



power contactor, AC-3e/AC-3, 41 A, 18.5 kW / 400 V, 3-pole, 24 V DC, 0.8-1.2* Uc, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, screw terminal, frame size: S2, suitable for PLC outputs, upright mounting position

| | |
|--|---|
| product brand name | SIRIUS |
| product designation | Coupling contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S2 |
| product extension | <ul style="list-style-type: none"> • function module for communication • auxiliary switch |
| power loss [W] for rated value of the current | <ul style="list-style-type: none"> • at AC in hot operating state • at AC in hot operating state per pole • without load current share typical |
| type of calculation of power loss depending on pole | quadratic |
| insulation voltage | <ul style="list-style-type: none"> • of main circuit with degree of pollution 3 rated value • of auxiliary circuit with degree of pollution 3 rated value |
| surge voltage resistance | <ul style="list-style-type: none"> • of main circuit rated value • of auxiliary circuit rated value |
| maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 | 400 V |
| shock resistance at rectangular impulse | <ul style="list-style-type: none"> • at DC |
| shock resistance with sine pulse | <ul style="list-style-type: none"> • at DC |
| mechanical service life (operating cycles) | <ul style="list-style-type: none"> • of contactor typical • of the contactor with added electronically optimized auxiliary switch block typical • of the contactor with added auxiliary switch block typical |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 10/01/2014 |
| SVHC substance name | Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Melamine - 108-78-1 |
| Weight | 1.12 kg |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | <ul style="list-style-type: none"> • during operation • during storage |
| | -25 ... +60 °C |
| | -55 ... +80 °C |

| | |
|---|--------------------|
| relative humidity minimum | 10 % |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 % |
| Environmental footprint | |
| Environmental Product Declaration(EPD) | Yes |
| global warming potential [CO2 eq] total | 107 kg |
| 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 |
| 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 |
| • at AC-3e rated value maximum | 690 V |
| operational current | |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value | 60 A |
| • 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 | 60 A |
| • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value | 41 A |
| • at AC-3e <ul style="list-style-type: none"> — at 400 V rated value — at 500 V rated value — at 690 V rated value | 41 A |
| • at AC-4 at 400 V rated value | 35 A |
| • at AC-5a up to 690 V rated value | 52.8 A |
| • at AC-5b up to 400 V rated value | 33.2 A |
| • 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 | 36.5 A |
| • 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 | 36.5 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 16 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 22 A |
| • at 690 V rated value | 18.5 A |
| operational current | |
| • at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 55 A |
| • with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value | 45 A |
| • with 2 current paths in parallel at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — 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 |
| • with 3 current paths in series at DC-1 | |
| — 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 |
| • at 1 current path at DC-3 at DC-5 | |
| — 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 |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — 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 |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — 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 |
| operating power | |
| • at AC-2 at 400 V rated value | |
| — at AC-3 | 18.5 kW |
| — at 230 V rated value | 11 kW |
| — at 400 V rated value | 18.5 kW |
| — at 500 V rated value | 22 kW |
| — at 690 V rated value | 22 kW |
| • at AC-3e | |
| — at 230 V rated value | 11 kW |
| — at 400 V rated value | 18.5 kW |
| — at 500 V rated value | 22 kW |
| — at 690 V rated value | 22 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | |
| — at 690 V rated value | 11.6 kW |
| — at 690 V rated value | 16.8 kW |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=20 rated value | |
| • up to 400 V for current peak value n=20 rated value | 14.5 kVA |
| • up to 500 V for current peak value n=20 rated value | 25.2 kVA |
| • up to 690 V for current peak value n=20 rated value | 31.6 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 | 28.6 kVA |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=30 rated value | |
| • up to 400 V for current peak value n=30 rated value | 9.6 kVA |
| • up to 500 V for current peak value n=30 rated value | 16.8 kVA |
| • up to 690 V for current peak value n=30 rated value | 21 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 | 28.6 kVA |
| short-time withstand current in cold operating state up to 40 °C | |
| • limited to 1 s switching at zero current maximum | |
| • limited to 5 s switching at zero current maximum | 843 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum | 596 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum | 400 A; Use minimum cross-section acc. to AC-1 rated value |

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| • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum | 241 A; Use minimum cross-section acc. to AC-1 rated value 196 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| • at DC | 1 500 1/h |
| operating frequency | |
| • at AC-1 maximum | 1 200 1/h |
| • at AC-2 maximum | 750 1/h |
| • at AC-3 maximum | 1 000 1/h |
| • at AC-3e — maximum | 1 000 1/h |
| • at AC-4 maximum | 300 1/h |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | DC |
| control supply voltage at DC rated value | 24 V |
| operating range factor control supply voltage rated value of magnet coil at DC | |
| • initial value | 0.8 |
| • full-scale value | 1.2 |
| design of the surge suppressor | with varistor |
| inrush current peak | 2.6 A |
| duration of inrush current peak | 50 µs |
| locked-rotor current mean value | 0.9 A |
| locked-rotor current peak | 2.1 A |
| duration of locked-rotor current | 230 ms |
| holding current mean value | 40 mA |
| closing power of magnet coil at DC | 21.5 W |
| holding power of magnet coil at DC | 1 W |
| closing delay | |
| • at DC | 35 ... 80 ms |
| opening delay | |
| • at DC | 30 ... 55 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 | 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 | 40 A |
| • at 600 V rated value | 41 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 3 hp |
| — at 230 V rated value | 7.5 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 10 hp |
| — at 220/230 V rated value | 15 hp |
| — at 460/480 V rated value | 30 hp |
| — at 575/600 V rated value | 40 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| 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: 160 A (690 V, 100 kA), aM: 80 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) |
| — with type of coordination 2 required | gG: 80 A (690 V, 100 kA), aM: 50 A (690 V, 100 kA), BS88: 63 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 | standing, on horizontal 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 | 114 mm |
| width | 55 mm |
| depth | 130 mm |
| required spacing | |
| • 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 | |
| type of electrical connection | |
| • 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 |
| type of connectable conductor cross-sections | |
| • for main contacts | |
| — solid or stranded | 2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) |
| — finely stranded with core end processing | 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) |
| • for AWG cables for main contacts | 2x (18 ... 2), 1x (18 ... 1) |
| connectable conductor cross-section for main contacts | |
| • finely stranded with core end processing | 1 ... 35 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 ... 2.5 mm ² |
| type of connectable conductor cross-sections | |
| • for auxiliary contacts | |
| — solid or stranded | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) |
| • for AWG cables for auxiliary contacts | 2x (20 ... 16), 2x (18 ... 14) |
| AWG number as coded connectable conductor cross section for main contacts | 18 ... 1 |
| AWG number as coded connectable conductor cross section for auxiliary contacts | 20 ... 14 |
| Safety related data | |
| 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 |
| 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

General Product Approval



KC



EMV

Test Certificates

Maritime application



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application

other



[Confirmation](#)



Railway

Environment

[Special Test Certificate](#)



[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=3RT2035-1KB40-1AA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAxorder/default.aspx?lang=en&mlfb=3RT2035-1KB40-1AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1KB40-1AA0>

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

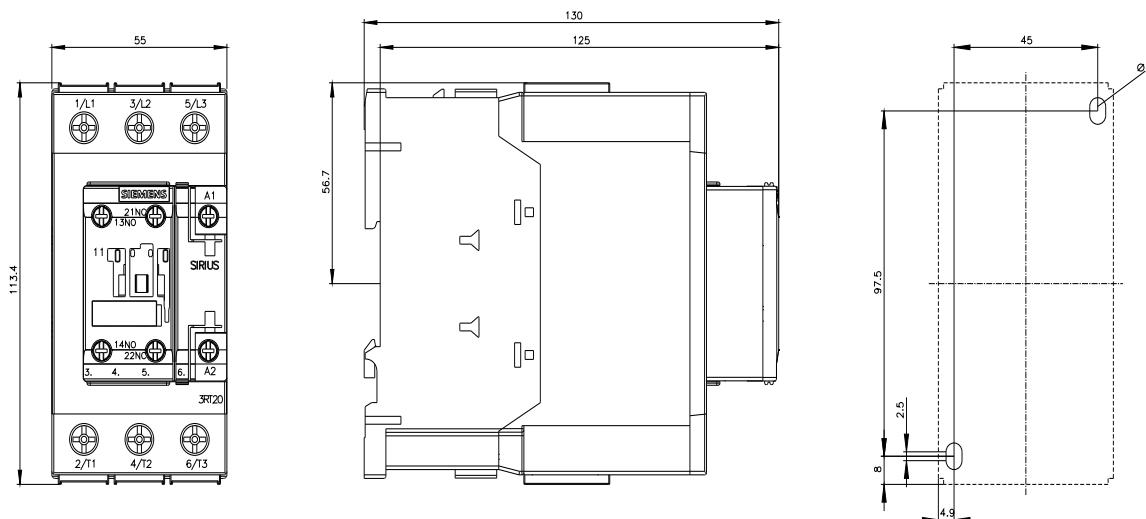
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2035-1KB40-1AA0&lang=en

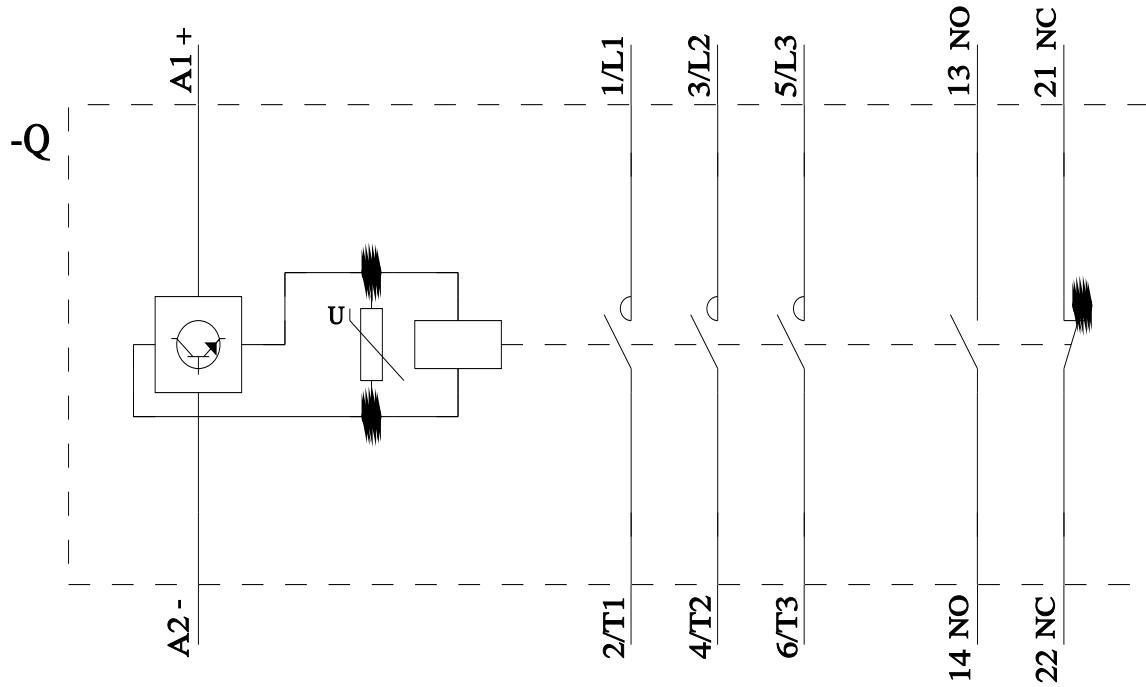
Characteristic: Tripping characteristics, I^tt, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2035-1KB40-1AA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2035-1KB40-1AA0&objecttype=14&gridview=view1>





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