



Power contactor, AC-3 110 A, 55 kW / 400 V 2 NO + 2 NC, 230 V AC, 50 Hz 3-pole, 3 NO, Size S3 screw terminal

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| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S3 |
| 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 | 23.7 W |
| • per pole | 7.9 W |
| power loss [W] for rated value of the current without load current share typical | 19 W |
| surge voltage resistance | |
| • of main circuit rated value | 8 kV |
| • of auxiliary circuit rated value | 6 kV |
| maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1 | 690 V |
| shock resistance at rectangular impulse | |
| • at AC | 6.7 g / 5 ms, 4.0 g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 10.6 g / 5 ms, 6.3 g / 10 ms |
| mechanical service life (switching 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 acc. to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 01.03.2017 00:00:00 |
| 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 |
| Main circuit | |
| number of poles for main current circuit | 3 |
| number of NO contacts for main contacts | 3 |
| operating voltage at AC-3 rated value maximum | 1 000 V |
| operational current | |

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| <ul style="list-style-type: none"> ● at AC-1 at 400 V at ambient temperature 40 °C rated value | 130 A |
| <ul style="list-style-type: none"> ● at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value | 130 A |
| <ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value | 110 A |
| <ul style="list-style-type: none"> — up to 1000 V at ambient temperature 40 °C rated value | 70 A |
| <ul style="list-style-type: none"> — up to 1000 V at ambient temperature 60 °C rated value | 60 A |
| <ul style="list-style-type: none"> ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value | 110 A |
| <ul style="list-style-type: none"> — at 500 V rated value | 110 A |
| <ul style="list-style-type: none"> — at 690 V rated value | 98 A |
| <ul style="list-style-type: none"> — at 1000 V rated value | 30 A |
| <ul style="list-style-type: none"> ● at AC-4 at 400 V rated value | 97 A |
| <ul style="list-style-type: none"> ● at AC-5a up to 690 V rated value | 120 A |
| <ul style="list-style-type: none"> ● at AC-5b up to 400 V rated value | 110 A |
| <ul style="list-style-type: none"> ● at AC-6a <ul style="list-style-type: none"> — up to 230 V for current peak value n=20 rated value | 98 A |
| <ul style="list-style-type: none"> — up to 400 V for current peak value n=20 rated value | 98 A |
| <ul style="list-style-type: none"> — up to 500 V for current peak value n=20 rated value | 98 A |
| <ul style="list-style-type: none"> — up to 690 V for current peak value n=20 rated value | 98 A |
| <ul style="list-style-type: none"> ● at AC-6a <ul style="list-style-type: none"> — up to 230 V for current peak value n=30 rated value | 65.3 A |
| <ul style="list-style-type: none"> — up to 400 V for current peak value n=30 rated value | 65.3 A |
| <ul style="list-style-type: none"> — up to 500 V for current peak value n=30 rated value | 65.3 A |
| <ul style="list-style-type: none"> — up to 690 V for current peak value n=30 rated value | 65.3 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 50 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> ● at 400 V rated value | 46 A |
| <ul style="list-style-type: none"> ● at 690 V rated value | 36 A |
| operational current | |
| <ul style="list-style-type: none"> ● at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value | 100 A |
| <ul style="list-style-type: none"> — at 110 V rated value | 9 A |
| <ul style="list-style-type: none"> — at 220 V rated value | 2 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 | 0.4 A |
| <ul style="list-style-type: none"> ● with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value | 100 A |
| <ul style="list-style-type: none"> — at 110 V rated value | 100 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 | 1.8 A |
| <ul style="list-style-type: none"> — at 600 V rated value | 1 A |
| <ul style="list-style-type: none"> ● with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value | 100 A |
| <ul style="list-style-type: none"> — at 110 V rated value | 100 A |
| <ul style="list-style-type: none"> — at 220 V rated value | 80 A |
| <ul style="list-style-type: none"> — at 440 V rated value | 4.5 A |
| <ul style="list-style-type: none"> — at 600 V rated value | 2.6 A |
| operational current | |
| <ul style="list-style-type: none"> ● at 1 current path at DC-3 at DC-5 | |

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| <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | <p>40 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.15 A</p> <p>0.06 A</p> <p>100 A</p> <p>100 A</p> <p>7 A</p> <p>0.42 A</p> <p>0.16 A</p> <p>100 A</p> <p>100 A</p> <p>35 A</p> <p>0.8 A</p> <p>0.35 A</p> |
| <p>operating power</p> <ul style="list-style-type: none"> ● at AC-2 at 400 V rated value ● at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 1000 V rated value | <p>55 kW</p> <p>30 kW</p> <p>55 kW</p> <p>75 kW</p> <p>90 kW</p> <p>37 kW</p> |
| <p>operating power for approx. 200000 operating cycles at AC-4</p> <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value | <p>24.3 kW</p> <p>32.9 kW</p> |
| <p>operating apparent power at AC-6a</p> <ul style="list-style-type: none"> ● up to 230 V for current peak value n=20 rated value ● up to 400 V for current peak value n=20 rated value ● up to 500 V for current peak value n=20 rated value ● up to 690 V for current peak value n=20 rated value | <p>39 kV·A</p> <p>67 kV·A</p> <p>84 kV·A</p> <p>117 kV·A</p> |
| <p>operating apparent power at AC-6a</p> <ul style="list-style-type: none"> ● up to 230 V for current peak value n=30 rated value ● up to 400 V for current peak value n=30 rated value ● up to 500 V for current peak value n=30 rated value ● up to 690 V for current peak value n=30 rated value | <p>26 kV·A</p> <p>45.2 kV·A</p> <p>56.5 kV·A</p> <p>78 kV·A</p> |
| <p>short-time withstand current in cold operating state up to 40 °C</p> <ul style="list-style-type: none"> ● limited to 1 s switching at zero current maximum ● limited to 5 s switching at zero current maximum ● limited to 10 s switching at zero current maximum ● limited to 30 s switching at zero current maximum ● limited to 60 s switching at zero current maximum | <p>1 960 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 502 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 095 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>707 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>562 A; Use minimum cross-section acc. to AC-1 rated value</p> |
| <p>no-load switching frequency</p> <ul style="list-style-type: none"> ● at AC | <p>5 000 1/h</p> |
| <p>operating frequency</p> <ul style="list-style-type: none"> ● at AC-1 maximum ● at AC-2 maximum ● at AC-3 maximum ● at AC-4 maximum | <p>900 1/h</p> <p>350 1/h</p> <p>850 1/h</p> <p>200 1/h</p> |
| Control circuit/ Control | |
| <p>type of voltage of the control supply voltage</p> | <p>AC</p> |
| <p>control supply voltage at AC</p> <ul style="list-style-type: none"> ● at 50 Hz rated value | <p>230 V</p> |
| <p>operating range factor control supply voltage rated value of magnet coil at AC</p> <ul style="list-style-type: none"> ● at 50 Hz | <p>0.8 ... 1.1</p> |
| <p>apparent pick-up power of magnet coil at AC</p> | |

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| <ul style="list-style-type: none"> • at 50 Hz | 296 V·A |
| inductive power factor with closing power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.61 |
| apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 19 V·A |
| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.38 |
| closing delay | |
| <ul style="list-style-type: none"> • at AC | 13 ... 50 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at AC | 10 ... 21 ms |
| arcing time | 10 ... 20 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |
| Auxiliary circuit | |
| 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 |
| operational current at AC-15 | |
| <ul style="list-style-type: none"> • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value | 6 A 3 A 2 A 1 A |
| operational current at DC-12 | |
| <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value | 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A |
| operational current at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value | 6 A 2 A 2 A 1 A 0.9 A 0.3 A 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 | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 96 A 99 A |
| yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 110/120 V rated value — at 230 V rated value • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value | 10 hp 20 hp 30 hp 40 hp 75 hp 100 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| Short-circuit protection | |
| design of the fuse link | |
| <ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — 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) |

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| <ul style="list-style-type: none"> — with type of assignment 2 required ● for short-circuit protection of the auxiliary switch required | gG: 200A (690V,100kA), aM: 100A (690V,100kA), BS88: 160A (415V,80kA) 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 | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| <ul style="list-style-type: none"> ● side-by-side mounting | Yes |
| height | 140 mm |
| width | 70 mm |
| depth | 195 mm |
| required spacing | |
| <ul style="list-style-type: none"> ● with side-by-side mounting <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm ● for grounded parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — at the side 10 mm — downwards 10 mm ● for live parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm | |
| Connections/ Terminals | |
| type of electrical connection | |
| <ul style="list-style-type: none"> ● for main current circuit ● for auxiliary and control circuit ● at contactor for auxiliary contacts ● of magnet coil | screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — finely stranded with core end processing ● at AWG cables for main contacts | 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 1/0), 1x (10 ... 2) |
| connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> ● solid ● stranded ● finely stranded with core end processing | 2.5 ... 16 mm ² 6 ... 70 mm ² 2.5 ... 50 mm ² |
| connectable conductor cross-section for auxiliary contacts | |
| <ul style="list-style-type: none"> ● solid or stranded ● finely stranded with core end processing | 0.5 ... 2.5 mm ² 0.5 ... 2.5 mm ² |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> ● for auxiliary contacts <ul style="list-style-type: none"> — solid or stranded — finely stranded with core end processing ● at AWG cables for auxiliary contacts | 2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14) |
| AWG number as coded connectable conductor cross section | |
| <ul style="list-style-type: none"> ● for main contacts ● for auxiliary contacts | 10 ... 2 20 ... 14 |
| Safety related data | |
| product function mirror contact acc. to IEC 60947-4-1 | Yes |
| B10 value with high demand rate acc. to SN 31920 | 1 000 000 |
| proportion of dangerous failures | |

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| <ul style="list-style-type: none"> with low demand rate acc. to SN 31920 with high demand rate acc. to SN 31920 | 40 % 73 % |
| failure rate [FIT] with low demand rate acc. to SN 31920 | 100 FIT |
| product function positively driven operation acc. to IEC 60947-5-1 | No |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |
| protection class IP on the front acc. to IEC 60529 | IP20 |
| touch protection on the front acc. to IEC 60529 | finger-safe, for vertical contact from the front |
| suitability for use | |
| <ul style="list-style-type: none"> safety-related switching on safety-related switching OFF | Yes Yes |

Certificates/ approvals

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|---------------------------------|------------|
| General Product Approval | EMC |
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[KC](#)



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| Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | Marine / Shipping |
|--|----------------------------------|--------------------------|--------------------------|

[Type Examination Certificate](#)



[UK Declaration of Conformity](#)

[Special Test Certificate](#)



| | |
|--------------------------|--------------|
| Marine / Shipping | other |
|--------------------------|--------------|



[Confirmation](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2047-1AP04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2047-1AP04>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2047-1AP04>

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

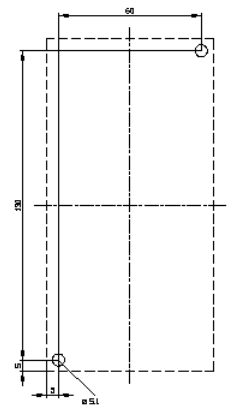
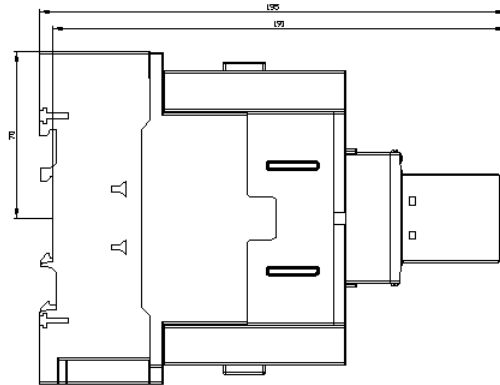
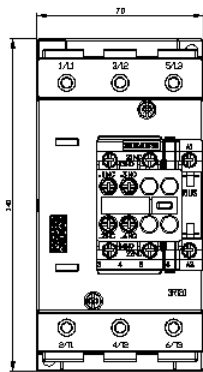
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2047-1AP04&lang=en

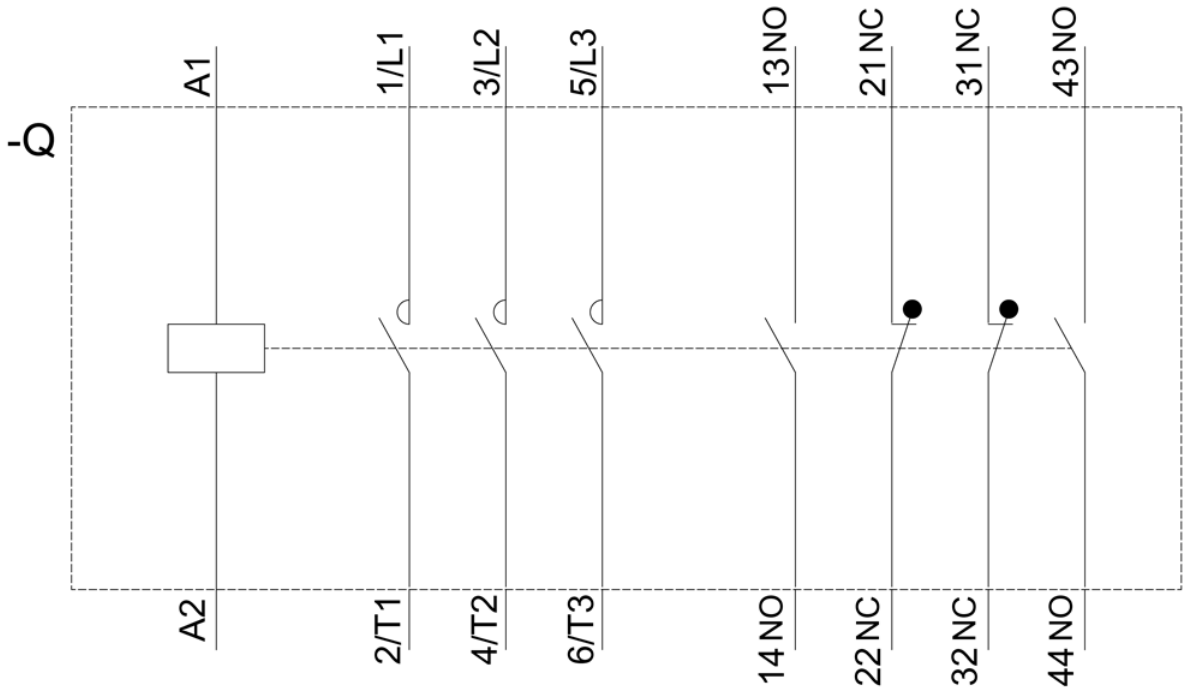
Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2047-1AP04/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2047-1AP04&objecttype=14&gridview=view1>





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3/26/2021 