

Solid-state contactor 1-phase 3RF2 AC 51 / 30 A / 40 °C 48-460 V / 4-30 V DC short circuit-proof up to 25 A with B miniature circuit breaker Reusable packaging



Product brand name	SIRIUS
Product designation	solid-state contactor
Product type designation	3RF23
Manufacturer's article number	<div><ul style="list-style-type: none"><li>_1 / of the accessories that can be ordered <a href="#">3RF2900-3PA88</a></li><li>_3 / of the accessories that can be ordered <a href="#">3RF2900-0EA18</a></li><li>_4 / of the accessories that can be ordered <a href="#">3RF2950-0GA16</a></li><li>_5 / of the accessories that can be ordered <a href="#">3RF2920-0FA08</a></li></ul></div>
Product designation	<div><ul style="list-style-type: none"><li>_1 / of the accessories that can be ordered terminal cover</li><li>_3 / of the accessories that can be ordered converter</li><li>_4 / of the accessories that can be ordered load monitoring</li><li>_5 / of the accessories that can be ordered load monitoring, basis</li></ul></div>
General technical data	
Product function	short-circuit resistant with B-automatic device
Power loss [W] / for rated value of the current / at AC / in hot operating state	33 W
Insulation voltage	<div><ul style="list-style-type: none"><li>rated value 600 V</li></ul></div>

Degree of pollution	3
Protection class IP	IP20
Shock resistance / acc. to IEC 60068-2-27	15g / 11 ms
Vibration resistance / acc. to IEC 60068-2-6	2g
Reference code / acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750	K
Reference code / acc. to DIN EN 81346-2	Q
Reference code / acc. to DIN EN 61346-2	Q

#### 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 <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
Operating frequency / rated value	50 ... 60 Hz
Operating range relative to the operating voltage / at AC <ul style="list-style-type: none"> <li>at 50 Hz</li> <li>at 60 Hz</li> </ul>	40 ... 506 V 40 ... 506 V
Operating current / minimum	500 mA
Operating current <ul style="list-style-type: none"> <li>at AC-1 / at 400 V / rated value</li> <li>at AC-51 / rated value</li> </ul>	30 A 30 A
Operating current / of the MCB / at AC / rated value	25 A
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	1 150 A
I <sup>2</sup> t value / maximum	6 600 A <sup>2</sup> ·s

#### Control circuit/ Control

Type of voltage / of the control supply voltage	DC
Control supply voltage / 1 <ul style="list-style-type: none"> <li>at DC / rated value</li> <li>at DC</li> </ul>	30 V 4 ... 30 V
Control supply voltage / at AC <ul style="list-style-type: none"> <li>at 60 Hz / Full-scale value for signal&lt;0&gt; recognition</li> </ul>	40 V
Control supply voltage <ul style="list-style-type: none"> <li>at DC / initial value for signal &lt;1&gt; detection</li> </ul>	4 V

• at DC / Full-scale value for signal<0> recognition	1 V
Control current / at DC / rated value	20 mA
<b>Switch-on delay time</b>	1 ms; additionally max. one half-wave
<b>Off-delay time</b>	1 ms; additionally max. one half-wave
<b>Number of NC contacts / for auxiliary contacts</b>	0
<b>Number of NO contacts / for auxiliary contacts</b>	0
<b>Number of CO contacts / for auxiliary contacts</b>	0

#### Installation/ mounting/ dimensions

<b>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail
• Side-by-side mounting	Yes
<b>Height</b>	100 mm
<b>Width</b>	22.5 mm
<b>Depth</b>	123.5 mm; 157.0 mm up to product revision E05
<b>Installation altitude / at height above sea level / maximum</b>	1 000 m

#### Connections/ Terminals

<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )
— finely stranded / with core end processing	2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup>
• at AWG conductors / for main contacts	2x (14 ... 10)
<b>Type of connectable conductor cross-sections</b>	
• 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 conductors / for auxiliary and control contacts	1x (AWG 20 ... 12)
<b>Tightening torque / for main contacts / with screw-type terminals</b>	2 ... 2.5 N·m
<b>Tightening torque / for auxiliary and control contacts / with screw-type terminals</b>	0.5 ... 0.6 N·m
<b>Tightening torque [lbf·in]</b>	
• for main contacts / with screw-type terminals	18 ... 22 lbf·in
• for auxiliary and control contacts / with screw-type terminals	4.5 ... 5.3 lbf·in
<b>Design of the thread / of the connection screw</b>	
• for main contacts	M4
• of the auxiliary and control contacts	M3
<b>Wire stripping length / of the cable</b>	
• for main contacts	7 mm

- for auxiliary and control contacts

7 mm

## Ambient conditions

### Ambient temperature

- during operation
- during storage

-25 ... +60 °C

-55 ... +80 °C

## Electromagnetic compatibility

### Conducted interference

- due to burst / acc. to IEC 61000-4-4
- due to conductor-earth surge / acc. to IEC 61000-4-5
- due to conductor-conductor surge / acc. to IEC 61000-4-5
- due to high-frequency radiation / acc. 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 / acc. to IEC 61000-4-2

4 kV contact discharging / 8 kV air discharging, behavior criterion 2

### Conducted HF-interference emissions / acc. to CISPR11

Class A for industrial environment

### Field-bound HF-interference emission / acc. to CISPR11

Class B for the domestic, business and commercial environments

## Further information

### Information- and Downloadcenter (Catalogs, Brochures,...)

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2330-1DA44-1KM0>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2330-1DA44-1KM0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2330-1DA44-1KM0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2330-1DA44-1KM0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2330-1DA44-1KM0&lang=en)

### Short-circuit protection, design of the fuse link

[https://www.automation.siemens.com/cd-static/material/info/3RF20\\_eng.pdf](https://www.automation.siemens.com/cd-static/material/info/3RF20_eng.pdf)

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