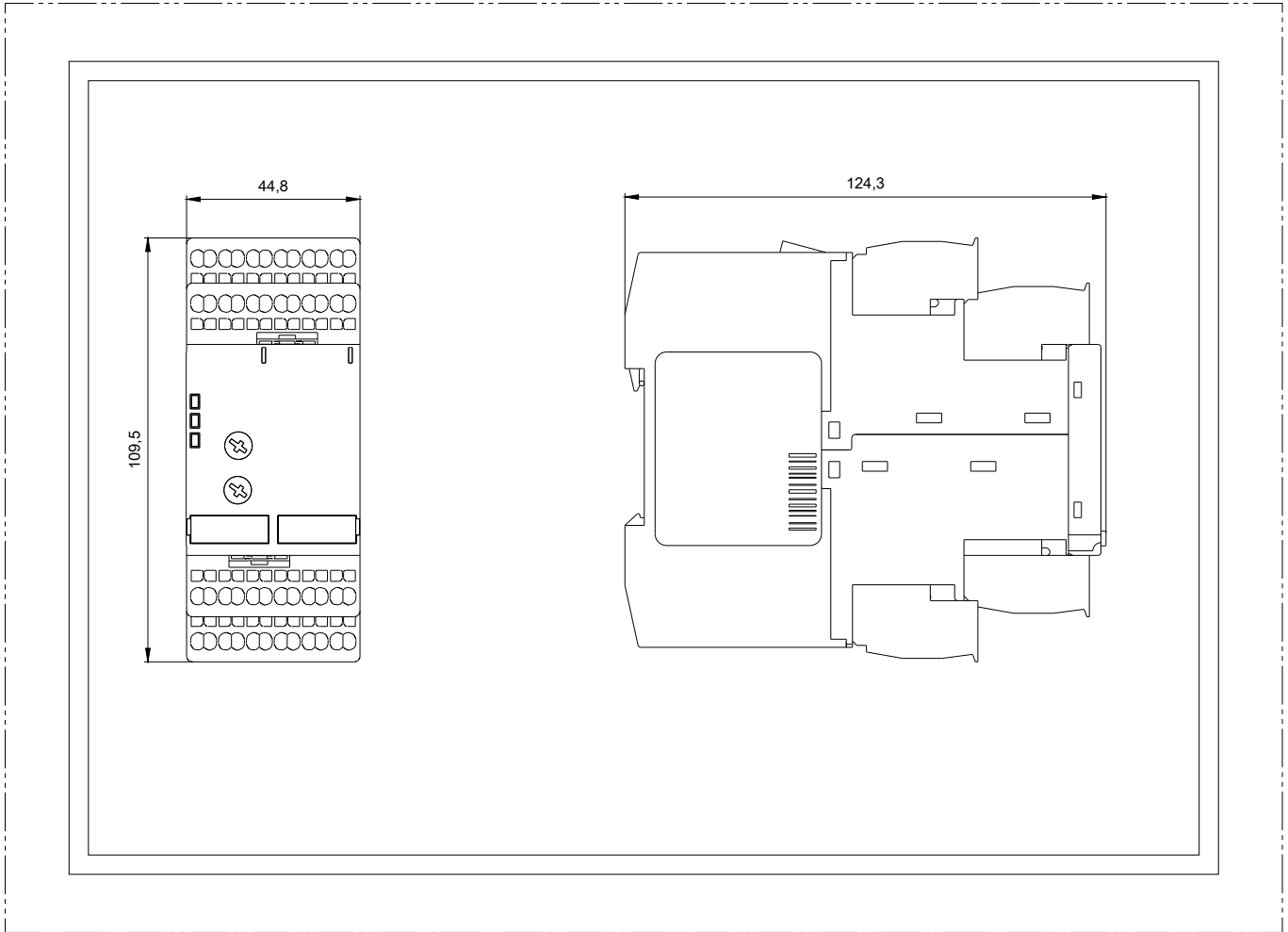
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2810-0BA02>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TK2810-0BA02>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TK2810-0BA02&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK2810-0BA02&lang=en)



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04/04/2020