

SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51 20 A  
40 DEGREES C 48-460 V / 110-230 V AC LOW NOISE



General technical data:

product brand name		SIRIUS
Product designation		solid-state contactor
Product function		low noise
Number of poles for main current circuit		1
Protection class IP		IP20
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:**

<b>Number of NO contacts for main contacts</b>		1
<b>Number of NC contacts for main contacts</b>		0
<b>Operating current</b>		
• at AC-1 at 400 V Rated value	A	20
• at AC-51 Rated value	A	20
<b>Operating current minimum</b>	mA	500
<b>Operating voltage at AC</b>		
• at 50 Hz Rated value	V	48 ... 460
• at 60 Hz Rated value	V	48 ... 460
<b>Operating range relative to the operating voltage at AC</b>		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
<b>Operating frequency Rated value</b>	Hz	50 ... 60
<b>Insulation voltage Rated value</b>	V	600
<b>Rate of voltage rise at the thyristor for main contacts maximum permissible</b>	V/μs	1 000
<b>Blocking voltage at the thyristor for main contacts maximum permissible</b>	V	1 200
<b>Reverse current of the thyristor</b>	mA	25
<b>Derating temperature</b>	°C	40
<b>Active power loss total typical</b>	W	20
<b>Surge current resistance Rated value</b>	A	600
<b>I<sup>2</sup>t value maximum</b>	A <sup>2</sup> ·s	1 800

**Control circuit/ Control:**

<b>Control supply voltage frequency</b>		
• 1 Rated value	Hz	50
• 2 Rated value	Hz	60
<b>Type of voltage of the control supply voltage</b>		AC
<b>Control supply voltage 1</b>		
• at AC		
— at 50 Hz Initial rated value	V	110
— at 50 Hz Final rated value	V	230
— at 60 Hz Initial rated value	V	110
— at 60 Hz Final rated value	V	230
<b>Control supply voltage</b>		
• at AC		
— at 50 Hz Full-scale value for signal<0> recognition	V	40
— at 60 Hz Full-scale value for signal<0> recognition	V	40
<b>Symmetrical line frequency tolerance</b>	Hz	5

<b>Control current</b>		
<ul style="list-style-type: none"> <li>• at minimum control supply voltage <ul style="list-style-type: none"> <li>— at AC</li> </ul> </li> </ul>	mA	2
<ul style="list-style-type: none"> <li>• at AC Rated value</li> </ul>	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> </ul>		2x (0.5 ... 2.5 mm <sup>2</sup> )
<ul style="list-style-type: none"> <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 ... 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> </ul>		0.5 ... 1.5 mm <sup>2</sup>
<ul style="list-style-type: none"> <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 ... 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</li> </ul> </li> </ul>	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

— with core end processing	mm <sup>2</sup>	0.5 ... 2.5
— without core end processing	mm <sup>2</sup>	0.5 ... 2.5
<b>AWG number as coded connectable conductor cross section</b>		
• for main contacts		14 ... 18
• for auxiliary and control contacts		20 ... 12
<b>Type of electrical connection for auxiliary and control current circuit</b>		spring-loaded terminals
<b>Wire stripping length of the cable</b>		
• for main contacts	mm	7
• for auxiliary and control contacts	mm	7

#### Certificates/ approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
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[Typprüfbescheinigung/Werkszeugnis](#)

CSA

UL

C-TICK

EG-Konf.

Test Certificates	other
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[spezielle Prüfbescheinigungen](#)  
[n](#)

[Umweltbestätigung](#)

#### 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

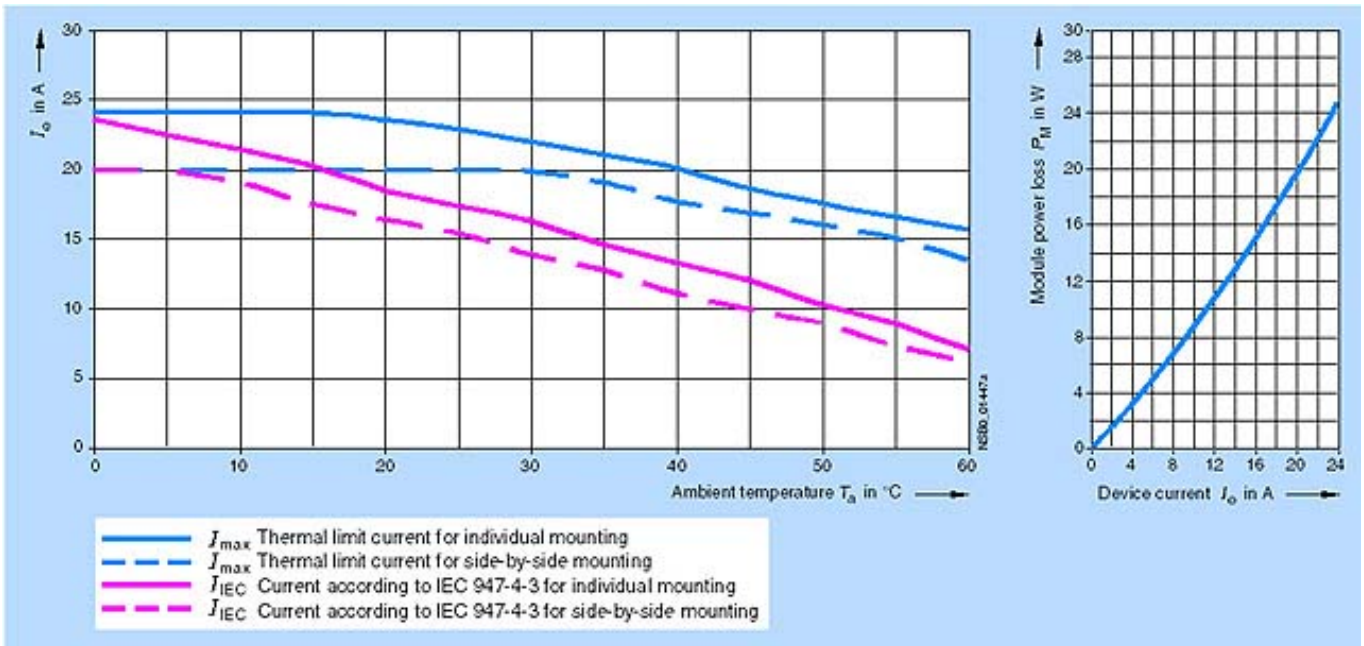
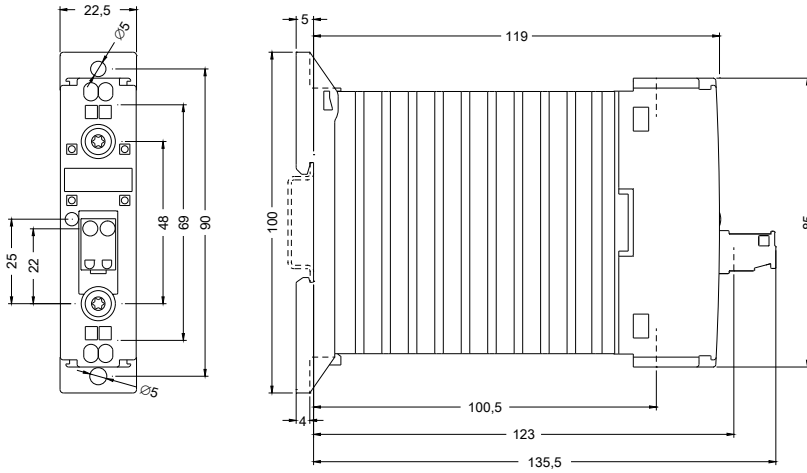
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23202CA24>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF23202CA24>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF23202CA24&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23202CA24&lang=en)



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