



SEMI-COND. CONTACTOR 3RF2,1-PH. AC51 20A / AC15 12A 40 DEGR. C 48-460V / 24V DC INST. SWITCHING

General technical data:	
product brand name	SIRIUS
Product designation	solid-state contactor
Product function	instantaneous switching
Number of poles / for main current circuit	1
Protection class IP	IP20
Product designation / _1 / of the accessories that can be ordered	terminal cover
Manufacturer article number / _1 / of the accessories that can be ordered	<a href="#">3RF2900-3PA88</a>
Product designation / _2 / of the accessories that can be ordered	power regulator
Manufacturer article number / _2 / of the accessories that can be ordered	<a href="#">3RF2920-0HA16</a>
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>
Product designation / _4 / of the accessories that can be ordered	load monitoring
Manufacturer article number / _4 / of the accessories that can be ordered	<a href="#">3RF2920-0GA16</a>

<b>Product designation / _5 / of the accessories that can be ordered</b>		load monitoring, basis
<b>Manufacturer article number / _5 / of the accessories that can be ordered</b>		<a href="#">3RF2920-0FA08</a>
<b>Ambient temperature</b>		
• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80
<b>Installation altitude / at height above sea level / maximum</b>	m	1,000
<b>Vibration resistance / acc. to IEC 60068-2-6</b>		2g
<b>Shock resistance / acc. to IEC 60068-2-27</b>		15g / 11 ms
<b>Reference code</b>		
• acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		K
• acc. to DIN EN 61346-2		Q
<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

#### 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</b>		
• with AC / at 50 Hz / Rated value	V	48 ... 460
• with AC / at 60 Hz / Rated value	V	48 ... 460
<b>Operating range relative to the operating voltage</b>		
• with AC / at 50 Hz	V	40 ... 506
• with AC / at 60 Hz	V	40 ... 506
<b>Operating frequency</b>		
• Rated value	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	10
<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<sub>2t</sub> value / maximum</b>	A <sup>2</sup> ·s	1,800
<b>Short-circuit protection, design of the fuse link</b>		<a href="https://www.automation.siemens.com/cd-static/material/info/3RF23_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF23_eng.pdf</a>

#### Control circuit/ Control:

<b>Type of voltage / of the control supply voltage</b>		DC
<b>Control supply voltage / 1</b>		
• for DC		
• Initial rated value	V	15
• Final rated value	V	24
<b>Control supply voltage</b>		
• for DC / Full-scale value for signal<0> recognition	V	5
<b>Control current</b>		
• at minimum control supply voltage / for DC	mA	2
• for 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>Design of the electrical connection / for main current circuit</b>		screw-type terminals
<b>Design of the thread / of the connection screw / for main contacts</b>		M4
<b>Tightening torque / for main contacts</b>		
• with screw-type terminals	N·m	2 ... 2.5
<b>Tightening torque [lbf·in] / for main contacts</b>		
• with screw-type terminals	lbf·in	18 ... 22
<b>Type of connectable conductor cross-section</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>
• for AWG conductors		
• for main contacts		2x (14 ... 10)
• for auxiliary and control contacts		1x (AWG 20 ... 12)

<ul style="list-style-type: none"> <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>		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 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> </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>	1.5 ... 6
	mm <sup>2</sup>	1 ... 10
	mm <sup>2</sup>	0.5 ... 2.5
	mm <sup>2</sup>	0.5 ... 2.5
	mm <sup>2</sup>	0.5 ... 2.5
<b>AWG number / as coded connectable conductor cross section / for main contacts</b>		10 ... 14
<b>Design of the electrical connection / for auxiliary and control current circuit</b>		screw-type terminals
<b>Design of the thread / of the connection screw / of the auxiliary and control contacts</b>		M3
<b>AWG number / as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• for auxiliary and control contacts</li> </ul>		20 ... 12
<b>Wire stripping length / of the cable / for main contacts</b>	mm	7
<b>Wire stripping length / of the cable / for auxiliary and control contacts</b>	mm	7
<b>Tightening torque / for auxiliary and control contacts</b> <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	N·m	0.5 ... 0.6
<b>Tightening torque [lbf·in] / for auxiliary and control contacts</b> <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	lbf·in	4.5 ... 5.3

#### Certificates/ approvals:

##### General Product Approval



##### EMC

##### Declaration of Conformity

##### Test Certificates

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

##### other

[Environmental Confirmations](#)

#### Further information:

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

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

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/>

**Cax online generator**

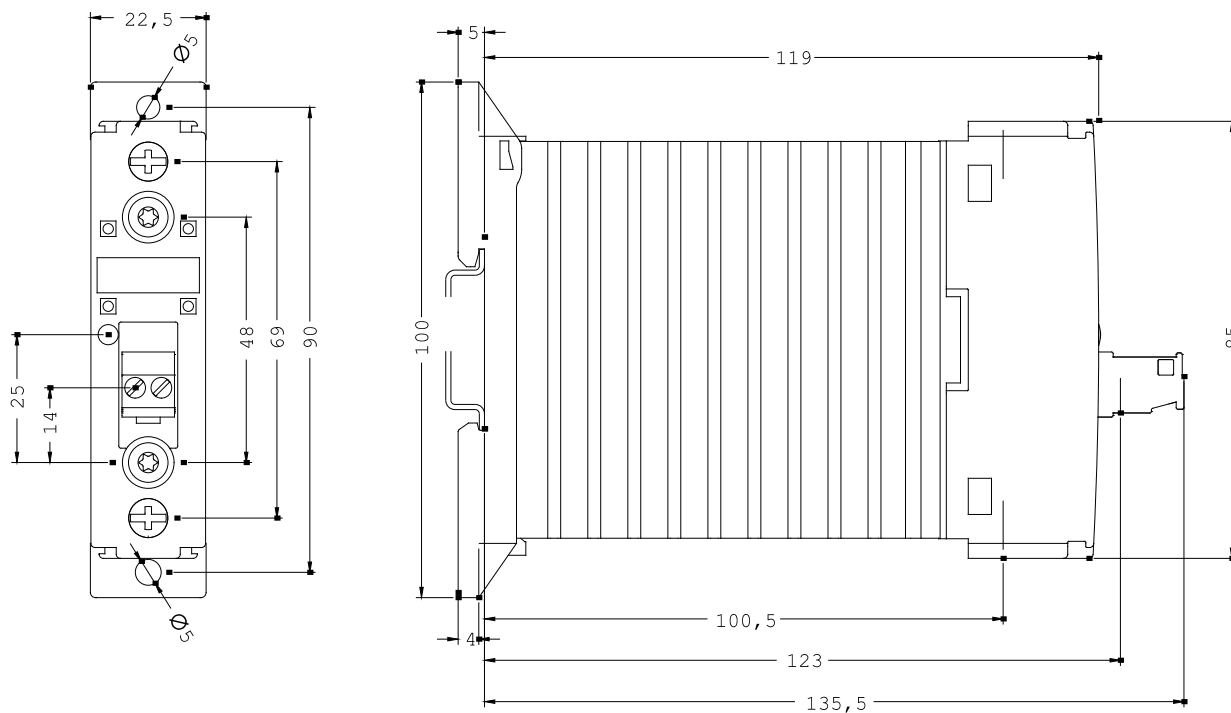
<http://www.siemens.com/cax>

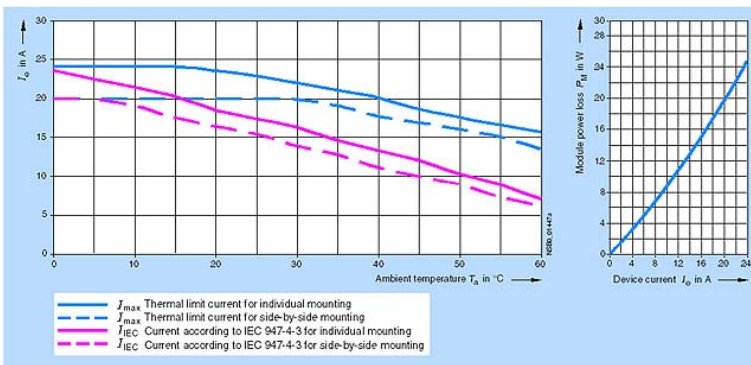
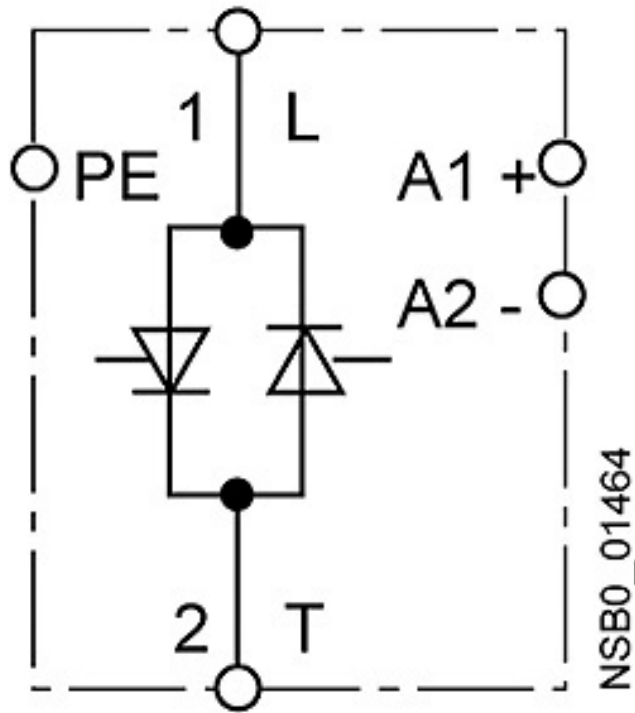
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

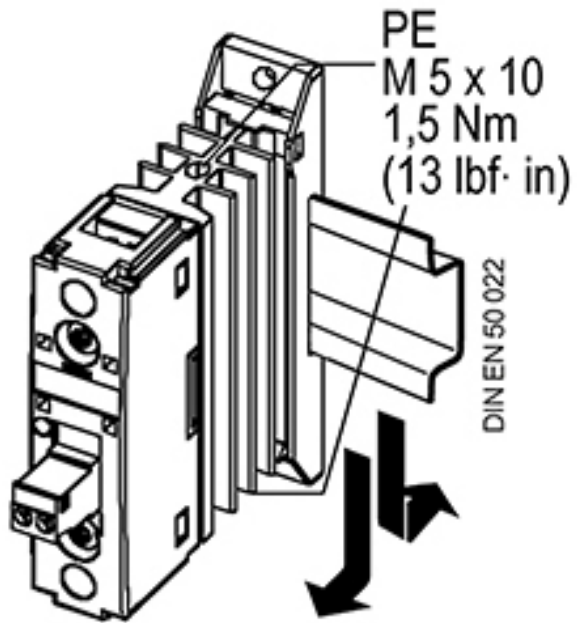
<http://support.automation.siemens.com/WW/view/en/3RF2320-1BA04/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2320-1BA04](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2320-1BA04)







last change:

Nov 3, 2014