



SIRIUS SAFETY RELAY WITH RELAY RELEASE CIRCUITS (RC),
AC/DC 24V, 22.5MM, SCREW TERMINAL,
RC INSTANT.: 3S, RC DELAYED: 0S,
MC: 1NC, AUTOSTART, BASIC DEVICE,
MAX. ACHIEVABLE SIL: 1, PL: C,

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	300
Ambient temperature		
• during storage	°C	-40 ... 80
• during the operating phase	°C	-25 ... 60
Air pressure		
• according to SN 31205	kPa	90 ... 106
Relative humidity		
• during the 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
Impulse voltage resistance / rated value	V	4,000
EMC emitted interference		EN 60947-5-1

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		single-channel or single-channel and two-channel
Product feature / transverse contact-secure		No
Safety Integrity Level (SIL) / according to IEC 61508		SIL2
SIL claim limit (for a subsystem) / according to EN 62061		2
Performance level (PL) / according to ISO 13849-1		d
Category / according to EN 954-1		3
Category / according to ISO 13849-1		3
Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061	1/h	0.10999999999999999E-8
Average probability of failure on demand (PFDavg) / with low demand rate / according to IEC 61508	1/h	0.9899999999999999E-6
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		1
• as NO contact / fail-safe / instantaneous switching		3
• as NO contact / fail-safe / delayed switching		0
Number of outputs / as contact-less semiconductor switching element		
• fail-safe		
• delayed switching		0
• non-delayed		0
• for reporting function		
• delayed switching		0
• non-delayed		0
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		Yes
Design of the electrical connection / jumper socket		Yes
Operating cycles / maximum	1/h	1,000

Switching capacity current / of the NO contacts of the relay outputs		
• at DC-13		
• at 24 V	A	5
• at 115 V	A	0.2
• at 230 V	A	0.1
• at AC-15		
• at 115 V	A	5
• at 230 V	A	5
Switching capacity current / of the NC contacts of the relay outputs		
• at DC-13		
• at 24 V	A	5
• at 115 V	A	0.2
• at 230 V	A	0.1
• at AC-15		
• at 115 V	A	5
• at 230 V	A	5
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		10,000,000
Design of the fuse link / for short-circuit protection of the NO contacts of the relay outputs / necessary		gL/gG: 6 A, or quick: 10 A
Resistance to direct current / of the cable / maximum	Ω	30
Cable length / between sensor and electronic evaluation device / with Cu 1.5 mm² and 150 nF/km / maximum	m	1,000
Make time / with automatic start		
• for DC / maximum	ms	200
• for AC / maximum	ms	200
Make time / with automatic start / after mains power cut		
• maximum	ms	300
Backslide delay time / after opening of the safety circuits / typical	ms	125
Backslide delay time / at mains power cut		
• typical	ms	125
• maximum	ms	200
Recovery time / after opening of the safety circuits / typical	ms	200
Recovery time / after mains power cut / typical	s	200
Pulse duration		
• of the sensor input / minimum	ms	200
• of the ON pushbutton input / minimum	s	0.15

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 / rated value	V	24
Control supply voltage / 1 / at 50 Hz / for AC / rated value	V	24
Control supply voltage / 1 / at 60 Hz / for AC / rated value	V	24
Operating range factor control supply voltage rated value / of solenoid		
• at 50 Hz		
• for AC		0.85 ... 1.1
• at 60 Hz		
• for AC		0.85 ... 1.1
• for DC		0.85 ... 1.2

Installation/mounting/dimensions:		
Built in orientation		any
Type of mounting		screw and snap-on mounting
Width	mm	22.5
Height	mm	120
Depth	mm	120

Connections:		
Design of the electrical connection		screw-type terminals
Type of connectable conductor cross section		
• solid		0.5 ... 4 mm ² , 2x (0.5 ... 2.5 mm ²)
• finely stranded		
• with wire end processing		0.5 ... 2.5 mm ² , 2x (0.5 ... 1.5 mm ²)
Type of connectable conductor cross section / for AWG conductors		
• solid		2x (24 ... 16)
• stranded		2x (24 ... 16)

Product Function:		
Product function		
• light barrier monitoring		No
• standstill monitoring		No
• protective door monitoring		Yes
• automatic start		Yes

• 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-OFF function • step mat monitoring		No
		No
		No
		No
		No
		No
		No
Suitability for interaction / pressing control		No
Acceptability for application		
• safety cut-out switch		Yes
• position switch monitoring		Yes
• EMERGENCY-OFF circuit monitoring		Yes
• opto-electronical protection device monitoring		No
• monitoring of magnetically operated switches		No
• monitoring of proximity switches		No
• safety-oriented circuits		Yes

Certificates/approvals:

Verification of suitability

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

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

Yes

Yes

Yes

Further information:

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

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

Global Industry Mall (Online ordering system)

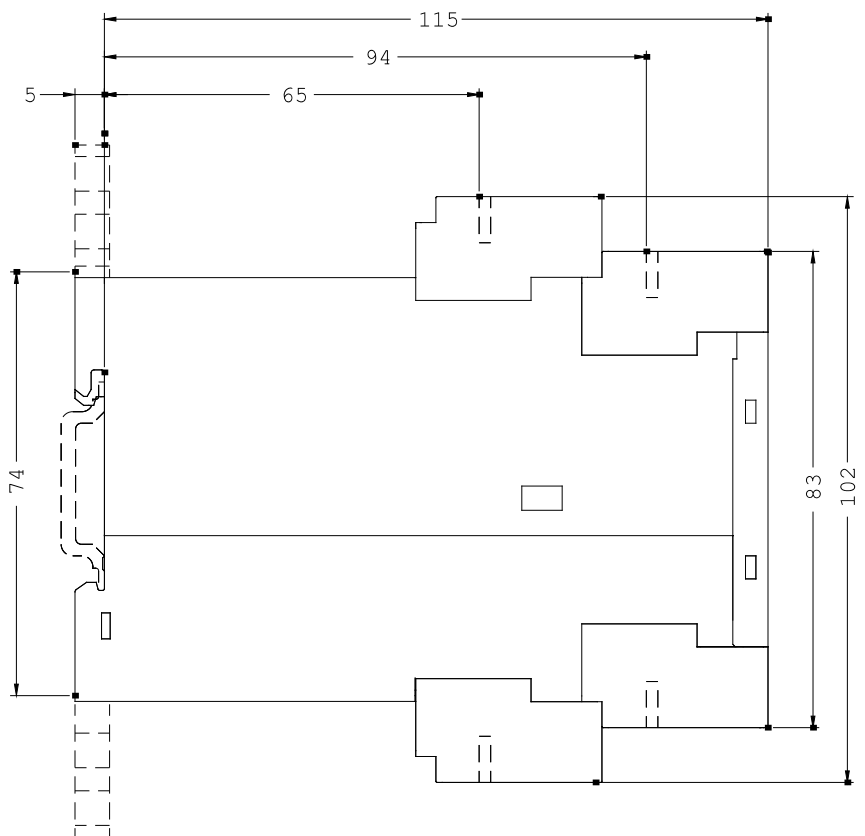
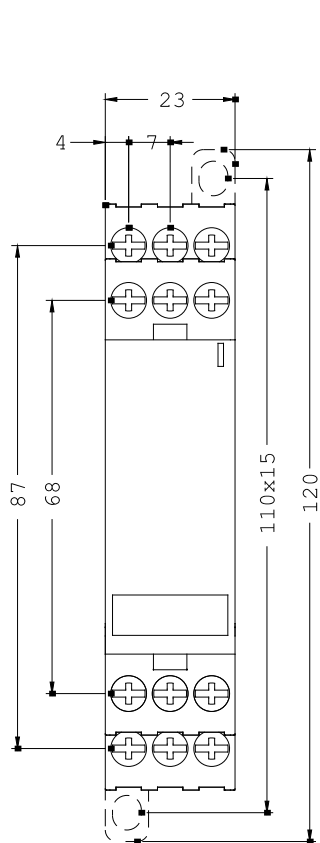
<http://www.siemens.com/industrial-controls/mall>

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

<http://support.automation.siemens.com/WW/view/en/3TK2821-1CB30/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3TK2821-1CB30



last change:

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