

Semiconductor relay, 1-phase 3RF2 Overall width 22.5 mm, 50 A 48-600 V / 24 V DC screw terminal without control connector Customer-specific version

Product brand name	SIRIUS
Product designation	solid-state relay
Product type designation	3RF21
Manufacturer's article number	
• _1 / of the accessories that can be ordered • _3 / of the accessories that can be ordered • _4 / of the accessories that can be ordered • _5 / of the accessories that can be ordered	3RF2900-3PA88 3RF2900-0EA18 3RF2950-0GA16 3RF2920-0FA08
Product designation	
• _1 / of the accessories that can be ordered • _3 / of the accessories that can be ordered • _4 / of the accessories that can be ordered • _5 / of the accessories that can be ordered	terminal cover converter load monitoring load monitoring, basis

General technical data

Product function	zero-point switching
Power loss [V·A] / maximum	66 V·A
Power loss [W] / for rated value of the current / at AC / in hot operating state	66 W
Insulation voltage	
• rated value	600 V
Protection class IP	IP20
Shock resistance / acc. to IEC 60068-2-27	15g / 11 ms
Vibration resistance / acc. to IEC 60068-2-6	2g
Reference code / acc. to DIN EN 81346-2	Q

Main circuit

Number of poles / for main current circuit	1
Number of NO contacts / for main contacts	1
Number of NC contacts / for main contacts	0
Operating voltage / at AC	
• at 50 Hz / rated value • at 60 Hz / rated value	48 ... 600 V 48 ... 600 V
Operating frequency / rated value	50 ... 60 Hz
Relative symmetrical tolerance / of the operating frequency	10 %

Operating range relative to the operating voltage / at AC	
• at 50 Hz	40 ... 660 V
• at 60 Hz	40 ... 660 V
Operating current	
• at AC-51 / rated value	50 A
• acc. to UL 508 / rated value	50 A
Ampacity / maximum	50 A
Operating current / minimum	500 mA
Rate of voltage rise / at the thyristor / for main contacts / maximum permissible	1 000 V/μs
Blocking voltage / at the thyristor / for main contacts / maximum permissible	1 600 V
Reverse current / of the thyristor	10 mA
Derating temperature	40 °C
Surge current resistance / rated value	600 A
I²t value / maximum	1 800 A ² ·s

Control circuit/ Control

Type of voltage / of the control supply voltage	DC
Control supply voltage / 1	
• at DC / rated value	30 V
• at DC	15 ... 24 V
Control supply voltage	
• at DC / initial value for signal <1> detection	15 V
• at DC / Full-scale value for signal<0> recognition	5 V
Control current / at minimum control supply voltage	
• at DC	13 mA
Control current / at DC / rated value	15 mA
Switch-on delay time	1 ms; additionally max. one half-wave
Off-delay time	1 ms; additionally max. one half-wave
Number of NC contacts / for auxiliary contacts	0
Number of NO contacts / for auxiliary contacts	0
Number of CO contacts / for auxiliary contacts	0

Installation/ mounting/ dimensions

Mounting type	screw fixing
• Side-by-side mounting	Yes
Height	85 mm
Width	22.5 mm
Depth	48 mm
Installation altitude / at height above sea level / maximum	1 000 m

Connections/ Terminals

Type of connectable conductor cross-sections	
• for main contacts — solid — finely stranded / with core end processing • at AWG conductors / for main contacts	2x (1.5 ... 2.5 mm²), 2x (2.5 ... 6 mm²) 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm² 2x (14 ... 10)
Type of connectable conductor cross-sections	
• for auxiliary and control contacts — solid — finely stranded / with core end processing — finely stranded / without core end processing • at AWG conductors / for auxiliary and control contacts	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) 1x (AWG 20 ... 12)
Tightening torque	
• for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	2 ... 2.5 N·m 0.5 ... 0.6 N·m
Tightening torque [lbf·in]	
• for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals	7 ... 10.3 lbf·in 4.5 ... 5.3 lbf·in
Design of the thread / of the connection screw	
• for main contacts • of the auxiliary and control contacts	M4 M3
Wire stripping length / of the cable	
• for main contacts • for auxiliary and control contacts	7 mm 7 mm

Ambient conditions

Ambient temperature	
• during operation • during storage	-25 ... +60 °C -55 ... +80 °C

Electromagnetic compatibility

Conducted interference	
• due to burst / acc. to IEC 61000-4-4 • due to conductor-earth surge / acc. to IEC 61000-4-5 • due to conductor-conductor surge / acc. to IEC 61000-4-5 • due to high-frequency radiation / acc. to IEC 61000-4-6	2 kV / 5 kHz behavior criterion 2 2 kV behavior criterion 2 1 kV behavior criterion 2 140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1

Electrostatic discharge / acc. to IEC 61000-4-2	4 kV contact discharging / 8 kV air discharging, behavior criterion 2
Conducted HF-interference emissions / acc. to CISPR11	Class A for industrial environment
Field-bound HF-interference emission / acc. to CISPR11	Class B for the domestic, business and commercial environments

Short-circuit protection, design of the fuse link

Manufacturer's article number • of gS fuse for semiconductor protection / at NH design • of back-up R fuse link for semiconductor protection / at NH design • of back-up R fuse link for semiconductor protection / at cylindrical design 14 x 51 mm • of back-up R fuse link for semiconductor protection / at cylindrical design 22 x 58 mm	3NE1803-0 3NE8017-1 3NC1450 3NC2250
Manufacturer's article number / of the gG fuse • at NH design	3NA6807-6; These fuses have a smaller rated current than the semiconductor relays

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
 CSA	 RCM	 EG-Konf.

[Miscellaneous](#)

Test Certificates	other	Railway
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[Special Test Certificate](#)

[Confirmation](#)

[Vibration and Shock](#)



Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2150-1AG06-1KK0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2150-1AG06-1KK0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2150-1AG06-1KK0>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2150-1AG06-1KK0&lang=en

