SIEMENS

Product data sheet

3RF2320-2AA02



SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51 20 A 40 DEGREES C 24-230 V / 24 V DC SPRING-LOADED TERMINAL

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 / _3 / of the accessories that can be ordered		converter
Manufacturer article number / $_3$ / of the accessories that can be ordered		<u>3RF2900-0EA18</u>
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
Reference code		
 according to DIN 40719 extended according to IEC 204-2 / according to IEC 750 		К
according to DIN EN 61346-2		Q
Number of NC contacts / for auxiliary contacts		0

Number of changeover contacts / for auxiliary contacts 0 Main circuit: Image of NG contacts / for main contacts 1 Number of NG contacts / for main contacts 0 0 Operating current	Number of NO contacts / for auxiliary contacts	-	0
Main circuit: Number of NC contacts / for main contacts 1 Number of NC contacts / for main contacts 0 Operating current			0
Number of NO contacts / for main contacts 1 Number of NC contacts / for main contacts 0 Operating current	- · ·		
Number of NC contacts / for main contactsImage: contacts / for main contacts / for main contactsImage: contacts / for main contactsOperating currentA20: at AC-1 / at 400 V/ rated valueA20: at AC-51 / rated valueA20Operating current / minimummA500Operating voltage	Main circuit:	_	
Operating currentA20• at AC-1 / at 400 V / rated valueA20• at AC-51 / rated valueA20Operating current / minimummA500Operating voltage	Number of NO contacts / for main contacts	-	1
A20out AC-1/ at 400 V/ rated valueA20operating current / minimumMA500Operating current / minimumV24 230out at 50 Hz / at AC / rated valueV24 230• at 50 Hz / at AC / rated valueV24 230• at 50 Hz / at AC / rated valueV20 253• at 50 Hz / with ACV20 253• rated valueHz50 60Insulation voltage / rated valueV600Notage / rated valueV800Insulation voltage / rated valueV800Block voltage / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperatureA600Active power loss / total / typicalM20Resistance against the inpulse current / rated valueA600Control supply voltage / 1 • infail rated valueV15• for DCInfail rated valueV15• infail rated valueV15• infail rated valueV15• infail rated valueV15• infail rated valueV5• for DC / tinal value for signal-Co-recognitionV5	Number of NC contacts / for main contacts		0
A20Operating current / minimummA500Operating voltage	Operating current		
Operating current / minimummA500Operating voltageV24 230• at 50 Hz / at AC / rated valueV24 230• at 60 Hz / at AC / rated valueV24 230Working range relative to the operating voltageV20 253• at 50 Hz / with ACV20 253• at 60 Hz / with ACV20 253• at 60 Hz / with ACV20 253Operating frequencyHz50 60• rated valueHz50 60Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleVipsBlock voltage / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristormA10Active power loss / total / typicalW20Reverse current / of the thyristorM20Resistance against the impulse current / rated valueA2*s1,800Let-level / maximumA2*s1,800Control supply voltage / 1 • for DCDCC• initial rated valueV15• for DCV24• initial rated valueV24Control supply voltageV3• for DC / final value for signal-Cb-recognitionV5• for DC / final value for signal-Cb-recognitionV5	• at AC-1 / at 400 V / rated value	А	20
Operating voltage V 24 230 • at 50 Hz / at AC / rated value V 24 230 • at 60 Hz / at AC / rated value V 24 230 Working range relative to the operating voltage V 24 230 • at 50 Hz / with AC V 20 253 • at 60 Hz / with AC V 20 253 • at 60 Hz / with AC V 20 253 Operating frequency Hz 50 60 • rated value HZ 50 60 Insulation voltage / rated value V 600 Voltage slew rate / at the thyristor / for main contacts / maximum permissible V/us 1,000 Block voltage / at the thyristor / for main contacts / maximum permissible V 800 Reverse current / of the thyristor mA 10 Derating temperature M 20 Revise current / of the thyristor MX 800 Izt-level / maximum A2 is 1,800 Izt-level / maximum A2 is 1,800 Control curcuit/ Control: V 20 Volt	• at AC-51 / rated value	А	20
• at 50 Hz / at AC / rated valueV24230• at 60 Hz / at AC / rated valueV24230• at 50 Hz / with ACV20253• at 50 Hz / with ACV20253• at 60 Hz / with ACV20253• rated valueHz5060Insulation voltage / rated valueV600Voltage silew rate / at the thyristor / for main contacts / maximup permissibleV/ws1.000Block voltage / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristorMA10Active power loss / total / typicalW20Resistance against the impulse current / rated valueA600It-level / maximumA ² -s1.800Control supply voltage / 1 • for DCDC• for DCV15• initial rated valueV15• for DCV24• for DC / final value for signal-Ox-recognitionV5• for DC / final value for signal-Ox-recognitionV5• for DC / final value for signal-Ox-recognitionV5	Operating current / minimum	mA	500
v at 60 Hz / at AC / rated valueV24230Working range relative to the operating voltageV20253• at 60 Hz / with ACV20253Operating frequencyHz5060Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/µs1.000Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW20Revise current / of the inpulse current / rated valueA600Izt-level / maximumA*s1,800Control Circult/ ControlDCControl current / rated valueVoltage type / of control feed voltageV15• for DC • initial rated valueV15• for DC • initial rated valueV5• for DC / inal value for signal-Ob>-recognitionV5• for DC / final value for signal-Ob>-recognitionV5	Operating voltage		
Working range relative to the operating voltage V 20 253 • at 60 Hz / with AC V 20 253 Operating frequency V 20 253 • rated value Hz 50 60 Insulation voltage / rated value V 600 Voltage slew rate / at the thyristor / for main contacts / maximum permissible V/µs 1,000 Block voltage / at the thyristor / for main contacts / maximum permissible V 800 Block voltage / at the thyristor / for main contacts / maximum permissible V 800 Reverse current / of the thyristor mA 10 Derating temperature °C 40 Active power loss / total / typical W 20 Resistance against the impulse current / rated value A 600 Izt-level / maximum A*s 1,800 Control curcuit / Control V 15 Voltage type / of control feed voltage V 15 Voltage type / voltage / 1 V 24 • for DC V 24 Cont	• at 50 Hz / at AC / rated value	V	24 230
* at 50 Hz / with ACV20 253• at 60 Hz / with ACV20 253• rated valueHz50 60• rated valueV600• valueV800• Voltage / rated valueV800• Voltage / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristor / for main contacts / maximum permissibleV800• Reverse current / of the thyristormA10• Carting temperature°C40• Active power loss / total / typicalW20• Revistance against the impulse current / rated valueA600• Zhelevel / maximumA*-s1,800• Zhelevel / maximumDCControl supply voltage / 1• for DCV15• initial rated valueV24• for DCV5• for DC / final value for signal<0>-recognitionV5• for DC / final value for signal<0>-recognitionV5	• at 60 Hz / at AC / rated value	V	24 230
• at 60 Hz / with AC V 20 253 Operating frequency Hz 50 60 • rated value V 600 Insulation voltage / rated value V 600 Voltage slew rate / at the thyristor / for main contacts / maximum permissible V/µs 1,000 Block voltage / at the thyristor / for main contacts / maximum permissible V 800 Reverse current / of the thyristor mA 10 Derating temperature °C 40 Active power loss / total / typical W 20 Resistance against the impulse current / rated value A 600 Izt-level / maximum A ² .s 1,800 Control circuit/ Control PC Control supply voltage / 1 • for DC V 15 • initial rated value V 24 Control supply voltage V 24 Control supply voltage V 5 • for DC / final value for signal<0>-recognition V 5 • for DC / final value for signal<0>-recognition V 5	Working range relative to the operating voltage		
Operating frequency Hz Fraction (Control Supply voltage (Control Supp	• at 50 Hz / with AC	V	20 253
• rated valueHz50 60Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/us1,000Block voltage / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW20Resistance against the impulse current / rated valueA600Izt-level / maximumA2*s1,800Control circuit/ ControlVoltage type / of control feed voltageControl supply voltage / 1 • for DCV15• final rated valueV15• final rated valueV24Control supply voltageV5• for DC / final value for signal<0>-recognitionV5	• at 60 Hz / with AC	V	20 253
Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/µs1,000Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW20Resistance against the impulse current / rated valueA600Izt-level / maximumA²-s1,800Control circuit/ Control:Voltage type / of control feed voltageDCControl supply voltage / 1 • for DCV15initial rated valueV15control supply voltageV24Control supply voltageV5Control circuit / Control:V5	Operating frequency		
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maximum permissibleImage: maximum permissibleBlock voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW20Resistance against the impulse current / rated valueA600Izt-level / maximumA²-s1,800Control circuit/ Control:Voltage type / of control feed voltageDCControl supply voltage / 1 • for DCV15initial rated valueV24Control supply voltageV5· for DC / final value for signal<0>-recognitionV5	Insulation voltage / rated value	V	600
permissibleImage: constraint of the thyristormA10Derating temperature°C40Active power loss / total / typicalW20Resistance against the impulse current / rated valueA600Izt-level / maximumA²-s1,800Control circuit/ ControlVoltage type / of control feed voltageDCControl supply voltage / 1V15• for DCV15• final rated valueV24Control supply voltageV5• for DC / final value for signal <o>-recognitionV5</o>		V/µs	1,000
Derating temperature °C 40 Active power loss / total / typical W 20 Resistance against the impulse current / rated value A 600 I2t-level / maximum A ² -s 1,800 Control circuit/ Control: Voltage type / of control feed voltage DC Control supply voltage / 1 OC Intervention of the second of the		V	800
Active power loss / total / typicalW20Resistance against the impulse current / rated valueA600Izt-level / maximumA ² -s1,800Control circuit/ Control:Voltage type / of control feed voltageDCControl supply voltage / 1DC• for DCV15• initial rated valueV15• final rated valueV24Control supply voltage /V5• for DC / final value for signal<0>-recognitionV5	Reverse current / of the thyristor	mA	10
Resistance against the impulse current / rated value A 600 I2t-level / maximum A ² -s 1,800 Control circuit/ Control: Voltage type / of control feed voltage Control supply voltage / 1 DC • for DC V 15 • initial rated value V 15 • final rated value V 24 Control supply voltage V 5 • for DC / final value for signal<0>-recognition V 5	Derating temperature	°C	40
I2t-level / maximumA²-s1,800Control circuit/ Control:DCVoltage type / of control feed voltageDCControl supply voltage / 1DC• for DCV• initial rated valueV• final rated valueVControl supply voltageV• for DC / final value for signal<0>-recognitionVV5	Active power loss / total / typical	W	20
Control circuit/ Control: DC Voltage type / of control feed voltage DC Control supply voltage / 1 - • for DC - • initial rated value V • final rated value V • final rated value V • for DC / final value for signal<0>-recognition V • for DC / final value for signal<0>-recognition V	Resistance against the impulse current / rated value	A	600
Voltage type / of control feed voltageDCControl supply voltage / 1DC• for DC-• initial rated valueV• final rated valueV• final rated valueV• for DC / final value for signal<0>-recognitionVV5	l2t-level / maximum	A²-s	1,800
Control supply voltage / 1 - • for DC - • initial rated value V • final rated value V • final rated value V • for DC / final value for signal<0>-recognition V V 5	Control circuit/ Control:		
• for DCImage: constraint of the second	Voltage type / of control feed voltage		DC
• initial rated valueV15• final rated valueV24Control supply voltageV5• for DC / final value for signal<0>-recognitionV5Control currentV5	Control supply voltage / 1		
• final rated valueV24Control supply voltageVFor DC / final value for signal<0>-recognitionVFor DC / final value for signal<0>-recognitionControl currentVFor DC / final value for signal<0>-recognitionVFor DC / final value for signal<0>-recognition	• for DC		
Control supply voltage V • for DC / final value for signal<0>-recognition V Control current V	initial rated value	V	15
• for DC / final value for signal<0>-recognition V 5 Control current	final rated value	V	24
Control current	Control supply voltage		
	for DC / final value for signal<0>-recognition	V	5
• at minimum control supply voltage / for DC mA 2	Control current		
	 at minimum control supply voltage / for DC 	mA	2
• for DC / rated value mA 15	• for DC / rated value	mA	15

Fuse assignments:

https://www.automation.siemens.com/cdstatic/material/info/3RF23_eng.pdf

Installation/ mounting/ dimensions:

Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail
Mounting type / 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	140.5

Design of the electrical connection / for main current circuit spring-loaded terminals Type of the connectable conductor cross-section	Connections/ terminals:		
• for main contactsImage: Solid </th <th>Design of the electrical connection / for main current circuit</th> <th></th> <th>spring-loaded terminals</th>	Design of the electrical connection / for main current circuit		spring-loaded terminals
 solid solid solid finely stranded with conductor end processing without conductor final cutting without conductor final cutting for AWG conductors for main contacts for auxiliary and control contacts for auxiliary and control contacts solid otion auxiliary and control contacts for auxiliary and control contacts solid otion contacts with conductor end processing single- or multi-stranded stranded wire with conductor end processing mm² otion contacts stranded wire with conductor end processing mm² otion contacts stranded wire with conductor end processing mm² otion contacts stranded wire with conductor final cutting otion contacts stranded wire with otion conductor final cutting otion contacts stranded wire stranded wire stranded wire stranded wire stranded wire	Type of the connectable conductor cross-section		
• finely strandedImage: stranded• with conductor end processing2x (0.5 1.5 mm²)• without conductor final cutting2x (0.5 2.5 mm²)• for AWG conductors2x (0.5 2.5 mm²)• for main contacts2x (18 14)• for auxiliary and control contacts1x (AWG 20 12)• for auxiliary and control contacts0.5 1.5 mm²• solid0.5 1.5 mm²• solid0.5 2.5 mm²• with conductor end processing0.5 2.5 mm²• with conductor final cutting0.5 2.5 mm²• for main contacts10 .5 2.5 mm²• with conductor end processing0.5 2.5 mm²• for main contactsmm²• for main contacts10 .5 2.5 mm²• with conductor end processing0.5 2.5 mm²• with conductor end processing0.5 2.5 mm²• with conductor end processingmm²• with conductor final cuttingmm²• with conductor final cuttingmm² </td <td>for main contacts</td> <td></td> <td></td>	for main contacts		
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• without conductor final cutting2x (0.5 2.5 mm²)• for AWG conductors2x (0.5 2.5 mm²)• for main contacts2x (18 14)• for auxiliary and control contacts1x (AWG 20 12)• for auxiliary and control contacts0.5 1.5 mm²• solid0.5 1.5 mm²• with conductor end processing0.5 2.5 mm²• without conductor final cutting0.5 2.5 mm²• for main contacts0.5 2.5 mm²• with conductor end processing0.5 2.5 mm²• for main contactsmm²• for main contacts5 2.5 mm²• single- or multi-strandedmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor final cuttingmm²• with conductor final cuttingmm²• with conductor end processingmm²• with conductor final cuttingmm²• with conductor final c	finely stranded		
• for AWG conductorsImage: A model of the second of the secon	 with conductor end processing 		2x (0.5 1.5 mm²)
• for main contacts2x (18 14)• for auxiliary and control contacts1x (AWG 20 12)• for auxiliary and control contacts0.5 1.5 mm²• solid0.5 1.5 mm²• finely stranded0.5 2.5 mm²• with conductor end processing0.5 2.5 mm²• without conductor final cutting0.5 2.5 mm²• for main contactsmm²• for main contactsmm²• single- or multi-strandedmm²• single- or multi-strandedmm²• with conductor end processing0.5 2.5 mm²• single- or multi-strandedmm²• single- or multi-strandedmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor final cutting0.5 2.5	 without conductor final cutting 		2x (0.5 2.5 mm²)
• for auxiliary and control contacts1x (AWG 20 12)• for auxiliary and control contacts0.5 1.5 mm²• solid0.5 1.5 mm²• finely stranded0.5 2.5 mm²• with conductor end processing0.5 2.5 mm²• without conductor final cutting0.5 2.5 mm²Conductor cross section that can be connectedMm²• for main contactsmm²• single- or multi-strandedmm²• stranded wire0.5 2.5• with conductor end processingmm²• with conductor end processingmm²• with conductor end processingmm²• with conductor final cutting0.5 2.5	for AWG conductors		
 for auxiliary and control contacts solid finely stranded with conductor end processing without conductor final cutting Conductor cross section that can be connected for main contacts single- or multi-stranded stranded wire with conductor end processing with conductor end processing Stranded wire with conductor end processing mm² 0.5 2.5 mm² 	for main contacts		2x (18 14)
• solid0.5 1.5 mm²• finely stranded0.5 2.5 mm²• with conductor end processing0.5 2.5 mm²• without conductor final cutting0.5 2.5 mm²Conductor cross section that can be connected0.5 2.5 mm²• for main contactsmm²• single- or multi-strandedmm²• stranded wire0.5 2.5 0.5• with conductor end processingmm²• with conductor end processingmm²• with conductor final cuttingmm²	 for auxiliary and control contacts 		1x (AWG 20 12)
• finely strandedImage: Constraint of the conductor end processing0.5 2.5 mm²• with conductor final cutting0.5 2.5 mm²• without conductor final cutting0.5 2.5 mm²• for main contactsmm²• single- or multi-strandedmm²• stranded wire0.5 2.5• with conductor end processingmm²• with conductor final cuttingmm²• with conductor final cuttingmm²• with conductor final cuttingmm²• with conductor final cuttingmm²• with out conductor final cuttingmm²	 for auxiliary and control contacts 		
• with conductor end processing0.5 2.5 mm²• without conductor final cutting0.5 2.5 mm²Conductor cross section that can be connected	• solid		0.5 1.5 mm²
• without conductor final cutting0.5 2.5 mm²Conductor cross section that can be connected0.5 2.5 mm²• for main contactsmm²0.5 2.5• single- or multi-strandedmm²0.5 2.5• stranded wiremm²0.5 0.5• with conductor end processingmm²0.5 0.5• without conductor final cuttingmm²0.5 2.5	finely stranded		
Conductor cross section that can be connectedImage: Section that can be connected• for main contactsmm²• single- or multi-strandedmm²• stranded wire0.5 2.5• with conductor end processingmm²• with conductor final cuttingmm²• without conductor final cuttingmm²	 with conductor end processing 		0.5 2.5 mm²
 for main contacts single- or multi-stranded stranded wire with conductor end processing without conductor final cutting mm² 0.5 2.5 	without conductor final cutting		0.5 2.5 mm²
 single- or multi-stranded stranded wire with conductor end processing without conductor final cutting mm² 0.5 2.5 	Conductor cross section that can be connected		
• stranded wire • with conductor end processing • without conductor final cutting mm2 0.5 0.5	for main contacts		
• with conductor end processingmm²0.5 0.5• without conductor final cuttingmm²0.5 2.5	single- or multi-stranded	mm²	0.5 2.5
• without conductor final cutting mm ² 0.5 2.5	stranded wire		
	 with conductor end processing 	mm²	0.5 0.5
for auxiliary and control contacts	without conductor final cutting	mm²	0.5 2.5
	 for auxiliary and control contacts 		
• solid mm ² 0.5 1.5	• solid	mm²	0.5 1.5
stranded wire	stranded wire		
• with conductor end processing / mm ² 0.5 2.5	with conductor end processing /	mm²	0.5 2.5
• without conductor final cutting mm ² 0.5 2.5	without conductor final cutting	mm²	0.5 2.5

AWG number / as coded connectable conductor cross-section / for main contacts		14 18
Design of the electrical connection / for auxiliary and control current circuit		spring-loaded terminals
AWG number / as coded connectable conductor cross-section		
 for auxiliary and control contacts 		20 12
Skinning length / of the cable / for main contacts	mm	7
Skinning length / of the cable / for auxiliary and control contacts	mm	7

Certificates/ approvals:

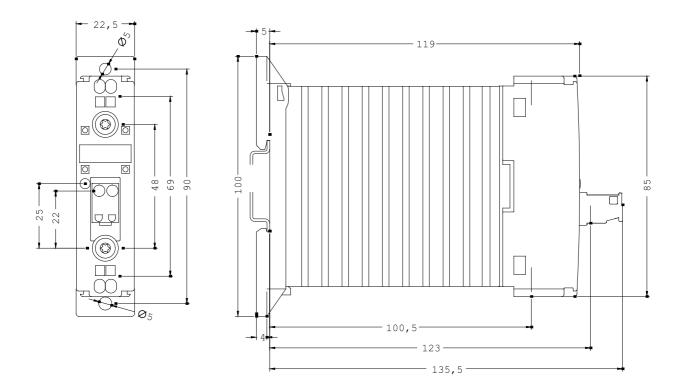
General Product	Approval		EMC	Declaration of Conformity
(SA) CSA	EAC		Стіск	EG-Konf.
Test Certificates		other		
Special Test Certificate	<u>Type Test</u> Certificates/Test <u>Report</u>	Environmental Confirmations		
Further information:				
	Oownloadcenter (Catalo			
	ne ordering system) .com/industrial-controls/n	nall		

Cax online generator

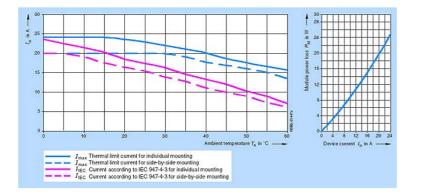
http://www.siemens.com/cax

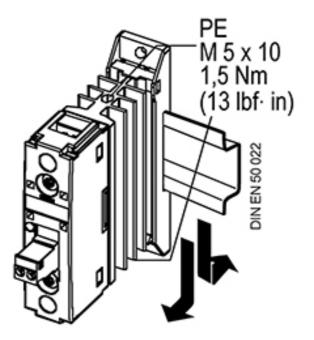
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RF2320-2AA02/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2320-2AA02









last change:

Mar 17, 2014