



Semiconductor relay, 3-phase 3RF2 30 A / 40 °C 48-600 V / 4-30 V DC 3-phase controlled Ring cable connection 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 without load current share typical</b>	0.9 W
insulation voltage rated value	600 V
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
<b>reference code according to IEC 81346-2</b>	Q
Substance Prohibitance (Date)	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
operating voltage at AC	
<ul style="list-style-type: none"> <li>• at 50 Hz rated value</li> <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 %
operating range relative to the operating voltage at AC	
<ul style="list-style-type: none"> <li>• at 50 Hz</li> <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> <li>• according to UL 508 rated value</li> </ul>	30 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 maximum permissible</b>	500 V/μs
<b>blocking voltage at the thyristor for main contacts maximum permissible</b>	1 200 V
<b>reverse current of the thyristor</b>	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

#### Control circuit/ Control

<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage 1</b>	4 ... 30 V
<ul style="list-style-type: none"> <li>at DC</li> </ul>	
<b>control supply voltage</b>	
<ul style="list-style-type: none"> <li>at DC initial value for signal &lt;1&gt; detection</li> <li>at DC full-scale value for signal&lt;0&gt; recognition</li> </ul>	4 V 1 V
<b>control current at minimum control supply voltage</b>	
<ul style="list-style-type: none"> <li>at DC</li> </ul>	22 mA
control current at DC rated value	30 mA
<b>ON-delay time</b>	1 ms; additionally max. one half-wave
<b>OFF-delay time</b>	1 ms; additionally max. one half-wave

#### Auxiliary circuit

<b>number of NC contacts for auxiliary contacts</b>	0
<b>number of NO contacts for auxiliary contacts</b>	0
number of CO contacts for auxiliary contacts	0

#### Installation/ mounting/ dimensions

<b>fastening method</b>	screw fixing
<ul style="list-style-type: none"> <li>side-by-side mounting</li> </ul>	Yes
<b>tightening torque of fixing screw maximum</b>	1.5 N·m
<b>tightening torque [lbf·in] of fixing screw maximum</b>	13 lbf·in
<b>height</b>	95 mm
<b>width</b>	45 mm
<b>depth</b>	47 mm

#### Connections/ Terminals

<b>type of electrical connection</b>	Ring cable lug connection screw-type terminals
<ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control circuit</li> </ul>	
<b>type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>for auxiliary and control contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>at AWG cables for auxiliary and control contacts</li> </ul>	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) 1x (AWG 20 ... 12)
<b>tightening torque</b>	
<ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	2 ... 2.5 N·m 0.5 ... 0.6 N·m
<b>tightening torque [lbf·in]</b>	
<ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary and control contacts with screw-type terminals</li> </ul>	18 ... 22 lbf·in 4.5 ... 5.3 lbf·in
<b>design of the thread of the connection screw</b>	
<ul style="list-style-type: none"> <li>for main contacts</li> <li>of the auxiliary and control contacts</li> </ul>	M4 M3
<b>stripped length of the cable</b>	
<ul style="list-style-type: none"> <li>for main contacts</li> <li>for auxiliary and control contacts</li> </ul>	7 mm 7 mm

#### Safety related data

<b>protection class IP on the front according to IEC 60529</b>	IP00
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#### Ambient conditions

installation altitude at height above sea level maximum	1 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> </ul>	-25 ... +60 °C -55 ... +80 °C

#### Electromagnetic compatibility

<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>due to burst according to IEC 61000-4-4</li> <li>due to conductor-earth surge according to IEC</li> </ul>	2 kV / 5 kHz behavior criterion 2 2 kV behavior criterion 2

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

**electrostatic discharge according to IEC 61000-4-2**  
**conducted HF interference emissions according to CISPR11**

**field-bound HF interference emission according to CISPR11**

1 kV behavior criterion 2

140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1

4 kV contact discharging / 8 kV air discharging, behavior criterion 2  
 Class A for industrial environment

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

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

- up to 460 V
- up to 600 V

[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](#)

[3NA3803-6: 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](#)



VDE

**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=3RF2230-3AC45>

Cax online generator

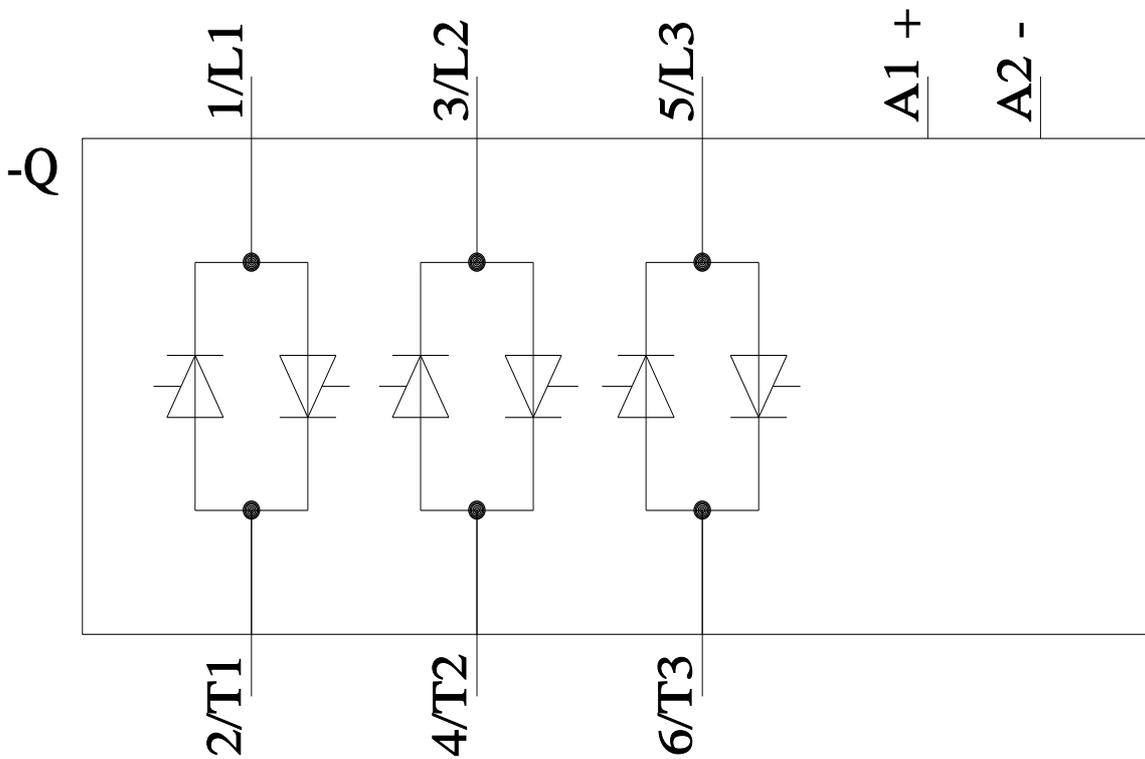
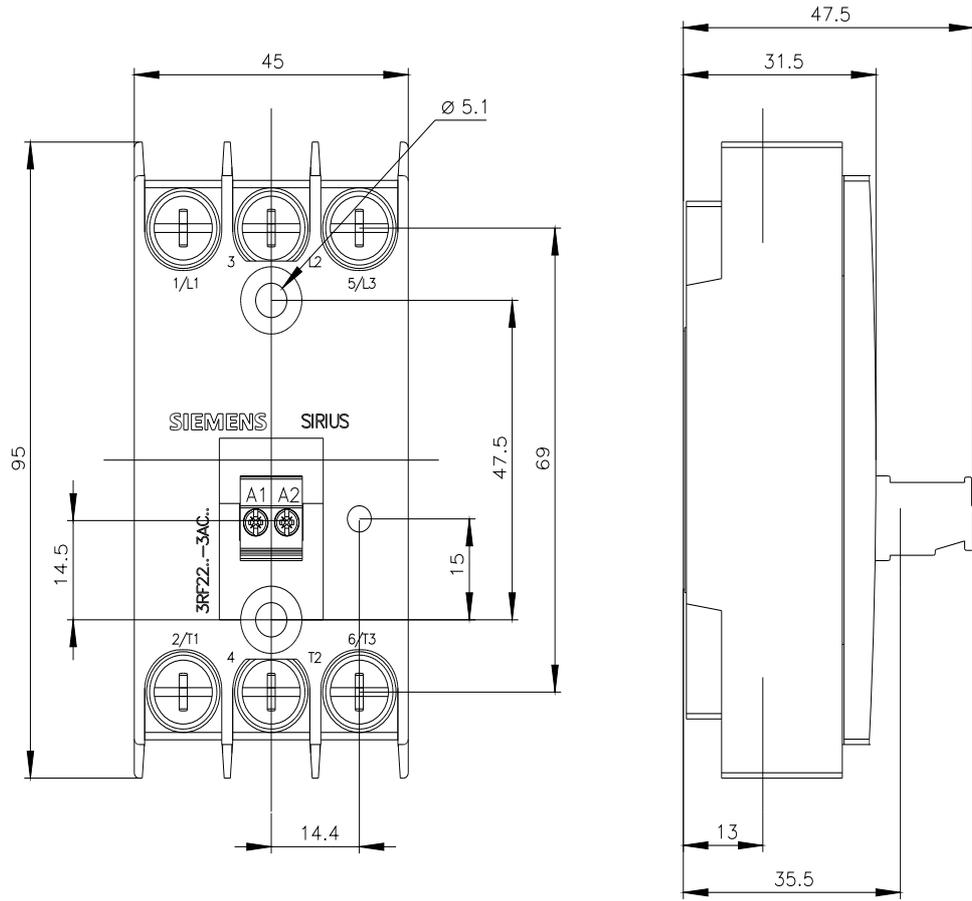
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2230-3AC45>

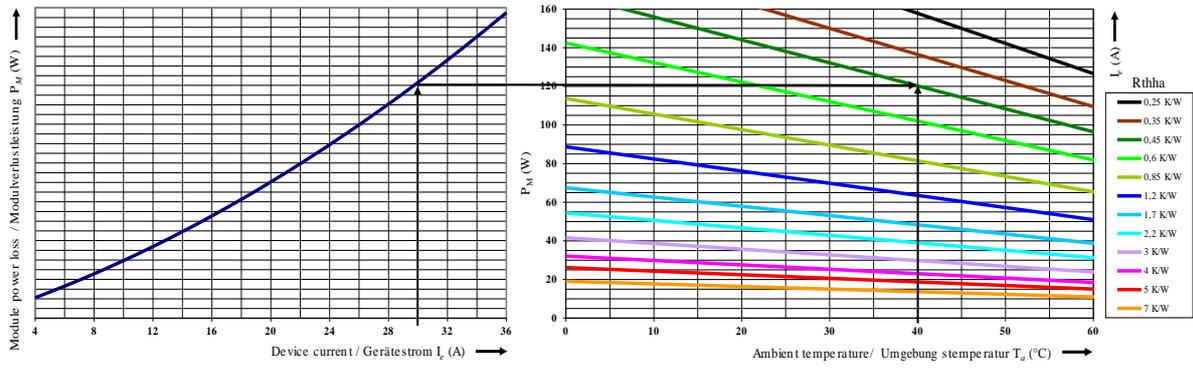
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

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

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

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





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