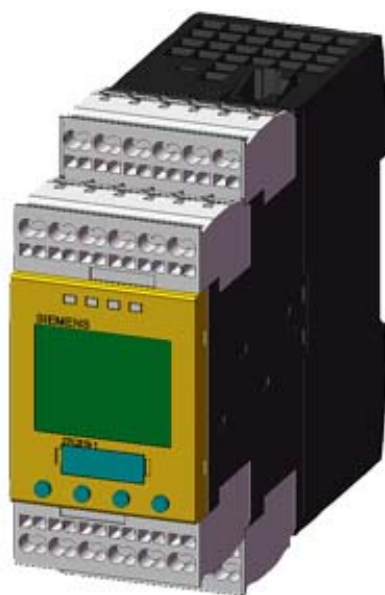




SIRIUS SAFETY RELAY SAFETY-RELATED SPEED MONITORING,
110 - 240 V AC/DC, 45.0 MM,
SPRING-LOADED TERMINAL,
RC INSTANTANEOUS: 2NO, RC DELAYED. 0,
SC: 2 ELECTRICAL,
AUTOSTART / MANUAL START, BASIC UNIT,
MAX. ACH. PL EN13849-1: E,
MAX. ACH. SIL TO IEC61508:3,

General technical details:

product brand name		SIRIUS
product designation		safety relays
Design of the product		standstill and speed 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	300
Ambient temperature		
• during storage	°C	-20 ... +70
• during operating	°C	0 ... 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	4,000
EMC emitted interference		EN 60947-5-1

Installation environment relating to 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.
Item designation • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 • according to DIN EN 61346-2		KT F
Number of sensor inputs • 2-channel • 1-channel or 2-channel		3 0
Design of the cascading		none
Type of the safety-related wiring / of the inputs		single-channel or two-channel
Product feature / transverse contact-secure		Yes
Safety Integrity Level (SIL) • according to IEC 61508 • for delayed release circuit / according to IEC 61508		SIL3 SIL3
SIL claim limit (for a subsystem) / according to EN 62061		3
Performance Level (PL) • according to ISO 13849-1 • for delayed release circuit / according to ISO 13849-1		e e
Category / according to EN 954-1		4
Category / according to ISO 13849-1		4
Hardware fault tolerance / according to IEC 61508		1
Safety device type / according to IEC 61508-2		Type B
Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061	1/h	0.34E-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 • as NO contact / for reporting function / instantaneous switching • as NC contact / for reporting function / delayed switching • as NO contact / for reporting function / delayed switching • as NC contact / safety-related / instantaneous switching • as NO contact / safety-related / instantaneous switching • as NC contact / safety-related / delayed switching • as NO contact / safety-related / delayed switching		0 0 0 0 0 1 0 1
Number of outputs / as contact-less semiconductor switching element • safety-related • delayed switching		0

• non-delayed	0
• for reporting function	
• delayed switching	1
• non-delayed	1
Stop category / according to DIN EN 60204-1	0

General technical details:

Design of the input		
• cascading-input/functional switching		No
• feedback input		Yes
• start input		Yes
Design of the electrical connection / jumper socket		Yes
Switching capacity current		
• of semiconductor outputs		
• for signaling function / for DC-13 / at 24 V	A	0.02
• of NO contacts of relay outputs		
• at DC-13		
• at 24 V	A	2
• at 115 V	A	2
• at AC-15		
• at 24 V	A	3
• at 230 V	A	3
• of NC contacts of relay outputs		
• at AC-15		
• at 24 V	A	3
• at 115 V	A	3
• at 230 V	A	2
Thermal current / of the contact-affected switching element / maximum	A	5
Electrical operating cycles as operating time / typical		100,000
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		gL/gG: 4 A

Control circuit:

Type of voltage / of the controlled supply voltage		AC/DC
Control supply voltage frequency		
• 1 / rated value	Hz	50
• 2 / rated value	Hz	60
Control supply voltage / 1		
• for DC	V	110 ... 240

Control supply voltage / 1 / at 50 Hz • for AC	V	110 ... 240
Control supply voltage / 1 / at 60 Hz • for AC	V	110 ... 240
operating range factor control supply voltage rated value / of the magnet coil • at 50 Hz • for AC • at 60 Hz • for AC • for DC		0.8 ... 1.1 0.8 ... 1.1 0.8 ... 1.1

Installation/mounting/dimensions:		
mounting position		any
Type of mounting		screw and snap-on mounting
Width	mm	45
Height	mm	107.7
Depth	mm	124.3

Connections:		
Design of the electrical connection		spring-loaded terminals
Type of the connectable conductor cross-section • solid • finely stranded • with wire end processing • without wire end processing		0.5 ... 4 mm ² 2 x (0.25 ... 1.5 mm ²) 2x (0.25 ... 1.5 mm ²)
Type of the connectable conductor cross-section / for AWG conductors • solid • stranded		2x (24 ... 16) 2x (20 ... 16)

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		No Yes Yes Yes No Yes No

• monitored start-up	Yes
• light grid monitoring	No
• magnetic switch monitoring Normally closed contact-Normally closed contact	No
• emergency stop function	Yes
• step mat monitoring	No
Suitability for interaction / pressing control	No
Acceptability for application	
• monitoring of floating sensors	Yes
• monitoring of non-floating sensors	No
• safety cut-out switch	Yes
• position switch monitoring	Yes
• EMERGENCY-OFF circuit monitoring	No
• valve monitoring	No
• tactile sensor monitoring	No
• magnetically operated switches monitoring	No
• safety-related circuits	Yes

Certificates/approvals:

Verification of suitability

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

TÜV / IEC 61508

Yes

Yes

No

General Product Approval

other



[Declaration of Conformity](#)

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:

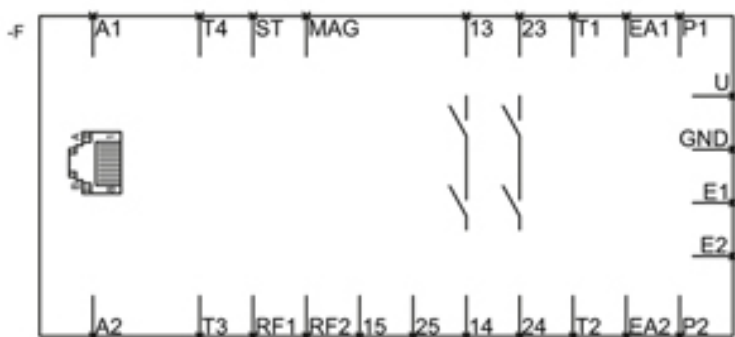
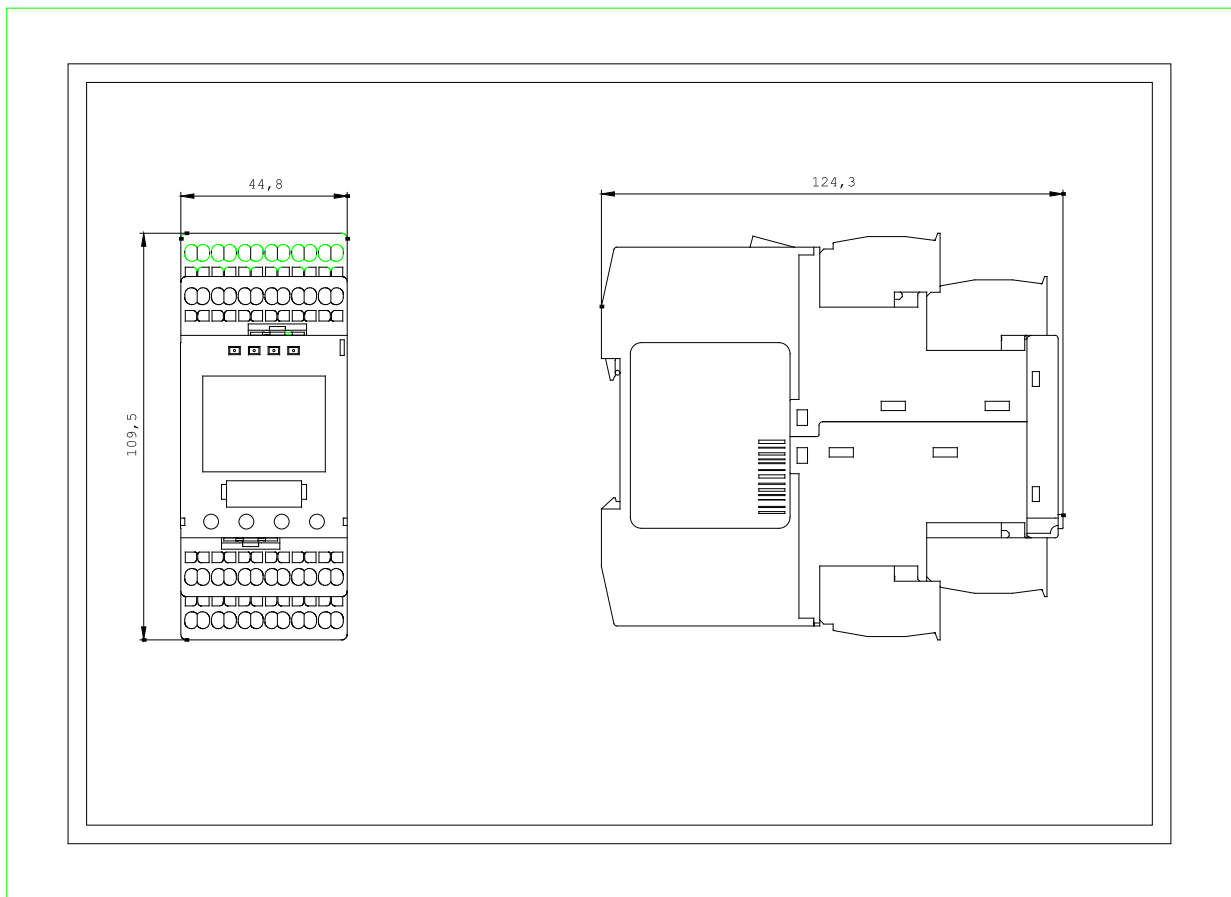
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3TK2810-1KA42/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3TK2810-1KA42



last change:

Feb 18, 2013