



Semiconductor relay, 1-phase 3RF2 Overall width 22.5 mm, 50 A 48-600 V / 24 V DC screw terminal Instantaneous switching

<b>product brand name</b>	SIRIUS
<b>product designation</b>	solid-state relay
<b>design of the product</b>	single-phase
<b>product type designation</b>	3RF21
<b>manufacturer's article number</b>	
<ul style="list-style-type: none"><li>• _1 of the accessories that can be ordered</li><li>• _2 of the accessories that can be ordered</li><li>• _3 of the accessories that can be ordered</li><li>• _4 of the accessories that can be ordered</li><li>• _5 of the accessories that can be ordered</li></ul>	<a href="#">3RF2900-3PA88</a> <a href="#">3RF2950-0HA16</a> <a href="#">3RF2900-0EA18</a> <a href="#">3RF2950-0GA16</a> <a href="#">3RF2920-0FA08</a>
<b>product designation</b>	
<ul style="list-style-type: none"><li>• _1 of the accessories that can be ordered</li><li>• _2 of the accessories that can be ordered</li><li>• _3 of the accessories that can be ordered</li><li>• _4 of the accessories that can be ordered</li><li>• _5 of the accessories that can be ordered</li></ul>	terminal cover power regulator converter load monitoring load monitoring, basis
<b>General technical data</b>	
<b>product function</b>	instantaneous switching
<b>power loss [V·A] maximum</b>	66 VA
<b>power loss [W] for rated value of the current</b>	
<ul style="list-style-type: none"><li>• at AC in hot operating state</li><li>• at AC in hot operating state per pole</li><li>• without load current share typical</li></ul>	66 W 66 W 0.4 W
<b>insulation voltage rated value</b>	600 V
type of voltage of the control supply voltage	DC
surge voltage resistance of main circuit rated value	6 kV
<b>shock resistance according to IEC 60068-2-27</b>	15g / 11 ms
<b>vibration resistance according to IEC 60068-2-6</b>	2g
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	05/28/2009
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	1
<b>number of NO contacts for main contacts</b>	1
<b>number of NC contacts for main contacts</b>	0
<b>operating voltage at AC</b>	
<ul style="list-style-type: none"><li>• at 50 Hz rated value</li><li>• at 60 Hz rated value</li></ul>	48 ... 600 V 48 ... 600 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>relative symmetrical tolerance of the operating frequency</b>	10 %
<b>operating range relative to the operating voltage at AC</b>	
<ul style="list-style-type: none"><li>• at 50 Hz</li></ul>	40 ... 660 V

• at 60 Hz	40 ... 660 V
<b>operational current</b>	
• at AC-51 rated value	50 A
• according to UL 508 rated value	50 A
<b>ampacity maximum</b>	50 A
<b>operational current minimum</b>	500 mA
<b>rate of voltage rise at the thyristor for main contacts maximum permissible</b>	1 000 V/μs
<b>blocking voltage at the thyristor for main contacts maximum permissible</b>	1 600 V
<b>reverse current of the thyristor</b>	10 mA
<b>derating temperature</b>	40 °C
<b>surge current resistance rated value</b>	600 A
<b>I<sup>2</sup>t value maximum</b>	1 800 A <sup>2</sup> ·s

#### Control circuit/ Control

<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage 1</b>	
• at DC rated value	30 V
• at DC	15 ... 24 V
<b>control supply voltage</b>	
• at DC initial value for signal <1> detection	15 V
• at DC full-scale value for signal<0> recognition	5 V
<b>control current at minimum control supply voltage</b>	
• at DC	13 mA
control current at DC rated value	15 mA
<b>ON-delay time</b>	1 ms
<b>OFF-delay time</b>	1 ms; additionally max. one half-wave

#### Auxiliary circuit
















<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

#### Installation/ mounting/ dimensions

<b>fastening method</b>	screw fixing
• side-by-side mounting	Yes
<b>design of the thread of the screw for securing the equipment</b>	M4
<b>tightening torque of fixing screw maximum</b>	1.5 N·m
<b>tightening torque [lbf·in] of fixing screw maximum</b>	13 lbf·in
<b>height</b>	85 mm
<b>width</b>	22.5 mm
<b>depth</b>	48 mm

#### Connections/ Terminals

<b>type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
<b>type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )
— finely stranded with core end processing	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
• at AWG cables for main contacts	2x (14 ... 10)
<b>connectable conductor cross-section for main contacts</b>	
• solid or stranded	1.5 ... 6 mm <sup>2</sup>
• finely stranded with core end processing	1 ... 10 mm <sup>2</sup>
<b>type of connectable conductor cross-sections</b>	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
— finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
— finely stranded without core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
• at AWG cables for auxiliary and control contacts	1x (AWG 20 ... 12)
AWG number as coded connectable conductor cross section for main contacts	14 ... 10
<b>tightening torque</b>	
• for main contacts with screw-type terminals	2 ... 2.5 N·m

<ul style="list-style-type: none"><li>• for auxiliary and control contacts with screw-type terminals</li></ul>	0.5 ... 0.6 N·m						
<b>tightening torque [lbf·in]</b>							
<ul style="list-style-type: none"><li>• for main contacts with screw-type terminals</li><li>• for auxiliary and control contacts with screw-type terminals</li></ul>	7 ... 10.3 lbf·in 4.5 ... 5.3 lbf·in						
<b>design of the thread of the connection screw</b>							
<ul style="list-style-type: none"><li>• for main contacts</li><li>• of the auxiliary and control contacts</li></ul>	M4 M3						
<b>stripped length of the cable</b>							
<ul style="list-style-type: none"><li>• for main contacts</li><li>• for auxiliary and control contacts</li></ul>	7 mm 7 mm						
<b>Safety related data</b>							
<b>protection class IP on the front according to IEC 60529</b>	IP20						
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front						
<b>Ambient conditions</b>							
installation altitude at height above sea level maximum	1 000 m						
<b>ambient temperature</b>							
<ul style="list-style-type: none"><li>• during operation</li><li>• during storage</li></ul>	-25 ... +60 °C -55 ... +80 °C						
<b>Electromagnetic compatibility</b>							
<b>conducted interference</b>							
<ul style="list-style-type: none"><li>• due to burst according to IEC 61000-4-4</li><li>• due to conductor-earth surge according to IEC 61000-4-5</li><li>• due to conductor-conductor surge according to IEC 61000-4-5</li><li>• due to high-frequency radiation according to IEC 61000-4-6</li></ul>	2 kV / 5 kHz behavior criterion 2 2 kV behavior criterion 2  1 kV behavior criterion 2  140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1						
<b>field-based interference according to IEC 61000-4-3</b>	80 MHz ... 1 GHz 10 V/m, behavior criterion 1						
<b>electrostatic discharge according to IEC 61000-4-2</b>	4 kV contact discharging / 8 kV air discharging, behavior criterion 2						
<b>conducted HF interference emissions according to CISPR11</b>	Class A for industrial environment						
<b>field-bound HF interference emission according to CISPR11</b>	Class B for the domestic, business and commercial environments						
<b>Short-circuit protection, design of the fuse link</b>							
manufacturer's article number							
<ul style="list-style-type: none"><li>• of gS fuse for semiconductor protection at NH design usable</li><li>• of back-up R fuse link for semiconductor protection at NH design usable</li><li>• of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable</li><li>• of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable</li></ul>	<a href="#">3NE1803-0</a> <a href="#">3NE8017-1</a> <a href="#">3NC1450</a> <a href="#">3NC2250</a>						
manufacturer's article number of the gG fuse							
<ul style="list-style-type: none"><li>• at NH design usable</li></ul>	<a href="#">3NA6807-6</a> ; These fuses have a smaller rated current than the semiconductor relays						
<b>Certificates/ approvals</b>							
<table><tr><td>General Product Approval</td><td>EMC</td><td>Declaration of Conformity</td></tr></table>		General Product Approval	EMC	Declaration of Conformity			
General Product Approval	EMC	Declaration of Conformity					
<table><tr><td></td><td><a href="#">Confirmation</a></td><td></td><td></td><td></td><td></td></tr></table>			<a href="#">Confirmation</a>				
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<table><tr><td>Declaration of Conformity</td><td>Test Certificates</td><td>other</td><td>Railway</td></tr></table>		Declaration of Conformity	Test Certificates	other	Railway		
Declaration of Conformity	Test Certificates	other	Railway				

## Further information

### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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

<https://www.siemens.com/ic10>

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2150-1BA06>

### Cax online generator

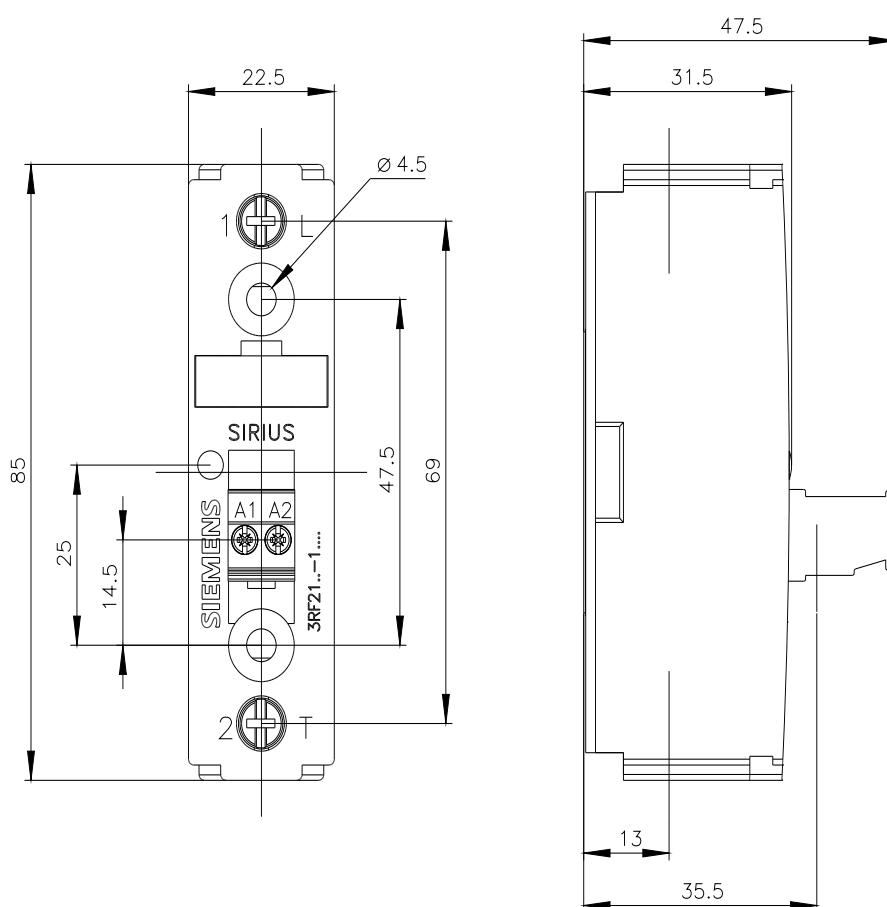
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2150-1BA06>

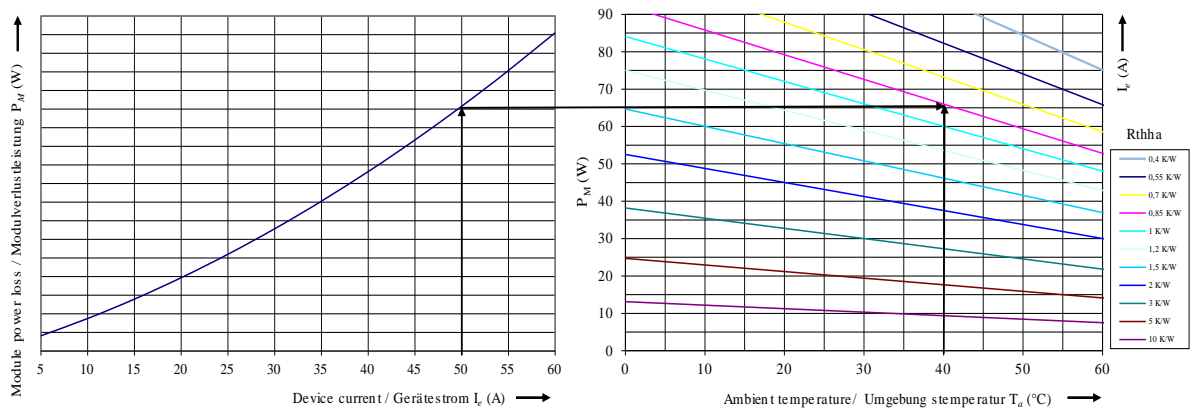
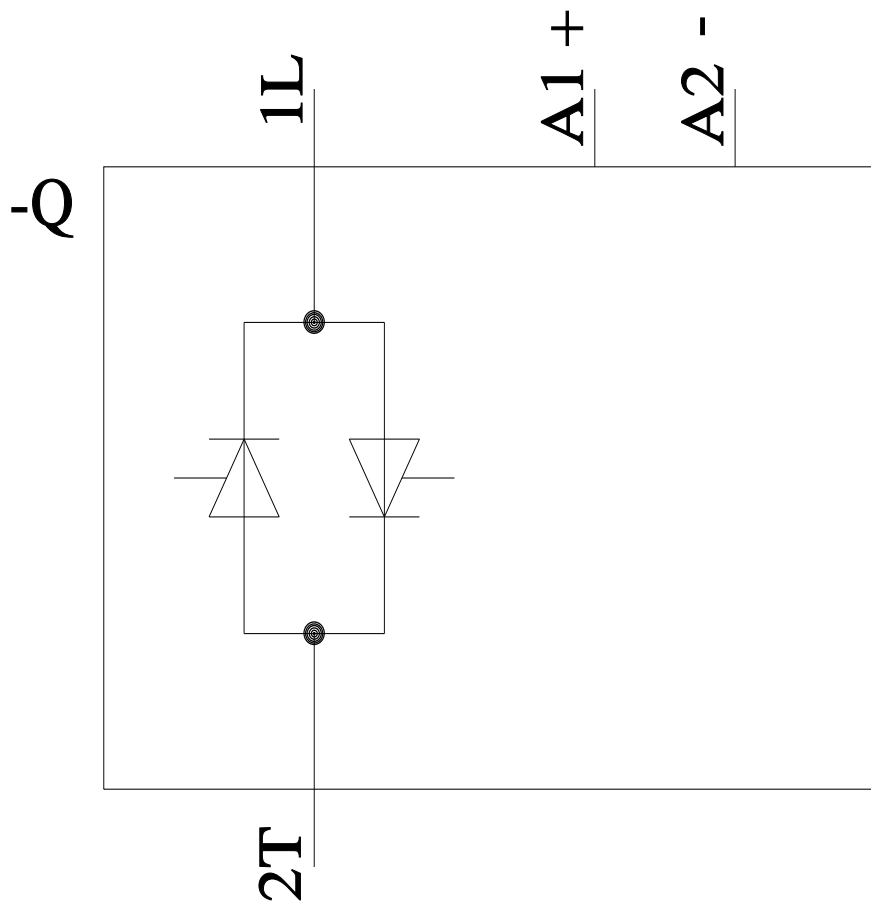
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2150-1BA06>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2150-1BA06&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2150-1BA06&lang=en)





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