SIEMENS

Product data sheet 3RF2450-1AC35

SOLID-STATE CONTACT.3PHASE 3RF2 AC51 50A 40 DEG. C 48-600V / 110V AC 3-PHASE CONTROLLED SCREW TERMINAL BLOCKING VOLTAGE 1200V

General technical data:		
product brand name		SIRIUS
Product designation		solid-state contactor
Product function		zero-point switching
Number of poles / for main current circuit		3
Protection class IP		IP20
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 code		
• acc. to DIN 40719 extended according to IEC 204-2 / acc. to IEC 750		K
• 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 / at AC-1 / at 400 V / Rated value	A	50
Operating current / at AC-51 / Rated value	A	50
Reverse current / of the thyristor	mA	10
Derating temperature	°C	40
Operating current / minimum	mA	500
Surge current resistance / Rated value	A	1,150
I2t value / maximum	$A^2 \cdot s$	6,600
Operating voltage		
• with AC / at 50 Hz / Rated value	V	48 … 600
• with AC / at 60 Hz / Rated value	V	48 … 600
Operating range relative to the operating voltage		
• with AC / at 50 Hz	V	40 … 660
• with AC / 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		https://www.automation.siemens.com/cd-static/material/info/3RF24_eng.pdf

Control circuit/ Control:

Type of voltage / of the control supply voltage		AC
Control supply voltage / 1		
• with AC		
• at 50 Hz	V	90 … 125
• with AC		
• at 60 Hz	V	90 … 125
Control supply voltage frequency		
• 1	Hz	45
• 2	Hz	66
Control supply voltage / with AC / at 50 Hz / Full-scale value for signal<0> recognition	V	90
Control supply voltage / with AC / at 60 Hz / Full-scale value for signal<0> recognition	V	90
Symmetrical line frequency tolerance	Hz	5

Relative symmetrical tolerance / of the supply voltage frequency	%	10
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	157.5
Height	mm	180
Depth	mm	121

Connections/ terminals:

Design of the 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
• for 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
Design of the 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 section		
• for auxiliary and control contacts		20 … 12
Wire stripping length / of the cable / for main contacts	mm	7
Wire stripping length / of the cable / 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 EAC UL	C-TICK	EG-Konf.	Type Test Certificates/Test Report

other

Environmental Confirmations

Further information:

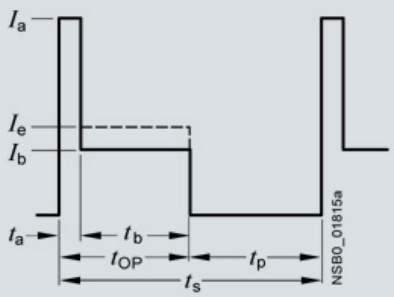
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)
https://mall.industry.siemens.com/

Cax online generator
http://www.siemens.com/cax

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RF2450-1AC35/all

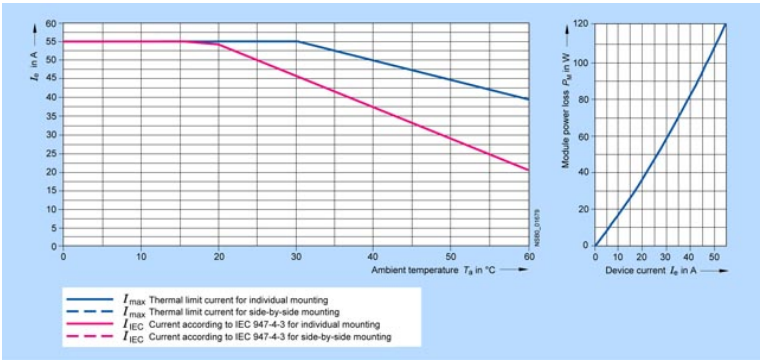
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2450-1AC35

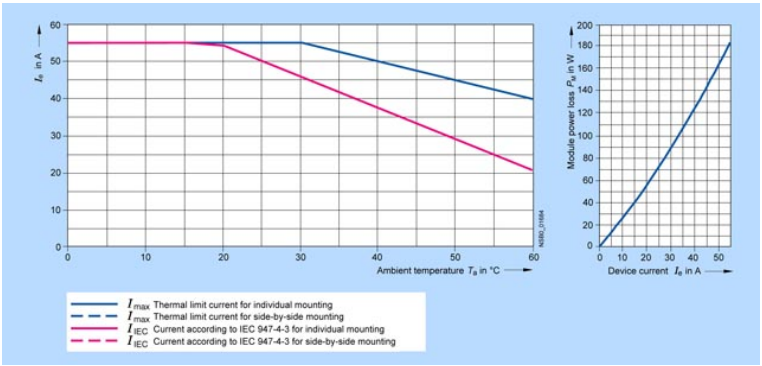


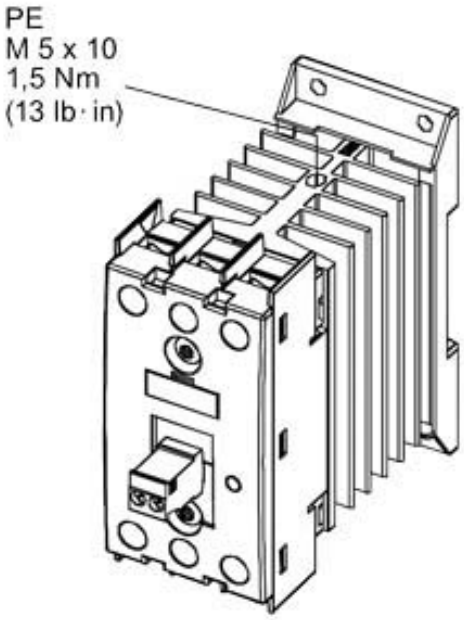
Operating data of motor

I_a	Direct starting current
I_e	Rated operational current
I_b	Operational current
t_a	Starting time
t_b	Operating time
t_p	Interval time
t_{OP}	ON period
t_s	Operating cycle

$$OP\ [\%] = \frac{t_{OP}}{t_s} \times 100\ \%$$







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