

Semiconductor relay, 1-phase 3RF2 Width 22.5 mm, 20 A 48-460 V / 24 V DC Spring-type terminal



General technical data		
Product brand name		SIRIUS
Product designation		solid-state relay
Product function		zero-point switching
Number of poles for main current circuit		1
Protection class IP		IP20
Product designation _3 of the accessories that can be ordered		converter
Manufacturer's article number _3 of the accessories that can be ordered		<a href="#">3RF2900-0EA18</a>
Ambient temperature		
• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80
Installation altitude at height above sea level maximum	m	1 000
Vibration resistance acc. to IEC 60068-2-6		2g
Shock resistance acc. to IEC 60068-2-27		15g / 11 ms
Reference identifier acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		K
Reference identifier acc. to DIN EN 61346-2		Q

Number of NC contacts for auxiliary contacts		0
Number of NO contacts for auxiliary contacts		0
Number of CO contacts for auxiliary contacts		0

### Main circuit

Number of NO contacts for main contacts		1
Number of NC contacts for main contacts		0
Operating current		
• rated value maximum	A	20
• at AC-51 rated value	A	20
• minimum	mA	100
Operating voltage at AC		
• at 50 Hz rated value	V	48 ... 460
• at 60 Hz rated value	V	48 ... 460
Operating range relative to the operating voltage at AC		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
Operating frequency rated value	Hz	50 ... 60
Relative symmetrical tolerance of the operating frequency	%	10
Insulation voltage rated value	V	600
Rate of voltage rise at the thyristor for main contacts maximum permissible	V/ $\mu$ s	500
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 200
Reverse current of the thyristor	mA	10
Derating temperature	$^{\circ}$ C	40
Power loss [W] total typical	W	28.6
Power loss [V·A] maximum	V·A	28.6
Surge current resistance rated value	A	200
I <sup>2</sup> t value maximum	A <sup>2</sup> ·s	200
Short-circuit protection, design of the fuse link		

### Control circuit/ Control

Type of voltage of the control supply voltage		DC
Control supply voltage 1		
• at DC		
— Initial rated value	V	15
— Final rated value	V	24
— rated value maximum permissible	V	30
Control supply voltage		
• at DC initial value for signal <1> detection	V	15
• at DC Full-scale value for signal<0> recognition	V	5

<b>Control current</b>		
<ul style="list-style-type: none"> <li>• at minimum control supply voltage <ul style="list-style-type: none"> <li>— at DC</li> </ul> </li> <li>• at DC rated value</li> </ul>	mA	2
	mA	15

### Installation/ mounting/ dimensions






<b>Mounting type</b>		screw fixing
<b>Mounting type Side-by-side mounting</b>		Yes
<b>Design of the thread of the screw for securing the equipment</b>		M4
<b>Tightening torque of the screw for securing the equipment</b>	N·m	1.5
<b>Width</b>	mm	22.5
<b>Height</b>	mm	85
<b>Depth</b>	mm	48

### Connections/Terminals

<b>Type of electrical connection for main current circuit</b>		spring-loaded terminals
<b>Tightening torque for main contacts with screw-type terminals</b>	N·m	2 ... 2.5
<b>Type of connectable conductor cross-sections</b>		
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded</li> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> <li>• at AWG conductors <ul style="list-style-type: none"> <li>— for main contacts</li> <li>— for auxiliary and control contacts</li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul> </li> </ul>		2x (0.5 ... 2.5 mm <sup>2</sup> )  2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (0.5 ... 2.5 mm <sup>2</sup> )  2x (18 ... 14) 1x (AWG 20 ... 12)  0.5 ... 1.5 mm <sup>2</sup>  0.5 ... 2.5 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup>
<b>Connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> </ul> </li> </ul> </li> </ul>	mm <sup>2</sup>	0.5 ... 2.5
	mm <sup>2</sup>	0.5 ... 1.5
	mm <sup>2</sup>	0.5 ... 2.5
	mm <sup>2</sup>	0.5 ... 1.5
	mm <sup>2</sup>	0.5 ... 2.5

— without core end processing	mm <sup>2</sup>	0.5 ... 2.5
<b>AWG number as coded connectable conductor cross section</b>		
• for main contacts		14 ... 10
• for auxiliary and control contacts		20 ... 12
<b>Type of electrical connection for auxiliary and control current circuit</b>		spring-loaded terminals
<b>Wire stripping length of the cable</b>		
• for main contacts	mm	10
• for auxiliary and control contacts	mm	10

### Certificates/approvals

General Product Approval	EMC	Declaration of Conformity	Test Certificates
 CSA	 UR	 EAC	 C-Tick
		 EG-Konf.	<a href="#">Type Test Certificates/Test Report</a>

Test Certificates	other	Railway
<a href="#">Special Test Certificate</a>	<a href="#">Confirmation</a>	<a href="#">Vibration and Shock</a>

### Further information

**Short-circuit protection, design of the fuse link**

[https://www.automation.siemens.com/cd-static/material/info/3RF21\\_eng.pdf](https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf)

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

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

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2120-2AA04>

**Cax online generator**

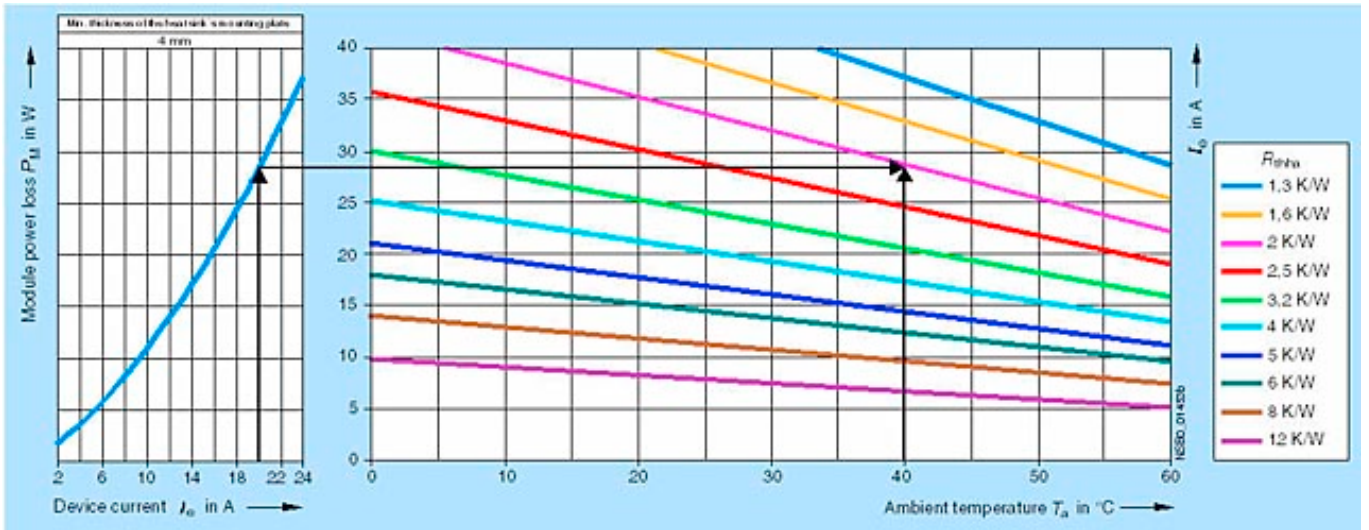
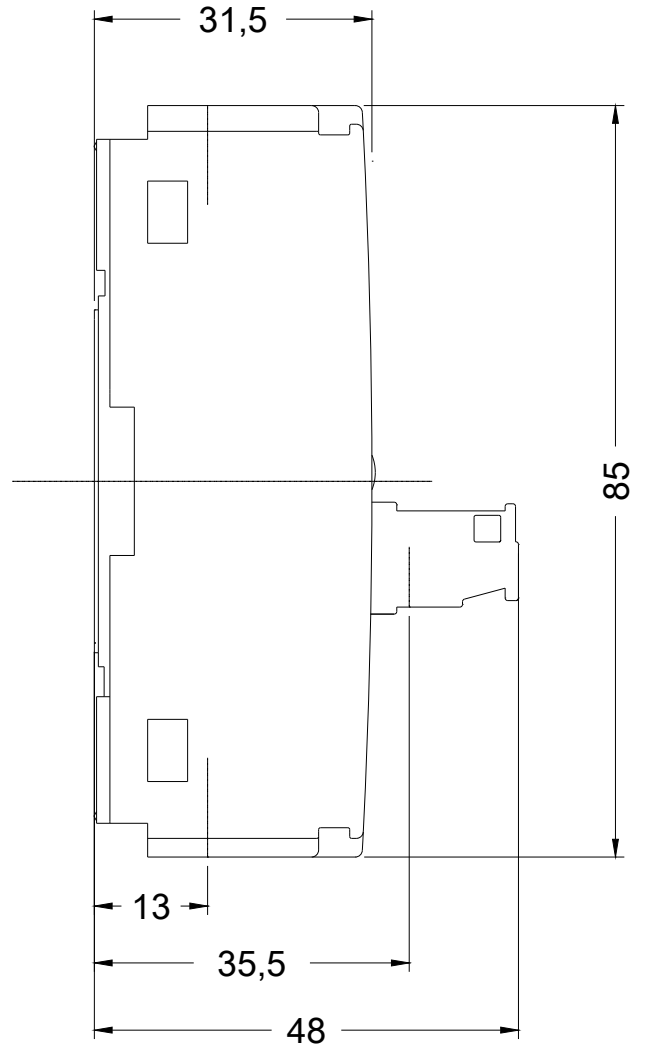
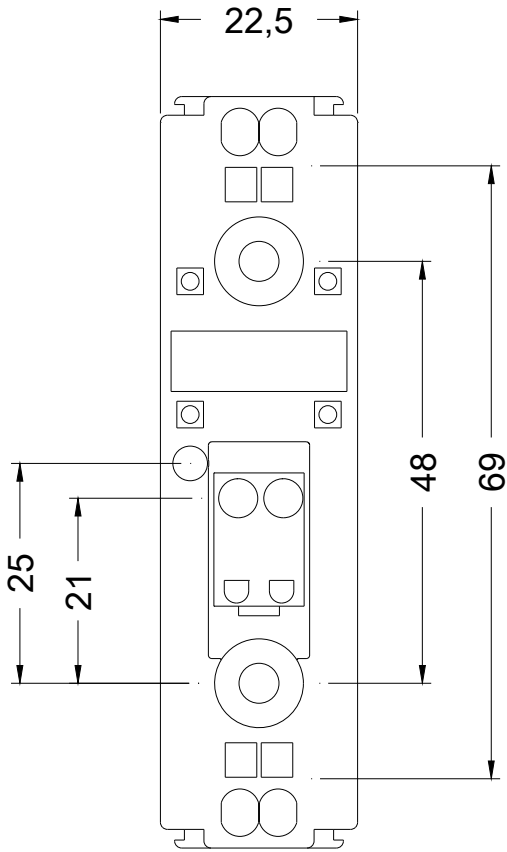
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2120-2AA04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2120-2AA04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2120-2AA04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2120-2AA04&lang=en)



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