



power contactor, AC-3 50 A, 22 kW / 400 V 1 NO + 1 NC, 230 V AC, 50 Hz, 3-pole, Size S2, screw terminal

| | |
|--|-----------------------------|
| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT2 |
| General technical data | |
| size of contactor | S2 |
| 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 | 12 W |
| • per pole | 4 W |
| power loss [W] for rated value of the current without load current share typical | 16 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 | 11.8g / 5 ms, 7.4g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 18.5g / 5 ms, 11.6g / 10 ms |
| mechanical service life (switching 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 acc. to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 01.10.2014 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 rated value | 70 A | |
| • at AC-1 | | |
| — up to 690 V at ambient temperature 40 °C rated value | 70 A | |
| — up to 690 V at ambient temperature 60 °C rated value | 60 A | |
| • at AC-3 | | |
| — at 400 V rated value | 51 A | |
| — at 500 V rated value | 51 A | |
| — at 690 V rated value | 24 A | |
| • at AC-4 at 400 V rated value | 41 A | |
| • at AC-5a up to 690 V rated value | 61.6 A | |
| • at AC-5b up to 400 V rated value | 41.5 A | |
| • at AC-6a | | |
| — up to 230 V for current peak value n=20 rated value | 43.2 A | |
| — up to 400 V for current peak value n=20 rated value | 43.2 A | |
| — up to 500 V for current peak value n=20 rated value | 43.2 A | |
| — up to 690 V for current peak value n=20 rated value | 24 A | |
| • at AC-6a | | |
| — up to 230 V for current peak value n=30 rated value | 28.8 A | |
| — up to 400 V for current peak value n=30 rated value | 28.8 A | |
| — up to 500 V for current peak value n=30 rated value | 28.8 A | |
| — up to 690 V for current peak value n=30 rated value | 24 A | |
| minimum cross-section in main circuit at maximum AC-1 rated value | 25 mm ² | |
| operational current for approx. 200000 operating cycles at AC-4 | | |
| • at 400 V rated value | 24 A | |
| • at 690 V rated value | 20 A | |
| operational current | | |
| • at 1 current path at DC-1 | | |
| — at 24 V rated value | 55 A | |
| — at 110 V rated value | 4.5 A | |
| — at 220 V rated value | 1 A | |
| — at 440 V rated value | 0.4 A | |
| — at 600 V rated value | 0.25 A | |
| • with 2 current paths in series at DC-1 | | |
| — at 24 V rated value | 55 A | |
| — 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 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 | |
| operational current | | |
| • at 1 current path at DC-3 at DC-5 | | |
| — at 24 V rated value | 35 A | |

| | |
|---|---|
| — at 110 V rated value | 2.5 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 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 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 | 22 kW |
| • at AC-3 | |
| — at 230 V rated value | 15 kW |
| — at 400 V rated value | 22 kW |
| — at 500 V rated value | 30 kW |
| — at 690 V rated value | 22 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 12.6 kW |
| • at 690 V rated value | 18.2 kW |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=20 rated value | 17.2 kV·A |
| • up to 400 V for current peak value n=20 rated value | 29.9 kV·A |
| • up to 500 V for current peak value n=20 rated value | 37.4 kV·A |
| • up to 690 V for current peak value n=20 rated value | 28.6 kV·A |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=30 rated value | 11.4 kV·A |
| • up to 400 V for current peak value n=30 rated value | 19.9 kV·A |
| • up to 500 V for current peak value n=30 rated value | 24.9 kV·A |
| • up to 690 V for current peak value n=30 rated value | 28.6 kV·A |
| short-time withstand current in cold operating state up to 40 °C | |
| • limited to 1 s switching at zero current maximum | 937 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 5 s switching at zero current maximum | 697 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum | 468 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 30 s switching at zero current maximum | 282 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 60 s switching at zero current maximum | 229 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| • at AC | 5 000 1/h |
| operating frequency | |
| • at AC-1 maximum | 1 000 1/h |
| • at AC-2 maximum | 600 1/h |
| • at AC-3 maximum | 800 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 | 230 V |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| • at 50 Hz | 0.8 ... 1.1 |
| apparent pick-up power of magnet coil at AC | |

| | |
|--|---|
| • at 50 Hz | 190 V·A |
| inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.72 |
| apparent holding power of magnet coil at AC | |
| • at 50 Hz | 16 V·A |
| inductive power factor with the holding power of the coil | |
| • at 50 Hz | 0.37 |
| closing delay | |
| • at AC | 10 ... 80 ms |
| opening delay | |
| • at AC | 10 ... 18 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 | 52 A |
| • at 600 V rated value | 52 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 110/120 V rated value | 3 hp |
| — at 230 V rated value | 10 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 15 hp |
| — at 220/230 V rated value | 15 hp |
| — at 460/480 V rated value | 40 hp |
| — at 575/600 V rated value | 50 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| Short-circuit protection | |
| 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 assignment 2 required | gG: 80A (690V,100kA), aM: 50A (690V,100kA), BS88: 63A (415V,80kA) |
| • for short-circuit protection of the auxiliary switch required | gG: 10 A (500 V, 1 kA) |

| Installation/ mounting/ dimensions | |
|--|--|
| mounting position | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting 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 | 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) |
| • at 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) |
| • at 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 | |
| B10 value with high demand rate acc. to SN 31920 | 1 000 000 |
| proportion of dangerous failures | |

| | |
|---|--|
| • with low demand rate acc. to SN 31920 | 40 % |
| • with high demand rate acc. to SN 31920 | 73 % |
| failure rate [FIT] with low demand rate acc. to SN 31920 | 100 FIT |
| product function | |
| • mirror contact acc. to IEC 60947-4-1 | Yes |
| • positively driven operation acc. to IEC 60947-5-1 | No |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |
| protection class IP on the front acc. to IEC 60529 | IP20 |
| touch protection on the front acc. to IEC 60529 | finger-safe, for vertical contact from the front |
| suitability for use safety-related switching OFF | Yes |

Certificates/ approvals

| | |
|--------------------------|-----|
| General Product Approval | EMC |
|--------------------------|-----|



KC



Declaration of Conformity

Test Certificates

Marine / Shipping

Miscellaneous



EG-Konf.

Special Test Certificate

Type Test Certificates/Test Report



ABS



BUREAU
VERITAS

Marine / Shipping

other



LRS



PRS



RINA



RMRS



DNV GL
GLOBAL

Confirmation

other

Confirmation

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=3RT2036-1AP00>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2036-1AP00>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AP00>

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

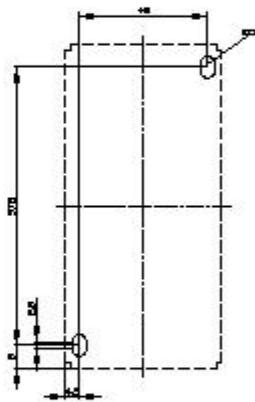
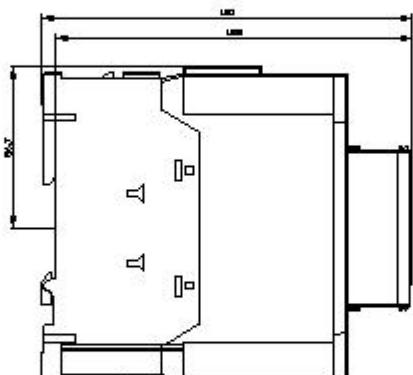
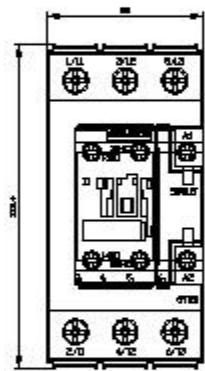
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2036-1AP00&lang=en

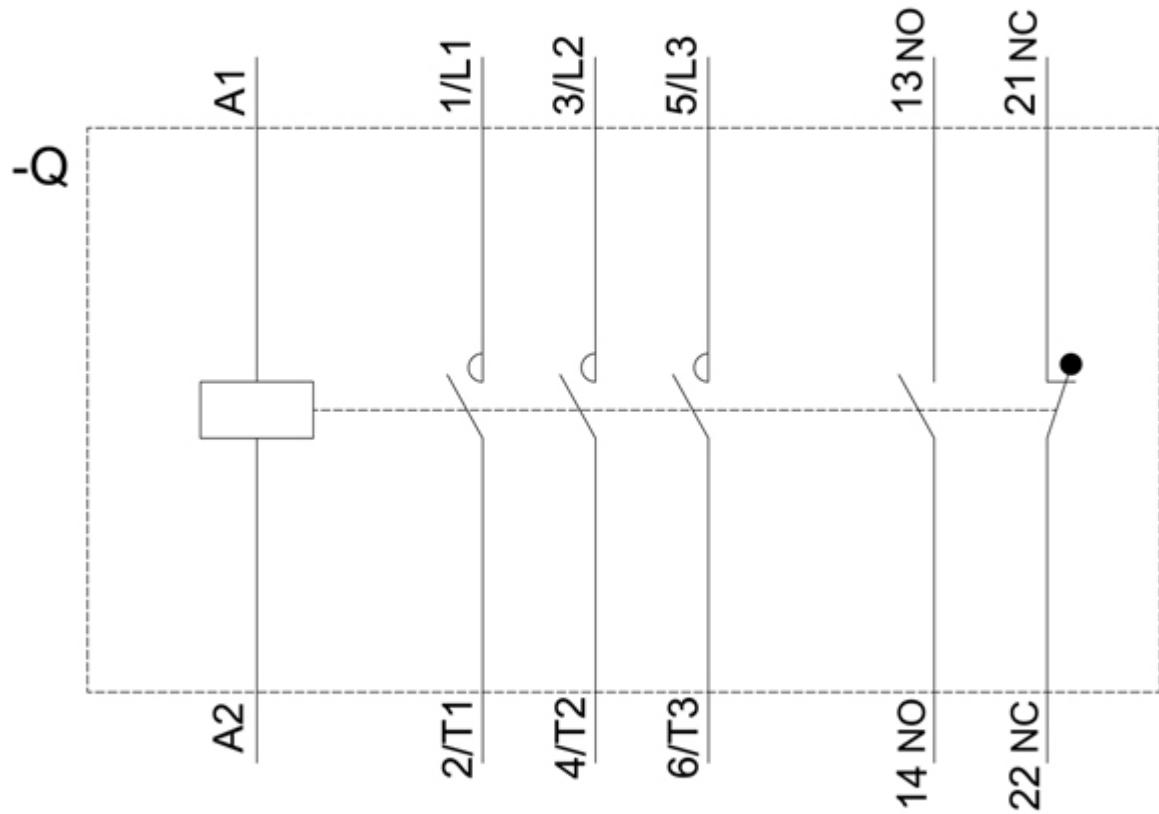
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2036-1AP00/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2036-1AP00&objecttype=14&gridview=view1>





last modified:

12/21/2020 