



Solid-state contactor 1-phase 3RF2 AC 15 / 20 A / 40 °C 48-460 V / 24 V
DC Instantaneous switching

product brand name	SIRIUS
product designation	solid-state contactor
design of the product	single-phase
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 3RF2950-0HA16 3RF2900-0EA18 3RF2950-0GA16
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 at AC in hot operating state	44 W
<ul style="list-style-type: none"> per pole 	44 W
power loss [W] for rated value of the current without load current share typical	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 acc. to IEC 60068-2-27	15g / 11 ms
vibration resistance acc. to IEC 60068-2-6	2g
reference code acc. to IEC 81346-2	Q
Substance Prohibitance (Date)	28.05.2009
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 ... 460 V 48 ... 460 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 ... 506 V 40 ... 506 V

operational current	
• at AC-51 rated value	40 A
• at AC-51 acc. to IEC 60947-4-3	33 A
• acc. to UL 508 rated value	20 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	1 200 A
I²t value maximum	7 200 A ² ·s
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage 1	
• at DC rated value	30 V
• at DC	15 ... 24 V
control supply voltage	
• at DC initial value for signal <1> detection	15 V
• at DC full-scale value for signal<0> recognition	5 V
control current at minimum control supply voltage	
• at DC	13 mA
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	
• side-by-side mounting	Yes
height	100 mm
width	67.5 mm
depth	144.5 mm
Connections/ Terminals	
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
• at 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 ... 1.0 mm ²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
— finely stranded without core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
• at AWG cables for auxiliary and control contacts	1x (AWG 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] <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• for main contacts• of the auxiliary and control contacts	M4 M3		
stripped length of the cable <ul style="list-style-type: none">• for main contacts• for auxiliary and control contacts	7 mm 7 mm		
Safety related data			
protection class IP on the front acc. to IEC 60529	IP20		
touch protection on the front acc. 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 <ul style="list-style-type: none">• during operation• during storage	-25 ... +60 °C -55 ... +80 °C		
Electromagnetic compatibility			
conducted interference <ul style="list-style-type: none">• due to burst acc. to IEC 61000-4-4• due to conductor-earth surge acc. to IEC 61000-4-5• due to conductor-conductor surge acc. to IEC 61000-4-5• due to high-frequency radiation acc. 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 acc. to IEC 61000-4-3	80 MHz ... 1 GHz 10 V/m, behavior criterion 1		
electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharging / 8 kV air discharging, behavior criterion 2		
conducted HF interference emissions acc. to CISPR11	Class A for industrial environment		
field-bound HF interference emission acc. 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 gS fuse for semiconductor protection at NH design usable• of full range R fuse link for semiconductor protection at cylindrical 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 14 x 51 mm usable• of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	3NE1802-0 5SE1350 3NE8017-1 3NC1450 3NC2280		
manufacturer's article number of the gG fuse <ul style="list-style-type: none">• at NH design usable• at cylindrical design 14 x 51 mm usable• at cylindrical design 22 x 58 mm usable	3NA6812: These fuses have a smaller rated current than the semiconductor relays 3NW6112-1: These fuses have a smaller rated current than the semiconductor relays 3NW6212-1: These fuses have a smaller rated current than the semiconductor relays		
manufacturer's article number <ul style="list-style-type: none">• of DIAZED fuse usable• of NEOZED fuse usable	5SB4111: These fuses have a smaller rated current than the semiconductor relays 5SE2335: These fuses have a smaller rated current than the semiconductor relays		
Certificates/ approvals			
General Product Approval	EMC	Declaration of Conformity	Test Certificates



[Type Test Certificates/Test Report](#)

Test Certificates	other	Railway
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[Special Test Certificate](#)

[Confirmation](#)



[Vibration and Shock](#)

Further information

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=3RF2340-1BA04>

Cax online generator

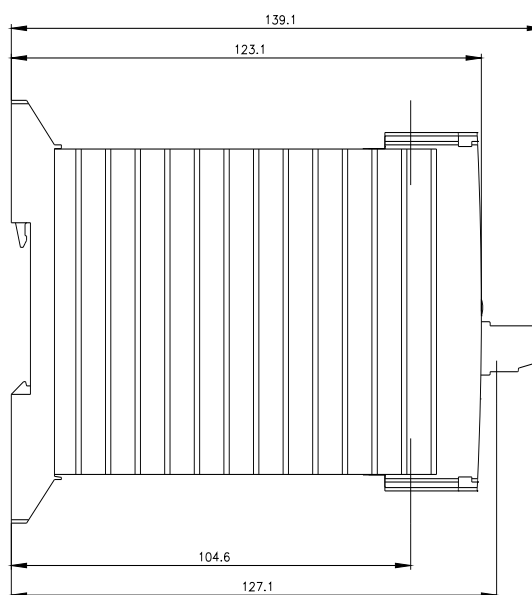
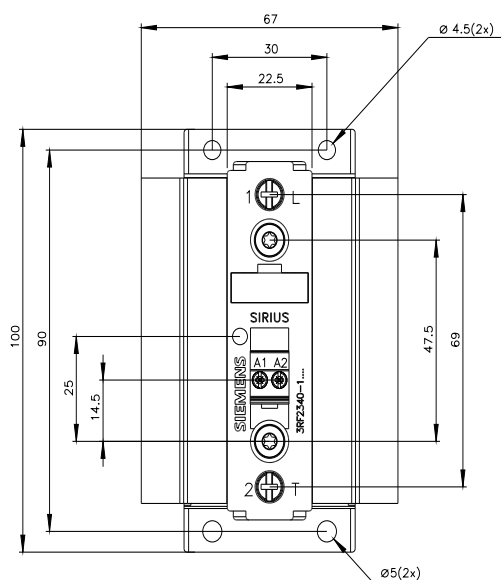
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2340-1BA04>

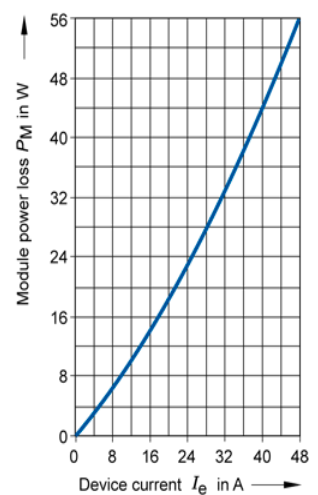
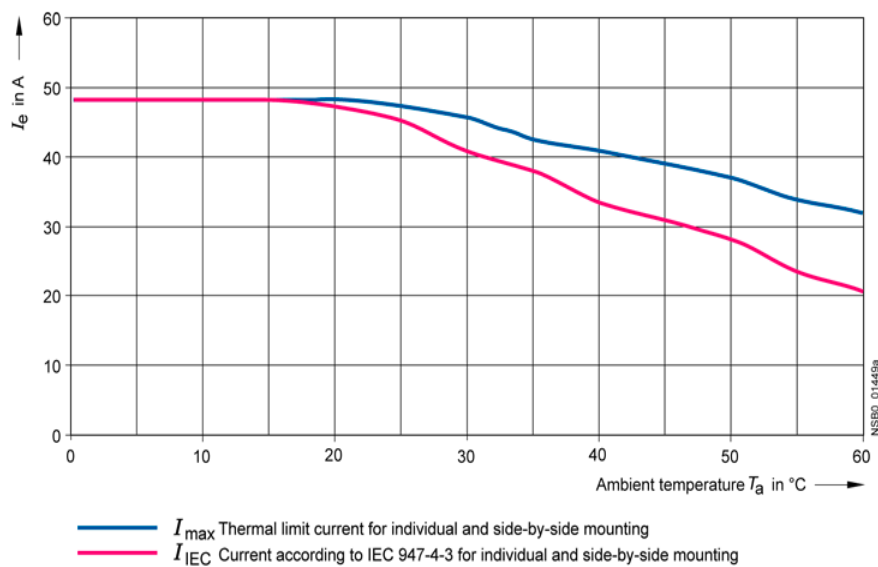
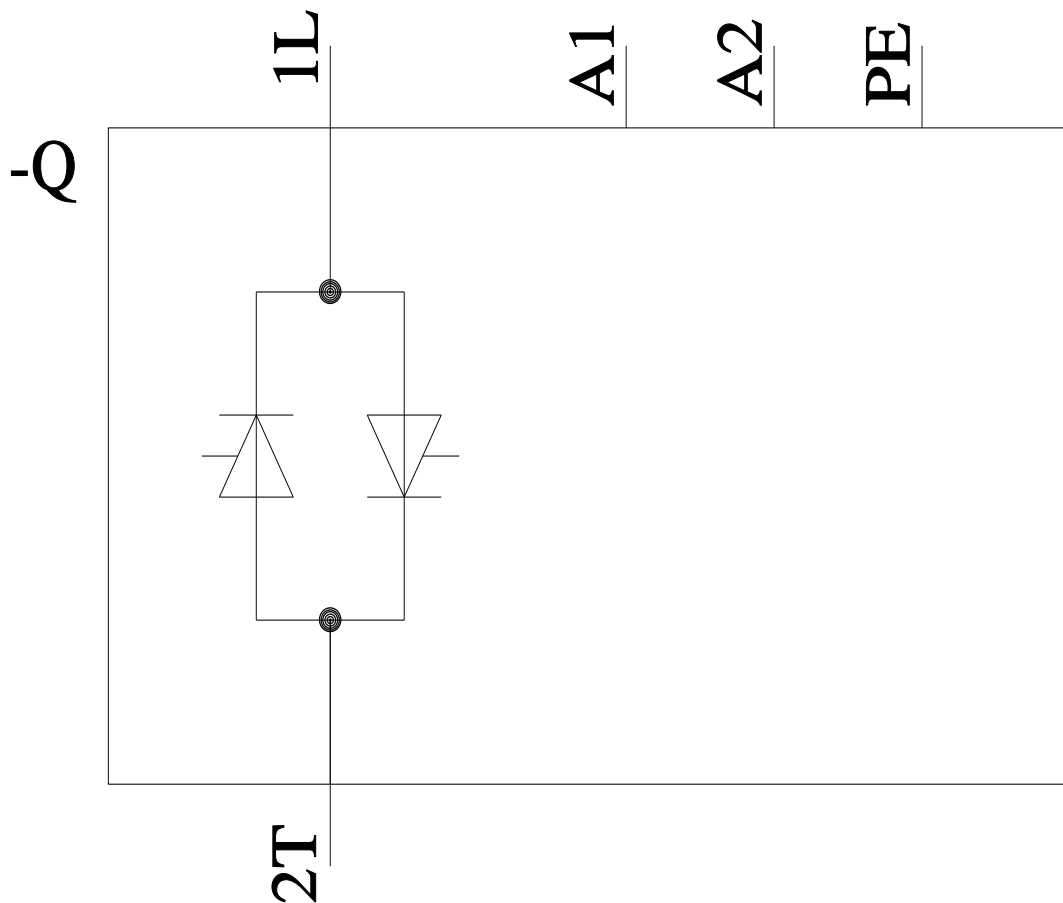
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2340-1BA04>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2340-1BA04&lang=en





last modified:

9/18/2021