



power contactor, AC-3, 80 A, 37 kW / 400 V, 4-pole, 110 V AC, 50 Hz / 120 V, 60 Hz, main contacts: 2 NO + 2 NC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S3

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|--|------------------------------|
| product brand name | SIRIUS |
| product designation | contactor |
| product type designation | 3RT25 |
| General technical data | |
| size of contactor | S3 |
| 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 per pole | 5.3 W |
| • without load current share typical | 8.4 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 | 690 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 | 6.7 g / 5 ms, 4.0 g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 10.6 g / 5 ms, 6.3 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) | 09/01/2017 |
| Weight | 1.995 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 | |

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| number of poles for main current circuit | 4 |
| number of NO contacts for main contacts | 2 |
| number of NC contacts for main contacts | 2 |
| operational current | |
| • at AC-1 up to 690 V | |
| — at ambient temperature 40 °C rated value | 125 A |
| — at ambient temperature 60 °C rated value | 105 A |
| • at AC-2 at AC-3 at 400 V | |
| — per NO contact rated value | 80 A |
| — per NC contact rated value | 80 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 50 mm ² |
| operational current | |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 9 A |
| — at 220 V rated value | 2 A |
| — at 440 V rated value | 0.6 A |
| — at 600 V rated value | 0.4 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 100 A |
| — at 110 V rated value | 100 A |
| — at 220 V rated value | 10 A |
| — at 440 V rated value | 1.8 A |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V per NC contact rated value | 40 A |
| — at 24 V per NO contact rated value | 40 A |
| — at 110 V per NC contact rated value | 2.5 A |
| — at 110 V per NO contact rated value | 2.5 A |
| — at 220 V per NC contact rated value | 1 A |
| — at 220 V per NO contact rated value | 1 A |
| — at 440 V per NC contact rated value | 0.15 A |
| — at 440 V per NO contact rated value | 0.15 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V per NC contact rated value | 100 A |
| — at 24 V per NO contact rated value | 100 A |
| — at 110 V per NC contact rated value | 100 A |
| — at 110 V per NO contact rated value | 100 A |
| — at 220 V per NC contact rated value | 7 A |
| — at 220 V per NO contact rated value | 7 A |
| — at 440 V per NC contact rated value | 0.42 A |
| — at 440 V per NO contact rated value | 0.42 A |
| operating power at AC-2 at AC-3 | |
| • at 230 V per NC contact rated value | 22 kW |
| • at 230 V per NO contact rated value | 22 kW |
| • at 400 V per NC contact rated value | 37 kW |
| • at 400 V per NO contact rated value | 37 kW |
| short-time withstand current in cold operating state up to 40 °C | |
| • limited to 1 s switching at zero current maximum | 1 080 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 5 s switching at zero current maximum | 1 080 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 10 s switching at zero current maximum | 851 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 30 s switching at zero current maximum | 538 A; Use minimum cross-section acc. to AC-1 rated value |
| • limited to 60 s switching at zero current maximum | 423 A; Use minimum cross-section acc. to AC-1 rated value |
| power loss [W] at AC-3 at 400 V for rated value of the operational current per conductor | 5.3 W |
| power loss [W] at AC-3e at 400 V for rated value of the operational current per conductor | 5.3 W |
| no-load switching frequency | |
| • at AC | 5 000 1/h |
| operating frequency | |
| • at AC-1 maximum | 900 1/h |

| Control circuit/ Control | |
|---|---|
| type of voltage of the control supply voltage | AC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 110 V |
| • at 60 Hz rated value | 120 V |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| • at 50 Hz | 0.8 ... 1.1 |
| • at 60 Hz | 0.8 ... 1.1 |
| apparent pick-up power of magnet coil at AC | 326 VA |
| • at 50 Hz | 326 VA |
| • at 60 Hz | 326 VA |
| inductive power factor with closing power of the coil | 0.62 |
| • at 50 Hz | 22 |
| • at 60 Hz | 22 |
| apparent holding power of magnet coil at AC | 22 VA |
| • at 50 Hz | 0.62 VA |
| • at 60 Hz | 0.62 VA |
| inductive power factor with the holding power of the coil | 0.38 |
| • at 50 Hz | 0.38 |
| • at 60 Hz | 0.38 |
| closing delay | |
| • at AC | 13 ... 50 ms |
| opening delay | |
| • at AC | 11 ... 21 ms |
| arcing time | 10 ... 20 ms |
| control version of the switch operating mechanism | AC |
| 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 | 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 | |
| yielded mechanical performance [hp] | |
| • for 3-phase AC motor at 460/480 V rated value | 30 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| Short-circuit protection | |
| design of the fuse link | |

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| <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 assignment 2 required for short-circuit protection of the auxiliary switch required | gG: 250 A (690 V, 100 kA) gR: 250 A (690 V, 100 kA) fuse gG: 10 A |
| 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 side-by-side mounting | Yes |
| fastening method | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| height | 140 mm |
| width | 70 mm |
| depth | 152 mm |
| required spacing | |
| <ul style="list-style-type: none"> with side-by-side mounting <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side | 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 10 mm 10 mm 10 mm 0 mm 0 mm 10 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 | screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals |
| type of connectable conductor cross-sections for main contacts | |
| <ul style="list-style-type: none"> solid stranded solid or stranded finely stranded with core end processing | 2x (2.5 ... 16 mm ²) 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 16 mm ²); [2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²)] 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 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) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14) |
| AWG number as coded connectable conductor cross section for main contacts | 10 ... 2 |
| Safety related data | |
| product function | |
| <ul style="list-style-type: none"> mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 | Yes No |
| 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 | |
| General Product Approval | |



[Confirmation](#)



EG-Konf.



[KC](#)

| | | | |
|--------------------------|-----|-------------------|-------------------|
| General Product Approval | EMV | Test Certificates | Marine / Shipping |
|--------------------------|-----|-------------------|-------------------|



[Type Test Certificates/Test Report](#)



ABS



DNV



LRS

| | | | |
|-------------------|-------|---------|-----------------|
| Marine / Shipping | other | Railway | Dangerous goods |
|-------------------|-------|---------|-----------------|



[Confirmation](#)

[Special Test Certificate](#)

[Transport Information](#)

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=3RT2545-1AK60>

Cax online generator

<http://support.automation.siemens.com/WW/CAOrder/default.aspx?lang=en&mlfb=3RT2545-1AK60>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2545-1AK60>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2545-1AK60&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2545-1AK60/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2545-1AK60&objecttype=14&gridview=view1>



