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Data sheet 3RF21 30-1AA24

SEMICONDUCTOR RELAY 3RF2, 1-PH. WIDTH 22.5MM, 30 A 48-460 V / 110-230 V AC SCREW TERMINAL

General technical data:		
product brand name		SIRIUS
Product designation		solid-state relay
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 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		3RF2950-0HA36
Product designation _4 of the accessories that can be ordered		load monitoring
Manufacturer article number _4 of the accessories that can be ordered		3RF2950-0GA36
Ambient temperature		
• during operation	°C	-25 ... +60

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• 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		1
Number of NC contacts for main contacts		0
Operating current		
• Rated value maximum	A	30
• at AC-51 Rated value	A	30
• minimum	mA	500
Operating voltage at AC		
• at 50 Hz Rated value	V	48 ... 460
• at 60 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
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	500
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 200
Reverse current of the thyristor	mA	10
Derating temperature	°C	40
Active power loss total typical	W	44.2
Apparent power loss maximum	V·A	44.2
Surge current resistance Rated value	A	300
I2t value maximum	$A^2 \cdot s$	450
Short-circuit protection, design of the fuse link		
Control circuit/ Control:		
Control supply voltage frequency		
• 1 Rated value	Hz	50

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• 2 Rated value	Hz	60
Type of voltage of the control supply voltage		AC
Control supply voltage 1		
• at AC		
— at 50 Hz Initial rated value	V	110
— 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		
• at 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
Relative symmetrical tolerance of the supply voltage frequency	%	10
Control current		
• at minimum control supply voltage		
— at AC	mA	2
• at 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	22.5
Height	mm	85
Depth	mm	48

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	7 ... 10.3
Type of connectable conductor cross-section		
• for main contacts		
— solid		2x (1.5 ... 2.5 mm²), 2x (2.5 ... 6 mm²)
— finely stranded		

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— 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
• 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:

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General Product Approval			EMC	Declaration of Conformity	Test Certificates
CSA	UR		C-TICK	EG-Konf.	Typprüfbescheinigung/Werkszeugnis

Test Certificates	other
spezielle Prüfbescheinigungen	Umweltbestätigung

Further information

Short-circuit protection, design of the fuse link
https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf

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

Industry Mall (Online ordering system)
http://www.siemens.com/industrymall

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF21301AA24

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RF21301AA24

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF21301AA24&lang=en

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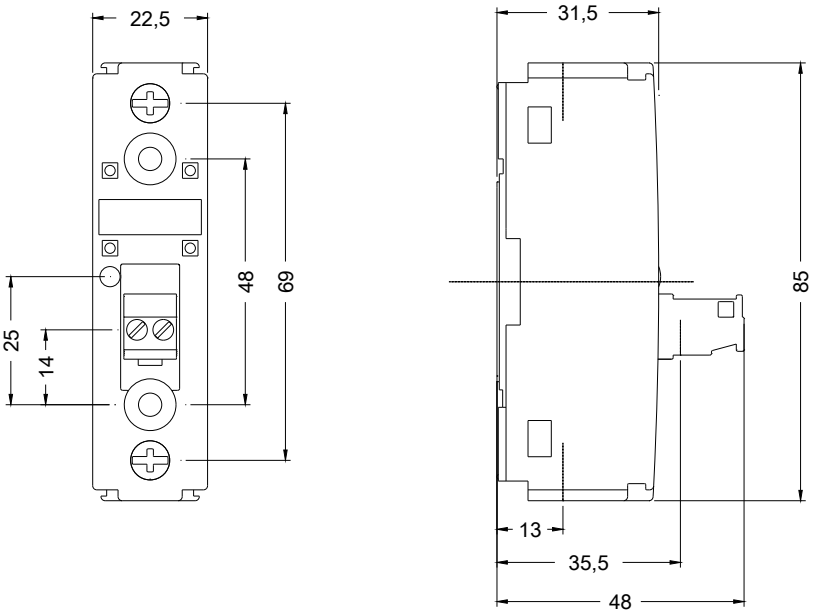

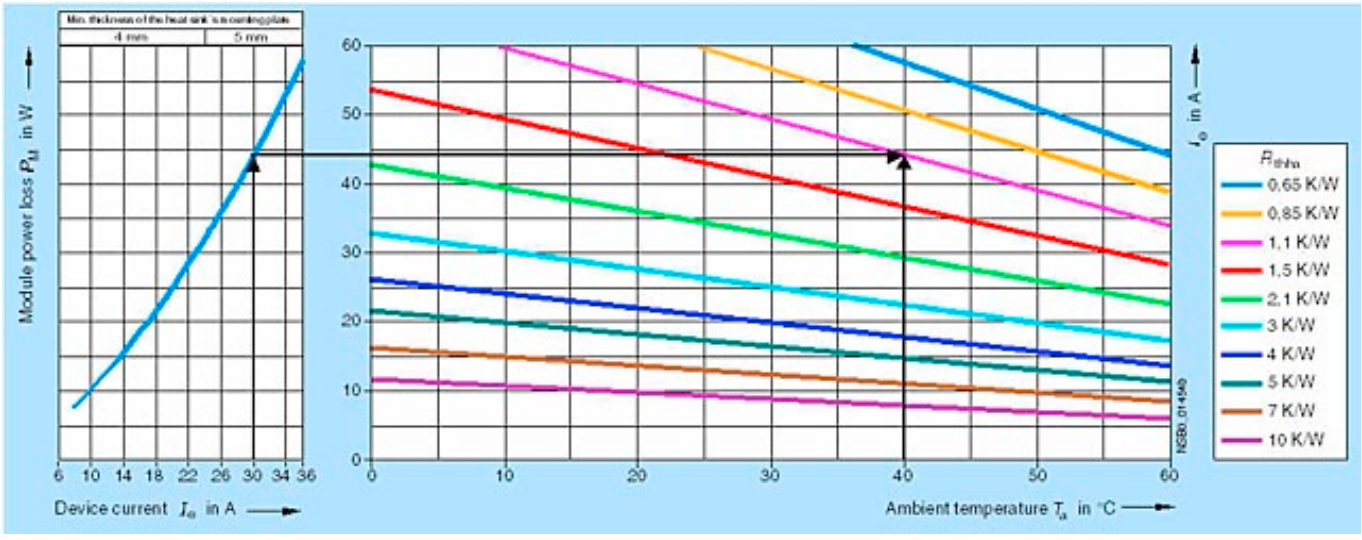

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