



solid-state contactor 1-pole 3RF33 AC-1 65 A / AC-15 27.5 A 40 °C / 48-600 V / 24 V DC / instantaneous switching / ring cable connection

|                                                            |                                                                                                                                                                                    |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>product brand name</b>                                  | SIRIUS                                                                                                                                                                             |
| <b>product designation</b>                                 | solid-state contactor                                                                                                                                                              |
| <b>product type designation</b>                            | 3RF33                                                                                                                                                                              |
| <b>manufacturer's article number</b>                       |                                                                                                                                                                                    |
| • _1 of the accessories that can be ordered                | <a href="#">3RF2900-3PA88</a>                                                                                                                                                      |
| • _2 of the accessories that can be ordered                | <a href="#">3RF3990-0HA16</a>                                                                                                                                                      |
| • _3 of the accessories that can be ordered                | <a href="#">3RF3900-0EA18</a>                                                                                                                                                      |
| • _4 of the accessories that can be ordered                | <a href="#">3RF3990-0GA16</a>                                                                                                                                                      |
| <b>product designation</b>                                 |                                                                                                                                                                                    |
| • _1 of the accessories that can be ordered                | terminal cover                                                                                                                                                                     |
| • _2 of the accessories that can be ordered                | power regulator                                                                                                                                                                    |
| • _3 of the accessories that can be ordered                | converter                                                                                                                                                                          |
| • _4 of the accessories that can be ordered                | load monitoring                                                                                                                                                                    |
| <b>General technical data</b>                              |                                                                                                                                                                                    |
| <b>product function</b>                                    | instantaneous switching                                                                                                                                                            |
| <b>product feature</b>                                     | high blocking voltage                                                                                                                                                              |
| <b>power loss [V·A] maximum</b>                            | 65 VA                                                                                                                                                                              |
| <b>power loss [W] for rated value of the current</b>       |                                                                                                                                                                                    |
| • at AC in hot operating state                             | 63 W                                                                                                                                                                               |
| • at AC in hot operating state per pole                    | 63 W                                                                                                                                                                               |
| • without load current share typical                       | 0.4 W                                                                                                                                                                              |
| <b>type of calculation of power loss current-dependent</b> | linear                                                                                                                                                                             |
| <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>        | 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>             | 01/15/2024                                                                                                                                                                         |
| <b>SVHC substance name</b>                                 | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5<br>Melamine CAS-No. 108-78-1 |
| <b>Net Weight</b>                                          | 0.42 kg                                                                                                                                                                            |

|                                                                                                                                                                                                                                                      |                                                                                          |
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| <b>Main circuit</b>                                                                                                                                                                                                                                  |                                                                                          |
| number of poles for main current circuit                                                                                                                                                                                                             | 1                                                                                        |
| number of NO contacts for main contacts                                                                                                                                                                                                              | 1                                                                                        |
| number of NC contacts for main contacts                                                                                                                                                                                                              | 0                                                                                        |
| type of voltage of the operating voltage                                                                                                                                                                                                             | AC                                                                                       |
| operating voltage <ul style="list-style-type: none"> <li>at AC <ul style="list-style-type: none"> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> </ul> </li> </ul>                                                                      | 48 ... 600 V<br>48 ... 600 V                                                             |
| operating frequency rated value                                                                                                                                                                                                                      | 50 ... 60 Hz                                                                             |
| relative symmetrical tolerance of the operating frequency                                                                                                                                                                                            | 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<br>40 ... 660 V                                                             |
| operational current rated value maximum                                                                                                                                                                                                              | 65 A                                                                                     |
| operational current <ul style="list-style-type: none"> <li>at AC-1 at 400 V rated value</li> <li>at AC-15 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> | 65 A<br>27.5 A<br>65 A<br>65 A<br>56 A                                                   |
| ampacity maximum                                                                                                                                                                                                                                     | 65 A                                                                                     |
| operational current minimum                                                                                                                                                                                                                          | 500 mA                                                                                   |
| rate of voltage rise at the thyristor for main contacts maximum permissible                                                                                                                                                                          | 1 000 V/μs                                                                               |
| blocking voltage at the thyristor for main contacts maximum permissible                                                                                                                                                                              | 1 600 V                                                                                  |
| reverse current of the thyristor                                                                                                                                                                                                                     | 10 mA                                                                                    |
| derating temperature                                                                                                                                                                                                                                 | 40 °C                                                                                    |
| surge current resistance rated value                                                                                                                                                                                                                 | 1 300 A                                                                                  |
| I <sup>2</sup> t value maximum                                                                                                                                                                                                                       | 8 000 A <sup>2</sup> ·s                                                                  |
| <b>Control circuit/ Control</b>                                                                                                                                                                                                                      |                                                                                          |
| type of voltage of the control supply voltage                                                                                                                                                                                                        | DC                                                                                       |
| control supply voltage at DC                                                                                                                                                                                                                         | 15 ... 24 V                                                                              |
| control supply voltage 1 at DC rated value                                                                                                                                                                                                           | 24 V                                                                                     |
| control supply voltage at DC <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>                                                                | 15 V<br>5 V                                                                              |
| operating range factor control supply voltage rated value at DC <ul style="list-style-type: none"> <li>initial value</li> <li>full-scale value</li> </ul>                                                                                            | 0.63<br>1                                                                                |
| control current at minimum control supply voltage <ul style="list-style-type: none"> <li>at DC</li> </ul>                                                                                                                                            | 13 mA                                                                                    |
| control current at DC rated value                                                                                                                                                                                                                    | 15 mA                                                                                    |
| ON-delay time                                                                                                                                                                                                                                        | 1 ms                                                                                     |
| OFF-delay time                                                                                                                                                                                                                                       | 1 ms; additionally max. one half-wave                                                    |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                            |                                                                                          |
| fastening method side-by-side mounting                                                                                                                                                                                                               | Yes                                                                                      |
| fastening method                                                                                                                                                                                                                                     | screw fixing and snap-on mounting on standard mounting rail 35 mm according to IEC 60715 |
| design of the thread of the screw for securing the equipment                                                                                                                                                                                         | M4                                                                                       |
| height                                                                                                                                                                                                                                               | 100 mm                                                                                   |
| width                                                                                                                                                                                                                                                | 70 mm                                                                                    |
| depth                                                                                                                                                                                                                                                | 144 mm                                                                                   |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                        |                                                                                          |
| product component removable terminal for auxiliary and control circuit                                                                                                                                                                               | Yes                                                                                      |
| type of electrical connection                                                                                                                                                                                                                        |                                                                                          |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>                                                                                                                                                                                                                                                     | Ring cable lug connection<br>screw-type terminals                                                                                                                                                                                |
| <b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for main contacts for JIS cable lug</li> <li>• for AWG cables for main contacts</li> <li>• for DIN cable lug for main contacts</li> </ul>                                                                                                                                        | JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5<br>1x (12 ... 4)<br>DIN 46234-5-2,5, -5-6, -5-10, -5-16, -5-25                                                                                                                                |
| <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> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1 mm <sup>2</sup> )<br>1x (20 ... 12) |
| <b>AWG number as coded connectable conductor cross section for main contacts</b>                                                                                                                                                                                                                                                                                              | 12 ... 4                                                                                                                                                                                                                         |
| <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<br>0.5 ... 0.6 N·m                                                                                                                                                                                                 |
| <b>tightening torque [lbf·in]</b> <ul style="list-style-type: none"> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>                                                                                                                                                                                                                            | 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>                                                                                                                                                                                                    | M5<br>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>                                                                                                                                                                                                                       | 10 mm<br>7 mm                                                                                                                                                                                                                    |
| <b>type of grounding</b>                                                                                                                                                                                                                                                                                                                                                      | grounding heat sink by means of screw-type terminal                                                                                                                                                                              |
| <b>UL/CSA ratings</b>                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                  |
| <b>operational current according to UL 508 rated value</b>                                                                                                                                                                                                                                                                                                                    | 56 A                                                                                                                                                                                                                             |
| Electrical Safety                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                  |
| <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> <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> </ul>                                                                                                                                                                                                                                                     | -25 ... +60 °C<br>-55 ... +80 °C                                                                                                                                                                                                 |
| <b>Electromagnetic compatibility</b>                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                  |
| <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 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> <li>• due to high-frequency radiation according to IEC 61000-4-6</li> </ul>                                     | 2 kV / 5 kHz, behavior criterion 2<br>2 kV, behavior criterion 2<br>1 kV, behavior criterion 2<br>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 <ul style="list-style-type: none"> <li>• of gS fuse 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 22 x 58 mm usable</li> </ul>                                       | <a href="#">3NE1818-0</a><br><a href="#">3NE8020-1</a><br><a href="#">3NC2280</a>                                                                                                                                                |
| manufacturer's article number of the gG fuse <ul style="list-style-type: none"> <li>• at NH design usable</li> <li>• at NH design usable note</li> </ul>                                                                                                                                                                                                                      | <a href="#">3NA6812: These fuses have a smaller rated current than the semiconductor relays</a><br>These fuses have a smaller rated current than the semiconductor relays                                                        |

## Approvals Certificates

Environment

General Product Approval

[Environmental Confirmations](#)



Siemens  
EcoTech



EMV

Test Certificates

other



[Type Test Certificates/Test Report](#)

[Confirmation](#)



[Confirmation](#)

## 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=3RF3365-3BA06>

Cax online generator

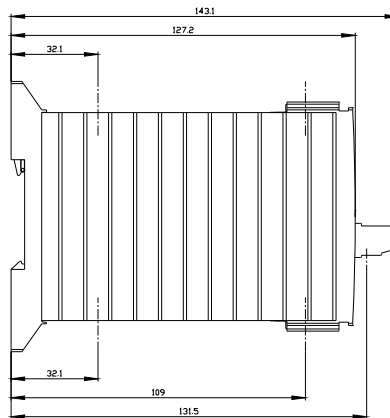
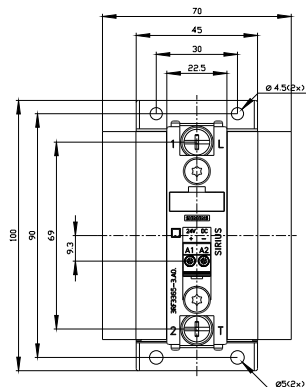
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF3365-3BA06>

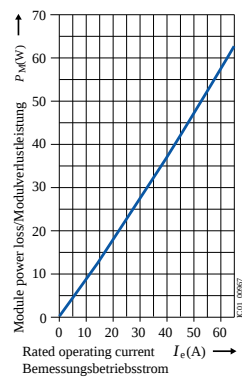
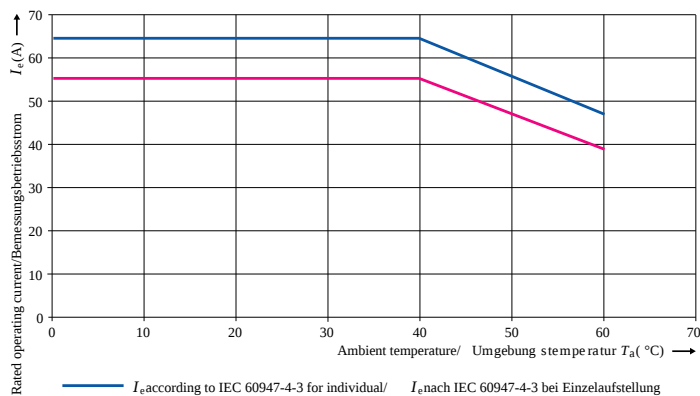
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF3365-3BA06>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF3365-3BA06&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3365-3BA06&lang=en)





—  $I_e$  according to IEC 60947-4-3 for individual/  $I_e$  nach IEC 60947-4-3 bei Einzelaufstellung  
 —  $I_e$  according to IEC 60947-4-3 for side-by-side mounting/  $I_e$  nach IEC 60947-4-3 bei Dicht-an-Dicht-Montage

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5/29/2026