

SIRIUS safety relay safety-oriented Standstill monitoring 230 V AC, 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
touch 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

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.
reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	KT
reference code acc. to DIN EN 61346-2	F
number of sensor inputs <ul style="list-style-type: none"> <li>• 1-channel or 2-channel</li> </ul>	1
design of the cascading	none
type of the safety-related wiring of the inputs	measuring inputs
product feature cross-circuit-proof	No
Safety Integrity Level (SIL) <ul style="list-style-type: none"> <li>• acc. to IEC 61508</li> <li>• for delayed release circuit acc. to IEC 61508</li> </ul>	3 SIL3
SIL Claim Limit (subsystem) acc. to EN 62061	3
performance level (PL) <ul style="list-style-type: none"> <li>• acc. to EN ISO 13849-1</li> </ul>	e
category acc. to EN ISO 13849-1	4
hardware fault tolerance acc. to IEC 61508	1
safety device type acc. to IEC 61508-2	Type B
PFHD with high demand rate acc. to EN 62061	0.0000000015 1/h
Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508	0.002 1/y
T1 value for proof test interval or service life acc. to IEC 61508	20 y
number of outputs as contact-affected switching element <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> <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>	2 4 0
number of outputs as contact-less semiconductor switching element <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> <li>• for signaling function <ul style="list-style-type: none"> <li>— delayed switching</li> <li>— instantaneous contact</li> </ul> </li> </ul>	0 0 0 2
stop category acc. to DIN EN 60204-1	0

Inputs	
<b>design of input</b>	
• cascading input/functional switching	No
• feedback input	Yes
• start input	No
Outputs	
<b>type of electrical connection plug-in socket</b>	Yes
<b>operating frequency maximum</b>	1 200 1/h
<b>switching capacity current</b>	
• of semiconductor outputs	
— for signaling function at DC-13 at 24 V	0.1 A
• of the NO contacts of the relay outputs at DC-13	
— at 24 V	2 A
• of the NO contacts of the relay outputs at AC-15	
— at 115 V	3 A
— at 230 V	3 A
• of the NC contacts of the relay outputs at DC-13	
— at 24 V	2 A
• of the NC contacts of the relay outputs at AC-15	
— at 115 V	2 A
— at 230 V	2 A
<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
Control circuit/ Control	
<b>type of voltage of the control supply voltage</b>	AC
<b>control supply voltage frequency</b>	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
<b>control supply voltage 1 at AC</b>	
• at 50 Hz rated value	230 V
• at 60 Hz rated value	230 V
<b>operating range factor control supply voltage rated value of magnet coil</b>	
• at AC	

— at 50 Hz	0.8 ... 1.1
— at 60 Hz	0.8 ... 1.1

#### Installation/ mounting/ dimensions

<b>mounting position</b>	any
<b>fastening method</b>	screw and snap-on mounting
<b>width</b>	45 mm
<b>height</b>	138.5 mm
<b>depth</b>	120 mm

#### Connections/ Terminals

<b>type of electrical connection</b>	spring-loaded terminals
<b>type of connectable conductor cross-sections</b>	
• solid	2x (0.25 ... 1.5 mm <sup>2</sup> )
• finely stranded	
— with core end processing	2 x (0.25 ... 1.5 mm <sup>2</sup> )
— without core end processing	2x (0.25 ... 1.5 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections at AWG cables</b>	
• solid	2x (24 ... 16)
• stranded	2x (20 ... 16)

#### Product Function

<b>product function</b>	
• light barrier monitoring	No
• standstill monitoring	Yes
• protective door monitoring	No
• automatic start	No
• magnetically operated switch monitoring NC-NO	No
• rotation speed monitoring	No
• laser scanner monitoring	No
• monitored start-up	No
• light array monitoring	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
- magnetically operated switch monitoring
- safety-related circuits

No  
No  
Yes

#### Certificates/ approvals

##### certificate of suitability

UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508

- TÜV (German technical inspectorate) certificate
- UL approval
- BG BIA approval

Yes  
Yes  
Yes

#### 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=3TK2810-0GA02>

##### Cax online generator

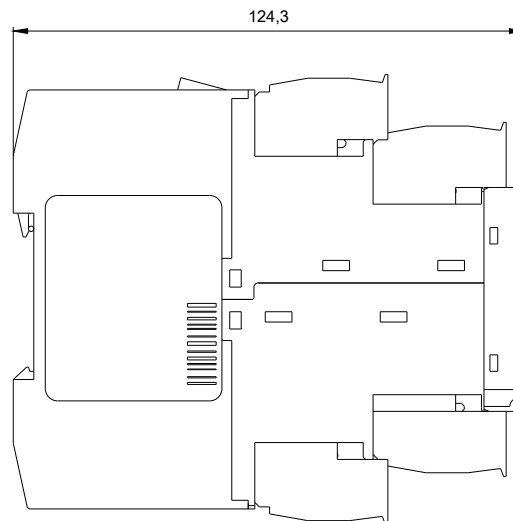
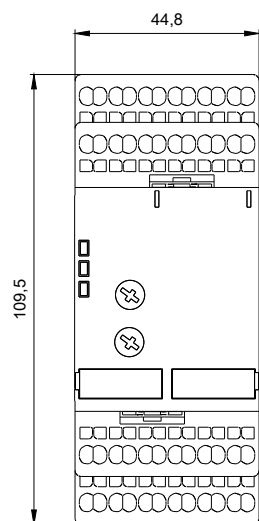
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2810-0GA02>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TK2810-0GA02>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TK2810-0GA02&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK2810-0GA02&lang=en)



last modified:

12/02/2020