



Circuit breaker size S2 for motor protection, CLASS 10 A-release 70...80 A  
N-release 1040 A screw terminal Standard switching capacity

|  |                      |
|--|----------------------|
| <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   | 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                |
| <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   | 20 000               |
| • of auxiliary contacts typical  | 20 000               |
| electrical endurance (switching cycles) typical  | 20 000               |
| <b>type of protection according to ATEX directive 2014/34/EU</b>                           | Ex II (2) GD         |
| certificate of suitability according to ATEX directive 2014/34/EU                          | DMT 02 ATEX F 001    |
| <b>reference code acc. to IEC 81346-2</b>  | Q                    |
| <b>Substance Prohibitance (Date)</b>   | 10.04.2015           |
| <b>Ambient conditions</b>  |                      |
| installation altitude at height above sea level maximum                                    | 2 000 m              |
| <b>ambient temperature</b>   |                      |
| • during operation   | -20 ... +60 °C       |
| • during storage   | -50 ... +80 °C       |
| • 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</b>                                    | 70 ... 80 A          |

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| <b>current-dependent overload release</b>  |  |
| <b>operating voltage</b>   |  |
| • rated value  | 690 V  |
| • rated value  | 20 ... 690 V   |
| • at AC-3 rated value maximum  | 690 V  |
| <b>operating frequency rated value</b>   | 50 ... 60 Hz   |
| <b>operational current rated value</b>   | 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  |
| operating frequency at AC-3 maximum  | 15 1/h   |
| <b>Protective and monitoring functions</b>   |  |
| <b>product function</b>  |  |
| • ground fault detection   | No   |
| • phase failure detection  | Yes  |
| <b>trip class</b>  | CLASS 10   |
| <b>design of the overload release</b>  | thermal  |
| <b>breaking capacity operating short-circuit current (Ics) at AC</b>                           |  |
| • at 240 V rated value   | 65 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   | 65 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   |
| 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   |
| — at 230 V rated value   | 15 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>  |        |
| <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

|  |                      |
|--|----------------------|
| <b>product component removable terminal for auxiliary and control circuit</b>  | No                   |
| <b>type of electrical connection</b>   |                      |
| <ul style="list-style-type: none"> <li>● for main current circuit</li> </ul>   | 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 2x (1 ... 35 mm<sup>2</sup>), 1x (1 ... 50 mm<sup>2</sup>)</li> <li>— finely stranded with core end processing 2x (1 ... 25 mm<sup>2</sup>), 1x (1 ... 35 mm<sup>2</sup>)</li> </ul> </li> <li>● at AWG cables for main contacts 2x (18 ... 2), 1x (18 ... 1)</li> </ul> |                      |
| <b>tightening torque</b>   |                      |
| <ul style="list-style-type: none"> <li>● for main contacts with screw-type terminals</li> </ul>  | 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>  |                      |
| <ul style="list-style-type: none"> <li>● for main contacts</li> </ul>  | M6                   |

### 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 |

## Certificates/ approvals

## General Product Approval



[Confirmation](#)



[KC](#)



## For use in hazardous locations

## Declaration of Conformity

## Test Certificates



[UK Declaration of Conformity](#)



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

## Marine / Shipping



## Marine / Shipping

## other

## Railway



[Confirmation](#)



[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=3RV2031-4RA10>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2031-4RA10>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4RA10>

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

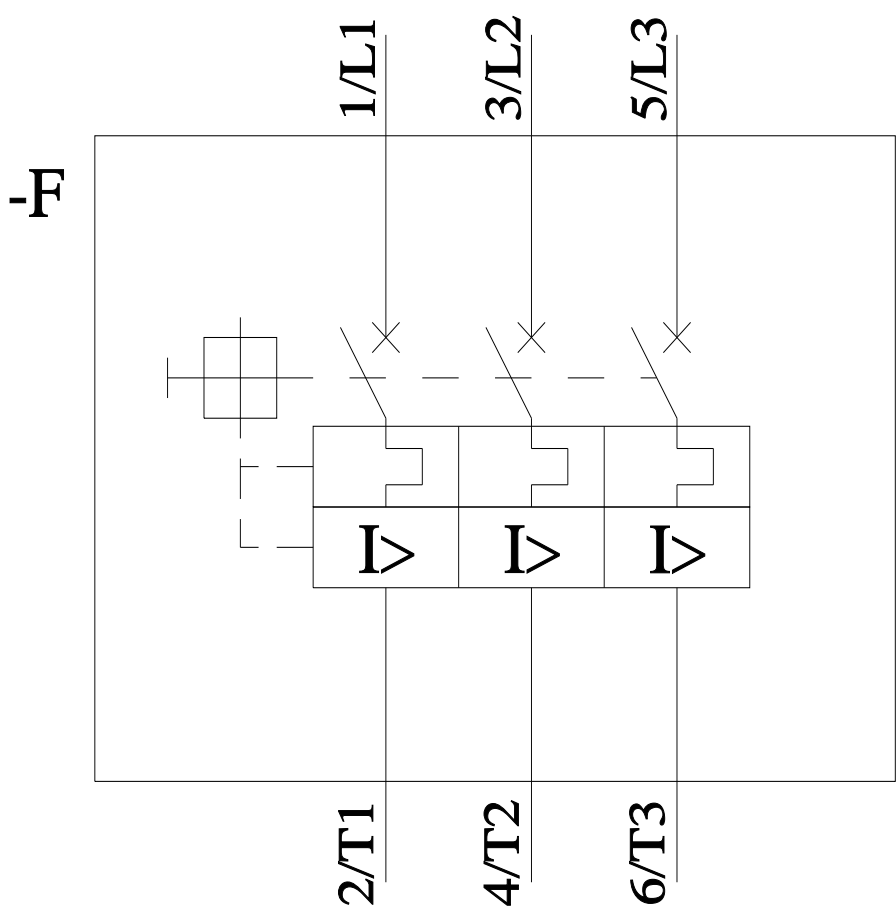
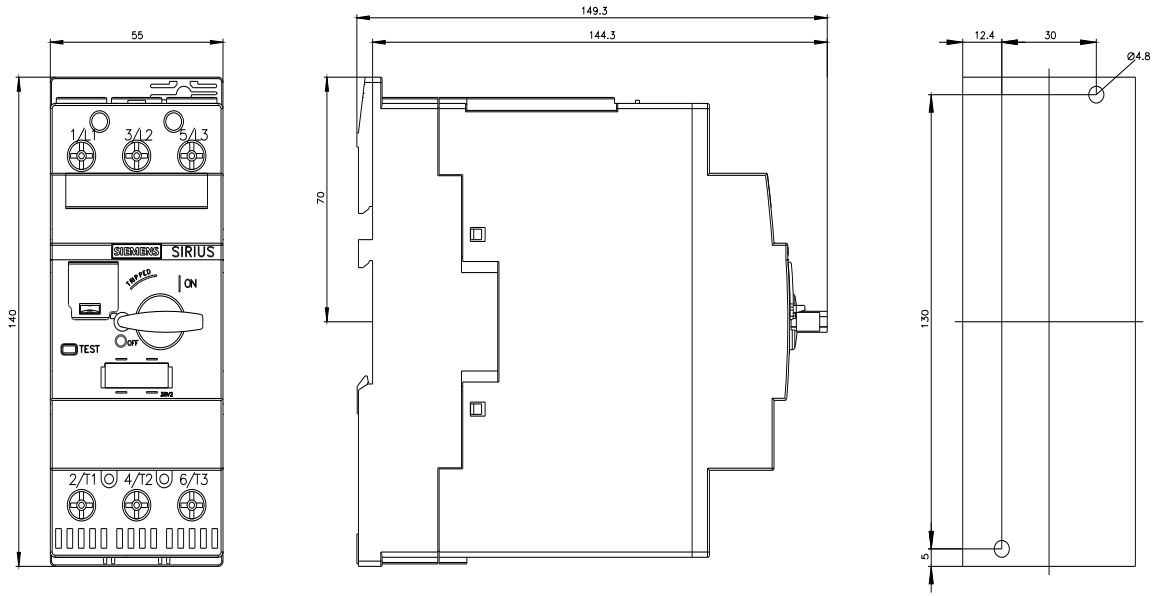
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2031-4RA10&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2031-4RA10&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2031-4RA10/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2031-4RA10&objecttype=14&gridview=view1>



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