



Circuit breaker size S2 for motor protection, Class 20 A-release 22...32 A  
N-release 416 A screw terminal Standard switching capacity with  
transverse auxiliary switches 1 NO+1 NC

|                                                                                            |                      |
|--------------------------------------------------------------------------------------------|----------------------|
| <b>product brand name</b>                                                                  | SIRIUS               |
| <b>product designation</b>                                                                 | Circuit breaker      |
| <b>design of the product</b>                                                               | For motor protection |
| <b>product type designation</b>                                                            | 3RV2                 |
| <b>General technical data</b>                                                              |                      |
| <b>size of the circuit-breaker</b>                                                         | S2                   |
| <b>size of contactor can be combined company-specific</b>                                  | S2                   |
| product extension auxiliary switch                                                         | Yes                  |
| <b>power loss [W] for rated value of the current</b>                                       |                      |
| • at AC in hot operating state                                                             | 18 W                 |
| • at AC in hot operating state per pole                                                    | 6 W                  |
| insulation voltage with degree of pollution 3 at AC rated value                            | 690 V                |
| <b>surge voltage resistance rated value</b>                                                | 6 kV                 |
| <b>maximum permissible voltage for safe isolation in networks with grounded star point</b> |                      |
| • between main and auxiliary circuit                                                       | 400 V                |
| • between main and auxiliary circuit                                                       | 400 V                |
| shock resistance acc. to IEC 60068-2-27                                                    | 25g / 11 ms Sinus    |
| <b>mechanical service life (switching cycles)</b>                                          |                      |
| • of the main contacts typical                                                             | 50 000               |
| • of auxiliary contacts typical                                                            | 50 000               |
| electrical endurance (switching cycles) typical                                            | 50 000               |
| <b>reference code acc. to IEC 81346-2</b>                                                  | Q                    |
| Substance Prohibition (Date)                                                               | 15.10.2014 00:00:00  |
| <b>Ambient conditions</b>                                                                  |                      |
| installation altitude at height above sea level maximum                                    | 2 000 m              |
| • ambient temperature during operation                                                     | -20 ... +60 °C       |
| • ambient temperature during storage                                                       | -50 ... +80 °C       |
| • ambient temperature during transport                                                     | -50 ... +80 °C       |
| <b>temperature compensation</b>                                                            | -20 ... +60 °C       |
| relative humidity during operation                                                         | 10 ... 95 %          |
| <b>Main circuit</b>                                                                        |                      |
| <b>number of poles for main current circuit</b>                                            | 3                    |
| <b>adjustable current response value current of the current-dependent overload release</b> | 22 ... 32 A          |
| • operating voltage rated value                                                            | 690 V                |
| • operating voltage at AC-3 rated value maximum                                            | 690 V                |

|                                                                      |              |
|----------------------------------------------------------------------|--------------|
| <b>operating frequency rated value</b>                               | 50 ... 60 Hz |
| <b>operational current rated value</b>                               | 32 A         |
| operational current at AC-3 at 400 V rated value                     | 32 A         |
| operating power at AC-3                                              |              |
| • at 230 V rated value                                               | 7 500 W      |
| • at 400 V rated value                                               | 15 000 W     |
| • at 500 V rated value                                               | 18 500 W     |
| • at 690 V rated value                                               | 30 000 W     |
| operating frequency at AC-3 maximum                                  | 15 1/h       |
| <b>Auxiliary circuit</b>                                             |              |
| <b>design of the auxiliary switch</b>                                | transverse   |
| <b>number of NC contacts for auxiliary contacts</b>                  | 1            |
| <b>number of NO contacts for auxiliary contacts</b>                  | 1            |
| <b>operational current of auxiliary contacts at AC-15</b>            |              |
| • at 24 V                                                            | 2 A          |
| • at 230 V                                                           | 0.5 A        |
| <b>operational current of auxiliary contacts at DC-13</b>            |              |
| • at 24 V                                                            | 1 A          |
| • at 60 V                                                            | 0.15 A       |
| • at 110 V                                                           | 0 A          |
| • at 125 V                                                           | 0 A          |
| • at 220 V                                                           | 0 A          |
| <b>Protective and monitoring functions</b>                           |              |
| <b>product function</b>                                              |              |
| • ground fault detection                                             | No           |
| • phase failure detection                                            | Yes          |
| <b>trip class</b>                                                    | Class 20     |
| <b>design of the overload release</b>                                | thermal      |
| <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                                               | 5 kA         |
| • at 690 V rated value                                               | 2 kA         |
| <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                                         | 10 kA        |
| • at AC at 690 V rated value                                         | 4 kA         |
| response value current of instantaneous short-circuit trip unit      | 416 A        |
| <b>UL/CSA ratings</b>                                                |              |
| <b>full-load current (FLA) for 3-phase AC motor</b>                  |              |
| • at 480 V rated value                                               | 32 A         |
| • at 600 V rated value                                               | 32 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                                               | 5 hp         |
| • for 3-phase AC motor                                               |              |
| — at 200/208 V rated value                                           | 10 hp        |
| — at 220/230 V rated value                                           | 10 hp        |
| — at 460/480 V rated value                                           | 25 hp        |
| — at 575/600 V rated value                                           | 30 hp        |
| <b>contact rating of auxiliary contacts according to UL</b>          | C300 / R300  |
| <b>Short-circuit protection</b>                                      |              |
| <b>product function short circuit protection</b>                     | Yes          |
| <b>design of the short-circuit trip</b>                              | magnetic     |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                  |
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| <b>design of the fuse link</b> <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | fuse gG: 10 A, miniature circuit breaker C 6 A (short-circuit current $I_k < 400$ A)                                                                             |
| <b>design of the fuse link for IT network for short-circuit protection of the main circuit</b> <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 400 V</li> <li>• at 500 V</li> <li>• at 690 V</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | none required<br>125<br>100<br>80                                                                                                                                |
| <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> <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> |                                                                                                                                                                  |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                  |
| product function removable terminal for auxiliary and control circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No                                                                                                                                                               |
| <b>type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | screw-type terminals<br>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>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG cables for main contacts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )<br>2x (1 ... 16 mm <sup>2</sup> ), 1x (1 ... 25 mm <sup>2</sup> )<br>2x (18 ... 3), 1x (18 ... 2) |
| <b>type of connectable conductor cross-sections</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                  |

|                                                                                                                                                                                                                                                   |                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>at AWG cables for auxiliary contacts</li> </ul> | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14) |
| <ul style="list-style-type: none"> <li>tightening torque for main contacts with screw-type terminals</li> <li>tightening torque for auxiliary contacts with screw-type terminals</li> </ul>                                                       | 3 ... 4.5 N·m<br><br>0.8 ... 1.2 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> <li>of the auxiliary and control contacts</li> </ul>                                                                            | M6<br>M3                                                                                                                                                                         |

| 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 %<br>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>protection class IP on the front acc. to IEC 60529</b>                                                                                                                       | IP20                                             |
| <b>touch protection on the front acc. to IEC 60529</b>                                                                                                                          | finger-safe, for vertical contact from the front |
| display version for switching status                                                                                                                                            | Handle                                           |

| Certificates/ approvals         |                                  |
|---------------------------------|----------------------------------|
| <b>General Product Approval</b> | <b>Declaration of Conformity</b> |



[KC](#)



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

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Certificate](#)



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



[Confirmation](#)



| Railway |
|---------|
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[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=3RV2031-4EB15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4EB15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15>

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

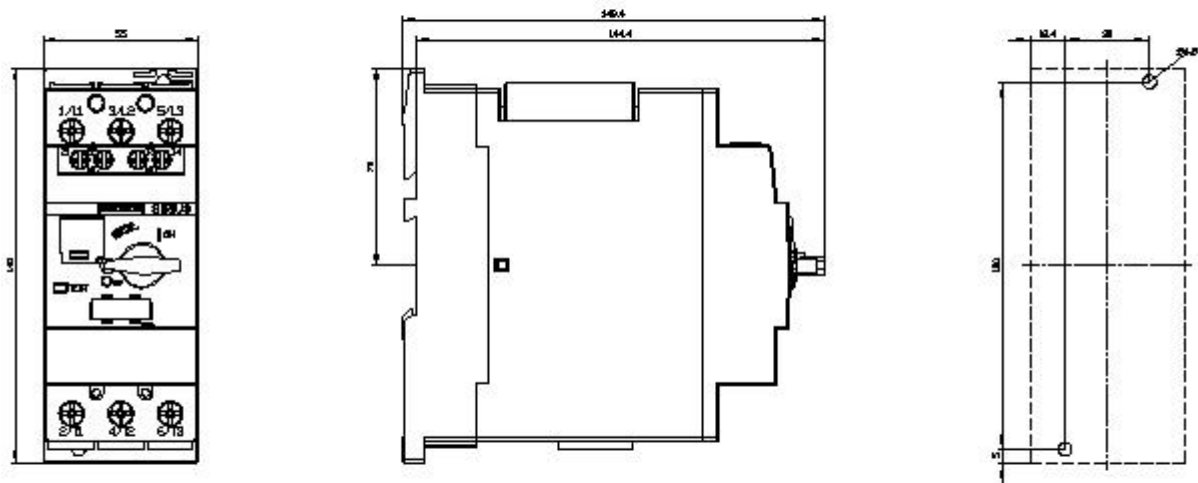
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4EB15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4EB15&lang=en)

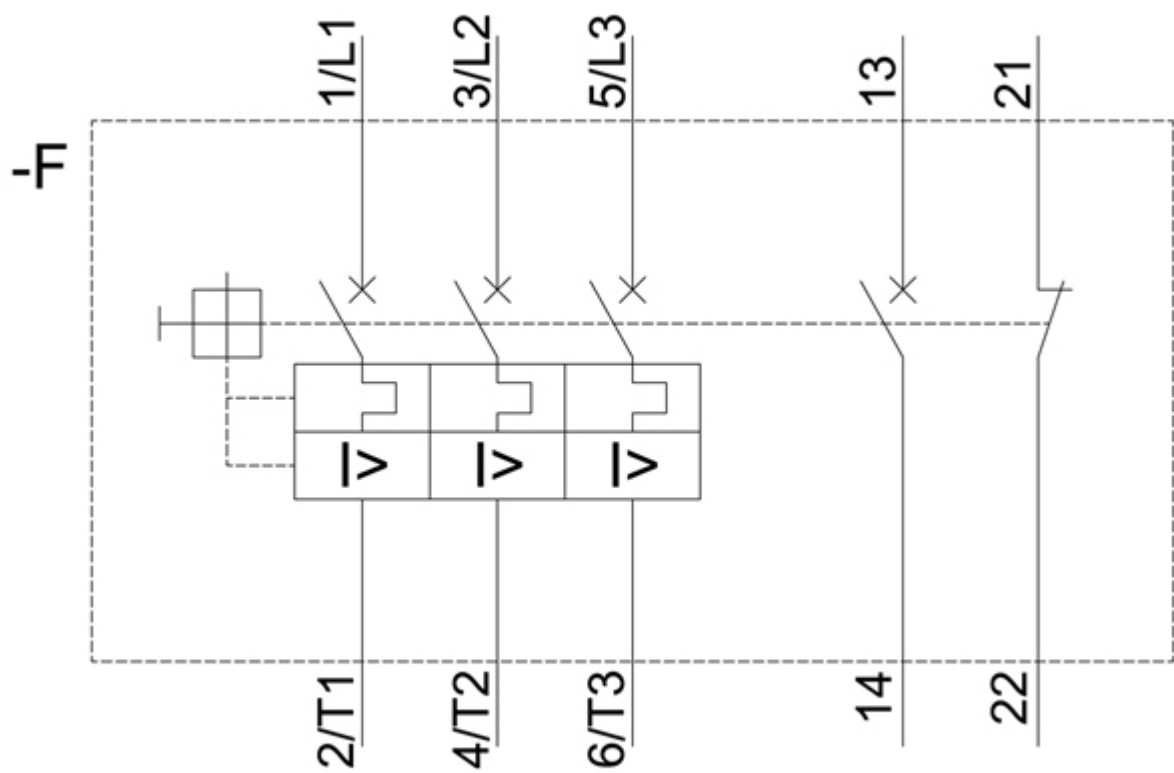
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4EB15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4EB15&objecttype=14&gridview=view1>





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