SIEMENS

Product data sheet 3RF2190-2AA02

SEMICOND. RELAY 3RF2,
1-PHASE WIDTH 22.5 MM,
90 A 24-230 V / 24 V DC SPRING-LOADED TERMINAL

General technical data:		
Product brand name		SIRIUS
product designation		solid-state relays
Product function		zero-point switching
Number of poles / for main current circuit		1
Protection class IP		IP20
Product designation / _3 / of the accessories that can be ordered		converter
Manufacturer article number / _3 / of the accessories that can be ordered		3RF2900-0EA18
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 vibration / according to IEC 60068-2-6		2g
Resistance against shock / according to IEC 60068-2-27		15g / 11 ms
Item designation		
• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750		K
• according to DIN EN 61346-2		Q
Number of NC contacts / for auxiliary contacts		0

Number of NO contacts / for auxiliary contacts		0
Number of change-over switches / for auxiliary contacts		0

Main circuit:

Number of NO contacts / for main contacts		1
Number of NC contacts / for main contacts		0
Operating current		
• at AC-1 / at 400 V / rated value	A	90
• at AC-51 / rated value	A	88
Operating current / minimum	mA	500
Operating voltage		
• at 50 Hz / at AC / rated value	V	24 … 230
• at 60 Hz / at AC / rated value	V	24 … 230
Working area related to the operating voltage		
• at 50 Hz / for AC	V	20 … 253
• at 60 Hz / for AC	V	20 … 253
Operating frequency		
• rated value	Hz	50 … 60
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
Derating temperature	°C	40
Active power loss / total / typical	W	118
Resistance against the impulse current / rated value	A	1,150
I2t-level / maximum	$A^2 \cdot s$	6,600

Control circuit:

Type of voltage / of the controlled supply voltage		DC
Control supply voltage / 1		
• for DC		
• initial rated value	V	15
• final rated value	V	24
Control supply voltage		
• for DC / final value for signal<0>-recognition	V	5
Control current		
• at minimum control supply voltage / for DC	mA	2
• for DC / 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	22.5
Height	mm	85
Depth	mm	48

Connections:		
Design of the electrical connection / for main current circuit		spring-loaded terminals
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	7 … 10.3
Type of the connectable conductor cross-section		
• for main contacts		
• solid		2x (0.5 ... 2.5 mm2)
• finely stranded		
• with conductor end processing		2x (0.5 ... 1.5 mm2)
• without conductor final cutting		2x (0.5 ... 2.5 mm2)
• for AWG conductors		
• for main contacts		2x (18 ... 14)
• for auxiliary and control contacts		1x (AWG 20 ... 12)
• for auxiliary and control contacts		
• solid		0.5 ... 1.5 mm2
• finely stranded		
• with conductor end processing		0.5 ... 2.5 mm2
• without conductor final cutting		0.5 ... 2.5 mm2
Conductor cross section that can be connected		
• for main contacts		
• solid	mm²	0.5 … 2.5
• stranded wire		
• with conductor end processing	mm²	0.5 … 1.5
• without conductor final cutting	mm²	0.5 … 2.5

• for auxiliary and control contacts		
• solid	mm²	0.5 … 1.5
• stranded wire		
• with conductor end processing / minimum	mm²	0.5 … 2.5
• without conductor final cutting	mm²	0.5 … 2.5
AWG number / as coded connectable conductor cross-section / for main contacts		18 … 14
Design of the electrical connection / for auxiliary and control current circuit		spring-loaded terminals
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

Certificates/approvals:

General Product Approval		Test Certificates	other
CSA	ROSTEST	Manufacturer	Manufacturer
UL			

Further information:

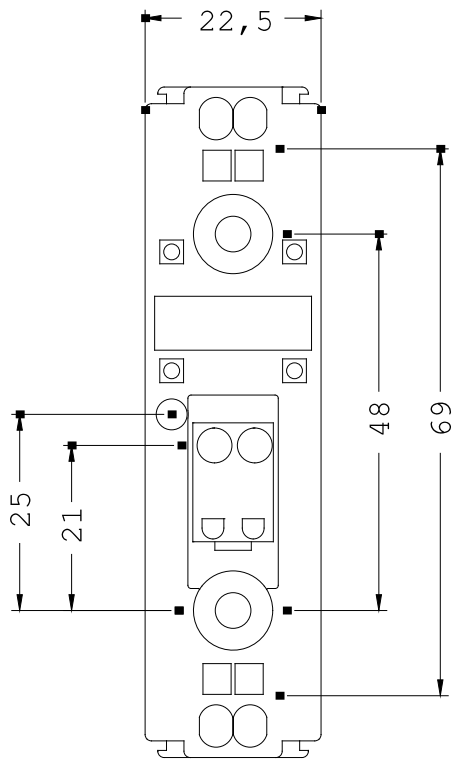
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

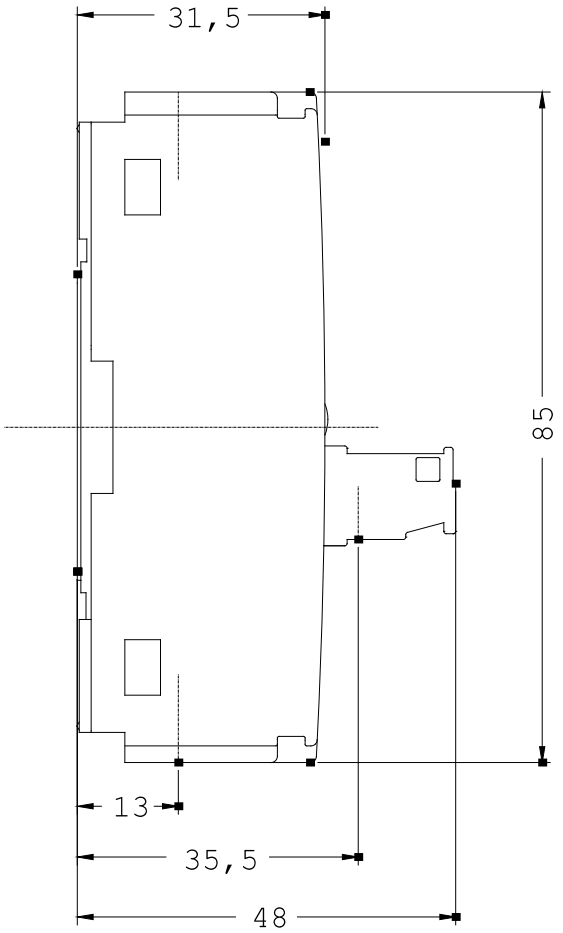
Industry Mall (Online ordering system)
http://www.siemens.com/industrial-controls/mall

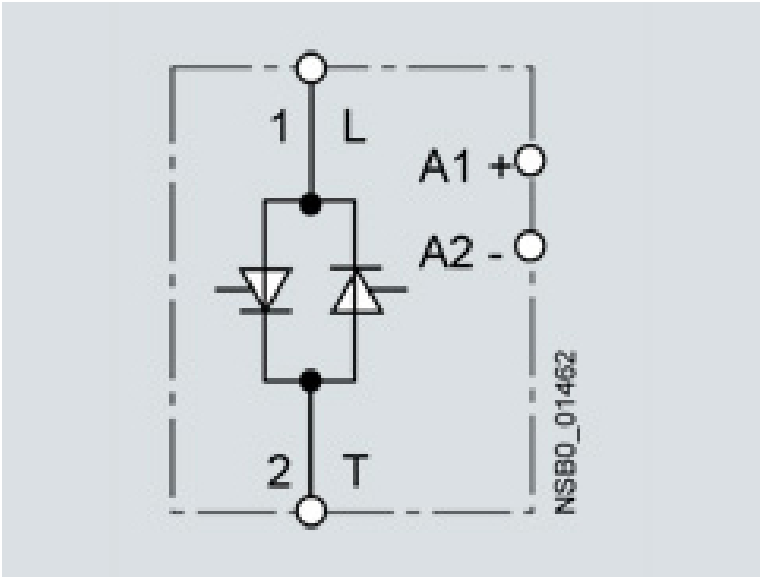
CAx-Online-Generator
http://www.siemens.com/cax

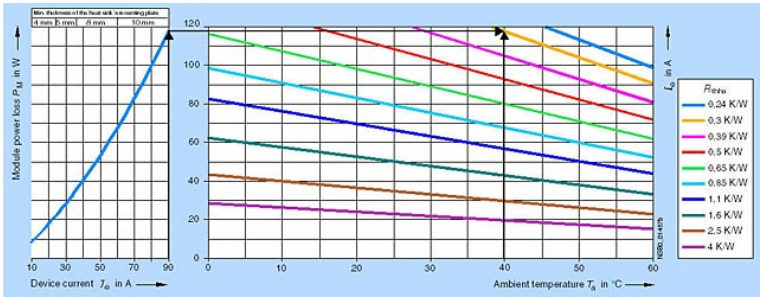
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3RF2190-2AA02/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2190-2AA02









last change: Aug 22, 2011