

Circuit breaker size S2 for starter combination Rated current 45 A N-release 650 A screw terminal increased 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                                            | 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   |
| maximum permissible voltage for safe isolation                            |        |
| • in networks with grounded star point between main and auxiliary circuit | 400 V  |

|                                                                                                                             |                   |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------|
| <ul style="list-style-type: none"> <li>• in networks with grounded star point between main and auxiliary circuit</li> </ul> | 400 V             |
| <b>protection class IP</b>                                                                                                  |                   |
| <ul style="list-style-type: none"> <li>• on the front</li> </ul>                                                            | IP20              |
| <ul style="list-style-type: none"> <li>• of the terminal</li> </ul>                                                         | IP00              |
| <b>shock resistance</b>                                                                                                     |                   |
| <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                  | 25g / 11 ms Sinus |
| <b>mechanical service life (switching cycles)</b>                                                                           |                   |
| <ul style="list-style-type: none"> <li>• of the main contacts typical</li> </ul>                                            | 50 000            |
| <ul style="list-style-type: none"> <li>• of auxiliary contacts typical</li> </ul>                                           | 50 000            |
| <b>electrical endurance (switching cycles)</b>                                                                              |                   |
| <ul style="list-style-type: none"> <li>• typical</li> </ul>                                                                 | 50 000            |
| <b>reference code acc. to DIN EN 81346-2</b>                                                                                | Q                 |

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

|                                                                                                                                                                                                                                       |                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Main circuit</b>                                                                                                                                                                                                                   |                                              |
| <b>number of poles for main current circuit</b>                                                                                                                                                                                       | 3                                            |
| <b>operating voltage</b>                                                                                                                                                                                                              |                                              |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                                                                                                                                       | 690 V                                        |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>                                                                                                                                                       | 690 V                                        |
| <b>operating frequency rated value</b>                                                                                                                                                                                                | 50 ... 60 Hz                                 |
| <b>operating current rated value</b>                                                                                                                                                                                                  | 45 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>                                                                                                 | 45 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> | 11 000 W<br>22 000 W<br>30 000 W<br>37 000 W |
| <b>operating frequency</b>                                                                                                                                                                                                            |                                              |
| <ul style="list-style-type: none"> <li>• at AC-3 maximum</li> </ul>                                                                                                                                                                   | 15 1/h                                       |

|                                                     |   |
|-----------------------------------------------------|---|
| <b>Auxiliary circuit</b>                            |   |
| <b>number of NC contacts for auxiliary contacts</b> | 0 |

|                                                                                                |               |
|------------------------------------------------------------------------------------------------|---------------|
| number of NO contacts for auxiliary contacts                                                   | 0             |
| <b>Protective and monitoring functions</b>                                                     |               |
| <b>product function</b>                                                                        |               |
| • ground fault detection                                                                       | No            |
| • phase failure detection                                                                      | No            |
| <b>operational short-circuit current breaking capacity (Ics) at AC</b>                         |               |
| • at 240 V rated value                                                                         | 100 kA        |
| • at 400 V rated value                                                                         | 50 kA         |
| • at 500 V rated value                                                                         | 8 kA          |
| • at 690 V rated value                                                                         | 4 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                                                                   | 100 kA        |
| • at AC at 500 V rated value                                                                   | 15 kA         |
| • at AC at 690 V rated value                                                                   | 6 kA          |
| <b>response value current</b>                                                                  |               |
| • of instantaneous short-circuit trip unit                                                     | 650 A         |
| <b>UL/CSA ratings</b>                                                                          |               |
| <b>full-load current (FLA) for three-phase AC motor</b>                                        |               |
| • at 480 V rated value                                                                         | 45 A          |
| • at 600 V rated value                                                                         | 45 A          |
| <b>yielded mechanical performance [hp]</b>                                                     |               |
| • for single-phase AC motor                                                                    |               |
| — at 110/120 V rated value                                                                     | 3 hp          |
| — at 230 V rated value                                                                         | 10 hp         |
| • for three-phase AC motor                                                                     |               |
| — at 200/208 V rated value                                                                     | 15 hp         |
| — at 220/230 V rated value                                                                     | 15 hp         |
| — at 460/480 V rated value                                                                     | 40 hp         |
| — at 575/600 V rated value                                                                     | 50 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                                                                                     | 125           |
| • at 500 V                                                                                     | 100           |
| • at 690 V                                                                                     | 80            |

| Installation/ mounting/ dimensions                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mounting position                                                                                        | any                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| mounting type                                                                                            | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| height                                                                                                   | 140 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| width                                                                                                    | 55 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| depth                                                                                                    | 149 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| required spacing                                                                                         | <ul style="list-style-type: none"> <li>• for grounded parts at 400 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>• for live parts at 400 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>• for grounded parts at 500 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>• for live parts at 500 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— at the side 10 mm</li> </ul> </li> <li>• for grounded parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— backwards 0 mm</li> <li>— at the side 10 mm</li> <li>— forwards 0 mm</li> </ul> </li> <li>• for live parts at 690 V <ul style="list-style-type: none"> <li>— downwards 50 mm</li> <li>— upwards 50 mm</li> <li>— backwards 0 mm</li> <li>— at the side 10 mm</li> <li>— forwards 0 mm</li> </ul> </li> </ul> |
| Connections/ Terminals                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| product function                                                                                         | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• removable terminal for auxiliary and control circuit</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| type of electrical connection                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                                                      |                                                                |
|----------------------------------------------------------------------|----------------------------------------------------------------|
| • 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                                                  |                                                                |
| — single or multi-stranded                                           | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> ) |
| — finely stranded with core end processing                           | 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> ) |
| • at AWG conductors for main contacts                                | 2x (18 ... 2), 1x (18 ... 1)                                   |
| <b>tightening torque</b>                                             |                                                                |
| • for main contacts with screw-type terminals                        | 3 ... 4.5 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>                  |                                                                |
| • for main contacts                                                  | M6                                                             |

#### Safety related data

|                                                                           |        |
|---------------------------------------------------------------------------|--------|
| <b>B10 value</b>                                                          |        |
| • with high demand rate acc. to SN 31920                                  | 5 000  |
| <b>proportion of dangerous failures</b>                                   |        |
| • with low demand rate acc. to SN 31920                                   | 50 %   |
| • with high demand rate acc. to SN 31920                                  | 50 %   |
| <b>failure rate [FIT]</b>                                                 |        |
| • with low demand rate acc. to SN 31920                                   | 50 FIT |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 10 y   |
| <b>display version</b>                                                    |        |
| • for switching status                                                    | Handle |

#### Certificates/ approvals

| General Product Approval | Declaration of Conformity |
|--------------------------|---------------------------|
|--------------------------|---------------------------|



[KC](#)



| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|
|---------------------------|-------------------|-------------------|

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



| Marine / Shipping | other |
|-------------------|-------|
|-------------------|-------|



[Confirmation](#)



| Railway |
|---------|
|---------|

[Vibration and Shock](#)

[Confirmation](#)

## 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=3RV2332-4VC10>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2332-4VC10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2332-4VC10>

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

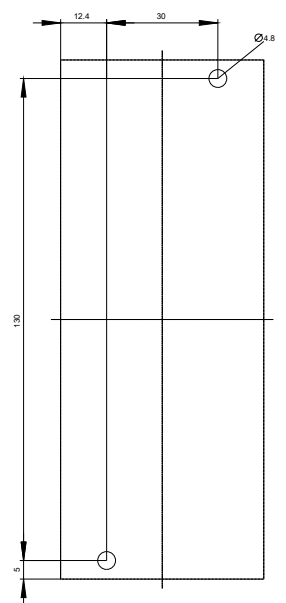
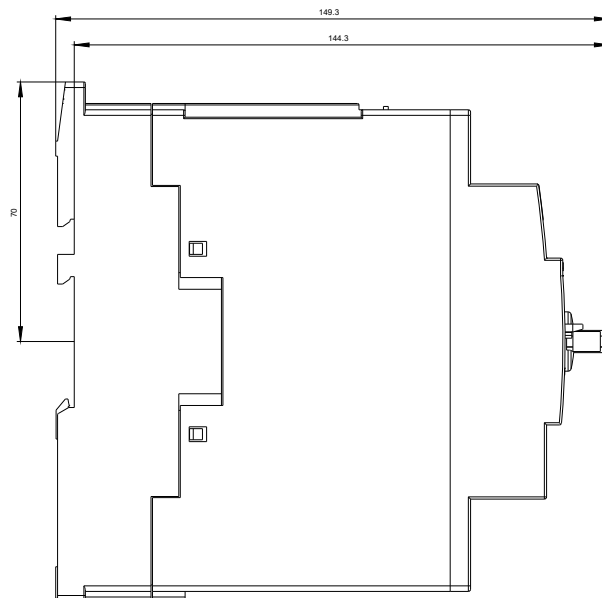
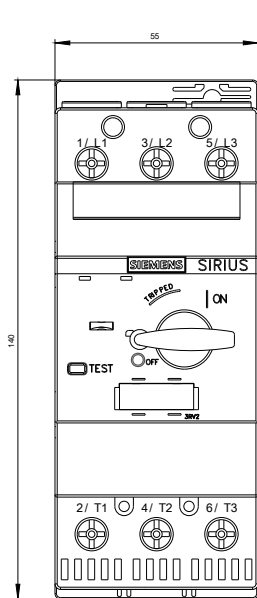
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2332-4VC10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2332-4VC10&lang=en)

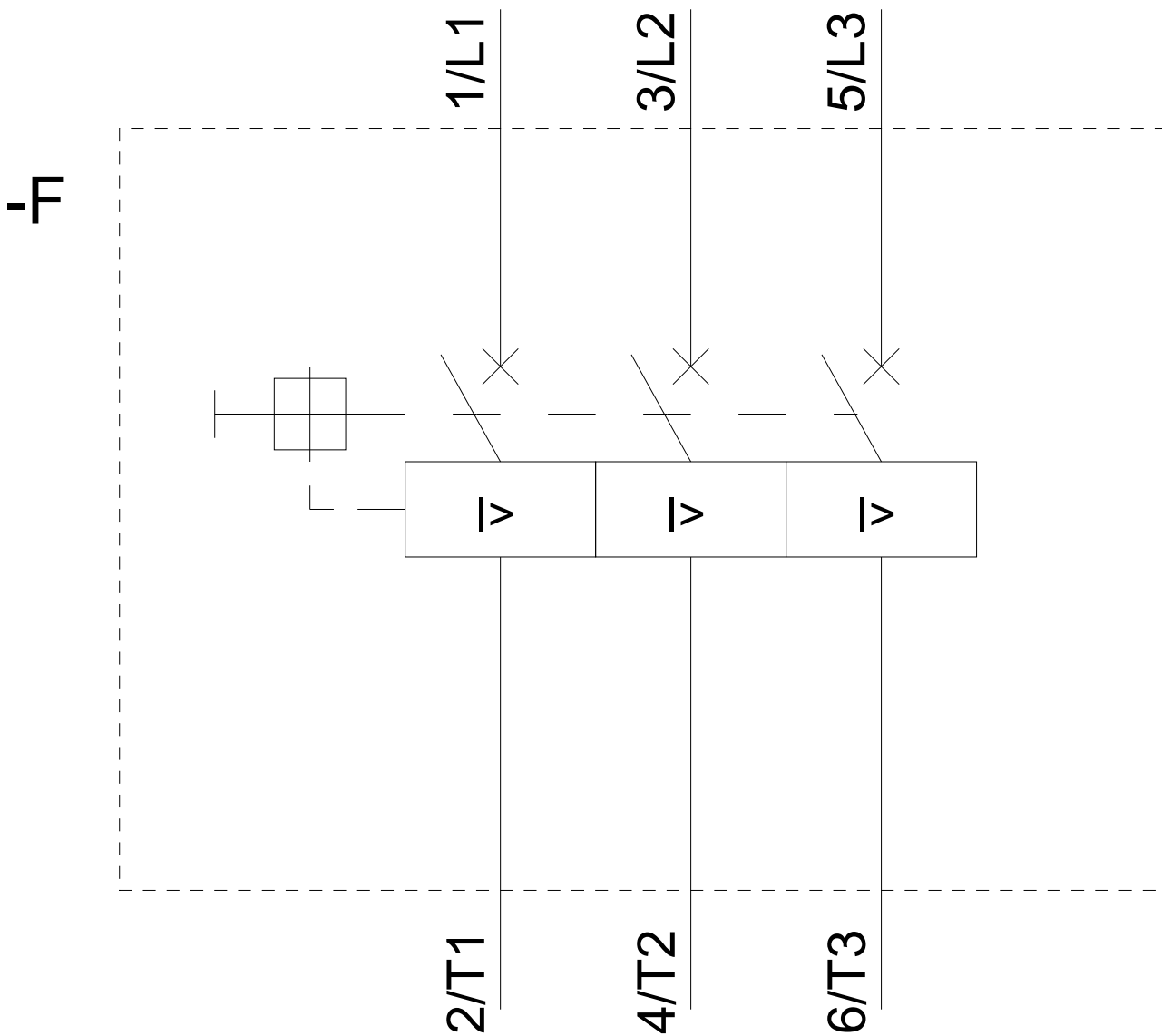
**Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2332-4VC10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2332-4VC10&objecttype=14&gridview=view1>





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