



Semiconductor relay, 3-phase 3RF2 30 A / 40 °C 48-600 V / 4-30 V DC 3-phase controlled Spring-type terminal Blocking voltage 1200 V

<b>product brand name</b>	SIRIUS
<b>product designation</b>	solid-state relay
<b>design of the product</b>	three-phase controlled
<b>product type designation</b>	3RF22
<b>manufacturer's article number</b>	
<ul style="list-style-type: none"> <li>• _2 of the accessories that can be ordered</li> </ul>	<a href="#">3RF2900-0EA18</a>
<b>product designation</b>	
<ul style="list-style-type: none"> <li>• _2 of the accessories that can be ordered</li> </ul>	converter

### General technical data

<b>product function</b>	zero-point switching
<b>power loss [W] for rated value of the current</b>	
<ul style="list-style-type: none"> <li>• at AC in hot operating state</li> </ul>	122 W
<ul style="list-style-type: none"> <li>• at AC in hot operating state per pole</li> </ul>	122 W
<ul style="list-style-type: none"> <li>• without load current share typical</li> </ul>	0.9 W
<b>insulation voltage rated value</b>	600 V
type of voltage of the control supply voltage	DC
surge voltage resistance of main circuit rated value	6 kV
<b>shock resistance according to IEC 60068-2-27</b>	15g / 11 ms
<b>vibration resistance according to IEC 60068-2-6</b>	2g
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	07/01/2006

### Main circuit

<b>number of poles for main current circuit</b>	3
<b>number of NO contacts for main contacts</b>	3
<b>number of NC contacts for main contacts</b>	0
<b>operating voltage at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> </ul>	48 ... 600 V
<ul style="list-style-type: none"> <li>• at 60 Hz rated value</li> </ul>	48 ... 600 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>relative symmetrical tolerance of the operating frequency</b>	10 %
<b>operating range relative to the operating voltage at AC</b>	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> </ul>	40 ... 660 V
<ul style="list-style-type: none"> <li>• at 60 Hz</li> </ul>	40 ... 660 V
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at AC-51 rated value</li> </ul>	20 A
<ul style="list-style-type: none"> <li>• according to UL 508 rated value</li> </ul>	20 A
<b>ampacity maximum</b>	30 A
<b>operational current minimum</b>	500 mA
<b>rate of voltage rise at the thyristor for main contacts</b>	500 V/μs
<b>maximum permissible</b>	
<b>blocking voltage at the thyristor for main contacts</b>	1 200 V

maximum permissible reverse current of the thyristor	10 mA
derating temperature	40 °C
surge current resistance rated value	300 A
I <sup>2</sup> t value maximum	450 A <sup>2</sup> ·s
<b>Control circuit/ Control</b>	
type of voltage of the control supply voltage	DC
control supply voltage 1	
• at DC	4 ... 30 V
control supply voltage	
• at DC initial value for signal <1> detection	4 V
• at DC full-scale value for signal<0> recognition	1 V
control current at minimum control supply voltage	
• at DC	22 mA
control current at DC rated value	30 mA
ON-delay time	1 ms; additionally max. one half-wave
OFF-delay time	1 ms; additionally max. one half-wave
<b>Auxiliary circuit</b>	
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	0
<b>Installation/ mounting/ dimensions</b>	
fastening method	screw fixing
• side-by-side mounting	Yes
design of the thread of the screw for securing the equipment	M4
tightening torque of fixing screw maximum	1.5 N·m
tightening torque [lbf·in] of fixing screw maximum	13 lbf·in
height	95 mm
width	45 mm
depth	47 mm
<b>Connections/ Terminals</b>	
type of electrical connection	
• for main current circuit	spring-loaded terminals
• for auxiliary and control circuit	spring-loaded terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 ... 2.5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> )
— finely stranded without core end processing	2x (0.5 ... 2.5 mm <sup>2</sup> )
• at AWG cables for main contacts	2x (18 ... 14)
connectable conductor cross-section for main contacts	
• solid or stranded	0.5 ... 2.5 mm <sup>2</sup>
• finely stranded with core end processing	0.5 ... 1.5 mm <sup>2</sup>
• finely stranded without core end processing	0.5 ... 2.5 mm <sup>2</sup>
type of connectable conductor cross-sections	
• for auxiliary and control contacts	
— solid	0.5 ... 1.5 mm <sup>2</sup>
— finely stranded with core end processing	0.5 ... 2.5 mm <sup>2</sup>
— finely stranded without core end processing	0.5 ... 2.5 mm <sup>2</sup>
• 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
design of the thread of the connection screw	
• for main contacts	M4
stripped length of the cable	
• for main contacts	10 mm
• for auxiliary and control contacts	10 mm
<b>Safety related data</b>	
protection class IP on the front according to IEC	IP20

60529

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**

- 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

**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 A for industrial environment

**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 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

[3NE1814-0](#); These fuses have a smaller rated current than the semiconductor relays[3NE8003-1](#)[3NC1025](#); These fuses have a smaller rated current than the semiconductor relays[3NC1430](#)[3NC2232](#)

manufacturer's article number of the gG fuse at NH design usable

- up to 460 V

[3NA3803-6](#); These fuses have a smaller rated current than the semiconductor relays

- up to 600 V

[3NA3803-6](#); These fuses have a smaller rated current than the semiconductor relays**Certificates/ approvals**

General Product Approval

EMC

Declaration of  
Conformity[Confirmation](#)Declaration of  
Conformity

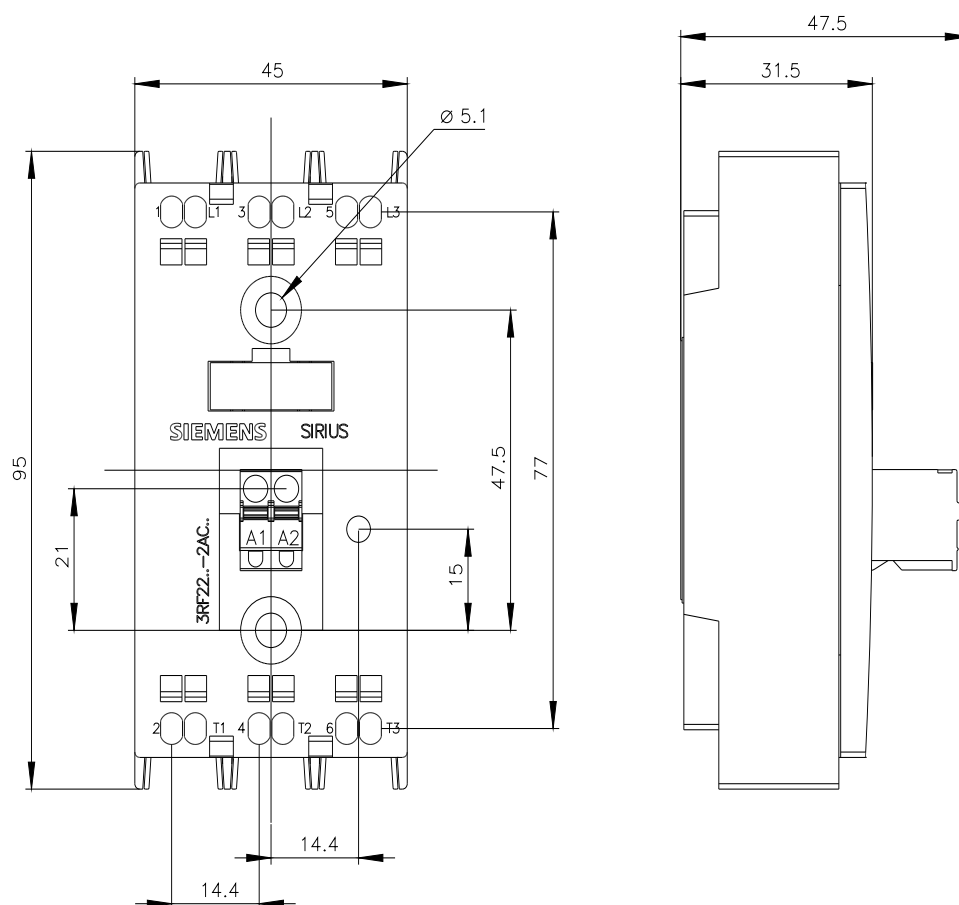
Test Certificates

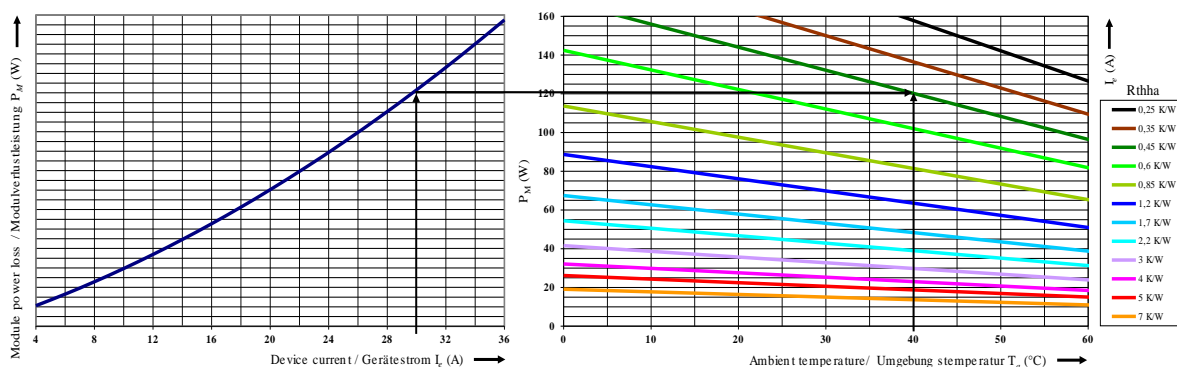
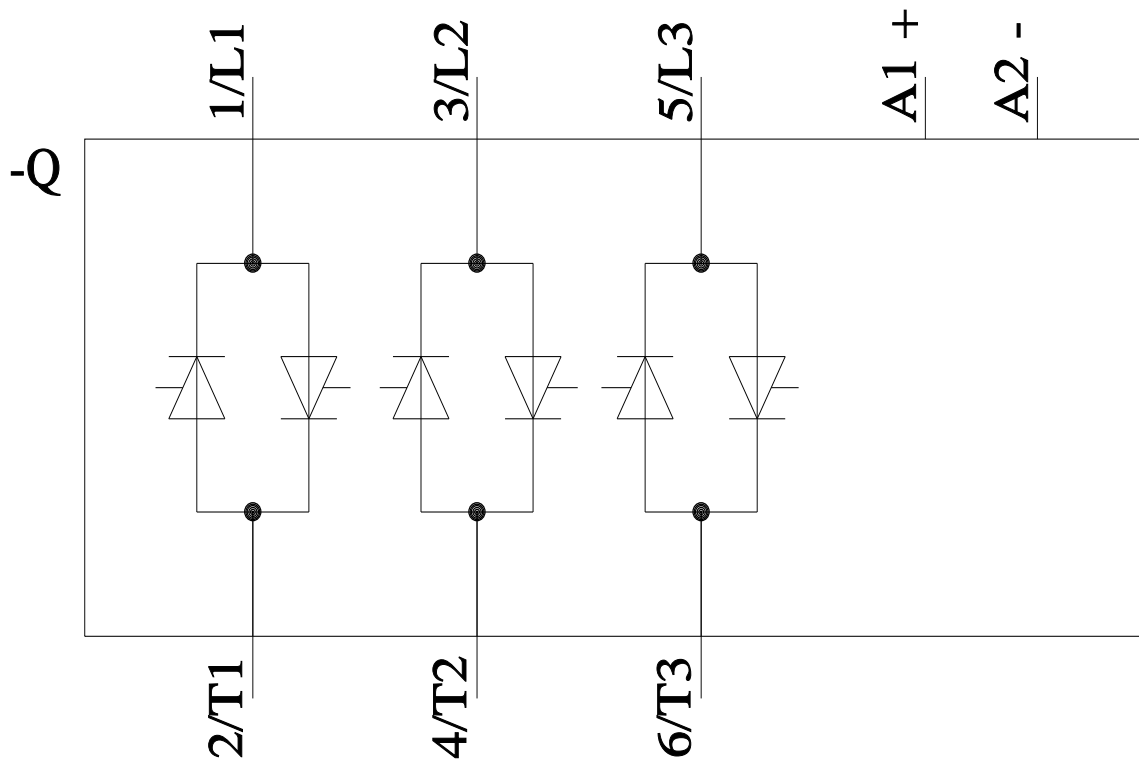
other

[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)**<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2230-2AC45>**Cax online generator**

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2230-2AC45>

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2230-2AC45&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2230-2AC45&lang=en)





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