



Circuit breaker size S2 for motor protection, CLASS 10 A-release 42...52 A  
N-release 741 A screw terminal Standard switching capacity

|                          |                      |
|--------------------------|----------------------|
| product brand name       | SIRIUS               |
| product designation      | Circuit breaker      |
| design of the product    | For motor protection |
| product type designation | 3RV2                 |

### General technical data

|   |                   |
|---|-------------------|
| size of the circuit-breaker                                       | S2                |
| size of contactor can be combined company-specific                | S2                |
| product extension auxiliary switch                                | Yes               |
| power loss [W] for rated value of the current                     |                   |
| • at AC in hot operating state                                    | 24.5 W            |
| • at AC in hot operating state per pole                           | 8.2 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 Sinus |
| mechanical service life (switching cycles)                        |                   |
| • of the main contacts typical                                    | 50 000            |
| • of auxiliary contacts typical                                   | 50 000            |
| electrical endurance (switching cycles) typical                   | 50 000            |
| type of protection according to ATEX directive 2014/34/EU         | Ex II (2) GD      |
| certificate of suitability according to ATEX directive 2014/34/EU | DMT 02 ATEX F 001 |
| reference code according to IEC 81346-2                           | Q                 |
| Substance Prohibitance (Date)                                     | 10/15/2014        |

### Ambient conditions

|   |                |
|---|----------------|
| 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 %    |

### Main circuit

|   |              |
|---|--------------|
| number of poles for main current circuit  | 3            |
| adjustable current response value current of the current-dependent overload release | 42 ... 52 A  |
| operating voltage   |              |
| • rated value   | 20 ... 690 V |
| • at AC-3 rated value maximum   | 690 V        |
| • at AC-3e rated value maximum  | 690 V        |
| operating frequency rated value   | 50 ... 60 Hz |
| operational current rated value   | 52 A         |

|                                 |        |
|---------------------------------|--------|
| <b>operational current</b>      |        |
| • at AC-3 at 400 V rated value  | 52 A   |
| • at AC-3e at 400 V rated value | 52 A   |
| <b>operating power</b>          |        |
| • at AC-3                       |        |
| — at 230 V rated value          | 15 kW  |
| — at 400 V rated value          | 22 kW  |
| — at 500 V rated value          | 30 kW  |
| — at 690 V rated value          | 45 kW  |
| • at AC-3e                      |        |
| — at 230 V rated value          | 15 kW  |
| — at 400 V rated value          | 22 kW  |
| — at 500 V rated value          | 30 kW  |
| — at 690 V rated value          | 45 kW  |
| <b>operating frequency</b>      |        |
| • at AC-3 maximum               | 15 1/h |
| • at AC-3e maximum              | 15 1/h |

#### 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>breaking capacity maximum short-circuit current (Icu)</b>         |          |
| • at AC at 240 V rated value   | 100 kA   |
| • at AC at 400 V rated value   | 65 kA    |
| • at AC at 500 V rated value   | 8 kA     |
| • at AC at 690 V rated value   | 4 kA     |
| <b>breaking capacity operating short-circuit current (Ics) at AC</b> |          |
| • at 240 V rated value   | 100 kA   |
| • at 400 V rated value   | 30 kA    |
| • at 500 V rated value   | 4 kA     |
| • at 690 V rated value   | 2 kA     |
| response value current of instantaneous short-circuit trip unit      | 741 A    |

#### UL/CSA ratings

|   |       |
|---|-------|
| <b>full-load current (FLA) for 3-phase AC motor</b> |       |
| • at 480 V rated value                              | 52 A  |
| • at 600 V rated value                              | 52 A  |
| <b>yielded mechanical performance [hp]</b>          |       |
| • for single-phase AC motor                         |       |
| — at 110/120 V rated value                          | 5 hp  |
| — at 230 V rated value                              | 10 hp |
| • for 3-phase AC motor                              |       |
| — at 200/208 V rated value                          | 15 hp |
| — at 220/230 V rated value                          | 20 hp |
| — at 460/480 V rated value                          | 40 hp |
| — at 575/600 V rated value                          | 50 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 240 V   | none required |
| • at 400 V   | 160           |
| • at 500 V   | 125           |
| • at 690 V   | 100           |

#### Installation/ mounting/ dimensions

|                          |  |
|--------------------------|--|
| <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>            | 140 mm   |
| <b>width</b>             | 55 mm  |

|  |  |
|--|--|
| <b>depth</b>   | 149 mm   |
| <b>required spacing</b>  |  |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting at the side</li> </ul>   | 0 mm   |
| <ul style="list-style-type: none"> <li>• for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>   | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 10 mm  |
| <ul style="list-style-type: none"> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>       | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 10 mm  |
| <ul style="list-style-type: none"> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>   | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 10 mm  |
| <ul style="list-style-type: none"> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>       | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 10 mm  |
| <ul style="list-style-type: none"> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>   | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 10 mm  |
| <ul style="list-style-type: none"> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards</li> </ul> </li> </ul>       | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— upwards</li> </ul> </li> </ul>                                  | 50 mm  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— at the side</li> </ul> </li> </ul>                              | 10 mm  |
| <b>Connections/ Terminals</b>  |  |
| <b>type of electrical connection</b>   | screw-type terminals   |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> </ul>   | Top and bottom   |
| <b>arrangement of electrical connectors for main current circuit</b>   |  |
| <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 or stranded</li> </ul> </li> </ul>     | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> </ul> </li> </ul> | 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) |
| <ul style="list-style-type: none"> <li>• at AWG cables for main contacts</li> </ul>  | 2x (18 ... 2), 1x (18 ... 1)                                   |
| <b>tightening torque</b>   |  |
| <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>  | 3 ... 4.5 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>  |  |
| <ul style="list-style-type: none"> <li>• for main contacts</li> </ul>  | M6   |
| <b>Safety related data</b>   |  |
| <b>B10 value</b>   |  |
| <ul style="list-style-type: none"> <li>• with high demand rate according to SN 31920</li> </ul>  | 5 000  |
| <b>proportion of dangerous failures</b>  |  |
| <ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> </ul>   | 50 %   |
| <ul style="list-style-type: none"> <li>• with high demand rate according to SN 31920</li> </ul>  | 50 %   |
| <b>failure rate [FIT]</b>  |  |
| <ul style="list-style-type: none"> <li>• with low demand rate according to SN 31920</li> </ul>   | 50 FIT   |
| T1 value for proof test interval or service life according to IEC 61508  | 10 y   |
| <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 version for switching status   | Handle   |
| <b>Certificates/ approvals</b>   |  |
| <b>General Product Approval</b>  |  |



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Declaration of Conformity

Test Certificates



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Marine / Shipping



Marine / Shipping

other

Railway



[Confirmation](#)



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Further information

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=3RV2031-4WA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4WA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WA10>

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

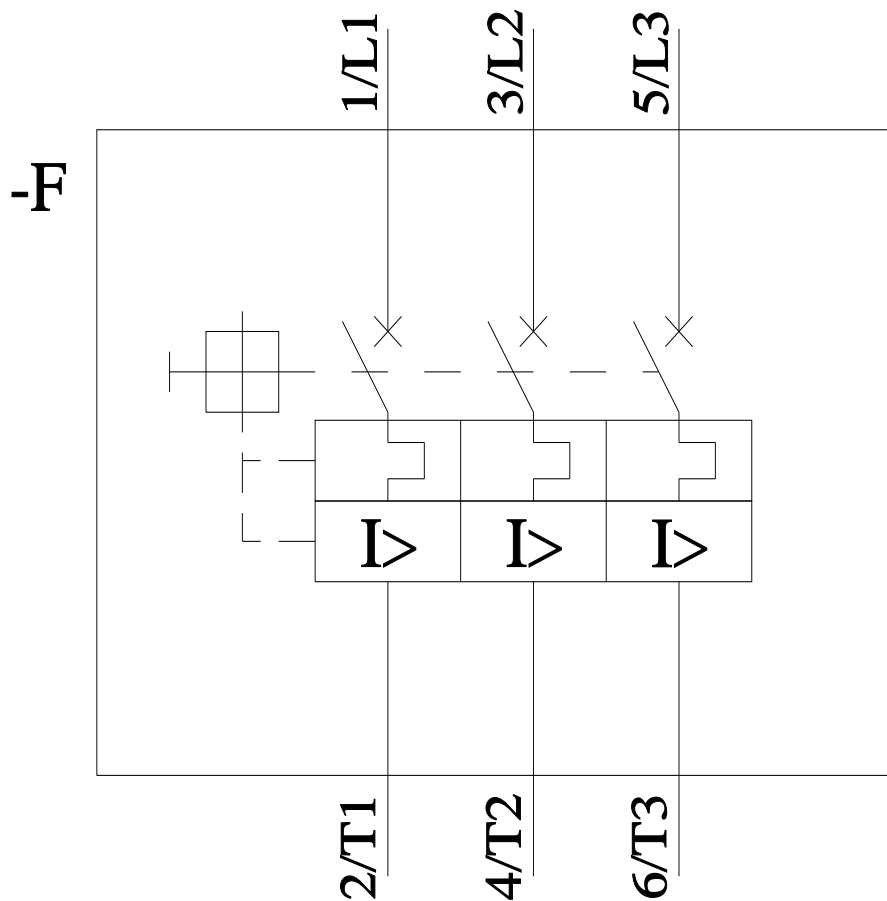
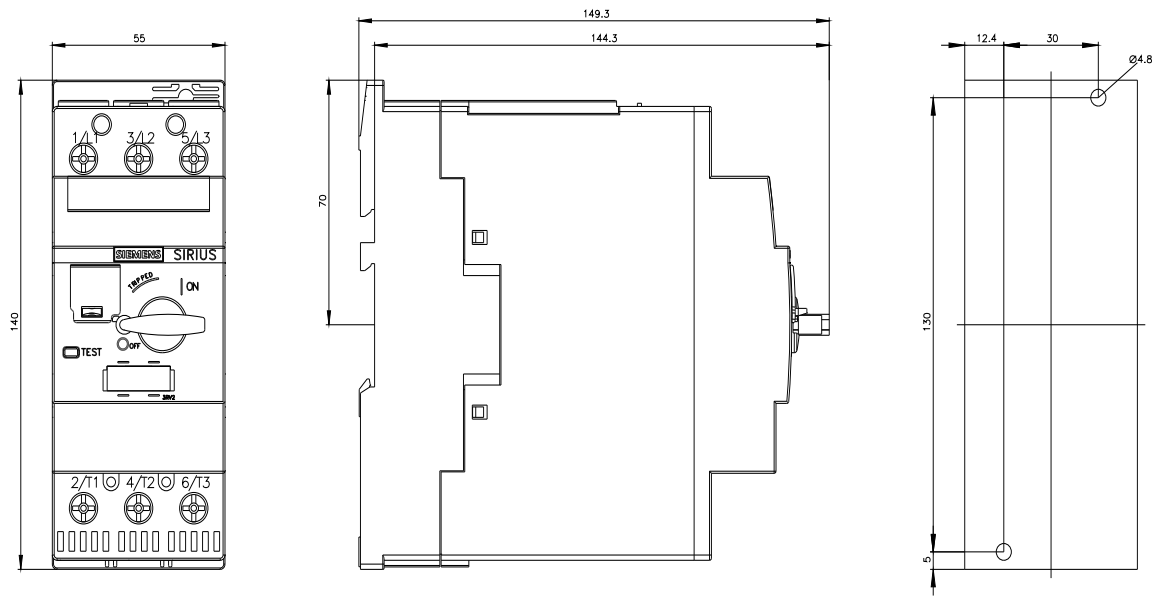
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4WA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4WA10&lang=en)

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4WA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4WA10&objecttype=14&gridview=view1>



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