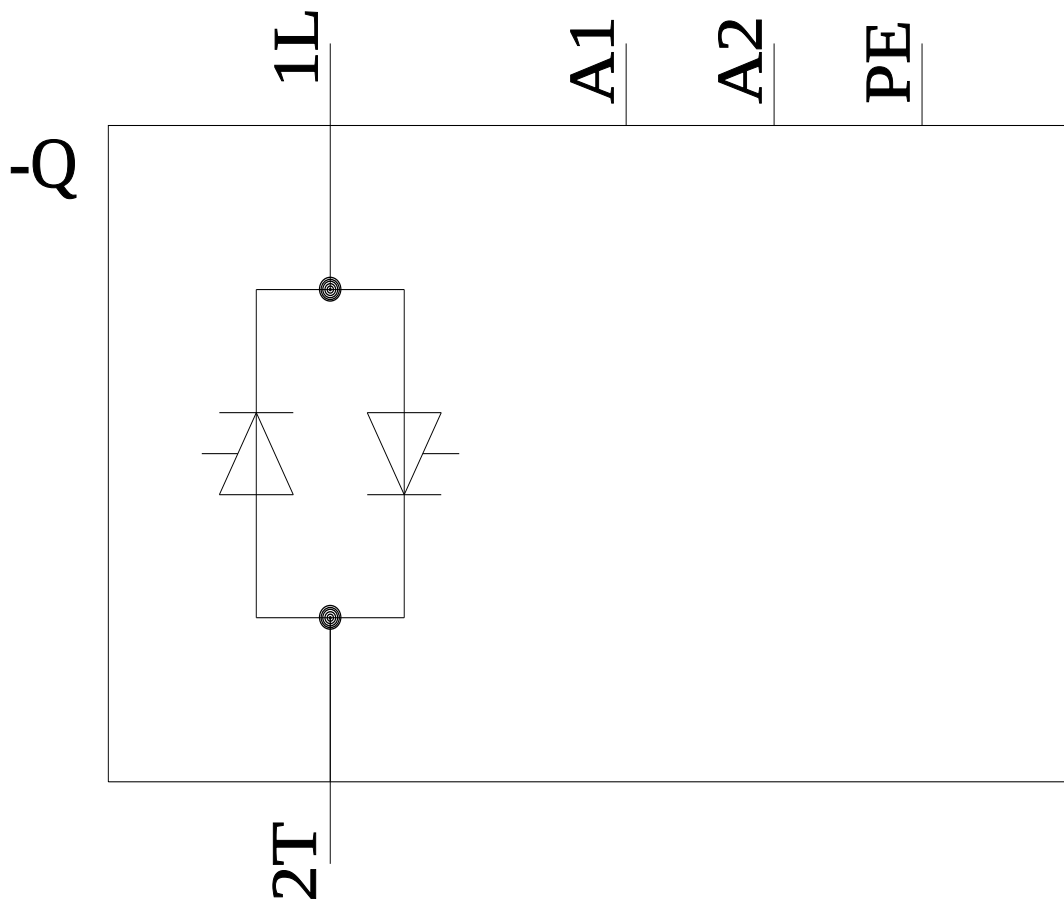


Solid-state contactor 1-phase 3RF2 AC 51 / 88 A / 40 °C 48-600 V / 4-30 V DC
Ring cable connection Blocking voltage 1200 V Phased-out product, no successor available!

product brand name	SIRIUS
product designation	solid-state contactor
product type designation	3RF23
manufacturer's article number	
• _1 of the accessories that can be ordered • _3 of the accessories that can be ordered • _4 of the accessories that can be ordered	3RF2900-3PA88 3RF2900-0EA18 3RF2990-0GA16
product designation	
• _1 of the accessories that can be ordered • _3 of the accessories that can be ordered • _4 of the accessories that can be ordered	terminal cover converter load monitoring
General technical data	
product function	zero-point switching
power loss [W] for rated value of the current	
• at AC in hot operating state • at AC in hot operating state per pole • without load current share typical	117 W 117 W 0.6 W
insulation voltage rated value	600 V
degree of pollution	3
type of voltage	
• of the operating voltage • of the control supply voltage	AC DC
surge voltage resistance of main circuit rated value	6 kV
protection class IP	IP00
protection class IP on the front according to IEC 60529	IP00
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 Prohibitance (Date)	07/01/2006
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Weight	3.165 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 — at 60 Hz rated value	48 ... 600 V 48 ... 600 V
operating frequency rated value	50 ... 60 Hz
operating range relative to the operating voltage at AC	
• at 50 Hz • at 60 Hz	40 ... 660 V 40 ... 660 V
operational current	
• at AC-51 rated value • at AC-51 according to IEC 60947-4-3 • according to UL 508 rated value	88 A 88 A 80 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	1 150 A
I ² t 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 - at DC full-scale value for signal<0> recognition	4 V 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	
type of switching contact	normally open contact (NO)
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 side-by-side mounting	Yes
fastening method	screw fixing
design of the thread of the screw for securing the equipment	M4
height	200 mm
width	180 mm
depth	163 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection - for main current circuit - for auxiliary and control circuit	Ring cable lug connection ring terminal lug connection
type of connectable conductor cross-sections - for main contacts for JIS cable lug - for DIN cable lug for main contacts	JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5 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 - finely stranded with core end processing - finely stranded without core end processing - for AWG cables for auxiliary and control contacts	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (AWG 20 ... 12)
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 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 - of the auxiliary and control contacts	M5 M3
stripped length of the cable - for main contacts - for auxiliary and control contacts	10 mm 10 mm
Electrical Safety	

protection class IP on the front according to IEC 60529	IP00; IP20 with cover	
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with cover	
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	
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 full range R fuse link for semiconductor protection at NH design usable - of back-up R fuse link for semiconductor protection at NH design usable - of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	3NE1021-2 3NE8021-1 3NC2280: These fuses have a smaller rated current than the semiconductor relays	
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		
  EG-Konf. Confirmation  UL   RCM		
Test Certificates	other	Environment
Type Test Certificates/Test Report	Confirmation	Environmental Confirmations
 VDE		
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=3RF2390-3AA45		
Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2390-3AA45		
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RF2390-3AA45		
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2390-3AA45&lang=en		



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8/12/2024 