

SEMI-CONDUCTOR CONTAC.3-PH.3RF2 AC51 40A  
 40 DEG. C 48-600V / 4-30V DC 3-PHASE  
 CONTROLLED SCREW TERMINAL BLOCKING  
 VOLTAGE 1200V



General technical data:

product brand name		SIRIUS
Product designation		solid-state contactor
Product function		zero-point switching
Number of poles for main current circuit		3
Protection class IP		IP20
Product designation _2 of the accessories that can be ordered		converter
Manufacturer article number _2 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
Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		K
Equipment marking 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		3
Number of NC contacts for main contacts		0

<b>Operating current</b>		
• at AC-1 at 400 V Rated value	A	40
• at AC-51 Rated value	A	40
<b>Reverse current of the thyristor</b>	mA	10
<b>Derating temperature</b>	°C	40
<b>Operating current minimum</b>	mA	500
<b>Surge current resistance Rated value</b>	A	1 150
<b>I<sup>2</sup>t value maximum</b>	A <sup>2</sup> ·s	6 600
<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	1 600
Short-circuit protection, design of the fuse link		

#### Control circuit/ Control:

<b>Type of voltage of the control supply voltage</b>		DC
<b>Control supply voltage 1</b>		
• for DC	V	4 ... 30
<b>Control supply voltage</b>		
• for DC Full-scale value for signal<0> recognition	V	1
<b>Symmetrical line frequency tolerance</b>	Hz	5
<b>Control current</b>		
• at minimum control supply voltage		
— for DC	mA	2
• for DC Rated value	mA	30

#### 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	157.5
<b>Height</b>	mm	100
<b>Depth</b>	mm	121

### 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	18 ... 22
<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> <li>— with core end processing</li> </ul> </li> <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</li> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul>		<p>2x (1.5 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>)</p> <p>2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></p> <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>
<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</li> <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</li> <li>— with core end processing</li> <li>— without core end processing</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>
<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
AWG number as coded connectable conductor cross section for auxiliary and control contacts		20 ... 12
<b>Wire stripping length of the cable</b>		

• for main contacts	mm	7
• for auxiliary and control contacts	mm	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	7.5 ... 5.3

Certificates/ approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
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[Type Test Certificates/Test Report](#)

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**

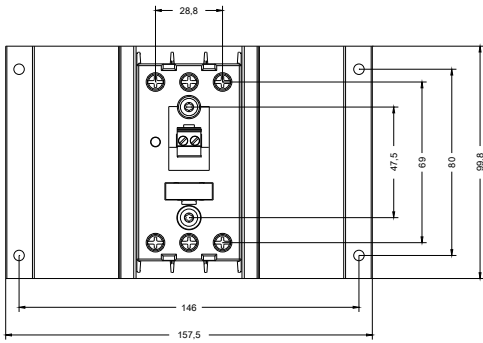
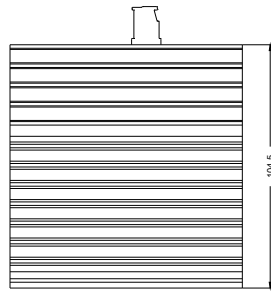
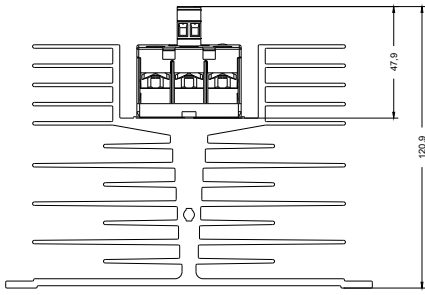
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF24401AC45>

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

<http://support.automation.siemens.com/WW/view/en/3RF24401AC45/all>

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

<http://www.automation.siemens.com/bilddb/index.aspx?attID9=3RF24401AC45&lang=en>



last modified:

09.03.2015