



Solid-state contactor 3-phase 3RF3 AC 53 / 16 A / 40 °C 48-480 V / 24 V
DC 2-phase controlled Instantaneous switching screw terminal

product brand name

product designation

design of the product

product type designation

manufacturer's article number

- _1 of the accessories that can be ordered
- _2 of the accessories that can be ordered

product designation

- _1 of the accessories that can be ordered
- _2 of the accessories that can be ordered

SIRIUS

solid-state contactor

two-phase controlled

3RF34

[3RA2921-1BA00](#)

[3RF3900-0QA88](#)

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
- at AC in hot operating state per pole
- without load current share typical

28 W
9.33 W
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

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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
- at 60 Hz rated value

48 ... 480 V
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
- at 60 Hz

40 ... 506 V
40 ... 506 V

operational current

- at AC-3 at 400 V rated value
- at AC-53a at 400 V at ambient temperature 40 °C rated value

16 A
16 A

operational current minimum

500 mA

operating power	7.5 kW
at AC-3 at 400 V rated value	1 000 V/μs
rate of voltage rise at the thyristor for main contacts maximum permissible	
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	1 150 A
I²t value maximum	6 600 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	90 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	screw-type terminals
for auxiliary and control circuit	screw-type 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	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 • at AWG cables for auxiliary and control contacts AWG number as coded connectable conductor cross section for main contacts tightening torque • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals tightening torque [lbf-in] • for main contacts with screw-type terminals • for auxiliary and control contacts with screw-type terminals design of the thread of the connection screw • for main contacts • of the auxiliary and control contacts stripped length of the cable • for main contacts • for auxiliary and control contacts	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (AWG 20 ... 12) 14 ... 10 2 ... 2.5 N·m 0.5 ... 0.6 N·m 18 ... 22 lbf-in 7.5 ... 5.3 lbf-in M4 M3 7 mm 7 mm
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value 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	7.6 A 2 hp 2 hp 5 hp
Safety related data	
proportion of dangerous failures with high demand rate according to SN 31920 MTTF with high demand rate T1 value for proof test interval or service life according to IEC 61508 protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529	50 % 76 y 20 y IP20 finger-safe, for vertical contact from the front
Ambient conditions	
installation altitude at height above sea level maximum ambient temperature • during operation • during storage	1 000 m -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 electrostatic discharge according to IEC 61000-4-2 conducted HF interference emissions according to CISPR11 field-bound HF interference emission according to CISPR11	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 4 kV contact discharging / 8 kV air discharging, behavior criterion 2 Class A for industrial environment 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	3NE1818-0 5SE1363 3NE8022-1 3NC1032 3NC1450

- of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable manufacturer's article number of the gG fuse
- at NH design usable
- at cylindrical design 10 x 38 mm usable
- at cylindrical design 22 x 58 mm usable

[3NC2280](#)

[3NA3812-6](#)

[3NW6010-1](#)

[3NW6210-1](#)

Certificates/ approvals

General Product Approval

EMC



[Confirmation](#)



Declaration of Conformity

Test Certificates

other



[Type Test Certificates/Test Report](#)

[Confirmation](#)

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=3RF3416-1BB04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3416-1BB04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3416-1BB04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3416-1BB04&lang=en





