



SIRIUS SAFETY RELAY WITH RELAY RELEASE CIRCUITS (RC),  
DC 24V, 45.0MM, SCREW TERMINAL,  
RC INSTANT.: 2NO,  
RC DELAYED: 2NO 0.5...30S, MC: 1NC,  
MONITORED START, BASIC DEVICE,  
MAX. ACHIEVABLE SIL: 3/2, PL: E/D

## 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>		none
<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  SIL2
<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  d
<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 A
<b>Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061</b>	1/h	0.27E-8
<b>Average probability of failure on demand (PFDavg) / with low demand rate / according to IEC 61508</b>	1/y	0.24E-5
<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 NO contact / safety-related / instantaneous switching</li> <li>• as NO contact / safety-related / delayed switching</li> </ul>		1 2 2
<b>Number of outputs / as contact-less semiconductor switching element</b> <ul style="list-style-type: none"> <li>• safety-related <ul style="list-style-type: none"> <li>• delayed switching</li> <li>• non-delayed</li> </ul> </li> <li>• for reporting function <ul style="list-style-type: none"> <li>• delayed switching</li> <li>• non-delayed</li> </ul> </li> </ul>		0 0  0 0

Stop category / according to DIN EN 60204-1		0 + 1
<b>General technical details:</b>		
<b>Design of the input</b>		
• cascading-input/functional switching		No
• feedback input		Yes
• start input		Yes
<b>Design of the electrical connection / jumper socket</b>		Yes
<b>Operating cycles / maximum</b>	1/h	1,000
<b>Switching capacity current</b>		
• of NO contacts of 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
• of NC contacts of 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
<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: 6 A, or quick: 10 A
<b>Resistance to direct current / of the cable / maximum</b>	Ω	30
<b>Cable length / between sensor and electronic evaluation device / with Cu 1.5 mm² and 150 nF/km / maximum</b>	m	1,000
<b>Make time / with automatic start / after mains power cut</b>		
• typical	ms	8,000
• maximum	ms	8,000
<b>Make time / with monitored start</b>		
• maximum	ms	80
<b>Backslide delay time / at mains power cut</b>		

• maximum	ms	100
<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	200
<b>Pulse duration</b>		
• of the sensor input / minimum	ms	25
• of the ON pushbutton input / minimum	s	0.025

#### Control circuit:

<b>Type of voltage / of the controlled supply voltage</b>		DC
<b>Control supply voltage / 1 / for DC / rated value</b>	V	24
<b>operating range factor control supply voltage rated value / of the magnet coil</b>		
• at 50 Hz		0.85 ... 1.1
• for AC		
• at 60 Hz		0.85 ... 1.1
• for AC		
• for DC		0.85 ... 1.1

#### Installation/mounting/dimensions:

<b>mounting position</b>		any
<b>Type of mounting</b>		screw and snap-on mounting
<b>Width</b>	mm	44.8
<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>		
• solid		1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
• finely stranded		
• with wire end processing		1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
<b>Type of the connectable conductor cross-section / for AWG conductors</b>		
• solid		2x (20 ... 14)
• stranded		2x (20 ... 14)

#### Product Function:

<b>Product function</b>		
• light barrier monitoring		No
• standstill monitoring		No
• protective door monitoring		No

• automatic start	No
• magnetic switch monitoring Normally closed contact-Normally open contact	No
• rotation speed monitoring	No
• laser scanner monitoring	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	Yes
<b>Suitability for interaction / pressing control</b>	No
<b>Acceptability for application</b>	
• monitoring of floating sensors	Yes
• monitoring of non-floating sensors	No
• safety cut-out switch	Yes
• position switch monitoring	Yes
• EMERGENCY-OFF circuit monitoring	Yes
• valve monitoring	No
• tactile sensor monitoring	No
• magnetically operated switches monitoring	No
• safety-related circuits	Yes

#### Certificates/approvals:

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

#### General Product Approval

#### EMC



CCC



CSA



GOST



UL



C-TICK

#### Functional Safety / Safety of Machinery

#### Declaration of Conformity

#### Test Certificates

#### other



ATEX



VDE



EG-Konf.

[Special Test Certificate](#)

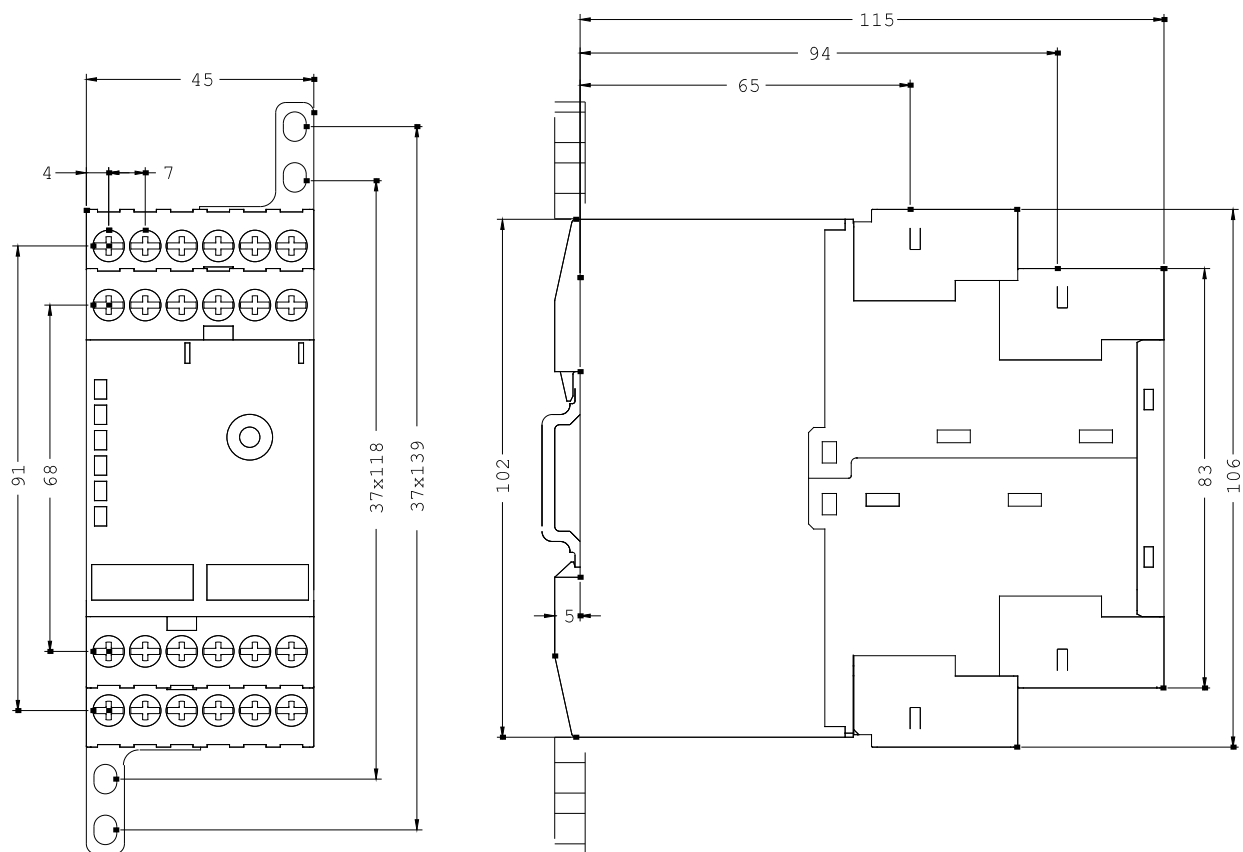
[Confirmation](#)

[Environmental Confirmations](#)

#### Further information:

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

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



last change:

Feb 18, 2013