

power contactor, AC-3e/AC-3, 17 A, 7.5 kW / 400 V, 3-pole, 95-130 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, spring-loaded terminal, size: S0

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| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S0 |
| product extension | |
| • function module for communication | No |
| • auxiliary switch | Yes |
| power loss [W] for rated value of the current | |
| • at AC in hot operating state | 1.8 W |
| • at AC in hot operating state per pole | 0.6 W |
| • without load current share typical | 1.3 W |
| type of calculation of power loss current-dependent | 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 | 7,5 g / 5 ms, 4,7 g / 10 ms |
| • at DC | 10g / 5 ms, 7,5g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 11,8 g / 5 ms, 7,4 g / 10 ms |
| • at DC | 15 g / 5 ms, 10 g / 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 Prohibition (day/month/year) | 10/01/2009 |
| SVHC substance name | Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 |
| Net Weight | 0.583 g |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| • during operation | -25 ... +60 °C |
| • during storage | -55 ... +80 °C |
| relative humidity minimum | 10 % |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 % |
| Main circuit | |
| number of poles for main current circuit | 3 |
| number of NO contacts for main contacts | 3 |

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| number of NC contacts for main contacts | 0 |
| operating voltage | |
| • at AC-3 rated value maximum | 690 V |
| • at AC-3e rated value maximum | 690 V |
| operational current | |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value | 40 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 40 A |
| — up to 690 V at ambient temperature 60 °C rated value | 35 A |
| • at AC-3 | |
| — at 400 V rated value | 17 A |
| — at 500 V rated value | 17 A |
| — at 690 V rated value | 13 A |
| • at AC-3e | |
| — at 400 V rated value | 17 A |
| — at 500 V rated value | 17 A |
| — at 690 V rated value | 13 A |
| • at AC-4 at 400 V rated value | 15.5 A |
| • at AC-5a up to 690 V rated value | 35.2 A |
| • at AC-5b up to 400 V rated value | 14.1 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 11.4 A |
| — up to 400 V for current peak value n=20 rated value | 11.4 A |
| — up to 500 V for current peak value n=20 rated value | 11.4 A |
| — up to 690 V for current peak value n=20 rated value | 11.3 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 7.6 A |
| — up to 400 V for current peak value n=30 rated value | 7.6 A |
| — up to 500 V for current peak value n=30 rated value | 7.6 A |
| — up to 690 V for current peak value n=30 rated value | 7.6 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 10 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 7.7 A |
| • at 690 V rated value | 7.7 A |
| operational current | |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 60 V rated value | 20 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 |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 60 V rated value | 35 A |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 5 A |
| — at 440 V rated value | 1 A |
| — at 600 V rated value | 0.8 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 35 A |
| — at 60 V rated value | 35 A |
| — at 110 V rated value | 35 A |
| — at 220 V rated value | 35 A |
| — at 440 V rated value | 2.9 A |

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| <ul style="list-style-type: none"> — at 600 V rated value | 1.4 A |
| <ul style="list-style-type: none"> ● at 1 current path at DC-3 at DC-5 | |
| <ul style="list-style-type: none"> — at 24 V rated value | 20 A |
| <ul style="list-style-type: none"> — at 60 V rated value | 5 A |
| <ul style="list-style-type: none"> — at 110 V rated value | 2.5 A |
| <ul style="list-style-type: none"> — at 220 V rated value | 1 A |
| <ul style="list-style-type: none"> — at 440 V rated value | 0.09 A |
| <ul style="list-style-type: none"> — at 600 V rated value | 0.06 A |
| <ul style="list-style-type: none"> ● with 2 current paths in series at DC-3 at DC-5 | |
| <ul style="list-style-type: none"> — at 24 V rated value | 35 A |
| <ul style="list-style-type: none"> — at 60 V rated value | 35 A |
| <ul style="list-style-type: none"> — at 110 V rated value | 15 A |
| <ul style="list-style-type: none"> — at 220 V rated value | 3 A |
| <ul style="list-style-type: none"> — at 440 V rated value | 0.27 A |
| <ul style="list-style-type: none"> — at 600 V rated value | 0.16 A |
| <ul style="list-style-type: none"> ● with 3 current paths in series at DC-3 at DC-5 | |
| <ul style="list-style-type: none"> — at 24 V rated value | 35 A |
| <ul style="list-style-type: none"> — at 60 V rated value | 35 A |
| <ul style="list-style-type: none"> — at 110 V rated value | 35 A |
| <ul style="list-style-type: none"> — at 220 V rated value | 10 A |
| <ul style="list-style-type: none"> — at 440 V rated value | 0.6 A |
| <ul style="list-style-type: none"> — at 600 V rated value | 0.6 A |
| operating power | |
| <ul style="list-style-type: none"> ● at AC-3 | |
| <ul style="list-style-type: none"> — at 230 V rated value | 4 kW |
| <ul style="list-style-type: none"> — at 400 V rated value | 7.5 kW |
| <ul style="list-style-type: none"> — at 500 V rated value | 7.5 kW |
| <ul style="list-style-type: none"> — at 690 V rated value | 11 kW |
| <ul style="list-style-type: none"> ● at AC-3e | |
| <ul style="list-style-type: none"> — at 230 V rated value | 4 kW |
| <ul style="list-style-type: none"> — at 400 V rated value | 7.5 kW |
| <ul style="list-style-type: none"> — at 500 V rated value | 7.5 kW |
| <ul style="list-style-type: none"> — at 690 V rated value | 11 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> ● at 400 V rated value | 3.5 kW |
| <ul style="list-style-type: none"> ● at 690 V rated value | 6 kW |
| operating apparent power at AC-6a | |
| <ul style="list-style-type: none"> ● up to 230 V for current peak value n=20 rated value | 4.5 kVA |
| <ul style="list-style-type: none"> ● up to 400 V for current peak value n=20 rated value | 7.8 kVA |
| <ul style="list-style-type: none"> ● up to 500 V for current peak value n=20 rated value | 9.9 kVA |
| <ul style="list-style-type: none"> ● up to 690 V for current peak value n=20 rated value | 13.6 kVA |
| operating apparent power at AC-6a | |
| <ul style="list-style-type: none"> ● up to 230 V for current peak value n=30 rated value | 3 kVA |
| <ul style="list-style-type: none"> ● up to 400 V for current peak value n=30 rated value | 5.2 kVA |
| <ul style="list-style-type: none"> ● up to 500 V for current peak value n=30 rated value | 6.6 kVA |
| <ul style="list-style-type: none"> ● up to 690 V for current peak value n=30 rated value | 9.1 kVA |
| short-time withstand current in cold operating state up to 40 °C | |
| <ul style="list-style-type: none"> ● limited to 1 s switching at zero current maximum | 225 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> ● limited to 5 s switching at zero current maximum | 225 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> ● limited to 10 s switching at zero current maximum | 189 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> ● limited to 30 s switching at zero current maximum | 140 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> ● limited to 60 s switching at zero current maximum | 115 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| <ul style="list-style-type: none"> ● at AC | 1 500 1/h |
| <ul style="list-style-type: none"> ● at DC | 1 500 1/h |
| operating frequency | |
| <ul style="list-style-type: none"> ● at AC-1 maximum | 1 000 1/h |

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| <ul style="list-style-type: none"> • at AC-2 maximum | 1 000 1/h |
| <ul style="list-style-type: none"> • at AC-3 maximum | 1 000 1/h |
| <ul style="list-style-type: none"> • at AC-3e <ul style="list-style-type: none"> — maximum | 1 000 1/h |
| <ul style="list-style-type: none"> • at AC-4 maximum | 300 1/h |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| <ul style="list-style-type: none"> • at 50 Hz rated value | 95 ... 130 V |
| <ul style="list-style-type: none"> • at 60 Hz rated value | 95 ... 130 V |
| control supply voltage at DC rated value | 95 ... 130 V |
| operating range factor control supply voltage rated value of magnet coil at DC | |
| <ul style="list-style-type: none"> • initial value | 0.7 |
| <ul style="list-style-type: none"> • full-scale value | 1.3 |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.7 ... 1.3 |
| <ul style="list-style-type: none"> • at 60 Hz | 0.7 ... 1.3 |
| design of the surge suppressor | with varistor |
| inrush current peak | 15 A |
| duration of inrush current peak | 30 µs |
| pickup current mean value | 0.13 A |
| pickup current peak | 0.19 A |
| duration of pickup current | 180 ms |
| holding current mean value | 19 mA |
| apparent pick-up power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 11.9 VA |
| <ul style="list-style-type: none"> • at 60 Hz | 12 VA |
| inductive power factor with closing power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.98 |
| <ul style="list-style-type: none"> • at 60 Hz | 0.98 |
| apparent holding power | |
| <ul style="list-style-type: none"> • at minimum rated control supply voltage at DC | 1.3 VA |
| <ul style="list-style-type: none"> • at maximum rated control supply voltage at DC | 1.3 VA |
| apparent holding power | |
| <ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz | 1.6 VA |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 60 Hz | 1.8 VA |
| <ul style="list-style-type: none"> • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz | 1.6 VA |
| <ul style="list-style-type: none"> <ul style="list-style-type: none"> — at 60 Hz | 1.8 VA |
| apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 1.6 VA |
| <ul style="list-style-type: none"> • at 60 Hz | 1.8 VA |
| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.79 |
| <ul style="list-style-type: none"> • at 60 Hz | 0.74 |
| closing power of magnet coil at DC | 10.2 W |
| holding power of magnet coil at DC | 1.3 W |
| closing delay | |
| <ul style="list-style-type: none"> • at AC | 50 ... 80 ms |
| <ul style="list-style-type: none"> • at DC | 50 ... 80 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at AC | 30 ... 50 ms |
| <ul style="list-style-type: none"> • at DC | 30 ... 50 ms |
| arcing time | 10 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |
| Auxiliary circuit | |

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| number of NC contacts for auxiliary contacts instantaneous contact | 1 |
| number of NO contacts for auxiliary contacts instantaneous contact | 1 |
| operational current at AC-12 maximum | 10 A |
| operational current at AC-15 | |
| • at 230 V rated value | 10 A |
| • at 400 V rated value | 3 A |
| • at 500 V rated value | 2 A |
| • at 690 V rated value | 1 A |
| operational current at DC-12 | |
| • 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 |
| operational current at DC-13 | |
| • at 24 V rated value | 10 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 |
| contact reliability of auxiliary contacts | 1 faulty switching per 100 million (17 V, 1 mA) |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor | |
| • at 480 V rated value | 14 A |
| • at 600 V rated value | 17 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 1 hp |
| — at 230 V rated value | 3 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 3 hp |
| — at 220/230 V rated value | 5 hp |
| — at 460/480 V rated value | 10 hp |
| — at 575/600 V rated value | 15 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| UL File Number (CCN) | E31519 (NLDX, NLDX7) |
| Short-circuit protection | |
| 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 |
| design of the fuse link | |
| • for short-circuit protection of the main circuit | |
| — with type of coordination 1 required | gG: 63 A (690 V, 100 kA), aM: 32 A (690 V, 100 kA), BS88: 63 A (415 V, 80 kA) |
| — with type of coordination 2 required | gG: 25 A (690 V, 100 kA), aM: 20 A (690 V, 100 kA), BS88: 25 A (415 V, 80 kA) |
| • for short-circuit protection of the auxiliary switch required | gG: 10 A (500 V, 1 kA) |
| Installation/ mounting/ dimensions | |
| mounting position | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| fastening method side-by-side mounting | Yes |
| fastening method | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| height | 102 mm |
| width | 45 mm |
| depth | 107 mm |
| required spacing | |
| • with side-by-side mounting | |

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| — 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

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|---|-----------------------------------|
| type of electrical connection | |
| • for main current circuit | spring-loaded terminals |
| • for auxiliary and control circuit | spring-loaded terminals |
| • at contactor for auxiliary contacts | Spring-type terminals |
| • of magnet coil | Spring-type terminals |
| type of connectable conductor cross-sections | |
| • for main contacts | |
| — solid | 2x (1 ... 10 mm ²) |
| — solid or stranded | 2x (1 ... 10 mm ²) |
| — finely stranded with core end processing | 2x (1 ... 6 mm ²) |
| — finely stranded without core end processing | 2x (1 ... 6 mm ²) |
| • for AWG cables for main contacts | 2x (18 ... 8) |
| connectable conductor cross-section for main contacts | |
| • solid | 1 ... 10 mm ² |
| • stranded | 1 ... 10 mm ² |
| • finely stranded with core end processing | 1 ... 6 mm ² |
| • finely stranded without core end processing | 1 ... 6 mm ² |
| connectable conductor cross-section for auxiliary contacts | |
| • solid or stranded | 0.5 ... 2.5 mm ² |
| • finely stranded with core end processing | 0.5 ... 1.5 mm ² |
| • finely stranded without core end processing | 0.5 ... 2.5 mm ² |
| type of connectable conductor cross-sections | |
| • for auxiliary contacts | |
| — solid or stranded | 2x (0.5 ... 2.5 mm ²) |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm ²) |
| — finely stranded without core end processing | 2x (0.5 ... 2.5 mm ²) |
| • for AWG cables for auxiliary contacts | 2x (20 ... 14) |
| AWG number as coded connectable conductor cross section for main contacts | 18 ... 8 |
| AWG number as coded connectable conductor cross section for auxiliary contacts | 20 ... 14 |

Safety related data

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| product function | |
| • mirror contact according to IEC 60947-4-1 | Yes |
| • positively driven operation according to IEC 60947-5-1 | No |
| • suitable for safety function | Yes |
| suitability for use safety-related switching OFF | Yes |
| service life maximum | 20 a |
| test wear-related service life necessary | Yes |
| proportion of dangerous failures | |
| • with low demand rate according to SN 31920 | 40 % |
| • with high demand rate according to SN 31920 | 73 % |
| B10 value with high demand rate according to SN 31920 | 1 000 000 |
| failure rate [FIT] with low demand rate according to SN 31920 | 100 FIT |

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| 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

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| Environmental Product Declaration | |
| • global warming potential [CO2 eq] / during manufacturing | 3.7 kg |
| • global warming potential [CO2 eq] / during operation | 56.6 kg |
| • global warming potential [CO2 eq] / after end of life | -0.626 kg |
| • global warming potential [CO2 eq] / total | 59.7 kg |

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| Environment | General Product Approval |
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| Environmental Conformations |  |  |  |  |  |
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| General Product Approval | EMV | Test Certificates |
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|  |  |  |  |  | Miscellaneous |
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| Test Certificates | Maritime application |
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| Special Test Certificate | Type Test Certificates/Test Report |  |  |  |  |
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| Maritime application | other |
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|  |  |  | Miscellaneous | Confirmation | Confirmation |
|---|---|---|-------------------------------|------------------------------|------------------------------|

| | | |
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| other | Railway | Dangerous goods |
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|  | Miscellaneous | Special Test Certificate | Transport Information |
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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=3RT2025-2NF30>
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-2NF30>
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2025-2NF30&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RT2025-2NF30>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)

last modified:

4/4/2026 