SIEMENS

Data sheet 3RT1055-2AF36





power contactor, AC-3e/AC-3 150 A, 75 kW / 400 V AC (50-60 Hz) / DC Uc: 110-127 V 3-pole, auxiliary contacts 2 NO + 2 NC drive: conventional main circuit: busbar control and auxiliary circuit: spring-loaded 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 | 27 W |
| at AC in hot operating state per pole | 9 W |
| without load current share typical | 5.2 W |
| type of calculation of power loss depending on pole | 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 | 8,5g / 5 ms, 4,2g / 10 ms |
| • at DC | 8,5g / 5 ms, 4,2g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 13,4g / 5 ms, 6,5g / 10 ms |
| • at DC | 13,4g / 5 ms, 6,5g / 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 - 7439-92-1 |
| 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 |
| 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 | 185 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 185 A |
| — up to 690 V at ambient temperature 60 °C rated value | 160 A |
| — up to 1000 V at ambient temperature 40 °C rated value | 90 A |
| up to 1000 V at ambient temperature 60 °C rated value at AC-3 | 90 A |
| — at 400 V rated value | 150 A |
| — at 500 V rated value | 150 A |
| — at 690 V rated value | 150 A |
| — at 1000 V rated value | 65 A |
| • at AC-3e | |
| — at 400 V rated value | 150 A |
| — at 500 V rated value | 150 A |
| — at 690 V rated value | 150 A |
| — at 1000 V rated value | 65 A |
| • at AC-4 at 400 V rated value | 132 A |
| • at AC-5a up to 690 V rated value | 162 A |
| at AC-5b up to 400 V rated value | 124 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 150 A |
| — up to 400 V for current peak value n=20 rated value | 150 A |
| — up to 500 V for current peak value n=20 rated value | 150 A |
| — up to 690 V for current peak value n=20 rated value | 150 A |
| — up to 1000 V for current peak value n=20 rated value | 65 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 105 A |
| — up to 400 V for current peak value n=30 rated value | 105 A |
| — up to 500 V for current peak value n=30 rated value | 105 A |
| — up to 690 V for current peak value n=30 rated value | 105 A |
| — up to 1000 V for current peak value n=30 rated value | 65 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 95 mm² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 68 A |
| at 690 V rated value | 57 A |
| operational current | |
| • at 1 current path at DC-1 | |
| — 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 | 45 DW |
| — at 230 V rated value | 45 kW |
| — at 400 V rated value | 75 kW |
| — at 500 V rated value | 90 kW |
| — at 690 V rated value | 132 kW |
| — at 1000 V rated value | 90 kW |
| • at AC-3e | 45 100 |
| — at 230 V rated value | 45 kW |
| — at 400 V rated value | 75 kW |
| — at 500 V rated value — at 690 V rated value | 90 kW 132 kW |
| | |
| — at 1000 V rated value | 90 kW |
| operating power for approx. 200000 operating cycles at AC- | |
| at 400 V rated value | 38 kW |
| at 690 V rated value | 55 kW |
| operating apparent power at AC-6a | |
| up to 230 V for current peak value n=20 rated value | 60 000 kVA |
| • up to 400 V for current peak value n=20 rated value | 100 000 VA |
| • up to 500 V for current peak value n=20 rated value | 130 000 VA |
| up to 690 V for current peak value n=20 rated value | 170 000 VA |
| up to 1000 V for current peak value n=20 rated value | 110 000 VA |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=30 rated value | 40 000 VA |
| • up to 400 V for current peak value n=30 rated value | 70 000 VA |
| • up to 500 V for current peak value n=30 rated value | 90 000 VA |
| | |

| • up to 690 V for current peak value n=30 rated value | 120 000 VA |
|--|---|
| • up to 1000 V for current peak value n=30 rated value | 110 000 VA |
| short-time withstand current in cold operating state up to | |
| 40 °C | |
| limited to 1 s switching at zero current maximum | 2 727 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 5 s switching at zero current maximum | 1 831 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 10 s switching at zero current maximum | 1 300 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 30 s switching at zero current maximum | 850 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 60 s switching at zero current maximum | 703 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| • at AC | 2 000 1/h |
| • at DC | 2 000 1/h |
| operating frequency | |
| at AC-1 maximum | 800 1/h |
| at AC-2 maximum | 300 1/h |
| • at AC-3 maximum | 750 1/h |
| • at AC-3e maximum | 750 1/h |
| • at AC-4 maximum | 130 1/h |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 110 127 V |
| at 60 Hz rated value | 110 127 V |
| control supply voltage at DC rated value | |
| Tated value | 110 127 V |
| operating range factor control supply voltage rated value of magnet coil at DC | 110 121 V |
| • initial value | 0.8 |
| full-scale value | 1.1 |
| operating range factor control supply voltage rated value of | |
| magnet coil at AC | |
| ● at 50 Hz | 0.8 1.1 |
| ● at 60 Hz | 0.8 1.1 |
| design of the surge suppressor | with varistor |
| apparent pick-up power | |
| at minimum rated control supply voltage at AC | |
| — at 50 Hz | 250 VA |
| — at 60 Hz | 250 VA |
| at maximum rated control supply voltage at AC | |
| — at 60 Hz | 300 VA |
| — at 50 Hz | 300 VA |
| apparent pick-up power of magnet coil at AC | 000 47. |
| at 50 Hz | 300 \/A |
| | 300 VA |
| • at 60 Hz | 300 VA |
| inductive power factor with closing power of the coil | 0.0 |
| • at 50 Hz | 0.9 |
| • at 60 Hz | 0.9 |
| apparent holding power | 40.7/4 |
| at minimum rated control supply voltage at DC | 4.3 VA |
| at maximum rated control supply voltage at DC | 5.2 VA |
| apparent holding power | |
| 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 |
| <u> </u> | |

| 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 at 60 V rated value | 6 A |
| at 110 V rated value | 3 A |
| at 125 V rated value | 2 A |
| at 125 V rated value at 220 V rated value | 1 A |
| | 0.15 A |
| at 600 V rated value | 0.15 A |
| operational current at DC-13 | 40.4 |
| • 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 | 156 A |
| at 600 V rated value | 144 A |
| yielded mechanical performance [hp] | |
| for single-phase AC motor | |
| — at 230 V rated value | 30 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 50 hp |
| — at 220/230 V rated value | 60 hp |
| — at 460/480 V rated value | 125 hp |
| — at 575/600 V rated value | 150 hp |
| contact rating of auxiliary contacts according to UL | A600 / Q600 |
| Short-circuit protection | |
| design of the fuse link | |
| for short-circuit protection of the main circuit | |
| with type of coordination 1 required | gG: 355 A (690 V, 100 kA) |
| with type of assignment 2 required | gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 315 A (415 V, 50 kA) |
| for short-circuit protection of the auxiliary switch required | gG: 10 A (500 V, 1 kA) |
| Installation/ mounting/ dimensions | 90. 10 A (000 V, 1 IA) |
| | with vertical mounting surface ±/ 00° rotatable, with vertical mounting surface |
| mounting position | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method | screw fixing |
| height | 172 mm |
| width | 120 mm |

| depth | 170 mm |
|---|-------------------------|
| required spacing | |
| with side-by-side mounting | |
| — forwards | 20 mm |
| — upwards | 10 mm |
| — downwards | 10 mm |
| — at the side | 0 mm |
| for grounded parts | |
| — forwards | 20 mm |
| — upwards | 10 mm |
| — at the side | 10 mm |
| — downwards | 10 mm |
| • for live parts | |
| — forwards | 20 mm |
| — upwards | 10 mm |
| — downwards | 10 mm |
| — at the side | 10 mm |
| Connections/ Terminals | |
| type of electrical connection | |
| for main current circuit | Connection bar |
| for auxiliary and control circuit | spring-loaded terminals |
| at contactor for auxiliary contacts | Spring-type terminals |
| of magnet coil | Spring-type terminals |
| width of connection bar | 17 mm |
| thickness of connection bar | 3 mm |
| diameter of holes | 9 mm |
| number of holes | 1 |
| type of connectable conductor cross-sections | |
| for AWG cables for main contacts | 4 250 kcmil |
| connectable conductor cross-section for main contacts | |
| • stranded | 25 120 mm² |
| connectable conductor cross-section for auxiliary contacts | |
| solid or stranded | 0.25 2.5 mm² |
| finely stranded with core end processing | 0.25 1.5 mm² |
| finely stranded without core end processing | 0.25 2.5 mm² |
| type of connectable conductor cross-sections | |
| for auxiliary contacts | |
| — solid | 2x (0.25 2.5 mm²) |
| — solid or stranded | 2x (0,25 2,5 mm²) |
| finely stranded with core end processing | 2x (0.25 1.5 mm²) |
| finely stranded without core end processing | 2x (0.25 2.5 mm²) |
| for AWG cables for auxiliary contacts | 2x (24 14) |
| AWG number as coded connectable conductor cross | |
| section | 24 14 |
| for auxiliary contacts Safety related data | 24 14 |
| | |
| product function • mirror contact according to IEC 60047.4.1 | Vac |
| mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 | Yes |
| positively driven operation according to IEC 60947-5-1 suitable for safety function | No 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 with high demand rate according to SN 31920 | 73 % |
| | 10 /0 |
| R10 value with high demand rate according to CN 24020 | 1 000 000 |
| B10 value with high demand rate according to SN 31920 | 1 000 000 |
| B10 value with high demand rate according to SN 31920 failure rate [FIT] with low demand rate according to SN 31920 | 1 000 000 100 FIT |
| failure rate [FIT] with low demand rate according to SN | |

| overdimensioning according to ISO 13849-2 necessary | Yes |
|--|--|
| IEC 61508 | |
| safety device type according to IEC 61508-2 | Type A |
| T1 value | |
| for proof test interval or service life according to IEC 61508 | 20 a |
| Electrical Safety | |
| protection class IP on the front according to IEC 60529 | IP00; IP20 with box terminal/cover |
| touch protection on the front according to IEC 60529 | finger-safe, for vertical contact from the front with box terminal/cover |
| Approvals Certificates | |

General Product Approval







Confirmation



<u>KC</u>

General Product Approval

EMV

Functional Saftey

Test Certificates

Marine / Shipping





Type Examination Certificate Special Test Certificate Type Test Certificates/Test Report



Marine / Shipping









Confirmation

other

Miscellaneous

other Railway

<u>Confirmation</u> <u>Special Test Certificate</u>



Environment





Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT1055-2AF36

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT1055-2AF36}$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-2AF36

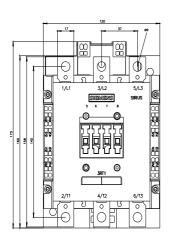
 $Image\ database\ (product\ images,\ 2D\ dimension\ drawings,\ 3D\ models,\ device\ circuit\ diagrams,\ EPLAN\ macros,\ ...)$

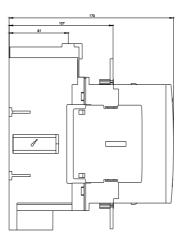
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-2AF36&lang=en

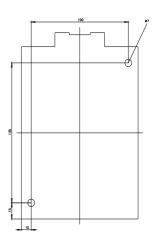
Characteristic: Tripping characteristics, I²t, Let-through current

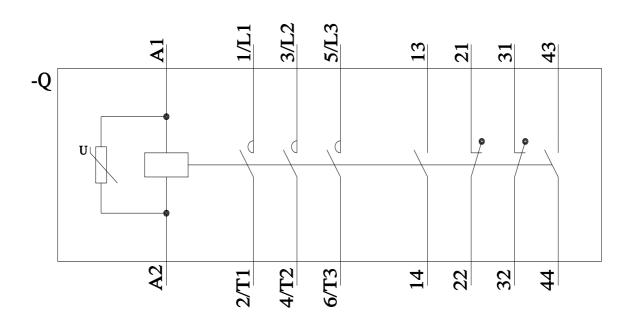
https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-2AF36/char Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-2AF36&objecttype=14&gridview=view1









last modified:

7/19/2024

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