

SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51 20 A  
40 DEGREES C 48-460 V / 24 V DC SHORT-CIRC.  
RESIST. WITH SPRING-LOADED CONNECTION



General technical data:

product brand name		SIRIUS
Product designation		solid-state contactor
Product function		short-circuit resistant with B-automatic device
Number of poles for main current circuit		1
Protection class IP		IP20
Product designation _3 of the accessories that can be ordered		converter
Manufacturer article number _3 of the accessories that can be ordered		<a href="#">3RF2900-0EA18</a>
Ambient temperature		
• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80
Installation altitude at height above sea level maximum	m	1 000
Vibration resistance acc. to IEC 60068-2-6		2g
Shock resistance acc. to IEC 60068-2-27		15g / 11 ms
Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		K
Equipment marking acc. to DIN EN 61346-2		Q

Number of NC contacts for auxiliary contacts		0
Number of NO contacts for auxiliary contacts		0
Number of CO contacts for auxiliary contacts		0

#### Main circuit:

Number of NO contacts for main contacts		1
Number of NC contacts for main contacts		0
Operating current		
• at AC-1 at 400 V Rated value	A	20
• at AC-51 Rated value	A	20
Operating current of the MCB at AC Rated value	A	20
Operating current minimum	mA	500
Operating voltage at AC		
• at 50 Hz Rated value	V	48 ... 460
• at 60 Hz Rated value	V	48 ... 460
Operating range relative to the operating voltage at AC		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
Operating frequency Rated value	Hz	50 ... 60
Insulation voltage Rated value	V	600
Rate of voltage rise at the thyristor for main contacts maximum permissible	V/ $\mu$ s	1 000
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 200
Reverse current of the thyristor	mA	10
Derating temperature	$^{\circ}$ C	40
Active power loss total typical	W	20
Surge current resistance Rated value	A	1 150
I <sup>2</sup> t value maximum	A <sup>2</sup> ·s	6 600

#### Control circuit/ Control:

Type of voltage of the control supply voltage		DC
Control supply voltage 1		
• at DC		
— Initial rated value	V	15
— Final rated value	V	24
Control supply voltage		
• at DC Full-scale value for signal<0> recognition	V	5
Control current		
• at minimum control supply voltage		
— at DC	mA	2
• at DC Rated value	mA	15

#### Installation/ mounting/ dimensions:






<b>Mounting type</b>		screw and snap-on mounting onto 35 mm standard mounting rail
<b>Mounting type Side-by-side mounting</b>		Yes
<b>Design of the thread of the screw for securing the equipment</b>		M4
<b>Tightening torque of the screw for securing the equipment</b>	N·m	1.5
<b>Width</b>	mm	22.5
<b>Height</b>	mm	100
<b>Depth</b>	mm	140.5

#### Connections/ Terminals:

<b>Type of electrical connection for main current circuit</b>		spring-loaded terminals
<b>Type of connectable conductor cross-section for main contacts</b>		
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul>		2x (0.5 ... 2.5 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (0.5 ... 2.5 mm <sup>2</sup> )
<b>Type of connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• for AWG conductors <ul style="list-style-type: none"> <li>— for main contacts</li> <li>— for auxiliary and control contacts</li> </ul> </li> </ul>		2x (18 ... 14) 1x (AWG 20 ... 12)
<b>Type of connectable conductor cross-section for auxiliary and control contacts</b>		
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul>		0.5 ... 1.5 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup> 0.5 ... 2.5 mm <sup>2</sup>
<b>Connectable conductor cross-section</b>		
<ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </li> </ul> </li> </ul>	mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup>	0.5 ... 2.5 0.5 ... 0.5 0.5 ... 2.5 0.5 ... 1.5 0.5 ... 2.5 0.5 ... 2.5
<b>AWG number as coded connectable conductor cross section</b>		
<ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary and control contacts</li> </ul>		14 ... 18 20 ... 12

Type of electrical connection for auxiliary and control current circuit		spring-loaded terminals
Wire stripping length of the cable		
• for main contacts	mm	7
• for auxiliary and control contacts	mm	7

#### Certificates/ approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
 CSA	 UL		 C-TICK
		 EG-Konf.	<a href="#">Typprüfbescheinigung/Werkszeugnis</a>

Test Certificates	other
<a href="#">spezielle Prüfbescheinigung</a> <a href="#">n</a>	<a href="#">Umweltbestätigung</a>

#### Further information

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

[https://www.automation.siemens.com/cd-static/material/info/3RF23\\_eng.pdf](https://www.automation.siemens.com/cd-static/material/info/3RF23_eng.pdf)

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

<http://www.siemens.com/industrial-controls/catalogs>

##### Industry Mall (Online ordering system)

<http://www.siemens.com/industrymall>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23202DA04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF23202DA04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF23202DA04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23202DA04&lang=en)

last modified:

17.07.2015