



\*\*\*phase-out type\*\*\* semiconductor relay, 3-phase 3RF2 55 A / 40 °C 48-600 V / 4-30 V DC 2-phase controlled ring cable terminal blocking voltage 1200 V for mounting on available cooling surfaces

<b>product brand name</b>	SIRIUS
<b>product designation</b>	solid-state relay
<b>design of the product</b>	2-pole 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
<b>General technical data</b>	
<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>	151 W
<ul style="list-style-type: none"> <li>at AC in hot operating state per pole</li> </ul>	151 W
<ul style="list-style-type: none"> <li>without load current share typical</li> </ul>	0.5 W
<b>insulation voltage rated value</b>	600 V
surge voltage resistance of main circuit rated value	6 kV
<b>protection class IP</b>	IP00
protection class IP on the front according to IEC 60529	IP00
<b>shock resistance according to IEC 60068-2-27</b>	15 g / 11 ms
<b>vibration resistance according to IEC 60068-2-6</b>	2 g
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (day/month/year)</b>	07/01/2006
<b>SVHC substance name</b>	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1
<b>Net Weight</b>	0.14 kg
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>number of NO contacts for main contacts</b>	2
<b>number of NC contacts for main contacts</b>	0
<b>type of voltage of the operating voltage</b>	AC
<b>operating voltage</b>	
<ul style="list-style-type: none"> <li>at AC</li> </ul>	
<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> <li>• at 60 Hz</li> </ul>	40 ... 660 V
<b>operational current rated value maximum</b>	40 ... 660 V
<b>operational current</b>	55 A
<ul style="list-style-type: none"> <li>• at AC-1 at 400 V rated value</li> <li>• at AC-51 rated value</li> <li>• according to UL 508 rated value</li> </ul>	55 A
<b>ampacity maximum</b>	50 A
<b>operational current minimum</b>	55 A
<b>rate of voltage rise at the thyristor for main contacts maximum permissible</b>	500 mA
<b>blocking voltage at the thyristor for main contacts maximum permissible</b>	100 V/ $\mu$ s
<b>reverse current of the thyristor</b>	1 200 V
<b>derating temperature</b>	10 mA
<b>surge current resistance rated value</b>	40 °C
<b>I<sup>2</sup>t value maximum</b>	600 A
	1 800 A <sup>2</sup> ·s
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage 1 at DC</b>	4 ... 30 V
<b>control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>• initial value for signal &lt;1&gt; detection</li> <li>• 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
<b>Installation/ mounting/ dimensions</b>	
fastening method side-by-side mounting	Yes
<b>fastening method</b>	screw fixing
<b>design of the thread of the screw for securing the equipment</b>	M4
<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
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	Yes
<b>type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>	Ring cable lug connection
	screw-type terminals
<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>• for AWG cables for auxiliary and control contacts</li> </ul>	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )
	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )
	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )
	1x (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> </ul>	M4

<ul style="list-style-type: none"> <li>of the auxiliary and control contacts</li> </ul>	M3
<b>stripped length of the cable</b>	
<ul style="list-style-type: none"> <li>for main contacts</li> </ul>	10 mm
<ul style="list-style-type: none"> <li>for auxiliary and control contacts</li> </ul>	7 mm

**UL/CSA ratings**

<b>operational current according to UL 508 rated value</b>	55 A
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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> </ul>	-25 ... +60 °C
<ul style="list-style-type: none"> <li>during storage</li> </ul>	-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> </ul>	2 kV / 5 kHz, behavior criterion 2
<ul style="list-style-type: none"> <li>due to conductor-earth surge according to IEC 61000-4-5</li> </ul>	2 kV, behavior criterion 2
<ul style="list-style-type: none"> <li>due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	1 kV, behavior criterion 2
<ul style="list-style-type: none"> <li>due to high-frequency radiation according to IEC 61000-4-6</li> </ul>	140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1
<b>electrostatic discharge according to IEC 61000-4-2</b>	4 kV contact discharging / 8 kV air discharging, behavior criterion 2
<b>conducted HF interference emissions according to CISPR11</b>	Class A for industrial environment
<b>field-bound HF interference emission according to CISPR11</b>	Class A for industrial environment

**Short-circuit protection, design of the fuse link**

manufacturer's article number <ul style="list-style-type: none"> <li>of full range R fuse link for semiconductor protection at NH design usable</li> <li>of back-up R fuse link for semiconductor protection at NH design usable</li> <li>of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable</li> <li>of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable</li> </ul>	<a href="#">3NE1803-0: These fuses have a smaller rated current than the semiconductor relays</a> <a href="#">3NE8018-1</a> <a href="#">3NC1450: These fuses have a smaller rated current than the semiconductor relays</a> <a href="#">3NC2250: These fuses have a smaller rated current than the semiconductor relays</a>
manufacturer's article number of the gG fuse at NH design usable <ul style="list-style-type: none"> <li>up to 460 V</li> <li>up to 600 V</li> </ul>	<a href="#">3NA3807-6: These fuses have a smaller rated current than the semiconductor relays</a> <a href="#">3NA3805-6: These fuses have a smaller rated current than the semiconductor relays</a>

**Approvals Certificates**

<b>Environment</b>	<b>General Product Approval</b>
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[Environmental Conformations](#)



<b>General Product Approval</b>	<b>EMV</b>	<b>Test Certificates</b>	<b>other</b>
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[Type Test Certificates/Test Report](#)

[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)

**other**



## Further information

### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

### 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=3RF2255-3AB45>

### Cax online generator

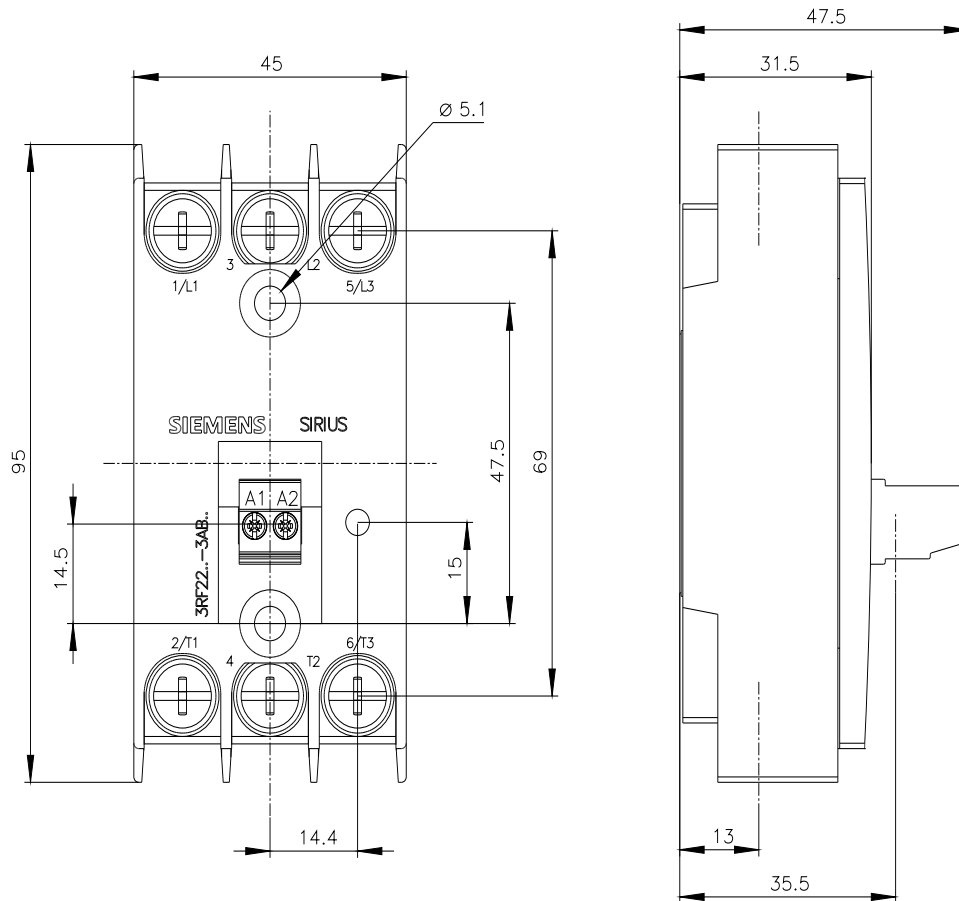
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2255-3AB45>

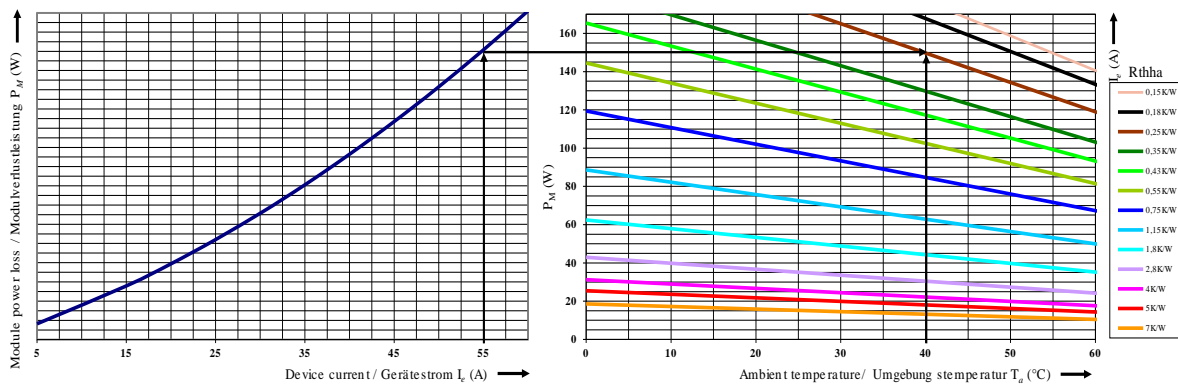
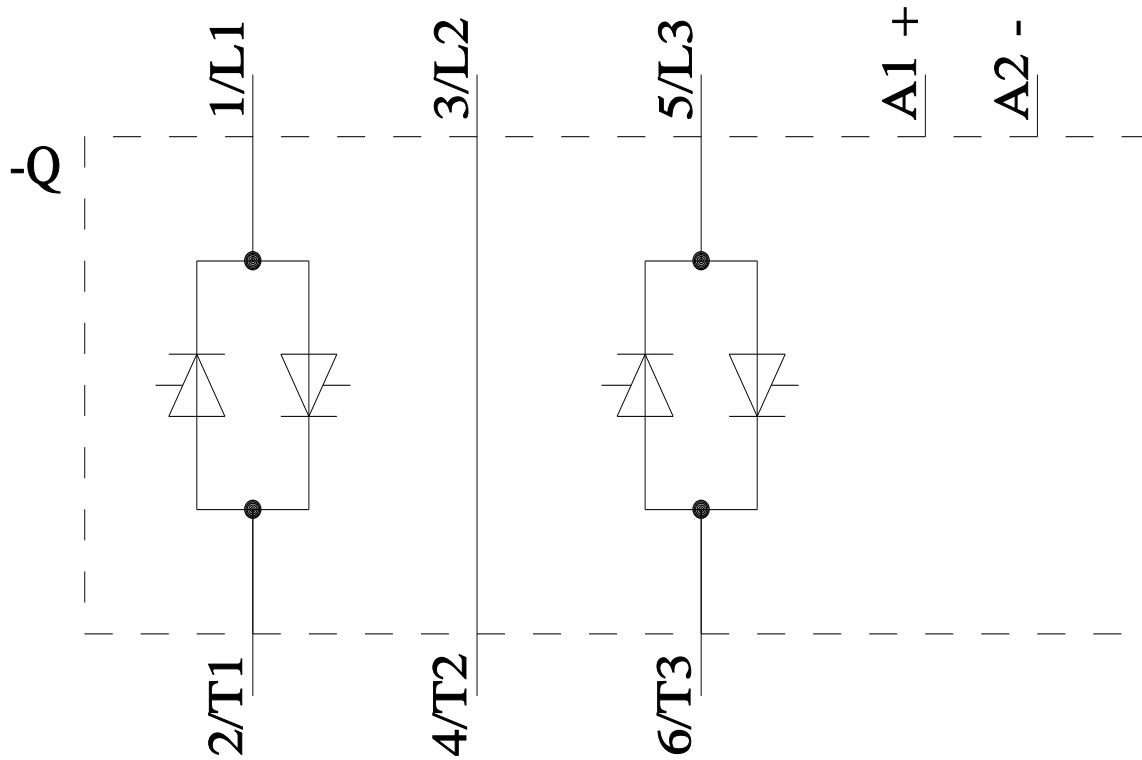
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2255-3AB45>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF2255-3AB45&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2255-3AB45&lang=en)





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