



Circuit breaker size S2 for starter combination Rated current 80 A N-release 1040 A screw terminal Standard switching capacity

|                          |                          |
|--------------------------|--------------------------|
| product brand name       | SIRIUS                   |
| product designation      | Circuit breaker          |
| design of the product    | For starter combinations |
| 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                                  | 29.5 W            |
| • at AC in hot operating state per pole                         | 9.8 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            |
| reference code according to IEC 81346-2                         | Q                 |
| Substance Prohibition (Date)                                    | 03/01/2017        |

### 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            |
| operating voltage                        |              |
| • rated value                            | 20 ... 690 V |
| • at AC-3 rated value maximum            | 690 V        |
| operating frequency rated value          | 50 ... 60 Hz |
| operational current rated value          | 80 A         |
| operational current                      |              |
| • at AC-3 at 400 V rated value           | 80 A         |
| operating power                          |              |
| • at AC-3                                |              |
| — at 230 V rated value                   | 22 kW        |
| — at 400 V rated value                   | 37 kW        |
| — at 500 V rated value                   | 55 kW        |

|                                                                                                |                                                                                        |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| — at 690 V rated value                                                                         | 75 kW                                                                                  |
| <b>operating frequency</b>                                                                     |                                                                                        |
| • at AC-3 maximum                                                                              | 15 1/h                                                                                 |
| <b>Auxiliary circuit</b>                                                                       |                                                                                        |
| <b>number of NC contacts for auxiliary contacts</b>                                            | 0                                                                                      |
| <b>number of NO contacts for auxiliary contacts</b>                                            | 0                                                                                      |
| <b>Protective and monitoring functions</b>                                                     |                                                                                        |
| <b>product function</b>                                                                        |                                                                                        |
| • ground fault detection                                                                       | No                                                                                     |
| • phase failure detection                                                                      | No                                                                                     |
| <b>breaking capacity maximum short-circuit current (I<sub>cu</sub>)</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 (I<sub>cs</sub>) at AC</b>                |                                                                                        |
| • at 240 V rated value                                                                         | 100 kA                                                                                 |
| • at 400 V rated value                                                                         | 30 kA                                                                                  |
| • at 500 V rated value                                                                         | 5 kA                                                                                   |
| • at 690 V rated value                                                                         | 2 kA                                                                                   |
| response value current of instantaneous short-circuit trip unit                                | 1 040 A                                                                                |
| <b>UL/CSA ratings</b>                                                                          |                                                                                        |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                            |                                                                                        |
| • at 480 V rated value                                                                         | 77 A                                                                                   |
| • at 600 V rated value                                                                         | 77 A                                                                                   |
| <b>yielded mechanical performance [hp]</b>                                                     |                                                                                        |
| • for single-phase AC motor                                                                    |                                                                                        |
| — at 110/120 V rated value                                                                     | 7.5 hp                                                                                 |
| • for 3-phase AC motor                                                                         |                                                                                        |
| — at 200/208 V rated value                                                                     | 25 hp                                                                                  |
| — at 220/230 V rated value                                                                     | 30 hp                                                                                  |
| — at 460/480 V rated value                                                                     | 60 hp                                                                                  |
| — at 575/600 V rated value                                                                     | 75 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 240 V                                                                                     | none required                                                                          |
| • at 400 V                                                                                     | 160                                                                                    |
| • at 500 V                                                                                     | 125                                                                                    |
| • at 690 V                                                                                     | 100                                                                                    |
| <b>Installation/ mounting/ dimensions</b>                                                      |                                                                                        |
| <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

##### General Product Approval



[Confirmation](#)



[KC](#)



Declaration of Conformity

Test Certificates

Marine / Shipping



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



## Marine / Shipping

other



[Confirmation](#)

other

## Railway



[Confirmation](#)

[Vibration and Shock](#)

## 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=3RV2331-4RC10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2331-4RC10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2331-4RC10>

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

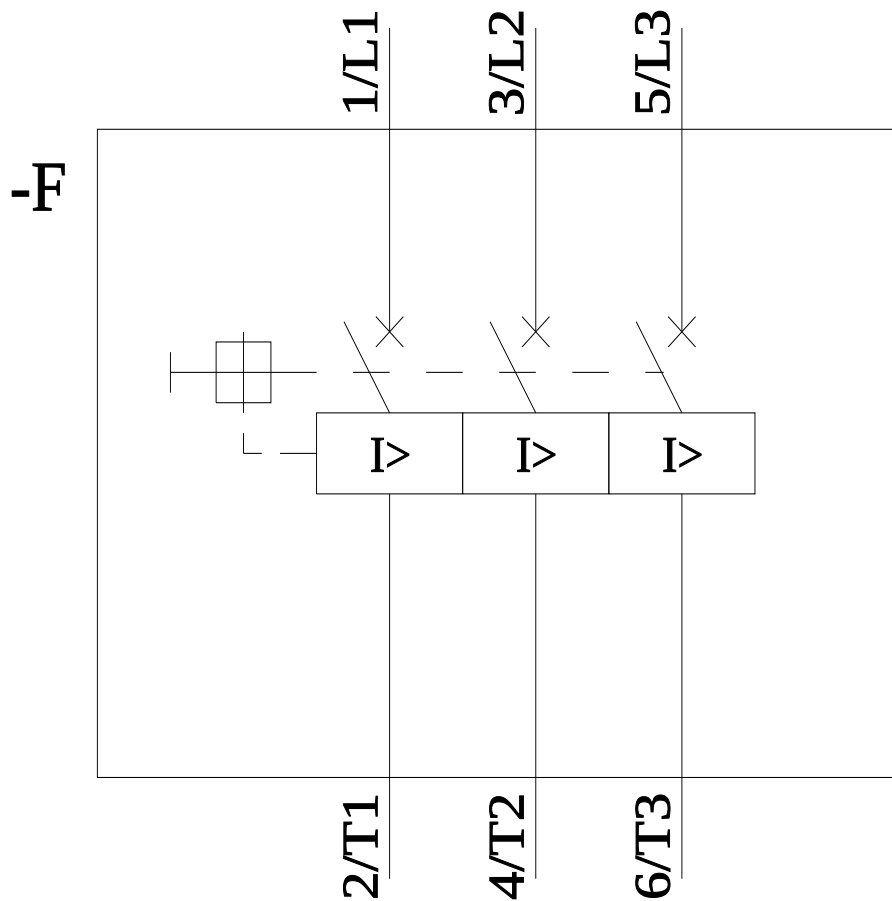
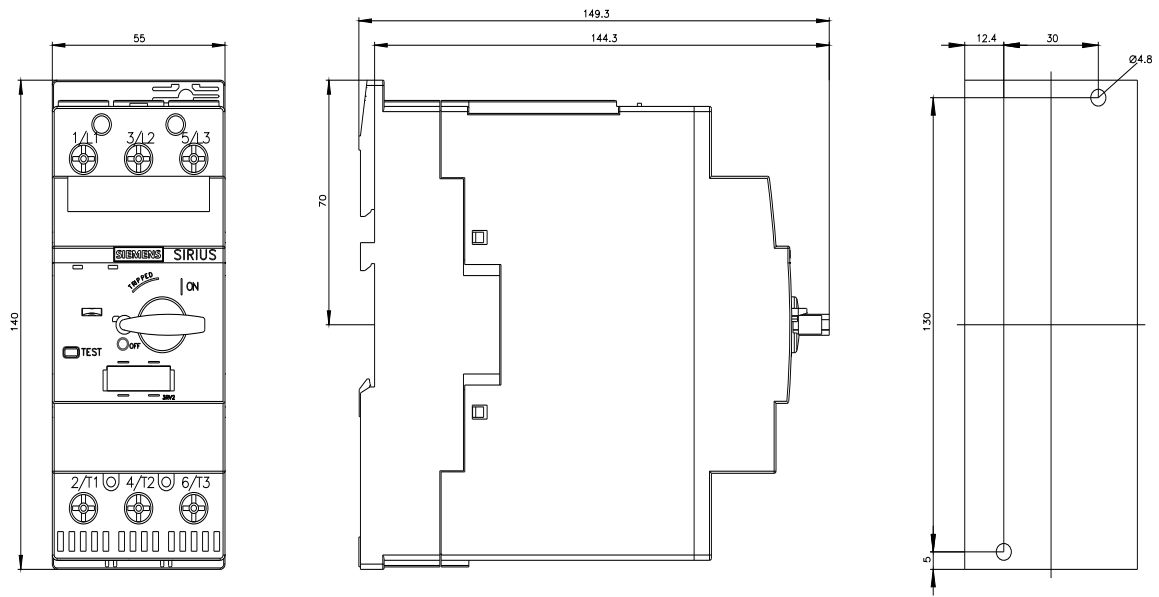
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2331-4RC10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2331-4RC10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2331-4RC10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2331-4RC10&objecttype=14&gridview=view1>



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