



Circuit breaker size S2 for motor protection class 20 A-release 14...20 A N-release 260 A screw terminal Standard switching capacity with transverse auxiliary switch 1 NO+1 NC

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| <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   | 14.5 W               |
| • at AC in hot operating state per pole  | 4.8 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                    |
| <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> | 14 ... 20 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         |

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| <b>operational current rated value</b>                               | 20 A        |
| operational current at AC-3 at 400 V rated value                     | 20 A        |
| operating power at AC-3  |             |
| • at 230 V rated value   | 5 500 W     |
| • at 400 V rated value   | 7 500 W     |
| • at 500 V rated value   | 11 000 W    |
| • at 690 V rated value   | 15 000 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   | 6 kA        |
| • at 690 V rated value   | 3 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   | 12 kA       |
| • at AC at 690 V rated value   | 5 kA        |
| response value current of instantaneous short-circuit trip unit      | 260 A       |
| <b>UL/CSA ratings</b>  |             |
| <b>full-load current (FLA) for 3-phase AC motor</b>                  |             |
| • at 480 V rated value   | 20 A        |
| • at 600 V rated value   | 20 A        |
| <b>yielded mechanical performance [hp]</b>                           |             |
| • for single-phase AC motor  |             |
| — at 110/120 V rated value   | 1.5 hp      |
| — at 230 V rated value   | 3 hp        |
| • for 3-phase AC motor   |             |
| — at 200/208 V rated value   | 7.5 hp      |
| — at 220/230 V rated value   | 7.5 hp      |
| — at 460/480 V rated value   | 15 hp       |
| — at 575/600 V rated value   | 20 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    |
| <b>design of the fuse link</b>                                       |             |

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| <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>100<br>80<br>63   |
| <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</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for live parts at 400 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for grounded parts at 500 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for live parts at 500 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> <li>for grounded parts at 690 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>backwards</li> <li>at the side</li> <li>forwards</li> </ul> </li> <li>for live parts at 690 V               <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>backwards</li> <li>at the side</li> <li>forwards</li> </ul> </li> </ul> | 50 mm<br>50 mm<br>10 mm<br>50 mm<br>50 mm<br>10 mm<br>50 mm<br>50 mm<br>10 mm<br>50 mm<br>50 mm<br>10 mm<br>50 mm<br>50 mm<br>0 mm<br>10 mm<br>0 mm<br>50 mm<br>50 mm<br>0 mm<br>10 mm<br>0 mm |
| <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</li> </ul>   |  |

|  |   |
|--|---|
| — solid or stranded  | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ) |
| — finely stranded with core end processing                           | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) |
| • at AWG cables for auxiliary contacts                               | 2x (20 ... 16), 2x (18 ... 14)  |
| • tightening torque for main contacts with screw-type terminals      | 3 ... 4.5 N·m   |
| • tightening torque for auxiliary contacts with screw-type terminals | 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>                  |   |
| • for main contacts  | M6  |
| • of the auxiliary and control contacts                              | M3  |

| 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>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> |
|---------------------------------|----------------------------------|



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| <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



|                          |              |
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| <b>Marine / Shipping</b> | <b>other</b> |
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[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=3RV2031-4BB15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4BB15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4BB15>

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

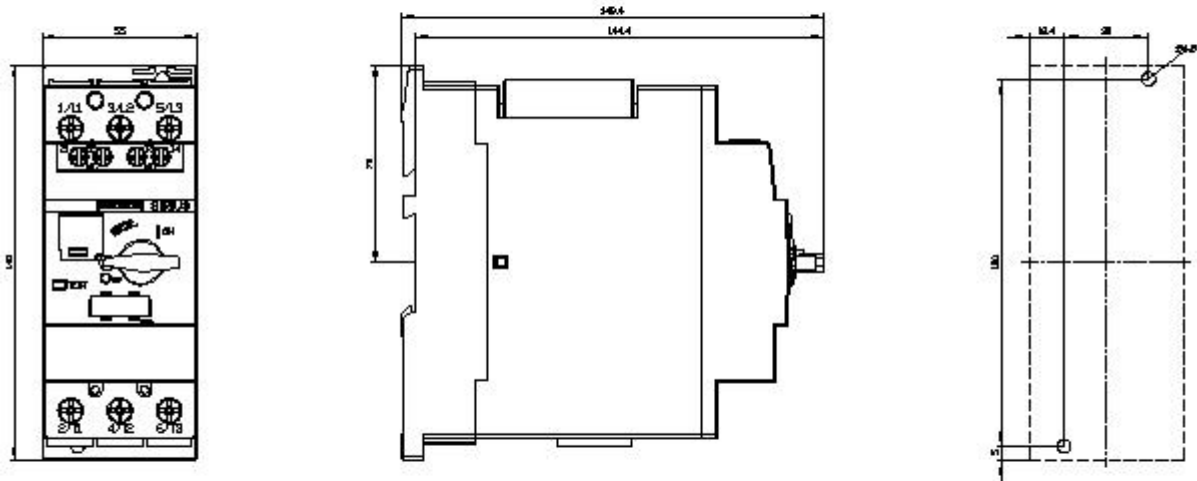
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4BB15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4BB15&lang=en)

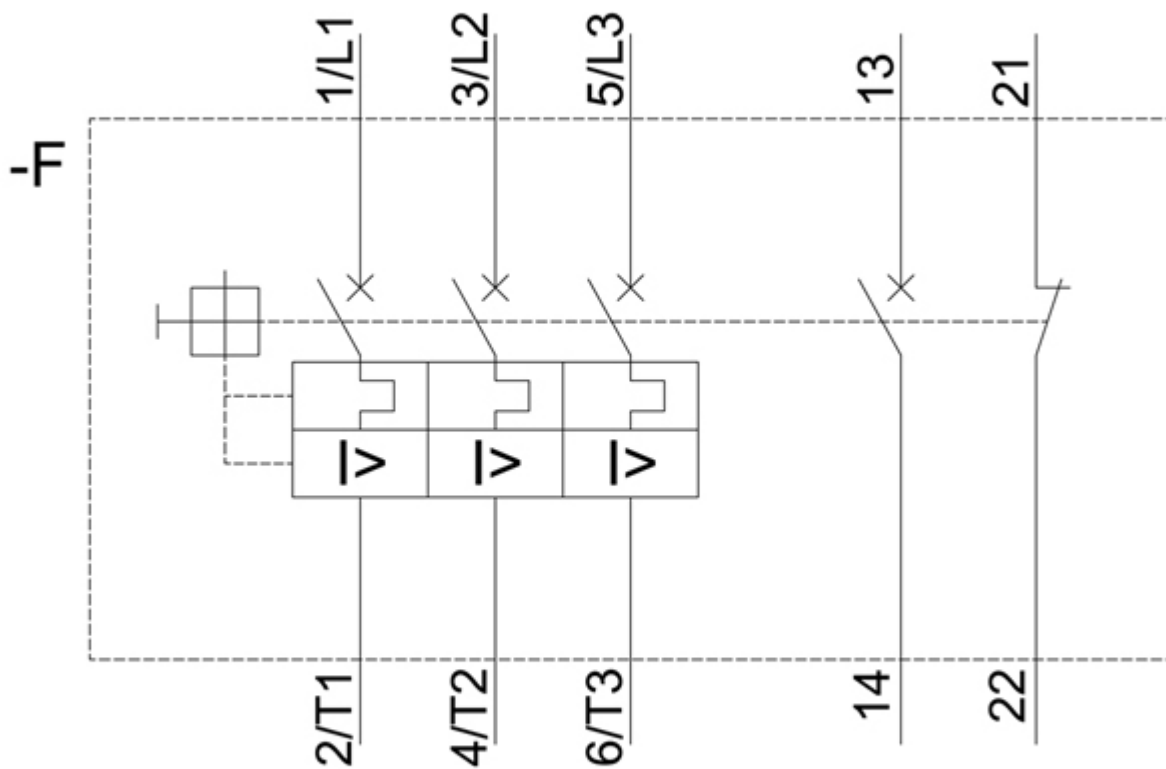
Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4BB15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4BB15&objecttype=14&gridview=view1>





last modified:

12/15/2020 