



power contactor, AC-3e/AC-3, 65 A, 30 kW / 400 V, 3-pole, 20-33 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 2 NO + 2 NC, screw terminal, size: S2, removable auxiliary switch

|  |  |
|--|--|
| product brand name   | SIRIUS   |
| product designation  | Power contactor  |
| product type designation   | 3RT2   |
| <b>General technical data</b>  |  |
| size of contactor  | S2   |
| product extension  |  |
| • function module for communication  | No   |
| • auxiliary switch   | No   |
| power loss [W] for rated value of the current  |  |
| • at AC in hot operating state   | 11.4 W   |
| • at AC in hot operating state per pole  | 3.8 W  |
| • without load current share typical   | 1 W  |
| type of calculation of power loss depending on pole  | quadratic  |
| insulation voltage   |  |
| • of main circuit with degree of pollution 3 rated value   | 690 V  |
| • of auxiliary circuit with degree of pollution 3 rated value  | 690 V  |
| surge voltage resistance   |  |
| • of main circuit rated value  | 6 kV   |
| • of auxiliary circuit rated value   | 6 kV   |
| maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 | 400 V  |
| shock resistance at rectangular impulse  |  |
| • at AC  | 6.1g / 5 ms, 3.7g / 10 ms  |
| • at DC  | 6.1g / 5 ms, 3.7g / 10 ms  |
| shock resistance with sine pulse   |  |
| • at AC  | 9.6g / 5 ms, 5.8g / 10 ms  |
| • at DC  | 9.6g / 5 ms, 5.8g / 10 ms  |
| mechanical service life (operating cycles)   |  |
| • of contactor typical   | 10 000 000   |
| • of the contactor with added electronically optimized auxiliary switch block typical                        | 5 000 000  |
| • of the contactor with added auxiliary switch block typical   | 10 000 000   |
| reference code according to IEC 81346-2  | Q  |
| Substance Prohibitance (Date)  | 10/01/2014   |
| SVHC substance name  | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5<br>Melamine - 108-78-1 |
| Net Weight   | 1.174 kg   |
| <b>Ambient conditions</b>  |  |

|  |                    |
|--|--------------------|
| installation altitude at height above sea level maximum                | 2 000 m            |
| <b>ambient temperature</b>   |                    |
| • during operation   | -25 ... +60 °C     |
| • during storage   | -55 ... +80 °C     |
| <b>relative humidity minimum</b>                                       | 10 %               |
| <b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>  | 95 %               |
| <b>Main circuit</b>  |                    |
| number of poles for main current circuit                               | 3                  |
| number of NO contacts for main contacts                                | 3                  |
| number of NC contacts for main contacts                                | 0                  |
| <b>operating voltage</b>   |                    |
| • at AC-3 rated value maximum  | 690 V              |
| • at AC-3e rated value maximum   | 690 V              |
| <b>operational current</b>   |                    |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value            | 80 A               |
| • at AC-1  |                    |
| — up to 690 V at ambient temperature 40 °C rated value                 | 80 A               |
| — up to 690 V at ambient temperature 60 °C rated value                 | 70 A               |
| • at AC-3  |                    |
| — at 400 V rated value   | 65 A               |
| — at 500 V rated value   | 65 A               |
| — at 690 V rated value   | 47 A               |
| • at AC-3e   |                    |
| — at 400 V rated value   | 65 A               |
| — at 500 V rated value   | 65 A               |
| — at 690 V rated value   | 47 A               |
| • at AC-4 at 400 V rated value   | 55 A               |
| • at AC-5a up to 690 V rated value                                     | 70.4 A             |
| • at AC-5b up to 400 V rated value                                     | 53.9 A             |
| • at AC-6a   |                    |
| — up to 230 V for current peak value n=20 rated value                  | 56.9 A             |
| — up to 400 V for current peak value n=20 rated value                  | 56.9 A             |
| — up to 500 V for current peak value n=20 rated value                  | 56.9 A             |
| — up to 690 V for current peak value n=20 rated value                  | 47 A               |
| • at AC-6a   |                    |
| — up to 230 V for current peak value n=30 rated value                  | 38 A               |
| — up to 400 V for current peak value n=30 rated value                  | 38 A               |
| — up to 500 V for current peak value n=30 rated value                  | 38 A               |
| — up to 690 V for current peak value n=30 rated value                  | 38 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value      | 25 mm <sup>2</sup> |
| <b>operational current for approx. 200000 operating cycles at AC-4</b> |                    |
| • at 400 V rated value   | 28 A               |
| • at 690 V rated value   | 22 A               |
| <b>operational current</b>   |                    |
| • <b>at 1 current path at DC-1</b>                                     |                    |
| — at 24 V rated value  | 55 A               |
| — at 60 V rated value  | 23 A               |
| — at 110 V rated value   | 4.5 A              |
| — at 220 V rated value   | 1 A                |
| — at 440 V rated value   | 0.4 A              |
| — at 600 V rated value   | 0.25 A             |
| • <b>with 2 current paths in series at DC-1</b>                        |                    |
| — at 24 V rated value  | 55 A               |
| — at 60 V rated value  | 45 A               |
| — at 110 V rated value   | 45 A               |

|   |   |
|---|---|
| — at 220 V rated value  | 5 A   |
| — at 440 V rated value  | 1 A   |
| — at 600 V rated value  | 0.8 A   |
| <b>• with 3 current paths in series at DC-1</b>                         |   |
| — at 24 V rated value   | 55 A  |
| — at 60 V rated value   | 55 A  |
| — at 110 V rated value  | 55 A  |
| — at 220 V rated value  | 45 A  |
| — at 440 V rated value  | 2.9 A   |
| — at 600 V rated value  | 1.4 A   |
| <b>• at 1 current path at DC-3 at DC-5</b>                              |   |
| — at 24 V rated value   | 35 A  |
| — at 60 V rated value   | 6 A   |
| — at 220 V rated value  | 1 A   |
| — at 440 V rated value  | 0.1 A   |
| — at 600 V rated value  | 0.06 A  |
| <b>• with 2 current paths in series at DC-3 at DC-5</b>                 |   |
| — at 24 V rated value   | 55 A  |
| — at 60 V rated value   | 45 A  |
| — at 110 V rated value  | 25 A  |
| — at 220 V rated value  | 5 A   |
| — at 440 V rated value  | 0.27 A  |
| — at 600 V rated value  | 0.16 A  |
| <b>• with 3 current paths in series at DC-3 at DC-5</b>                 |   |
| — at 24 V rated value   | 55 A  |
| — at 60 V rated value   | 55 A  |
| — at 110 V rated value  | 55 A  |
| — at 220 V rated value  | 25 A  |
| — at 440 V rated value  | 0.6 A   |
| — at 600 V rated value  | 0.35 A  |
| <b>operating power</b>  |   |
| • at AC-2 at 400 V rated value  |   |
| — at 230 V rated value  | 30 kW   |
| • at AC-3   |   |
| — at 400 V rated value  | 18.5 kW   |
| — at 500 V rated value  | 30 kW   |
| — at 690 V rated value  | 37 kW   |
| • at AC-3e  |   |
| — at 400 V rated value  | 37 kW   |
| — at 500 V rated value  | 18.5 kW   |
| — at 690 V rated value  | 30 kW   |
| — at 230 V rated value  | 37 kW   |
| <b>operating power for approx. 200000 operating cycles at AC-4</b>      |   |
| • at 400 V rated value  |   |
| — at 690 V rated value  | 14.7 kW   |
| • at 690 V rated value  |   |
| <b>operating apparent power at AC-6a</b>                                |   |
| • up to 230 V for current peak value n=20 rated value                   |   |
| — up to 400 V for current peak value n=20 rated value                   | 22.6 kVA  |
| — up to 500 V for current peak value n=20 rated value                   | 39.4 kVA  |
| — up to 690 V for current peak value n=20 rated value                   | 49.2 kVA  |
| • up to 230 V for current peak value n=30 rated value                   |   |
| — up to 400 V for current peak value n=30 rated value                   | 56.1 kVA  |
| <b>operating apparent power at AC-6a</b>                                |   |
| • up to 230 V for current peak value n=30 rated value                   |   |
| — up to 400 V for current peak value n=30 rated value                   | 15.1 kVA  |
| — up to 500 V for current peak value n=30 rated value                   | 26.2 kVA  |
| — up to 690 V for current peak value n=30 rated value                   | 32.8 kVA  |
| • up to 230 V for current peak value n=30 rated value                   |   |
| — up to 400 V for current peak value n=30 rated value                   | 45.3 kVA  |
| <b>short-time withstand current in cold operating state up to 40 °C</b> |   |
| • limited to 1 s switching at zero current maximum                      |   |
|   | 1 055 A; Use minimum cross-section acc. to AC-1 rated value |

|   |   |
|---|---|
| • limited to 5 s switching at zero current maximum                                    | 730 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum                                   | 520 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 30 s switching at zero current maximum                                   | 336 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 60 s switching at zero current maximum                                   | 272 A; Use minimum cross-section acc. to AC-1 rated value |
| <b>no-load switching frequency</b>  |   |
| • at AC   | 1 500 1/h   |
| • at DC   | 1 500 1/h   |
| <b>operating frequency</b>  |   |
| • at AC-1 maximum   | 800 1/h   |
| • at AC-2 maximum   | 400 1/h   |
| • at AC-3 maximum   | 700 1/h   |
| • at AC-3e  |   |
| — maximum   | 700 1/h   |
| • at AC-4 maximum   | 200 1/h   |
| <b>Control circuit/ Control</b>   |   |
| <b>type of voltage of the control supply voltage</b>                                  | AC/DC   |
| <b>control supply voltage at AC</b>   |   |
| • at 50 Hz rated value  | 20 ... 33 V   |
| • at 60 Hz rated value  | 20 ... 33 V   |
| <b>control supply voltage at DC rated value</b>                                       | 20 ... 33 V   |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |   |
| • initial value   | 0.8   |
| • full-scale value  | 1.1   |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |   |
| • at 50 Hz  | 0.8 ... 1.1   |
| • at 60 Hz  | 0.8 ... 1.1   |
| <b>design of the surge suppressor</b>   | with varistor   |
| <b>inrush current peak</b>  | 3 A   |
| <b>duration of inrush current peak</b>  | 50 $\mu$ s  |
| <b>pickup current mean value</b>  | 1 A   |
| <b>pickup current peak</b>  | 2.6 A   |
| <b>duration of pickup current</b>   | 230 ms  |
| <b>holding current mean value</b>   | 40 mA   |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |   |
| • at 50 Hz  | 40 VA   |
| • at 60 Hz  | 40 VA   |
| <b>apparent holding power</b>   |   |
| • at minimum rated control supply voltage at DC                                       | 2 VA  |
| • at maximum rated control supply voltage at DC                                       | 2 VA  |
| <b>apparent holding power</b>   |   |
| • at minimum rated control supply voltage at AC                                       |   |
| — at 50 Hz  | 2 VA  |
| — at 60 Hz  | 2 VA  |
| • at maximum rated control supply voltage at AC                                       |   |
| — at 50 Hz  | 2 VA  |
| — at 60 Hz  | 2 VA  |
| <b>apparent holding power of magnet coil at AC</b>                                    |   |
| • at 50 Hz  | 2 VA  |
| • at 60 Hz  | 2 VA  |
| <b>inductive power factor with the holding power of the coil</b>                      |   |
| • at 50 Hz  | 0.95  |
| • at 60 Hz  | 0.95  |
| <b>closing power of magnet coil at DC</b>   | 23 W  |
| <b>holding power of magnet coil at DC</b>   | 1 W   |
| <b>closing delay</b>  |   |
| • at AC   | 35 ... 110 ms   |
| • at DC   | 35 ... 110 ms   |

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|---|--|
| <b>opening delay</b>  |  |
| • at AC   | 30 ... 55 ms   |
| • at DC   | 30 ... 55 ms   |
| <b>arcing time</b>  | 10 ... 20 ms   |
| <b>control version of the switch operating mechanism</b>  | Standard A1 - A2   |
| <b>Auxiliary circuit</b>  |  |
| number of NC contacts for auxiliary contacts instantaneous contact  | 2  |
| number of NO contacts for auxiliary contacts instantaneous contact  | 2  |
| operational current at AC-12 maximum  | 10 A   |
| <b>operational current at AC-15</b>   |  |
| • at 230 V rated value  | 6 A  |
| • at 400 V rated value  | 3 A  |
| • at 500 V rated value  | 2 A  |
| • at 690 V rated value  | 1 A  |
| <b>operational current at DC-12</b>   |  |
| • at 24 V rated value   | 10 A   |
| • at 48 V rated value   | 6 A  |
| • at 60 V rated value   | 6 A  |
| • at 110 V rated value  | 3 A  |
| • at 125 V rated value  | 2 A  |
| • at 220 V rated value  | 1 A  |
| • at 600 V rated value  | 0.15 A   |
| <b>operational current at DC-13</b>   |  |
| • at 24 V rated value   | 6 A  |
| • at 48 V rated value   | 2 A  |
| • at 60 V rated value   | 2 A  |
| • at 110 V rated value  | 1 A  |
| • at 125 V rated value  | 0.9 A  |
| • at 220 V rated value  | 0.3 A  |
| • at 600 V rated value  | 0.1 A  |
| <b>contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)  |
| <b>UL/CSA ratings</b>   |  |
| <b>full-load current (FLA) for 3-phase AC motor</b>   |  |
| • at 480 V rated value  | 65 A   |
| • at 600 V rated value  | 52 A   |
| <b>yielded mechanical performance [hp]</b>  |  |
| • for single-phase AC motor   |  |
| — at 110/120 V rated value  | 5 hp   |
| — at 230 V rated value  | 10 hp  |
| • for 3-phase AC motor  |  |
| — at 200/208 V rated value  | 20 hp  |
| — at 220/230 V rated value  | 20 hp  |
| — at 460/480 V rated value  | 50 hp  |
| — at 575/600 V rated value  | 50 hp  |
| <b>contact rating of auxiliary contacts according to UL</b>   | A600 / Q600  |
| <b>Short-circuit protection</b>   |  |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V | C characteristic: 10 A; 0.4 kA   |
| <b>design of the fuse link</b>  |  |
| • for short-circuit protection of the main circuit  |  |
| — with type of coordination 1 required  | gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA)   |
| — with type of coordination 2 required  | gG: 125 A (690 V, 100 kA), aM: 63 A (690 V, 100 kA), BS88: 100 A (415 V, 80 kA)  |
| • for short-circuit protection of the auxiliary switch required   | gG: 10 A (500 V, 1 kA)   |
| <b>Installation/ mounting/ dimensions</b>   |  |
| <b>mounting position</b>  | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |

|  |  |
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| fastening method side-by-side mounting | Yes  |
| <b>fastening method</b>                | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| <b>height</b>                          | 114 mm   |
| <b>width</b>                           | 55 mm  |
| <b>depth</b>                           | 174 mm   |
| <b>required spacing</b>                |  |
| • with side-by-side mounting           |  |
| — forwards                             | 10 mm  |
| — upwards                              | 10 mm  |
| — downwards                            | 10 mm  |
| — at the side                          | 0 mm   |
| • for grounded parts                   |  |
| — forwards                             | 10 mm  |
| — upwards                              | 10 mm  |
| — at the side                          | 6 mm   |
| — downwards                            | 10 mm  |
| • for live parts                       |  |
| — forwards                             | 10 mm  |
| — upwards                              | 10 mm  |
| — downwards                            | 10 mm  |
| — at the side                          | 6 mm   |

#### Connections/ Terminals

|   |   |
|---|---|
| <b>type of electrical connection</b>  |   |
| • for main current circuit  | screw-type terminals  |
| • for auxiliary and control circuit   | screw-type terminals  |
| • at contactor for auxiliary contacts   | Screw-type terminals  |
| • of magnet coil  | Screw-type terminals  |
| <b>type of connectable conductor cross-sections</b>                                   |   |
| • for main contacts   |   |
| — solid or stranded   | 2x (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )        |
| — finely stranded with core end processing  | 2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )        |
| • for AWG cables for main contacts  | 2x (18 ... 2), 1x (18 ... 1)  |
| <b>connectable conductor cross-section for main contacts</b>                          |   |
| • finely stranded with core end processing  | 1 ... 35 mm <sup>2</sup>  |
| <b>connectable conductor cross-section for auxiliary contacts</b>                     |   |
| • solid or stranded   | 0.5 ... 2.5 mm <sup>2</sup>   |
| • finely stranded with core end processing  | 0.5 ... 2.5 mm <sup>2</sup>   |
| <b>type of connectable conductor cross-sections</b>                                   |   |
| • for auxiliary contacts  |   |
| — 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> ) |
| • for AWG cables for auxiliary contacts   | 2x (20 ... 16), 2x (18 ... 14)  |
| <b>AWG number as coded connectable conductor cross section for main contacts</b>      | 18 ... 1  |
| <b>AWG number as coded connectable conductor cross section for auxiliary contacts</b> | 20 ... 14   |

#### Safety related data

|  |           |
|--|-----------|
| <b>product function</b>  |           |
| • mirror contact according to IEC 60947-4-1                          | Yes       |
| • positively driven operation according to IEC 60947-5-1             | No        |
| • suitable for safety function                                       | Yes       |
| <b>suitability for use safety-related switching OFF</b>              | Yes       |
| <b>service life maximum</b>  | 20 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                        | 73 %      |
| <b>B10 value with high demand rate according to SN 31920</b>         | 1 000 000 |
| <b>failure rate [FIT] with low demand rate according to SN 31920</b> | 100 FIT   |

## ISO 13849

|   |  |
|---|--|
| device type according to ISO 13849-1                    | 3  |
| overdimensioning according to ISO 13849-2 necessary     | Yes  |
| IEC 61508   |  |
| safety device type according to IEC 61508-2             | Type A   |
| Electrical Safety                                       |  |
| protection class IP on the front according to IEC 60529 | IP20   |
| touch protection on the front according to IEC 60529    | finger-safe, for vertical contact from the front |

## Approvals Certificates

## Environmental Product Declaration

|  |           |
|--|-----------|
| • global warming potential [CO2 eq] / during manufacturing | 5.88 kg   |
| • global warming potential [CO2 eq] / during operation     | 102 kg    |
| • global warming potential [CO2 eq] / after end of life    | -0.988 kg |
| • global warming potential [CO2 eq] / total                | 107 kg    |

## Environment

## General Product Approval



[Environmental Confirmations](#)



## General Product Approval

## EMV

## Test Certificates



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

## Maritime application



## Maritime application

## other

## Railway



[Confirmation](#)

[Confirmation](#)

[Special Test Certificate](#)

## 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=3RT2037-1NB34>

## Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2037-1NB34>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2037-1NB34&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2037-1NB34&lang=en)

## Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2037-1NB34>

## Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP="Haupt"></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



