

Solid-state contactor 1-phase 3RF2 AC 51 / 88 A / 40 °C 48-600 V / 24 V DC Ring cable connection Phased-out product, no successor available!

<b>product brand name</b>	SIRIUS
<b>product designation</b>	solid-state contactor
<b>product type designation</b>	3RF23
<b>manufacturer's article number</b>	
<ul style="list-style-type: none"> <li>• _1 of the accessories that can be ordered</li> <li>• _3 of the accessories that can be ordered</li> <li>• _4 of the accessories that can be ordered</li> </ul>	<a href="#">3RF2900-3PA88</a> <a href="#">3RF2900-0EA18</a> <a href="#">3RF2990-0GA16</a>
<b>product designation</b>	
<ul style="list-style-type: none"> <li>• _1 of the accessories that can be ordered</li> <li>• _3 of the accessories that can be ordered</li> <li>• _4 of the accessories that can be ordered</li> </ul>	terminal cover converter load monitoring
<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> <li>• at AC in hot operating state per pole</li> <li>• without load current share typical</li> </ul>	117 W 117 W 0.4 W
<b>insulation voltage rated value</b>	600 V
<b>degree of pollution</b>	3
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>	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 Prohibittance (Date)</b>	07/01/2006
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
<b>Net Weight</b>	3.086 kg
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	1
<b>number of NO contacts for main contacts</b>	1
<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> <li>— at 50 Hz rated value</li> <li>— at 60 Hz rated value</li> </ul>	48 ... 600 V 48 ... 600 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<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 40 ... 660 V
<b>operational current</b>	
<ul style="list-style-type: none"> <li>• at AC-1 at 400 V rated value</li> <li>• at AC-51 rated value</li> <li>• at AC-51 according to IEC 60947-4-3</li> <li>• according to UL 508 rated value</li> </ul>	88 A 88 A 88 A 80 A
<b>rate of voltage rise at the thyristor for main contacts maximum permissible</b>	1 000 V/μs
<b>blocking voltage at the thyristor for main contacts</b>	1 600 V

<b>maximum permissible</b>	
<b>reverse current of the thyristor</b>	10 mA
<b>derating temperature</b>	40 °C
<b>surge current resistance rated value</b>	1 150 A
<b>I<sup>2</sup>t value maximum</b>	6 600 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 rated value maximum permissible</b>	30 V
<b>control supply voltage 1 at DC</b>	15 ... 24 V
<b>control supply voltage</b>	
• at DC initial value for signal <1> detection	15 V
• at DC full-scale value for signal<0> recognition	5 V
<b>control current at minimum control supply voltage</b>	
• at DC	13 mA
control current at DC rated value	15 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>Auxiliary circuit</b>	
number of CO contacts for auxiliary contacts	0
<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>height</b>	200 mm
<b>width</b>	180 mm
<b>depth</b>	163 mm
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	Yes
<b>type of electrical connection</b>	
• for main current circuit	Ring cable lug connection
• for auxiliary and control circuit	ring terminal lug connection
<b>type of connectable conductor cross-sections</b>	
• 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
<b>type of connectable conductor cross-sections</b>	
• for auxiliary and control contacts	
— solid	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )
— finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )
— finely stranded without core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )
• for AWG cables for auxiliary and control contacts	1x (20 ... 12)
<b>tightening torque</b>	
• 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
<b>tightening torque [lbf·in]</b>	
• for auxiliary and control contacts with screw-type terminals	4.5 ... 5.3 lbf·in
<b>design of the thread of the connection screw</b>	
• for main contacts	M5
• of the auxiliary and control contacts	M3
<b>stripped length of the cable</b>	
• for main contacts	10 mm
• for auxiliary and control contacts	7 mm
<b>Electrical Safety</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP00; IP20 with cover
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front with cover
<b>Ambient conditions</b>	

installation altitude at height above sea level maximum	1 000 m
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-55 ... +80 °C
<b>Electromagnetic compatibility</b>	
<b>conducted interference</b>	
• 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
<b>field-based interference according to IEC 61000-4-3</b>	80 MHz ... 1 GHz 10 V/m, 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 B for the domestic, business and commercial environments
<b>Short-circuit protection, design of the fuse link</b>	
manufacturer's article number	
• of full range R fuse link for semiconductor protection at NH design usable	<a href="#">3NE1020-2: These fuses have a smaller rated current than the semiconductor relays</a>
• of back-up R fuse link for semiconductor protection at NH design usable	<a href="#">3NE8021-1</a>
• of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable	<a href="#">3NC2280: These fuses have a smaller rated current than the semiconductor relays</a>
<b>last modified:</b>	8/3/2025 