



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, AC (50-60 Hz) / DC Uc: 23-26 V 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional main circuit: box terminal control and auxiliary circuit: screw terminal

| | |
|--|------------------------------|
| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT1 |
| General technical data | |
| size of contactor | S6 |
| 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 | 21 W |
| • at AC in hot operating state per pole | 7 W |
| • without load current share typical | 5.2 W |
| type of calculation of power loss current-dependent | quadratic |
| insulation voltage | |
| • of main circuit with degree of pollution 3 rated value | 1 000 V |
| • of auxiliary circuit with degree of pollution 3 rated value | 500 V |
| surge voltage resistance | |
| • of main circuit rated value | 8 kV |
| • of auxiliary circuit rated value | 6 kV |
| maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 | 690 V |
| shock resistance at rectangular impulse | |
| • at AC | 8,5 g / 5 ms, 4,2 g / 10 ms |
| • at DC | 8,5 g / 5 ms, 4,2 g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 13,4 g / 5 ms, 6,5 g / 10 ms |
| • at DC | 13,4 g / 5 ms, 6,5 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 Prohibitance (Date) | 05/01/2012 |
| SVHC substance name | Lead CAS-No. 7439-92-1 |
| Net Weight | 3.66 kg |

| 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 |
| number of NC contacts for main contacts | 0 |
| operating voltage | |
| • at AC-3 rated value maximum | 1 000 V |
| • at AC-3e rated value maximum | 1 000 V |
| operational current | |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value | 160 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 160 A |
| — up to 690 V at ambient temperature 60 °C rated value | 140 A |
| — up to 1000 V at ambient temperature 40 °C rated value | 80 A |
| — up to 1000 V at ambient temperature 60 °C rated value | 80 A |
| • at AC-3 | |
| — at 400 V rated value | 115 A |
| — at 500 V rated value | 115 A |
| — at 690 V rated value | 115 A |
| — at 1000 V rated value | 53 A |
| • at AC-3e | |
| — at 400 V rated value | 115 A |
| — at 500 V rated value | 115 A |
| — at 690 V rated value | 115 A |
| — at 1000 V rated value | 53 A |
| • at AC-4 at 400 V rated value | 97 A |
| • at AC-5a up to 690 V rated value | 140 A |
| • at AC-5b up to 400 V rated value | 95 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 115 A |
| — up to 400 V for current peak value n=20 rated value | 115 A |
| — up to 500 V for current peak value n=20 rated value | 115 A |
| — up to 690 V for current peak value n=20 rated value | 115 A |
| — up to 1000 V for current peak value n=20 rated value | 53 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 98 A |
| — up to 400 V for current peak value n=30 rated value | 98 A |
| — up to 500 V for current peak value n=30 rated value | 98 A |
| — up to 690 V for current peak value n=30 rated value | 98 A |
| — up to 1000 V for current peak value n=30 rated value | 53 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 70 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 54 A |
| • at 690 V rated value | 48 A |
| operational current | |
| • at 1 current path at DC-1 | |

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|--|--------|
| — at 24 V rated value | 160 A |
| — at 60 V rated value | 160 A |
| — at 110 V rated value | 18 A |
| — at 220 V rated value | 3.4 A |
| — at 440 V rated value | 0.8 A |
| — at 600 V rated value | 0.5 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 160 A |
| — at 60 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 20 A |
| — at 440 V rated value | 3.2 A |
| — at 600 V rated value | 1.6 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 160 A |
| — at 60 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 160 A |
| — at 440 V rated value | 11.5 A |
| — at 600 V rated value | 4 A |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 160 A |
| — at 60 V rated value | 7.5 A |
| — at 220 V rated value | 0.6 A |
| — at 440 V rated value | 0.17 A |
| — at 600 V rated value | 0.12 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 160 A |
| — at 60 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 2.5 A |
| — at 440 V rated value | 0.65 A |
| — at 600 V rated value | 0.37 A |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 160 A |
| — at 60 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 160 A |
| — at 440 V rated value | 1.4 A |
| — at 600 V rated value | 0.75 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 37 kW |
| — at 400 V rated value | 55 kW |
| — at 500 V rated value | 75 kW |
| — at 690 V rated value | 110 kW |
| — at 1000 V rated value | 75 kW |
| • at AC-3e | |
| — at 230 V rated value | 37 kW |
| — at 400 V rated value | 55 kW |
| — at 500 V rated value | 75 kW |
| — at 690 V rated value | 110 kW |
| — at 1000 V rated value | 75 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 29 kW |
| • at 690 V rated value | 48 kW |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=20 rated value | 40 kVA |

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|---|---|
| <ul style="list-style-type: none"> • 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 • up to 1000 V for current peak value n=20 rated value | 80 kVA 100 kVA 130 kVA 90 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 • 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 • up to 1000 V for current peak value n=30 rated value | 30 kVA 60 kVA 80 kVA 110 kVA 90 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 • 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 | 2 565 A; Use minimum cross-section acc. to AC-1 rated value 1 654 A; Use minimum cross-section acc. to AC-1 rated value 1 170 A; Use minimum cross-section acc. to AC-1 rated value 729 A; Use minimum cross-section acc. to AC-1 rated value 572 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency <ul style="list-style-type: none"> • at AC • at DC | 2 000 1/h 2 000 1/h |
| operating frequency <ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e <ul style="list-style-type: none"> — maximum • at AC-4 maximum | 800 1/h 400 1/h 1 000 1/h 1 000 1/h 130 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 • at 60 Hz rated value | 23 ... 26 V 23 ... 26 V |
| control supply voltage at DC rated value | 23 ... 26 V |
| operating range factor control supply voltage rated value of magnet coil at DC <ul style="list-style-type: none"> • initial value • full-scale value | 0.8 1.1 |
| operating range factor control supply voltage rated value of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.8 ... 1.1 0.8 ... 1.1 |
| design of the surge suppressor | with varistor |
| apparent pick-up power <ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 60 Hz — at 50 Hz | 250 VA 250 VA 300 VA 300 VA |
| apparent pick-up power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 300 VA 300 VA |
| inductive power factor with closing power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.9 0.9 |
| apparent holding power <ul style="list-style-type: none"> • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC | 4.3 VA 5.2 VA |
| apparent holding power <ul style="list-style-type: none"> • at minimum rated control supply voltage at AC | |

| | |
|--|---|
| — at 50 Hz | 4.8 VA |
| — at 60 Hz | 4.8 VA |
| ● at maximum rated control supply voltage at AC | |
| — at 50 Hz | 5.8 VA |
| — at 60 Hz | 5.8 VA |
| inductive power factor with the holding power of the coil | |
| ● at 50 Hz | 0.8 |
| ● at 60 Hz | 0.8 |
| closing power of magnet coil at DC | 360 W |
| holding power of magnet coil at DC | 5.2 W |
| closing delay | |
| ● at AC | 20 ... 95 ms |
| ● at DC | 20 ... 95 ms |
| opening delay | |
| ● at AC | 40 ... 60 ms |
| ● at DC | 40 ... 60 ms |
| arcing time | 10 ... 15 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 | |
| ● 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 |
| 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 | 124 A |
| ● at 600 V rated value | 125 A |
| yielded mechanical performance [hp] | |
| ● for single-phase AC motor | |
| — at 230 V rated value | 25 hp |
| ● for 3-phase AC motor | |
| — at 200/208 V rated value | 40 hp |
| — at 220/230 V rated value | 50 hp |
| — at 460/480 V rated value | 100 hp |
| — at 575/600 V rated value | 125 hp |
| contact rating of auxiliary contacts according to UL | A600 / Q600 |

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 <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 coordination 2 required • for short-circuit protection of the auxiliary switch required | gG: 355 A (690 V, 100 kA) gG: 250 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA) |

Installation/ mounting/ dimensions

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|---|--|
| mounting position | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method side-by-side mounting | Yes |
| fastening method | screw fixing |
| height | 172 mm |
| width | 120 mm |
| depth | 170 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 | 20 mm 10 mm 10 mm 0 mm 20 mm 10 mm 10 mm 10 mm 20 mm 10 mm 10 mm 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 | box terminal 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"> — stranded — solid or stranded — finely stranded with core end processing — finely stranded without core end processing • for AWG cables for main contacts | max. 1x 50, 1x 70 mm ² max. 1x 50, 1x 70 mm ² max. 1x 50, 1x 70 mm ² max. 1x 50, 1x 70 mm ² 2x 1/0 |
| connectable conductor cross-section for main contacts <ul style="list-style-type: none"> • stranded • finely stranded with core end processing • finely stranded without core end processing | 16 ... 70 mm ² 16 ... 70 mm ² 16 ... 70 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 ... 4 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 — solid or stranded — finely stranded with core end processing • for AWG cables for auxiliary contacts | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 1x 12 |
| AWG number as coded connectable conductor cross | 18 ... 14 |

| | |
|--|-----------|
| section for auxiliary contacts | |
| 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

| | |
|--|----------|
| Environmental Product Declaration | |
| • global warming potential [CO2 eq] / during manufacturing | 17 kg |
| • global warming potential [CO2 eq] / during sales | 0.901 kg |
| • global warming potential [CO2 eq] / during operation | 363 kg |
| • global warming potential [CO2 eq] / after end of life | -2.28 kg |
| • global warming potential [CO2 eq] / total | 379 kg |

Environment **General Product Approval**

[Environmental Confirmations](#)







General Product Approval **Functional Safety** **Maritime application** **other**




[Type Examination Certificate](#)




[Confirmation](#)

other

[Confirmation](#) [Miscellaneous](#)

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=3RT1054-1AB36>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-1AB36>

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

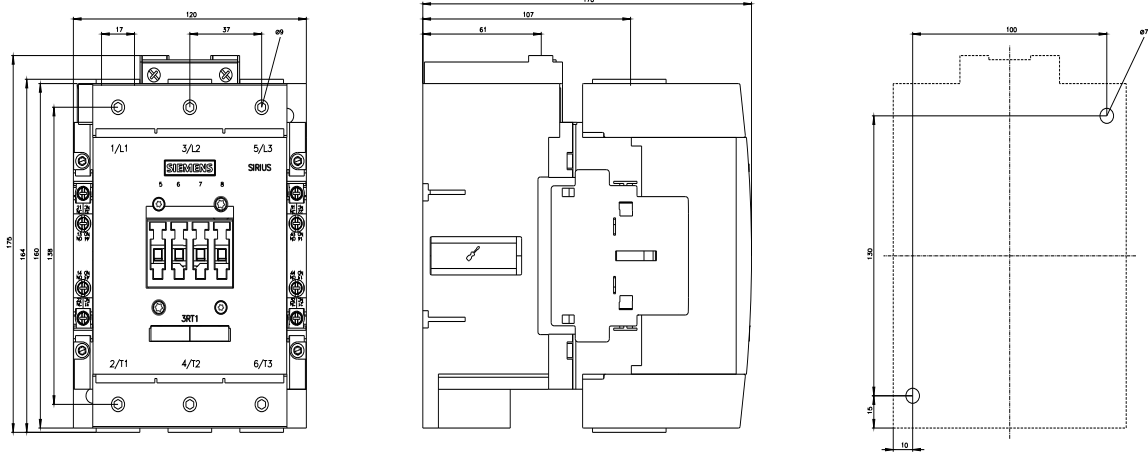
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-1AB36&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-1AB36>

Characteristic curves

https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>





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