



power contactor AC-1 275 A / 690 V / 40 °C 3-pole, U_c: 575-600 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

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| product brand name | SIRIUS |
| product designation | Contacteur |
| product type designation | 3RT14 |
| General technical data | |
| size of contactor | S6 |
| 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 | 86.4 W |
| • at AC in hot operating state per pole | 28.8 W |
| • without load current share typical | 5.2 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 | 500 V |
| surge voltage resistance | |
| • of main circuit rated value | 8 kV |
| • of auxiliary circuit rated value | 6 kV |
| shock resistance at rectangular impulse | |
| • at AC | 8,5g / 5 ms, 4,2g / 10 ms |
| • at DC | 8,5g / 5 ms, 4,2g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 13,4g / 5 ms, 6,5g / 10 ms |
| • at DC | 13,4g / 5 ms, 6,5g / 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) | 05/01/2012 |
| SVHC substance name | Lead - 7439-92-1 |
| Weight | 3.383 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 % |

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| 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 |
| number of NC contacts for main contacts | 0 |
| type of voltage for main current circuit | AC |
| operational current | |
| <ul style="list-style-type: none"> ● at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value — up to 690 V at ambient temperature 55 °C rated value — up to 690 V at ambient temperature 60 °C rated value ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 690 V rated value | 275 A 250 A 250 A 97 A 97 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 140 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 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● with 2 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● with 3 current paths in series at DC-1 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value ● with 3 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value | 250 A 250 A 18 A 3.4 A 0.8 A 0.5 A 250 A 250 A 250 A 250 A 20 A 3.2 A 1.6 A 250 A 250 A 250 A 250 A 11.5 A 4 A 250 A 7.5 A 2.5 A 0.6 A 0.17 A 0.12 A 250 A 250 A 250 A 2.5 A 0.65 A 0.37 A 250 A 250 A 250 A 250 A 1.4 A |

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| — at 600 V rated value | 0.75 A |
| no-load switching frequency | |
| • at AC | 2 000 1/h |
| • at DC | 2 000 1/h |
| operating frequency at AC-1 maximum | 600 1/h |
| Control circuit/ Control | |
| type of voltage | AC/DC |
| 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 | |
| • at minimum rated control supply voltage at AC | |
| — at 50 Hz | 250 VA |
| — at 60 Hz | 250 VA |
| • at maximum rated control supply voltage at AC | |
| — at 60 Hz | 300 VA |
| — at 50 Hz | 300 VA |
| apparent pick-up power of magnet coil at AC | |
| • at 50 Hz | 300 VA |
| inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.9 |
| apparent holding power | |
| • at minimum rated control supply voltage at DC | 4.3 VA |
| • at maximum rated control supply voltage at DC | 5.2 VA |
| apparent holding power | |
| • at minimum rated control supply voltage at AC | |
| — at 50 Hz | 4.8 VA |
| — at 60 Hz | 4.8 VA |
| • at maximum rated control supply voltage at AC | |
| — at 50 Hz | 5.8 VA |
| — at 60 Hz | 5.8 VA |
| apparent holding power of magnet coil at AC | |
| • at 50 Hz | 5.8 VA |
| inductive power factor with the holding power of the coil | |
| • at 50 Hz | 0.8 |
| closing power of magnet coil at DC | 360 W |
| holding power of magnet coil at DC | 5.2 W |
| closing delay | |
| • at AC | 20 ... 95 ms |
| • at DC | 20 ... 95 ms |
| opening delay | |
| • at AC | 40 ... 60 ms |
| • at DC | 40 ... 60 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 | 2 |
| • attachable | 4 |
| • instantaneous contact | 2 |
| number of NO contacts for auxiliary contacts | 2 |

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| <ul style="list-style-type: none"> • attachable | 4 |
| <ul style="list-style-type: none"> • 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 | 6 A |
| <ul style="list-style-type: none"> • at 400 V rated value | 3 A |
| <ul style="list-style-type: none"> • at 500 V rated value | 2 A |
| <ul style="list-style-type: none"> • at 690 V rated value | 1 A |
| operational current at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 48 V rated value | 2 A |
| <ul style="list-style-type: none"> • at 60 V rated value | 2 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 1 A |
| <ul style="list-style-type: none"> • at 125 V rated value | 0.9 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 0.3 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 0.1 A |
| contact reliability of auxiliary contacts | 1 faulty switching per 100 million (17 V, 1 mA) |
| Short-circuit protection | |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V | C characteristic: 10 A; 0.4 kA |
| 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 coordination 2 required | gG: 355 A (690 V, 100 kA) gR: 350 A (690 V, 100 kA) |
| <ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required | gG: 10 A (500 V, 1 kA) |
| Installation/ mounting/ dimensions | |
| mounting position | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method side-by-side mounting | Yes |
| fastening method | screw fixing |
| height | 172 mm |
| width | 120 mm |
| depth | 170 mm |
| required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side | 20 mm 10 mm 10 mm 0 mm |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards | 20 mm 10 mm 10 mm 10 mm |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side | 20 mm 10 mm 10 mm 10 mm |
| Connections/ Terminals | |
| type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit | Connection bar |
| <ul style="list-style-type: none"> • for auxiliary and control circuit | screw-type terminals |
| <ul style="list-style-type: none"> • at contactor for auxiliary contacts | Screw-type terminals |
| <ul style="list-style-type: none"> • of magnet coil | Screw-type terminals |
| width of connection bar | 17 mm |
| thickness of connection bar | 3 mm |
| diameter of holes | 9 mm |
| number of holes | 1 |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for AWG cables for main contacts | 4 ... 250 kcmil |

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| connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> • solid or stranded • stranded | 25 ... 120 mm ² 25 ... 120 mm ² |
| connectable conductor cross-section for auxiliary contacts | |
| <ul style="list-style-type: none"> • solid or stranded • finely stranded with core end processing | 0.5 ... 4 mm ² 0.5 ... 2.5 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), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²), max. 2x (0.75 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14), 1x 12 |
| AWG number as coded connectable conductor cross section for auxiliary contacts | 18 ... 14 |

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 |
| suitability for use safety-related switching OFF | No |
| service life maximum | 20 a |

Electrical Safety

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| 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 |

Approvals Certificates

General Product Approval



[KC](#)



EMV Functional Safety Test Certificates Maritime application



[Type Examination Certificate](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application other



[Confirmation](#)

[Miscellaneous](#)

other Railway Environment

[Confirmation](#)

[Special Test Certificate](#)

[Environmental Confirmations](#)

Further information

Information on the packaging
<https://support.industry.siemens.com/cs/ww/en/view/109813875>
Information for data generation and storage
<https://support.industry.siemens.com/cs/ww/en/view/109995012>
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=3RT1456-6AT36>
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1456-6AT36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6AT36>

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

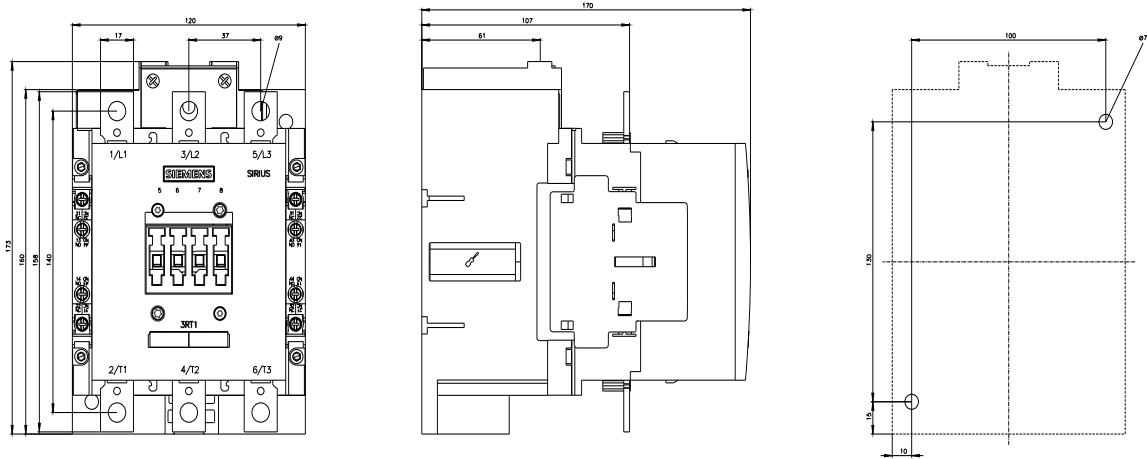
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1456-6AT36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1456-6AT36/char>

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

<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1456-6AT36&objecttype=14&gridview=view1>





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