## SIEMENS

## **Product data sheet**

## 3RF2310-1AA45



SOLID-STATE CONTACTOR 3RF2,1-PH AC51 10.5A 40 DEGR. C 48-600V / 4-30V DC SCREW-TYPE TERMINAL BLOCKING VOLTAGE 1200V

General technical data:		
product brand name	SIRIUS	
product designation	solid-state contactor	
Product function	zero-point 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	<u>3RF2900-3PA88</u>	
Product designation / $\_3$ / of the accessories that can be ordered	converter	
Manufacturer article number / $\_3$ / of the accessories that can be ordered	<u>3RF2900-0EA18</u>	
Product designation / _4 / of the accessories that can be ordered	load monitoring	
Manufacturer article number / _4 / of the accessories that can be ordered	3RF2920-0GA16	
Product designation / _5 / of the accessories that can be ordered	load monitoring, basis	
Manufacturer article number / _5 / of the accessories that can be ordered	3RF2920-0FA08	
Ambient temperature		

during operating	°C	-25 +60	
during storage	°C	-55 +80	
Installation altitude / at a height over sea level / maximum	m	1,000	
Resistance against vibration / according to IEC 60068-2-6	-	2g	
Resistance against shock / according to IEC 60068-2-27	-	15g / 11 ms	
Item designation	-		
<ul> <li>according to DIN 40719 extendable after IEC 204-2 / according to IEC 750</li> </ul>		К	
according to DIN EN 61346-2		Q	
Number of NC contacts / for auxiliary contacts	-	0	
Number of NO contacts / for auxiliary contacts		0	
Number of changeover 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	А	10.5	
• at AC-51 / rated value	А	10.5	
Operating current / minimum	mA	100	
Operating voltage			
• at 50 Hz / at AC / rated value	V	48 600	
• at 60 Hz / at AC / rated value	V	48 600	
Working area related to the operating voltage			

Working area related to the operating voltage		
• at 50 Hz / for AC	V	40 660
• at 60 Hz / for AC	V	40 660
Operating frequency		
rated value	Hz	50 60
Insulation voltage / rated value	V	600
Voltage slew rate / at the thyristor / for main contacts /	V/us	500

Insulation voltage / rated value	V	600
Voltage slew rate / at the thyristor / for main contacts / maximum permissible	V/µs	500
Block voltage / at the thyristor / for main contacts / maximum permissible	V	1,200
Reverse current / of the thyristor	mA	10
Derating temperature	°C	40
Active power loss / total / typical	W	11
Resistance against the impulse current / rated value	А	200
I2t-level / maximum	A²⋅s	200
Control circuit/ Control:		
Type of voltage / of the controlled supply voltage		DC

Control supply voltage / 1		
• for DC		
initial rated value	V	4
final rated value	V	30
Control supply voltage		
<ul> <li>for DC / final value for signal&lt;0&gt;-recognition</li> </ul>	V	1
Control current		
• for DC / rated value	mA	20
Fuse assignments:		https://www.automation.siemens.com/cd- static/material/info/3RF23_eng.pdf

Installation/ mounting/ dimensions:		
Type of mounting		screw and snap-on mounting onto 35 mm standard mounting rail
Type of fixing/fixation / series installation		Yes
Design of the thread / of the screw for fastening of the operating resource		M4
Tightening torque / of the screw for fastening of the operating resource	N∙m	1.5
Width	mm	22.5
Height	mm	100
Depth	mm	94

Design of the electrical connection / for main current circuitscrew-type terminalsDesign of the thread / of the connection screw / for main contactsM4Tightening torque / for main contactsN-m2 2.5• with screw-type terminalsN-m18 22Tightening torque (lbf-in) / for main contactsIbf-in18 22• with screw-type terminalsIbf-in18 22Type of the connectable conductor cross-section2 x (1.5 2.5 mm <sup>2</sup> ), 2x (2.5 6 mm <sup>2</sup> )• for main contacts2x (1.1 2.5 mm <sup>2</sup> ), 2x (2.5 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> • for AWG conductors2x (1 10)• for main contacts14 10)• for main contacts1x (AWG 20 12)	Connections/ terminals:		
contactsImage: contacts in the series of the connectable conductor cross-sectionImage: contacts in the series of the conductor end processing in the series of the conductor end processing in the conductor series of the conductor series of the conductor end processing in the conductor series of the conductor series of the conductor end processing in the conductor series of the conductor end processing in the conductor series of the conductor series	Design of the electrical connection / for main current circuit		screw-type terminals
• with screw-type terminalsN·m2 2.5Tightening torque (lbf-in) / for main contacts • with screw-type terminalsIbf-in18 22Type of the connectable conductor cross-section • for main contacts • solid • finely stranded • with conductor end processing • for AWG conductors • for main contacts • for main contacts • for main contacts • for auxiliary and control contactsN·m2 2.5N·m2 2.518 22N·m2 2.5 mm²), 2x (2.5 6 mm²)2x (1.5 2.5 mm²), 2x (2.5 6 mm²)• for AWG conductors • for auxiliary and control contacts2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• for auxiliary and control contacts2x (14 10) 1x (AWG 20 12)	•		M4
Tightening torque (lbf-in) / for main contactsnot contact (lbf-in) / for main contacts• with screw-type terminalslbf-in18 22Type of the connectable conductor cross-section18 22• for main contacts2x (1.5 2.5 mm²), 2x (2.5 6 mm²)• solid2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• for AWG conductors2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• for main contacts2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• for auxiliary and control contacts1x (AWG 20 12)	Tightening torque / for main contacts	-	
• with screw-type terminalsIbf-in18 22Type of the connectable conductor cross-section • for main contacts • solid • finely stranded • with conductor end processing • for AWG conductors • for main contacts • for main contacts • for auxiliary and control contactsIbf-in18 22Ibf-in2x (1.5 2.5 mm²), 2x (2.5 6 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²) 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²	with screw-type terminals	N∙m	2 2.5
Type of the connectable conductor cross-sectionImage: solid• for main contacts2x (1.5 2.5 mm²), 2x (2.5 6 mm²)• finely stranded2x (1 2.5 mm²), 2x (2.5 6 mm²)• with conductor end processing2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• for AWG conductors2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²• for auxiliary and control contacts1x (AWG 20 12)	Tightening torque (Ibf-in) / for main contacts		
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<ul> <li>solid</li> <li>finely stranded</li> <li>with conductor end processing</li> <li>for AWG conductors</li> <li>for main contacts</li> <li>for auxiliary and control contacts</li> <li>2x (1.5 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>)</li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>)</li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>)</li> <li>2x (1 2.5 mm<sup>2</sup>), 2x (2.5 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></li> <li>1x (AWG 20 12)</li> </ul>	Type of the connectable conductor cross-section		
<ul> <li>finely stranded</li> <li>with conductor end processing</li> <li>for AWG conductors</li> <li>for main contacts</li> <li>for auxiliary and control contacts</li> <li>X</li> </ul>	for main contacts		
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• for AWG conductors     • for main contacts     • for auxiliary and control contacts	finely stranded		
for main contacts         2x (14 10)         for auxiliary and control contacts         1x (AWG 20 12)	with conductor end processing		2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²
• for auxiliary and control contacts 1x (AWG 20 12)	for AWG conductors		
	for main contacts		2x (14 10)
	<ul> <li>for auxiliary and control contacts</li> </ul>		1x (AWG 20 12)
for auxiliary and control contacts	<ul> <li>for auxiliary and control contacts</li> </ul>		
• solid 1x (0.5 2.5 mm <sup>2</sup> ), 2x (0.5 1.0 mm <sup>2</sup> )	• solid		1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
finely stranded	finely stranded		

with conductor end processing		1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
without conductor final cutting		1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
Conductor cross section that can be connected		
for main contacts		
• solid	mm²	1.5 6
• stranded wire		
<ul> <li>with conductor end processing</li> </ul>	mm²	1 10
<ul> <li>for auxiliary and control contacts</li> </ul>		
• solid	mm²	0.5 2.5
• stranded wire		
with conductor end processing /	mm²	0.5 2.5
<ul> <li>without conductor final cutting</li> </ul>	mm²	0.5 2.5
AWG number / as coded connectable conductor cross-section / for main contacts	-	10 14
Design of the electrical connection / for auxiliary and control current circuit		screw-type terminals
Design of the thread / of the connection screw / of the auxiliary and control pins	_	M3
AWG number / as coded connectable conductor cross-section		
<ul> <li>for auxiliary and control contacts</li> </ul>		20 12
Skinning length / of the cable / for main contacts	mm	7
Skinning length / of the cable / for auxiliary and control contacts	mm	7
Tightening torque / for auxiliary and control contacts		
• with screw-type terminals	N·m	0.5 0.6
Tightening torque (Ibf-in) / for auxiliary and control contacts		
• with screw-type terminals	lbf∙in	4.5 5.3
Certificates/ approvals:		
General Product Approval EMC	Declaration Conformity	of Test Certificates
	EG-Konf.	Special TestType TestCertificateCertificates/TestReport
other		
Environmental Confirmations		

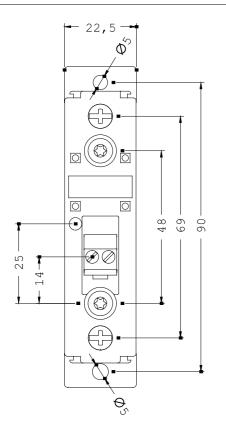
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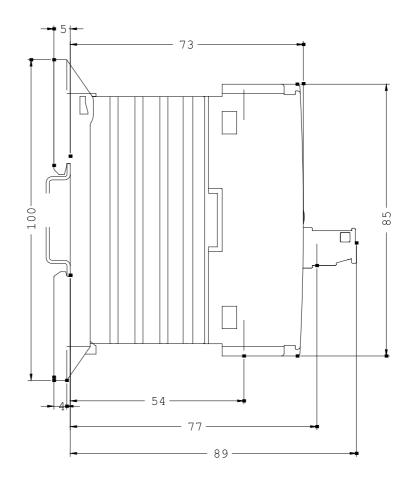
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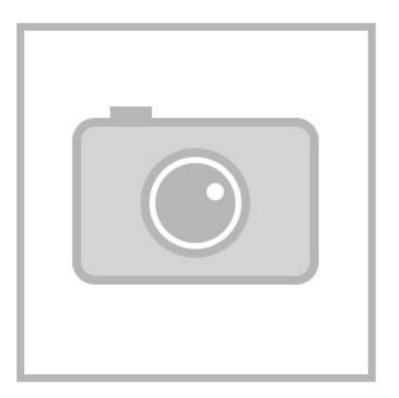
Industry Mall (Online ordering system) http://www.siemens.com/industrial-controls/mall http://www.siemens.com/cax

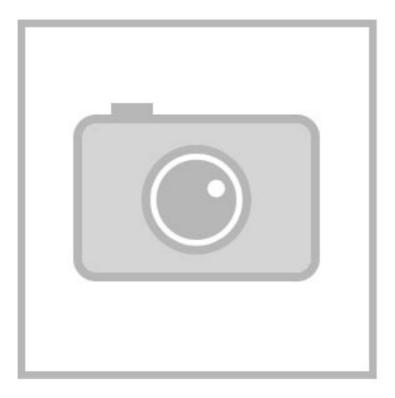
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RF2310-1AA45/all

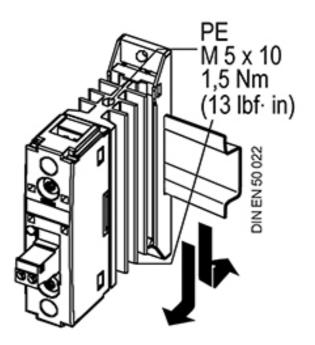
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RF2310-1AA45











last change:

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