

SIRIUS SAFETY RELAY WITH ELECTRONIC RELEASE
CIRCUIT (RC) DC 24V,
22.5MM, SPRING-LOADED TERMINAL,
RC INSTANT.: 1 HL,
RC DELAYED: 1HL 0.5...30S, MK: 0,
AUTOSTART / MONITORED START,
STANDARD DEVICE,
MAX. ACHIEVABLE SIL: 3, PL: E

General technical details:		
product brand name		SIRIUS
product designation		safety relays
Design of the product		for EMERGENCY-STOP units
protection class IP / of the housing		IP40
Protection class IP / of the terminal		IP20
Protection against electrical shock		finger-safe
Insulation voltage / rated value	V	50
Ambient temperature		
• during storage	°C	-40 ... +80
• 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		5 ... 500 Hz: 0,075 mm
Resistance against shock		8g / 10 ms and 15g / 5 ms
Impulse voltage resistance / rated value	V	500
EMC emitted interference		IEC 60947-5-1, IEC 60000-4-3, IEC 60000-4-5, IEC 60000-4-6
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		KT
• according to DIN EN 61346-2		F
Number of sensor inputs		

• 1-channel or 2-channel		1
Design of the cascading		cascading or in-service switching
Type of the safety-related wiring / of the inputs		single-channel and two-channel
Product feature / transverse contact-secure		Yes
Safety Integrity Level (SIL)		
• according to IEC 61508		SIL3
• for delayed release circuit / 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
• for delayed release circuit / according to ISO 13849-1		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	0.50E-10
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		0
• as NO contact / safety-related / instantaneous switching		0
• as NO contact / safety-related / delayed switching		0
Number of outputs / as contact-less semiconductor switching element		
• safety-related		
• delayed switching		1
• non-delayed		1
• for reporting function		
• delayed switching		0
• non-delayed		0
Stop category / according to DIN EN 60204-1		0 + 1

General technical details:

Design of the input		
• cascading-input/functional switching		Yes
• feedback input		Yes
• start input		Yes
Design of the electrical connection / jumper socket		Yes
Operating cycles / maximum	1/h	2,000
Switching capacity current		

• of semiconductor outputs • for enabling circuit / for DC-13 / at 24 V	A	1.5
Design of the fuse link / for short-circuit protection of the NO contacts of the relay outputs / required		not required
Resistance to direct current / of the cable / maximum	Ω	1,000
Cable length / between sensor and electronic evaluation device / with Cu 1.5 mm² and 150 nF/km / maximum	m	2,000
Make time / with automatic start		
• typical	ms	60
• for DC / maximum	ms	100
Make time / with automatic start / after mains power cut		
• typical	ms	6,000
• maximum	ms	7,000
Make time / with monitored start		
• maximum	ms	100
• typical	ms	60
Backslide delay time / at mains power cut		
• typical	ms	0
• maximum	ms	0
Adjustable backslide delay time		
• after opening of the safety circuits	s	0.5 ... 30
Recovery time / after opening of the safety circuits / typical	ms	400
Recovery time / after mains power cut / typical	s	7
Pulse duration		
• of the sensor input / minimum	ms	45
• of the ON pushbutton input / minimum	s	0.2
• of the cascading-entrance / minimum	s	0.045

Control circuit:

Type of voltage / of the controlled supply voltage		DC
Control supply voltage / 1 / for DC / rated value	V	24
operating range factor control supply voltage rated value / of the magnet coil		
• for DC		0.9 ... 1.15

Installation/mounting/dimensions:

mounting position		any
Type of mounting		screw and snap-on mounting
Width	mm	22.5
Height	mm	120
Depth	mm	88

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		2x (0.25 ... 1.5 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 (24 ... 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 • monitored start-up • light grid monitoring • magnetic switch monitoring Normally closed contact-Normally closed contact • emergency stop function • step mat monitoring		Yes No Yes Yes No No Yes Yes Yes Yes Yes Yes
Suitability for interaction / pressing control		No
Acceptability for application • monitoring of floating sensors • monitoring of non-floating sensors • safety cut-out switch • position switch monitoring • EMERGENCY-OFF circuit monitoring • valve monitoring • tactile sensor monitoring • magnetically operated switches monitoring • safety-related circuits		Yes Yes Yes Yes Yes No Yes Yes Yes

Certificates/approvals:

Verification of suitability		UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508, DIN EN 50156-1
• TÜV (German technical inspectorate) certificate		Yes
• UL-registration		Yes
• BG BIA certificate		Yes

General Product Approval	EMC	Functional Safety / Safety of Machinery
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CCC



CSA



GOST



UL



C-TICK



VDE

Declaration of Conformity	Test Certificates	other
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EG-Konf.

[Special Test Certificate](#)

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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:

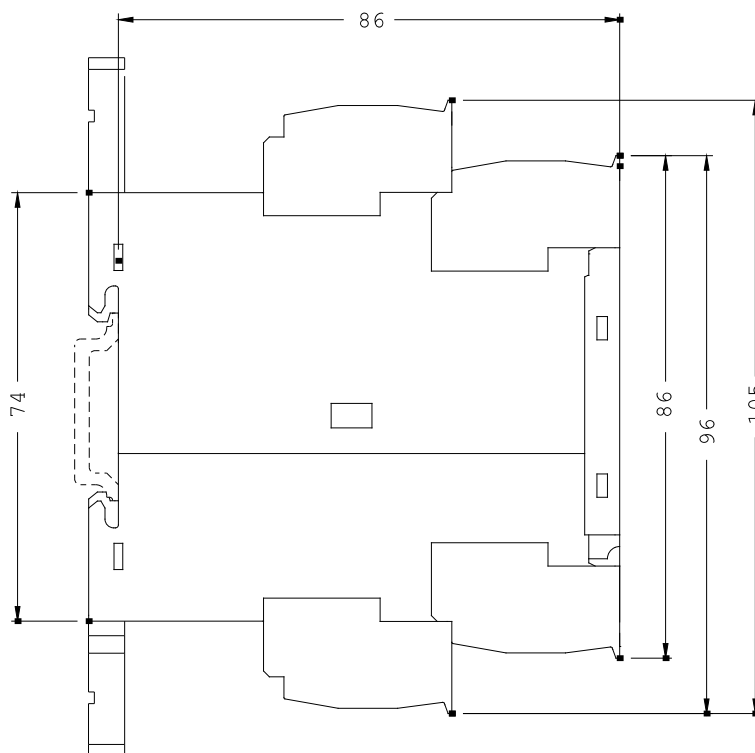
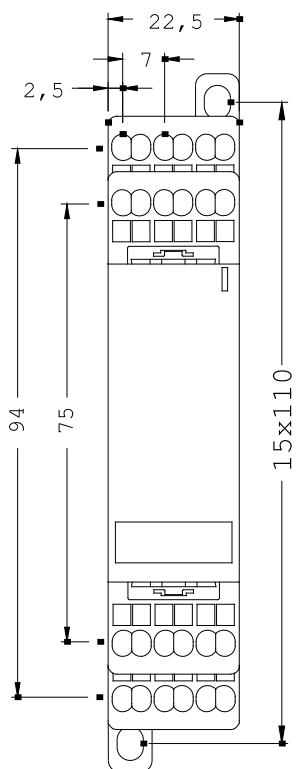
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3TK2842-2BB42/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3TK2842-2BB42



last change:

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