



Solid-state contactor 1-phase 3RF2 AC 51 / 70 A / 40 °C 24-230 V / 110-230 V AC Ring cable connection Since 21 May 2018, the dimensions and the drill pattern have changed, additional information in the Industry Online Support

- product brand name**
product designation
design of the product
product type designation
manufacturer's article number
- _1 of the accessories that can be ordered
 - _4 of the accessories that can be ordered
- product designation**
- _1 of the accessories that can be ordered
 - _4 of the accessories that can be ordered

SIRIUS
 solid-state contactor
 single-phase
 3RF23

[3RF2900-3PA88](#)
[3RF2990-0GA33](#)

terminal cover
 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 83 W
 - at AC in hot operating state per pole 83 W
 - without load current share typical 3.5 W
- insulation voltage rated value** 600 V
- degree of pollution** 3
- type of voltage of the control supply voltage** AC
- 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)** 07/01/2006

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 70 A
 - at AC-51 according to IEC 60947-4-3 70 A
 - according to UL 508 rated value 62 A
- operational current minimum** 500 mA
- rate of voltage rise at the thyristor for main contacts** 1 000 V/μs
- maximum permissible**

blocking voltage at the thyristor for main contacts maximum permissible	800 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	AC
control supply voltage 1 at AC	
• at 50 Hz	110 ... 230 V
• at 60 Hz	110 ... 230 V
control supply voltage frequency	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
control supply voltage at AC	
• at 50 Hz full-scale value for signal<0> recognition	40 V
• at 60 Hz full-scale value for signal<0> recognition	40 V
control supply voltage	
• at AC initial value for signal <1> detection	90 V
symmetrical line frequency tolerance	5 Hz
control current at minimum control supply voltage	
• at AC	2 mA
control current at AC rated value	15 mA
ON-delay time	40 ms; additionally max. one half-wave
OFF-delay time	40 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
• side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
height	100 mm
width	80 mm
depth	162 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	
• for main contacts for JIS cable lug	JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5
• for DIN cable lug for main contacts	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	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)
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 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	M5
• of the auxiliary and control contacts	M3
stripped length of the cable	
• for main contacts	10 mm
• for auxiliary and control contacts	10 mm

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	
• 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	3NE1820-0
• of back-up R fuse link for semiconductor protection at NH design usable	3NE8020-1
• of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	3NC2200
manufacturer's article number	
• of NEOZED fuse usable	5SE2335 ; 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
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[Type Test Certificates/Test Report](#)

[Confirmation](#)



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)

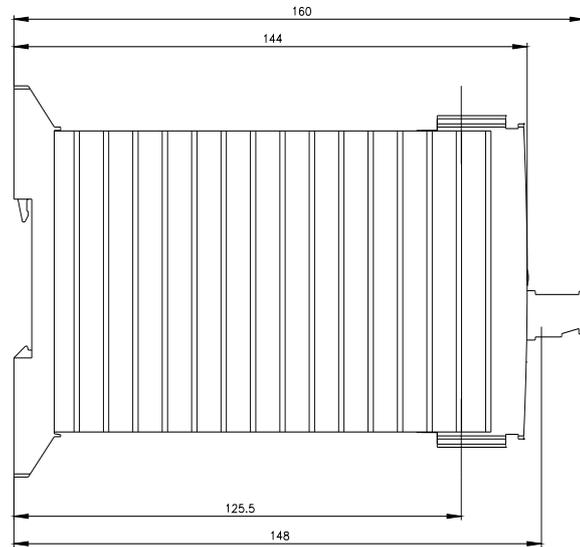
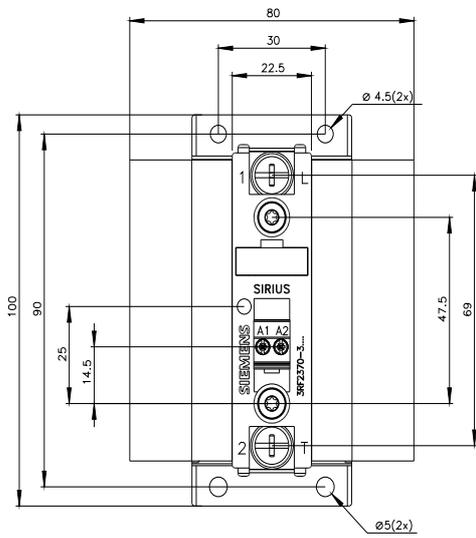
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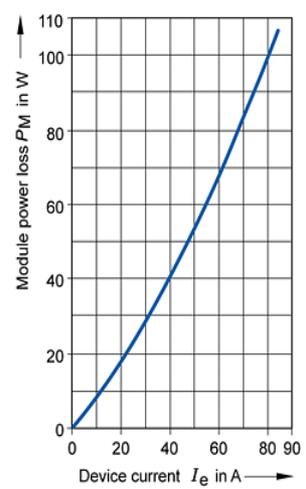
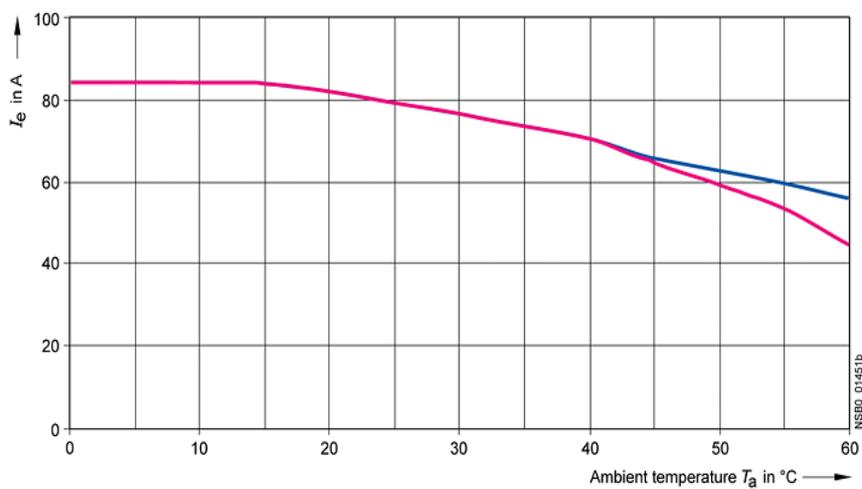
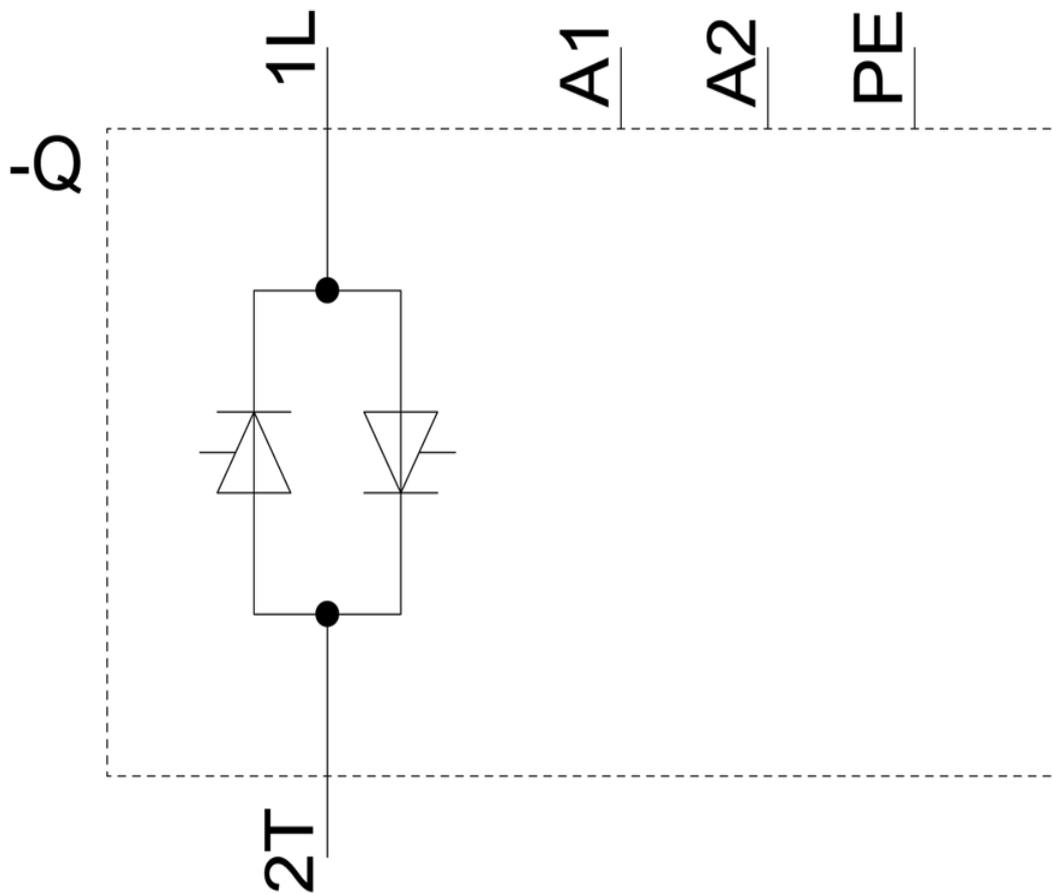
Cax online generator

<http://support.automation.siemens.com/WWW/CAXorder/default.aspx?lang=en&mlfb=3RF2370-3AA22>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2370-3AA22>





— I_{max} Thermal limit current for individual
— I_{IEC} Current according to IEC 947-4-3 for individual

last modified:

1/26/2022

