



Power contactor, AC-3 40 A, 18.5 kW / 400 V 2 NO + 2 NC 20-33 V AC/DC
4-pole size S2 screw terminals 1 NO + 1 NC integrated

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|---|---|
| product brand name | SIRIUS |
| product designation | contactor |
| product type designation | 3RT25 |
| General technical data | |
| size of contactor | S2 |
| product extension | |
| <ul style="list-style-type: none"> function module for communication auxiliary switch | <p>No</p> <p>Yes</p> |
| insulation voltage | |
| <ul style="list-style-type: none"> of main circuit with degree of pollution 3 rated value of auxiliary circuit with degree of pollution 3 rated value | <p>690 V</p> <p>690 V</p> |
| surge voltage resistance | |
| <ul style="list-style-type: none"> of main circuit rated value of auxiliary circuit rated value | <p>6 kV</p> <p>6 kV</p> |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 400 V |
| shock resistance at rectangular impulse | |
| <ul style="list-style-type: none"> at AC at DC | <p>7.7g / 5 ms, 4.5g / 10 ms</p> <p>7.7g / 5 ms, 4.5g / 10 ms</p> |
| shock resistance with sine pulse | |
| <ul style="list-style-type: none"> at AC at DC | <p>12g / 5 ms, 7g / 10 ms</p> <p>12g / 5 ms, 7g / 10 ms</p> |
| mechanical service life (switching cycles) | |
| <ul style="list-style-type: none"> of contactor typical of the contactor with added electronically optimized auxiliary switch block typical of the contactor with added auxiliary switch block typical | <p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p> |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 10/01/2014 |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| <ul style="list-style-type: none"> during operation during storage | <p>-40 ... +70 °C</p> <p>-55 ... +80 °C</p> |
| 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 | |
| <ul style="list-style-type: none"> ● at AC-1 up to 690 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value — at ambient temperature 60 °C rated value ● at AC-2 at AC-3 at 400 V <ul style="list-style-type: none"> — per NO contact rated value — per NC contact rated value | 60 A 55 A 35 A 35 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 16 mm ² |
| operational current | |
| <ul style="list-style-type: none"> ● at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value ● with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value ● at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V per NC contact rated value — at 24 V per NO contact rated value — at 110 V per NC contact rated value — at 110 V per NO contact rated value — at 220 V per NC contact rated value — at 220 V per NO contact rated value — at 440 V per NC contact rated value — at 440 V per NO contact rated value ● with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V per NC contact rated value — at 24 V per NO contact rated value — at 110 V per NC contact rated value — at 110 V per NO contact rated value — at 220 V per NC contact rated value — at 220 V per NO contact rated value — at 440 V per NC contact rated value — at 440 V per NO contact rated value | 55 A 4.5 A 1 A 0.4 A 55 A 45 A 5 A 1 A 35 A 35 A 1.25 A 2.5 A 0.5 A 1 A 0.045 A 0.1 A 55 A 55 A 12.5 A 25 A 2.5 A 5 A 0.135 A 0.27 A |
| operating power at AC-2 at AC-3 | |
| <ul style="list-style-type: none"> ● at 230 V per NC contact rated value ● at 230 V per NO contact rated value ● at 400 V per NC contact rated value ● at 400 V per NO contact rated value | 11 kW 11 kW 18.5 kW 18.5 kW |
| short-time withstand current in cold operating state up to 40 °C | |
| <ul style="list-style-type: none"> ● limited to 1 s switching at zero current maximum ● limited to 5 s switching at zero current maximum ● limited to 10 s switching at zero current maximum ● limited to 30 s switching at zero current maximum ● limited to 60 s switching at zero current maximum | 546 A; Use minimum cross-section acc. to AC-1 rated value 443 A; Use minimum cross-section acc. to AC-1 rated value 334 A; Use minimum cross-section acc. to AC-1 rated value 241 A; Use minimum cross-section acc. to AC-1 rated value 196 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 | 4 W |
| no-load switching frequency | |
| <ul style="list-style-type: none"> ● at AC ● at DC | 500 1/h 500 1/h |
| operating frequency | |
| <ul style="list-style-type: none"> ● at AC-1 maximum | 350 1/h |

Control circuit/ Control

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| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 20 ... 33 V |
| • at 60 Hz rated value | 20 ... 33 V |
| control supply voltage at DC | |
| • rated value | 20 ... 33 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 |
| inrush current peak | 30 A |
| duration of inrush current peak | 30 µs |
| locked-rotor current mean value | 6.5 A |
| locked-rotor current peak | 12 A |
| duration of locked-rotor current | 230 ms |
| holding current mean value | 105 mA |
| apparent pick-up power of magnet coil at AC | 110 VA |
| • at 50 Hz | 110 VA |
| • at 60 Hz | 110 VA |
| inductive power factor with closing power of the coil | 0.72 |
| • at 50 Hz | 0.95 |
| • at 60 Hz | 0.95 |
| apparent holding power of magnet coil at AC | 2.5 VA |
| • at 50 Hz | 2.5 VA |
| • at 60 Hz | 2.5 VA |
| inductive power factor with the holding power of the coil | 0.95 |
| • at 50 Hz | 0.95 |
| • at 60 Hz | 0.95 |
| closing power of magnet coil at DC | 70 W |
| holding power of magnet coil at DC | 1.5 W |
| closing delay | |
| • at AC | 30 ... 100 ms |
| • at DC | 30 ... 100 ms |
| opening delay | |
| • at AC | 30 ... 55 ms |
| • at DC | 30 ... 55 ms |
| arcing time | 10 ... 20 ms |
| control version of the switch operating mechanism | UC |
| residual current of the electronics for control with signal <0> | |
| • at AC at 230 V maximum permissible | 20 A |
| • at DC at 24 V maximum permissible | 20 A |
| 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 |

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| <ul style="list-style-type: none"> • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value | 6 A 6 A 3 A 2 A 1 A 0.15 A |
| operational current at DC-13 <ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value | 10 A 2 A 2 A 1 A 0.9 A 0.3 A 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] <ul style="list-style-type: none"> • for 3-phase AC motor at 460/480 V rated value | 20 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| Short-circuit protection | |
| design of the fuse link <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: 125 A (690 V, 100 kA) gG: 63A (690V, 100kA) 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 <ul style="list-style-type: none"> • side-by-side mounting | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022 Yes |
| height | 114 mm |
| width | 75 mm |
| depth | 130 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 0 mm 50 mm 10 mm 50 mm 0 mm 0 mm 50 mm 50 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 |

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| type of connectable conductor cross-sections <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts | 2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 35 mm ²), 1x (1 ... 50 mm ²) 2x (1 ... 25 mm ²), 1x (1 ... 35 mm ²) 2x (18 ... 2), 1x (18 ... 1) |
| 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 • at 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 | 18 ... 1 |

Safety related data

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| 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 |
| 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 |

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



| | | | |
|-----|---------------------------------------|---------------------------|-------------------|
| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates |
|-----|---------------------------------------|---------------------------|-------------------|



[Type Examination Certificate](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



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



[Confirmation](#)

[Vibration and Shock](#)

[Transport Information](#)

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=3RT2535-1NB30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2535-1NB30>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1NB30>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2535-1NB30&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2535-1NB30/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2535-1NB30&objecttype=14&gridview=view1>

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