



SOLID-STATE CONTACTOR 3-PH 3RF3 AC53 16A 40  
DEGREES C 48-480V / 110-230V AC 2-PH. CONTROLLED  
INSTANTANEOUS SCREW TERMINALS

### General technical data:

<b>product brand name</b>		SIRIUS
<b>product designation</b>		solid-state motor contactor
• _1 / of the accessories that can be ordered		Link module
• _2 / of the accessories that can be ordered		Connection adapter
<b>Manufacturer article number</b>		
• _1 / of the accessories that can be ordered		<a href="#">3RA2921-1BA00</a>
• _2 / of the accessories that can be ordered		<a href="#">3RF3900-0QA88</a>
<b>Protection class IP</b>		IP20
<b>Insulation voltage / rated value</b>	V	600
<b>Installation altitude / at a height over sea level / maximum</b>	m	1,000
<b>Ambient temperature</b>		
• during storage	°C	-55 ... +80
• during operating	°C	-25 ... +60
<b>Resistance against shock</b>		
• according to IEC 60068-2-27		15g / 11 ms
<b>Resistance against vibration</b>		
• according to IEC 60068-2-6		2g
<b>Resistance against the impulse current / rated value</b>	A	1,150
<b>Active power loss / total / typical</b>	W	28

<b>Item designation</b>  • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750  • according to DIN EN 61346-2		K
		Q
<b>Product function</b>		instantaneous switching

### Main circuit:

<b>Number of poles / for main current circuit</b>		3
<b>Number of NC contacts / for main contacts</b>		0
<b>Number of NO contacts / for main contacts</b>		2
<b>Operating frequency</b>  • rated value	Hz	60 ... 50
<b>Operating voltage</b>  • at 60 Hz / at AC / rated value  • at 50 Hz / at AC / rated value	V	48 ... 480
	V	48 ... 480
<b>Operating current</b>  • minimum  • at AC-3 / at 400 V / rated value	mA	500
	A	16
<b>Working area related to the operating voltage</b>  • at 50 Hz / for AC  • at 60 Hz / for AC	V	40 ... 506
	V	40 ... 506
<b>Service power / at AC-3 / at 400 V</b>  • rated value	kW	7.5
<b>Derating temperature</b>	°C	40
<b>Tolerance of the line frequency</b>	Hz	5
<b>Relative symmetrical tolerance / of the operation frequency</b>	%	10
<b>I<sup>2</sup>t-level / maximum</b>	A <sup>2</sup> ·s	6,600
<b>Voltage slew rate / at the thyristor / for main contacts</b>  • maximum permissible	V/μs	1,000
<b>Block voltage / at the thyristor / for main contacts</b>  • maximum permissible	V	1,200
<b>Reverse current / of the thyristor</b>	mA	10

### Control circuit:

<b>Type of voltage / of the controlled supply voltage</b>		AC
<b>Control supply voltage frequency</b>  • 1 / rated value  • 2 / rated value	Hz	50
	Hz	60
<b>Relative symmetrical tolerance</b>  • of the control supply voltage frequency  • of the supply voltage frequency	%	10
	%	10

<b>Control supply voltage</b> <ul style="list-style-type: none"> <li>• 1 <ul style="list-style-type: none"> <li>• at 50 Hz / for AC <ul style="list-style-type: none"> <li>• initial rated value</li> <li>• final rated value</li> </ul> </li> <li>• at 60 Hz / for AC <ul style="list-style-type: none"> <li>• initial rated value</li> <li>• final rated value</li> </ul> </li> </ul> </li> <li>• at 50 Hz / for AC / final value for signal&lt;0&gt;-recognition</li> <li>• at 60 Hz / for AC / final value for signal&lt;0&gt;-recognition</li> </ul>		
	V	90
	V	253
	V	90
	V	253
	V	40
<b>Control current</b> <ul style="list-style-type: none"> <li>• for AC / rated value</li> <li>• at minimum control supply voltage / for AC</li> </ul>	mA	15
	mA	2

<b>Auxiliary circuit:</b>		
<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

<b>Installation/mounting/dimensions:</b>		
<b>Built in orientation</b>		vertical
<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>Tightening torque / of the screw for fastening of the operating resource</b>	N·m	1.5
<b>Design of the thread / of the screw for fastening of the operating resource</b>		M4
<b>Width</b>	mm	90
<b>Height</b>	mm	95
<b>Depth</b>	mm	100.8
<b>Distance, to be maintained, to the ranks assembly</b> <ul style="list-style-type: none"> <li>• upwards</li> <li>• downwards</li> </ul>	mm	70
	mm	50

<b>Connections:</b>		
<b>Design of the electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>		screw-type terminals
		screw-type terminals
<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 pins</li> </ul>		M4
		M3

<b>Product function / removable terminal for auxiliary and control circuit</b>		Yes
<b>Type of the 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 <ul style="list-style-type: none"> <li>with conductor end processing</li> </ul> </li> </ul> </li> <li>for AWG conductors / for main contacts</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> <li>for AWG conductors / for auxiliary and control contacts</li> </ul>		2x (0.5 ... 2.5 mm <sup>2</sup> )  2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (18 ... 14)  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> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) 1x (AWG 20 ... 12)
<b>Tightening torque</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>	N·m N·m	2 ... 2.5 0.5 ... 0.6
<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>	lbf·in lbf·in	18 ... 22 7.5 ... 5.3
<b>Skinning 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

#### Certificates/approvals:

##### Verification of suitability

CE / UL / CSA / CCC / C-TICK

**General Product Approval**

**Test Certificates**

**other**



[Type Test Certificates/Test Report](#)

[Declaration of Conformity](#)

#### UL/CSA ratings

##### yielded mechanical performance (hp) / for three-phase squirrel cage motors

- at 200/208 V / rated value
- at 220/230 V / rated value
- at 460/480 V / rated value

hp  
hp  
hp

2  
2  
5

##### Operating current (FLA) / for three-phase squirrel cage motors

- at 480 V / rated value

A

7.6

#### Further information:

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

<http://www.siemens.com/industrial-controls/catalogs>

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**Industry Mall (Online ordering system)**

<http://www.siemens.com/industrial-controls/mall>

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**CAX-Online-Generator**

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

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

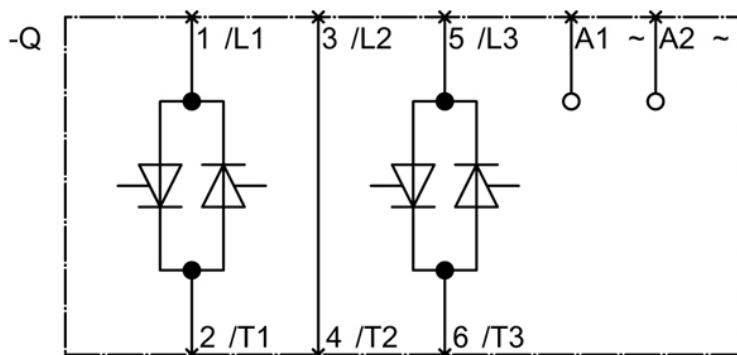
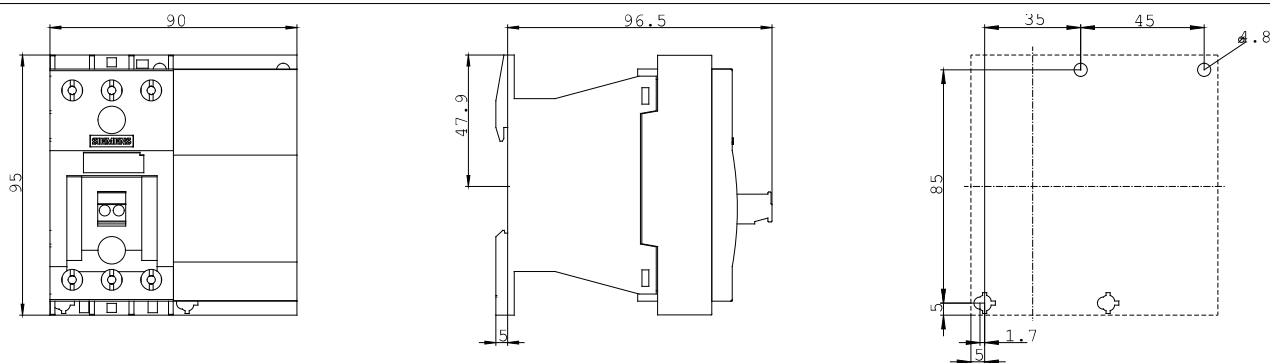
<http://support.automation.siemens.com/WW/view/en/3RF3416-1BB24/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF3416-1BB24](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF3416-1BB24)

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last change:

May 14, 2012