

Siemens  
EcoTech



Circuit breaker size S0 For transformer protection A-release 5.5...8 A Short-circuit release 163 A Screw terminal Standard switching capacity



|                                                                 |                            |
|-----------------------------------------------------------------|----------------------------|
| product brand name                                              | SIRIUS                     |
| product designation                                             | Circuit breaker            |
| design of the product                                           | For transformer protection |
| product type designation                                        | 3RV2                       |
| <b>General technical data</b>                                   |                            |
| size of the circuit-breaker                                     | S0                         |
| size of contactor can be combined company-specific              | S00, S0                    |
| product extension auxiliary switch                              | Yes                        |
| power loss [W] for rated value of the current                   |                            |
| • at AC in hot operating state                                  | 9.25 W                     |
| • at AC in hot operating state per pole                         | 3.1 W                      |
| insulation voltage with degree of pollution 3 at AC rated value | 690 V                      |
| surge voltage resistance rated value                            | 6 kV                       |
| shock resistance according to IEC 60068-2-27                    | 25g / 11 ms                |
| mechanical service life (operating cycles)                      |                            |
| • of the main contacts typical                                  | 100 000                    |
| • of auxiliary contacts typical                                 | 100 000                    |
| electrical endurance (operating cycles) typical                 | 100 000                    |
| reference code according to IEC 81346-2                         | Q                          |
| Substance Prohibitance (Date)                                   | 10/01/2009                 |
| Weight                                                          | 0.353 kg                   |
| <b>Ambient conditions</b>                                       |                            |
| installation altitude at height above sea level maximum         | 2 000 m                    |
| ambient temperature                                             |                            |
| • during operation                                              | -20 ... +60 °C             |
| • during storage                                                | -50 ... +80 °C             |
| • during transport                                              | -50 ... +80 °C             |
| relative humidity during operation                              | 10 ... 95 %                |
| <b>Environmental footprint</b>                                  |                            |
| Environmental Product Declaration (EPD)                         | Yes                        |
| global warming potential [CO2 eq] total                         | 75.078 kg                  |
| global warming potential [CO2 eq] during manufacturing          | 2.68 kg                    |
| global warming potential [CO2 eq] during sales                  | 0.143 kg                   |
| global warming potential [CO2 eq] during operation              | 72.7 kg                    |
| global warming potential [CO2 eq] after end of life             | -0.445 kg                  |
| Siemens Eco Profile (SEP)                                       | Siemens EcoTech            |
| <b>Main circuit</b>                                             |                            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>number of poles for main current circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3                                                                        |
| <b>adjustable current response value current of the current-dependent overload release</b>                                                                                                                                                                                                                                                                                                                                                                                             | 5.5 ... 8 A                                                              |
| <b>type of voltage for main current circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                        | AC                                                                       |
| <b>operating voltage</b> <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> <li>• at AC-3e rated value maximum</li> </ul>                                                                                                                                                                                                                                                                                                                | 20 ... 690 V<br>690 V<br>690 V                                           |
| <b>operating frequency rated value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50 ... 60 Hz                                                             |
| <b>operational current rated value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8 A                                                                      |
| <b>operational current</b> <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> <li>• at AC-3e at 400 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                   | 8 A<br>8 A                                                               |
| <b>operating power</b> <ul style="list-style-type: none"> <li>• at AC-3               <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> <li>• at AC-3e               <ul style="list-style-type: none"> <li>— at 230 V rated value</li> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul> | 1.5 kW<br>3 kW<br>4 kW<br>5.5 kW<br><br>1.5 kW<br>3 kW<br>4 kW<br>5.5 kW |
| <b>operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> <li>• at AC-3e maximum</li> </ul>                                                                                                                                                                                                                                                                                                                                                             | 15 1/h<br>15 1/h                                                         |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                          |
| <b>type of voltage for auxiliary and control circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                               | AC/DC                                                                    |
| <b>number of NC contacts for auxiliary contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0                                                                        |
| <b>number of NO contacts for auxiliary contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0                                                                        |
| <b>number of CO contacts for auxiliary contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0                                                                        |
| <b>Protective and monitoring functions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                          |
| <b>product function</b> <ul style="list-style-type: none"> <li>• ground fault detection</li> <li>• phase failure detection</li> </ul>                                                                                                                                                                                                                                                                                                                                                  | No<br>Yes                                                                |
| <b>trip class</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CLASS 10                                                                 |
| <b>design of the overload release</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | thermal                                                                  |
| <b>maximum short-circuit current breaking capacity (Icu)</b> <ul style="list-style-type: none"> <li>• at AC at 240 V rated value</li> <li>• at AC at 400 V rated value</li> <li>• at AC at 500 V rated value</li> <li>• at AC at 690 V rated value</li> </ul>                                                                                                                                                                                                                          | 100 kA<br>100 kA<br>42 kA<br>6 kA                                        |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b> <ul style="list-style-type: none"> <li>• at 240 V rated value</li> <li>• at 400 V rated value</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>                                                                                                                                                                                                                                          | 100 kA<br>100 kA<br>42 kA<br>4 kA                                        |
| <b>response value current of instantaneous short-circuit trip unit</b>                                                                                                                                                                                                                                                                                                                                                                                                                 | 163 A                                                                    |
| <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> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                           | 8 A<br>8 A                                                               |
| <b>yielded mechanical performance [hp]</b> <ul style="list-style-type: none"> <li>• for single-phase AC motor               <ul style="list-style-type: none"> <li>— at 110/120 V rated value</li> <li>— at 230 V rated value</li> </ul> </li> <li>• 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> </li> </ul>                               | 0.33 hp<br>1 hp<br><br>2 hp<br>2 hp<br>5 hp                              |

|                                                                                                |                                                                          |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| — at 575/600 V rated value                                                                     | 5 hp                                                                     |
| <b>Short-circuit protection</b>                                                                |                                                                          |
| <b>product function short circuit protection</b>                                               | Yes                                                                      |
| <b>design of the short-circuit trip</b>                                                        | magnetic                                                                 |
| <b>design of the fuse link for IT network for short-circuit protection of the main circuit</b> |                                                                          |
| • at 400 V                                                                                     | gL/gG 50 A                                                               |
| • at 500 V                                                                                     | gL/gG 40 A                                                               |
| • at 690 V                                                                                     | gL/gG 35 A                                                               |
| <b>Installation/ mounting/ dimensions</b>                                                      |                                                                          |
| <b>mounting position</b>                                                                       | any                                                                      |
| <b>fastening method</b>                                                                        | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| <b>height</b>                                                                                  | 97 mm                                                                    |
| <b>width</b>                                                                                   | 45 mm                                                                    |
| <b>depth</b>                                                                                   | 97 mm                                                                    |
| <b>required spacing</b>                                                                        |                                                                          |
| • with side-by-side mounting at the side                                                       | 0 mm                                                                     |
| • for grounded parts at 400 V                                                                  |                                                                          |
| — downwards                                                                                    | 30 mm                                                                    |
| — upwards                                                                                      | 30 mm                                                                    |
| — at the side                                                                                  | 9 mm                                                                     |
| • for live parts at 400 V                                                                      |                                                                          |
| — downwards                                                                                    | 30 mm                                                                    |
| — upwards                                                                                      | 30 mm                                                                    |
| — at the side                                                                                  | 9 mm                                                                     |
| • for grounded parts at 500 V                                                                  |                                                                          |
| — downwards                                                                                    | 30 mm                                                                    |
| — upwards                                                                                      | 30 mm                                                                    |
| — at the side                                                                                  | 9 mm                                                                     |
| • for live parts at 500 V                                                                      |                                                                          |
| — downwards                                                                                    | 30 mm                                                                    |
| — upwards                                                                                      | 30 mm                                                                    |
| — at the side                                                                                  | 9 mm                                                                     |
| • for grounded parts at 690 V                                                                  |                                                                          |
| — downwards                                                                                    | 50 mm                                                                    |
| — upwards                                                                                      | 50 mm                                                                    |
| — backwards                                                                                    | 0 mm                                                                     |
| — at the side                                                                                  | 30 mm                                                                    |
| — forwards                                                                                     | 0 mm                                                                     |
| • for live parts at 690 V                                                                      |                                                                          |
| — downwards                                                                                    | 50 mm                                                                    |
| — upwards                                                                                      | 50 mm                                                                    |
| — backwards                                                                                    | 0 mm                                                                     |
| — at the side                                                                                  | 30 mm                                                                    |
| — forwards                                                                                     | 0 mm                                                                     |
| <b>Connections/ Terminals</b>                                                                  |                                                                          |
| <b>type of electrical connection</b>                                                           |                                                                          |
| • for main current circuit                                                                     | screw-type terminals                                                     |
| <b>arrangement of electrical connectors for main current circuit</b>                           | Top and bottom                                                           |
| <b>type of connectable conductor cross-sections</b>                                            |                                                                          |
| • for main contacts                                                                            |                                                                          |
| — solid or stranded                                                                            | 2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)                                  |
| — finely stranded with core end processing                                                     | 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²                        |
| • for AWG cables for main contacts                                                             | 2x (16 ... 12), 2x (14 ... 8)                                            |
| <b>tightening torque</b>                                                                       |                                                                          |
| • for main contacts with screw-type terminals                                                  | 2 ... 2.5 N·m                                                            |
| <b>design of screwdriver shaft</b>                                                             | Diameter 5 to 6 mm                                                       |
| <b>size of the screwdriver tip</b>                                                             | Pozidriv size 2                                                          |
| <b>design of the thread of the connection screw</b>                                            |                                                                          |
| • for main contacts                                                                            | M4                                                                       |

| Safety related data                                                  |                                                  |
|----------------------------------------------------------------------|--------------------------------------------------|
| product function suitable for safety function                        | Yes                                              |
| <b>suitability for use</b>                                           |                                                  |
| • safety-related switching on                                        | No                                               |
| • safety-related switching OFF                                       | Yes                                              |
| <b>service life maximum</b>                                          | 10 a                                             |
| <b>test wear-related service life necessary</b>                      | Yes                                              |
| <b>proportion of dangerous failures</b>                              |                                                  |
| • with low demand rate according to SN 31920                         | 40 %                                             |
| • with high demand rate according to SN 31920                        | 50 %                                             |
| <b>B10 value with high demand rate according to SN 31920</b>         | 5 000                                            |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b> | 50 FIT                                           |
| ISO 13849                                                            |                                                  |
| <b>device type according to ISO 13849-1</b>                          | 3                                                |
| <b>overdimensioning according to ISO 13849-2 necessary</b>           | Yes                                              |
| IEC 61508                                                            |                                                  |
| <b>safety device type according to IEC 61508-2</b>                   | Type A                                           |
| <b>T1 value</b>                                                      |                                                  |
| • for proof test interval or service life according to IEC 61508     | 10 a                                             |
| Electrical Safety                                                    |                                                  |
| <b>protection class IP on the front according to IEC 60529</b>       | IP20                                             |
| <b>touch protection on the front according to IEC 60529</b>          | finger-safe, for vertical contact from the front |
| Display                                                              |                                                  |
| display version for switching status                                 | Handle                                           |
| Approvals Certificates                                               |                                                  |
| General Product Approval                                             |                                                  |



#### Test Certificates

#### Maritime application

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



#### Maritime application

#### other



[Miscellaneous](#)



[Confirmation](#)



#### Railway

#### Environment

[Special Test Certificate](#)

[Confirmation](#)



[Environmental Confirmations](#)

#### Further information

Information on the packaging

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

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=3RV2421-1HA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2421-1HA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-1HA10>

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

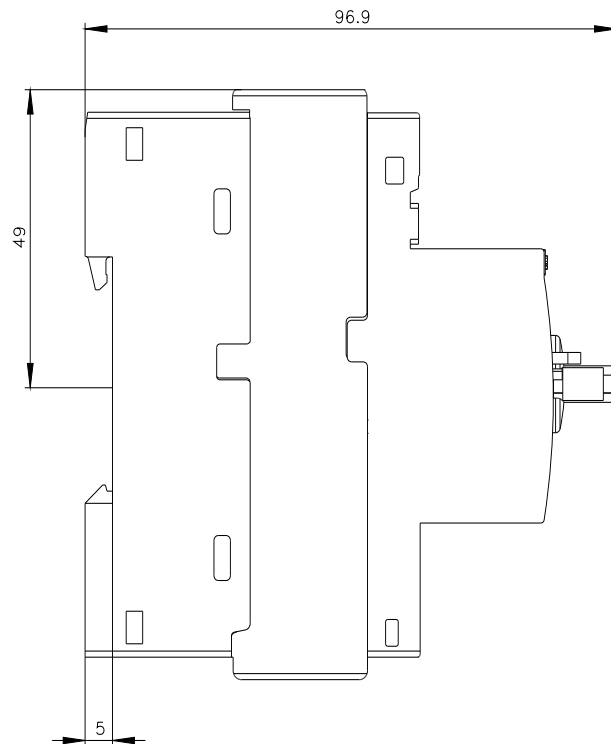
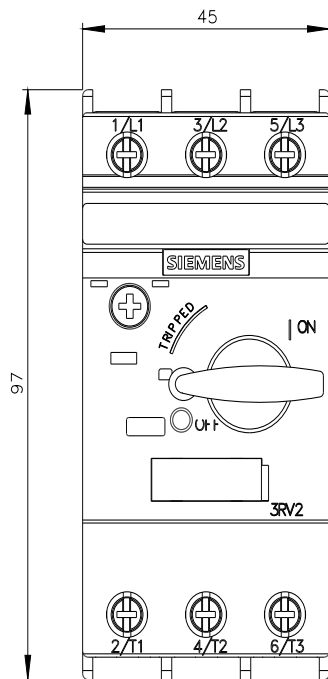
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2421-1HA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2421-1HA10&lang=en)

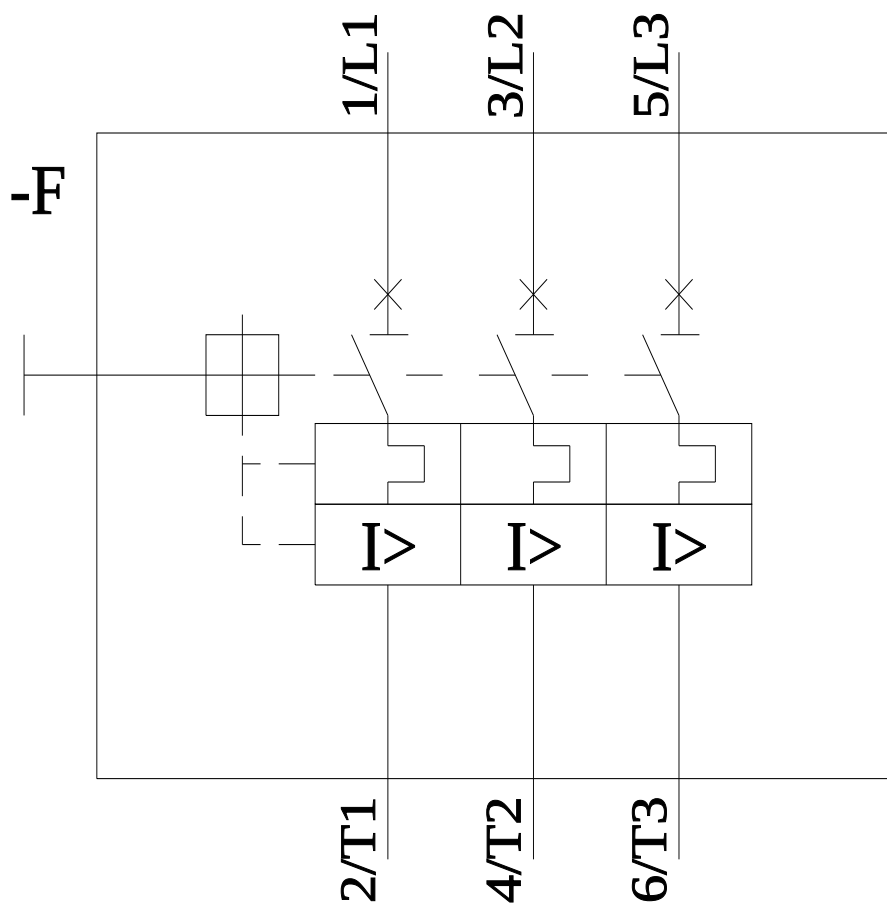
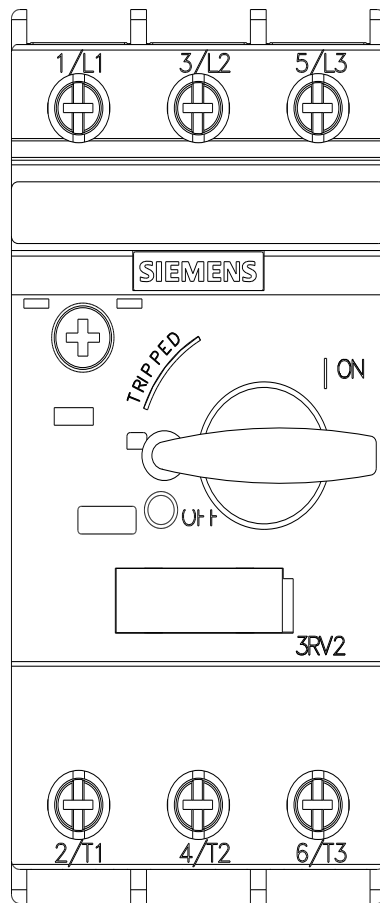
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-1HA10/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2421-1HA10&objecttype=14&gridview=view1>





last modified:

5/16/2025