



Solid-state contactor 1-phase 3RF2 AC 51 / 50 A / 40 °C 48-600 V / 4-30 V DC
screw terminal Blocking voltage 1200 V

product brand name	SIRIUS
product designation	solid-state contactor
design of the product	1-pole
product type designation	3RF23
manufacturer's article number	<ul style="list-style-type: none"> • _1 of the accessories that can be ordered • _3 of the accessories that can be ordered • _4 of the accessories that can be ordered
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product function	zero-point switching
power loss [W] for rated value of the current	<ul style="list-style-type: none"> • at AC in hot operating state 54 W • at AC in hot operating state per pole 54 W • without load current share typical 0.6 W
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	15g / 11 ms
vibration resistance according to IEC 60068-2-6	2g
reference code according to IEC 81346-2	Q
Substance Prohibition (Date)	05/28/2009
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Dibutylbis(pentane-2,4-dionato-O,O')tin - 22673-19-4
Net Weight	0.45 kg
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 ... 600 V
— at 60 Hz rated value	48 ... 600 V

operating frequency rated value	50 ... 60 Hz
operating range relative to the operating voltage at AC	
• at 50 Hz	40 ... 660 V
• at 60 Hz	40 ... 660 V
operational current	
• at AC-1 at 400 V rated value	50 A
• at AC-51 rated value	50 A
• at AC-51 according to IEC 60947-4-3	36 A
• according to UL 508 rated value	45 A
rate of voltage rise at the thyristor for main contacts	1 000 V/μs
maximum permissible	
blocking voltage at the thyristor for main contacts	1 200 V
maximum permissible	
reverse current of the thyristor	10 mA
derating temperature	40 °C
surge current resistance rated value	1 150 A
I_{2t} value maximum	6 600 A ² ·s
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage 1 at DC rated value maximum permissible	30 V
control supply voltage 1 at DC	4 ... 30 V
control supply voltage	
• at DC initial value for signal <1> detection	4 V
• at DC full-scale value for signal <0> recognition	1 V
control current at minimum control supply voltage	
• at DC	18 mA
control current at DC rated value	20 mA
ON-delay time	1 ms; additionally max. one half-wave
OFF-delay time	1 ms; additionally max. one half-wave
Auxiliary circuit	
number of CO contacts for auxiliary contacts	0
Installation/ mounting/ dimensions	
fastening method side-by-side mounting	Yes
fastening method	screw fixing and snap-on mounting on standard mounting rail 35 mm according to IEC 60715
design of the thread of the screw for securing the equipment	M4
height	100 mm
width	67 mm
depth	141 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 mm ²), 2x (2.5 ... 6 mm ²)
— finely stranded with core end processing	2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ²
• for AWG cables for main contacts	2x (14 ... 10)
connectable conductor cross-section for main contacts	
• solid or stranded	1.5 ... 6 mm ²
• finely stranded with core end processing	1 ... 10 mm ²
type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1 mm ²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1 mm ²)
— finely stranded without core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1 mm ²)

• for AWG cables for auxiliary and control contacts	1x (20 ... 12)				
AWG number as coded connectable conductor cross section for main contacts	10 ... 14				
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	18 ... 22 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	10 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					
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	3NE1817-0				
• of full range R fuse link for semiconductor protection at cylindrical design usable	5SE1363				
• of back-up R fuse link for semiconductor protection at NH design usable	3NE1817-0				
• of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable	3NC1450				
• of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	3NC2280				
manufacturer's article number					
• of NEOZED fuse usable	5SE2335; These fuses have a smaller rated current than the semiconductor relays				
Approvals Certificates					
General Product Approval	EMV	Test Certificates			
					Special Test Certificate

Test Certificates

other

Railway

Environment

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=3RF2350-1AA45>

Cax online generator

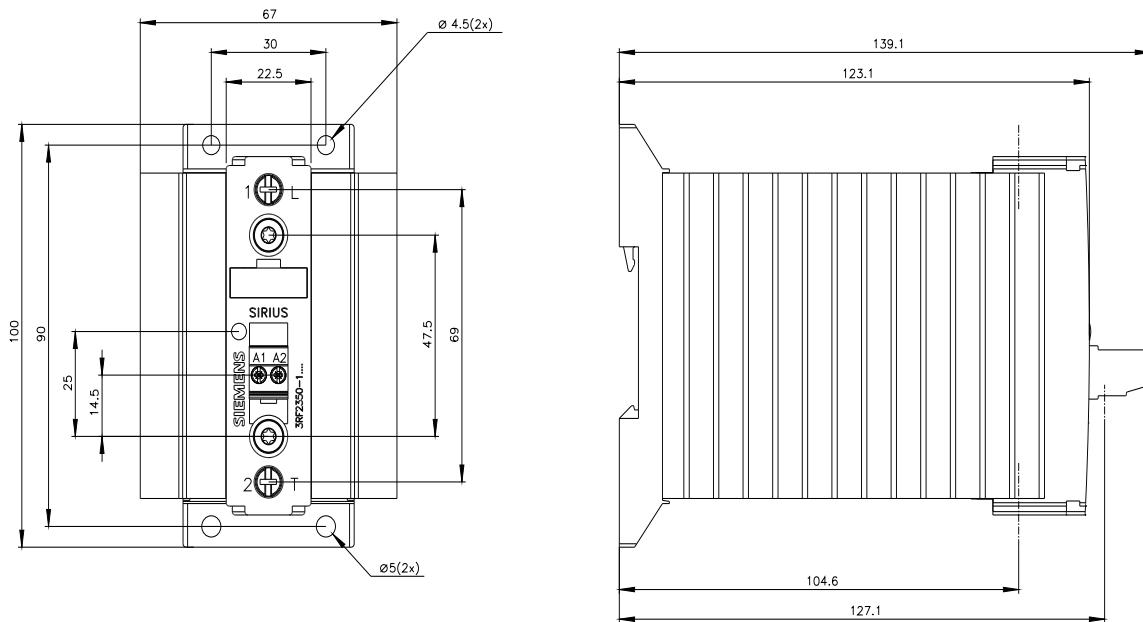
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2350-1AA45>

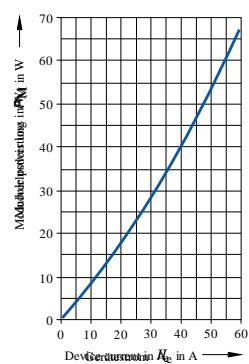
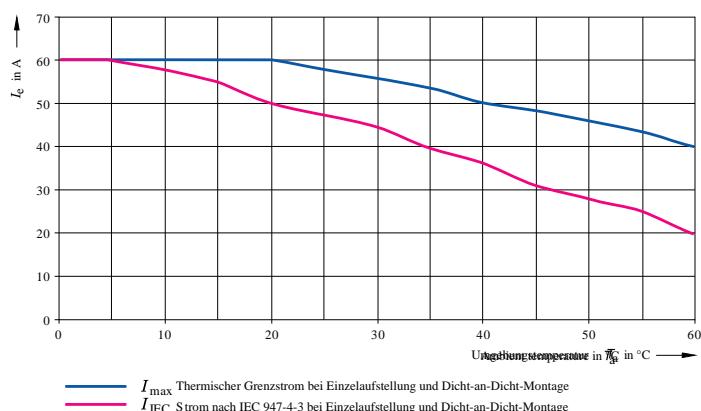
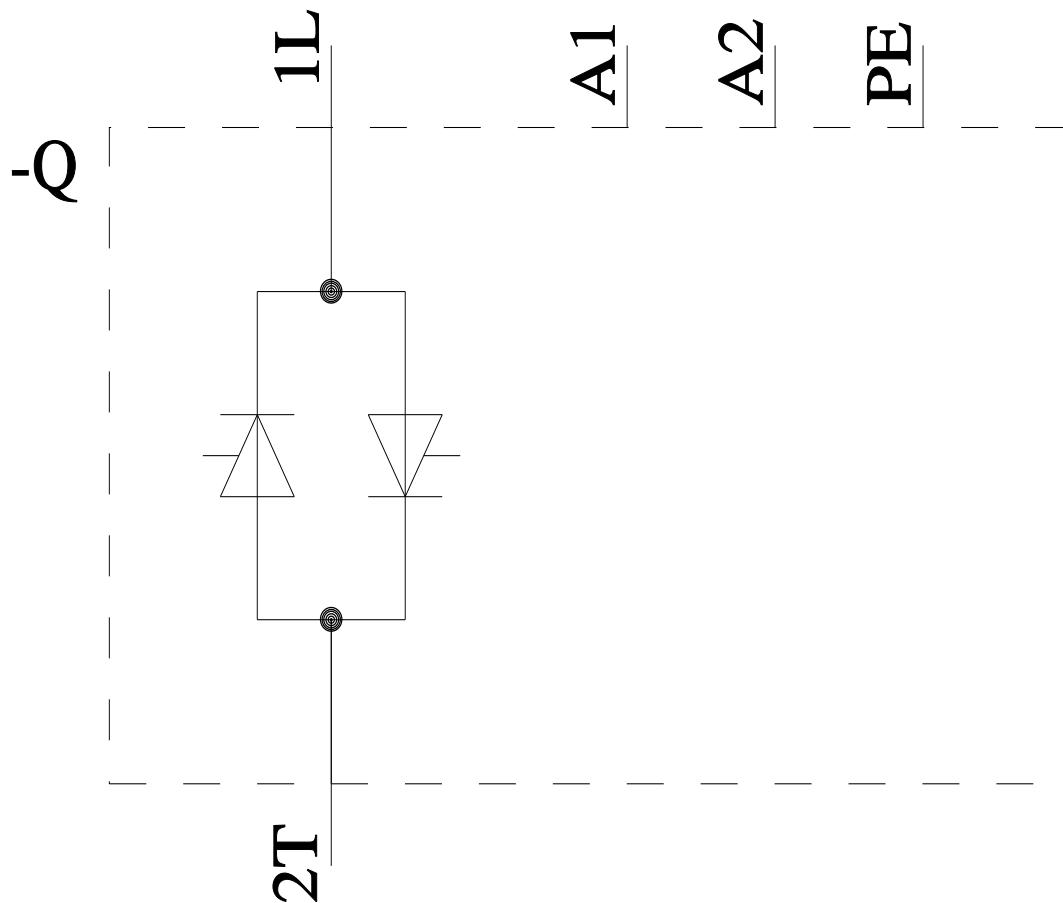
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2350-1AA45>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2350-1AA45&lang=en





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