



Solid-state contactor 1-phase 3RF2 AC 51 / 20 A / 40 °C 48-460 V / 24 V  
DC Ring cable connection

<b>product brand name</b>	SIRIUS
<b>product designation</b>	solid-state contactor
<b>design of the product</b>	single-phase
<b>product type designation</b>	3RF23
<b>manufacturer's article number</b>	
<ul style="list-style-type: none"><li>• _1 of the accessories that can be ordered</li><li>• _3 of the accessories that can be ordered</li><li>• _4 of the accessories that can be ordered</li></ul>	<a href="#">3RF2900-3PA88</a> <a href="#">3RF2900-0EA18</a> <a href="#">3RF2920-0GA16</a>
<b>product designation</b>	
<ul style="list-style-type: none"><li>• _1 of the accessories that can be ordered</li><li>• _3 of the accessories that can be ordered</li><li>• _4 of the accessories that can be ordered</li></ul>	terminal cover converter load monitoring
<b>General technical data</b>	
<b>product function</b>	zero-point switching
<b>power loss [W] for rated value of the current</b>	
<ul style="list-style-type: none"><li>• at AC in hot operating state</li><li>• at AC in hot operating state per pole</li><li>• without load current share typical</li></ul>	20 W 20 W 0.4 W
<b>insulation voltage rated value</b>	600 V
<b>degree of pollution</b>	3
type of voltage of the control supply voltage	DC
surge voltage resistance of main circuit rated value	6 kV
<b>shock resistance according to IEC 60068-2-27</b>	15g / 11 ms
<b>vibration resistance according to IEC 60068-2-6</b>	2g
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	05/28/2009
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	1
<b>number of NO contacts for main contacts</b>	1
<b>number of NC contacts for main contacts</b>	0
<b>operating voltage at AC</b>	
<ul style="list-style-type: none"><li>• at 50 Hz rated value</li><li>• at 60 Hz rated value</li></ul>	48 ... 460 V 48 ... 460 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operating range relative to the operating voltage at AC</b>	
<ul style="list-style-type: none"><li>• at 50 Hz</li><li>• at 60 Hz</li></ul>	40 ... 506 V 40 ... 506 V
<b>operational current</b>	
<ul style="list-style-type: none"><li>• at AC-51 rated value</li><li>• at AC-51 according to IEC 60947-4-3</li><li>• according to UL 508 rated value</li></ul>	20 A 13.2 A 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
I <sup>2</sup> t value maximum	1 800 A <sup>2</sup> ·s
<b>Control circuit/ Control</b>	
type of voltage of the control supply voltage	DC
control supply voltage 1	30 V
• at DC rated value	15 ... 24 V
• at DC	
control supply voltage	15 V
• at DC initial value for signal <1> detection	5 V
• at DC full-scale value for signal<0> recognition	
control current at minimum control supply voltage	13 mA
• at DC	15 mA
control current at DC rated value	
ON-delay time	1 ms; additionally max. one half-wave
OFF-delay time	1 ms; additionally max. one half-wave
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
<b>Installation/ mounting/ dimensions</b>	
fastening method	screw fixing and snap-on mounting on standard mounting rail 35 mm according to IEC 60715
• side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
height	95 mm
width	22.5 mm
depth	120 mm
<b>Connections/ Terminals</b>	
type of electrical connection	Ring cable lug connection ring terminal lug connection
• for main current circuit	
• for auxiliary and control circuit	
type of connectable conductor cross-sections	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
• for main contacts for JIS cable lug	
• for DIN cable lug for main contacts	
type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
— finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
— finely stranded without core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )
• at AWG cables for auxiliary and control contacts	1x (AWG 20 ... 12)
tightening torque	2 ... 2.5 N·m
• for main contacts with screw-type terminals	0.5 ... 0.6 N·m
• for auxiliary and control contacts with screw-type terminals	
tightening torque [lbf·in]	4.5 ... 5.3 lbf·in
• for auxiliary and control contacts with screw-type terminals	
design of the thread of the connection screw	M5
• for main contacts	M3
• of the auxiliary and control contacts	
stripped length of the cable	
• for main contacts	10 mm
• for auxiliary and control contacts	10 mm
<b>Safety related data</b>	
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		
• 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	<a href="#">3NE1814-0</a>	
• of full range R fuse link for semiconductor protection at cylindrical design usable	<a href="#">5SE1325</a>	
• of back-up R fuse link for semiconductor protection at NH design usable	<a href="#">3NE8015-1</a>	
• of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable	<a href="#">3NC1032</a>	
• of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable	<a href="#">3NC1450</a>	
• of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	<a href="#">3NC2263</a>	
manufacturer's article number of the gG fuse		
• at NH design usable	<a href="#">3NA6807</a>	
• at cylindrical design 10 x 38 mm usable	<a href="#">3NW6005-1</a> ; These fuses have a smaller rated current than the semiconductor relays	
• at cylindrical design 14 x 51 mm usable	<a href="#">3NW6105-1</a> ; These fuses have a smaller rated current than the semiconductor relays	
• at cylindrical design 22 x 58 mm usable	<a href="#">3NW6205-1</a> ; These fuses have a smaller rated current than the semiconductor relays	
manufacturer's article number		
• of DIAZED fuse usable	<a href="#">5SB2711</a>	
• of NEOZED fuse usable	<a href="#">5SE2320</a>	

Certificates/ approvals		
General Product Approval	EMC	Declaration of Conformity



[Confirmation](#)



Declaration of Conformity	Test Certificates	other
---------------------------	-------------------	-------



[Type Test Certificates/Test Report](#)

[Confirmation](#)



## 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?mlfb=3RF2320-3AA04>

### Cax online generator

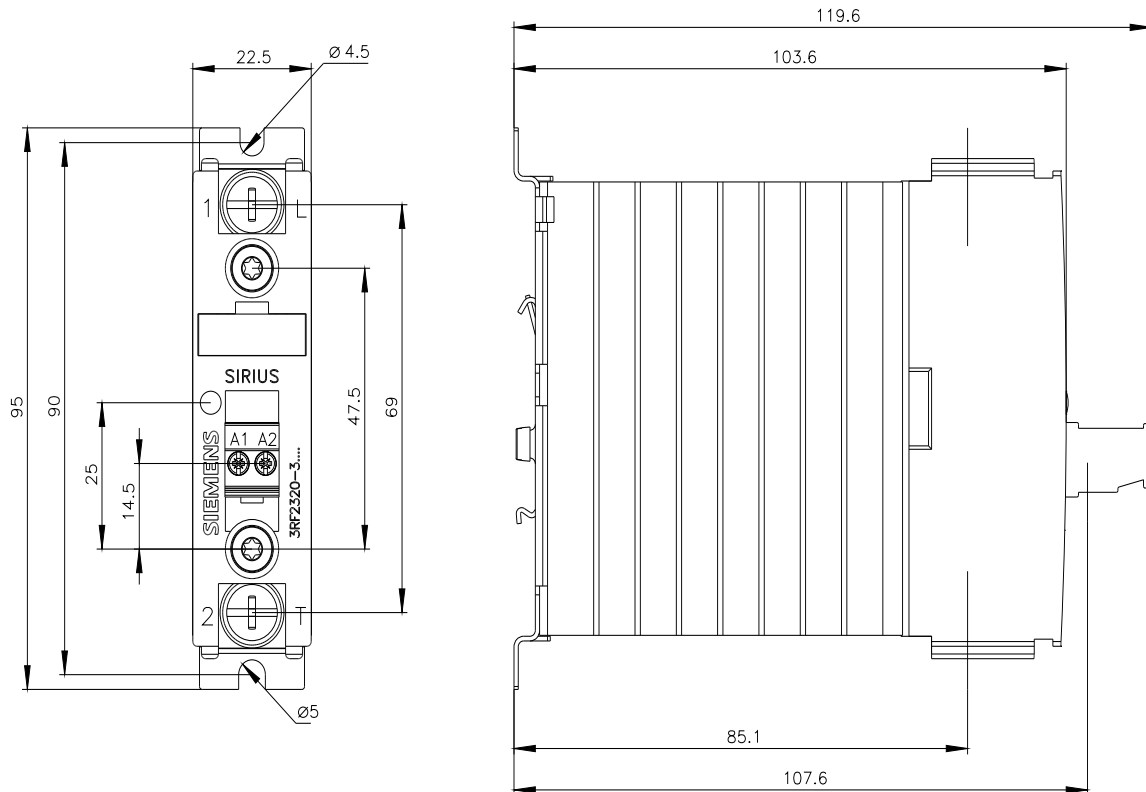
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2320-3AA04>

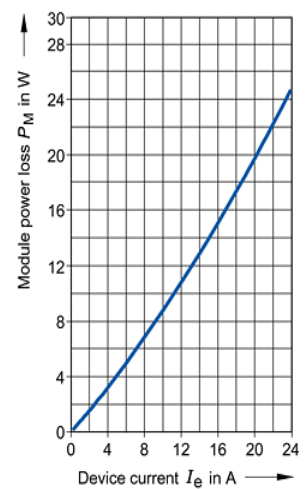
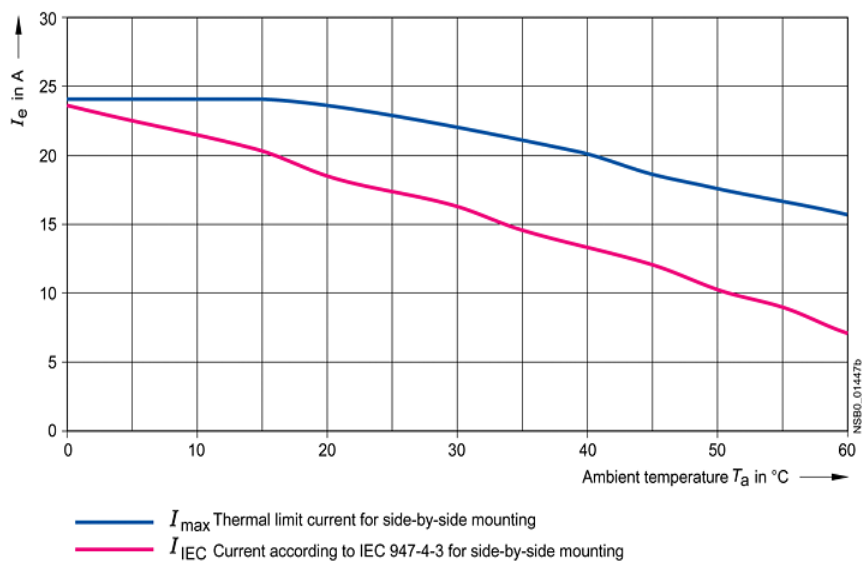
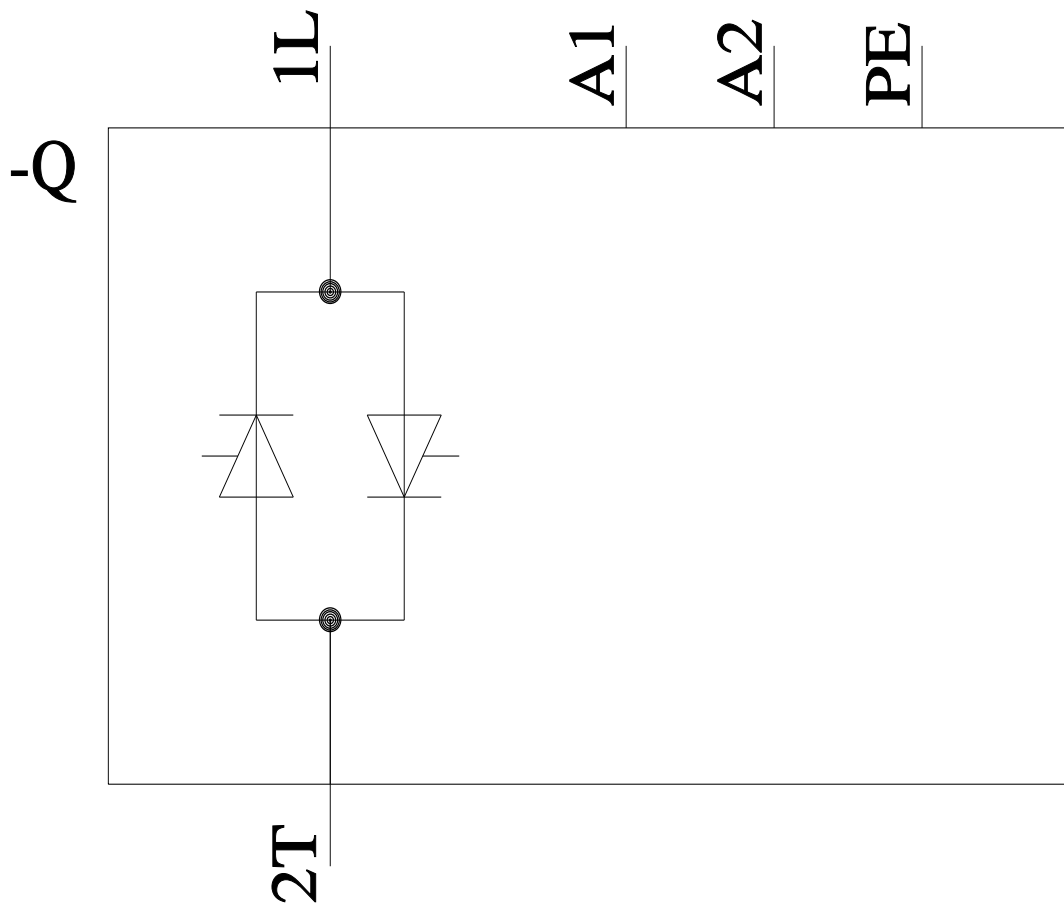
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2320-3AA04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2320-3AA04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2320-3AA04&lang=en)





last modified:

1/26/2022