



Solid-state contactor 3-phase 3RF3 AC 53 / 5.2 A / 40 °C 48-480 V / 24 V
DC 2-phase controlled Instantaneous switching Spring-type terminal

product brand name	SIRIUS
product designation	solid-state contactor
design of the product	two-phase controlled
product type designation	3RF34
General technical data	
product function	instantaneous switching
power loss [W] for rated value of the current	
• at AC in hot operating state	10 W
• at AC in hot operating state per pole	3.33 W
• without load current share typical	0.4 W
insulation voltage rated value	600 V
type of voltage of the control supply voltage	DC
surge voltage resistance of main circuit rated value	6 kV
shock resistance according to IEC 60068-2-27	15g / 11 ms
vibration resistance according to IEC 60068-2-6	2g
certificate of suitability	CE / UL / CSA / CCC / C-Tick (RCM)
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/28/2009
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
operational current	
• at AC-3 at 400 V rated value	5.2 A
• at AC-53a at 400 V at ambient temperature 40 °C rated value	5.2 A
operational current minimum	100 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/μs
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	200 A
I ² t value maximum	200 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
ON-delay time	1 ms
OFF-delay time	1 ms; additionally max. one half-wave

Auxiliary circuit

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
fastening method	screw and snap-on mounting onto 35 mm DIN rail
• side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
height	95 mm
width	45 mm
depth	100.8 mm
required spacing with side-by-side mounting	
• upwards	70 mm
• downwards	50 mm

Connections/ Terminals

product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	
• for main current circuit	spring-loaded terminals
• for auxiliary and control circuit	spring-loaded terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 ... 2.5 mm ²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm ²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm ²)
• at AWG cables for main contacts	2x (18 ... 14)
connectable conductor cross-section for main contacts	
• solid or stranded	0.5 ... 2.5 mm ²
• finely stranded with core end processing	0.5 ... 1.5 mm ²
• finely stranded without core end processing	0.5 ... 2.5 mm ²
type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	0.5 ... 1.5 mm ²
— finely stranded with core end processing	0.5 ... 2.5 mm ²
— finely stranded without core end processing	0.5 ... 2.5 mm ²
• at AWG cables for auxiliary and control contacts	1x (AWG 20 ... 12)
AWG number as coded connectable conductor cross section for main contacts	14 ... 10
stripped length of the cable	
• for main contacts	10 mm

- for auxiliary and control contacts

10 mm

UL/CSA ratings

full-load current (FLA) for 3-phase AC motor

- at 480 V rated value

3.4 A

yielded mechanical performance [hp] for 3-phase AC motor

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

0.5 hp
0.75 hp
2 hp

Safety related data

proportion of dangerous failures with high demand rate according to SN 31920

50 %

MTTF with high demand rate

76 a

T1 value for proof test interval or service life according to IEC 61508

20 a

protection class IP on the front according to IEC 60529

IP20

touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front

Ambient conditions

installation altitude at height above sea level maximum

1 000 m

ambient temperature

- during operation
- during storage

-25 ... +60 °C
-55 ... +80 °C

Electromagnetic compatibility

conducted interference

- due to burst according to IEC 61000-4-4
- due to conductor-earth surge according to IEC 61000-4-5
- due to conductor-conductor surge according to IEC 61000-4-5
- due to high-frequency radiation according to IEC 61000-4-6

2 kV / 5 kHz behavior criterion 2

2 kV behavior criterion 2

1 kV behavior criterion 2

140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1

electrostatic discharge according to IEC 61000-4-2

4 kV contact discharging / 8 kV air discharging, behavior criterion 2

conducted HF interference emissions according to CISPR11

Class A for industrial environment

field-bound HF interference emission according to CISPR11

Class A for industrial environment

Short-circuit protection, design of the fuse link

manufacturer's article number

- of full range R fuse link for semiconductor protection at NH design usable
- of full range R fuse link for semiconductor protection at cylindrical design usable
- of back-up R fuse link for semiconductor protection at NH design usable
- of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable
- of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable
- of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable

[3NE1813-0](#)

[5SE1320](#)

[3NE8015-1](#)

[3NC1020](#)

[3NC1415](#)

[3NC2220](#)

manufacturer's article number of the gG fuse

- at NH design usable
- at cylindrical design 10 x 38 mm usable
- at cylindrical design 14 x 51 mm usable

[3NA3801-6](#)

[3NW6001-1](#)

[3NW6101-1](#)

Certificates/ approvals

General Product Approval

EMC



[Confirmation](#)



Declaration of Conformity

Test Certificates

other

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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?mfb=3RF3405-2BB04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RF3405-2BB04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3405-2BB04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RF3405-2BB04&lang=en





