



Solid-state contactor 1-phase 3RF2 AC 51 / 20 A / 40 °C 48-460 V / 24 V
DC short circuit-proof with B miniature circuit breaker

product brand name

SIRIUS

product designation

solid-state contactor

design of the product

single-phase

product type designation

3RF23

manufacturer's article number

- _1 of the accessories that can be ordered
- _3 of the accessories that can be ordered
- _4 of the accessories that can be ordered

[3RF2900-3PA88](#)

[3RF2900-0EA18](#)

[3RF2920-0GA16](#)

product designation

- _1 of the accessories that can be ordered
- _3 of the accessories that can be ordered
- _4 of the accessories that can be ordered

terminal cover

converter

load monitoring

General technical data

product function

short-circuit resistant with B-automatic device

power loss [W] for rated value of the current without load current share typical

0.4 W

insulation voltage rated value

600 V

degree of pollution

3

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

reference code according to IEC 81346-2

Q

Substance Prohibitance (Date)

07/01/2006

Main circuit

number of poles for main current circuit

1

number of NO contacts for main contacts

1

number of NC contacts for main contacts

0

operating voltage at AC

- at 50 Hz rated value 48 ... 460 V
- at 60 Hz rated value 48 ... 460 V

operating frequency rated value

50 ... 60 Hz

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-51 rated value 20 A
- at AC-51 according to IEC 60947-4-3 13.2 A
- according to UL 508 rated value 17.6 A

operational current minimum

500 mA

operational current of the MCB at AC rated value

20 A

rate of voltage rise at the thyristor for main contacts

1 000 V/μs

maximum permissible blocking voltage at the thyristor for main contacts maximum permissible reverse current of the thyristor derating temperature surge current resistance rated value I2t value maximum	1 200 V 10 mA 40 °C 1 150 A 6 600 A²·s
Control circuit/ Control	
type of voltage of the control supply voltage control supply voltage 1	DC
- at DC rated value - at DC	30 V 15 ... 24 V
control supply voltage	
- at DC initial value for signal <1> detection - at DC full-scale value for signal <0> recognition	15 V 5 V
control current at minimum control supply voltage	
at DC	13 mA
control current at DC rated value	15 mA
ON-delay time	1 ms; additionally max. one half-wave
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	
fastening method	screw fixing and snap-on mounting on standard mounting rail 35 mm according to IEC 60715
side-by-side mounting	Yes
height	95 mm
width	22.5 mm
depth	120 mm
Connections/ Terminals	
type of electrical connection	
- for main current circuit - for auxiliary and control circuit	Ring cable lug connection ring terminal lug connection
type of connectable conductor cross-sections	
- for main contacts for JIS cable lug - for DIN cable lug for main contacts	JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5 DIN 46234 -5-2,5, -5-6, -5-10, -5-16, -5-25
type of connectable conductor cross-sections	
- for auxiliary and control contacts — 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 mm²), 2x (0.5 ... 1.0 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (AWG 20 ... 12)
tightening torque	
- 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]	
for auxiliary and control contacts with screw-type terminals	4.5 ... 5.3 lbf·in
design of the thread of the connection screw	
- for main contacts - of the auxiliary and control contacts	M5 M3
stripped length of the cable	
- for main contacts - for auxiliary and control contacts	10 mm 10 mm
Safety related data	
protection class IP on the front according to IEC 60529	IP00; IP20 with cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover
Ambient conditions	
installation altitude at height above sea level maximum	1 000 m

ambient temperature		-25 ... +60 °C
- during operation - during storage		-55 ... +80 °C
Electromagnetic compatibility		
conducted interference		2 kV / 5 kHz behavior criterion 2
- 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 behavior criterion 2
field-based interference according to IEC 61000-4-3		1 kV behavior criterion 2
electrostatic discharge according to IEC 61000-4-2		140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1
conducted HF interference emissions according to CISPR11		80 MHz ... 1 GHz 10 V/m, behavior criterion 1
field-bound HF interference emission according to CISPR11		4 kV contact discharging / 8 kV air discharging, behavior criterion 2
		Class A for industrial environment
		Class B for the domestic, business and commercial environments
Short-circuit protection, design of the fuse link		
manufacturer's article number		3NE1814-0
- of gS fuse 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		5SE1325
manufacturer's article number of the gG fuse		3NE8015-1
- at NH design usable - at cylindrical design 10 x 38 mm usable - at cylindrical design 14 x 51 mm usable - at cylindrical design 22 x 58 mm usable		3NC1032
		3NC1450
		3NC2263
		3NA6807
		3NW6005-1: These fuses have a smaller rated current than the semiconductor relays
		3NW6105-1: These fuses have a smaller rated current than the semiconductor relays
		3NW6205-1: These fuses have a smaller rated current than the semiconductor relays
manufacturer's article number		5SB2711
- of DIAZED fuse usable - of NEOZED fuse usable		5SE2320
Certificates/ approvals		
General Product Approval		EMC
Declaration of Conformity		
 Confirmation		
		
		
Declaration of Conformity		Test Certificates
 EG-Konf.		Type Test Certificates/Test Report
Confirmation		 VDE
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=3RF2320-3DA04>

Cax online generator

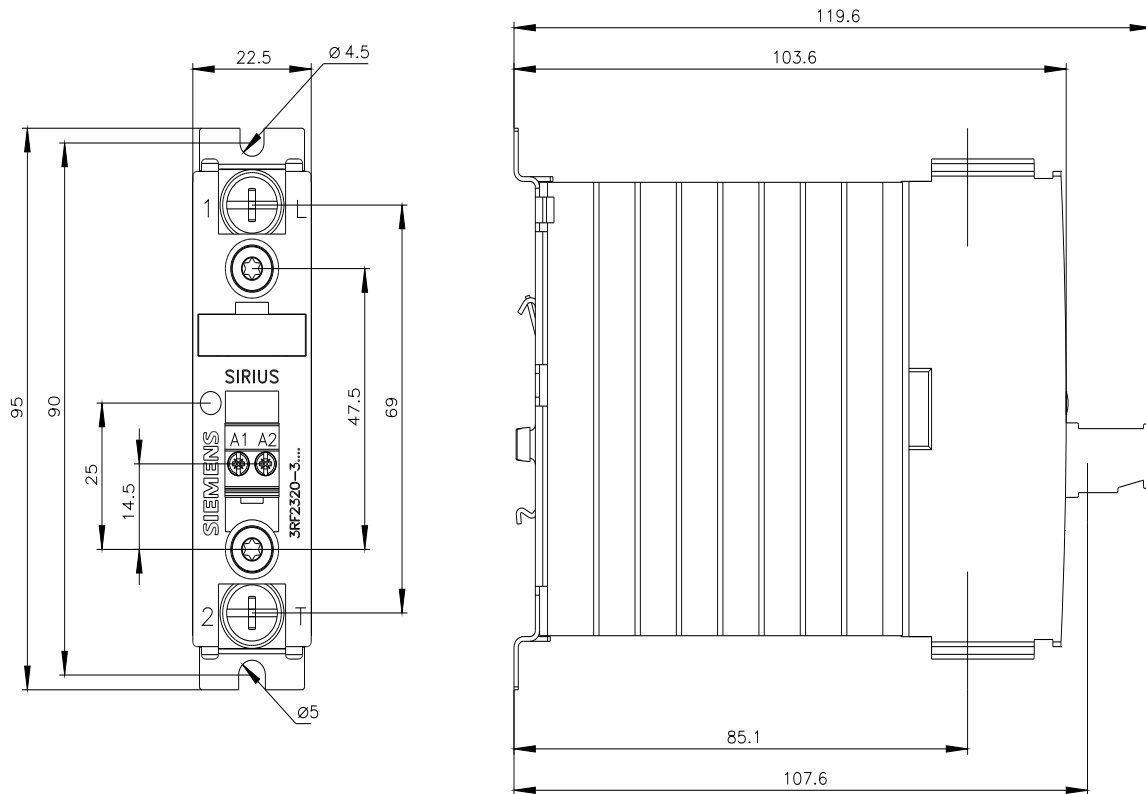
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2320-3DA04>

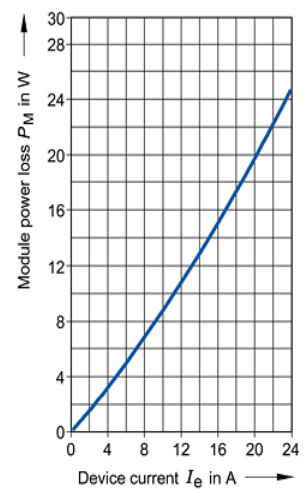
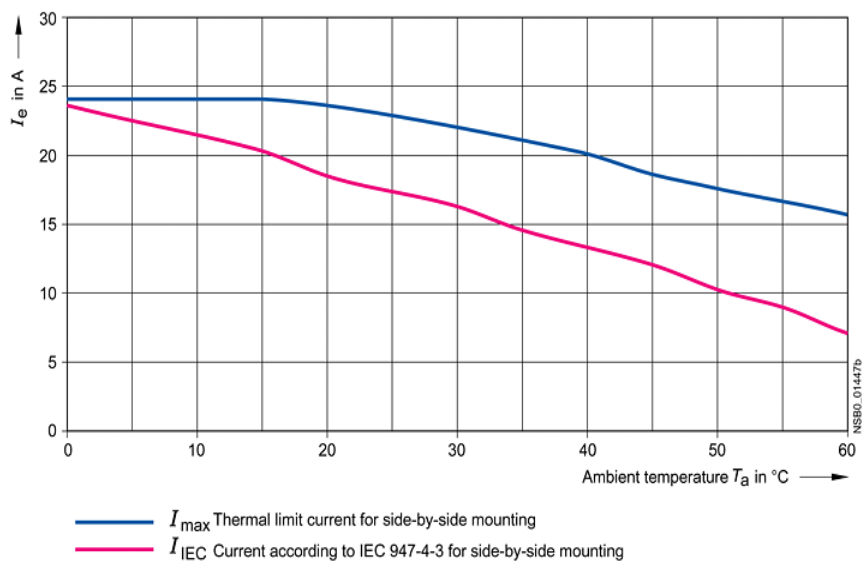
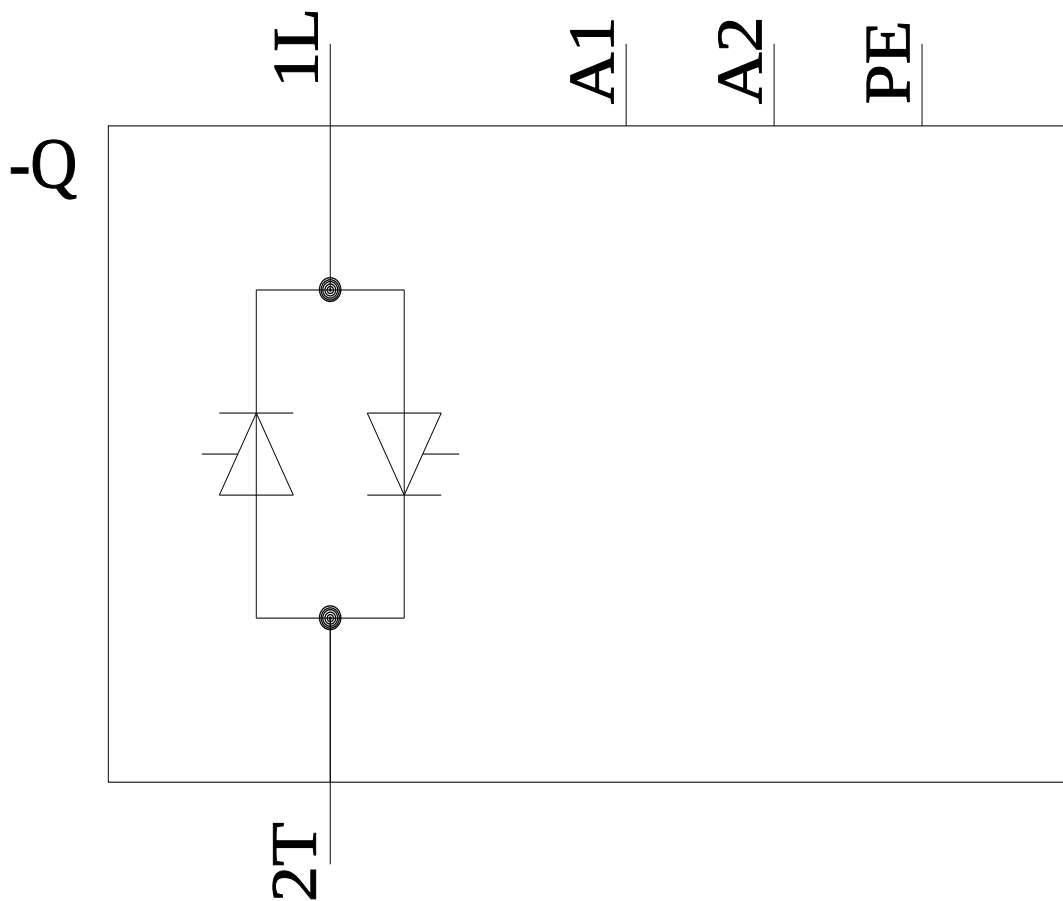
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2320-3DA04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2320-3DA04&lang=en





last modified:

1/26/2022