

Solid-state contactor 3-phase 3RF3 AC 53 / 12.5 A / 40  
 °C 48-480 V / 24 V DC 2-phase controlled  
 Instantaneous switching Spring-type terminal



General technical data		
Product brand name		SIRIUS
Protection class IP		IP20
Insulation voltage rated value	V	600
Installation altitude at height above sea level maximum	m	1 000
Ambient temperature		
• during storage	°C	-55 ... +80
• during operation	°C	-25 ... +60
Shock resistance acc. to IEC 60068-2-27		15g / 11 ms
Vibration resistance acc. to IEC 60068-2-6		2g
Surge current resistance rated value	A	1 200
Power loss [W] total typical	W	22
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		K
Reference code acc. to DIN EN 61346-2		Q
Product function		instantaneous switching
Main circuit		
Number of poles for main current circuit		3

<b>Number of NO contacts for main contacts</b>		2
<b>Operating frequency rated value</b>	Hz	60 ... 50
<b>Operating voltage at AC</b>		
• at 60 Hz rated value	V	48 ... 480
• at 50 Hz rated value	V	48 ... 480
<b>Operating current</b>		
• minimum	mA	500
• at AC-53a at 400 V at ambient temperature 40 °C rated value	A	12.5
<b>Operating range relative to the operating voltage at AC</b>		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
<b>Operating power at AC-3 at 400 V rated value</b>	kW	5.5
<b>Derating temperature</b>	°C	40
<b>Symmetrical line frequency tolerance</b>	Hz	5
<b>Relative symmetrical tolerance of the operating frequency</b>	%	10
<b>I<sup>2</sup>t value maximum</b>	A <sup>2</sup> ·s	7 200
<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	1 200
<b>Reverse current of the thyristor</b>	mA	10

#### Control circuit/ Control

<b>Type of voltage of the control supply voltage</b>		DC
<b>Control supply voltage 1</b>		
• at DC — rated value	V	24
<b>Operating range factor control supply voltage rated value</b>		
• at DC		0.63 ... 1.25
<b>Control supply voltage at DC</b>		
• initial value for signal <1> detection	V	15
• Full-scale value for signal<0> recognition	V	5
<b>Control current</b>		
• at minimum control supply voltage — at DC	mA	2
• at DC rated value	mA	15
<b>switching times</b>		
• ON delay		1 ms
• OFF delay		1 ms + in addition max. one half-wave

#### Installation/ mounting/ dimensions

<b>Mounting position</b>		vertical
<b>Mounting type</b>		screw and snap-on mounting onto 35 mm standard mounting rail
<b>Mounting type Side-by-side mounting</b>		Yes
<b>Tightening torque of the screw for securing the equipment</b>	N·m	1.5
<b>Design of the thread of the screw for securing the equipment</b>		M4
<b>Width</b>	mm	90
<b>Height</b>	mm	95
<b>Depth</b>	mm	100.8
<b>Required spacing with side-by-side mounting</b>		
• upwards	mm	70
• downwards	mm	50

### Connections/Terminals

<b>Type of electrical connection</b>		
• for main current circuit		spring-loaded terminals
• for auxiliary and control current circuit		spring-loaded terminals
<b>Product function removable terminal for auxiliary and control circuit</b>		Yes
<b>Type of connectable conductor cross-sections</b>		
• for main contacts		
— solid		2x (0.5 ... 2.5 mm <sup>2</sup> )
— finely stranded		
— with core end processing		2x (0.5 ... 1.5 mm <sup>2</sup> )
— without core end processing		2x (0.5 ... 2.5 mm <sup>2</sup> )
• at AWG conductors		
— for main contacts		2x (18 ... 14)
— for auxiliary and control contacts		1x (AWG 20 ... 12)
• for auxiliary and control contacts		
— solid		0.5 ... 1.5 mm <sup>2</sup>
— finely stranded		
— with core end processing		0.5 ... 2.5 mm <sup>2</sup>
— without core end processing		0.5 ... 2.5 mm <sup>2</sup>
<b>Wire stripping length of the cable</b>		
• for main contacts	mm	10
• for auxiliary and control contacts	mm	10

### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>		
• at 480 V rated value	A	7.6
<b>Yielded mechanical performance [hp] for three-phase AC motor</b>		

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

hp	2
hp	2
hp	5

### Certificates/approvals

General Product Approval			EMC	Declaration of Conformity	
 CCC	 CSA	 UL		 C-Tick	 EG-Konf.

Test Certificates	other
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[Type Test Certificates/Test Report](#)

[Confirmation](#)

### Further information

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

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

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF3412-2BB04>

**Cax online generator**

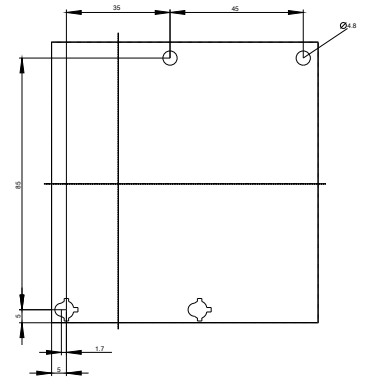
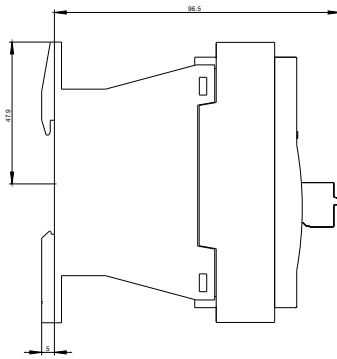
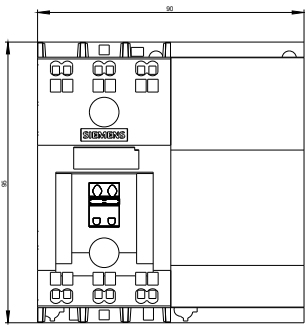
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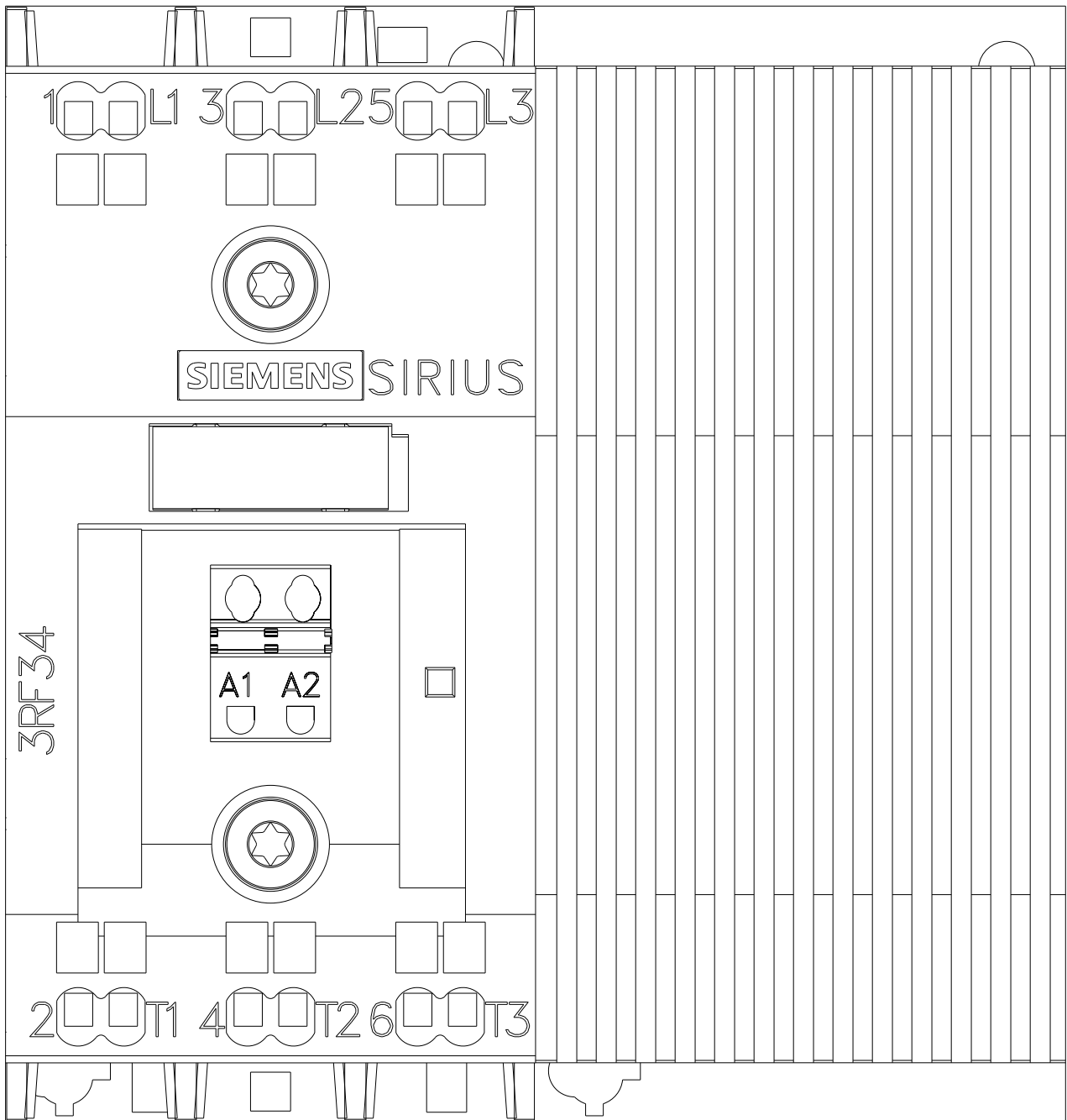
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

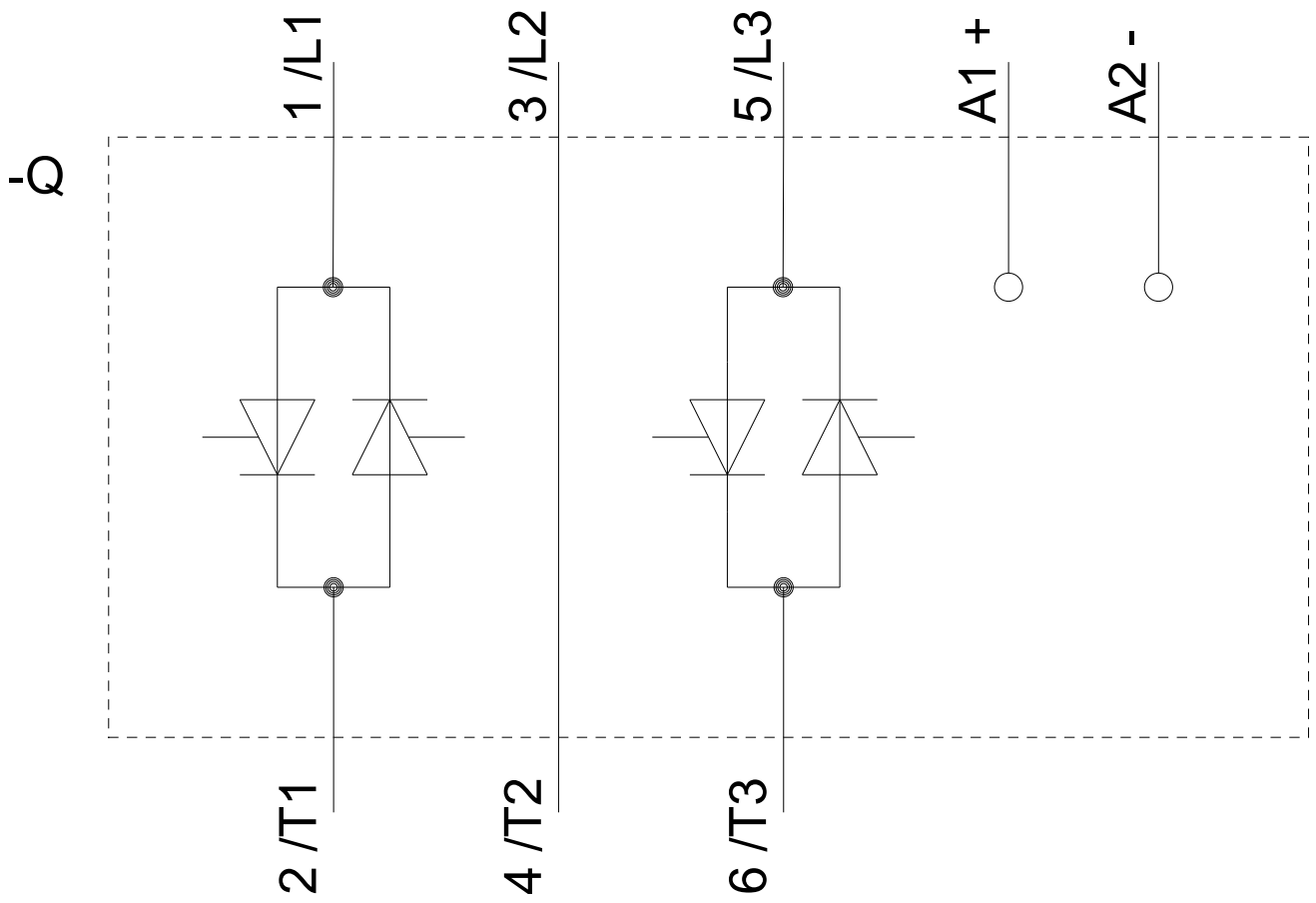
<https://support.industry.siemens.com/cs/ww/en/ps/3RF3412-2BB04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF3412-2BB04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3412-2BB04&lang=en)







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