

Siemens  
EcoTech



Circuit breaker size S3 for motor protection, CLASS 10 A-release 65...84 A N-release 1170 A screw terminal Standard switching capacity with transverse auxiliary switches 1 NO+1 NC



|                                                                 |                      |
|-----------------------------------------------------------------|----------------------|
| product brand name                                              | SIRIUS               |
| product designation                                             | Circuit breaker      |
| design of the product                                           | For motor protection |
| product type designation                                        | 3RV2                 |
| <b>General technical data</b>                                   |                      |
| size of the circuit-breaker                                     | S3                   |
| size of contactor can be combined company-specific              | S3                   |
| product extension auxiliary switch                              | Yes                  |
| power loss [W] for rated value of the current                   |                      |
| • at AC in hot operating state                                  | 34 W                 |
| • at AC in hot operating state per pole                         | 11.3 W               |
| insulation voltage with degree of pollution 3 at AC rated value | 1 000 V              |
| surge voltage resistance rated value                            | 8 kV                 |
| shock resistance according to IEC 60068-2-27                    | 25g / 11 ms Sinus    |
| mechanical service life (operating cycles)                      |                      |
| • of the main contacts typical                                  | 25 000               |
| • of auxiliary contacts typical                                 | 25 000               |
| electrical endurance (operating cycles) typical                 | 25 000               |
| reference code according to IEC 81346-2                         | Q                    |
| Substance Prohibitance (Date)                                   | 03/01/2017           |
| SVHC substance name                                             | Lead - 7439-92-1     |
| Weight                                                          | 2.273 kg             |
| <b>Ambient conditions</b>                                       |                      |
| installation altitude at height above sea level maximum         | 2 000 m              |
| ambient temperature                                             |                      |
| • during operation                                              | -20 ... +60 °C       |
| • during storage                                                | -50 ... +80 °C       |
| • during transport                                              | -50 ... +80 °C       |
| relative humidity during operation                              | 10 ... 95 %          |
| <b>Environmental footprint</b>                                  |                      |
| Environmental Product Declaration (EPD)                         | Yes                  |
| global warming potential [CO2 eq] total                         | 283.24 kg            |
| global warming potential [CO2 eq] during manufacturing          | 18.5 kg              |
| global warming potential [CO2 eq] during sales                  | 1.24 kg              |
| global warming potential [CO2 eq] during operation              | 265 kg               |
| global warming potential [CO2 eq] after end of life             | -1.5 kg              |
| Siemens Eco Profile (SEP)                                       | Siemens EcoTech      |

|                                                                                            |              |
|--------------------------------------------------------------------------------------------|--------------|
| <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> | 65 ... 84 A  |
| <b>type of voltage for main current circuit</b>                                            | AC           |
| <b>operating voltage</b>                                                                   |              |
| • rated value                                                                              | 20 ... 690 V |
| • at AC-3 rated value maximum                                                              | 690 V        |
| • at AC-3e rated value maximum                                                             | 690 V        |
| <b>operating frequency rated value</b>                                                     | 50 ... 60 Hz |
| <b>operational current rated value</b>                                                     | 84 A         |
| <b>operational current</b>                                                                 |              |
| • at AC-3 at 400 V rated value                                                             | 84 A         |
| • at AC-3e at 400 V rated value                                                            | 84 A         |
| <b>operating power</b>                                                                     |              |
| • at AC-3                                                                                  |              |
| — at 230 V rated value                                                                     | 22 kW        |
| — at 400 V rated value                                                                     | 45 kW        |
| — at 500 V rated value                                                                     | 55 kW        |
| — at 690 V rated value                                                                     | 75 kW        |
| • at AC-3e                                                                                 |              |
| — at 230 V rated value                                                                     | 22 kW        |
| — at 400 V rated value                                                                     | 45 kW        |
| — at 500 V rated value                                                                     | 55 kW        |
| — at 690 V rated value                                                                     | 75 kW        |
| <b>operating frequency</b>                                                                 |              |
| • at AC-3 maximum                                                                          | 15 1/h       |
| • at AC-3e maximum                                                                         | 15 1/h       |
| <b>Auxiliary circuit</b>                                                                   |              |
| <b>design of the auxiliary switch</b>                                                      | transverse   |
| <b>type of voltage for auxiliary and control circuit</b>                                   | AC/DC        |
| <b>number of NC contacts for auxiliary contacts</b>                                        | 1            |
| <b>number of NO contacts for auxiliary contacts</b>                                        | 1            |
| <b>number of CO contacts for auxiliary contacts</b>                                        | 0            |
| <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       |
| <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>maximum short-circuit current breaking capacity (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                                                               | 8 kA         |
| • at AC at 690 V rated value                                                               | 5 kA         |
| <b>operating short-circuit current breaking capacity (Ics) at AC</b>                       |              |
| • at 240 V rated value                                                                     | 100 kA       |
| • at 400 V rated value                                                                     | 30 kA        |
| • at 500 V rated value                                                                     | 4 kA         |
| • at 690 V rated value                                                                     | 3 kA         |
| <b>response value current of instantaneous short-circuit trip unit</b>                     | 1 170 A      |
| <b>UL/CSA ratings</b>                                                                      |              |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                        |              |
| • at 480 V rated value                                                                     | 84 A         |
| • at 600 V rated value                                                                     | 84 A         |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>yielded mechanical performance [hp]</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>for single-phase AC motor <ul style="list-style-type: none"> <li>at 110/120 V rated value</li> <li>at 230 V rated value</li> </ul> </li> <li>for 3-phase AC motor <ul style="list-style-type: none"> <li>at 200/208 V rated value</li> <li>at 220/230 V rated value</li> <li>at 460/480 V rated value</li> <li>at 575/600 V rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7.5 hp<br>15 hp<br><br>25 hp<br>30 hp<br>60 hp<br>75 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>Installation/ mounting/ dimensions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                        |
| <b>mounting position</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | any                                                                                                                                                                                                    |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715                                                                                                                               |
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 165 mm                                                                                                                                                                                                 |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 70 mm                                                                                                                                                                                                  |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 176 mm                                                                                                                                                                                                 |
| <b>required spacing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>with side-by-side mounting at the side</li> <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>at the side</li> </ul> </li> <li>for live parts at 690 V <ul style="list-style-type: none"> <li>downwards</li> <li>upwards</li> <li>at the side</li> </ul> </li> </ul> | 0 mm<br><br>70 mm<br>70 mm<br>10 mm<br><br>70 mm<br>70 mm<br>10 mm<br><br>110 mm<br>110 mm<br>10 mm<br><br>110 mm<br>110 mm<br>10 mm<br><br>150 mm<br>150 mm<br>30 mm<br><br>150 mm<br>150 mm<br>30 mm |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                        |
| <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</li> <li>solid or stranded</li> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2x (2.5 ... 16 mm²)<br>2x (2.5 ... 50 mm²), 1x (10 ... 70 mm²)<br>2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)<br>2x (10 ... 35 mm²), 1x (10 ... 50 mm²)                                                   |
| <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>finely stranded with core end processing</li> </ul> </li> <li>for AWG cables for auxiliary contacts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)<br>2x (20 ... 16), 2x (18 ... 14)                                                                                                                          |

|                                                                      |                                                  |
|----------------------------------------------------------------------|--------------------------------------------------|
| <b>tightening torque</b>                                             |                                                  |
| • for main contacts for ring cable lug                               | 4.5 ... 6 N·m                                    |
| <b>outer diameter of the usable ring cable lug maximum</b>           | 19 mm                                            |
| <b>tightening torque</b>                                             |                                                  |
| • for main contacts with screw-type terminals                        | 4.5 ... 6 N·m                                    |
| • for auxiliary contacts with screw-type terminals                   | 0.8 ... 1.2 N·m                                  |
| <b>design of the thread of the connection screw</b>                  |                                                  |
| • of the auxiliary and control contacts                              | M3                                               |
| <b>Safety related data</b>                                           |                                                  |
| product function suitable for safety function                        | Yes                                              |
| <b>suitability for use</b>                                           |                                                  |
| • safety-related switching on                                        | No                                               |
| • safety-related switching OFF                                       | Yes                                              |
| <b>service life maximum</b>                                          | 10 a                                             |
| <b>test wear-related service life necessary</b>                      | Yes                                              |
| <b>proportion of dangerous failures</b>                              |                                                  |
| • with low demand rate according to SN 31920                         | 40 %                                             |
| • with high demand rate according to SN 31920                        | 50 %                                             |
| <b>B10 value with high demand rate according to SN 31920</b>         | 5 000                                            |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b> | 50 FIT                                           |
| <b>ISO 13849</b>                                                     |                                                  |
| <b>device type according to ISO 13849-1</b>                          | 3                                                |
| <b>overdimensioning according to ISO 13849-2 necessary</b>           | Yes                                              |
| <b>IEC 61508</b>                                                     |                                                  |
| <b>safety device type according to IEC 61508-2</b>                   | Type A                                           |
| <b>T1 value</b>                                                      |                                                  |
| • for proof test interval or service life according to IEC 61508     | 10 a                                             |
| <b>Electrical Safety</b>                                             |                                                  |
| <b>protection class IP on the front according to IEC 60529</b>       | IP20                                             |
| <b>touch protection on the front according to IEC 60529</b>          | finger-safe, for vertical contact from the front |
| <b>Display</b>                                                       |                                                  |
| display version for switching status                                 | Handle                                           |
| <b>Approvals Certificates</b>                                        |                                                  |
| <b>General Product Approval</b>                                      |                                                  |



[KC](#)



|                          |                                |                   |                      |
|--------------------------|--------------------------------|-------------------|----------------------|
| General Product Approval | For use in hazardous locations | Test Certificates | Maritime application |
|--------------------------|--------------------------------|-------------------|----------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                      |       |
|----------------------|-------|
| Maritime application | other |
|----------------------|-------|



[Miscellaneous](#)

|       |         |             |
|-------|---------|-------------|
| other | Railway | Environment |
|-------|---------|-------------|



[Confirmation](#)



[Special Test Certificate](#)

[Confirmation](#)



## Environment

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[Environmental Confirmations](#)

## Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RV2041-4RA15>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2041-4RA15>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4RA15>

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

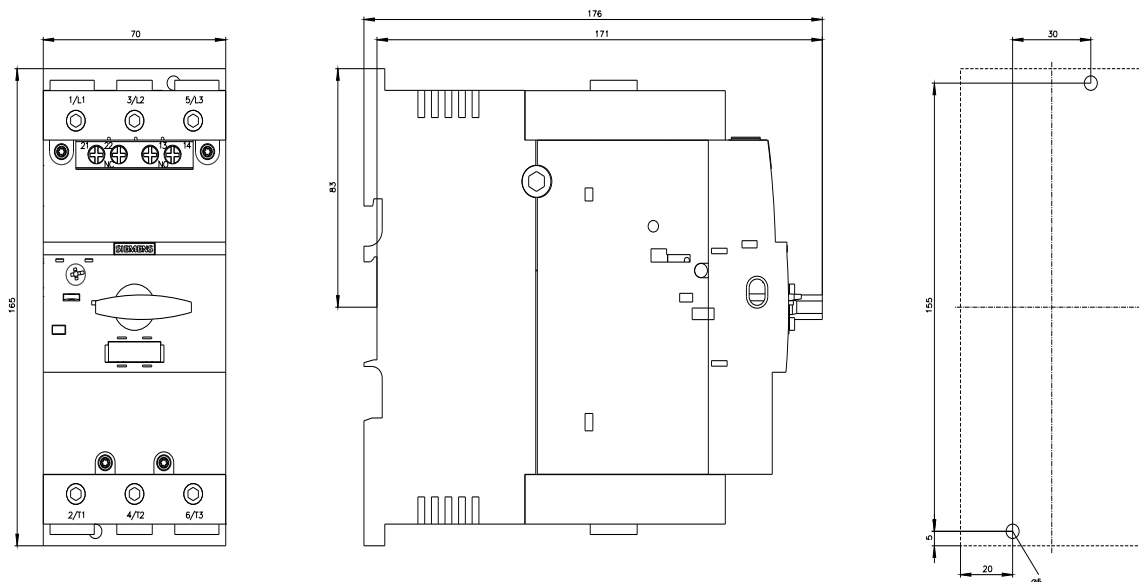
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RV2041-4RA15&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2041-4RA15&lang=en)

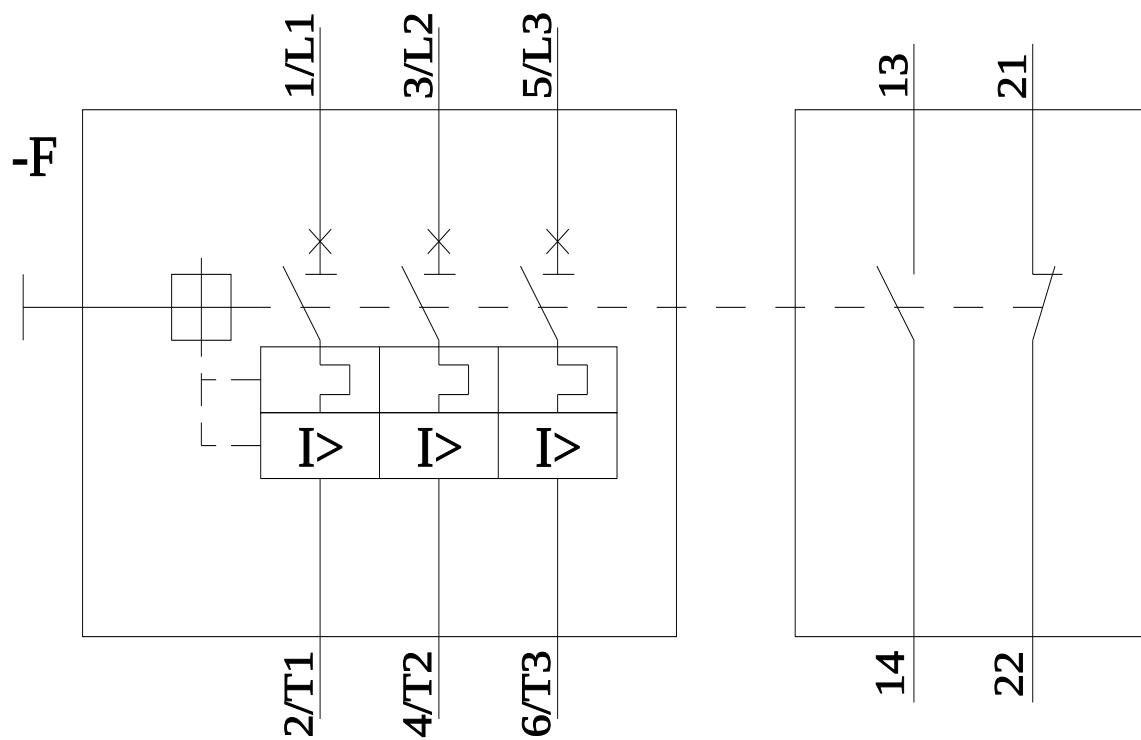
Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RV2041-4RA15/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2041-4RA15&objecttype=14&gridview=view1>





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