

SIRIUS SAFETY RELAY FOR SAFETY-ORIENTED
STANDSTILL MONITORING,
24V DC, 45.0MM, SPRING-LOADED TERMINAL,
FK INSTANT.: 3NO 1NC, FK DELAYED: 0,
MK: 3, AUTO START, BASIC UNIT,
MAX. ACHIEV. CAT. EN954-1: 4,
MAX. ACHIEV. SIL TO IEC61508:3,

General technical details:

Product brand name		SIRIUS
product designation		safety relays
Design of the product		for safe stoppage monitoring
protection class IP / of the housing		IP20
Protection class IP / of the terminal		IP20
Protection against electrical shock		finger-safe
Insulation voltage / rated value	V	690
Ambient temperature		
• during storage	°C	-40 ... +75
• during operating	°C	-25 ... +60
Air pressure		
• according to SN 31205	kPa	90 ... 106
Relative humidity		
• during operating phase	%	10 ... 95
Installation altitude / at a height over sea level / maximum	m	2,000
Resistance against vibration / according to IEC 60068-2-6		10 ... 55 Hz: 0.35 mm
Resistance against shock		8g / 10 ms
Impulse voltage resistance / rated value	V	6,000
EMC emitted interference		IEC 61000-6-2, IEC 61000-6-3

Item designation		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		KT
• according 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 / transverse contact-secure		No
safety Integrated Level / according to IEC 61508		SIL3
SIL claim limit (for a subsystem) / according to EN 62061		3
Performance level (PL) / according to ISO 13849-1		e
Category / according to EN 954-1		4
Category / according to ISO 13849-1		4
Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061	1/h	0.15E-8
T1 value / for proof test interval or service life / according to IEC 61508	a	20
Number of outputs / as contact-affected switching element		
• as NC contact / for reporting function / instantaneous switching		2
• as NO contact / safety-related / instantaneous switching		4
• as NO contact / safety-related/ delayed switching		0
Number of outputs / as contact-less semiconductor switching element		
• safety-related		
• delayed switching		0
• non-delayed		0
• for reporting function		
• delayed switching		0
• non-delayed		2
Stop category / according to DIN EN 60204-1		0

General technical details:

Design of the input		
• cascading-entrance/operation-even switching		No
• reducing-entrance		Yes
• start-up entrance		No
Design of the electrical connection / jumper socket		Yes
Operating cycles / maximum	1/h	1,200
Switching capacity current / of semiconductor outputs		
• for signaling function / for DC-13 / at 24 V	A	0.1

Switching capacity current / of the NO contacts of the relay outputs <ul style="list-style-type: none"> • at DC-13 <ul style="list-style-type: none"> • at 24 V • at AC-15 <ul style="list-style-type: none"> • at 115 V • at 230 V 	A	2
	A	3
	A	3
Switching capacity current / of the NC contacts of the relay outputs <ul style="list-style-type: none"> • at DC-13 <ul style="list-style-type: none"> • at 24 V • at AC-15 <ul style="list-style-type: none"> • at 115 V • at 230 V 	A	2
	A	2
	A	2
Thermal current / of the contact-affected switching element / maximum	A	5
Electrical operating cycles as operating time / typical		200,000
Mechanical operating cycles as operating time / 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 backslide delay time <ul style="list-style-type: none"> • after opening of the safety circuits 	s	0.2 ... 6

Control circuit:

Type of voltage / of the controlled supply voltage		DC
Control supply voltage / 1 / for DC / rated value	V	24
Working range factor supply voltage rated value / of the magnet coil <ul style="list-style-type: none"> • for DC 		0.9 ... 1.15

Installation/mounting/dimensions:

Built in orientation		any
Type of mounting		screw and snap-on mounting
Width	mm	45
Height	mm	138.5
Depth	mm	120

Connections:

Design of the electrical connection		spring-loaded terminals
Type of the connectable conductor cross-section <ul style="list-style-type: none"> • solid • finely stranded 		2x (0.25 ... 1.5 mm²)

- with wire end processing
- without wire end processing

2x (0.25 ... 1 mm²)
2x (0.25 ... 1.5 mm²)

Product Function:

Product function

- light barrier monitoring
- standstill monitoring
- protective door monitoring
- automatic start
- magnetic switch monitoring Normally closed contact-Normally open contact
- rotation speed monitoring
- laser scanner monitoring
- monitored start-up
- light grid monitoring
- magnetic switch monitoring Normally closed contact-Normally closed contact
- emergency stop function
- step mat monitoring

No
Yes
No
No
No
No
No
No
No
No
No
No

Suitability for interaction / pressing control

No

Acceptability for application

- safety cut-out switch
- position switch monitoring
- EMERGENCY-OFF circuit monitoring
- opto-electronical protection device monitoring
- magnetically operated switches monitoring
- proximity switches monitoring
- safety-related circuits

Yes
No
No
No
No
No
Yes

Certificates/approvals:

Verification of suitability

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

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

General Product Approval

Functional Safety / Safety of Machinery

Test Certificates



CSA

[ROSTEST](#)



UL

[BG](#)

[TÜV](#)

[Manufacturer](#)

other

[Manufacturer](#)

Further information:

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

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

Industry Mall (Online ordering system)

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

CAX-Online-Generator

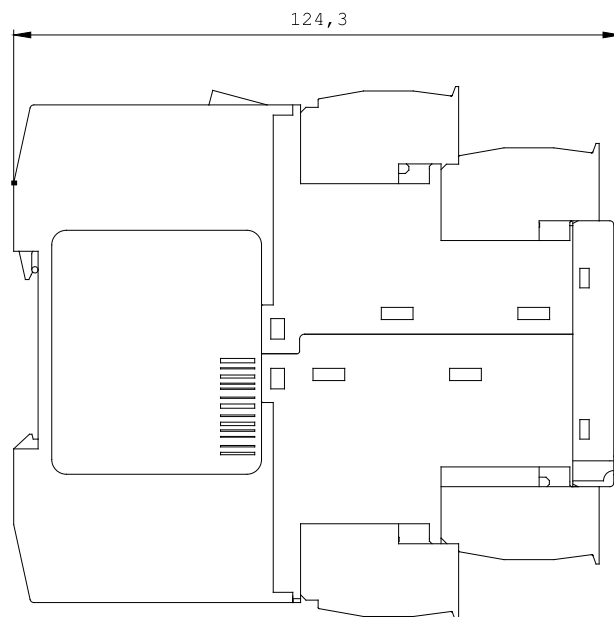
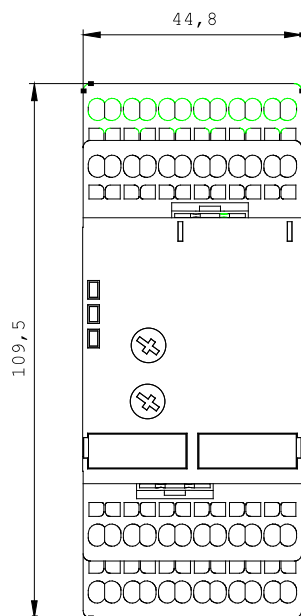
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3TK2810-0BA02/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3TK2810-0BA02



last change:

Dec 14, 2011