



SIRIUS safety relay safety-oriented Standstill monitoring 24 V DC, 45 mm screw 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

product brand name	SIRIUS
product designation	Standstill monitor
design of the product	for safe stoppage monitoring
General technical data	
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 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	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. 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	none
type of the safety-related wiring of the inputs	measuring inputs
product feature cross-circuit-proof	No
Safety Integrity Level (SIL)	
• according to IEC 61508	3
• according to IEC 62061	3
• for delayed release circuit according to IEC 61508	SIL3
SIL Claim Limit (subsystem) according to EN 62061	3
performance level (PL)	
• according to 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 IEC 62061	1.5E-9 1/h
Average probability of failure on demand (PFDavg) with low	0.002 1/y

demand rate acc. to IEC 61508	
T1 value for proof test interval or service life according to IEC 61508	20 a
number of outputs as contact-affected switching element	
<ul style="list-style-type: none"> ● as NC contact <ul style="list-style-type: none"> — for signaling function instantaneous contact 	2
<ul style="list-style-type: none"> ● as NO contact <ul style="list-style-type: none"> — safety-related instantaneous contact — safety-related delayed switching 	4 0
number of outputs as contact-less semiconductor switching element	
<ul style="list-style-type: none"> ● safety-related <ul style="list-style-type: none"> — delayed switching — instantaneous contact ● for signaling function <ul style="list-style-type: none"> — delayed switching — instantaneous contact 	0 0 0 2
stop category according to IEC 60204-1	0
Inputs	
design of input	
<ul style="list-style-type: none"> ● cascading input/functional switching ● feedback input ● start input 	No Yes No
voltage measuring range at the measurement inputs at AC	
<ul style="list-style-type: none"> ● according to UL maximum ● maximum 	600 V 690 V
input resistance at the measurement inputs	500 kΩ
adjustable response value voltage for standstill detection	20 ... 400 mV
Outputs	
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 ● of the NO contacts of the relay outputs at DC-13 <ul style="list-style-type: none"> — at 24 V ● of the NO contacts of the relay outputs at AC-15 <ul style="list-style-type: none"> — at 115 V — at 230 V ● of the NC contacts of the relay outputs at DC-13 <ul style="list-style-type: none"> — at 24 V ● of the NC contacts of the relay outputs at AC-15 <ul style="list-style-type: none"> — at 115 V — at 230 V 	0.1 A 2 A 3 A 3 A 2 A 2 A 2 A
thermal current of the switching element with contacts maximum	5 A
electrical endurance (operating cycles) typical	200 000
mechanical service life (operating 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
Times	
adjustable downtime	0.2 ... 6 s
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage 1 at DC	
<ul style="list-style-type: none"> ● 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
fastening method	screw and snap-on mounting

width	45 mm
height	138.5 mm
depth	120 mm

Connections/ Terminals

type of electrical connection	screw terminal
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> • finely stranded — with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
type of connectable conductor cross-sections for AWG cables	
<ul style="list-style-type: none"> • solid 	2x (20 ... 14)
<ul style="list-style-type: none"> • stranded 	2x (20 ... 14)

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 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 • UL approval • BG BIA approval 	 Yes Yes Yes

General Product Approval



Functional Safety	Test Certificates	other	Railway	Environment
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[Special Test Certificate](#)

[Confirmation](#)

[Confirmation](#)

[Environmental Confirmations](#)

Further information

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)
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3TK2810-0BA01>

Cax online generator

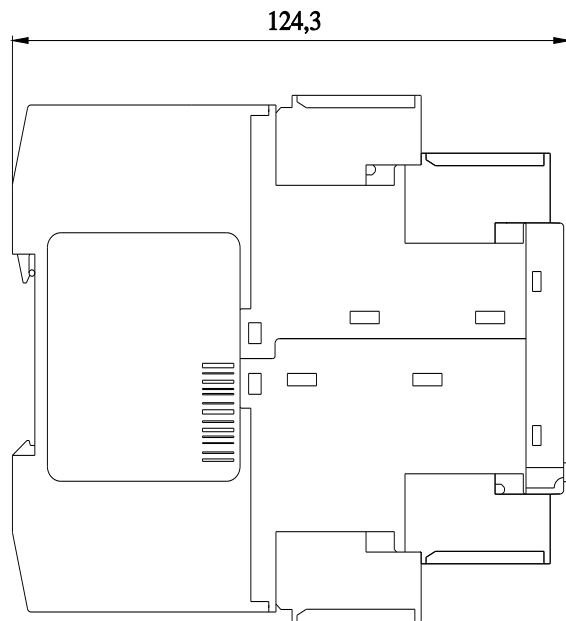
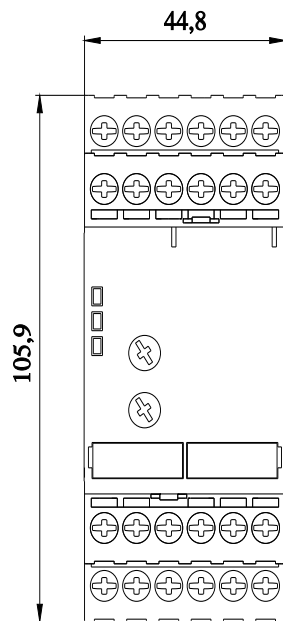
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2810-0BA01>

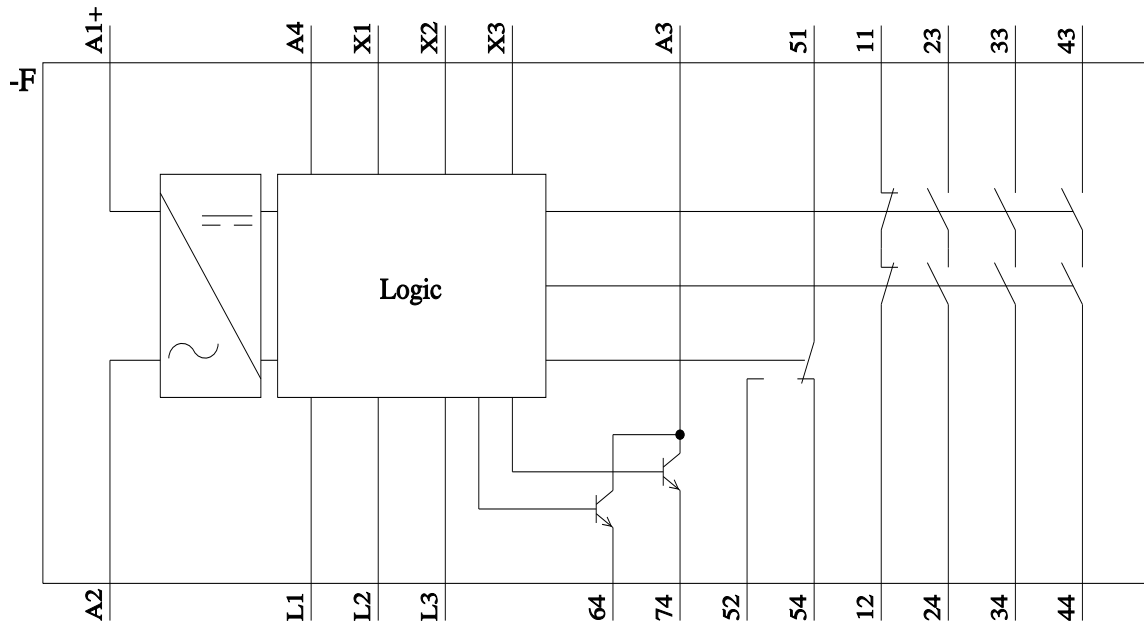
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3TK2810-0BA01>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK2810-0BA01&lang=en





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