SIEMENS

Data sheet

3RF2150-1AA24



Semiconductor relay, 1-phase 3RF2 Overall width 22.5 mm, 50 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 	<u>3RF2900-3PA88</u>		
 _2 of the accessories that can be ordered 	<u>3RF2950-0HA36</u>		
 _4 of the accessories that can be ordered 	<u>3RF2950-0GA36</u>		
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	66 VA		
power loss [W] for rated value of the current			
 at AC in hot operating state 	66 W		
 at AC in hot operating state per pole 	66 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 DIN 40719 extended according to IEC 204-2 according to IEC 750	К		
reference code according to EN 61346-2	Q		
reference code according to IEC 81346-2	Q		
Substance Prohibitance (Date)	05/28/2009		
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8		
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 rated value maximum	50 A
operational current	
at AC-51 rated value	50 A
	50 A
according to UL 508 rated value	
ampacity maximum	50 A
operational 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	1 200 V
reverse current of the thyristor	10 mA
derating temperature	40 °C
surge current resistance rated value	600 A
l2t value maximum	1 800 A ^{2.} 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	50.11
• 1 rated value	50 Hz
2 rated value	60 Hz
control supply voltage at AC	
 at 50 Hz full-scale value for signal<0> recognition 	40 V
 at 60 Hz full-scale value for signal<0> recognition 	40 V
control supply voltage	
 at AC initial value for signal <1> detection 	90 V
symmetrical line frequency tolerance	5 Hz
control current at minimum control supply voltage	
• 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	
type of switching contact	normally open contact (NO)
number of NC contacts for auxiliary contacts	
	0
number of NO contacts for auxiliary contacts	
number of CO contacts for auxiliary contacts	0
Installation/ mounting/ dimensions	
fastening method side-by-side mounting	Yes
fastening method	screw fixing
design of the thread of the screw for securing the equipment	M4
tightening torque of fixing screw maximum	1.5 N·m
tightening torque [Ibf·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	
 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				
 solid or stranded 	1.5 6 mm²			
 finely stranded with core end processing 	1 10 mm²			
type of connectable conductor cross-sections				
 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 mm ²), 2x (0.5 1.0 mm ²)			
 finely stranded without core end processing 	$1x (0.5 2.5 mm^2), 2x (0.5 1.0 mm^2)$			
 for AWG cables for auxiliary and control contacts 	1x (AWG 20 12)			
AWG number as coded connectable conductor cross section for	1 (AWG 20 12) 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 	4.5 5.3 lbf-in			
terminals				
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			
Electrical Safety				
protection class IP on the front according to IEC 60529	IP20			
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front			
Ambient conditions				
Ambient conditions installation altitude at height above sea level maximum	1 000 m			
	1 000 m			
installation altitude at height above sea level maximum	1 000 m -25 +60 °C			
installation altitude at height above sea level maximum ambient temperature				
installation altitude at height above sea level maximum ambient temperature • during operation • during storage	-25 +60 °C			
installation altitude at height above sea level maximum ambient temperature • during operation • during storage Electromagnetic compatibility	-25 +60 °C			
installation altitude at height above sea level maximum ambient temperature • during operation • during storage Electromagnetic compatibility conducted interference	-25 +60 °C -55 +80 °C			
installation altitude at height above sea level maximum ambient temperature • during operation • during storage Electromagnetic compatibility conducted interference • due to burst according to IEC 61000-4-4	-25 +60 °C -55 +80 °C 2 kV / 5 kHz behavior criterion 2			
installation altitude at height above sea level maximum ambient temperature • during operation • during storage Electromagnetic compatibility conducted interference • due to burst according to IEC 61000-4-4 • due to conductor-earth surge according to IEC 61000-4-5	-25 +60 °C -55 +80 °C 2 kV / 5 kHz behavior criterion 2 2 kV behavior criterion 2			
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• at cylindrical design	gn 22 x 58 mm usable	<u>3NW6</u> relays		e a smaller rated current th	nan the semiconductor	
manufacturer's article nu	umber					
 of DIAZED fuse u 	sable		5SB2711; These fuses have a smaller rated current than the semiconductor relays			
• of NEOZED fuse	usable		5SE2320; These fuses have a smaller rated current than the semiconductor relays			
Approvals Certificates						
General Product Appr	oval				EMV	
CE EG-Konf.	UK CA	<u>Confirmation</u>	SAN UR	EHC	RCM	
Test Certificates		other		Railway	Environment	
<u>Special Test Certific-</u> <u>ate</u>	Type Test Certific- ates/Test Report	Confirmation		<u>Special Test Certific-</u> <u>ate</u>	Environmental Con- firmations	

Further information

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=3RF2150-1AA24

Cax online generator

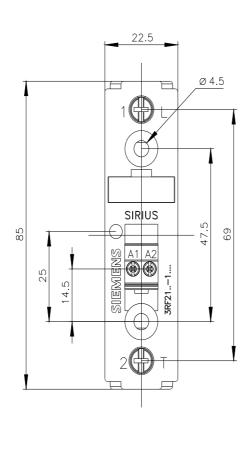
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2150-1AA24

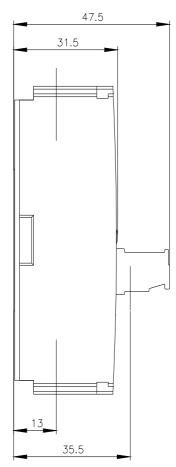
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

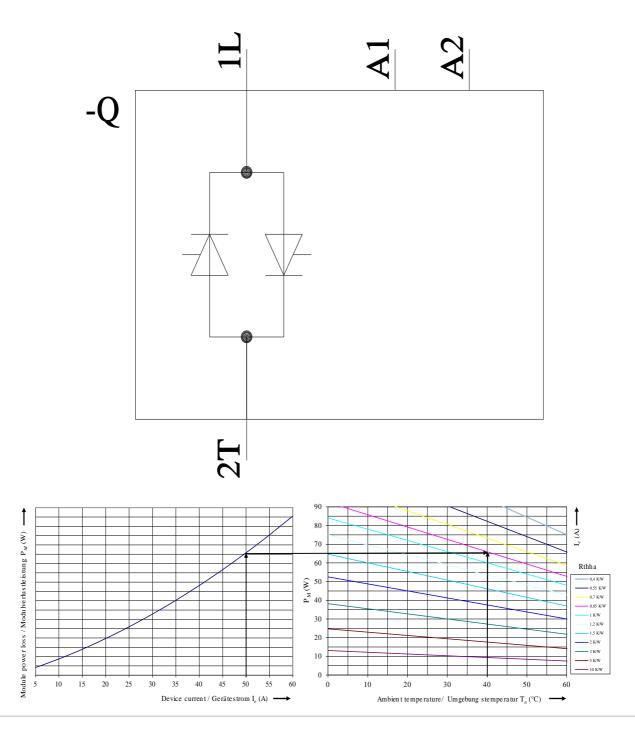
https://support.industry.siemens.com/cs/ww/en/ps/3RF2150-1AA24

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2150-1AA24&lang=en







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