

Solid-state contactor 3-phase 3RF3 AC 53 / 5.4 A / 40 °C 48-480 V / 24 V DC Reversing circuit Instantaneous switching screw terminal



Product brand name	SIRIUS
Product designation	solid-state reversing contactor
Product type designation	3RF34
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
Product designation	
<ul style="list-style-type: none"> • _1 / of the accessories that can be ordered • _2 / of the accessories that can be ordered 	Link module Connection adapter

General technical data	
Product function	instantaneous switching
Power loss [W] / for rated value of the current / at AC / in hot operating state	9 W
Insulation voltage	
<ul style="list-style-type: none"> • rated value 	600 V
Protection class IP	IP20
Shock resistance / acc. to IEC 60068-2-27	15g / 11 ms
Vibration resistance / acc. to IEC 60068-2-6	2g

Reference code / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750	K
Reference code / acc. to DIN EN 81346-2	Q
Reference code / acc. to DIN EN 61346-2	Q

Main circuit

Number of poles / for main current circuit	3
Number of NO contacts / for main contacts	2
Number of NC contacts / for main contacts	0
Operating voltage / at AC	
• at 50 Hz / rated value	48 ... 480 V
• at 60 Hz / rated value	48 ... 480 V
Operating frequency / rated value	50 ... 60 Hz
Relative symmetrical tolerance / of the operating frequency	10 %
Operating range relative to the operating voltage / at AC	
• at 50 Hz	40 ... 506 V
• at 60 Hz	40 ... 506 V
Operating current	
• at AC-3 / at 400 V / rated value	5.4 A
• at AC-53a / at 400 V / at ambient temperature 40 °C / rated value	5.4 A
Operating current / minimum	500 mA
Operating power	
• at AC-3 / at 400 V / rated value	2.2 kW
Rate of voltage rise / at the thyristor / for main contacts / maximum permissible	1 000 V/ μ s
Blocking voltage / at the thyristor / for main contacts / maximum permissible	1 200 V
Reverse current / of the thyristor	10 mA
Derating temperature	40 °C
Surge current resistance / rated value	600 A
I ² t value / maximum	1 800 A ² ·s

Control circuit/ Control

Type of voltage / of the control supply voltage	DC
Control supply voltage / 1	
• at DC / rated value	24 V
Control supply voltage	
• at DC / initial value for signal <1> detection	15 V
• at DC / Full-scale value for signal <0> recognition	5 V
Symmetrical line frequency tolerance	5 Hz

Operating range factor control supply voltage rated value / at DC	
• initial value	0.63
• Full-scale value	1.25
Control current / at minimum control supply voltage	
• at DC	2 mA
Control current / at DC / rated value	15 mA
Switchover delay / of reversing contactor	60 ... 100 ms
Number of NC contacts / for auxiliary contacts	0
Number of NO contacts / for auxiliary contacts	0
Number of CO contacts / for auxiliary contacts	0

Installation/ mounting/ dimensions

Mounting position	vertical
Mounting type	screw and snap-on mounting onto 35 mm standard mounting rail
• Side-by-side mounting	Yes
Height	95 mm
Width	45 mm
Depth	113.8 mm
Required spacing / with side-by-side mounting	
• upwards	70 mm
• downwards	50 mm
Installation altitude / at height above sea level / maximum	1 000 m

Connections/ Terminals

Product function / removable terminal for auxiliary and control circuit	Yes
Type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²)
— finely stranded / with core end processing	2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ²
• at AWG conductors / for main contacts	2x (14 ... 10)
Type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
— finely stranded / with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
— finely stranded / without core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
• at AWG conductors / for auxiliary and control contacts	1x (AWG 20 ... 12)
Tightening torque	
• for main contacts / with screw-type terminals	2 ... 2.5 N·m

<ul style="list-style-type: none"> • for auxiliary and control contacts / with screw-type terminals 	0.5 ... 0.6 N·m
Tightening torque [lbf·in]	
<ul style="list-style-type: none"> • for main contacts / with screw-type terminals 	18 ... 22 lbf·in
<ul style="list-style-type: none"> • for auxiliary and control contacts / with screw-type terminals 	7.5 ... 5.3 lbf·in
Design of the thread / of the connection screw	
<ul style="list-style-type: none"> • for main contacts 	M4
<ul style="list-style-type: none"> • of the auxiliary and control contacts 	M3
Wire stripping length / of the cable	
<ul style="list-style-type: none"> • for main contacts 	10 mm
<ul style="list-style-type: none"> • for auxiliary and control contacts 	7 mm

UL/CSA ratings

Full-load current (FLA) / for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V / rated value 	4.8 A
Yielded mechanical performance [hp] / for three-phase AC motor	
<ul style="list-style-type: none"> • at 200/208 V / rated value 	1 hp
<ul style="list-style-type: none"> • at 220/230 V / rated value 	1 hp
<ul style="list-style-type: none"> • at 460/480 V / rated value 	3 hp

Safety related data

Proportion of dangerous failures / with high demand rate / acc. to SN 31920	50 %
MTTF / with high demand rate	39 y
T1 value / for proof test interval or service life / acc. to IEC 61508	6 y

Ambient conditions

Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-25 ... +60 °C
<ul style="list-style-type: none"> • during storage 	-55 ... +80 °C

Electromagnetic compatibility

Conducted interference	
<ul style="list-style-type: none"> • due to burst / acc. to IEC 61000-4-4 	2 kV / 5 kHz behavior criterion 2
<ul style="list-style-type: none"> • due to conductor-earth surge / acc. to IEC 61000-4-5 	2 kV behavior criterion 2
<ul style="list-style-type: none"> • due to conductor-conductor surge / acc. to IEC 61000-4-5 	1 kV behavior criterion 2
<ul style="list-style-type: none"> • due to high-frequency radiation / acc. to IEC 61000-4-6 	140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1
Electrostatic discharge / acc. to IEC 61000-4-2	4 kV contact discharging / 8 kV air discharging, behavior criterion 2

Conducted HF-interference emissions / acc. to CISPR11	Class A for industrial environment
Field-bound HF-interference emission / acc. to CISPR11	Class A for industrial environment

Short-circuit protection, design of the fuse link

Manufacturer's article number	
<ul style="list-style-type: none"> • of full range R fuse link for semiconductor protection / at NH design 	3NE1802-0
<ul style="list-style-type: none"> • of full range R fuse link for semiconductor protection / at cylindrical design 	5SE1335
<ul style="list-style-type: none"> • of back-up R fuse link for semiconductor protection / at NH design 	3NE8020-1
<ul style="list-style-type: none"> • of back-up R fuse link for semiconductor protection / at cylindrical design 10 x 38 mm 	3NC1032
<ul style="list-style-type: none"> • of back-up R fuse link for semiconductor protection / at cylindrical design 14 x 51 mm 	3NC1450
<ul style="list-style-type: none"> • of back-up R fuse link for semiconductor protection / at cylindrical design 22 x 58 mm 	3NC2263
Manufacturer's article number / of the gG fuse	
<ul style="list-style-type: none"> • at NH design 	3NA3805-6
Manufacturer's article number	
<ul style="list-style-type: none"> • of DIAZED fuse 	5SB311

Further information

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

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF3405-1BD04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3405-1BD04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3405-1BD04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3405-1BD04&lang=en





