

Circuit breaker size S0 for transformer protection A-release 16...22 A  
N-release 364 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                       |

| General technical data  |         |
|---|---------|
| Size of the circuit-breaker   | S0      |
| Size of contactor can be combined company-specific                        | S00, S0 |
| Product extension   |         |
| • Auxiliary switch  | Yes     |
| Power loss [W] total typical  | 8 W     |
| Insulation voltage with degree of pollution 3 rated value                 | 690 V   |
| Surge voltage resistance rated value                                      | 6 kV    |
| maximum permissible voltage for safe isolation                            |         |
| • in networks with grounded star point between main and auxiliary circuit | 400 V   |
| • in networks with grounded star point between main and auxiliary circuit | 400 V   |
| Protection class IP   |         |

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>• on the front</li> <li>• of the terminal</li> </ul>                               | IP20<br>IP20       |
| <b>Shock resistance</b>   |                    |
| <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>  | 25g / 11 ms        |
| <b>Mechanical service life (switching cycles)</b>   |                    |
| <ul style="list-style-type: none"> <li>• of the main contacts typical</li> <li>• of auxiliary contacts typical</li> </ul> | 100 000<br>100 000 |
| <b>Electrical endurance (switching cycles)</b>  |                    |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>   | 100 000            |
| Certificate of suitability ATEX   | No                 |
| <b>Protection against electrical shock</b>  | finger-safe        |

### Ambient conditions

|  |  |
|--|--|
| <b>Installation altitude at height above sea level</b>   |  |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>  | 2 000 m  |
| <b>Ambient temperature</b>   |  |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul> | -20 ... +60 °C<br>-50 ... +80 °C<br>-50 ... +80 °C |
| <b>Temperature compensation</b>  | -20 ... +60 °C                                     |
| Relative humidity during operation   | 10 ... 95 %  |

### Main circuit

|   |   |
|---|---|
| <b>Number of poles for main current circuit</b>   | 3   |
| <b>Adjustable pick-up value current of the current-dependent overload release</b>   | 16 ... 22 A                                 |
| <b>Operating voltage</b>  |   |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul>  | 690 V<br>690 V                              |
| <b>Operating frequency rated value</b>  | 50 ... 60 Hz                                |
| <b>Operating current rated value</b>  | 22 A  |
| <b>Operating current</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>   | 22 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> </ul> | 5 500 W<br>11 000 W<br>11 000 W<br>18 500 W |
| <b>Operating frequency</b>  |   |
| <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>   | 15 1/h                                      |

### Auxiliary circuit

|                              |   |
|------------------------------|---|
| <b>Number of NC contacts</b> |   |
| • for auxiliary contacts     | 0 |
| <b>Number of NO contacts</b> |   |
| • for auxiliary contacts     | 0 |
| <b>Number of CO contacts</b> |   |
| • for auxiliary contacts     | 0 |

### Protective and monitoring functions

|  |          |
|--|----------|
| <b>Product function</b>  |          |
| • Ground fault detection   | No       |
| • Phase failure detection  | Yes      |
| <b>Trip class</b>  | CLASS 10 |
| <b>Design of the overload release</b>                                  | thermal  |
| <b>Operational short-circuit current breaking capacity (Ics) at AC</b> |          |
| • at 240 V rated value   | 100 kA   |
| • at 400 V rated value   | 25 kA    |
| • at 500 V rated value   | 5 kA     |
| • at 690 V rated value   | 2 kA     |
| <b>Maximum short-circuit current breaking capacity (Icu)</b>           |          |
| • at AC at 240 V rated value   | 100 kA   |
| • at AC at 400 V rated value   | 55 kA    |
| • at AC at 500 V rated value   | 10 kA    |
| • at AC at 690 V rated value   | 4 kA     |
| <b>Breaking capacity short-circuit current (Icn)</b>                   |          |
| • at 1 current path at DC at 150 V rated value                         | 10 kA    |
| • with 2 current paths in series at DC at 300 V rated value            | 10 kA    |
| • with 3 current paths in series at DC at 450 V rated value            | 10 kA    |
| <b>Response value current</b>  |          |
| • of instantaneous short-circuit trip unit                             | 364 A    |

### UL/CSA ratings

|   |        |
|---|--------|
| <b>Full-load current (FLA) for three-phase AC motor</b> |        |
| • at 480 V rated value                                  | 22 A   |
| • at 600 V rated value                                  | 22 A   |
| <b>Yielded mechanical performance [hp]</b>              |        |
| • for single-phase AC motor                             |        |
| — at 110/120 V rated value                              | 1.5 hp |
| — at 230 V rated value                                  | 3 hp   |
| • for three-phase AC motor                              |        |
| — at 200/208 V rated value                              | 7.5 hp |
| — at 220/230 V rated value                              | 7.5 hp |

— at 460/480 V rated value

15 hp

### Short-circuit protection

|  |            |
|--|------------|
| <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 63 A |
| • at 500 V   | gL/gG 50 A |
| • at 690 V   | gL/gG 50 A |

### Installation/ mounting/ dimensions

|                              |  |
|------------------------------|--|
| <b>Mounting position</b>     | any  |
| <b>Mounting type</b>         | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| <b>Height</b>                | 97 mm  |
| <b>Width</b>                 | 45 mm  |
| <b>Depth</b>                 | 96 mm  |
| <b>Required spacing</b>      |  |
| • with side-by-side mounting |  |
| — forwards                   | 0 mm   |
| — Backwards                  | 0 mm   |
| — upwards                    | 50 mm  |
| — downwards                  | 50 mm  |
| — at the side                | 0 mm   |
| • for grounded parts         |  |
| — forwards                   | 0 mm   |
| — Backwards                  | 0 mm   |
| — upwards                    | 50 mm  |
| — at the side                | 30 mm  |
| — downwards                  | 50 mm  |
| • for live parts             |  |
| — forwards                   | 0 mm   |
| — Backwards                  | 0 mm   |
| — upwards                    | 50 mm  |
| — downwards                  | 50 mm  |
| — at the side                | 30 mm  |

### Connections/Terminals





|  |                      |
|--|----------------------|
| <b>Product function</b>                                |                      |
| • removable terminal for auxiliary and control circuit | No                   |
| <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>  |   |
| <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for main contacts</li> </ul> | <p>2x (1 ... 2,5 mm<sup>2</sup>), 2x (2,5 ... 10 mm<sup>2</sup>)</p> <p>2x (1 ... 2.5 mm<sup>2</sup>), 2x (2.5 ... 6 mm<sup>2</sup>), 1x 10 mm<sup>2</sup></p> <p>2x (16 ... 12), 2x (14 ... 8)</p> |
| <b>Tightening torque</b>   |   |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>  | 2 ... 2.5 N·m   |
| <b>Design of screwdriver shaft</b>   | Diameter 5 to 6 mm  |
| <b>Size of the screwdriver tip</b>   | Pozidriv 2  |
| <b>Design of the thread of the connection screw</b>  |   |
| <ul style="list-style-type: none"> <li>• for main contacts</li> </ul>  | M4  |




### Safety related data

|   |        |
|---|--------|
| <b>B10 value</b>  |        |
| <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul>  | 5 000  |
| <b>Proportion of dangerous failures</b>   |        |
| <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> <li>• with high demand rate acc. to SN 31920</li> </ul> | 50 %   |
| <b>Failure rate [FIT]</b>   |        |
| <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>   | 50 FIT |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>   | 10 y   |
| <b>Display version</b>  |        |
| <ul style="list-style-type: none"> <li>• for switching status</li> </ul>  | Handle |

### Certificates/approvals

|  |  |   |                    |   |  |
|--|--|---|--------------------|---|--|
| General Product Approval   |  |   |                    |   | Test Certificates                        |
| <br>CCC | <br>CSA | <br>UL | <a href="#">KC</a> |  | <a href="#">Special Test Certificate</a> |

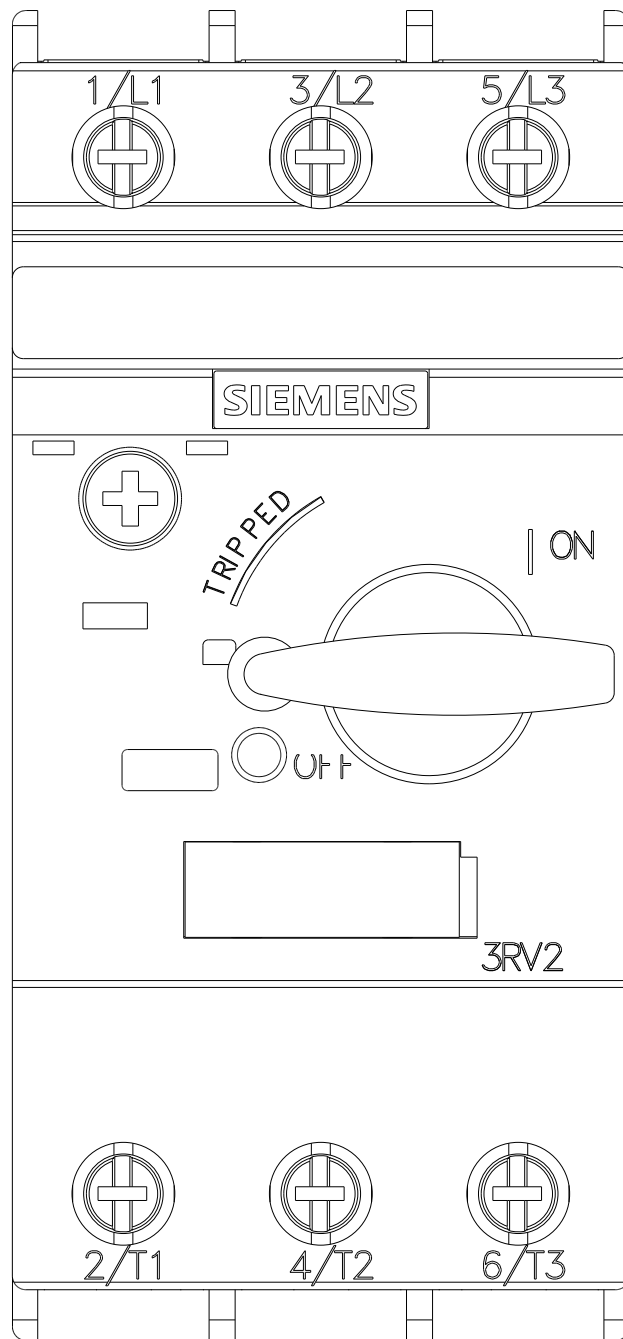
|  |  |   |  |  |   |
|--|--|---|--|--|---|
| Test Certificates                                  | Marine / Shipping  |   |  |  |   |
| <a href="#">Type Test Certificates/Test Report</a> | <br>ABS | <br>BUREAU VERITAS | <br>LRS | <br>PRS | <br>RINA |

|  |  |  |
|--|--|--|
| Marine / Shipping  | other  | Railway  |
| <br>RMRS          | <a href="#">Confirmation</a><br><br>VDE | <a href="#">Miscellaneous</a><br><a href="#">Vibration and Shock</a> |
| <br>DNV-GL.COM/AF |  |  |

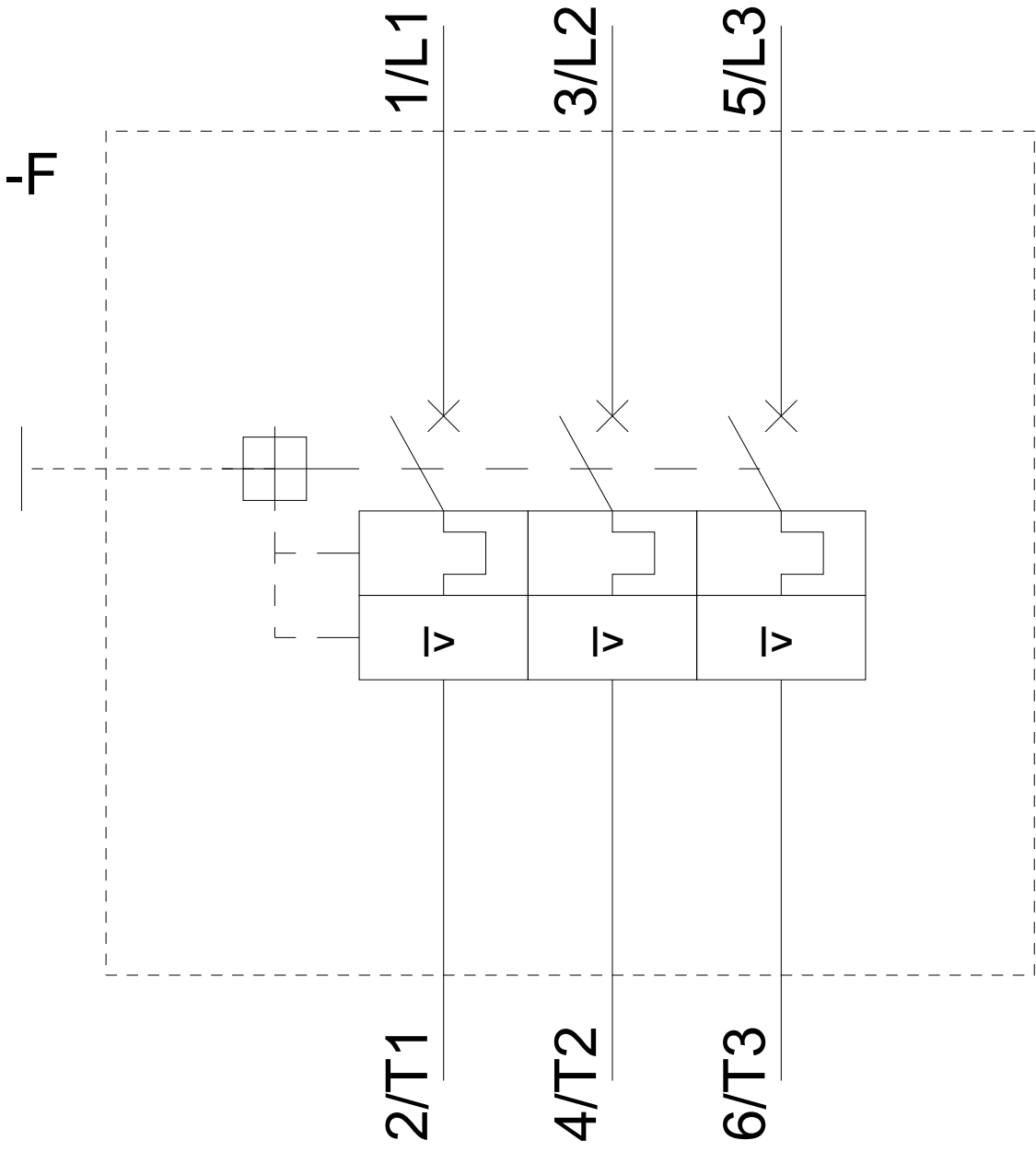
Further information

- Information- and Downloadcenter (Catalogs, Brochures,...)**  
<http://www.siemens.com/industrial-controls/catalogs>
- Industry Mall (Online ordering system)**  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2421-4CA10>
- Cax online generator**  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2421-4CA10>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4CA10>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2421-4CA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2421-4CA10&lang=en)
- Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**  
<https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4CA10/char>
- Further characteristics (e.g. electrical endurance, switching frequency)**  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2421-4CA10&objecttype=14&gridview=view1>









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