SIEMENS

Product data sheet

3RF2370-3BA22

SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51 70A/AC15 27.5A 40 DEG. C 24-230 V / 110-230 V AC INSTANTANEOUS 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		<u>3RF2900-3PA88</u>
Product designation / _2 / of the accessories that can be ordered		power regulator
Manufacturer article number / $_2$ / of the accessories that can be ordered		<u>3RF2990-0HA33</u>
Product designation / _4 / of the accessories that can be ordered		load monitoring
Manufacturer article number / _4 / of the accessories that can be ordered		<u>3RF2990-0GA33</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 shock / according to EEC 60068-2:7 15g / 11 ms tem designation Import 15g / 11 ms i according to DIN 40719 extendable after IEC 204-2 / according to DIN EN 61346-2 Q Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for main contacts 1 Number of NC contacts / for main contacts 1 Number of NC contacts / for main contacts 0 Number of NC contacts / for main contacts 1 Operating current	Resistance against vibration / according to IEC 60068-2-6	_	2g
• according to DIN 40719 extendable after IEC 204-27 according is IEC 750 G • according to DIN 8181346-2 G Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for auxiliary contacts 0 Number of NC contacts / for main contacts 1 Number of NC contacts / for main contacts 0 Operating current 1 • at AC-1/ at 400 V/rated value A 70 • at AC-1/ at 400 V/rated value A 70 • at AC-1/ at 400 V/rated value A 70 • at AC-1/ at 400 V/rated value A 70 • at AC-1/ at 400 V/rated value A 70 • at AC-1/ at 400 V/rated value A 70 • at AC-1/ at AC / rated value A 70 • at AC-1/ at AC / rated value V 24 230 • at 80 Hz / at AC / rated value V 20 253 • at 80 Hz / at AC / rated value HZ 50 60 • at 60 Hz / for AC V 20 253 • at 60 Hz / for AC V 800 • at 60 Hz / for AC V 800 • at 60 Hz / for AC V 800 • at 60 Hz / for AC V 800 <	Resistance against shock / according to IEC 60068-2-27	_	15g / 11 ms
b IEC 730Image: Control to DIN EN 61346-2CNumber of NC contacts / for auxiliary contacts0Number of NC contacts / for auxiliary contacts0Number of NC contacts / for auxiliary contacts0Number of NC contacts / for main contacts1Number of NC contacts / for main contacts0Operating current-• at AC-1 / at 400 V/ rated valueA7070• at AC-1 / at 400 V/ rated valueA070• at AC-1 / at 400 V/ rated valueA0 porating currentMA• at AC-1 / at 400 V/ rated valueA0 porating current / minimummA• at AC-1 / at 400 V/ rated valueV2 at 30 A• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueI• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueV• at 60 Hz / at AC / rated valueI• at 60 Hz / at AC / rated val	Item designation	_	
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Number of NO contacts / for auxillary contacts0Number of change-over switches / for auxillary contacts0Mumber of NO contacts / for main contacts1Number of NO contacts / for main contacts0Operating current0• at AC-1/ at 400 V / rated valueA70• at AC-51 / fated valueA70• at AC-51 / fated valueA70• at AC-1/ at 400 V / rated valueA70• at AC-1/ at 400 V / rated valueA70• at AC-51 / fated valueA70• at AC-51 / fated valueA70• at AC-1/ at 400 V / rated valueA70• at AC-1/ at 400 V / rated valueA70• at AC-1/ at 400 V / rated valueA70• at AC-51 / fated valueA70• at AC-1/ at AC / rated valueA70• at SD Hz / fat AC / rated valueV24 230Working area related to the operating voltage	according to DIN EN 61346-2		Q
Number of change-over switches / for auxiliary contacts 0 Main circuit: 1 Number of NC contacts / for main contacts 0 Operating current 0 • at AC-1 / at 400 V / rated value A 70 • at AC-1 / rated value A 70 • at AC-51 / rated value A 70 • at AC-51 / rated value A 70 Operating current / minimum mA 5000 Operating current / minimum mA 5000 Operating current / and C / rated value V 24 230 Vorting area related to the operating voltage	Number of NC 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 1 • at AC-1 / at 400 V / rated value A 70 • at AC-51 / rated value A 70 Operating current / minimum mA 500 Operating current / minimum mA 500 Operating voltage V 24 230 • at 50 Hz / at AC / rated value V 24 230 • at 50 Hz / at AC / rated value V 24 230 working area related to the operating voltage V 24 230 • at 50 Hz / for AC V 20 253 Operating frequency V 20 253 • rated value Hz 50 60 Relative symmetrical tolerance / of the operating requency % 10 Insulation voltage / rated value V 600 Voltage slew rate / at the thyristor / for main contacts / maximum permissible NM 10 Block voltage / at the thyristor / for main contacts / maximum permissible MA 1.150 Reverse current / of the thyristor / for main contacts / maximum </td <td>Number of NO contacts / for auxiliary contacts</td> <td></td> <td>0</td>	Number of NO contacts / for auxiliary contacts		0
Number of NO contacts / for main contacts1Number of NC contacts / for main contacts0Operating currentA• at AC-1 / at 400 V / rated valueA• at AC-51 / rated valueA• at AC-51 / rated valueA• at AC-51 / rated valueAOperating current / minimummA500Operating voltageV• at 50 Hz / at AC / rated valueV• at 50 Hz / at AC / rated valueV24 230• at 60 Hz / at AC / rated valueV24 230Vorking area related to the operating voltageV• at 60 Hz / for ACV• at 60 Hz / for ACV020 253Operating frequency%• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency• rated valueV800Voltage slew rate / at the thyristor / for main contacts / maximum permissibleBlock voltage / at the thyristor / for main contacts / maximum permissibleReverse current / of the thyristor0 prating temperatureActive power loss / total / typicalReverse current / of the thyristor0 control supply voltage frequency• / trated valueA1,150Reverse current / rated valueAActive power loss / total / typical </th <th>Number of change-over switches / for auxiliary contacts</th> <th></th> <th>0</th>	Number of change-over switches / for auxiliary contacts		0
Number of NC contacts / for main contacts0Operating currentI• at AC-1/ at 400 V/ rated valueA070• at AC-51 / rated valueA0 perating current / minimummA0 perating voltageV• at 50 Hz / at AC / rated valueV• at 50 Hz / at AC / rated valueV24 230• at 50 Hz / at AC / rated valueV24 230Working area related to the operating voltageV• at 50 Hz / for ACV• at 50 Hz / for ACV• at 60 Hz / for ACV• bit / for Main contacts / maximumVpermissibleMBlock voltage / at the thyristor / for main contacts / maximumNpermissibleMReverse current / of the thyristorMActive power los / total / typical<	Main circuit:		
And of the derivative structure interval	Number of NO contacts / for main contacts		1
• at AC.1/at 400 V/rated valueA70• at AC.51/rated valueA70Operating current / minimummA500Operating voltageW24230• at 50 Hz/at AC/rated valueV24230• at 60 Hz/at AC/rated valueV24230Working area related to the operating voltageV20253• at 50 Hz/for ACV20253• at 60 Hz/for ACV20253Operating frequencyHz5060• rated valueHz5060Relative symmetrical tolerance / of the operation frequency%10Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/ys1,000Block voltage / at the thyristor / for main contacts / maximum permissible%40Reverse current / of the thyristormA10Derating temperatureAC40Active power loss / total / typicalA5,600Control supply voltage frequencyA1,150Lt-level / maximumA ² -s6,600	Number of NC contacts / for main contacts	_	0
• at AC-51 / rated valueA70Operating current / minimum500Operating voltage• at 50 Hz / at AC / rated valueV24 230• at 50 Hz / at AC / rated valueV24 230• at 50 Hz / at AC / rated valueV24 230• at 50 Hz / tor ACV20 253• at 50 Hz / tor ACV20 253• at 50 Hz / tor ACV20 253• at 60 Hz / tor ACV20 253• at 60 Hz / tor ACV20 253• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10• rated valueHz500 60Relative symmetrical tolerance / of the operation frequency%1000• rated valueV800Porting supper support for main contacts / maximum permissibleMA10Block voltage / at the thyristor / for main contacts / maximum permissibleMA10Reverse current / of the thyristorMA10Porting temperatureA1,150Active power loss / total / typicalA6,600Control circuit:EControl circuit:EControl supply voltage frequencyHz50	Operating current		
Operating current / minimummA500Operating voltage-• at 50 Hz / at AC / rated valueV24 230• at 60 Hz / at AC / rated valueV24 230Working are a related to the operating voltage-• at 50 Hz / for ACV20 253• at 60 Hz / for ACV20 253• at 60 Hz / for ACV20 253• at 60 Hz / for ACV20 253Operating frequency• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation voltage / rated valueV800Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristor / for main contacts / maximum permissible%10Reverse current / of the thyristormA10Derating temperature*C40Active power loss / total / typicalA*s6.600Relative against the impulse current / rated valueA1,150Relative maximumA*s6.600	• at AC-1 / at 400 V / rated value	А	70
Operating voltageV24 230• at 50 Hz / at AC / rated valueV24 230• at 60 Hz / at AC / rated valueV24 230Working area related to the operating voltageV20 253• at 50 Hz / for ACV20 253• at 60 Hz / for ACV20 253Operating frequencyHz50 60• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/µs300Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW83Resistance against the impulse current / rated valueA *a6,600Zottrol circuit:Control supply voltage frequency1150• 1 / rated valueHz50	• at AC-51 / rated value	А	70
• at 50 Hz / at AC / rated valueV24 230• at 60 Hz / at AC / rated valueV24 230Working area related to the operating voltageV24 230• at 50 Hz / for ACV20 253• at 60 Hz / for ACV20 253• at 60 Hz / for ACV20 253Operating frequencyHz50 60• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/µs1,000Block voltage / at the thyristor / for main contacts / maximum permissibleM800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalM83Resistance against the impulse current / rated valueA1,150Izt-level / maximumA ² /s6,600Control circuit:Control supply voltage frequencyHz• 1 / rated valueHz50	Operating current / minimum	mA	500
• at 60 Hz / at AC / rated valueV24 230Working area related to the operating voltageV20 253• at 50 Hz / for ACV20 253Operating frequencyV20 263• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation 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 / typicalN83Resistance against the impulse current / rated valueA*s6,600Voltage frequencyA*s6,600Voltage frequencyA*s50	Operating voltage		
Working area related to the operating voltageV20 253• at 50 Hz / for ACV20 253• operating frequencyV20 253• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation 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 / typicalW83Resistance against the impulse current / rated valueA ² / ₂ s6,600Control supply voltage frequencyHz50	• at 50 Hz / at AC / rated value	V	24 230
• at 50 Hz / for ACV20 253• at 60 Hz / for ACV20 253Operating frequencyHz50 60• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/µs1,000Block voltage / at the thyristor / for main contacts / maximum permissibleMA10Block voltage / at the thyristor / for main contacts / maximum permissibleMA10Reverse current / of the thyristormA10Derating temperature%83Active power loss / total / typicalA1,150Izt-level / maximumA ² -s6,600Control Supply voltage frequency + 1/ rated valueHz50	• at 60 Hz / at AC / rated value	V	24 230
• at 60 Hz / for ACV20 253Operating frequencyHz50 60• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation 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 thyristor / for main contacts / maximum permissibleMA10Derating temperature°C4040Active power loss / total / typicalW8383Resistance against the impulse current / rated valueA1,150Izt-level / maximumA ² -s6,600Control circuit:ExtensionHz50	Working area related to the operating voltage	_	
Operating frequency Hz 5060 Relative symmetrical tolerance / of the operation frequency % 10 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 Active power loss / total / typical °C 40 Resistance against the impulse current / rated value A 1,150 It-level / maximum A ² -s 6,600	• at 50 Hz / for AC	V	20 253
• rated valueHz50 60Relative symmetrical tolerance / of the operation frequency%10Insulation 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 / typicalW83Resistance against the impulse current / rated valueA1,150Izt-level / maximumA ² ·s6,600Control circuit:Control supply voltage frequency • 1/ rated valueHz50	• at 60 Hz / for AC	V	20 253
Relative symmetrical tolerance / of the operation frequency%10Insulation voltage / rated valueV600Voltage slew rate / at the thyristor / for main contacts / maximum permissibleV/µs1,000Block voltage / at the thyristor / for main contacts / maximum permissibleV800Block voltage / at the thyristor / for main contacts / maximum permissibleM10Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW83Resistance against the impulse current / rated valueA1,150Izt-level / maximumA²-s6,600Control circuit:Control supply voltage frequency • 1 / rated valueHz50	Operating frequency		
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 83 Resistance against the impulse current / rated value A 1,150 Izt-level / maximum A ² -s 6,600	rated value	Hz	50 60
Voltage 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 / typicalW83Resistance against the impulse current / rated valueA1,150Izt-level / maximumA ² -s6,600	Relative symmetrical tolerance / of the operation frequency	%	10
maximum permissibleImage: Control circuit:Block voltage / at the thyristor / for main contacts / maximum permissibleV800Reverse current / of the thyristormA10Derating temperature°C40Active power loss / total / typicalW83Resistance against the impulse current / rated valueA1,150I2t-level / maximumA ² -s6,600Control circuit:Control supply voltage frequency • 1 / rated valueHz50	Insulation voltage / rated value	V	600
permissibleImage: Section of the thyristormmake10Derating temperatureo°C40Active power loss / total / typicalW83Resistance against the impulse current / rated valueA1,150I2t-level / maximumA ² ·s6,600Control circuit:Control supply voltage frequency • 1 / rated valueHz50	-	V/µs	1,000
Derating temperature°C40Active power loss / total / typicalW83Resistance against the impulse current / rated valueA1,150I2t-level / maximumA ² -s6,600Control circuit:Control supply voltage frequency • 1 / rated valueHz50		V	800
Active power loss / total / typical W 83 Resistance against the impulse current / rated value A 1,150 I2t-level / maximum A ² ·s 6,600 Control circuit: V Control supply voltage frequency Hz 50	Reverse current / of the thyristor	mA	10
Resistance against the impulse current / rated value A 1,150 I2t-level / maximum A ² ·s 6,600 Control circuit: Control supply voltage frequency • 1 / rated value Hz 50	Derating temperature	°C	40
I2t-level / maximum A ² -s 6,600 Control circuit: Keine Control supply voltage frequency Keine Control supply voltage frequency • 1 / rated value Hz 50	Active power loss / total / typical	W	83
Control circuit: Control supply voltage frequency • 1 / rated value Hz	Resistance against the impulse current / rated value	А	1,150
Control supply voltage frequency Hz 50	I2t-level / maximum	A ² ·s	6,600
• 1 / rated value Hz 50	Control circuit:		
	Control supply voltage frequency		
• 2 / rated value Hz 60	• 1 / rated value	Hz	50
	• 2 / rated value	Hz	60

Type of voltage / of the controlled supply voltage		AC	
Control supply voltage / 1	-		
• at 50 Hz / for AC			
initial rated value	V	110	
final rated value	V	230	
• at 60 Hz / for AC			
initial rated value	V	110	
final rated value	V	230	
Control supply voltage			
• at 50 Hz / for AC / final value for signal<0>-recognition	V	40	
• at 60 Hz / for AC / final value for signal<0>-recognition	V	40	
Tolerance of the line frequency	Hz	5	
Relative symmetrical tolerance / of the supply voltage frequency	%	10	
Control current			
 at minimum control supply voltage / for AC 	mA	2	
• for AC / rated value	mA	15	
Fuse assignments		https://www.automation.siemens.com/cd- static/material/info/3RF21_eng.pdf	

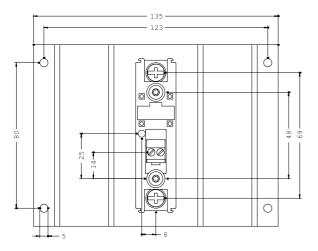
Installation/mounting/dimensions:			
Type of mounting		screw fixing	
Type of fixing/fixation / series installation		Yes	
Design of the thread / of the screw for fastening of the operating resource		M4	
Tightening torque / of the screw for fastening of the operating resource	N∙m	1.5	
Width	mm	135	
Height	mm	100	
Depth	mm	157.5	

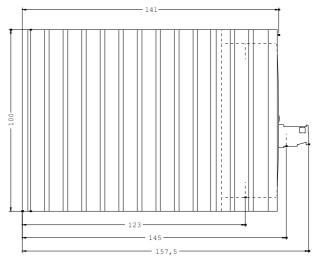
Connections:		
Design of the electrical connection / for main current circuit		ring cable connection
Design of the thread / of the connection screw / for main contacts		M5
Tightening torque / for main contacts		
with screw-type terminals	N∙m	2 2.5
Type of the connectable conductor cross-section		
for main contacts / for JIS cable lug		JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5
 for DIN cable lug / for main contacts 		DIN 46234 -5-2,5, -5-6, -5-10, -5-16, -5-25
for AWG conductors		
 for auxiliary and control contacts 		1x (AWG 20 12)

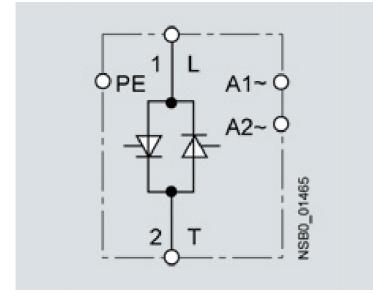
 for auxiliary and control contacts 		
• solid		1x (0.5 2.5 mm2), 2x (0.5 1.0 mm2)
finely stranded		
with conductor end processi		1x (0.5 2.5 mm2), 2x (0.5 1.0 mm2)
ng		
 without conductor final cut ting 		1x (0.5 2.5 mm2), 2x (0.5 1.0 mm2)
Conductor cross section that can be connected		
 for auxiliary and control contacts 		
• solid	mm²	0.5 2.5
stranded wire		
with conductor end processing / minimum	mm²	0.5 2.5
without conductor final cutting	mm²	0.5 2.5
Design of the electrical connection / for auxiliary and control current circuit		ring cable connection
Design of the thread / of the connection screw / of the auxiliary and control pins		M3
AWG number / as coded connectable conductor cross-section		
 for auxiliary and control contacts 		20 12
Skinning length / of the cable / for main contacts	mm	10
Skinning length / of the cable / for auxiliary and control contacts	mm	10
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

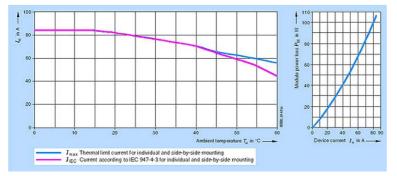
Certificates/approvals:				
General Produc	ct Approval		Test Certificates	other
(SA) CSA	ROSTEST		Manufacturer	Manufacturer

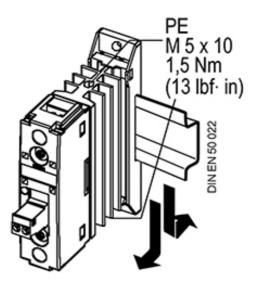
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last change:

Aug 22, 2011