SIEMENS

Data sheet 3RF2130-1AA24



Semiconductor relay, 1-phase 3RF2 Overall width 22.5 mm, 30 A 48-460 V / 110-230 V AC screw terminal

product brand name	SIRIUS
product designation	solid-state relay
design of the product	single-phase
product type designation	3RF21
manufacturer's article number	
_1 of the accessories that can be ordered	3RF2900-3PA88
 _2 of the accessories that can be ordered 	3RF2950-0HA36
 _4 of the accessories that can be ordered 	3RF2950-0GA36
product designation	
_1 of the accessories that can be ordered	terminal cover
 _2 of the accessories that can be ordered 	power regulator
_4 of the accessories that can be ordered	load monitoring
General technical data	
product function	zero-point switching
power loss [V·A] maximum	44.2 VA
power loss [W] for rated value of the current	
 at AC in hot operating state 	44.2 W
 at AC in hot operating state per pole 	44.2 W
without load current share typical	3.5 W
insulation voltage rated value	600 V
type of voltage	
 of the operating voltage 	AC
of the control supply voltage	AC
surge voltage resistance of main circuit rated value	6 kV
shock resistance according to IEC 60068-2-27	15g / 11 ms
vibration resistance according to IEC 60068-2-6	2g
reference code according to EN 61346-2	Q
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/28/2009
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
type of voltage of the operating voltage	AC
operating voltage	
• at AC	
— at 50 Hz rated value	48 460 V
— at 60 Hz rated value	48 460 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	40 506 V
● at 60 Hz	40 506 V
operational current	
 at AC-51 rated value 	30 A
 according to UL 508 rated value 	30 A
ampacity maximum	30 A
operational current minimum	500 mA
rate of voltage rise at the thyristor for main contacts maximum permissible	500 V/μs
blocking voltage at the thyristor for main contacts maximum permissible	1 200 V
reverse current of the thyristor	10 mA
derating temperature	40 °C
surge current resistance rated value	300 A
I2t value maximum	450 A²-s
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage 1 at AC	
• at 50 Hz	110 230 V
• at 60 Hz	110 230 V
control supply voltage frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
control supply voltage at AC	- V
at 50 Hz full-scale value for signal<0> recognition	40 V
at 60 Hz full-scale value for signal<0> recognition	40 V
	40 V
control supply voltage	00.1/
at AC initial value for signal <1> detection	90 V
symmetrical line frequency tolerance	5 Hz
control current at minimum control supply voltage	2 1
• at AC	2 mA
control current at AC rated value	15 mA
ON-delay time	40 ms; additionally max. one half-wave
OFF-delay time	40 ms; additionally max. one half-wave
Auxiliary circuit	
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	
fastening method	screw fixing
side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
tightening torque of fixing screw maximum	1.5 N·m
tightening torque [lbf·in] of fixing screw maximum	13 lbf-in
height	85 mm
width	22.5 mm
depth	48 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	7,72
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 cables for main contacts	2x (14 10)
connectable conductor cross-section for main contacts	45.0.2
solid or stranded	1.5 6 mm²

finally atransland with a real real real	4 402
finely stranded with core end processing tune of connectable conductor cross sections.	1 10 mm²
type of connectable conductor cross-sections	
for auxiliary and control contacts	1v (0.5 2.5 mm²) 2v (0.5 4.0 mm²)
— solid — finely stranded with core and processing	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
 finely stranded with core end processing finely stranded without core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²) 1x (0.5 2.5 mm²), 2x (0.5 1.0 mm²)
Innely stranged without core end processing for AWG cables for auxiliary and control contacts	1x (0.5 2.5 mm²), zx (0.5 1.0 mm²) 1x (AWG 20 12)
AWG number as coded connectable conductor cross section for	14 10
main contacts	, , , , ,
tightening torque	
 for main contacts with screw-type terminals 	2 2.5 N·m
for auxiliary and control contacts with screw-type terminals	0.5 0.6 N·m
tightening torque [lbf·in]	
• for main contacts with screw-type terminals	7 10.3 lbf·in
for auxiliary and control contacts with screw-type terminals	4.5 5.3 lbf·in
design of the thread of the connection screw	
• for main contacts	M4
of the auxiliary and control contacts	M3
stripped length of the cable	
• for main contacts	7 mm
for auxiliary and control contacts	7 mm
Safety related data	IDOA
protection class IP on the front according to IEC 60529	IP20
Ambient conditions	finger-safe, for vertical contact from the front
installation altitude at height above sea level maximum	1 000 m
ambient temperature	
 during operation 	-25 +60 °C
during storage	-55 +80 °C
Electromagnetic compatibility	
conducted interference	
 due to burst according to IEC 61000-4-4 	2 kV / 5 kHz behavior criterion 2
 due to conductor-earth surge according to IEC 61000-4-5 	2 kV behavior criterion 2
 due to conductor-conductor surge according to IEC 61000-4-5 	1 kV behavior criterion 2
 due to high-frequency radiation according to IEC 61000- 4-6 	140 dBuV in the frequency range 0.15 80 MHz, behavior criterion 1
field-based interference according to IEC 61000-4-3	80 MHz 1 GHz 10 V/m, behavior criterion 1
electrostatic discharge according to IEC 61000-4-2	4 kV contact discharging / 8 kV air discharging, behavior criterion 2
conducted HF interference emissions according to CISPR11	Class A for industrial environment
field-bound HF interference emission according 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 usable 	3NE1815-0: These fuses have a smaller rated current than the semiconductor relays
 of full range R fuse link for semiconductor protection at cylindrical design usable 	5SE1325; These fuses have a smaller rated current than the semiconductor relays
 of back-up R fuse link for semiconductor protection at NH design usable 	3NE1815-0
 of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable 	3NC1025: These fuses have a smaller rated current than the semiconductor relays
a of book up D fusa link for complete distance to the	
 of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable 	3NC1430
	
cylindrical design 14 x 51 mm usable • of back-up R fuse link for semiconductor protection at	3NC1430
cylindrical design 14 x 51 mm usable • of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	3NC1430
cylindrical design 14 x 51 mm usable • of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable manufacturer's article number of the gG fuse	3NC1430 3NC2232 3NA6803: These fuses have a smaller rated current than the semiconductor
cylindrical design 14 x 51 mm usable • of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable manufacturer's article number of the gG fuse • at NH design usable	3NC1430 3NC2232 3NA6803: These fuses have a smaller rated current than the semiconductor relays 3NW6101-1: These fuses have a smaller rated current than the semiconductor
cylindrical design 14 x 51 mm usable • of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable manufacturer's article number of the gG fuse • at NH design usable • at cylindrical design 14 x 51 mm usable	3NC1430 3NC2232 3NA6803: These fuses have a smaller rated current than the semiconductor relays 3NW6101-1; These fuses have a smaller rated current than the semiconductor

relays

• of NEOZED fuse usable

5SE2313-2A; These fuses have a smaller rated current than the semiconductor relays

Certificates/ approvals

General Product Approval

EMC

Declaration of Conformity



Confirmation



EAC





Declaration of Conformity

Test Certificates

other

Railway



Type Test Certificates/Test Report

Special Test Certificate

Confirmation



Vibration and Shock

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RF2130-1AA24

Cax online generator

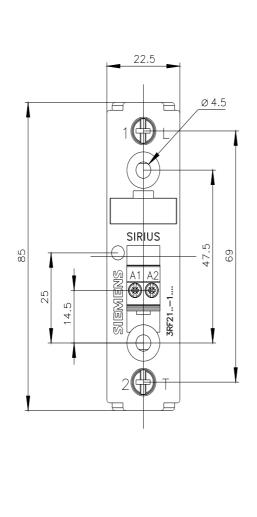
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2130-1AA24

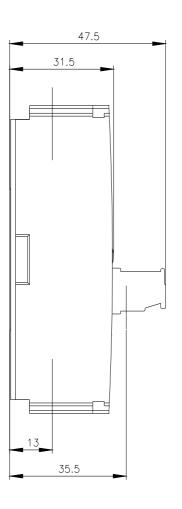
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

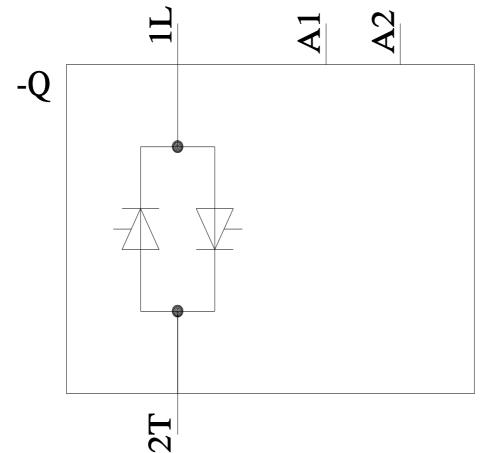
https://support.industry.siemens.com/cs/ww/en/ps/3RF2130-1AA24

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2130-1AA24&lang=en







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