



Circuit breaker size S2 for motor protection CLASS 10 A-release 54...65 A  
N-release 845 A screw terminal Standard switching capacity Multi-unit  
packaging = 12 units

|                          |                      |
|--------------------------|----------------------|
| 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                                    | 26 W              |
| • at AC in hot operating state per pole                           | 8.7 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                                    | 20 000            |
| • of auxiliary contacts typical                                   | 20 000            |
| electrical endurance (switching cycles) typical                   | 20 000            |
| 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)                                     | 04/10/2015        |

### 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 | 54 ... 65 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                                                     | 65 A         |

|                                 |         |
|---------------------------------|---------|
| <b>operational current</b>      |         |
| • at AC-3 at 400 V rated value  | 65 A    |
| • at AC-3e at 400 V rated value | 65 A    |
| <b>operating power</b>          |         |
| • at AC-3                       |         |
| — at 230 V rated value          | 18.5 kW |
| — at 400 V rated value          | 30 kW   |
| — at 500 V rated value          | 45 kW   |
| — at 690 V rated value          | 55 kW   |
| • at AC-3e                      |         |
| — at 230 V rated value          | 18.5 kW |
| — at 400 V rated value          | 30 kW   |
| — at 500 V rated value          | 45 kW   |
| — at 690 V rated value          | 55 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      | 845 A    |

#### UL/CSA ratings

|                                                     |       |
|-----------------------------------------------------|-------|
| <b>full-load current (FLA) for 3-phase AC motor</b> |       |
| • at 480 V rated value                              | 65 A  |
| • at 600 V rated value                              | 62 A  |
| <b>yielded mechanical performance [hp]</b>          |       |
| • for 3-phase AC motor                              |       |
| — at 200/208 V rated value                          | 20 hp |
| — at 220/230 V rated value                          | 25 hp |
| — at 460/480 V rated value                          | 50 hp |
| — at 575/600 V rated value                          | 60 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 standard mounting 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>                  |                                                                                        |
| • with side-by-side mounting at the side | 0 mm                                                                                   |

|                               |       |
|-------------------------------|-------|
| • for grounded parts at 400 V |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — at the side                 | 10 mm |
| • for live parts at 400 V     |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — at the side                 | 10 mm |
| • for grounded parts at 500 V |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — at the side                 | 10 mm |
| • for live parts at 500 V     |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — at the side                 | 10 mm |
| • for grounded parts at 690 V |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — backwards                   | 0 mm  |
| — at the side                 | 10 mm |
| — forwards                    | 0 mm  |
| • for live parts at 690 V     |       |
| — downwards                   | 50 mm |
| — upwards                     | 50 mm |
| — backwards                   | 0 mm  |
| — at the side                 | 10 mm |
| — forwards                    | 0 mm  |

#### Connections/ Terminals

##### type of electrical connection

- for main current circuit

screw-type terminals

##### arrangement of electrical connectors for main current circuit

Top and bottom

##### type of connectable conductor cross-sections

- for main contacts
  - solid or stranded
  - finely stranded with core end processing
- at AWG cables for main contacts

2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)

2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)

2x (18 ... 2), 1x (18 ... 1)

##### tightening torque

- for main contacts with screw-type terminals

3 ... 4.5 N·m

##### design of screwdriver shaft

Diameter 5 to 6 mm

##### size of the screwdriver tip

Pozidriv size 2

##### design of the thread of the connection screw

- for main contacts

M6

#### Safety related data

##### B10 value

- with high demand rate according to SN 31920

5 000

##### proportion of dangerous failures

- with low demand rate according to SN 31920
- with high demand rate according to SN 31920

50 %

50 %

##### failure rate [FIT]

- with low demand rate according to SN 31920

50 FIT

T1 value for proof test interval or service life according to IEC 61508

10 y

##### protection class IP on the front according to IEC 60529

IP20

##### touch protection on the front according to IEC 60529

display version for switching status

finger-safe, for vertical contact from the front

Handle

#### Certificates/ approvals

#### 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=3RV2031-4JA10-Z W96>

#### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4JA10-Z W96>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4JA10-Z W96>

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

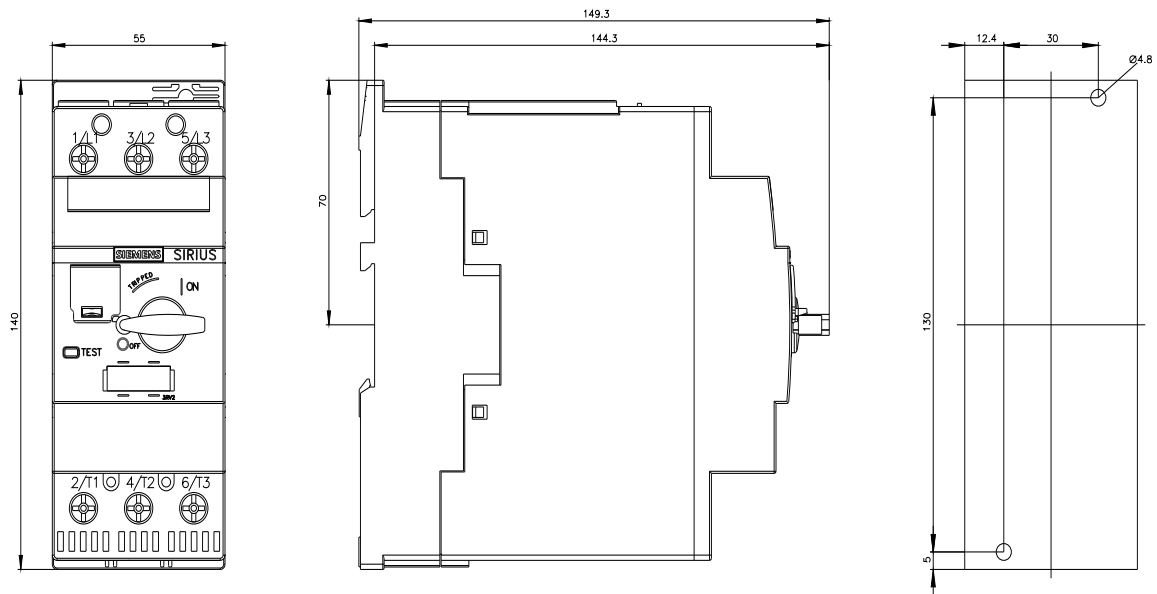
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4JA10-Z W96&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4JA10-Z W96&lang=en)

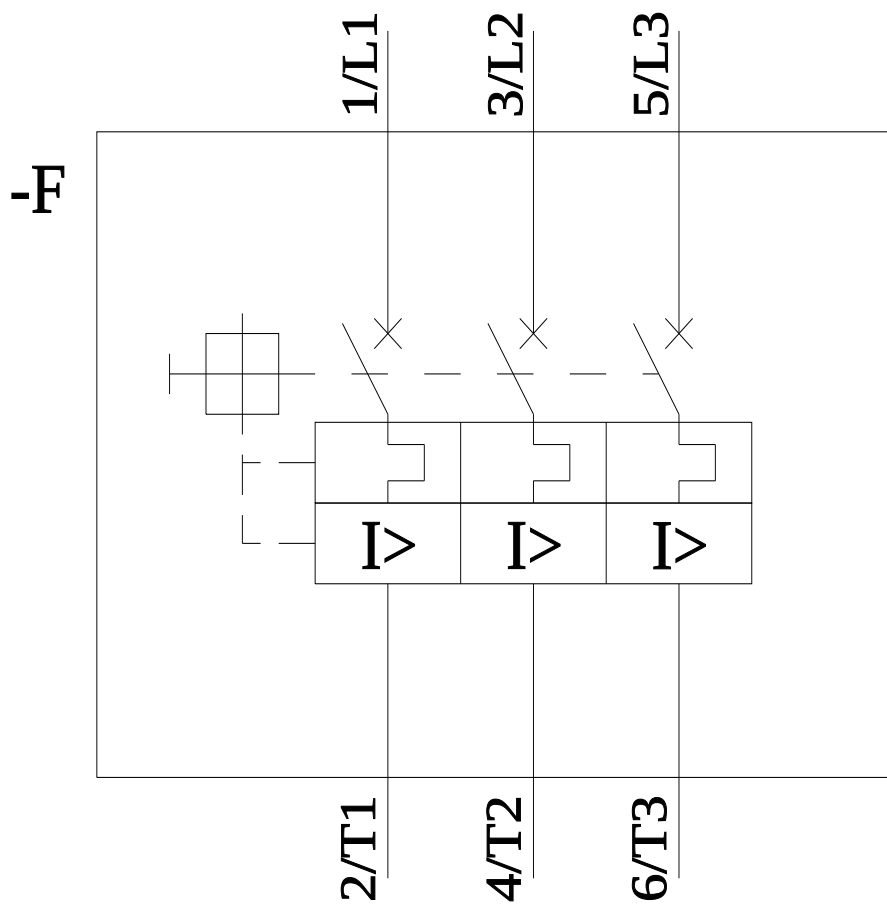
#### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4JA10-Z W96/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4JA10-Z W96&objecttype=14&gridview=view1>





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