



semiconductor relay, 3-pole 3RF32 for use with heat sinks 80 A / 40 °C 48-600 V / 4-30 V DC 2-pole controlled ring cable terminal blocking voltage 1200 V

product brand name	SIRIUS
product designation	solid-state relay
design of the product	2-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	172 VA
power loss [W] for rated value of the current	
• at AC in hot operating state	172 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	IP00
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 (Date)	12/17/2024
SVHC substance name	Lead CAS-No. 7439-92-1 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	0.145 kg
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	2
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 ... 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	80 A
• according to UL 508 rated value	65 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
tightening torque [lbf-in] of fixing screw maximum	4.5 lbf-in
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	Ring cable lug connection
• for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
• for main contacts for JIS cable lug	JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5
• for AWG cables for main contacts	1x (12 ... 4)
• for DIN cable lug for main contacts	DIN 46234-5-2,5, -5-6, -5-10, -5-16, -5-25
type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)
— finely stranded without core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1 mm²)

for AWG cables for auxiliary and control contacts	1x (20 ... 12)
AWG number as coded connectable conductor cross section for main contacts	12 ... 4
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	18 ... 22 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	M5 M3
stripped length of the cable - for main contacts - for auxiliary and control contacts	7 mm 7 mm
UL/CSA ratings	
operational current according to UL 508 rated value	65 A
Ambient conditions	
installation altitude at height above sea level maximum	1 000 m
ambient temperature - during operation - during storage	-25 ... +60 °C -55 ... +80 °C
Electromagnetic compatibility	
conducted interference - due to burst according to IEC 61000-4-4 - due to conductor-earth surge according to IEC 61000-4-5 - due to conductor-conductor surge according to IEC 61000-4-5 - due to high-frequency radiation according 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 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 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 - at NH design usable note - at cylindrical design 14 x 51 mm usable - at cylindrical design 22 x 58 mm usable - at cylindrical design 22 x 58 mm usable note	3NA6812-6: These fuses have a smaller rated current than the semiconductor relays These fuses have a smaller rated current than the semiconductor relays 3NW6117-1 3NW6217-1: These fuses have a smaller rated current than the semiconductor relays These fuses have a smaller rated current than the semiconductor relays
manufacturer's article number of DIAZED fuse usable	5SB4111
Approvals Certificates	
Environment	General Product Approval
Environmental Conformations     	
EMV	other



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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=3RF3290-3AB45>

Cax online generator

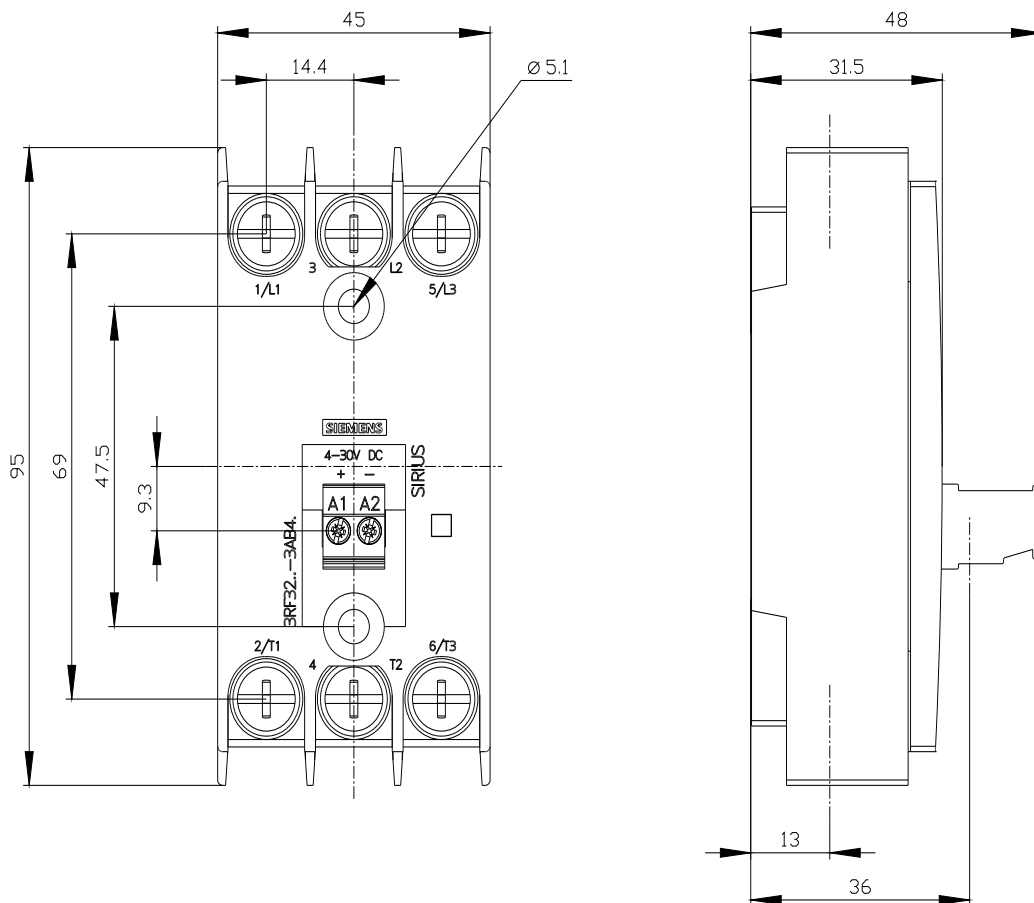
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3290-3AB45>

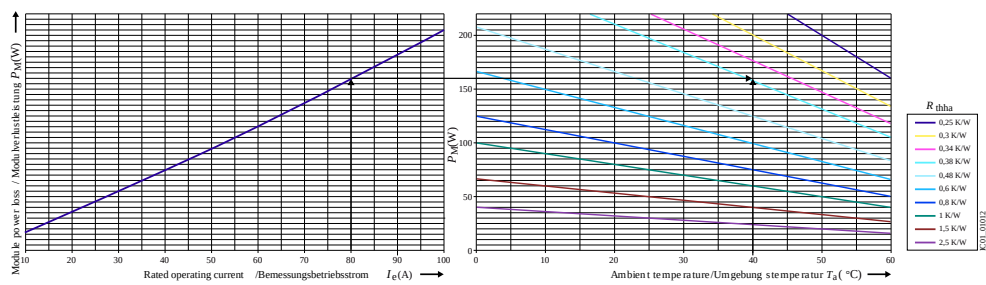
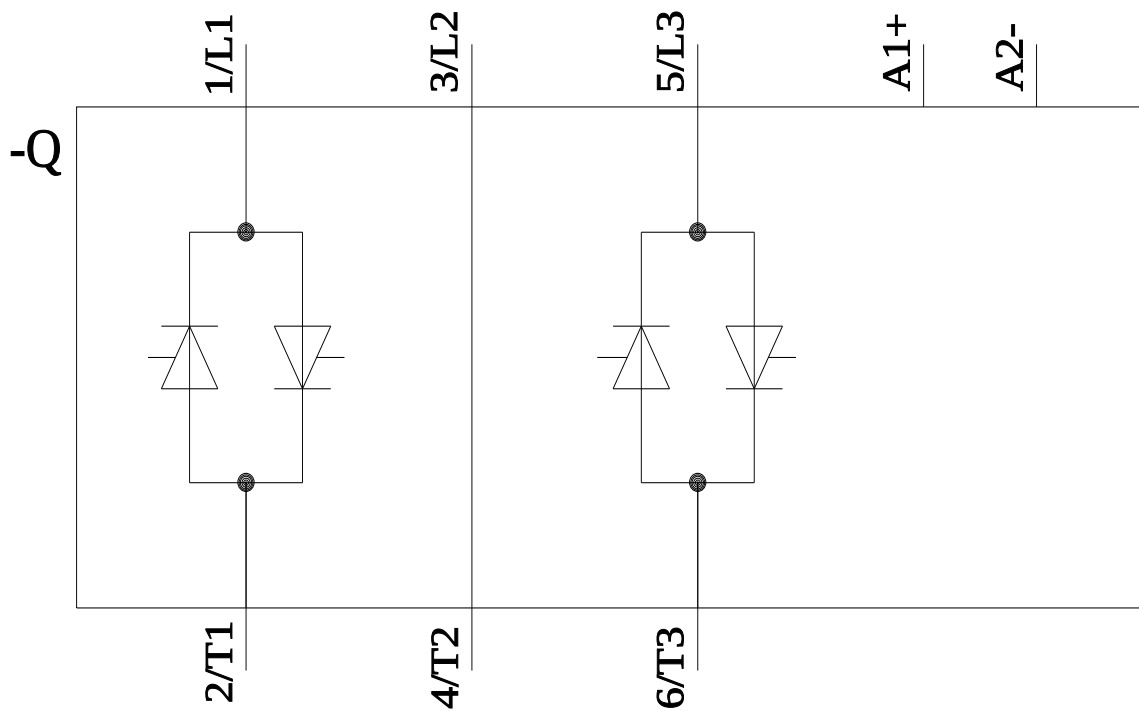
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3290-3AB45>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3290-3AB45&lang=en





last modified:

4/21/2026