



Solid-state contactor 1-phase 3RF2 AC 51 / 30 A / 40 °C 24-230 V / 24 V
DC screw terminal

product brand name
product designation
design of the product
product type designation
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
- _5 of the accessories that can be ordered

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SIRIUS
solid-state contactor
single-phase
3RF23

[3RF2900-3PA88](#)
[3RF2900-0EA18](#)
[3RF2950-0GA13](#)
[3RF2920-0FA08](#)

terminal cover
converter
load monitoring
load monitoring, basis

General technical data

product function	zero-point switching
power loss [W] for rated value of the current	
• at AC in hot operating state	33 W
• at AC in hot operating state per pole	33 W
• 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 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)	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	
• at 50 Hz rated value	24 ... 230 V
• at 60 Hz rated value	24 ... 230 V
operating frequency rated value	50 ... 60 Hz
operating range relative to the operating voltage at AC	
• at 50 Hz	20 ... 253 V
• at 60 Hz	20 ... 253 V
operational current	
• at AC-51 rated value	30 A

<ul style="list-style-type: none"> • at AC-51 according to IEC 60947-4-3 • according to UL 508 rated value 	22 A
operational current minimum	27 A
rate of voltage rise at the thyristor for main contacts maximum permissible	500 mA
blocking voltage at the thyristor for main contacts maximum permissible	1 000 V/μs
reverse current of the thyristor	800 V
derating temperature	10 mA
surge current resistance rated value	40 °C
I²t value maximum	600 A
	1 800 A ² ·s
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage 1	30 V
<ul style="list-style-type: none"> • at DC rated value • at DC 	15 ... 24 V
control supply voltage	15 V
<ul style="list-style-type: none"> • at DC initial value for signal <1> detection • at DC full-scale value for signal <0> recognition 	5 V
control current at minimum control supply voltage	13 mA
<ul style="list-style-type: none"> • at DC 	15 mA
control current at DC rated value	1 ms; additionally max. one half-wave
ON-delay time	1 ms; additionally max. one half-wave
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 and snap-on mounting on standard mounting rail 35 mm according to IEC 60715
<ul style="list-style-type: none"> • side-by-side mounting 	Yes
design of the thread of the screw for securing the equipment	M4
height	95 mm
width	45 mm
depth	135.5 mm
Connections/ Terminals	
type of electrical connection	screw-type terminals
<ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit 	screw-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing • at AWG cables for main contacts 	2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² 2x (14 ... 10)
connectable conductor cross-section for main contacts	
<ul style="list-style-type: none"> • solid or stranded • finely stranded with core end processing 	1.5 ... 6 mm ² 1 ... 10 mm ²
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • for auxiliary and control contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing — finely stranded without core end processing • at 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)
AWG number as coded connectable conductor cross section for main contacts	10 ... 14
tightening torque	
<ul style="list-style-type: none"> • 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]	
<ul style="list-style-type: none"> • for main contacts with screw-type terminals 	18 ... 22 lbf·in

<ul style="list-style-type: none"> for auxiliary and control contacts with screw-type terminals 	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 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	
<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 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 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 10 x 38 mm 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 	3NE1803-0 5SE1335 3NE8003-1 3NC1032 3NC1450 3NC2263
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 	3NA6810 ; These fuses have a smaller rated current than the semiconductor relays 3NW6107-1 3NW6207-1
manufacturer's article number <ul style="list-style-type: none"> of DIAZED fuse usable of NEOZED fuse usable 	5SB2711 ; These fuses have a smaller rated current than the semiconductor relays 5SE2320 ; These fuses have a smaller rated current than the semiconductor relays

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
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[Confirmation](#)



Declaration of Conformity	Test Certificates	other	Railway
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[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=3RF2330-1AA02>

Cax online generator

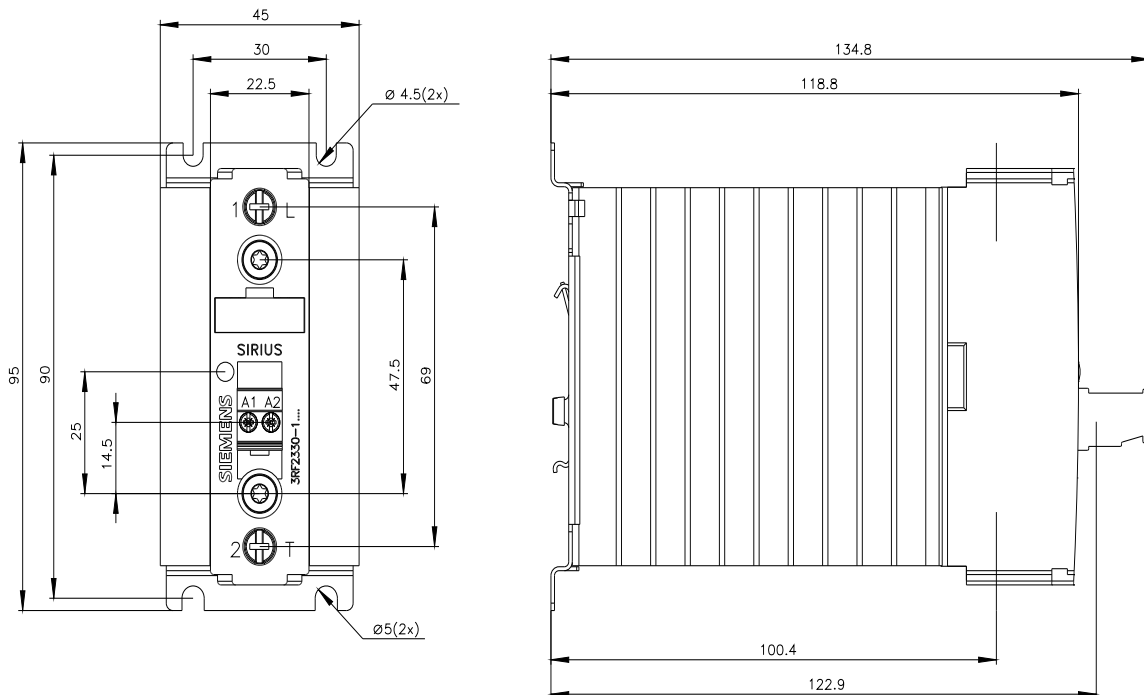
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2330-1AA02>

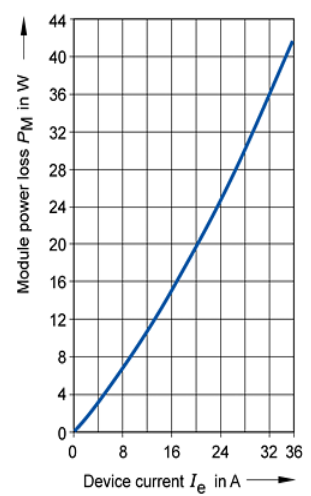
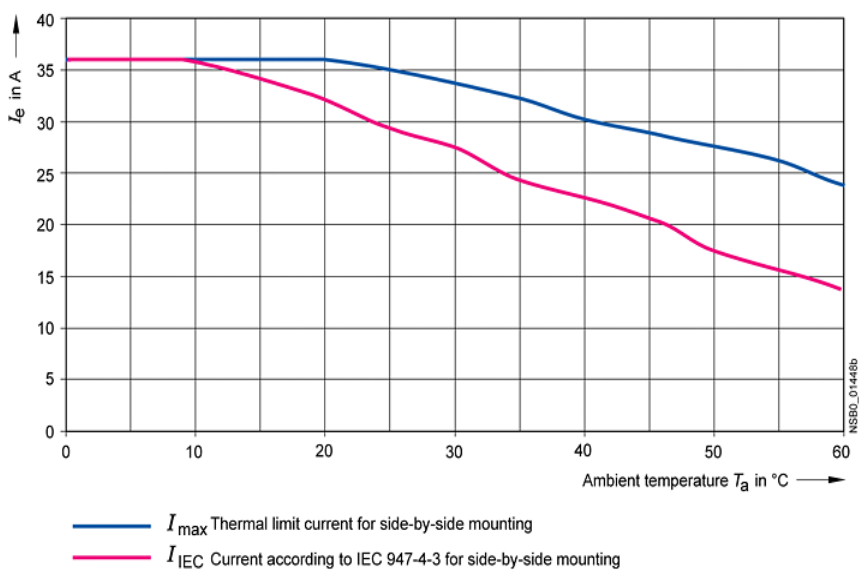
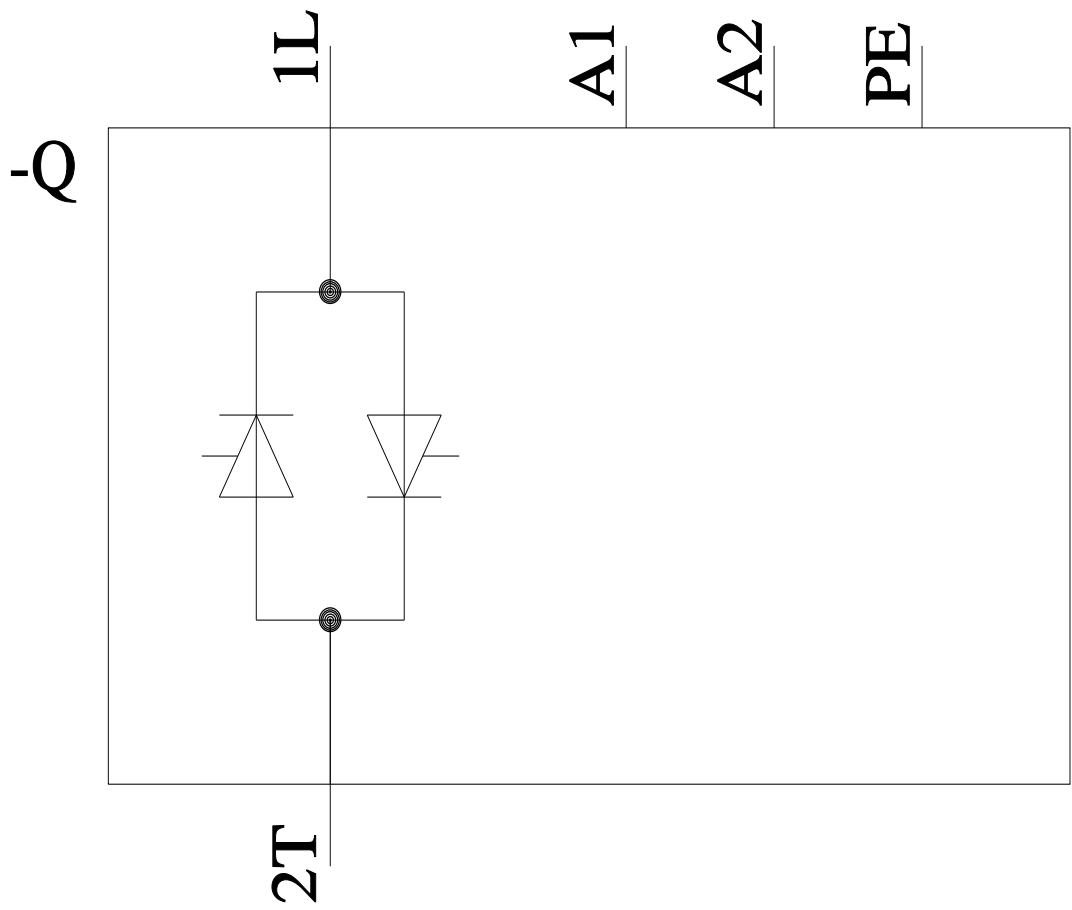
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2330-1AA02>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2330-1AA02&lang=en





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