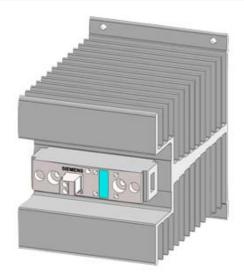
SIEMENS

Data sheet 3RF23 70-1BA22



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		3RF2900-3PA88
Product designation _2 of the accessories that can be ordered		power regulator
Manufacturer article number _2 of the accessories that can be ordered		3RF2950-0HA33
Product designation _4 of the accessories that can be ordered		load monitoring
Manufacturer article number _4 of the accessories that can be ordered		3RF2950-0GA33
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

Number of NC contacts for auxiliary contacts Number of NC contacts for auxiliary contacts 0 Number of CC contacts for auxiliary contacts 0 Number of NC contacts for main contacts Number of NC contacts for main contacts 0 Operating current • at AC-51 Rated value • at 50 Hz Rated value • at 50 Hz Rated value 0 Operating vertage with AC • at 50 Hz Rated value 0 Operating range relative to the operating voltage with AC • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 50 Hz • at 60 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at 50 Hz • at 60 Hz • at	Equipment marking acc. to DIN EN 61346-2		Q
Number of CO contacts for auxiliary contacts	Number of NC contacts for auxiliary contacts		0
Number of NO contacts for main contacts	Number of NO contacts for auxiliary contacts		0
Number of NC contacts for main contacts 1 Number of NC contacts for main contacts 0 Operating current	Number of CO contacts for auxiliary contacts	_	0
Number of NC contacts for main contacts 0 Operating current at AC-51 Rated value A 50 Operating current minimum mA 500 Operating voltage with AC • at 50 Hz Rated value V 24 230 • at 50 Hz Rated value V 24 230 Operating range relative to the operating voltage with AC • at 50 Hz V 20 253 • at 60 Hz V 20 253 • 25 60 Operating frequency Rated value Hz 50 60 • 600 Insulation voltage Rated value V 600 • 600 Rate of voltage ise at the thyristor for main contacts maximum permissible Vijus 1000 Blocking 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 Surge current resistance Rated value A 1 150 Iz value maximum A*s = 6 600 Control supply voltage frequency • 1 Rated valu	Main circuit:		
Operating current			1
• at AC-51 Rated value	Number of NC contacts for main contacts		0
Operating current minimum Operating voltage with AC • at 50 Hz Rated value • at 60 Hz Rated value Operating range relative to the operating voltage with AC • at 50 Hz • at 60 Hz Operating range relative to the operating voltage with AC • at 50 Hz • at 60 Hz • at 60 Hz • at 60 Hz • at 60 Hz • at 60 Hz • at 60 Hz Operating frequency Rated value Hz 50 60 Insulation voltage Rated value V 600 Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible W 800 Perating temperature °C 40 Active power loss total typical W 83 Surge current resistance Rated value A 1 150 Izt value maximum A*s 6 600 Control supply voltage frequency • 1 Rated value • 2 Rated value • 2 Rated value Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 60 Hz Initial rated value	Operating current	_	
Operating voltage with AC ■ at 50 Hz Rated value	• at AC-51 Rated value	Α	50
at 150 Hz Rated value at 60 Hz Rated value v 24 230 Operating range relative to the operating voltage with AC at 50 Hz at 60 Hz v 20 253 at 60 Hz at 60 Hz v 20 253 Operating frequency Rated value Hz 50 60 Insulation voltage Rated value V 600 Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor Blocking voltage at the thyristor MA 10 Derating temperature *C 40 Active power loss total typical Surge current resistance Rated value A 1 150 Izt value maximum A**s 6 600 Control circuit/ Control: Control supply voltage frequency 1 Rated value A 2 Rated value Hz 50 Hz 60 Control supply voltage of the control supply voltage Control supply voltage of the control supply voltage A 110 - at 50 Hz Initial rated value A 110 - at 60 Hz Initial rated value V 230 Control supply voltage Control supply voltage Control supply voltage Output Active power loss total value A 230 - at 60 Hz Initial rated value V 230 Control supply voltage	Operating current minimum	mA	500
at 60 Hz Rated value Operating range relative to the operating voltage with AC at 50 Hz at 60 Hz Operating frequency Rated value Rate of voltage Rated value Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor Breverse current of the thyristor Derating temperature Active power loss total typical Surge current resistance Rated value A 1 150 Izt value maximum A*s 6 600 Control circuit/ Control: Control supply voltage frequency 1 Rated value 2 Rated value 4 Control supply voltage of the control supply voltage Control supply voltage 1 with AC — at 50 Hz Initial rated value — at 60 Hz Initial rated value — at 60 Hz Initial rated value — at 60 Hz Final rated value — at 60 Hz Final rated value V 230 Control supply voltage Control supply voltage	Operating voltage with AC		
Operating range relative to the operating voltage with AC • at 50 Hz • at 60 Hz Operating frequency Rated value Insulation voltage Rated value Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor Derating temperature **C	• at 50 Hz Rated value	V	24 230
AC	• at 60 Hz Rated value	V	24 230
• at 60 Hz Operating frequency Rated value Insulation voltage Rated value Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor Reverse current of the thyristor Active power loss total typical Surge current resistance Rated value A 1150 Izt value maximum A²-s 6600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value • 2 Rated value 1 Rated value • 2 Rated value • 1 Rated value • 2 Rated value • 1 Rated value • 2 Rated value • 2 Rated value • 2 Rated value • 3 AC Control supply voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 60 Hz Initial rated value — at 60 Hz Initial rated value — at 60 Hz Final rated value V 230 Control supply voltage			
Operating frequency Rated value Insulation voltage Rated value Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor Perating temperature Rative power loss total typical Ruge current resistance Rated value A 1 150 Reverse current of the thyristor Active power loss total typical Ruge current resistance Rated value A 1 150 Reverse current of the thyristor Active power loss total typical Reverse current of the thyristor Active power loss total typical A 1 150 Reverse current of the thyristor A 2-s 6 600 Control circuit/ Control: Control supply voltage frequency A 1 Rated value A 2 S 6 600 Control supply voltage of the control supply voltage A C Control supply voltage of the control supply voltage A C Control supply voltage 1 • with A C — at 50 Hz Initial rated value A 110 — at 60 Hz Initial rated value A 230 — at 60 Hz Initial rated value A 110 V 230 Control supply voltage	● at 50 Hz	V	20 253
Insulation voltage Rated value Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor Derating temperature C 40 Active power loss total typical W 83 Surge current resistance Rated value A 1150 Izt value maximum A²-s 6600 Control circuit/ Control: Control supply voltage frequency 1 Rated value 2 Rated value 1 Rated value A 50 Type of voltage of the control supply voltage Control supply voltage 1 with AC — at 50 Hz Initial rated value — at 60 Hz Initial rated value A 110 V 230 Control supply voltage Control supply voltage Control supply voltage V 110 — at 60 Hz Final rated value V 230 Control supply voltage	● at 60 Hz	V	20 253
Rate of voltage rise at the thyristor for main contacts maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor Derating temperature °C 40 Active power loss total typical W 83 Surge current resistance Rated value A 1150 I2t value maximum A²-s 6600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value • 2 Rated value • 2 Rated value Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 60 Hz Final rated value — at 60 Hz Initial rated value — at 60 Hz Final rated value V 230 Control supply voltage	Operating frequency Rated value	Hz	50 60
maximum permissible Blocking voltage at the thyristor for main contacts maximum permissible Reverse current of the thyristor mA 10 Derating temperature °C 40 Active power loss total typical W 83 Surge current resistance Rated value A 1 150 I2t value maximum A²-s 6 600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value Hz 50 • 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value V 230 — at 60 Hz Initial rated value V 230 Control supply voltage Control supply voltage	Insulation voltage Rated value	V	600
maximum permissible Reverse current of the thyristor Derating temperature °C 40 Active power loss total typical W 83 Surge current resistance Rated value A 1150 I2t value maximum A²-s 6600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value • 2 Rated value • 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 50 Hz Initial rated value V 110 — at 60 Hz Initial rated value V 230 Control supply voltage		V/µs	1 000
Derating temperature Active power loss total typical Surge current resistance Rated value A 1 150 I2t value maximum A²-s 6 600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value • 2 Rated value Hz 50 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value — at 60 Hz Initial rated value V 110 — at 60 Hz Final rated value V 230 Control supply voltage		V	800
Active power loss total typical Surge current resistance Rated value A 1 150 I2t value maximum A²·s 6 600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value B 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value V 230 — at 60 Hz Final rated value V 230 Control supply voltage Control supply voltage Control supply voltage V 230 Control supply voltage	Reverse current of the thyristor	mA	10
Surge current resistance Rated value A 1 150 I2t value maximum A²-s 6 600 Control circuit/ Control: Control supply voltage frequency • 1 Rated value • 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value — at 60 Hz Final rated value — at 60 Hz Final rated value — at 60 Hz Final rated value V 230 Control supply voltage	Derating temperature	°C	40
I2t value maximum	Active power loss total typical	W	83
Control circuit/ Control: Control supply voltage frequency • 1 Rated value • 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value V 110 — at 50 Hz Initial rated value V 230 — at 60 Hz Initial rated value V 110 — at 60 Hz Final rated value V 230 Control supply voltage	Surge current resistance Rated value	Α	1 150
Control supply voltage frequency • 1 Rated value • 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 • with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value — at 60 Hz Initial rated value — at 60 Hz Final rated value V 230 Control supply voltage Control supply voltage	I2t value maximum	A²-s	6 600
 1 Rated value 2 Rated value Hz 60 Type of voltage of the control supply voltage Control supply voltage 1 with AC at 50 Hz Initial rated value at 50 Hz Final rated value at 60 Hz Initial rated value at 60 Hz Initial rated value v 110 at 60 Hz Final rated value V 230 Control supply voltage 	Control circuit/ Control:		
Pated value Pated value AC Type of voltage of the control supply voltage AC Control supply voltage 1 with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value — at 60 Hz Initial rated value V 110 — at 60 Hz Initial rated value V 110 — at 60 Hz Final rated value V 230 Control supply voltage	Control supply voltage frequency		
Type of voltage of the control supply voltage Control supply voltage 1 ● with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value V 230 — at 60 Hz Initial rated value V 110 — at 60 Hz Final rated value V 230 Control supply voltage	• 1 Rated value	Hz	50
Control supply voltage 1 ● with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value V 230 — at 60 Hz Initial rated value V 110 — at 60 Hz Final rated value V 230 Control supply voltage	• 2 Rated value	Hz	60
 with AC — at 50 Hz Initial rated value — at 50 Hz Final rated value — at 60 Hz Initial rated value — at 60 Hz Final rated value — at 60 Hz Final rated value V 230 Control supply voltage 	Type of voltage of the control supply voltage		AC
 at 50 Hz Initial rated value at 50 Hz Final rated value at 60 Hz Initial rated value at 60 Hz Final rated value v at 60 Hz Final rated value v 230 Control supply voltage 	Control supply voltage 1		
- at 50 Hz Final rated value	• with AC		
 — at 60 Hz Initial rated value — at 60 Hz Final rated value V 230 Control supply voltage	— at 50 Hz Initial rated value	V	110
— at 60 Hz Final rated value V 230 Control supply voltage	— at 50 Hz Final rated value	V	230
Control supply voltage	— at 60 Hz Initial rated value	V	110
	— at 60 Hz Final rated value	V	230
• with AC	Control supply voltage		
	• with 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
Symmetrical line frequency tolerance	Hz	5
Control current		
 at minimum control supply voltage 		
— with AC	mA	2
• with AC Rated value	mA	15

Installation/ mounting/ dimensions:			
Mounting type		screw fixing	
Mounting type Side-by-side mounting		Yes	
Design of the thread of the screw for securing the equipment		M4	
Tightening torque of the screw for securing the equipment	N·m	1.5	
Width	mm	135	
Height	mm	100	
Depth	mm	157.5	

Connections/ Terminals:				
Type of electrical connection for main current circuit		screw-type terminals		
Design of the thread of the connection screw for main contacts		M4		
Tightening torque for main contacts with screw-type terminals	N·m	2 2.5		
Tightening torque [lbf·in] for main contacts with screw-type terminals	lbf∙in	18 22		
Type of connectable conductor cross-section for main contacts				
• solid		2x (1.5 2.5 mm²), 2x (2.5 6 mm²)		
 finely stranded 				
— with core end processing		2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²		
Type of connectable conductor cross-section				
 for AWG conductors 				
— for main contacts		2x (14 10)		
 for auxiliary and control contacts 		1x (AWG 20 12)		
Type of connectable conductor cross-section for auxiliary and control contacts				
• solid		1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)		
• finely stranded				
— with core end processing		1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)		
— without core end processing		1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)		
Connectable conductor cross-section				

• for main contacts			
 single or multi-stranded 	mm²	1.5 6	
— finely stranded			
 — with core end processing 	mm²	1 10	
 for auxiliary and control contacts 			
— solid	mm²	0.5 2.5	
— finely stranded			
 — with core end processing 	mm²	0.5 2.5	
 — without core end processing 	mm²	0.5 2.5	
AWG number as coded connectable conductor cross		10 14	
section for main contacts			
Type of electrical connection for auxiliary and control current circuit		screw-type terminals	
Design of the thread of the connection screw of the auxiliary and control contacts		M3	
AWG number as coded connectable conductor cross		20 12	
section for auxiliary and control contacts			
Wire stripping length of the cable			
• for main contacts	mm	7	
 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 [lbf·in] for auxiliary and control contacts with screw-type terminals	lbf∙in	4.5 5.3	

Certificates/ approvals:

General Product Approval		EMC	Declaration of Conformity	Test Certificates	
					Tyne Test











Type Test Certificates/Test Report

other

Environmental Confirmations

Short-circuit protection, design of the fuse link

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)

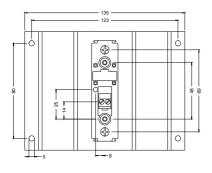
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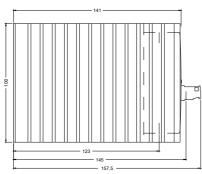
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http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23701BA22

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RF23701BA22/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23701BA22&lang=en





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