

Solid-state contactor 1-phase 3RF2 AC 15 / 30 A / 40 °C 48-600 V / 24 V DC
Instantaneous switching Phased-out product, no successor available!

product brand name	SIRIUS
product designation	solid-state contactor
product type designation	3RF23
manufacturer's article number	
<ul style="list-style-type: none"> • _1 of the accessories that can be ordered • _2 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 3RF2990-0HA16 3RF2900-0EA18 3RF2990-0GA16
product designation	
<ul style="list-style-type: none"> • _1 of the accessories that can be ordered • _2 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 power regulator converter load monitoring
General technical data	
product function	instantaneous switching
power loss [W] for rated value of the current	
<ul style="list-style-type: none"> • at AC in hot operating state • at AC in hot operating state per pole • without load current share typical 	117 W 117 W 0.4 W
insulation voltage rated value	600 V
degree of pollution	3
type of voltage of the control supply voltage	DC
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 EN 61346-2	Q
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	05/28/2009
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
operating voltage at AC	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at 50 Hz • at 60 Hz 	40 ... 660 V 40 ... 660 V
operational current	
<ul style="list-style-type: none"> • at AC-51 rated value • at AC-51 according to IEC 60947-4-3 • according to UL 508 rated value 	88 A 88 A 30 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	1 600 V
reverse current of the thyristor	10 mA
derating temperature	40 °C
surge current resistance rated value	1 150 A

I²t value maximum	6 600 A ² ·s
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage 1	30 V
• at DC rated value	15 ... 24 V
• at DC	
control supply voltage	15 V
• at DC initial value for signal <1> detection	5 V
• at DC full-scale value for signal<0> recognition	
control current at minimum control supply voltage	13 mA
• at DC	
control current at DC rated value	15 mA
ON-delay time	1 ms
OFF-delay time	1 ms; additionally max. one half-wave
Auxiliary circuit	
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	screw fixing
• side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
height	200 mm
width	180 mm
depth	163 mm
Connections/ Terminals	
type of electrical connection	Ring cable lug connection ring terminal lug connection
• for main current circuit	
• for auxiliary and control circuit	
type of connectable conductor cross-sections	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
• for main contacts for JIS cable lug	
• for DIN cable lug for main contacts	
type of connectable conductor cross-sections	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)
• 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 (AWG 20 ... 12)
tightening torque	2 ... 2.5 N·m 0.5 ... 0.6 N·m
• for main contacts with screw-type terminals	
• for auxiliary and control contacts with screw-type terminals	
tightening torque [lbf·in]	4.5 ... 5.3 lbf·in
• for auxiliary and control contacts with screw-type terminals	
design of the thread of the connection screw	M5 M3
• for main contacts	
• of the auxiliary and control contacts	
stripped length of the cable	10 mm 10 mm
• for main contacts	
• for auxiliary and control contacts	
Safety related data	
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	-25 ... +60 °C -55 ... +80 °C
• during operation	
• during storage	
Electromagnetic compatibility	

conducted interference	<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 	3NE1020-2: These fuses have a smaller rated current than the semiconductor relays 3NE8021-1 3NC2280: These fuses have a smaller rated current than the semiconductor relays
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Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
 Confirmation		
		  EG-Konf.

Declaration of Conformity	Test Certificates	other
	Type Test Certificates/Test Report	Confirmation 

Further information

Siemens has decided to exit the Russian market (see here).
<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.
 Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging
<https://support.industry.siemens.com/cs/ww/en/view/109813875>

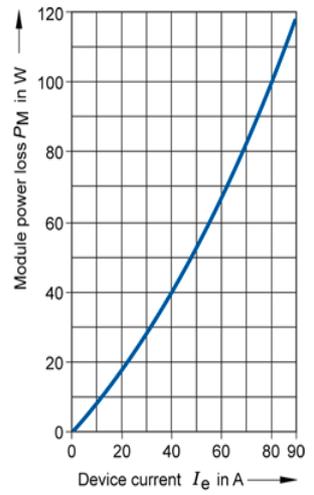
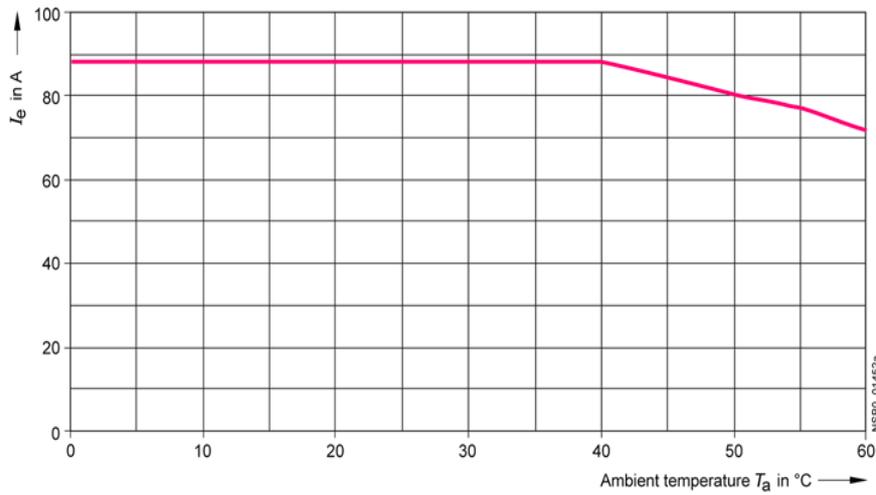
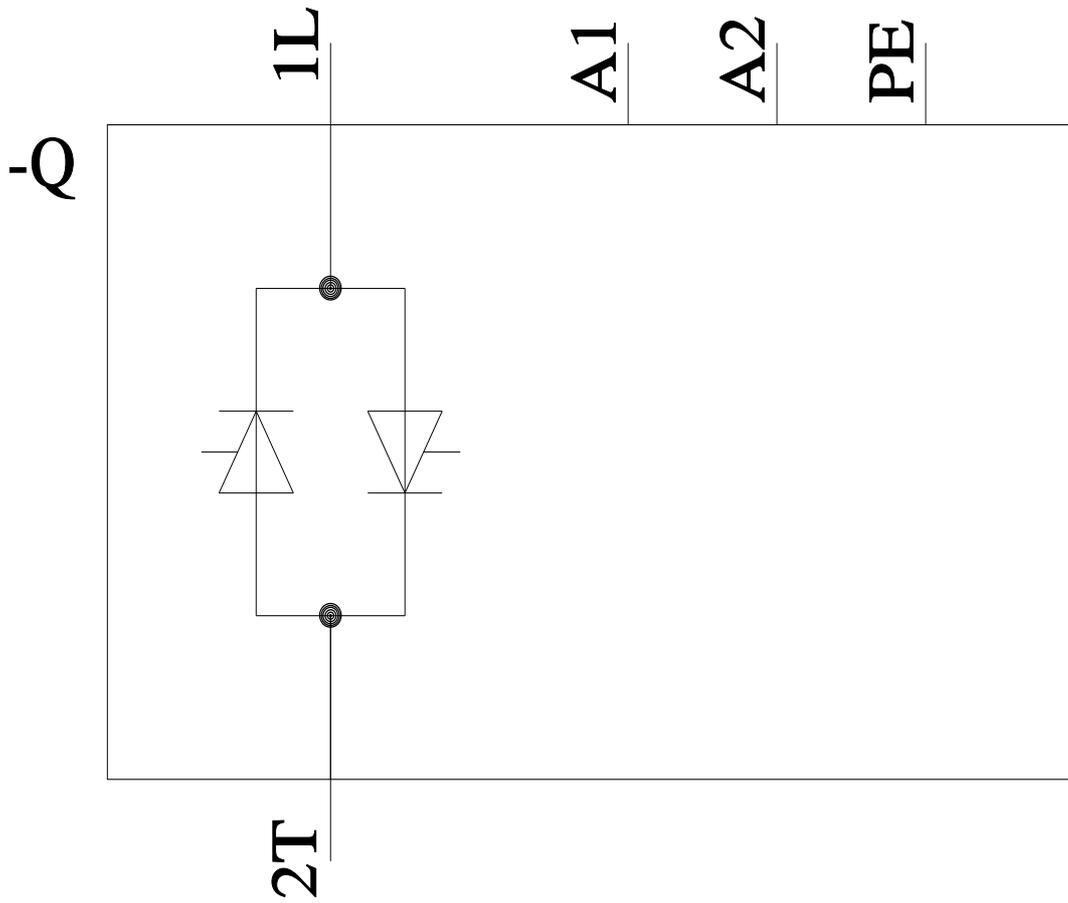
Information- and Downloadcenter (Catalogs, Brochures,...)
<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2390-3BA06>

Cax online generator
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2390-3BA06>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RF2390-3BA06>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2390-3BA06&lang=en



— I_{IEC} Current according to IEC 947-4-3 for individual and side-by-side mounting

last modified:

1/26/2022 ↻

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