



vacuum contactor, AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC operation 575-600 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S12 busbar connections drive: conventional

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|---|---|
| product brand name | SIRIUS |
| product designation | Vacuum contactor |
| product type designation | 3RT12 |
| General technical data | |
| size of contactor | S12 |
| product extension | |
| <ul style="list-style-type: none"> function module for communication auxiliary switch | <p>No</p> <p>Yes</p> |
| power loss [W] for rated value of the current | |
| <ul style="list-style-type: none"> at AC in hot operating state at AC in hot operating state per pole without load current share typical | <p>96 W</p> <p>32 W</p> <p>10 W</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>1 000 V</p> <p>500 V</p> |
| surge voltage resistance | |
| <ul style="list-style-type: none"> of main circuit rated value of auxiliary circuit rated value | <p>8 kV</p> <p>6 kV</p> |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 690 V |
| shock resistance at rectangular impulse | |
| <ul style="list-style-type: none"> at AC at DC | <p>8,5g / 5 ms, 4,2g / 10 ms</p> <p>8,5g / 5 ms, 4,2g / 10 ms</p> |
| shock resistance with sine pulse | |
| <ul style="list-style-type: none"> at AC at DC | <p>13,4g / 5 ms, 6,5g / 10 ms</p> <p>13,4g / 5 ms, 6,5g / 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) | 05/01/2012 |
| 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>-25 ... +60 °C</p> <p>-55 ... +80 °C</p> |

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| relative humidity minimum | 10 % |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 % |
| 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 | 610 A |
| • at AC-1 | |
| — 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 |
| — up to 1000 V at ambient temperature 40 °C rated value | 610 A |
| — up to 1000 V at ambient temperature 60 °C rated value | 550 A |
| • at AC-3 | |
| — at 400 V rated value | 500 A |
| — at 500 V rated value | 500 A |
| — at 690 V rated value | 500 A |
| — at 1000 V rated value | 500 A |
| • at AC-3e | |
| — at 400 V rated value | 500 A |
| — at 500 V rated value | 500 A |
| — at 690 V rated value | 500 A |
| — at 1000 V rated value | 500 A |
| • at AC-4 at 400 V rated value | 430 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 439 A |
| — up to 400 V for current peak value n=20 rated value | 439 A |
| — up to 500 V for current peak value n=20 rated value | 439 A |
| — up to 690 V for current peak value n=20 rated value | 439 A |
| — up to 1000 V for current peak value n=20 rated value | 439 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 293 A |
| — up to 400 V for current peak value n=30 rated value | 293 A |
| — up to 500 V for current peak value n=30 rated value | 293 A |
| — up to 690 V for current peak value n=30 rated value | 293 A |
| — up to 1000 V for current peak value n=30 rated value | 293 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 | 215 A |
| • at 690 V rated value | 215 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 160 kW |
| — at 400 V rated value | 250 kW |




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| — at 500 V rated value | 355 kW |
| — at 690 V rated value | 500 kW |
| — at 1000 V rated value | 710 kW |
| ● at AC-3e | |
| — at 230 V rated value | 160 kW |
| — at 400 V rated value | 250 kW |
| — at 500 V rated value | 355 kW |
| — at 690 V rated value | 500 kW |
| — at 1000 V rated value | 710 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| ● at 400 V rated value | 122 kW |
| ● at 690 V rated value | 212 kW |
| operating apparent power at AC-6a | |
| ● up to 230 V for current peak value n=20 rated value | 170 000 kVA |
| ● up to 400 V for current peak value n=20 rated value | 300 000 VA |
| ● up to 500 V for current peak value n=20 rated value | 380 000 VA |
| ● up to 690 V for current peak value n=20 rated value | 520 000 VA |
| ● up to 1000 V for current peak value n=20 rated value | 760 000 VA |
| operating apparent power at AC-6a | |
| ● up to 230 V for current peak value n=30 rated value | 110 000 VA |
| ● up to 400 V for current peak value n=30 rated value | 200 000 VA |
| ● up to 500 V for current peak value n=30 rated value | 250 000 VA |
| ● up to 690 V for current peak value n=30 rated value | 350 000 VA |
| ● up to 1000 V for current peak value n=30 rated value | 500 000 VA |
| no-load switching frequency | |
| ● at AC | 2 000 1/h |
| ● at DC | 2 000 1/h |
| operating frequency | |
| ● at AC-1 maximum | 700 1/h |
| ● at AC-2 maximum | 250 1/h |
| ● at AC-3 maximum | 750 1/h |
| ● at AC-3e maximum | 750 1/h |
| ● at AC-4 maximum | 250 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 | 575 ... 600 V |
| ● at 60 Hz rated value | 575 ... 600 V |
| control supply voltage at DC | |
| ● rated value | 575 ... 600 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 of magnet coil at AC | |
| ● at 50 Hz | 830 VA |
| ● at 60 Hz | 830 VA |
| inductive power factor with closing power of the coil | |
| ● at 50 Hz | 0.9 |
| ● at 60 Hz | 0.9 |
| apparent holding power of magnet coil at AC | |
| ● at 50 Hz | 9.2 VA |
| ● at 60 Hz | 9.2 VA |




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| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.9 0.9 |
| closing power of magnet coil at DC | 920 W |
| holding power of magnet coil at DC | 10 W |
| closing delay | |
| <ul style="list-style-type: none"> • at AC • at DC | 45 ... 100 ms 45 ... 100 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at AC • at DC | 60 ... 100 ms 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 | |
| <ul style="list-style-type: none"> • at 230 V rated value • at 400 V rated value • at 500 V rated value • at 690 V rated value | 6 A 3 A 2 A 1 A |
| operational current at DC-12 | |
| <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 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 | |
| full-load current (FLA) for 3-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 477 A 472 A |
| yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for 3-phase AC motor <ul style="list-style-type: none"> — at 200/208 V rated value — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value | 150 hp 200 hp 400 hp 500 hp |
| contact rating of auxiliary contacts according to UL | A600 / Q600 |
| 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: 800 A (690 V, 100 kA) gG: 800 A (690 V, 50 kA), aM: 630 A (690 V, 50 kA), BS88: 800 A (415 V, 50 kA) gG: 10 A (500 V, 1 kA) |



| Installation/ mounting/ dimensions | |
|---|---|
| mounting position | +/-22,5° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface; standing, on horizontal mounting surface |
| fastening method | screw fixing |
| • side-by-side mounting | Yes |
| 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 | screw-type terminals |
| • at contactor for auxiliary contacts | Screw-type terminals |
| • of magnet coil | Screw-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 | |
| • at AWG cables for main contacts | 2/0 ... 500 kcmil |
| connectable conductor cross-section for main contacts | |
| • stranded | 70 ... 240 mm ² |
| connectable conductor cross-section for auxiliary contacts | |
| • solid or stranded | 0.5 ... 4 mm ² |
| • finely stranded with core end processing | 0.5 ... 2.5 mm ² |
| type of connectable conductor cross-sections | |
| • for auxiliary contacts | |
| — solid | 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) |
| — solid or stranded | 2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²), max. 2x (0,75 ... 4 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), 1x 12 |
| AWG number as coded connectable conductor cross section | |
| • for auxiliary contacts | 18 ... 14 |
| Safety related data | |
| product function | |
| • mirror contact according to IEC 60947-4-1 | Yes |
| • positively driven operation according to IEC 60947-5-1 | No |
| protection class IP on the front according to IEC 60529 | IP00; IP20 with box terminal/cover |
| touch protection on the front according to IEC 60529 | finger-safe, for vertical contact from the front with box terminal/cover |

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| suitability for use | Yes |
| <ul style="list-style-type: none"> • safety-related switching OFF | |

Certificates/ approvals

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| General Product Approval | EMC |
|   Confirmation    | |

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| Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | Marine / Shipping |
| Type Examination Certificate |   EG-Konf. | Type Test Certificates/Test Report Special Test Certificate |  ABS |

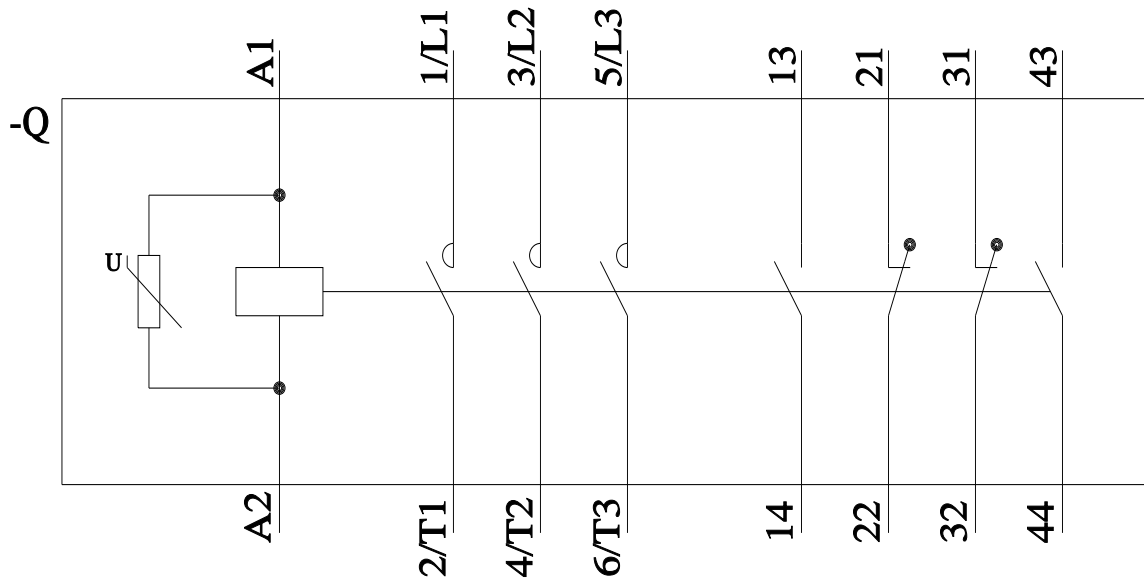
| | |
|---|---|
| Marine / Shipping | other |
|    | Confirmation Miscellaneous Confirmation |

Railway

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Further information

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<https://www.siemens.com/ic10>
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<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1276-6AT36>
- Cax online generator**
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1276-6AT36>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AT36>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1276-6AT36&lang=en
- Characteristic: Tripping characteristics, I²t, Let-through current**
<https://support.industry.siemens.com/cs/ww/en/ps/3RT1276-6AT36/char>
- Further characteristics (e.g. electrical endurance, switching frequency)**
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1276-6AT36&objecttype=14&gridview=view1>



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