



Solid-state contactor 3-phase 3RF3 AC 53 / 5.4 A / 40 °C 48-480 V / 110-230 V AC Reversing circuit 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 reversing 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 9 W
 - at AC in hot operating state per pole 3 W
 - without load current share typical 3.5 W
- insulation voltage rated value** 600 V
- type of voltage of the control supply voltage** AC
- 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 5.4 A
 - at AC-53a at 400 V at ambient temperature 40 °C rated value 5.4 A
- operational current minimum** 500 mA

operating power	2.2 kW
<ul style="list-style-type: none"> 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	600 A
I²t value maximum	1 800 A ² ·s

Control circuit/ Control

type of voltage of the control supply voltage	AC
control supply voltage 1 at AC	
<ul style="list-style-type: none"> at 50 Hz at 60 Hz 	110 ... 230 V
control supply voltage frequency	
<ul style="list-style-type: none"> 1 rated value 2 rated value 	50 Hz
relative symmetrical tolerance of the control supply voltage frequency	10 %
control supply voltage at AC	
<ul style="list-style-type: none"> at 50 Hz full-scale value for signal<0> recognition at 60 Hz full-scale value for signal<0> recognition 	40 V
control supply voltage	
<ul style="list-style-type: none"> at AC initial value for signal <1> detection 	90 V
symmetrical line frequency tolerance	5 Hz
operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> initial value full-scale value 	0.82
operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> initial value full-scale value 	1.1
control current at minimum control supply voltage	
<ul style="list-style-type: none"> at AC 	2 mA
control current at AC rated value	15 mA
ON-delay time	20 ms
OFF-delay time	10 ms; additionally max. one half-wave
switchover delay of reversing contactor	50 ... 100 ms

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
<ul style="list-style-type: none"> side-by-side mounting 	Yes
design of the thread of the screw for securing the equipment	M4
height	95 mm
width	45 mm
depth	113.8 mm
required spacing with side-by-side mounting	
<ul style="list-style-type: none"> upwards downwards 	70 mm
	50 mm

Connections/ Terminals

product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	
<ul style="list-style-type: none"> for main current circuit for auxiliary and control circuit 	screw-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for main contacts 	screw-type terminals

<ul style="list-style-type: none"> — solid — finely stranded with core end processing ● at AWG cables for main contacts 	2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² 2x (14 ... 10)
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> ● solid or stranded ● finely stranded with core end processing 	1.5 ... 6 mm ² 1 ... 10 mm ²
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> ● for auxiliary and control contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing — finely stranded without core end processing ● at AWG cables for auxiliary and control contacts 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (AWG 20 ... 12) 14 ... 10
AWG number as coded connectable conductor cross section for main contacts	
tightening torque	
<ul style="list-style-type: none"> ● for main contacts with screw-type terminals ● for auxiliary and control contacts with screw-type terminals 	2 ... 2.5 N·m 0.5 ... 0.6 N·m
tightening torque [lbf·in]	
<ul style="list-style-type: none"> ● for main contacts with screw-type terminals ● for auxiliary and control contacts with screw-type terminals 	18 ... 22 lbf·in 7.5 ... 5.3 lbf·in
design of the thread of the connection screw	
<ul style="list-style-type: none"> ● for main contacts ● of the auxiliary and control contacts 	M4 M3
stripped length of the cable	
<ul style="list-style-type: none"> ● for main contacts ● for auxiliary and control contacts 	10 mm 7 mm
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
<ul style="list-style-type: none"> ● at 480 V rated value 	4.8 A
yielded mechanical performance [hp] for 3-phase AC motor	
<ul style="list-style-type: none"> ● at 200/208 V rated value ● at 220/230 V rated value ● at 460/480 V rated value 	1 hp 1 hp 3 hp
Safety related data	
proportion of dangerous failures with high demand rate according to SN 31920	50 %
MTTF with high demand rate	39 y
T1 value for proof test interval or service life according to IEC 61508	6 y
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	
<ul style="list-style-type: none"> ● during operation ● during storage 	-25 ... +60 °C -55 ... +80 °C
Electromagnetic compatibility	
conducted interference	
<ul style="list-style-type: none"> ● 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 [3NE1802-0](#)
 - of full range R fuse link for semiconductor protection at cylindrical design usable [5SE1335](#)
 - of back-up R fuse link for semiconductor protection at NH design usable [3NE8020-1](#)
 - of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable [3NC1032](#)
 - of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable [3NC1450](#)
 - of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable [3NC2263](#)
- manufacturer's article number of the gG fuse
- at NH design usable [3NA3805-6](#)

Certificates/ approvals

General Product Approval

EMC



[Confirmation](#)



EAC



Declaration of Conformity

Test Certificates

other



EG-Konf.

[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=3RF3405-1BD24>

Cax online generator

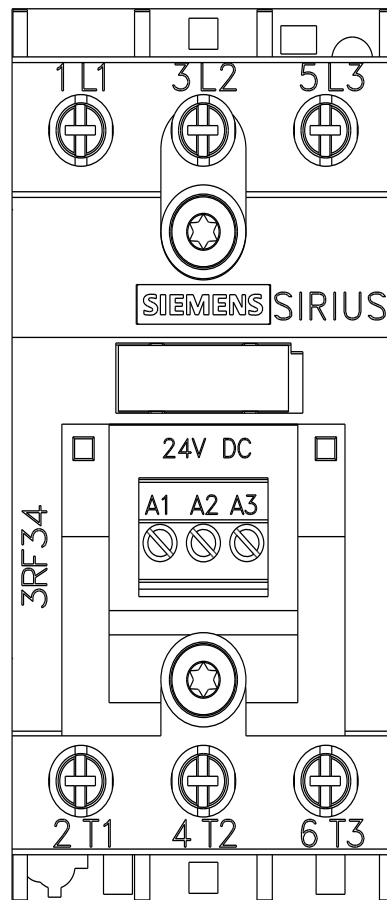
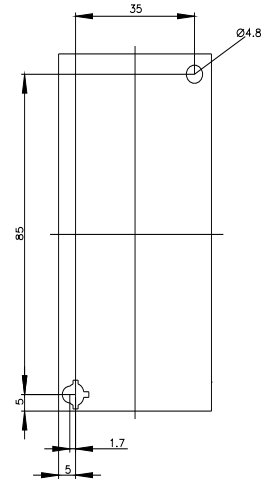
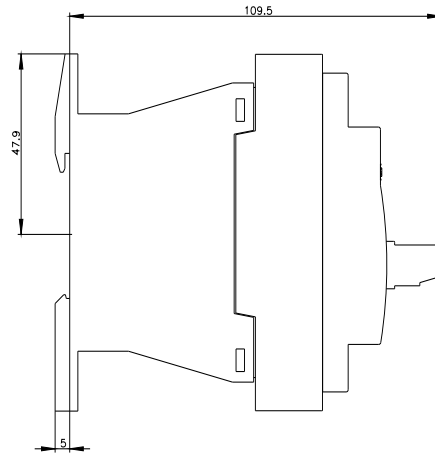
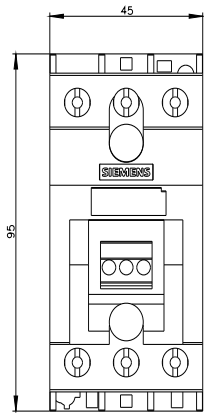
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3405-1BD24>

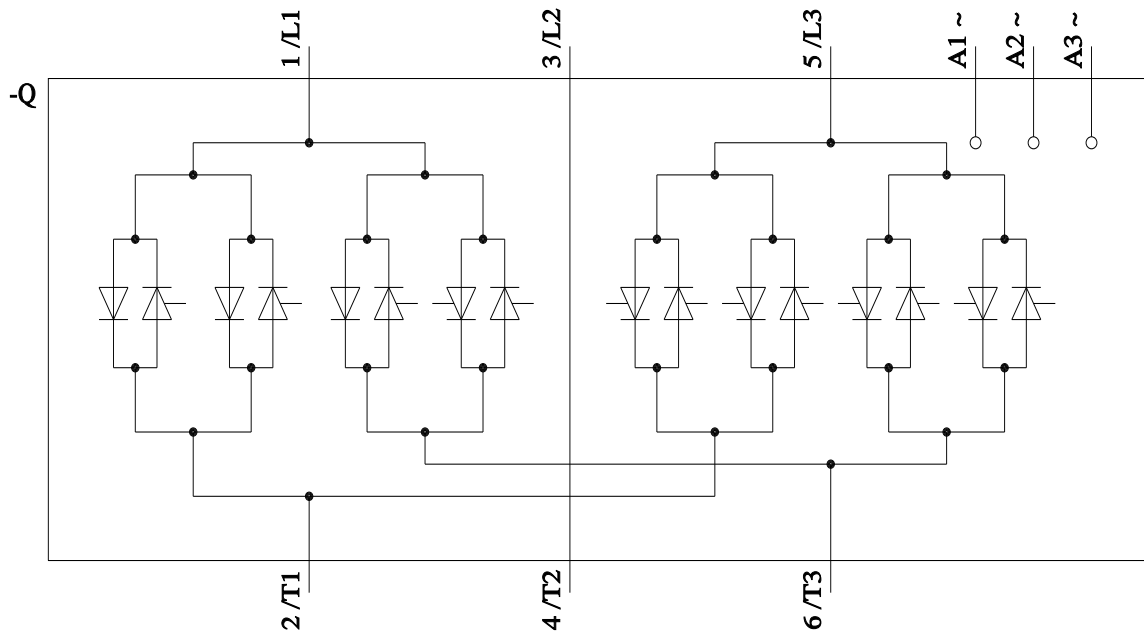
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3405-1BD24>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3405-1BD24&lang=en





last modified:

11/21/2022 