



SEMICOND. CONTACTOR 3RF2,  
1-PH. AC 51 10 A 40 DEGREES C 48-460 V / 110-230 V  
AC SCREW TERMINAL

General technical data:		
product brand name		SIRIUS
product designation		solid-state contactor
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 / _4 / of the accessories that can be ordered		load monitoring
Manufacturer article number / _4 / of the accessories that can be ordered		<a href="#">3RF2920-0GA36</a>
Ambient temperature		
• during operating	°C	-25 ... +60
• during storage	°C	-55 ... +80
Installation altitude / at a height over sea level / maximum	m	1,000
Resistance against vibration / according to IEC 60068-2-6		2g
Resistance against shock / according to IEC 60068-2-27		15g / 11 ms
Item designation		

<ul style="list-style-type: none"> <li>• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750</li> </ul>	K
<ul style="list-style-type: none"> <li>• according to DIN EN 61346-2</li> </ul>	Q
<b>Number of NC contacts / for auxiliary contacts</b>	0
<b>Number of NO contacts / for auxiliary contacts</b>	0
<b>Number of change-over switches / 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>		
<ul style="list-style-type: none"> <li>• at AC-1 / at 400 V / rated value</li> </ul>	A	10.5
<ul style="list-style-type: none"> <li>• at AC-51 / rated value</li> </ul>	A	10.5
<b>Operating current / minimum</b>	mA	100
<b>Operating voltage</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz / at AC / rated value</li> </ul>	V	48 ... 460
<ul style="list-style-type: none"> <li>• at 60 Hz / at AC / rated value</li> </ul>	V	48 ... 460
<b>Working area related to the operating voltage</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz / for AC</li> </ul>	V	40 ... 506
<ul style="list-style-type: none"> <li>• at 60 Hz / for AC</li> </ul>	V	40 ... 506
<b>Operating frequency</b>		
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	Hz	50 ... 60
<b>Relative symmetrical tolerance / of the operation frequency</b>	%	10
<b>Insulation voltage / rated value</b>	V	600
<b>Voltage slew rate / at the thyristor / for main contacts / maximum permissible</b>	V/μs	500
<b>Block 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	11
<b>Resistance against the impulse current / rated value</b>	A	200
<b>I<sup>2</sup>t-level / maximum</b>	A <sup>2</sup> ·s	200

#### Control circuit:

<b>Control supply voltage frequency</b>		
<ul style="list-style-type: none"> <li>• 1 / rated value</li> </ul>	Hz	50
<ul style="list-style-type: none"> <li>• 2 / rated value</li> </ul>	Hz	60
<b>Type of voltage / of the controlled supply voltage</b>		AC
<b>Control supply voltage / 1</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz / for AC</li> </ul>		

<ul style="list-style-type: none"> <li>• initial rated value</li> </ul>	V	110
<ul style="list-style-type: none"> <li>• final rated value</li> </ul>	V	230
<ul style="list-style-type: none"> <li>• at 60 Hz / for AC</li> </ul>		
<ul style="list-style-type: none"> <li>• initial rated value</li> </ul>	V	110
<ul style="list-style-type: none"> <li>• final rated value</li> </ul>	V	230
<b>Control supply voltage</b>		
<ul style="list-style-type: none"> <li>• at 50 Hz / for AC / final value for signal&lt;0&gt;-recognition</li> </ul>	V	40
<ul style="list-style-type: none"> <li>• at 60 Hz / for AC / final value for signal&lt;0&gt;-recognition</li> </ul>	V	40
<b>Tolerance of the line frequency</b>	Hz	5
<b>Relative symmetrical tolerance / of the supply voltage frequency</b>	%	10
<b>Control current</b>		
<ul style="list-style-type: none"> <li>• at minimum control supply voltage / for AC</li> </ul>	mA	2
<ul style="list-style-type: none"> <li>• for AC / rated value</li> </ul>	mA	15
<b>Fuse assignments</b>		<a href="https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf</a>

#### Installation/mounting/dimensions:

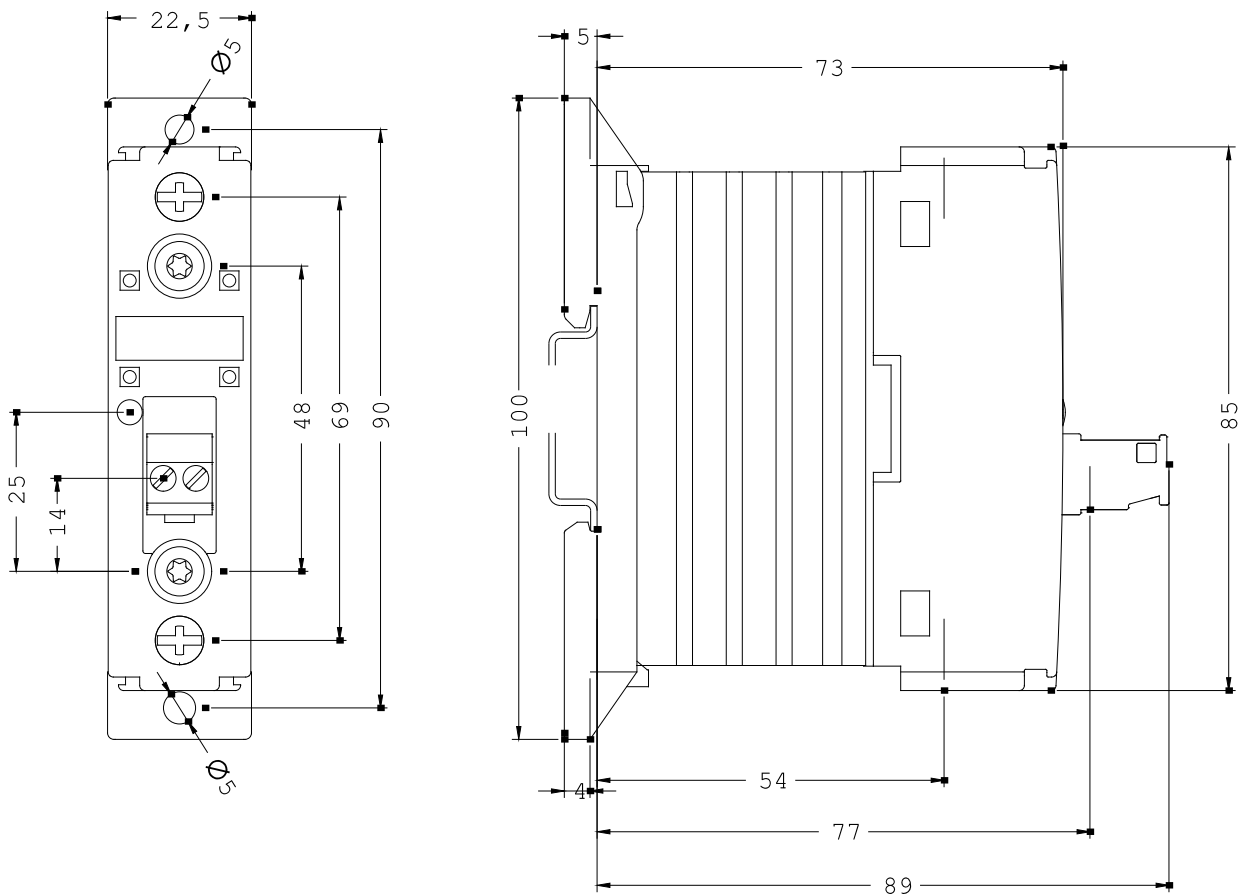
<b>Type of mounting</b>		screw and snap-on mounting onto 35 mm standard mounting rail
<b>Type of fixing/fixation / series installation</b>		Yes
<b>Design of the thread / of the screw for fastening of the operating resource</b>		M4
<b>Tightening torque / of the screw for fastening of the operating resource</b>	N·m	1.5
<b>Width</b>	mm	22.5
<b>Height</b>	mm	100
<b>Depth</b>	mm	94

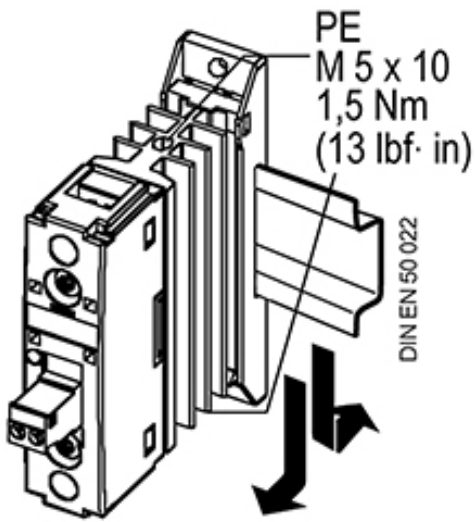
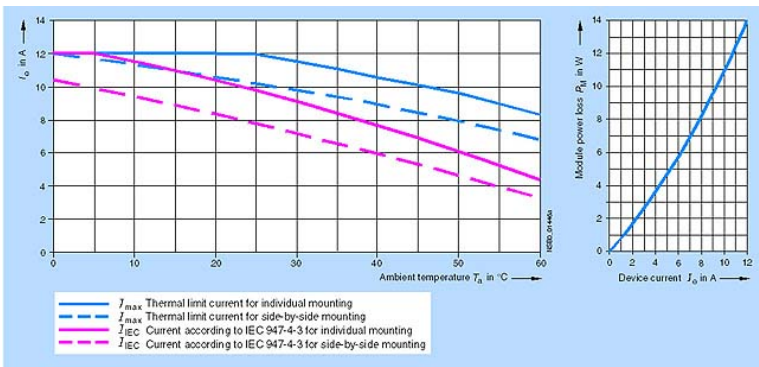
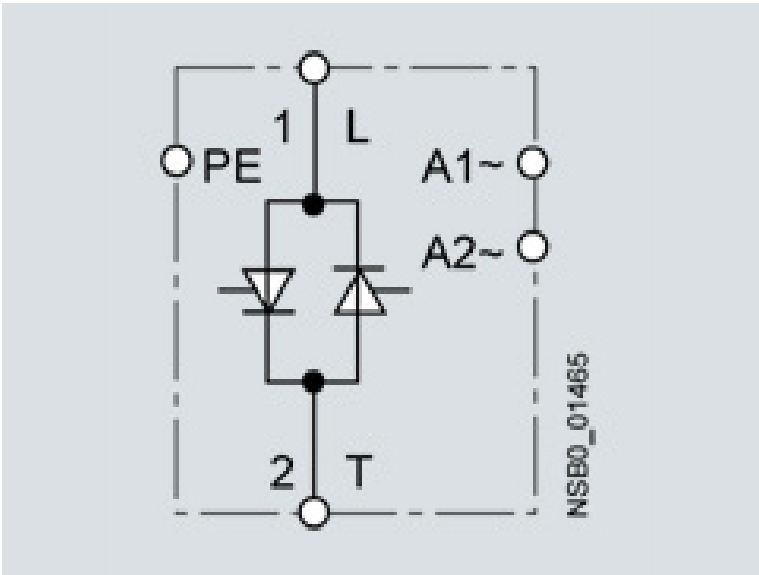
#### Connections:

<b>Design of the electrical connection / for main current circuit</b>		screw-type terminals
<b>Design of the thread / of the connection screw / for main contacts</b>		M4
<b>Tightening torque / for main contacts</b>		
<ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	N·m	2 ... 2.5
<b>Tightening torque (lbf·in) / for main contacts</b>		
<ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	lbf·in	18 ... 22
<b>Type of the connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• for main contacts</li> </ul>		
<ul style="list-style-type: none"> <li>• solid</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>• finely stranded</li> </ul>		
<ul style="list-style-type: none"> <li>• with conductor 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> <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 conductor end processing</li> <li>• without conductor final cutting</li> </ul> </li> </ul> </li> </ul>		<p>2x (14 ... 10)</p> <p>1x (AWG 20 ... 12)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.0 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.0 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.0 mm<sup>2</sup>)</p>
<p><b>Conductor cross section that can be connected</b></p> <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded wire <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded wire <ul style="list-style-type: none"> <li>• with conductor end processing /</li> <li>• without conductor final cutting</li> </ul> </li> </ul> </li> </ul>	<p>mm<sup>2</sup></p> <p>mm<sup>2</sup></p> <p>mm<sup>2</sup></p> <p>mm<sup>2</sup></p> <p>mm<sup>2</sup></p>	<p>1.5 ... 6</p> <p>1 ... 10</p> <p>0.5 ... 2.5</p> <p>0.5 ... 2.5</p> <p>0.5 ... 2.5</p>
<p><b>AWG number / as coded connectable conductor cross-section / for main contacts</b></p>		<p>10 ... 14</p>
<p><b>Design of the electrical connection / for auxiliary and control current circuit</b></p>		<p>screw-type terminals</p>
<p><b>Design of the thread / of the connection screw / of the auxiliary and control pins</b></p>		<p>M3</p>
<p><b>AWG number / as coded connectable conductor cross-section</b></p> <ul style="list-style-type: none"> <li>• for auxiliary and control contacts</li> </ul>		<p>20 ... 12</p>
<p><b>Skinning length / of the cable / for main contacts</b></p>	<p>mm</p>	<p>7</p>
<p><b>Skinning length / of the cable / for auxiliary and control contacts</b></p>	<p>mm</p>	<p>7</p>
<p><b>Tightening torque / for auxiliary and control contacts</b></p> <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	<p>N·m</p>	<p>0.5 ... 0.6</p>
<p><b>Tightening torque (lbf-in) / for auxiliary and control contacts</b></p> <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	<p>lbf-in</p>	<p>4.5 ... 5.3</p>

**Certificates/approvals:**

**General Product Approval****Test Certificates**[Special Test Certificate](#)[Type Test Certificates/Test Report](#)**other**[Declaration of Conformity](#)**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/3RF2310-1AA24/all>**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2310-1AA24](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2310-1AA24)



last change:

Jul 17, 2012