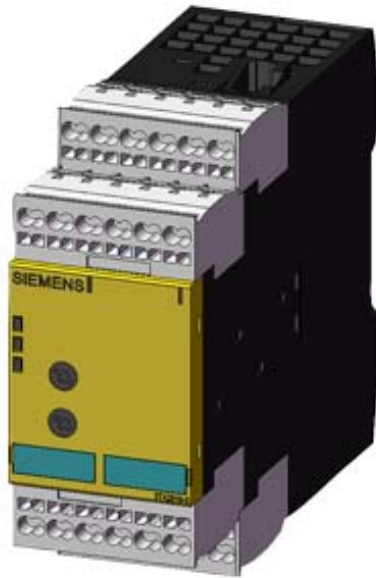


SIRIUS safety relay safety-oriented Standstill monitoring 24 V DC, 45 mm Spring-type terminal EC instantaneous: 3 NO + 1 NC EC delayed: 0 SC: 3 Auto-start Basic unit max. error category EN 954-1: 4 Maximum achievable PL according to EN 13849-1: Maximum achievable SIL according to IEC 61508: 3



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

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 • 1-channel or 2-channel	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) • acc. to IEC 61508 • for delayed release circuit acc. to IEC 61508	3 SIL3
SIL Claim Limit (subsystem) acc. to EN 62061	3
Performance level (PL) • acc. to EN ISO 13849-1	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 • as NC contact — for signaling function instantaneous contact • as NO contact — safety-related instantaneous contact — safety-related delayed switching	2 4 0
Number of outputs as contact-less semiconductor switching element • safety-related — delayed switching — instantaneous contact • for signaling function — delayed switching — instantaneous contact	0 0 0 2
Stop category acc. to DIN EN 60204-1	0

General technical data

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

Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage 1	
<ul style="list-style-type: none"> • at DC rated value 	24 V
Operating range factor control supply voltage rated value of magnet coil	
<ul style="list-style-type: none"> • at DC 	0.9 ... 1.2

Installation/ mounting/ dimensions

Mounting position	any
Mounting type	screw and snap-on mounting
Width	45 mm

Height	138.5 mm
Depth	120 mm
Connections/Terminals	
Type of electrical connection	spring-loaded terminals
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid 	2x (0.25 ... 1.5 mm ²)
<ul style="list-style-type: none"> • finely stranded <ul style="list-style-type: none"> — with core end processing — without core end processing 	2 x (0.25 ... 1.5 mm ²) 2x (0.25 ... 1.5 mm ²)
Type of connectable conductor cross-sections at AWG conductors	
<ul style="list-style-type: none"> • solid 	2x (24 ... 16)
<ul style="list-style-type: none"> • stranded 	2x (20 ... 16)
Product Function	
Product function	
<ul style="list-style-type: none"> • Light barrier monitoring • Standstill monitoring • protective door monitoring • Automatic start • magnetically operated switch monitoring NC-NO • rotation speed monitoring • laser scanner monitoring • monitored start-up • Light array monitoring • magnetically operated switch monitoring NC-NC • EMERGENCY OFF function • Pressure-sensitive mat monitoring 	No Yes No No No No No No No No No No
Suitability for interaction press control	No
Suitability for use	
<ul style="list-style-type: none"> • safety switch • position switch monitoring • EMERGENCY-OFF circuit monitoring • valve monitoring • tactile sensor monitoring • magnetically operated switch monitoring • safety-related circuits 	Yes No No No No No Yes
Certificates/approvals	
Certificate of suitability	UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508
<ul style="list-style-type: none"> • TÜV (German technical inspectorate) certificate 	Yes

- UL approval
- BG BIA certificate

Yes
Yes

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
 CCC	 CSA	 UL		Type Examination Certificate	 EG-Konf.

Declaration of Conformity	Test Certificates	other	Railway
Miscellaneous	Special Test Certificate	Environmental Confirmations	Confirmation

Further information

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3TK2810-0BA02>

Cax online generator

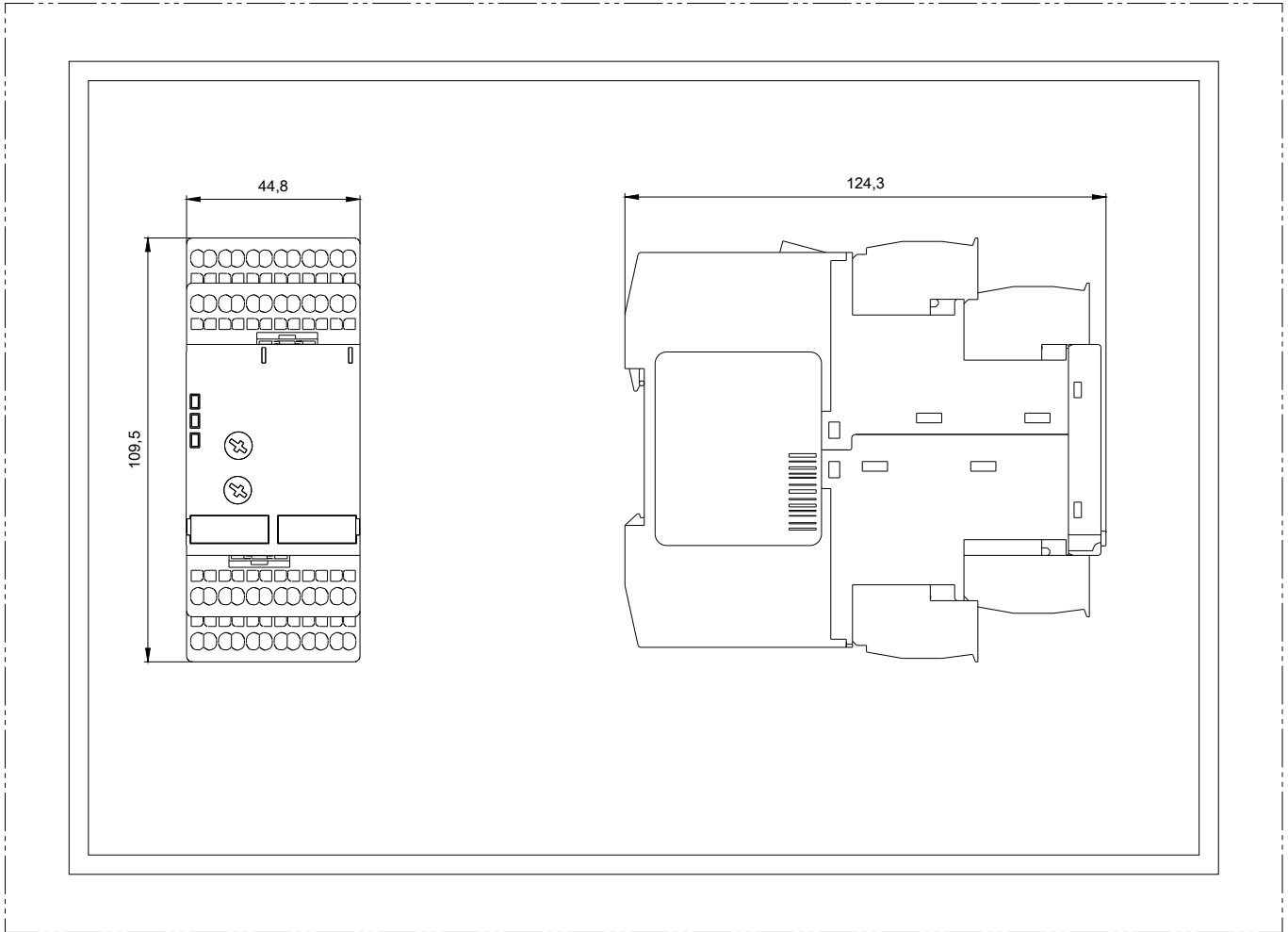
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2810-0BA02>

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



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08/02/2019