SIEMENS

Data sheet 3RT1076-2AF36





power contactor, AC-3e/AC-3 500 A, 250 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 | S12 |
| 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 | 165 W |
| at AC in hot operating state per pole | 55 W |
| without load current share typical | 10 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 |
| Weight | 10.58 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 % |
| Environmental footprint | |
| Environmental Product Declaration(EPD) | Yes |
| global warming potential [CO2 eq] total | 769 kg |
| global warming potential [CO2 eq] during manufacturing | 55.8 kg |
| global warming potential [CO2 eq] during sales | 2.54 kg |
| global warming potential [CO2 eq] during operation | 718 kg |
| global warming potential [CO2 eq] after end of life | -7.03 kg |
| Siemens Eco Profile (SEP) | Siemens EcoTech |
| 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 at AC-1. | 610 A |
| • at AC-1 | 640 A |
| — up to 690 V at ambient temperature 40 °C rated value | 610 A |
| — up to 690 V at ambient temperature 60 °C rated value | 550 A 200 A |
| up to 1000 V at ambient temperature 40 °C rated value up to 1000 V at ambient temperature 60 °C rated | 200 A |
| value • at AC-3 | |
| — at 400 V rated value | 500 A |
| — at 500 V rated value | 500 A |
| — at 690 V rated value | 450 A |
| — at 1000 V rated value | 180 A |
| • at AC-3e | |
| — at 400 V rated value | 500 A |
| — at 500 V rated value | 500 A |
| — at 690 V rated value | 450 A |
| — at 1000 V rated value | 180 A |
| • at AC-4 at 400 V rated value | 430 A |
| • at AC-5a up to 690 V rated value | 536 A |
| • at AC-5b up to 400 V rated value | 415 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 414 A |
| — up to 400 V for current peak value n=20 rated value | 414 A |
| — up to 500 V for current peak value n=20 rated value | 414 A |
| — up to 690 V for current peak value n=20 rated value | 414 A |
| up to 1000 V for current peak value n=20 rated value | 180 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 276 A |
| — up to 400 V for current peak value n=30 rated value | 276 A |
| — up to 500 V for current peak value n=30 rated value | 276 A |
| up to 690 V for current peak value n=30 rated value up to 1000 V for current peak value n=30 rated value | 276 A 180 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 370 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| at 400 V rated value | 175 A |

| at 690 V rated value | 150 A |
|--|----------|
| operational current | |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 400 A |
| — at 60 V rated value | 330 A |
| — at 110 V rated value | 33 A |
| — at 220 V rated value | 3.8 A |
| — at 440 V rated value | 0.9 A |
| — at 600 V rated value | 0.6 A |
| with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 400 A |
| — at 60 V rated value | 400 A |
| — at 110 V rated value | 400 A |
| — at 220 V rated value | 400 A |
| — at 440 V rated value | 4 A |
| — at 600 V rated value | 2 A |
| with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 400 A |
| — at 60 V rated value | 400 A |
| — at 110 V rated value | 400 A |
| — at 220 V rated value | 400 A |
| — at 440 V rated value | 11 A |
| — at 600 V rated value | 5.2 A |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 400 A |
| — at 60 V rated value | 11 A |
| — at 220 V rated value | 0.6 A |
| — at 440 V rated value | 0.18 A |
| — at 600 V rated value | 0.125 A |
| with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 400 A |
| — at 60 V rated value | 400 A |
| — at 110 V rated value | 400 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 | 400 A |
| — at 60 V rated value | 400 A |
| — at 110 V rated value | 400 A |
| — at 220 V rated value | 400 A |
| — at 440 V rated value | 1.4 A |
| — at 600 V rated value | 0.75 A |
| operating power | |
| • at AC-3 | 400 1111 |
| — at 230 V rated value | 160 kW |
| — at 400 V rated value | 250 kW |
| — at 500 V rated value | 315 kW |
| — at 690 V rated value | 400 kW |
| — at 1000 V rated value | 250 kW |
| • at AC-3e | 160 kW |
| — at 230 V rated value | 160 kW |
| — at 400 V rated value | 250 kW |
| — at 500 V rated value | 315 kW |
| — at 690 V rated value | 400 kW |
| — at 1000 V rated value | 250 kW |
| operating power for approx. 200000 operating cycles at AC- | |
| • at 400 V rated value | 98 kW |
| • at 690 V rated value | 148 kW |
| operating apparent power at AC-6a | |
| | |

| • up to 230 V for current peak value n=20 rated value | 160 kVA | | | |
|---|---|--|--|--|
| • up to 400 V for current peak value n=20 rated value | 280 kVA | | | |
| • up to 500 V for current peak value n=20 rated value | 350 kVA | | | |
| • up to 690 V for current peak value n=20 rated value | 490 kVA | | | |
| • up to 1000 V for current peak value n=20 rated value | 310 kVA | | | |
| operating apparent power at AC-6a | | | | |
| • up to 230 V for current peak value n=30 rated value | 110 kVA | | | |
| • up to 400 V for current peak value n=30 rated value | 190 kVA | | | |
| • up to 500 V for current peak value n=30 rated value | 230 kVA | | | |
| • up to 690 V for current peak value n=30 rated value | 330 kVA | | | |
| • up to 1000 V for current peak value n=30 rated value | 310 kVA | | | |
| short-time with stand current in cold operating state up to 40 $^{\circ}\mathrm{C}$ | | | | |
| limited to 1 s switching at zero current maximum | 7 484 A; Use minimum cross-section acc. to AC-1 rated value | | | |
| limited to 5 s switching at zero current maximum | 7 484 A; Use minimum cross-section acc. to AC-1 rated value | | | |
| limited to 10 s switching at zero current maximum | 5 978 A; Use minimum cross-section acc. to AC-1 rated value | | | |
| limited to 30 s switching at zero current maximum | 3 765 A; Use minimum cross-section acc. to AC-1 rated value | | | |
| limited to 60 s switching at zero current maximum | 2 887 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 | 500 1/h | | | |
| • at AC-2 maximum | 170 1/h | | | |
| • at AC-3 maximum | 420 1/h | | | |
| • at AC-3e | | | | |
| — maximum | 420 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 | 110 127 V | | | |
| operating range factor control supply voltage rated value of magnet coil at DC | | | | |
| • 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 | 700.\/A | | | |
| — at 50 Hz | 700 VA | | | |
| — at 60 Hz | 700 VA | | | |
| a de manufactura made el construel construel de 1 de 2 | | | | |
| at maximum rated control supply voltage at AC | 000 \/A | | | |
| — at 60 Hz | 830 VA | | | |
| — at 60 Hz — at 50 Hz | 830 VA 830 VA | | | |
| — at 60 Hz — at 50 Hz apparent pick-up power of magnet coil at AC | 830 VA | | | |
| — at 60 Hz — at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz | 830 VA 830 VA | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz | 830 VA | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil | 830 VA 830 VA 830 VA | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz | 830 VA 830 VA 830 VA 0.9 | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz | 830 VA 830 VA 830 VA | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power | 830 VA 830 VA 830 VA 0.9 0.9 | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power • at minimum rated control supply voltage at DC | 830 VA 830 VA 830 VA 0.9 0.9 | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC | 830 VA 830 VA 830 VA 0.9 0.9 | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC apparent holding power | 830 VA 830 VA 830 VA 0.9 0.9 | | | |
| - at 60 Hz - at 50 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC | 830 VA 830 VA 830 VA 0.9 0.9 | | | |

| -1 00 U- | 701/4 | | |
|--|---|--|--|
| — at 60 Hz | 7.6 VA | | |
| at maximum rated control supply voltage at AC | | | |
| — at 50 Hz | 9.2 VA | | |
| — at 60 Hz | 9.2 VA | | |
| inductive power factor with the holding power of the coil | | | |
| • at 50 Hz | 0.9 | | |
| ● at 60 Hz | 0.9 | | |
| closing power of magnet coil at DC | 920 W | | |
| holding power of magnet coil at DC | 10 W | | |
| closing delay | | | |
| • at AC | 45 100 ms | | |
| • at DC | 45 100 ms | | |
| opening delay | | | |
| • at AC | 60 100 ms | | |
| • at DC | 60 100 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 | 477 A | | |
| at 600 V rated value | 472 A | | |
| yielded mechanical performance [hp] | | | |
| • for 3-phase AC motor | | | |
| — at 200/208 V rated value | 150 hp | | |
| — at 220/230 V rated value | 200 hp | | |
| — at 460/480 V rated value | 400 hp | | |
| — at 575/600 V rated value | 500 hp | | |
| contact rating of auxiliary contacts according to UL | A600 / Q600 | | |
| Short-circuit protection design of the miniature circuit breaker for short-circuit protection | C characteristic: 10 A; 0.4 kA | | |
| of the auxiliary circuit up to 230 V | | | |
| design of the fuse linkfor short-circuit protection of the main circuit | | | |
| | | | |

| — with type of coordination 1 required | gG: 630 A (690 V, 100 kA) | | |
|--|--|--|--|
| with type of coordination 2 required | gG: 500 A (690 V, 100 kA), aM: 500 A (690 V, 50 kA), BS88: 500 A (415 V, 50 | | |
| | kA) | | |
| for short-circuit protection of the auxiliary switch required | gG: 10 A (500 V, 1 kA) | | |
| Installation/ mounting/ dimensions | | | |
| 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 | 214 mm | | |
| width | 160 mm | | |
| depth | 225 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 | 25 mm | | |
| thickness of connection bar | 6 mm | | |
| diameter of holes | 11 mm | | |
| number of holes | 1 | | |
| type of connectable conductor cross-sections | ' | | |
| for AWG cables for main contacts | 2/0 500 kcmil | | |
| connectable conductor cross-section for main contacts | 270 000 North | | |
| • stranded | 70 240 mm² | | |
| connectable conductor cross-section for auxiliary contacts | 70 240 Hilli | | |
| solid or stranded | 0.25 2.5 mm² | | |
| finely stranded with core end processing | 0.25 1.5 mm ² | | |
| finely stranded without core end processing | 0.25 2.5 mm² | | |
| type of connectable conductor cross-sections | 0.20 2.3 Hilli | | |
| for auxiliary contacts | | | |
| — solid | 2x (0.25 2.5 mm²) | | |
| — solid — solid or stranded | 2x (0.25 2.5 mm²) | | |
| — finely stranded with core end processing | 2x (0.25 2,5 mm²) 2x (0.25 1.5 mm²) | | |
| — finely stranded with core end processing — finely stranded without core end processing | 2x (0.25 1.5 mm²) | | |
| Intely stranded without core end processing for AWG cables for auxiliary contacts | 2x (0.25 2.5 minr) 2x (24 14) | | |
| AWG number as coded connectable conductor cross | 24 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 | | |

| 20 a | | |
|--|---|--|
| Yes | | |
| | | |
| 40 % | | |
| 73 % | | |
| 1 000 000 | | |
| 100 FIT | | |
| | | |
| 3 | | |
| Yes | | |
| | | |
| Type A | | |
| | | |
| IP00; IP20 with box terminal/cover | | |
| finger-safe, for vertical contact from the front with box terminal/cover | | |
| | | |
| | EMV | |
| | Yes 40 % 73 % 1 000 000 100 FIT 3 Yes Type A IP00; IP20 with box terminal/cover | |













Functional Saftey

Test Certificates

Maritime application

Type Examination Certificate

Special Test Certificate

Type Test Certificates/Test Report







Maritime application

other







Confirmation

Miscellaneous

Confirmation

other

Railway

Environment

Miscellaneous

Special Test Certificate



Siemens EcoTech



Environmental Confirmations

Further informatior

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=3RT1076-2AF36

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1076-2AF36

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-2AF36

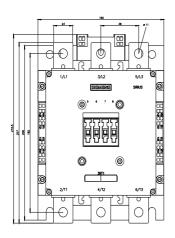
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

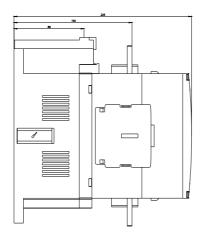
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1076-2AF36\&lang=en}}$

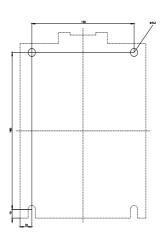
 $\label{lem:characteristic:} \textbf{Characteristic: Tripping characteristics, } \textbf{I}^{2}\textbf{t, Let-through current}$

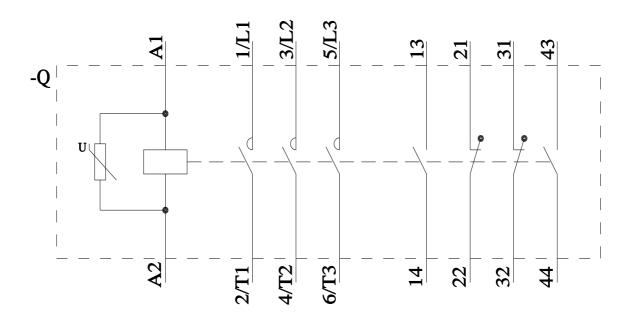
https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-2AF36/char Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1076-2AF36&objecttype=14&gridview=view1









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