SIEMENS

Data sheet 3RF3290-2AC45



semiconductor relay, 3-pole 3RF32 for use with heat sinks AC-1 20 A / 40 °C 48-600 V / 4-30 V DC 3-pole controlled spring-loaded terminal blocking voltage 1200 V

product brand name	SIRIUS
product designation	solid-state relay
design of the product	3-pole controlled
product type designation	3RF32
manufacturer's article number	
• _1 of the accessories that can be ordered	3RF3900-0EA18
• _2 of the accessories that can be ordered	3RF3900-0WB88
product designation	
• _1 of the accessories that can be ordered	converter
• _2 of the accessories that can be ordered	heat conducting foil for solid-state relay
General technical data	
product function	zero-point switching
power loss [V·A] maximum	62 V·A
power loss [W] for rated value of the current	
• at AC in hot operating state	62 W
• without load current share typical	0.9 W
type of calculation of power loss current-dependent	linear
insulation voltage rated value	600 V
degree of pollution	3
surge voltage resistance of main circuit rated value	6 kV
protection class IP	IP20
protection class IP on the front according to IEC 60529	IP20
shock resistance according to IEC 60068-2-27	15 g / 11 ms
vibration resistance according to IEC 60068-2-6	2 g
reference code according to IEC 81346-2	Q
Substance Prohibitance (day/month/year)	12/17/2024
SVHC substance name	Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1
Net Weight	0.115 kg
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
type of voltage of the operating voltage	AC
operating voltage	

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● at AC	
— at 50 Hz rated value	48 ... 600 V
— at 60 Hz rated value	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
operational current rated value maximum	80 A
operational current	
● at AC-1 at 400 V rated value	20 A
● at AC-51 rated value	20 A
● at AC-51 according to IEC 60947-4-3	20 A
● according to UL 508 rated value	20 A
ampacity maximum	80 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	1 300 A
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	4 ... 30 V
control supply voltage at DC	
● initial value for signal <1> detection	4 V
● full-scale value for signal<0> recognition	1 V
symmetrical line frequency tolerance	5 Hz
operating range factor control supply voltage rated value at DC	
● initial value	4
● full-scale value	30
control current at minimum control supply voltage	
● at DC	22 mA
control current at DC rated value	30 mA
ON-delay time	1 ms; additionally max. one half-wave
OFF-delay time	1 ms; additionally max. one half-wave
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
height	95 mm
width	45 mm
depth	47 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	
● for main current circuit	spring-loaded terminals
● for auxiliary and control circuit	spring-loaded terminals
type of connectable conductor cross-sections	
● for main contacts	
— solid	2x (0.5 ... 2.5 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²)
— finely stranded without core end processing	2x (0.5 ... 2.5 mm²)
● for AWG cables for main contacts	2x (18 ... 14)

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connectable conductor cross-section for main contacts	
● solid or stranded	0.5 ... 2.5 mm²
● finely stranded with core end processing	0.5 ... 1.5 mm²
● finely stranded without core end processing	0.5 ... 2.5 mm²
type of connectable conductor cross-sections	
● for auxiliary and control contacts	
— solid	0.5 ... 1.5 mm²
— finely stranded with core end processing	0.5 ... 2.5 mm²
— finely stranded without core end processing	0.5 ... 2.5 mm²
● for AWG cables for auxiliary and control contacts	1x (20 ... 12)
AWG number as coded connectable conductor cross section for main contacts	18 ... 14
stripped length of the cable	
● for main contacts	10 mm
● for auxiliary and control contacts	10 mm
UL/CSA ratings	
operational current according to UL 508 rated value	20 A
Electrical Safety	
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Ambient conditions	
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
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 A for industrial environment
Short-circuit protection, design of the fuse link	
manufacturer's article number	
● of full range R fuse link for semiconductor protection at cylindrical design usable	5SD510; Maximum operating voltage 500 V!
● of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	3NC2280
manufacturer's article number of the gG fuse	
● at NH design usable	3NA6812-6; These fuses have a smaller rated current than the semiconductor relays
● at NH design usable note	These fuses have a smaller rated current than the semiconductor relays
● at cylindrical design 10 x 38 mm usable	3NW6012-1; Maximum operating voltage 400 V! These fuses have a smaller rated current than the semiconductor relays.
● at cylindrical design 10 x 38 mm usable note	Maximum operating voltage 400 V! These fuses have a smaller rated current than the semiconductor relays.
● at cylindrical design 14 x 51 mm usable	3NW6117-1; Maximum operating voltage 500 V! These fuses have a smaller rated current than the semiconductor relays.
● at cylindrical design 14 x 51 mm usable note	Maximum operating voltage 500 V! These fuses have a smaller rated current than the semiconductor relays.
● at cylindrical design 22 x 58 mm usable	3NW6217-1; These fuses have a smaller rated current than the semiconductor relays
● at cylindrical design 22 x 58 mm usable note	These fuses have a smaller rated current than the semiconductor relays
manufacturer's article number of DIAZED fuse usable	5SB4111; Maximum operating voltage 500 V! These fuses have a smaller rated current than the semiconductor relays.
● note	Maximum operating voltage 500 V! These fuses have a smaller rated current than the semiconductor relays.
Approvals Certificates	

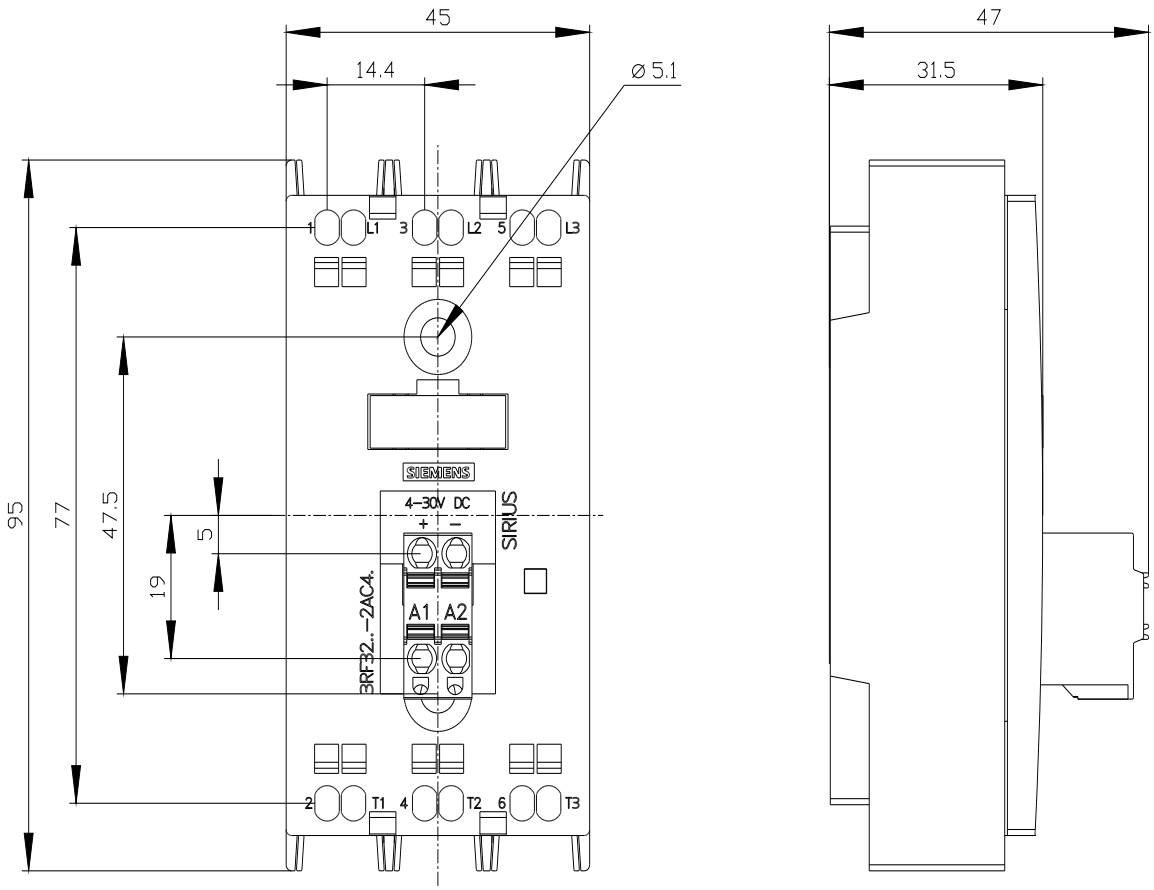
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Environment	General Product Approval
Environmental Confirmations	

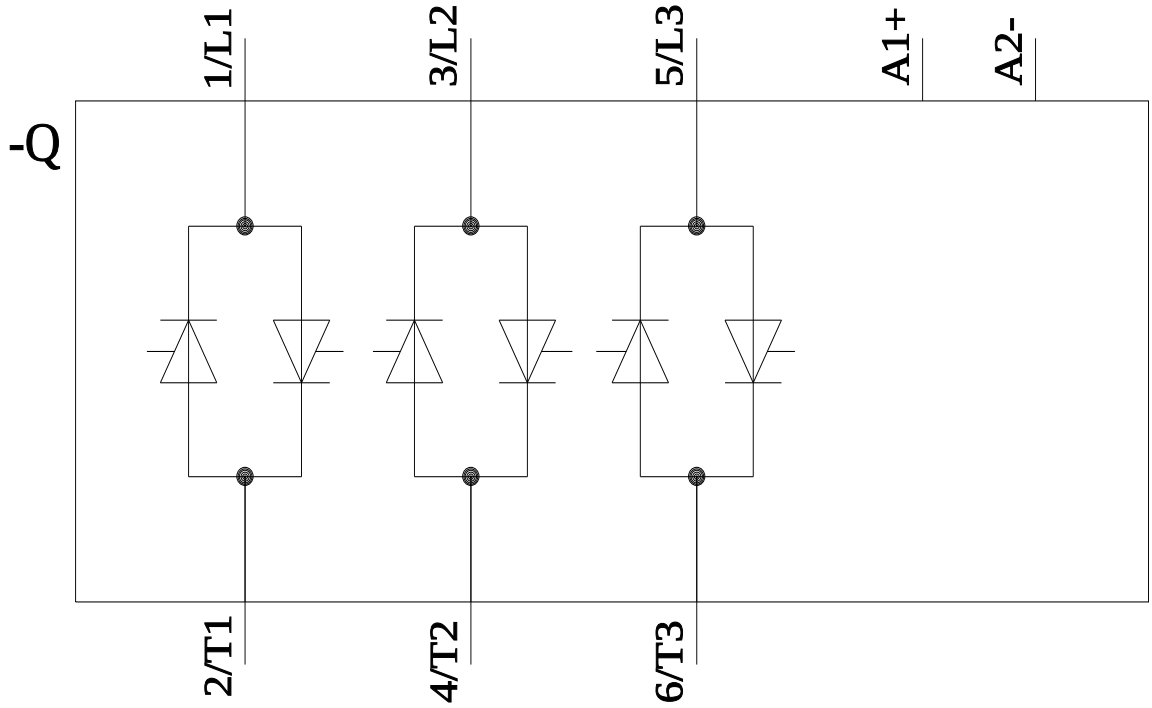
General Product Approval	EMV	Test Certificates	other	
		Type Test Certificates/Test Report	Confirmation	Confirmation

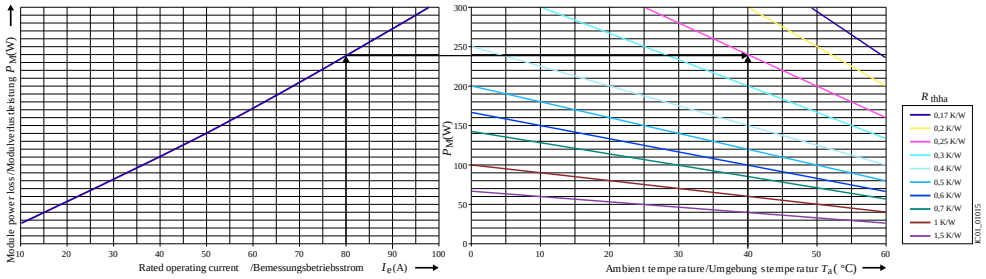
Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
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=3RF3290-2AC45
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3290-2AC45
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RF3290-2AC45
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3290-2AC45&lang=en



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last modified: 9/9/2026

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