SIEMENS

Data sheet

3RT2018-4AN61



Power contactor, AC-3 16 A, 7.5 kW / 400 V 1 NO, 200 V AC, 50 Hz 200-220 V, 60Hz, 3-pole Size S00 ring cable lug connection

| product brand name | SIRIUS |
|---|----------------------------|
| product designation | Power contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S00 |
| 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 | 6.6 W |
| • per pole | 2.2 W |
| power loss [W] for rated value of the current without load current share typical | 6.5 W |
| 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 | 7,3g / 5 ms, 4,7g / 10 ms |
| shock resistance with sine pulse | |
| ● at AC | 11,4g / 5 ms, 7,3g / 10 ms |
| mechanical service life (switching cycles) | |
| of contactor typical | 30 000 000 |
| 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 00:00:00 |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature during operation | -25 +60 °C |
| ambient temperature during storage | -55 +80 °C |
| 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 | |
|--|-----------------------|
| • at AC-1 at 400 V at ambient temperature 40 °C | 22 A |
| rated value | |
| ● at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 22 A |
| — up to 690 V at ambient temperature 60 $^\circ \mathrm{C}$ rated value | 20 A |
| • at AC-3 | |
| — at 400 V rated value | 16 A |
| — at 500 V rated value | 12.4 A |
| — at 690 V rated value | 8.9 A |
| at AC-4 at 400 V rated value | 11.5 A |
| at AC-5a up to 690 V rated value | 19.4 A |
| at AC-5b up to 400 V rated value at AC-6a | 13.2 A |
| — up to 230 V for current peak value n=20 rated value | 9.6 A |
| up to 400 V for current peak value n=20 rated value | 9.6 A |
| up to 500 V for current peak value n=20 rated value | 9.6 A |
| — up to 690 V for current peak value n=20 rated value at AC-6a | 8.9 A |
| — up to 230 V for current peak value n=30 rated value | 6.6 A |
| up to 400 V for current peak value n=30 rated value | 6.4 A |
| up to 500 V for current peak value n=30 rated value | 6.4 A |
| — up to 690 V for current peak value n=30 rated value | 6.4 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 4 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| at 400 V rated value | 5.5 A |
| • at 690 V rated value | 4.4 A |
| operational current | |
| at 1 current path at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 2.1 A |
| — at 220 V rated value | 0.8 A |
| — at 440 V rated value | 0.6 A |
| — at 600 V rated value | 0.6 A |
| with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 12 A |
| — at 220 V rated value | 1.6 A |
| — at 440 V rated value | 0.8 A |
| — at 600 V rated value | 0.7 A |
| with 3 current paths in series at DC-1 | |
| | 20 A |
| — at 24 V rated value | 2071 |
| — at 24 V rated value — at 110 V rated value | 20 A |
| | |
| — at 110 V rated value | 20 A |
| — at 110 V rated value — at 220 V rated value | 20 A 20 A |
| — at 110 V rated value — at 220 V rated value — at 440 V rated value | 20 A 20 A 1.3 A |
| at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value | 20 A 20 A 1.3 A |

| — at 110 V rated value | 0.1 A |
|--|---|
| with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 0.35 A |
| with 3 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 20 A |
| — at 110 V rated value | 20 A |
| — at 220 V rated value | 1.5 A |
| — at 440 V rated value | 0.2 A |
| — at 600 V rated value | 0.2 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 4 kW |
| — at 400 V rated value | 7.5 kW |
| — at 500 V rated value | 7.5 kW |
| — at 690 V rated value | 7.5 kW |
| operating power for approx. 200000 operating cycles | |
| at AC-4 | |
| • at 400 V rated value | 2.5 kW |
| • at 690 V rated value | 3.5 kW |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=20 rated value | 3.8 kV·A |
| • up to 400 V for current peak value n=20 rated value | 6.6 kV·A |
| • up to 500 V for current peak value n=20 rated value | 8.3 kV·A |
| up to 690 V for current peak value n=20 rated value | 10.6 kV·A |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=30 rated value | 2.5 kV·A |
| • up to 400 V for current peak value n=30 rated value | 4.4 kV·A |
| • up to 500 V for current peak value n=30 rated value | 5.5 kV·A |
| • up to 690 V for current peak value n=30 rated value | 7.6 kV·A |
| short-time withstand current in cold operating state | |
| up to 40 °C | |
| limited to 1 s switching at zero current maximum | 300 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 5 s switching at zero current maximum | 169 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 10 s switching at zero current maximum | 128 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 30 s switching at zero current maximum | 92 A; Use minimum cross-section acc. to AC-1 rated value |
| limited to 60 s switching at zero current maximum | 74 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| • at AC | 10 000 1/h |
| operating frequency | |
| • at AC-1 maximum | 1 000 1/h |
| • at AC-2 maximum | 750 1/h |
| • at AC-3 maximum | 750 1/h |
| • at AC-4 maximum | 250 1/h |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 200 V |
| • at 60 Hz rated value | 220 V |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| • at 50 Hz | 0.8 1.1 |
| • at 60 Hz | 0.85 1.1 |
| apparent pick-up power of magnet coil at AC | |
| • at 50 Hz | 36 V·A |
| • at 60 Hz | 43 V·A |
| inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.8 |
| • at 60 Hz | 0.8 |
| | |

| apparent holding power of magnet coil at AC | |
|--|---|
| • at 50 Hz | 5.9 V·A |
| • at 60 Hz | 6.5 V·A |
| inductive power factor with the holding power of the coil | |
| ● at 50 Hz | 0.24 |
| • at 60 Hz | 0.25 |
| closing delay | |
| • at AC | 8 33 ms |
| opening delay | |
| • at AC | 4 15 ms |
| arcing time | 10 15 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |
| Auxiliary circuit | |
| 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 | 1A |
| 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 2 A |
| • at 60 V rated value | 2 A 1 A |
| at 110 V rated value at 125 V rated value | 0.9 A |
| | 0.3 A |
| at 220 V rated value 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 | Tradity switching per 100 million (17 V, ThiA) |
| full-load current (FLA) for 3-phase AC motor | |
| • at 480 V rated value | 14 A |
| at 600 V rated value | 11 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 1 hp |
| — at 230 V rated value | 2 hp |
| • for 3-phase AC motor | |
| - at 200/208 V rated value | 3 hp |
| — at 220/230 V rated value | 5 hp |
| — at 460/480 V rated value | 10 hp |
| — at 575/600 V rated value | 10 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: 50A (690V,100kA), aM: 25A (690V,100kA), BS88: 50A (415V,80kA) |
| — with type of assignment 2 required | gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA) |
| | |

• for short-circuit protection of the auxiliary switch required

| nstallation/ mounting/ dimensions | | | | | |
|---|----------------|--|-------------------------------------|-----|--|
| mounting position | | +/-180° rotation possible on forward and backward by +/ | ice; can be tilted nting surface | | |
| fastening method | | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 | | | |
| side-by-side mounting | | Yes | | | |
| height | | | | | |
| width | 45 mm | | | | |
| depth | | 73 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 | | Ring cable lug connection | | | |
| for auxiliary and control circuit | | ring cable tog connection | | | |
| at contactor for auxiliary contacts | | Ring cable lug connection | | | |
| at contactor for auxiliary contacts of magnet coil | | Ring cable lug connection | | | |
| Safety related data | | Ring cable lug connection | | | |
| B10 value with high demand rate acc. to SN | 31020 | 1 000 000 | | | |
| | 51520 | 1 000 000 | | | |
| proportion of dangerous failures with low demand rate acc. to SN 31920 | | 40 % | | | |
| | | 73 % | | | |
| with high demand rate acc. to SN 31920 failure rate [FIT] with low demand rate acc. to SN 31920 | | 100 FIT | | | |
| product function | 0 311 31920 | 100111 | | | |
| - | | Ves: with 3RH20 | | | |
| mirror contact acc. to IEC 60947-4-1 T1 value for proof test interval or service life acc. to | | Yes; with 3RH29 20 y | | | |
| IEC 61508 protection class IP on the front acc. to IEC | C 60529 | IP00 | | | |
| suitability for use safety-related switching OF | | Yes | | | |
| Certificates/ approvals | | | | | |
| General Product Approval | | | | EMC | |
| | (h) u | <u>KC</u> | EAC | RCM | |
| Declaration of Conformity | Test Certifica | ates | Marine / Shipping | | |

| CE EG-Konf. | <u>Miscellaneous</u> | <u>Type Test</u> <u>Certificates/Test</u> <u>Report</u> | <u>Special Test</u> <u>Certificate</u> | ABS | BUREAU VERITAS |
|---------------------------|----------------------|---|---|---------------------|---------------------|
| Marine / Shipping | | | | | other |
| Lloyds Register urs | PRS | RINA | KARS | DNV-GL Event.com | <u>Confirmation</u> |
| other | | | | | |
| | <u>Confirmation</u> | | | | |
| 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=3RT2018-4AN61

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2018-4AN61

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

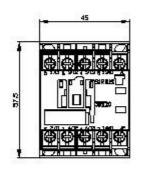
https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-4AN61

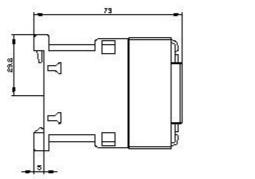
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2018-4AN61&lang=en

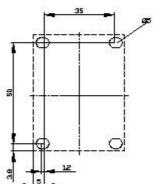
Characteristic: Tripping characteristics, I2t, Let-through current

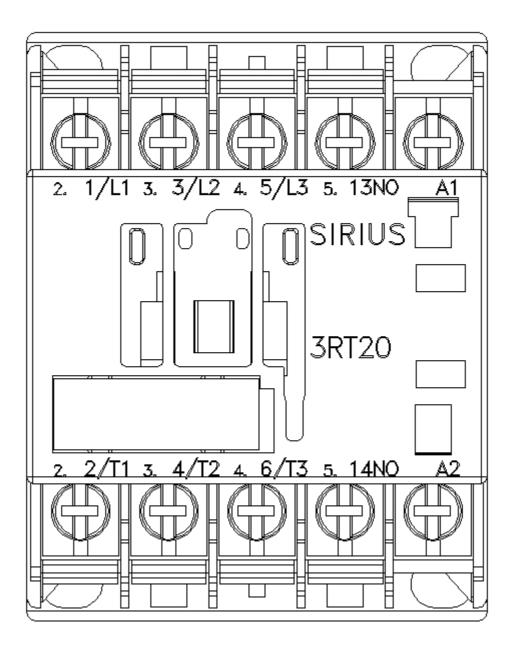
https://support.industry.siemens.com/cs/ww/en/ps/3RT2018-4AN61/char

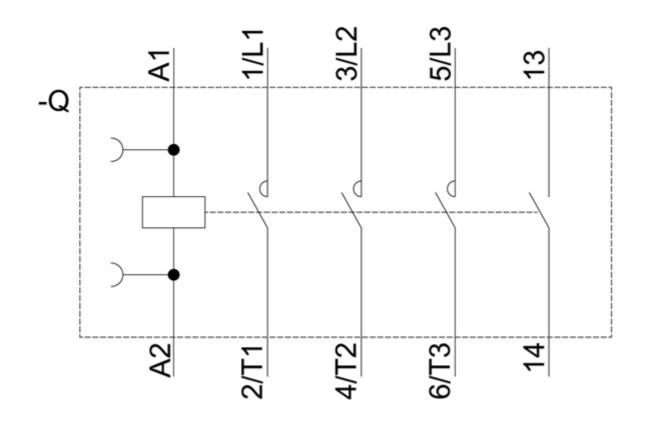
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2018-4AN61&objecttype=14&gridview=view1











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