SIEMENS

Data sheet 3RF23 30-1AA04

Solid-state contactor 1-phase 3RF2 AC 51 / 30 A / 40 °C
48-460 V / 24 V DC screw 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 _1 of the accessories that can be ordered		terminal cover
Manufacturer's article number _1 of the accessories that can be ordered		3RF2900-3PA88
Product designation _3 of the accessories that can be ordered		converter
Manufacturer's article number _3 of the accessories that can be ordered		3RF2900-0EA18
Product designation _4 of the accessories that can be ordered		load monitoring
Manufacturer's article number _4 of the accessories that can be ordered		3RF2950-0GA16
Product designation _5 of the accessories that can be ordered		load monitoring, basis

Manufacturer's article number _5 of the accessories that can be ordered		3RF2920-0FA08
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
Reference indentifier acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		K
Reference identifier acc. to DIN EN 61346-2		Q
Number of NC contacts for auxiliary contacts		0
Number of NO contacts for auxiliary contacts		0
Number of CO 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		
• minimum	mA	500
• at AC-51 rated value	A	30
• at AC-51 acc. to IEC 60947-4-3	A	22
Derating temperature	°C	40
Power loss [W] total typical	W	33
Reverse current of the thyristor	mA	10
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 200
Rate of voltage rise at the thyristor for main contacts maximum permissible	V/µs	1 000
Surge current resistance rated value	A	600
I2t value maximum	$A^2 \cdot s$	1 800
Operating voltage at AC		
• at 60 Hz rated value	V	48 ... 460
• at 50 Hz rated value	V	48 ... 460
Operating range relative to the operating voltage at AC		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
Operating frequency rated value	Hz	50 ... 60
Insulation voltage rated value	V	600

Control circuit/ Control

Type of voltage of the control supply voltage		DC
Control supply voltage 1		

• at DC		
— Initial rated value	V	15
— Final rated value	V	24
— rated value maximum permissible	V	30
Control supply voltage		
• at DC initial value for signal <1> detection	V	15
• at DC Full-scale value for signal<0> recognition	V	5
Control current		
• **at minimum control supply voltage**		
— at DC	mA	2
• at DC rated value	mA	15

Installation/ mounting/ dimensions

Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail
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	45
Height	mm	100
Depth	mm	139

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-sections 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-sections		
• at AWG conductors		
— for main contacts		2x (14 ... 10)
— for auxiliary and control contacts		1x (AWG 20 ... 12)
Type of connectable conductor cross-sections 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 section		
• for main contacts		10 ... 10
• for auxiliary and control contacts		20 ... 12
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
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
CSA	UL	EAC	C-Tick	EG-Konf.	Type Test Certificates/Test Report

Test Certificates	other	Railway
Special Test Certificate	Confirmation	Vibration and Shock

Further information

Short-circuit protection, design of the fuse link
https://www.automation.siemens.com/cd-static/material/info/3RF23_eng.pdf

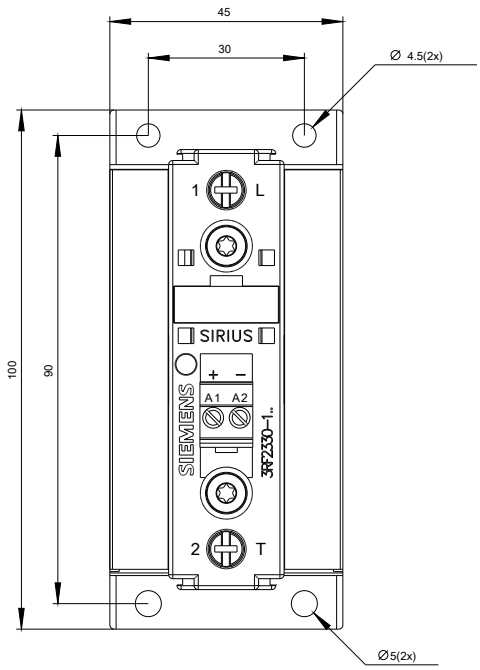
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

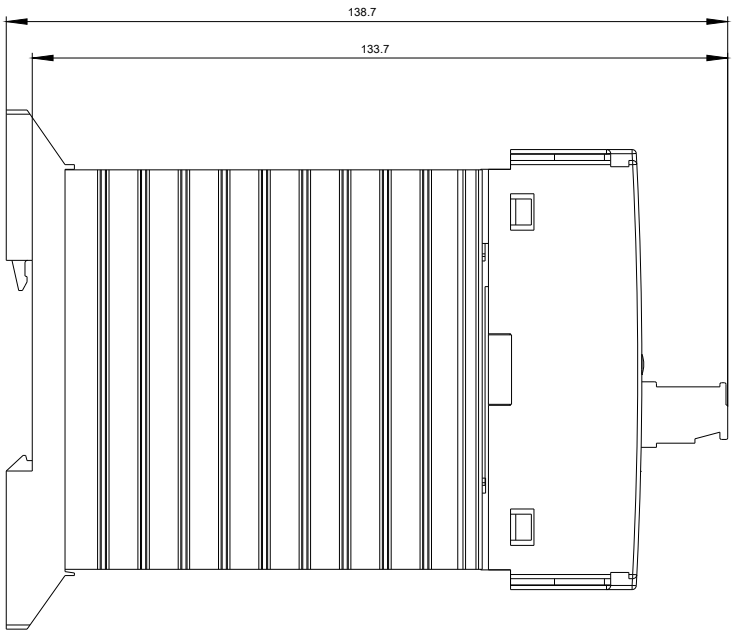
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2330-1AA04

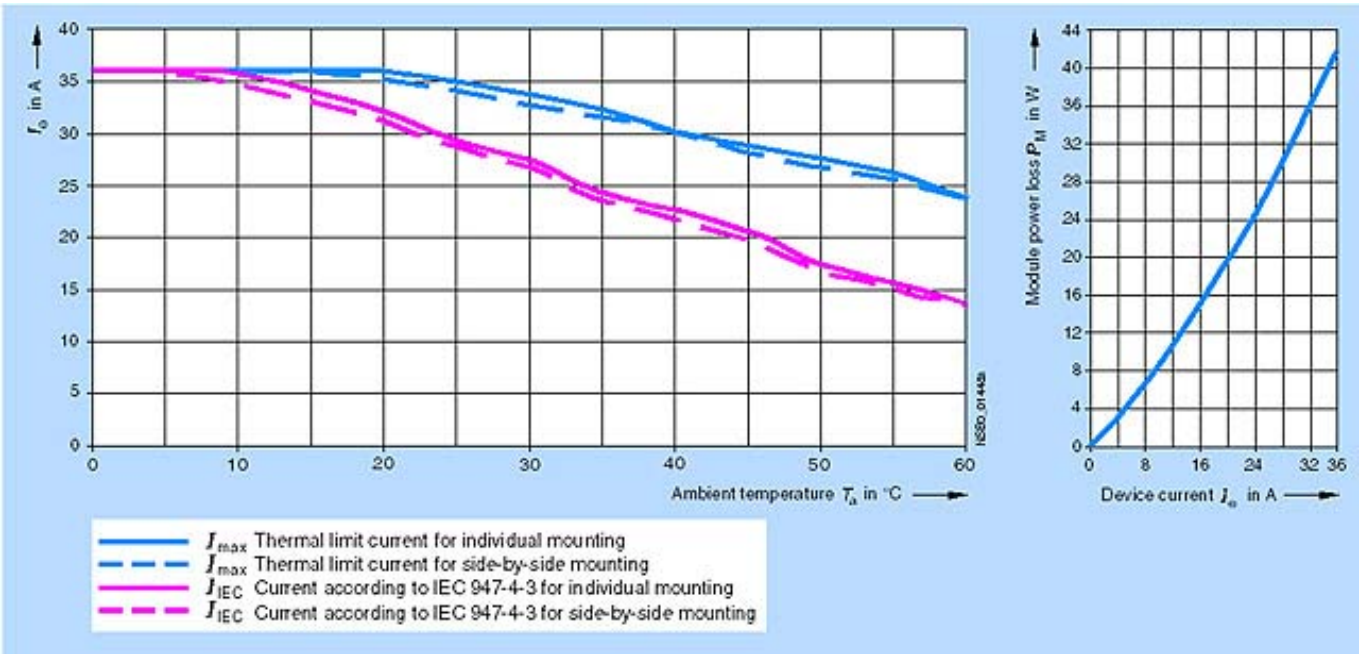
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2330-1AA04

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RF2330-1AA04

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2330-1AA04&lang=en







last modified: 04/05/2018