



SIRIUS SAFETY RELAY WITH RELAY RELEASE CIRCUITS (RC),  
 UC 24...240V, 45.0MM, SCREW TERMINAL,  
 RC INSTANT.: 2NO, RC DELAYED: 2, MK: 3,  
 8-FUNCTION SWITCH, BASIC DEVICE,  
 MAX. ACHIEVABLE PL TO EN13849-1: E,  
 MAX. ACHIEVABLE SIL TO IEC61508:3,

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		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	-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
Impulse voltage resistance / rated value	V	4,000
EMC emitted interference		EN 60947-5-1

<b>Installation environment relating to EMC</b>		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.
<b>Item designation</b>		
<ul style="list-style-type: none"> <li>• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750</li> <li>• according to DIN EN 61346-2</li> </ul>		KT
		F
<b>Number of sensor inputs</b>		
<ul style="list-style-type: none"> <li>• 1-channel or 2-channel</li> </ul>		1
<b>Design of the cascading</b>		cascading or in-service switching
<b>Type of the safety-related wiring / of the inputs</b>		single-channel and two-channel
<b>Product feature / transverse contact-secure</b>		Yes
<b>Safety Integrity Level (SIL)</b>		
<ul style="list-style-type: none"> <li>• according to IEC 61508</li> <li>• for delayed release circuit / according to IEC 61508</li> </ul>		SIL3
		SIL3
<b>SIL claim limit (for a subsystem) / according to EN 62061</b>		3
<b>Performance Level (PL)</b>		
<ul style="list-style-type: none"> <li>• according to ISO 13849-1</li> <li>• for delayed release circuit / according to ISO 13849-1</li> </ul>		e
		e
<b>Category / according to EN 954-1</b>		4
<b>Category / according to ISO 13849-1</b>		4
<b>Hardware fault tolerance / according to IEC 61508</b>		1
<b>Safety device type / according to IEC 61508-2</b>		Type B
<b>Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061</b>	1/h	0.78E-8
<b>Average probability of failure on demand (PFDavg) / with low demand rate / according to IEC 61508</b>	1/y	0.15E-4
<b>T1 value / for proof test interval or service life / according to IEC 61508</b>	a	20
<b>Number of outputs / as contact-affected switching element</b>		
<ul style="list-style-type: none"> <li>• as NC contact / for reporting function / instantaneous switching</li> <li>• as NC contact / for reporting function / delayed switching</li> <li>• as NO contact / for reporting function / delayed switching</li> <li>• as NO contact / safety-related / instantaneous switching</li> <li>• as NO contact / safety-related / delayed switching</li> </ul>		2
		1
		1
		2
		2
<b>Number of outputs / as contact-less semiconductor switching element</b>		
<ul style="list-style-type: none"> <li>• safety-related</li> <li> <ul style="list-style-type: none"> <li>• delayed switching</li> <li>• non-delayed</li> </ul> </li> <li>• for reporting function</li> </ul>		0
		0

• delayed switching	0
• non-delayed	0
<b>Stop category / according to DIN EN 60204-1</b>	0 + 1

General technical details:	
<b>Design of the input</b>	
• cascading-input/functional switching	Yes
• feedback input	Yes
• start input	Yes
<b>Design of the electrical connection / jumper socket</b>	Yes
<b>Operating cycles / maximum</b>	1/h 2,000
<b>Switching capacity current</b>	
• of NO contacts of relay outputs	
• at DC-13	
• at 24 V	A 4
• at 115 V	A 0.2
• at 230 V	A 0.1
• at AC-15	
• at 24 V	A 4
• at 115 V	A 4
• at 230 V	A 4
• of NC contacts of relay outputs	
• at DC-13	
• at 24 V	A 2
• at 115 V	A 0.2
• at 230 V	A 0.1
• at AC-15	
• at 24 V	A 4
• at 115 V	A 3
• at 230 V	A 3
<b>Thermal current / of the contact-affected switching element / maximum</b>	A 5
<b>Electrical operating cycles as operating time / typical</b>	100,000
<b>Mechanical operating cycles as operating time / typical</b>	10,000,000
<b>Design of the fuse link / for short-circuit protection of the NO contacts of the relay outputs / required</b>	gL/gG: 4 A, or quick: 6 A
<b>Resistance to direct current / of the cable / maximum</b>	Ω 1,000
<b>Cable length / between sensor and electronic evaluation device / with Cu 1.5 mm<sup>2</sup> and 150 nF/km / maximum</b>	m 2,000
<b>Make time / with automatic start</b>	
• typical	ms 50

• for DC / maximum	ms	100
• for AC / maximum	ms	100
<b>Make time / with automatic start / after mains power cut</b>		
• typical	ms	8,000
• maximum	ms	8,200
<b>Make time / with monitored start</b>		
• maximum	ms	100
• typical	ms	50
<b>Backslide delay time / at mains power cut</b>		
• maximum	ms	320
<b>Adjustable backslide delay time</b>		
• after opening of the safety circuits	s	0.5 ... 30
<b>Recovery time / after mains power cut / typical</b>	s	8.2
<b>Pulse duration</b>		
• of the sensor input / minimum	ms	30
• of the ON pushbutton input / minimum	s	0.2
• of the cascading-entrance / minimum	s	0.2

#### Control circuit:

<b>Type of voltage / of the controlled supply voltage</b>		AC/DC
<b>Control supply voltage frequency</b>		
• 1 / rated value	Hz	50
• 2 / rated value	Hz	60
<b>Control supply voltage / 1</b>		
• for DC	V	24 ... 240
<b>Control supply voltage / 1 / at 50 Hz</b>		
• for AC	V	24 ... 240
<b>Control supply voltage / 1 / at 60 Hz</b>		
• for AC	V	24 ... 240
<b>operating range factor control supply voltage rated value / of the magnet coil</b>		
• at 50 Hz		
• for AC		0.9 ... 1.1
• at 60 Hz		
• for AC		0.9 ... 1.1
• for DC		0.9 ... 1.1

#### Installation/mounting/dimensions:

<b>mounting position</b>		any
<b>Type of mounting</b>		screw and snap-on mounting

<b>Width</b>	mm	45
<b>Height</b>	mm	138.5
<b>Depth</b>	mm	120

#### Connections:

<b>Design of the electrical connection</b>		screw-type terminals
<b>Type of the connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• solid</li> </ul>		1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>• finely stranded</li> <li>• with wire end processing</li> </ul>		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
<b>Type of the connectable conductor cross-section / for AWG conductors</b>		
<ul style="list-style-type: none"> <li>• solid</li> </ul>		2x (20 ... 14)
<ul style="list-style-type: none"> <li>• stranded</li> </ul>		2x (20 ... 14)

#### Product Function:

<b>Product function</b>		
<ul style="list-style-type: none"> <li>• light barrier monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• standstill monitoring</li> </ul>		No
<ul style="list-style-type: none"> <li>• protective door monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• automatic start</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• magnetic switch monitoring Normally closed contact-Normally open contact</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• rotation speed monitoring</li> </ul>		No
<ul style="list-style-type: none"> <li>• laser scanner monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• monitored start-up</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• light grid monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• magnetic switch monitoring Normally closed contact-Normally closed contact</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• emergency stop function</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• step mat monitoring</li> </ul>		Yes
<b>Suitability for interaction / pressing control</b>		No
<b>Acceptability for application</b>		
<ul style="list-style-type: none"> <li>• monitoring of floating sensors</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• monitoring of non-floating sensors</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• safety cut-out switch</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• position switch monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• EMERGENCY-OFF circuit monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• valve monitoring</li> </ul>		No
<ul style="list-style-type: none"> <li>• tactile sensor monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• magnetically operated switches monitoring</li> </ul>		Yes
<ul style="list-style-type: none"> <li>• safety-related circuits</li> </ul>		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

#### EMC

#### Functional Safety / Safety of Machinery

#### Declaration of Conformity



CCC



GOST



UL



C-TICK



VDE



EG-Konf.

### Test Certificates

### other

[Special Test  
Certificate](#)

[Environmental  
Confirmations](#)

## 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/3TK2826-1CW32/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3TK2826-1CW32](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3TK2826-1CW32)

last change:

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