



SOLID-STATE CONTACT.3PHASE 3RF2 AC51 20A 40  
DEG. C 48-600V / 110V AC 3-PHASE CONTROLLED  
SCREW TERMINAL BLOCKING VOLTAGE 1200V

### General technical data:

<b>product brand name</b>		SIRIUS
<b>product designation</b>		solid-state contactor
<b>Product function</b>		zero-point switching
<b>Number of poles / for main current circuit</b>		3
<b>Protection class IP</b>		IP20
<b>Ambient temperature</b>		
• during operating	°C	-25 ... +60
• during storage	°C	-55 ... +80
<b>Installation altitude / at a height over sea level / maximum</b>	m	1,000
<b>Resistance against vibration / according to IEC 60068-2-6</b>		2g
<b>Resistance against shock / according to IEC 60068-2-27</b>		15g / 11 ms
<b>Item designation</b>		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		K
• according to DIN EN 61346-2		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:

Number of NO contacts / for main contacts		3
Number of NC contacts / for main contacts		0
Operating current / at AC-1 / at 400 V / rated value	A	20
Operating current / at AC-51 / rated value	A	20
Reverse current / of the thyristor	mA	10
Derating temperature	°C	40
Operating current / minimum	mA	500
Resistance against the impulse current / rated value	A	600
I <sup>2</sup> t-level / maximum	A <sup>2</sup> ·s	1,800
Operating voltage		
• at 50 Hz / at AC / rated value	V	48 ... 600
• at 60 Hz / at AC / rated value	V	48 ... 600
Working area related to the operating voltage		
• at 50 Hz / for AC	V	40 ... 660
• at 60 Hz / for AC	V	40 ... 660
Operating frequency		
• rated value	Hz	50 ... 60
Relative symmetrical tolerance / of the operation frequency	%	10
Insulation voltage / rated value	V	600
Voltage slew rate / at the thyristor / for main contacts / maximum permissible	V/μs	1,000
Block voltage / at the thyristor / for main contacts / maximum permissible	V	1,200
Fuse assignments		<a href="https://www.automation.siemens.com/cd-static/material/info/3RF24_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF24_eng.pdf</a>

#### Control circuit:

Type of voltage / of the controlled supply voltage		AC
Control supply voltage / 1		
• at 50 Hz		
• for AC	V	90 ... 125
• at 60 Hz		
• for AC	V	90 ... 125
Control supply voltage frequency		
• 1	Hz	45
• 2	Hz	66
Control supply voltage / at 50 Hz / for AC / final value for signal<0>-recognition	V	90
Control supply voltage / at 60 Hz / for AC / final value for signal<0>-recognition	V	90
Tolerance of the line frequency	Hz	5

<b>Relative symmetrical tolerance / of the supply voltage frequency</b>	%	10
<b>Control current</b>		
• at minimum control supply voltage / for AC	mA	2
• for AC / rated value	mA	15

#### 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	90
<b>Height</b>	mm	100
<b>Depth</b>	mm	112.5

#### 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>		
• with screw-type terminals	N·m	2 ... 2.5
<b>Tightening torque (lbf-in) / for main contacts</b>		
• with screw-type terminals	lbf-in	18 ... 22
<b>Type of the connectable conductor cross-section</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 conductor end processing		2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
• for AWG conductors		
• for main contacts		2x (14 ... 10)
• for auxiliary and control contacts		1x (AWG 20 ... 12)
• 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 conductor end processing		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
• without conductor final cutting		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
<b>Conductor cross section that can be connected</b>		
• for main contacts		
• solid	mm <sup>2</sup>	1.5 ... 6

<ul style="list-style-type: none"> <li>stranded wire <ul style="list-style-type: none"> <li>with conductor end processing</li> </ul> </li> </ul>	mm <sup>2</sup>	1 ... 10
<ul style="list-style-type: none"> <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>	mm <sup>2</sup>	0.5 ... 2.5
<b>AWG number / as coded connectable conductor cross-section / for main contacts</b>		14 ... 10
<b>Design of the 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 pins</b>		M3
<b>AWG number / as coded connectable conductor cross-section</b> <ul style="list-style-type: none"> <li>for auxiliary and control contacts</li> </ul>		20 ... 12
<b>Skinning length / of the cable / for main contacts</b>	mm	7
<b>Skinning length / of the cable / for auxiliary and control contacts</b>	mm	7
<b>Tightening torque / for auxiliary and control contacts</b> <ul style="list-style-type: none"> <li>with screw-type terminals</li> </ul>	N·m	0.5 ... 0.6
<b>Tightening torque (lbf·in) / for auxiliary and control contacts</b> <ul style="list-style-type: none"> <li>with screw-type terminals</li> </ul>	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/industrial-controls/mall>

**Cax online generator:**

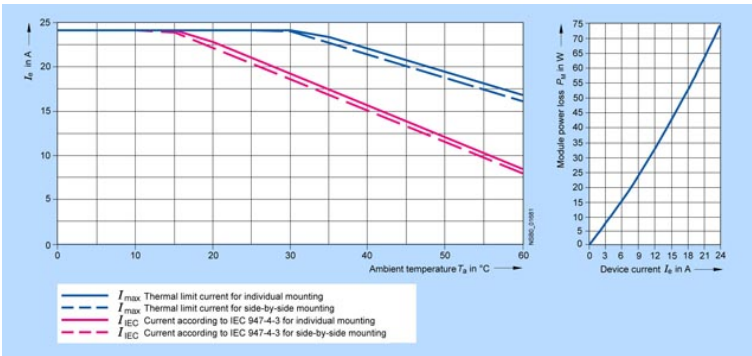
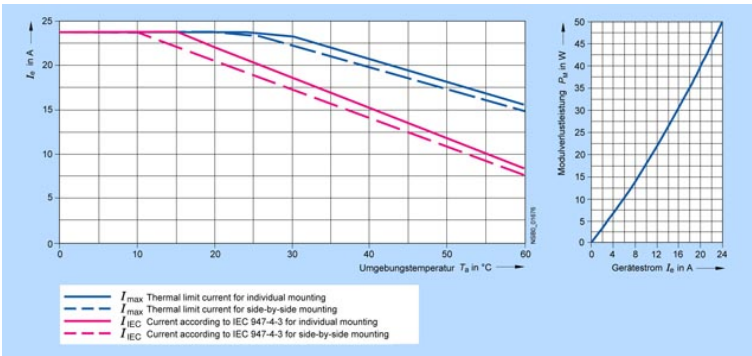
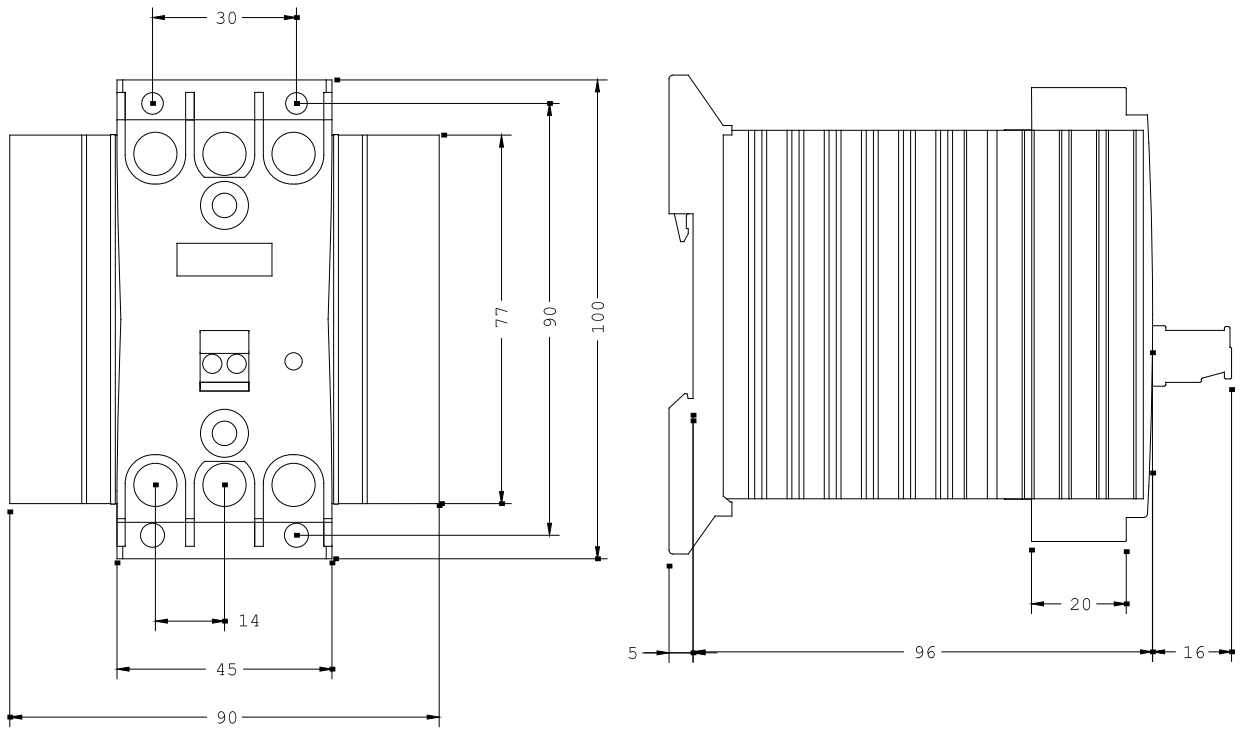
<http://www.siemens.com/cax>

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

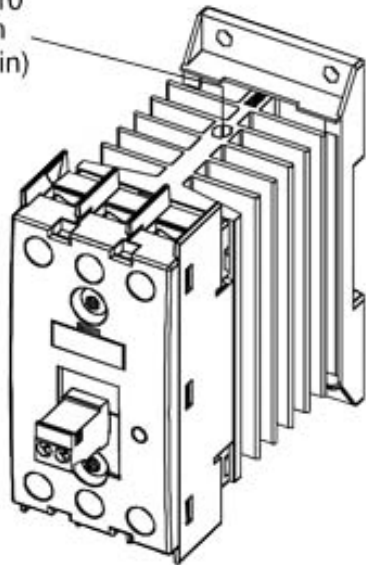
<http://support.automation.siemens.com/WWW/view/en/3RF2420-1AC35/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2420-1AC35](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2420-1AC35)



PE  
M 5 x 10  
1,5 Nm  
(13 lb·in)



last change:

Feb 4, 2013