SIEMENS

Data sheet 3RF2320-2AA04



Solid-state contactor 1-phase 3RF2 AC 51 / 20 A / 40 $^{\circ}\text{C}$ 48-460 V / 24 V DC Spring-type terminal

product brand name	SIRIUS
product designation	solid-state contactor
design of the product	single-phase
product type designation	3RF23
manufacturer's article number	
_3 of the accessories that can be ordered	3RF2900-0EA18
product designation	
_3 of the accessories that can be ordered	converter
General technical data	
product function	zero-point switching
power loss [W] for rated value of the current	
 at AC in hot operating state 	20 W
 at AC in hot operating state per pole 	20 W
without load current share typical	0.4 W
insulation voltage rated value	600 V
degree of pollution	3
type of voltage	
 of the operating voltage 	AC
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 DIN 40719 extended according to IEC 204-2 according to IEC 750	K
reference code according to EN 61346-2	Q
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/28/2009
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4
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
type of voltage of the operating voltage	AC
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
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	600 A
I2t 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 maximum permissible 	30 V
•	15 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
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 side-by-side mounting	Yes
fastening method	screw fixing and snap-on mounting on standard mounting rail 35 mm according
	to IEC 60715
design of the thread of the screw for securing the equipment	M4
height	95 mm
width	22.5 mm
depth	120 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 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²)
finely stranded without core end processing	2x (0.5 2.5 mm²)
• for AWG cables for main contacts	2x (18 14)
connectable conductor cross-section for main contacts	,
solid or stranded	0.5 2.5 mm²
finely stranded with core end processing	0.5 0.5 mm²
finely stranded with core end processing finely stranded without core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary and control contacts	
— solid	0.5 1.5 mm²
— solid — finely stranded with core end processing	0.5 2.5 mm²
— finely stranded with core end processing — finely stranded without core end processing	0.5 2.5 mm²
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for AWG cables for auxiliary and control contacts	1x (AWG 20 12)
AWG number as coded connectable conductor cross section for	14 18
main contacts	
stripped length of the cable	
• for main contacts	7 mm
for auxiliary and control contacts	7 mm
Electrical Safety	
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 	-25 +60 °C
during storage	-55 +80 °C
Electromagnetic compatibility	
conducted interference	
 due to burst according to IEC 61000-4-4 	2 kV / 5 kHz behavior criterion 2
 due to conductor-earth surge according to IEC 61000-4-5 	2 kV behavior criterion 2
 due to conductor-conductor surge according to IEC 61000-4-5 	1 kV behavior criterion 2
 due to high-frequency radiation according to IEC 61000- 4-6 	140 dBuV in the frequency range 0.15 80 MHz, behavior criterion 1
field-based interference according to IEC 61000-4-3	80 MHz 1 GHz 10 V/m, 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 B for the domestic, business and commercial environments
Short-circuit protection, design of the fuse link	
manufacturer's article number	
 of gS fuse for semiconductor protection at NH design usable 	<u>3NE1814-0</u>
 of full range R fuse link for semiconductor protection at cylindrical design usable 	<u>5SE1325</u>
 of back-up R fuse link for semiconductor protection at NH design usable 	3NE8015-1
 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	3NA6807
• at cylindrical design 10 x 38 mm usable	3NW6005-1; These fuses have a smaller rated current than the semiconductor relays
• at cylindrical design 14 x 51 mm usable	3NW6105-1; These fuses have a smaller rated current than the semiconductor relays
• at cylindrical design 22 x 58 mm usable	3NW6205-1: These fuses have a smaller rated current than the semiconductor relays
manufacturer's article number	
manufacturer's article number • of DIAZED fuse usable	5SB2711
• of DIAZED fuse usable	<u>5SB2711</u> <u>5SE2320</u>

General Product Approval

Confirmation









Test Certificates other Railway Environment

EMV



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?mlfb=3RF2320-2AA04

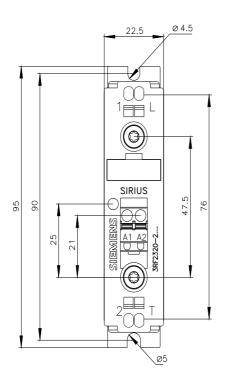
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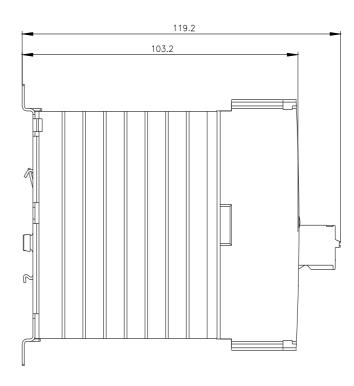
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2320-2AA04

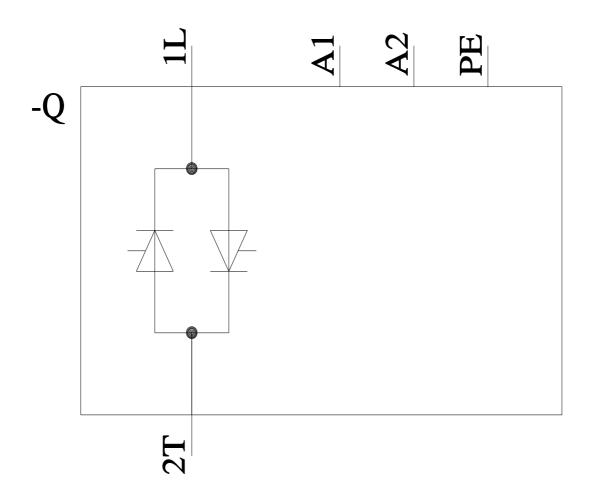
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RF2320-2AA04

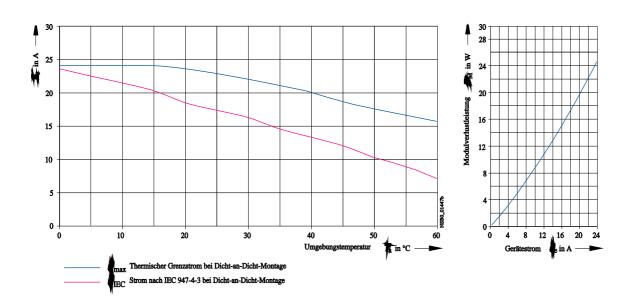
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2320-2AA04&lang=en









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