SIEMENS

Data sheet 3RF24 50-1AC45

SEMI-CONDUCTOR CONTAC.3-PH.3RF2 AC51 50A 40 DEG. C 48-600V / 4-30V DC 3-PHASE CONTROLLED SCREW TERMINAL BLOCKING VOLTAGE 1200V

General technical data		
product brandname		SIRIUS
Product designation		solid-state contactor
Product function		zero-point switching
Number of poles for main current circuit		3
Protection class IP		IP20
Product designation _2 of the accessories that can be ordered		converter
Manufacturer's article number _2 of the accessories that can be ordered		3RF2900-0EA18
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
Equipment marking 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		3
Number of NC contacts for main contacts		0
Operating current		
• minimum	mA	500
• at AC-51 rated value	A	50
• at AC-51 according to IEC 60947-4-3	A	38
Derating temperature	°C	40
Power loss [W] total typical	W	160
Reverse current of the thyristor	mA	10
Surge current resistance rated value	A	1 150
I2t value maximum	A²·s	6 600
Operating voltage at AC		
• at 50 Hz rated value	V	48 ... 600
• at 60 Hz rated value	V	48 ... 600
Operating range relative to the operating voltage at AC		
• at 50 Hz	V	40 ... 660
• at 60 Hz	V	40 ... 660
Operating frequency rated value	Hz	50 ... 60
Relative symmetrical tolerance of the operating frequency	%	10
Insulation voltage rated value	V	600
Rate of voltage rise at the thyristor for main contacts maximum permissible	V/µs	1 000
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 600
Short-circuit protection, design of the fuse link		

Control circuit/ Control

Type of voltage of the control supply voltage		DC
Control supply voltage 1		
• at DC	V	4 ... 30
Control supply voltage		
• at DC initial value for signal <1> detection	V	4
• at DC Full-scale value for signal<0> recognition	V	1
Symmetrical line frequency tolerance	Hz	5
Control current		
• at minimum control supply voltage		
— at DC	mA	22

• at DC rated value	mA	30

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	157.5
Height	mm	180
Depth	mm	121

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
• at AWG conductors		
— for main contacts		2x (14 ... 10)
— 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 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		14 ... 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	7.5 ... 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

other

Environmental Confirmations

Confirmation

Further information

Short-circuit protection, design of the fuse link
https://www.automation.siemens.com/cd-static/material/info/3RF24_eng.pdf

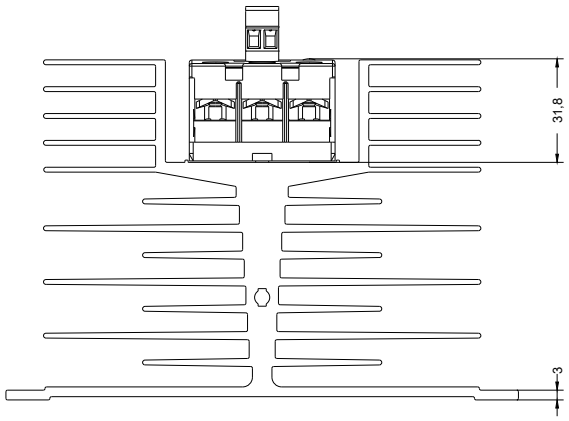
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

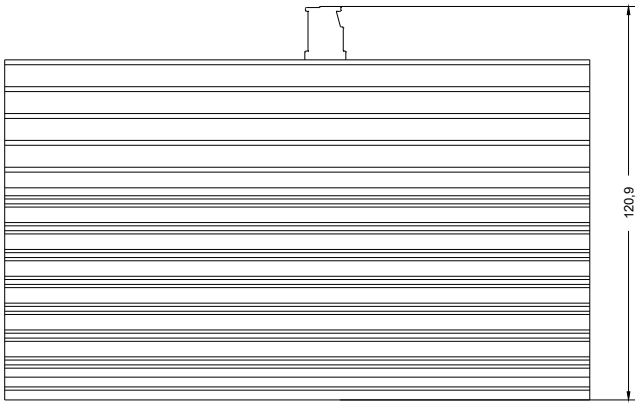
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2450-1AC45

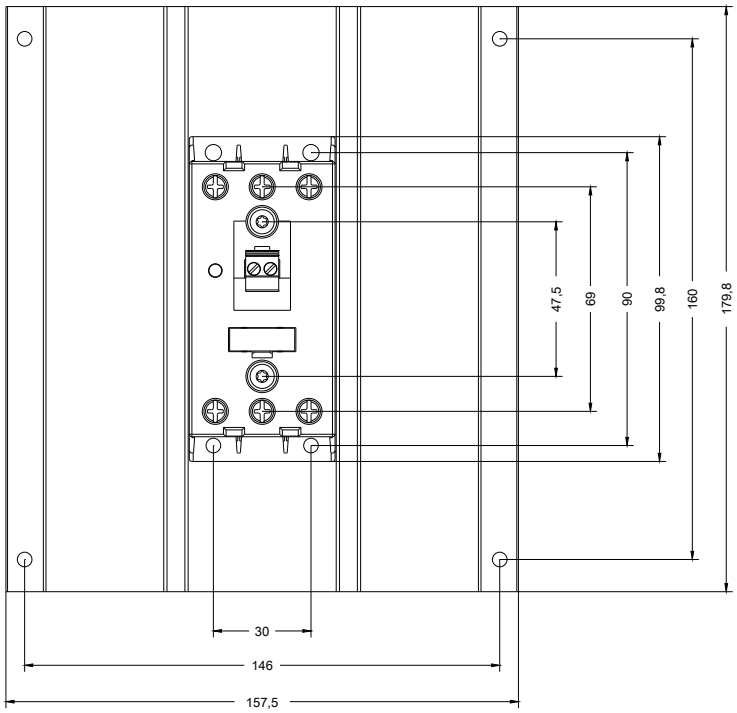
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2450-1AC45

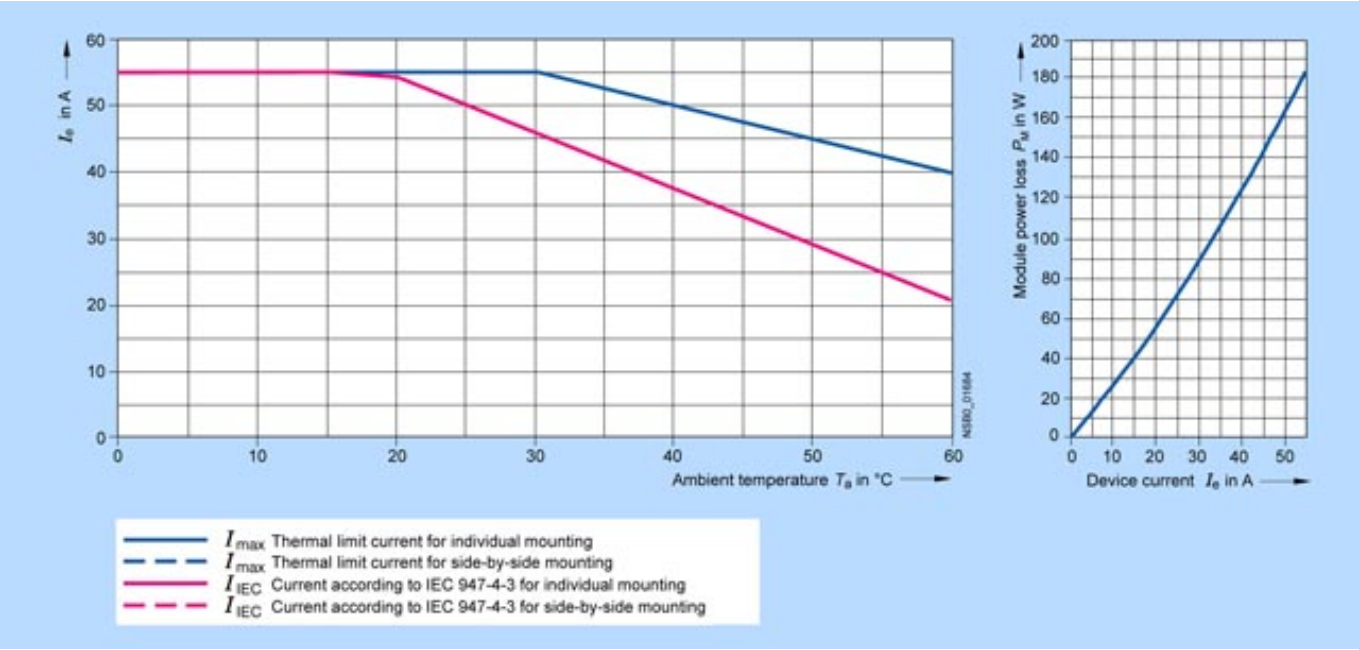
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RF2450-1AC45

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2450-1AC45&lang=en









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