

SIRIUS SAFETY RELAY WITH AUXILIARY CONTACTOR
RELEASE CIRCUIT (RC), DC 24V, 90.0MM, SCREW TERMINAL,
RC INSTANT.: 0, RC DELAYED: 3S 0.5...30S, MK: 0, EXPANSION
UNIT, MAX. ACHIEVABLE PL: AS GG, MAX. ACHIEVABLE SIL: AS
GG,

General technical data:	
product brand name	SIRIUS
Product designation	safety relays
Design of the product	extension unit
Protection class IP of the enclosure	IP20
Protection class IP of the terminal	IP20
Protection against electrical shock	finger-safe
Insulation voltage rated value	690 V
Ambient temperature	
• during storage	-40 ... +80 °C
• during operation	-25 ... +60 °C
Air pressure acc. 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 acc. to IEC 60068-2-6	5 ... 500 Hz: 0,075 mm
Shock resistance	8g / 10 ms and 15g / 5 ms
Surge voltage resistance rated value	6 000 V
EMC emitted interference	IEC 60947-5-1, IEC 60000-4-3, IEC 60000-4-5, IEC 60000-4-6
Installation environment regarding 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.
Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	KT
Equipment marking acc. to DIN EN 61346-2	F
Contact reliability	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)
Design of the cascading	cascading and in-service switching
Product feature cross-circuit-proof	No
Safety Integrity Level (SIL)	
• acc. to IEC 61508	SIL3
• for delayed release circuit acc. to IEC 61508	SIL3
SIL Claim Limit (subsystem) acc. to EN 62061	3
Performance level (PL)	

• acc. to EN ISO 13849-1 • for delayed release circuit acc. to EN ISO 13849-1	e
Category acc. to EN 954-1	corresponds to basic unit
Category acc. to EN ISO 13849-1	4
Hardware fault tolerance acc. to IEC 61508	1
Safety device type acc. to IEC 61508-2	Type B
PFHD with high demand rate acc. to EN 62061	0.000000011 1/h
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Number of outputs as contact-affected switching element	
• as NC contact — for signaling function instantaneous contact	0
• as NO contact — safety-related instantaneous contact — safety-related delayed switching	0 3
Number of outputs as contact-less semiconductor switching element	
• safety-related — delayed switching — instantaneous contact • for signaling function — delayed switching — instantaneous contact	0 1 0 0
Stop category acc. to DIN EN 60204-1	1

General technical data:

Design of input	
• cascading input/functional switching • feedback input • Start input	Yes Yes Yes
Type of electrical connection Plug-in socket	Yes
Operating frequency maximum	1 000 1/h
Switching capacity current	
• of the NO contacts of the relay outputs — at DC-13 — at 24 V — at 115 V — at 230 V — at AC-15 — at 115 V	10 A 1 A 0.3 A 6 A

— at 230 V • of the NC contacts of the relay outputs — at DC-13 — at 24 V — at 115 V — at 230 V — at AC-15 — at 115 V — at 230 V	6 A 10 A 1 A 0.3 A 6 A 6 A
Mechanical service life (switching cycles) typical	30 000 000
maximum permissible voltage for safe isolation between electronic evaluation device and enabling circuit acc. to EN 60947-1	400 V
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	gL/gG: 10 A
DC resistance of the cable maximum	500 Ω
Wire length between sensor and electronic evaluation device with Cu 1.5 mm² and 150 nF/km maximum	2 000 m
Make time with automatic start after power failure • typical • maximum	6 000 ms 7 000 ms
Backslide delay time in the event of power failure • typical • maximum	120 ms 120 ms
Adjustable OFF-delay time after opening of the safety circuits	0.5 ... 30 s
Recovery time after opening of the safety circuits typical	500 ms
Recovery time after power failure typical	7 000 ms
Pulse duration • of the cascading input minimum	0.045 s

Auxiliary circuit:

Installation/ mounting/ dimensions:

Mounting position	any
Mounting type	screw and snap-on mounting
Width	90 mm
Height	132 mm
Depth	146 mm

Connections/ Terminals:

Type of electrical connection	screw-type terminals
Type of connectable conductor cross-sections	
• solid	1x (0.2 ... 2.5 mm ²), 2x (0.2 ... 1.0 mm ²)
• finely stranded	
— with core end processing	1x (0.25 ... 2.5 mm ²), 2x (0.25 ... 1.0 mm ²)
Type of connectable conductor cross-sections at AWG conductors	
• solid	2x (24 ... 18)
• stranded	2x (24 ... 18)

Product Function:

Product function	
• Light barrier monitoring	No
• Standstill monitoring	No
• protective door monitoring	No
• Automatic start	No
• magnetically operated switch monitoring NC-NO	No
• rotation speed monitoring	No
• laser scanner monitoring	No
• monitored start-up	No
• Light array monitoring	No
• magnetically operated switch monitoring NC-NC	Yes
• EMERGENCY OFF function	Yes
• Pressure-sensitive mat monitoring	No
Suitability for interaction press control	No
Suitability for use	
• safety switch	Yes
• position switch monitoring	Yes
• EMERGENCY-OFF circuit monitoring	Yes
• valve monitoring	No
• tactile sensor monitoring	No
• magnetically operated switch monitoring	No
• safety-related circuits	Yes

Certificates/ approvals:

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

General Product Approval	EMC	Functional Safety/Safety of Machinery
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[Baumusterprüfbescheinigung](#)

Declaration of Conformity	Test Certificates	other
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[spezielle Prüfbescheinigungen](#)

[Umweltbestätigung](#)

[Bestätigungen](#)

Further information

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

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

Industry Mall (Online ordering system)

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

Cax online generator

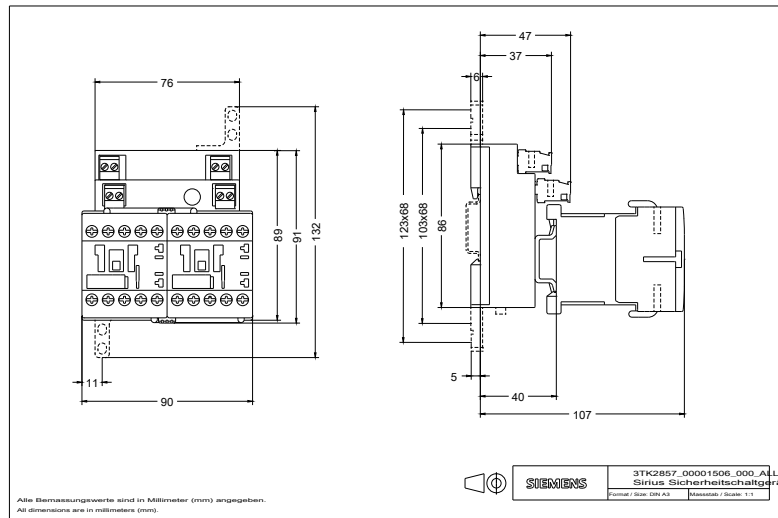
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TK2857-1BB42>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TK2857-1BB42>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TK2857-1BB42&lang=en



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