

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

product brandname		SIRIUS
Product designation _2 of the accessories that can be ordered		Connection adapter
Product designation _1 of the accessories that can be ordered		Link module
Manufacturer's article number		
<ul style="list-style-type: none"> • _1 of the accessories that can be ordered • _2 of the accessories that can be ordered 		3RA2921-1BA00 3RF3900-0QA88
Protection class IP		IP20
Insulation voltage rated value	V	600
Installation altitude at height above sea level maximum	m	1 000
Ambient temperature		
<ul style="list-style-type: none"> • during storage • during operation 	°C	-55 ... +80 -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	1 150

Power loss [W] total typical	W	28
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
Product function		instantaneous switching

Main circuit

Number of poles for main current circuit		3
Number of NO contacts for main contacts		2
Operating frequency rated value	Hz	60 ... 50
Operating voltage at AC		
• at 60 Hz rated value	V	48 ... 480
• at 50 Hz rated value	V	48 ... 480
Operating current		
• minimum	mA	500
• at AC-53a at 400 V at ambient temperature 40 °C rated value	A	16
Operating range relative to the operating voltage at AC		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
Operating power at AC-3 at 400 V rated value	kW	7.5
Derating temperature	°C	40
Symmetrical line frequency tolerance	Hz	5
Relative symmetrical tolerance of the operating frequency	%	10
I ² t value maximum	A ² ·s	6 600
Rate of voltage rise at the thyristor for main contacts maximum permissible	V/μs	1 000
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 200
Reverse current of the thyristor	mA	10

Control circuit/ Control

Type of voltage of the control supply voltage		AC
Control supply voltage frequency		
• 1 rated value	Hz	50
• 2 rated value	Hz	60
Relative symmetrical tolerance		
• of the control supply voltage frequency	%	10
• of the supply voltage frequency	%	10
Control supply voltage 1		
• at AC		
— at 50 Hz Initial rated value	V	90
— at 50 Hz Final rated value	V	253

— at 60 Hz Initial rated value	V	90
— at 60 Hz Final rated value	V	253
Control supply voltage at AC		
• initial value for signal <1> detection	V	90
• at 50 Hz Full-scale value for signal<0> recognition	V	40
• at 60 Hz Full-scale value for signal<0> recognition	V	40
Control current		
• at AC rated value	mA	15
• at minimum control supply voltage		
— at AC	mA	2
switching times		
• ON delay		5 ms
• OFF delay		30 ms + in addition max. one half-wave

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

Connections/Terminals		
Type of electrical connection		
• for main current circuit		screw-type terminals
• for auxiliary and control current circuit		screw-type terminals
Design of the thread of the connection screw		
• for main contacts		M4
• of the auxiliary and control contacts		M3
Product function removable terminal for auxiliary and control circuit		Yes
Type of connectable conductor cross-sections		
• for main contacts		
— solid		2x (0.5 ... 2.5 mm ²)

<ul style="list-style-type: none"> — finely stranded — with core end processing • at AWG conductors <ul style="list-style-type: none"> — for main contacts — for auxiliary and control contacts • for auxiliary and control contacts <ul style="list-style-type: none"> — solid — finely stranded <ul style="list-style-type: none"> — with core end processing — without core end processing 		<p>2x (0.5 ... 1.5 mm²)</p> <p>2x (18 ... 14)</p> <p>1x (AWG 20 ... 12)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)</p>
Tightening torque		
<ul style="list-style-type: none"> • for main contacts with screw-type terminals 	N·m	2 ... 2.5
<ul style="list-style-type: none"> • for auxiliary and control contacts with screw-type terminals 	N·m	0.5 ... 0.6
Tightening torque [lbf·in]		
<ul style="list-style-type: none"> • for main contacts with screw-type terminals 	lbf·in	18 ... 22
<ul style="list-style-type: none"> • for auxiliary and control contacts with screw-type terminals 	lbf·in	7.5 ... 5.3
Wire stripping length of the cable		
<ul style="list-style-type: none"> • for main contacts 	mm	7
<ul style="list-style-type: none"> • for auxiliary and control contacts 	mm	7

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor		
<ul style="list-style-type: none"> • at 480 V rated value 	A	7.6
Yielded mechanical performance [hp] for three-phase AC motor		
<ul style="list-style-type: none"> • at 200/208 V rated value 	hp	2
<ul style="list-style-type: none"> • at 220/230 V rated value 	hp	2
<ul style="list-style-type: none"> • at 460/480 V rated value 	hp	5

Certificates/approvals

General Product Approval	EMC	Declaration of Conformity
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CCC



CSA



UL



C-Tick



EG-Konf.

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

[Environmental Confirmations](#)

[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?mfb=3RF3416-1BB24>

Cax online generator

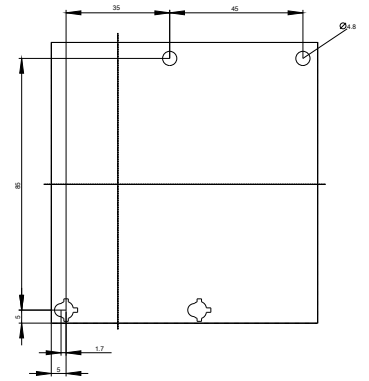
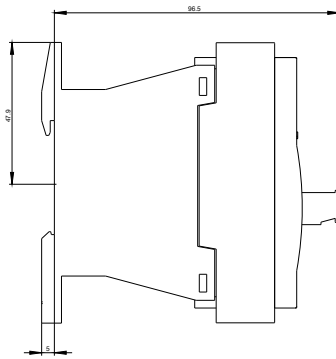
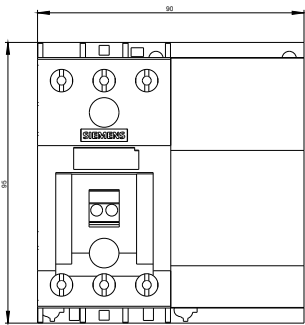
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RF3416-1BB24>

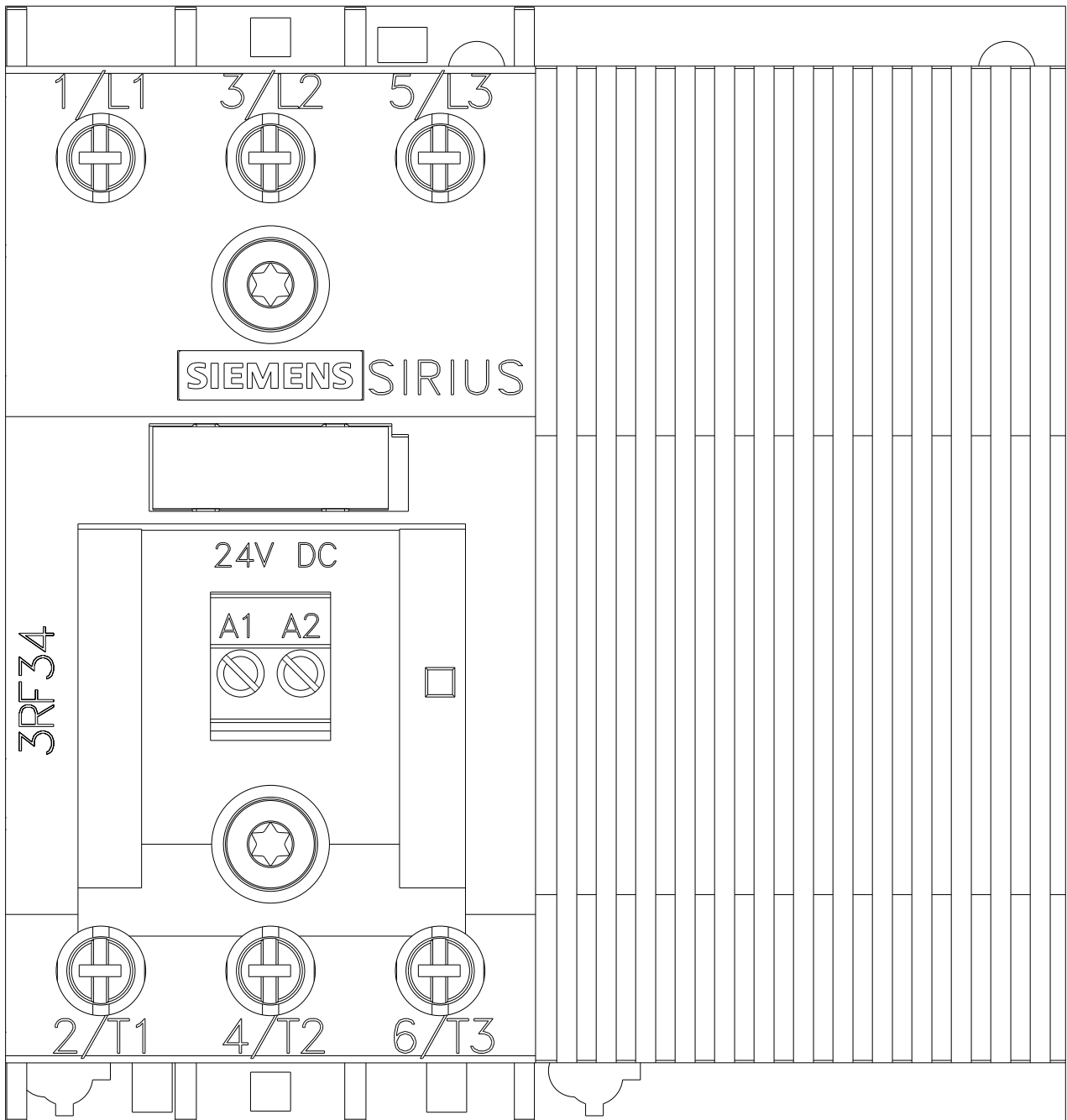
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

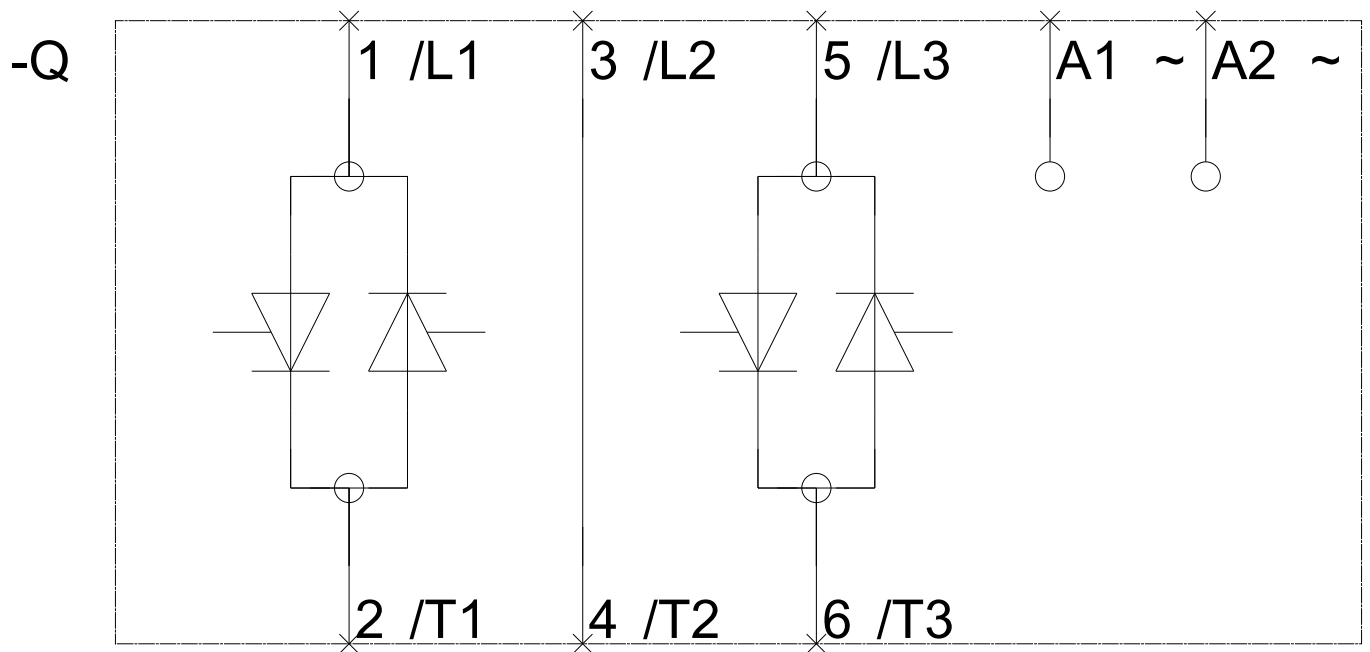
<https://support.industry.siemens.com/cs/ww/en/ps/3RF3416-1BB24>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RF3416-1BB24&lang=en







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