



SEMICONDUCTOR RELAY 3RF2, 1-PH. WIDTH  
22.5MM, 50A 48-600V / 4-30V DC SCREW-TYPE  
TERMINAL BLOCKING VOLTAGE 1200V

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 _1 of the accessories that can be ordered	terminal cover
Manufacturer article number _1 of the accessories that can be ordered	<a href="#">3RF2900-3PA88</a>
Product designation _2 of the accessories that can be ordered	power regulator
Manufacturer article number _2 of the accessories that can be ordered	<a href="#">3RF2950-0HA16</a>
Product designation _3 of the accessories that can be ordered	converter
Manufacturer article number _3 of the accessories that can be ordered	<a href="#">3RF2900-0EA18</a>
Product designation _4 of the accessories that can be ordered	load monitoring
Manufacturer article number _4 of the accessories that can be ordered	<a href="#">3RF2950-0GA16</a>
Product designation _5 of the accessories that can be ordered	load monitoring, basis
Manufacturer article number _5 of the accessories that can be ordered	<a href="#">3RF2920-0FA08</a>
Ambient temperature	

• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80
<b>Installation altitude at height above sea level maximum</b>	m	1 000
<b>Vibration resistance acc. to IEC 60068-2-6</b>		2g
<b>Shock resistance acc. to IEC 60068-2-27</b>		15g / 11 ms
<b>Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>		K
<b>Equipment marking acc. to DIN EN 61346-2</b>		Q
<b>Number of NC contacts for auxiliary contacts</b>		0
<b>Number of NO contacts for auxiliary contacts</b>		0
<b>Number of CO contacts for auxiliary contacts</b>		0

#### Main circuit:

<b>Number of NO contacts for main contacts</b>		1
<b>Number of NC contacts for main contacts</b>		0
<b>Operating current</b>		
• Rated value maximum	A	50
• at AC-51 Rated value	A	50
• minimum	mA	500
<b>Operating voltage with AC</b>		
• at 50 Hz Rated value	V	48 ... 600
• at 60 Hz Rated value	V	48 ... 600
<b>Operating range relative to the operating voltage with AC</b>		
• at 50 Hz	V	40 ... 660
• at 60 Hz	V	40 ... 660
<b>Operating frequency Rated value</b>	Hz	50 ... 60
<b>Relative symmetrical tolerance of the operating frequency</b>	%	10
<b>Insulation voltage Rated value</b>	V	600
<b>Rate of voltage rise at the thyristor for main contacts maximum permissible</b>	V/μs	1 000
<b>Blocking voltage at the thyristor for main contacts maximum permissible</b>	V	1 200
<b>Reverse current of the thyristor</b>	mA	10
<b>Derating temperature</b>	°C	40
<b>Active power loss total typical</b>	W	66
<b>Apparent power loss maximum</b>	V·A	66
<b>Surge current resistance Rated value</b>	A	600
<b>I<sup>2</sup>t value maximum</b>	A <sup>2</sup> ·s	1 800
<b>Short-circuit protection, design of the fuse link</b>		

#### Control circuit/ Control:

<b>Type of voltage of the control supply voltage</b>		DC
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Control supply voltage 1		
<ul style="list-style-type: none"> <li>• for DC <ul style="list-style-type: none"> <li>— Initial rated value</li> <li>— Final rated value</li> </ul> </li> </ul>	V	4
	V	30
<b>Control supply voltage</b>		
<ul style="list-style-type: none"> <li>• for DC Full-scale value for signal&lt;0&gt; recognition</li> </ul>	V	1
<b>Control current</b>		
<ul style="list-style-type: none"> <li>• at minimum control supply voltage <ul style="list-style-type: none"> <li>— for DC</li> </ul> </li> <li>• for 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>		screw-type terminals
<b>Design of the thread of the connection screw for main contacts</b>		M4
Tightening torque for main contacts with screw-type terminals	N·m	2 ... 2.5
Tightening torque [lbf·in] for main contacts with screw-type terminals	lbf·in	7 ... 10.3
<b>Type of connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded</li> </ul> </li> </ul>		2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>— with core end processing</li> </ul>		2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
<ul style="list-style-type: none"> <li>• for AWG conductors <ul style="list-style-type: none"> <li>— for main contacts</li> <li>— for auxiliary and control contacts</li> </ul> </li> </ul>		2x (14 ... 10)
		1x (AWG 20 ... 12)
<ul style="list-style-type: none"> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded</li> </ul> </li> </ul>		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
<ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul>		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 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> </ul> </li> <li>— finely stranded <ul style="list-style-type: none"> <li>— with core end processing</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>	mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup>	1.5 ... 6 1 ... 10 0.5 ... 2.5 0.5 ... 2.5 0.5 ... 2.5
<b>AWG number as coded connectable conductor cross section for main contacts</b>		14 ... 10
<b>Type of electrical connection for auxiliary and control current circuit</b>		screw-type terminals
<b>Design of the thread of the connection screw of the auxiliary and control contacts</b>		M3
<b>AWG number as coded connectable conductor cross section for auxiliary and control contacts</b>		20 ... 12
<b>Wire stripping length of the cable</b>		
<ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary and control contacts</li> </ul>	mm mm	7 7
Tightening torque for auxiliary and control contacts with screw-type terminals	N·m	0.5 ... 0.6
Tightening torque [lbf·in] for auxiliary and control contacts with screw-type terminals	lbf·in	4.5 ... 5.3

#### Certificates/ approvals:

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

#### other

[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/industrymall>

**Cax online generator**

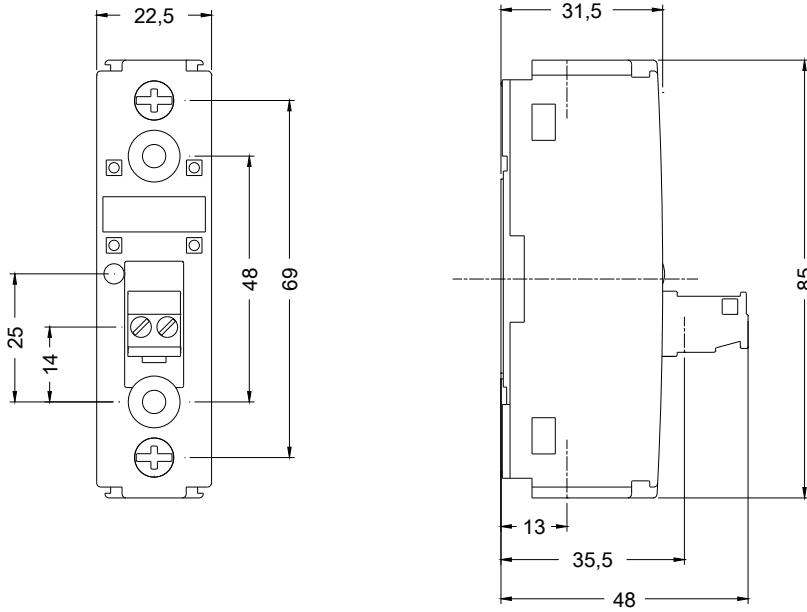
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF21501AA45>

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

<http://support.automation.siemens.com/WW/view/en/3RF21501AA45/all>

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

<http://www.automation.siemens.com/bilddb/index.aspx?attID9=3RF21501AA45&lang=en>



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