

Data sheet

3RF21 20-2AA42

SEMICONDUCTOR RELAY 3RF2, 1-PH. WIDTH 22.5MM, 20A 24-230V / 4-30V DC SPRING-LOADED 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 _3 of the accessories that can be ordered		converter
Manufacturer's article number _3 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		1
Number of NC contacts for main contacts		0
Operating current		
• rated value maximum	A	20
• at AC-51 rated value	A	20
• minimum	mA	100
Operating voltage at AC		
• at 50 Hz rated value	V	24 ... 230
• at 60 Hz rated value	V	24 ... 230
Operating range relative to the operating voltage at AC		
• at 50 Hz	V	20 ... 253
• at 60 Hz	V	20 ... 253
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	800
Reverse current of the thyristor	mA	10
Derating temperature	°C	40
Power loss [W] total typical	W	28.6
Power loss [V·A] maximum	V·A	28.6
Surge current resistance rated value	A	200
I ² t value maximum	A ² ·s	200
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		
— Initial rated value	V	4
Control supply voltage		
• at DC Full-scale value for signal<0> recognition	V	1
Control current		
• at minimum control supply voltage		
— at DC	mA	2

- at DC rated value

mA	15
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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		spring-loaded terminals
Tightening torque for main contacts with screw-type terminals	N·m	2 ... 2.5
Type of connectable conductor cross-sections • for main contacts — solid — finely stranded — with core end processing — without core end processing • at AWG conductors — for main contacts — for auxiliary and control contacts • for auxiliary and control contacts — solid — finely stranded — with core end processing — without core end processing		2x (0.5 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²) 2x (0.5 ... 2.5 mm ²) 2x (18 ... 14) 1x (AWG 20 ... 12) 0.5 ... 1.5 mm ² 0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ²
Connectable conductor cross-section • for main contacts — single or multi-stranded — finely stranded — with core end processing — without core end processing • for auxiliary and control contacts — solid — finely stranded — with core end processing — without core end processing	mm ² mm ² mm ² mm ² mm ² mm ²	0.5 ... 2.5 0.5 ... 1.5 0.5 ... 2.5 0.5 ... 1.5 0.5 ... 2.5 0.5 ... 2.5
AWG number as coded connectable conductor cross section		

• for main contacts • for auxiliary and control contacts		14 ... 10 20 ... 12
Type of electrical connection for auxiliary and control current circuit		spring-loaded terminals
Wire stripping length of the cable		
• for main contacts • for auxiliary and control contacts	mm mm	10 10

Certificates/approvals

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

other	Railway
Umweltbestätigung	Bestätigungen
	Schwingen/Schocke n

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)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2120-2AA42>

Cax online generator

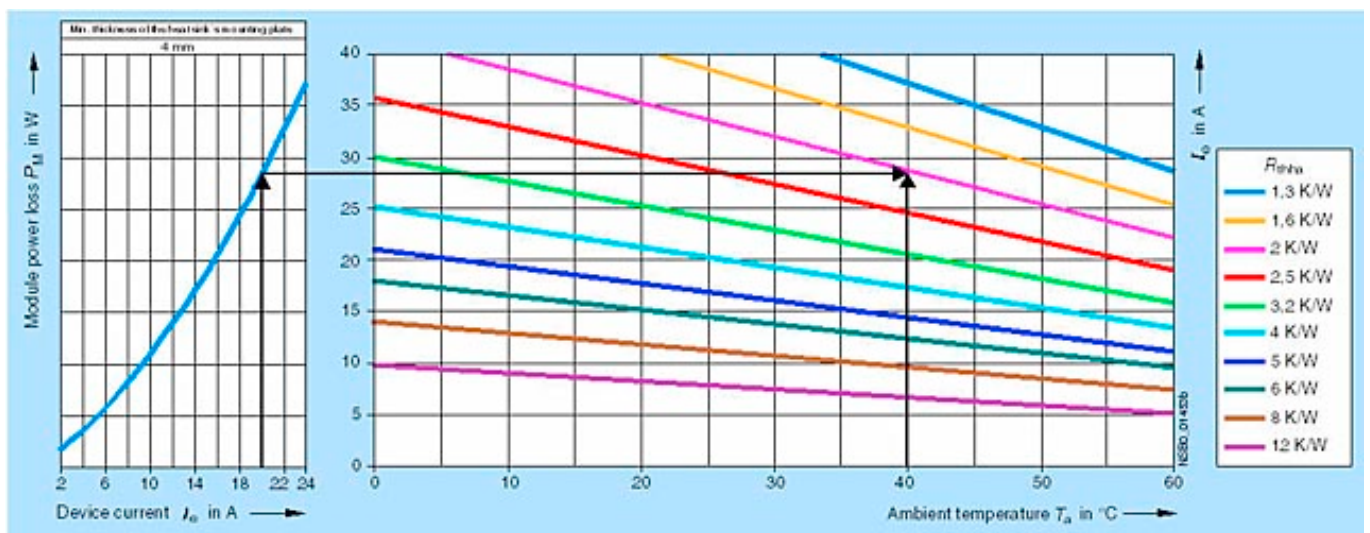
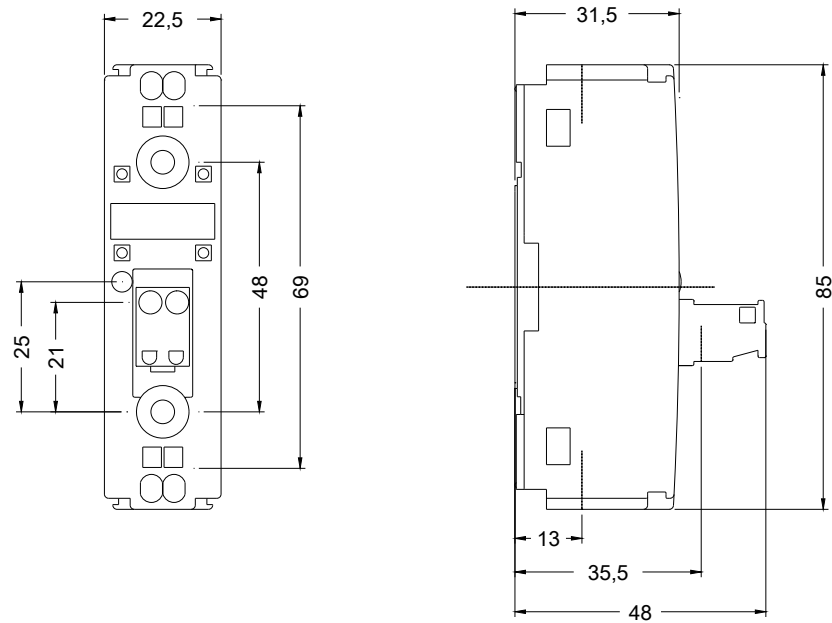
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2120-2AA42>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2120-2AA42>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2120-2AA42&lang=en



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01/16/2017