



Contactor, 10 hp, 460 / 575 V, 1 NO + 1 NC, 110 V AC, 50 Hz, 120 V, 60 Hz, 3-pole, Size S0, screw terminal

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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 | 8.1 W |
| • per pole | 2.7 W |
| power loss [W] for rated value of the current without load current share typical | 10.5 W |
| 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 safe isolation between coil and main contacts acc. to EN 60947-1 | 400 V |
| shock resistance at rectangular impulse | |
| • at AC | 8,3g / 5 ms, 5,3g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 13,5g / 5 ms, 8,3g / 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) | 01.10.2009 |
| 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 acc. to IEC 60068-2-30 | 95 % |

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| maximum | |
| 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 | 690 V |
| operational current | |
| <ul style="list-style-type: none"> ● at AC-1 at 400 V at ambient temperature 40 °C rated value | 50 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 — up to 690 V at ambient temperature 60 °C rated value | 50 A 42 A |
| <ul style="list-style-type: none"> ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value | 27 A 32 A 21 A |
| ● at AC-4 at 400 V rated value | 22 A |
| ● at AC-5a up to 690 V rated value | 44 A |
| ● at AC-5b up to 400 V rated value | 26.5 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 — 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 | 30.8 A 30.8 A 27 A 21 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 — 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 | 20.5 A 20.5 A 18 A 18 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 | |
| <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value | 12 A 12 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 — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 35 A 4.5 A 1 A 0.4 A 0.25 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 — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 35 A 35 A 5 A 1 A 0.8 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 — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 35 A 35 A 35 A 2.9 A 1.4 A |

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| <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 — 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>20 A</p> <p>2.5 A</p> <p>1 A</p> <p>0.09 A</p> <p>0.06 A</p> <p>35 A</p> <p>15 A</p> <p>3 A</p> <p>0.27 A</p> <p>0.16 A</p> <p>35 A</p> <p>35 A</p> <p>10 A</p> <p>0.6 A</p> <p>0.6 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 | <p>15 kW</p> <p>7.5 kW</p> <p>15 kW</p> <p>15 kW</p> <p>18.5 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>6 kW</p> <p>10.3 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>12.2 kV·A</p> <p>21.3 kV·A</p> <p>23.3 kV·A</p> <p>25 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>8.1 kV·A</p> <p>14.2 kV·A</p> <p>15.5 kV·A</p> <p>21.5 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>499 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>395 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>260 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>186 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>152 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>1 000 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>250 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 ● at 60 Hz rated value | <p>110 V</p> <p>120 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> |

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| <ul style="list-style-type: none"> • at 60 Hz | 0.8 ... 1.1 |
| apparent pick-up power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 81 V·A 79 V·A |
| inductive power factor with closing power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.72 0.74 |
| apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 10.5 V·A 8.5 V·A |
| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.25 0.28 |
| closing delay | |
| <ul style="list-style-type: none"> • at AC | 8 ... 40 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at AC | 4 ... 16 ms |
| arcing time | 10 ... 10 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |
| Auxiliary circuit | |
| 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 | |
| <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 | 10 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 | 10 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 | 27 A 27 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 | 2 hp 5 hp 7.5 hp 7.5 hp 10 hp 10 hp |

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| 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 — with type of assignment 2 required ● for short-circuit protection of the auxiliary switch required | <p>gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)</p> <p>gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)</p> <p>gG: 10 A (500 V, 1 kA)</p> |
| 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 | 85 mm |
| width | 45 mm |
| depth | 97 mm |
| required spacing | |
| <ul style="list-style-type: none"> ● with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side ● for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards ● for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side | <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>6 mm</p> |
| 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 | <p>screw-type terminals</p> <p>screw-type terminals</p> <p>Screw-type terminals</p> <p>Screw-type terminals</p> |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> ● for main contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing ● at AWG cables for main contacts | <p>2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)</p> <p>2x (1 ... 2.5 mm²), 2x (2.5 ... 10 mm²)</p> <p>2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²</p> <p>2x (16 ... 12), 2x (14 ... 8)</p> |
| connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> ● solid ● stranded ● finely stranded with core end processing | <p>1 ... 10 mm²</p> <p>1 ... 10 mm²</p> <p>1 ... 10 mm²</p> |
| connectable conductor cross-section for auxiliary contacts | |
| <ul style="list-style-type: none"> ● solid or stranded ● finely stranded with core end processing | <p>0.5 ... 2.5 mm²</p> <p>0.5 ... 2.5 mm²</p> |
| 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 | <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p> |

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| AWG number as coded connectable conductor cross section | |
| • for main contacts | 16 ... 8 |
| • for auxiliary contacts | 20 ... 14 |
| Safety related data | |
| B10 value with high demand rate acc. to SN 31920 | 450 000 |
| proportion of dangerous failures | |
| • with low demand rate acc. to SN 31920 | 40 % |
| • with high demand rate acc. to SN 31920 | 73 % |
| failure rate [FIT] with low demand rate acc. to SN 31920 | 100 FIT |
| 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 | |
| • safety-related switching on | Yes |
| • safety-related switching OFF | Yes |

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



| | | | |
|-----|---------------------------------------|---------------------------|-------------------|
| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates |
|-----|---------------------------------------|---------------------------|-------------------|



[Type Examination Certificate](#)



EG-Konf.

[UK Declaration of Conformity](#)

[Type Test Certificates/Test Report](#)

[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=3RT2027-1AK60-0UA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-1AK60-0UA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AK60-0UA0>

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

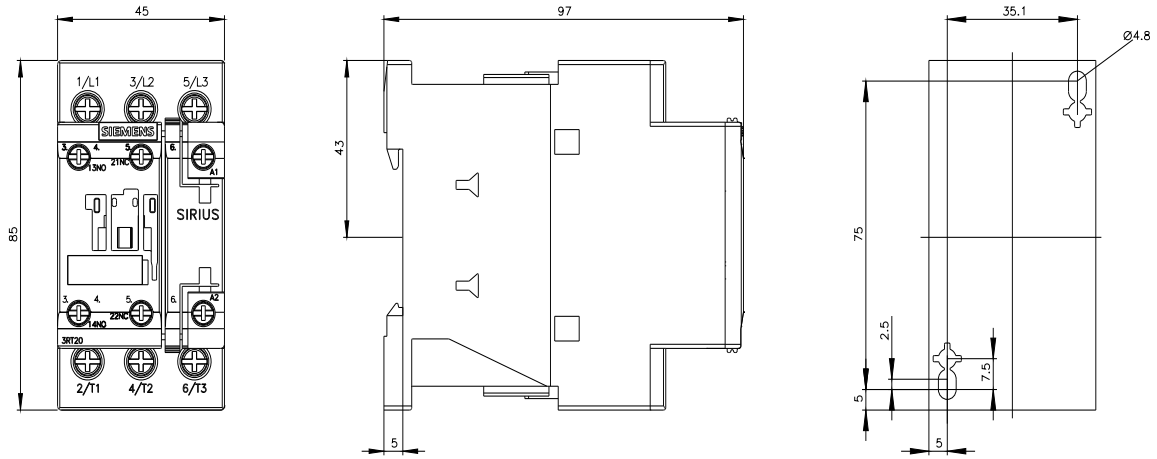
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-1AK60-0UA0&lang=en

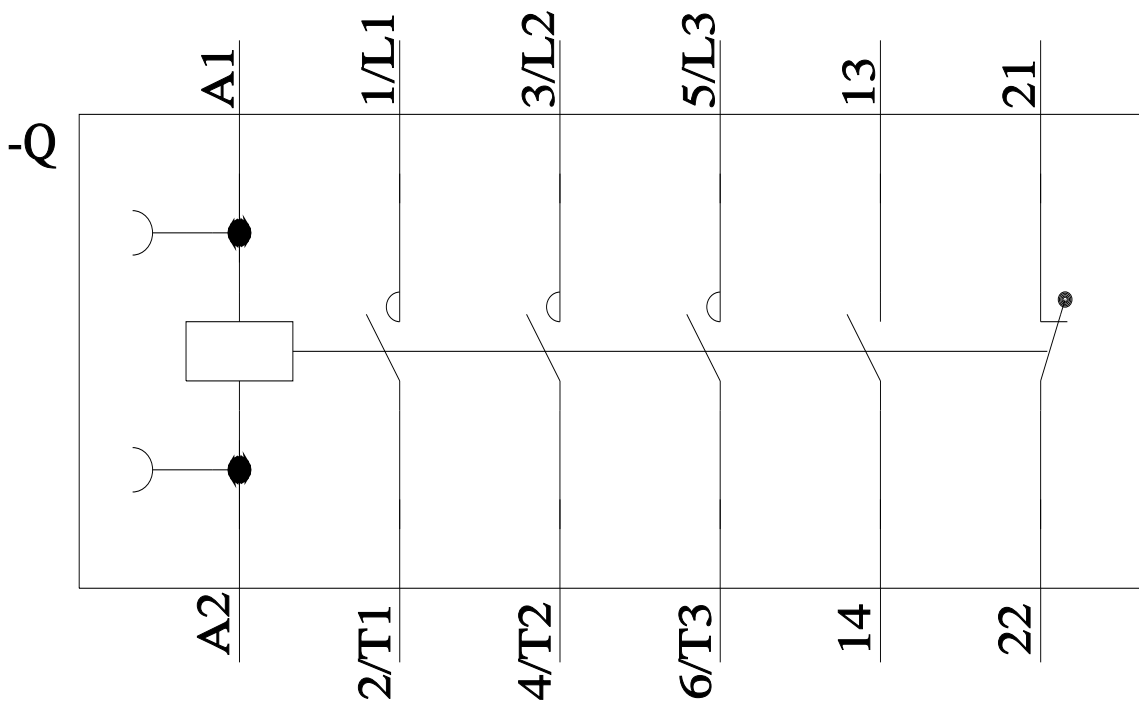
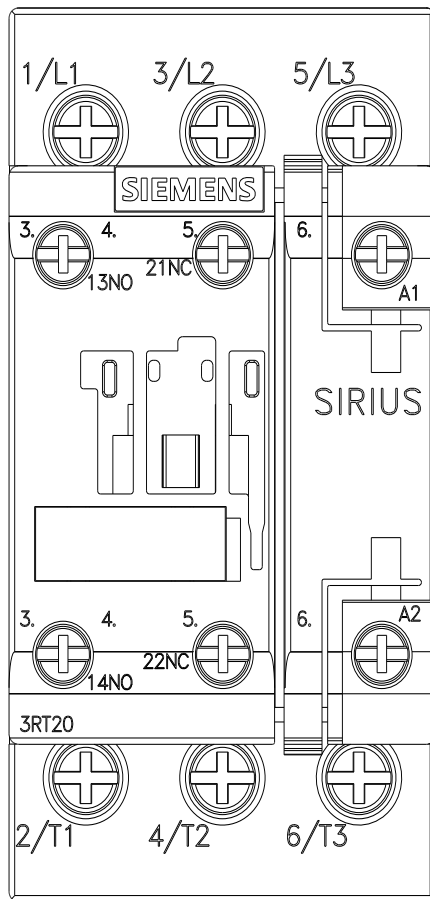
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-1AK60-0UA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-1AK60-0UA0&objecttype=14&gridview=view1>





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