

Siemens  
EcoTech



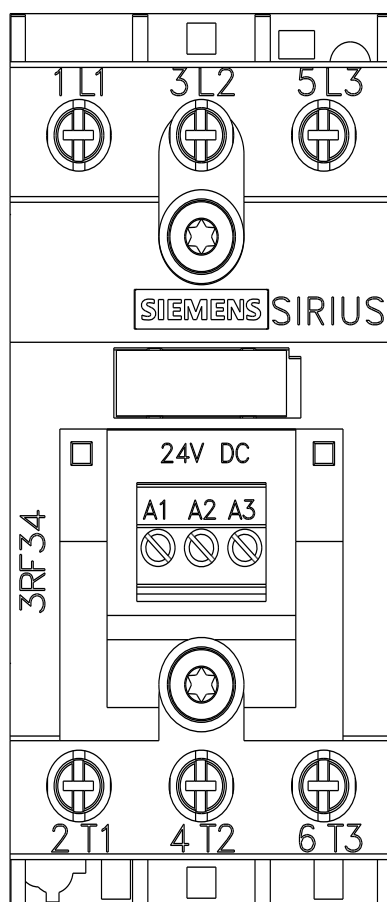
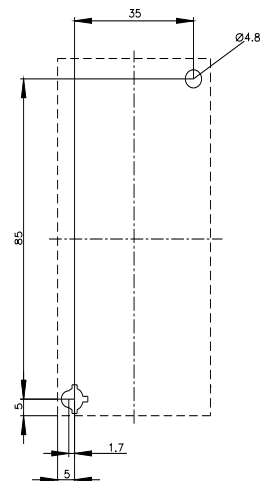
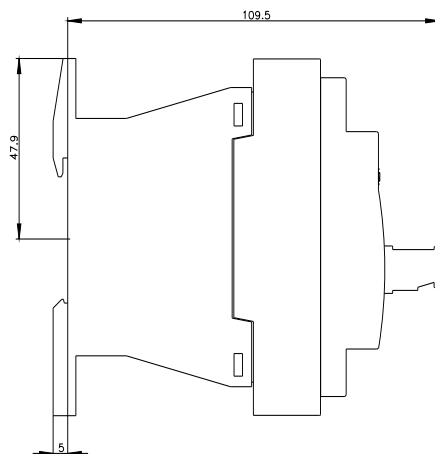
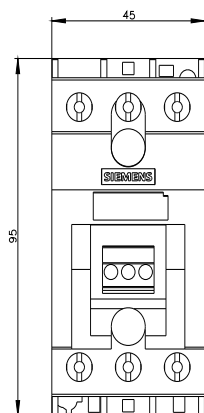
Solid-state contactor 3-phase 3RF3 AC 53 / 5.4 A / 40 °C 48-480 V / 110-230 V AC  
Reversing circuit Instantaneous switching screw terminal

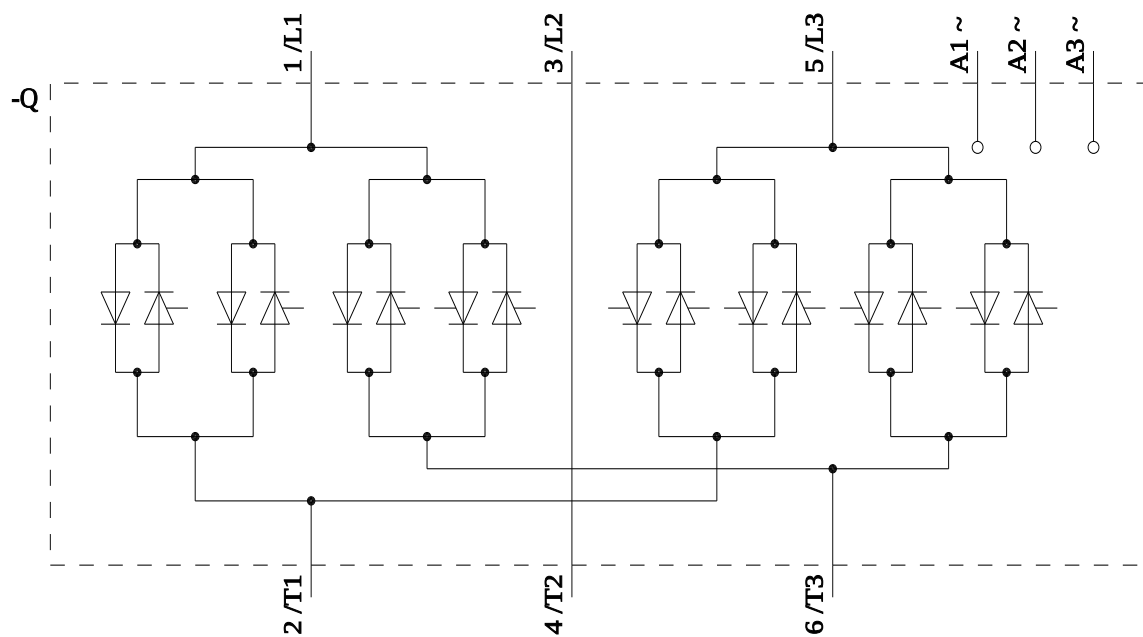
|                                                           |                                                                                                                                                                                    |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| product brand name                                        | SIRIUS                                                                                                                                                                             |
| product designation                                       | solid-state reversing contactor                                                                                                                                                    |
| design of the product                                     | 2-pole controlled                                                                                                                                                                  |
| product type designation                                  | 3RF34                                                                                                                                                                              |
| manufacturer's article number                             |                                                                                                                                                                                    |
| • _1 of the accessories that can be ordered               | <a href="#">3RA2921-1BA00</a>                                                                                                                                                      |
| • _2 of the accessories that can be ordered               | <a href="#">3RF3900-0QA88</a>                                                                                                                                                      |
| product designation                                       |                                                                                                                                                                                    |
| • _1 of the accessories that can be ordered               | Link module                                                                                                                                                                        |
| • _2 of the accessories that can be ordered               | Connection adapter                                                                                                                                                                 |
| <b>General technical data</b>                             |                                                                                                                                                                                    |
| certificate of suitability                                | CE / UL / CSA / CCC / C-Tick (RCM)                                                                                                                                                 |
| product function                                          | instantaneous switching                                                                                                                                                            |
| power loss [W] for rated value of the current             |                                                                                                                                                                                    |
| • at AC in hot operating state                            | 9 W                                                                                                                                                                                |
| • at AC in hot operating state per pole                   | 3 W                                                                                                                                                                                |
| • without load current share typical                      | 3.5 W                                                                                                                                                                              |
| type of calculation of power loss current-dependent       | linear                                                                                                                                                                             |
| insulation voltage rated value                            | 600 V                                                                                                                                                                              |
| degree of pollution                                       | 3                                                                                                                                                                                  |
| surge voltage resistance of main circuit rated value      | 6 kV                                                                                                                                                                               |
| protection class IP                                       | IP20                                                                                                                                                                               |
| protection class IP on the front according to IEC 60529   | IP20                                                                                                                                                                               |
| shock resistance according to IEC 60068-2-27              | 15 g / 11 ms                                                                                                                                                                       |
| vibration resistance according to IEC 60068-2-6           | 2 g                                                                                                                                                                                |
| reference code according to IEC 81346-2                   | Q                                                                                                                                                                                  |
| Substance Prohibitance (day/month/year)                   | 05/28/2009                                                                                                                                                                         |
| SVHC substance name                                       | 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 |
| Net Weight                                                | 0.308 g                                                                                                                                                                            |
| <b>Main circuit</b>                                       |                                                                                                                                                                                    |
| number of poles for main current circuit                  | 3                                                                                                                                                                                  |
| number of NO contacts for main contacts                   | 2                                                                                                                                                                                  |
| number of NC contacts for main contacts                   | 0                                                                                                                                                                                  |
| type of voltage of the operating voltage                  | AC                                                                                                                                                                                 |
| operating voltage                                         |                                                                                                                                                                                    |
| • at AC                                                   |                                                                                                                                                                                    |
| — at 50 Hz rated value                                    | 48 ... 480 V                                                                                                                                                                       |
| — at 60 Hz rated value                                    | 48 ... 480 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   |                                                                                                                                                                                    |
| • at 50 Hz                                                | 40 ... 506 V                                                                                                                                                                       |
| • at 60 Hz                                                | 40 ... 506 V                                                                                                                                                                       |
| operational current                                       |                                                                                                                                                                                    |
| • at AC-3 at 400 V rated value                            | 5.4 A                                                                                                                                                                              |

|                                                                                                               |                                                |
|---------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <ul style="list-style-type: none"> <li>at AC-53a at 400 V at ambient temperature 40 °C rated value</li> </ul> | 5.4 A                                          |
| <b>operational current minimum</b>                                                                            | 500 mA                                         |
| <b>operating power</b>                                                                                        |                                                |
| <ul style="list-style-type: none"> <li>at AC-3 at 400 V rated value</li> </ul>                                | 2.2 kW                                         |
| <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 maximum permissible</b>                                | 1 200 V                                        |
| <b>reverse current of the thyristor</b>                                                                       | 10 mA                                          |
| <b>derating temperature</b>                                                                                   | 40 °C                                          |
| <b>surge current resistance rated value</b>                                                                   | 600 A                                          |
| <b>I<sup>2</sup>t value maximum</b>                                                                           | 1 800 A <sup>2</sup> ·s                        |
| <b>Control circuit/ Control</b>                                                                               |                                                |
| <b>type of voltage of the control supply voltage</b>                                                          | AC                                             |
| <b>control supply voltage at AC</b>                                                                           |                                                |
| <ul style="list-style-type: none"> <li>at 50 Hz</li> </ul>                                                    | 110 ... 230 V                                  |
| <ul style="list-style-type: none"> <li>at 60 Hz</li> </ul>                                                    | 110 ... 230 V                                  |
| <b>control supply voltage at AC</b>                                                                           |                                                |
| <ul style="list-style-type: none"> <li>at 50 Hz full-scale value for signal&lt;0&gt; recognition</li> </ul>   | 40 V                                           |
| <ul style="list-style-type: none"> <li>at 60 Hz full-scale value for signal&lt;0&gt; recognition</li> </ul>   | 40 V                                           |
| <ul style="list-style-type: none"> <li>initial value for signal &lt;1&gt; detection</li> </ul>                | 90 V                                           |
| <b>control supply voltage frequency</b>                                                                       |                                                |
| <ul style="list-style-type: none"> <li>1 rated value</li> </ul>                                               | 50 Hz                                          |
| <ul style="list-style-type: none"> <li>2 rated value</li> </ul>                                               | 60 Hz                                          |
| <b>relative symmetrical tolerance of the control supply voltage frequency</b>                                 | 10 %                                           |
| <b>symmetrical line frequency tolerance</b>                                                                   | 5 Hz                                           |
| <b>operating range factor control supply voltage rated value at AC at 50 Hz</b>                               |                                                |
| <ul style="list-style-type: none"> <li>initial value</li> </ul>                                               | 0.82                                           |
| <ul style="list-style-type: none"> <li>full-scale value</li> </ul>                                            | 1.1                                            |
| <b>operating range factor control supply voltage rated value at AC at 60 Hz</b>                               |                                                |
| <ul style="list-style-type: none"> <li>initial value</li> </ul>                                               | 0.82                                           |
| <ul style="list-style-type: none"> <li>full-scale value</li> </ul>                                            | 1.1                                            |
| <b>control current at minimum control supply voltage</b>                                                      |                                                |
| <ul style="list-style-type: none"> <li>at AC</li> </ul>                                                       | 2 mA                                           |
| control current at AC rated value                                                                             | 15 mA                                          |
| <b>ON-delay time</b>                                                                                          | 20 ms                                          |
| <b>OFF-delay time</b>                                                                                         | 10 ms; additionally max. one half-wave         |
| <b>switchover delay of reversing contactor</b>                                                                | 50 ... 100 ms                                  |
| <b>Installation/ mounting/ dimensions</b>                                                                     |                                                |
| <b>mounting position</b>                                                                                      | vertical                                       |
| fastening method side-by-side mounting                                                                        | Yes                                            |
| <b>fastening method</b>                                                                                       | screw and snap-on mounting onto 35 mm DIN rail |
| <b>design of the thread of the screw for securing the equipment</b>                                           | M4                                             |
| <b>height</b>                                                                                                 | 95 mm                                          |
| <b>width</b>                                                                                                  | 45 mm                                          |
| <b>depth</b>                                                                                                  | 113.8 mm                                       |
| required spacing with side-by-side mounting                                                                   |                                                |
| <ul style="list-style-type: none"> <li>upwards</li> </ul>                                                     | 70 mm                                          |
| <ul style="list-style-type: none"> <li>downwards</li> </ul>                                                   | 50 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> </ul>                                    | screw-type terminals                           |
| <ul style="list-style-type: none"> <li>for auxiliary and control circuit</li> </ul>                           | screw-type terminals                           |
| <b>type of connectable conductor cross-sections</b>                                                           |                                                |

|                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables for main contacts</li> </ul>                                                                                                                                              | 2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )<br>2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br>2x (14 ... 10)                                                  |
| <b>connectable conductor cross-section for main contacts</b> <ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>                                                                                                                                                                                        | 1.5 ... 6 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup>                                                                                                                                                                            |
| <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>                                                                                                                                                                                                                                                                                              | 14 ... 10                                                                                                                                                                                                                        |
| <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 main contacts with screw-type terminals</li> <li>• for auxiliary and control contacts with screw-type terminals</li> </ul>                                                                                                                                                                     | 18 ... 22 lbf·in<br>7.5 ... 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<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>UL/CSA ratings</b>                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                  |
| <b>full-load current (FLA) for 3-phase AC motor</b> <ul style="list-style-type: none"> <li>• at 480 V rated value</li> </ul>                                                                                                                                                                                                                                                  | 4.8 A                                                                                                                                                                                                                            |
| yielded mechanical performance [hp] for 3-phase AC motor <ul style="list-style-type: none"> <li>• at 200/208 V rated value</li> <li>• at 220/230 V rated value</li> <li>• at 460/480 V rated value</li> </ul>                                                                                                                                                                 | 1 hp<br>1 hp<br>3 hp                                                                                                                                                                                                             |
| <b>Safety related data</b>                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                  |
| proportion of dangerous failures with high demand rate according to SN 31920                                                                                                                                                                                                                                                                                                  | 50 %                                                                                                                                                                                                                             |
| <b>MTTF with high demand rate</b>                                                                                                                                                                                                                                                                                                                                             | 39 a                                                                                                                                                                                                                             |
| IEC 61508                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                  |
| T1 value for proof test interval or service life according to IEC 61508                                                                                                                                                                                                                                                                                                       | 6 a                                                                                                                                                                                                                              |
| <b>Electrical Safety</b>                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                  |
| <b>touch protection on the front according to IEC 60529</b>                                                                                                                                                                                                                                                                                                                   | finger-safe, for vertical contact from the front                                                                                                                                                                                 |
| <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>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                                                                                                                                                                                               |

|                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 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                                                                                                                                                                                                                             |  | <a href="#">3NE1802-0</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              |
| ● of full range R fuse link for semiconductor protection at cylindrical design usable                                                                                                                                                                                                                    |  | <a href="#">5SE1335</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |
| ● of back-up R fuse link for semiconductor protection at NH design usable                                                                                                                                                                                                                                |  | <a href="#">3NE8020-1</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              |
| ● of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable                                                                                                                                                                                                            |  | <a href="#">3NC1032</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |
| ● of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable                                                                                                                                                                                                            |  | <a href="#">3NC1450</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |
| ● of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable                                                                                                                                                                                                            |  | <a href="#">3NC2263</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |
| manufacturer's article number of the gG fuse                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| ● at NH design usable                                                                                                                                                                                                                                                                                    |  | <a href="#">3NA3805-6</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                              |
| Approvals Certificates                                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Environment                                                                                                                                                                                                                                                                                              |  | General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                              |
| <a href="#">Environmental Confirmations</a>                                                                                                                                                                                                                                                              |  |       |                              |
| General Product Approval                                                                                                                                                                                                                                                                                 |  | EMV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Test Certificates            |
|                                                    |  | <a href="#">Type Test Certificates/Test Report</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <a href="#">Confirmation</a> |
| other                                                                                                                                                                                                                                                                                                    |  | <a href="#">Confirmation</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |
|                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Further information                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Information on the packaging<br><a href="https://support.industry.siemens.com/cs/ww/en/view/109813875">https://support.industry.siemens.com/cs/ww/en/view/109813875</a>                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Information for data generation and storage<br><a href="https://support.industry.siemens.com/cs/ww/en/view/109995012">https://support.industry.siemens.com/cs/ww/en/view/109995012</a>                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Information- and Downloadcenter (Catalogs, Brochures,...)<br><a href="https://www.siemens.com/ic10">https://www.siemens.com/ic10</a>                                                                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Industry Mall (Online ordering system)<br><a href="https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF3405-1BD24">https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF3405-1BD24</a>                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Cax online generator<br><a href="https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3RF3405-1BD24">https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&amp;mlfb=3RF3405-1BD24</a>                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Service&Support (Manuals, Certificates, Characteristics, FAQs,...)<br><a href="https://support.industry.siemens.com/cs/ww/en/ps/3RF3405-1BD24">https://support.industry.siemens.com/cs/ww/en/ps/3RF3405-1BD24</a>                                                                                        |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |
| Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)<br><a href="https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3405-1BD24&amp;lang=en">https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF3405-1BD24&amp;lang=en</a> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                              |





last modified:

4/21/2026