

Solid-state contactor 1-phase 3RF2 AC 51 / 30 A / 40 °C 48-600 V / 110-230 V AC screw terminal



<b>Product brand name</b>	SIRIUS
<b>Product designation</b>	solid-state contactor
<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>• _4 / of the accessories that can be ordered</li> </ul>	<a href="#">3RF2900-3PA88</a> <a href="#">3RF2950-0GA36</a>
<b>Product designation</b>	
<ul style="list-style-type: none"> <li>• _1 / of the accessories that can be ordered</li> <li>• _4 / of the accessories that can be ordered</li> </ul>	terminal cover load monitoring

General technical data	
<b>Product function</b>	zero-point switching
Power loss [W] / for rated value of the current / at AC / in hot operating state	33 W
<b>Insulation voltage</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	600 V
<b>Degree of pollution</b>	3
<b>Protection class IP</b>	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	
• at 50 Hz / rated value	48 ... 600 V
• at 60 Hz / rated value	48 ... 600 V
Operating frequency / rated value	50 ... 60 Hz
Operating range relative to the operating voltage / at AC	
• at 50 Hz	40 ... 660 V
• at 60 Hz	40 ... 660 V
Operating current / minimum	500 mA
Operating current	
• at AC-1 / at 400 V / rated value	30 A
• at AC-51 / rated value	30 A
Rate of voltage rise / at the thyristor / for main contacts / maximum permissible	1 000 V/ $\mu$ s
Blocking voltage / at the thyristor / for main contacts / maximum permissible	1 600 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

### Control circuit/ Control

Type of voltage / of the control supply voltage	AC
Control supply voltage / 1 / at AC	
• at 50 Hz	110 ... 230 V
• at 60 Hz	110 ... 230 V
Control supply voltage frequency	
• 1 / rated value	50 Hz
• 2 / rated value	60 Hz
Control supply voltage / at AC	
• at 50 Hz / Full-scale value for signal<0> recognition	40 V
• at 60 Hz / Full-scale value for signal<0> recognition	40 V
Control supply voltage	
• at AC / initial value for signal <1> detection	90 V

<b>Symmetrical line frequency tolerance</b>	5 Hz
<b>Control current / at minimum control supply voltage</b>	
• at AC	2 mA
Control current / at AC / rated value	15 mA
<b>Switch-on delay time</b>	40 ms; additionally max. one half-wave
<b>Off-delay time</b>	40 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
Number of CO contacts / for auxiliary contacts	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>	45 mm
<b>Depth</b>	139 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
- for auxiliary and control contacts

7 mm

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=3RF2330-1AA26>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2330-1AA26>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2330-1AA26>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2330-1AA26&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2330-1AA26&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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