

Traction contactor, AC-3 185 A, 90 kW / 400 V Coil 24 V DC x (0.7-1.25) PLC input 24-110 V DC Auxiliary contacts 2 NO + 2 NC 3-pole size S6 Busbar connections Coil connection: Spring-type terminal



Figure similar

| | |
|---|---|
| Product brand name | SIRIUS |
| Product designation | Power contactor |
| Product type designation | 3RT1 |
| General technical data | |
| Size of contactor | S6 |
| Product extension | Yes |
| <ul style="list-style-type: none"> Auxiliary switch | |
| maximum permissible voltage for safe isolation | 690 V |
| <ul style="list-style-type: none"> between coil and main contacts acc. to EN 60947-1 | |
| Protection class IP | IP00; IP20 on the front with cover / box terminal |
| <ul style="list-style-type: none"> on the front of the terminal | IP00 |
| Shock resistance | Category 1, Class B |
| <ul style="list-style-type: none"> for railway applications acc. to DIN EN 61373 | |
| Shock resistance at rectangular impulse | 8,5g / 5 ms, 4,2g / 10 ms |
| <ul style="list-style-type: none"> at DC | |

| | |
|---|----------------------------|
| Shock resistance with sine pulse | |
| <ul style="list-style-type: none"> • at DC | 13,4g / 5 ms, 6,5g / 10 ms |
| Mechanical service life (switching cycles) | |
| <ul style="list-style-type: none"> • of contactor typical | 10 000 000 |
| <ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical | 5 000 000 |
| <ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical | 10 000 000 |

Ambient conditions

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| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> • maximum | 2 000 m |
| Ambient temperature | |
| <ul style="list-style-type: none"> • during operation | -40 ... +70 °C |
| <ul style="list-style-type: none"> • during storage | -55 ... +80 °C |

Main circuit

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|---|--------------------|
| Number of poles for main current circuit | 3 |
| Number of NO contacts for main contacts | 3 |
| Number of NC contacts for main contacts | 0 |
| Operating voltage | |
| <ul style="list-style-type: none"> • at AC-3 rated value maximum | 1 000 V |
| Operating current | |
| <ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value | 215 A |
| <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 | 215 A |
| <ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value | 185 A |
| <ul style="list-style-type: none"> • at AC-2 at 400 V rated value | 185 A |
| <ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value | 185 A |
| <ul style="list-style-type: none"> — at 500 V rated value | 185 A |
| <ul style="list-style-type: none"> — at 690 V rated value | 170 A |
| Connectable conductor cross-section in main circuit at AC-1 | |
| <ul style="list-style-type: none"> • at 60 °C minimum permissible | 95 mm ² |
| <ul style="list-style-type: none"> • at 40 °C minimum permissible | 95 mm ² |
| Operating current for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> • at 400 V rated value | 81 A |
| <ul style="list-style-type: none"> • at 690 V rated value | 65 A |
| Operating current | |

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| <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 — 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 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 160 A 18 A 3.4 A 0.8 A 0.5 A 160 A 160 A 20 A 3.2 A 1.6 A 160 A 160 A 160 A 11.5 A 4 A |
| Operating current | |
| <ul style="list-style-type: none"> • at 1 current path at DC-3 at DC-5 <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 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 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 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value | 160 A 2.5 A 0.6 A 0.17 A 0.12 A 160 A 160 A 2.5 A 0.65 A 0.37 A 160 A 160 A 160 A 1.4 A 0.75 A |
| Operating power | |
| <ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — at 230 V at 60 °C rated value — at 400 V rated value | 70 kW 121 kW |

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| — at 400 V at 60 °C rated value | 121 kW |
| — at 690 V at 60 °C rated value | 210 kW |
| • at AC-2 at 400 V rated value | 90 kW |
| • at AC-3 | |
| — at 230 V rated value | 61 kW |
| — at 400 V rated value | 90 kW |
| — at 500 V rated value | 132 kW |
| — at 690 V rated value | 160 kW |
| Operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 45 kW |
| • at 690 V rated value | 65 kW |
| Thermal short-time current limited to 10 s | 1.48 kA |
| Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor | 13 W |
| No-load switching frequency | |
| • at DC | 1 000 1/h |
| Operating frequency | |
| • at AC-1 maximum | 800 1/h |
| • at AC-2 maximum | 300 1/h |
| • at AC-3 maximum | 750 1/h |
| • at AC-4 maximum | 130 1/h |
| Operating frequency | |
| • at DC-1 maximum | 400 1/s |
| • at DC-3 maximum | 350 1/s |
| • at DC-5 maximum | 350 1/s |
| Control circuit/ Control | |
| Type of voltage of the control supply voltage | DC |
| Control supply voltage at DC | |
| • rated value | 24 V |
| Operating range factor control supply voltage rated value of magnet coil at DC | |
| • initial value | 0.7 |
| • Full-scale value | 1.25 |
| Design of the surge suppressor | with varistor |
| Closing power of magnet coil at DC | 320 W |
| Holding power of magnet coil at DC | 2.8 W |
| Closing delay | |
| • at DC | 35 ... 75 ms |
| Opening delay | |
| • at DC | 80 ... 90 ms |
| Arcing time | 10 ... 15 ms |

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| Control version of the switch operating mechanism | PLC-IN or Standard A1 - A2 (adjustable) |
| Auxiliary circuit | |
| Number of NC contacts | |
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact | 2 |
| Number of NO contacts | |
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact | 2 |
| Operating current at AC-12 maximum | 10 A |
| Operating 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 | 6 A 3 A 2 A |
| Operating 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 |
| Operating 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 | 6 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 three-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 180 A 192 A |
| Yielded mechanical performance [hp] | |
| <ul style="list-style-type: none"> • for single-phase AC motor <ul style="list-style-type: none"> — at 230 V rated value • for three-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 | 230 hp 60 hp 75 hp 150 hp |

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| — at 575/600 V rated value | 200 hp |
| Contact rating of auxiliary contacts according to UL | A600 / Q600 |

Short-circuit protection

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| 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: 355 A (690 V, 100 kA) gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 100 kA), BS88: 315 A (415 V, 50 kA) fuse gG: 10 A |

Installation/ mounting/ dimensions

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|--|--|
| Mounting position | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| Mounting type | screw fixing |
| <ul style="list-style-type: none"> • Side-by-side mounting | Yes |
| 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 — 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 | 20 mm 0 mm 10 mm 10 mm 10 mm 20 mm 0 mm 10 mm 10 mm 10 mm 10 mm 0 mm 10 mm 10 mm 10 mm |

Connections/Terminals

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|---|---|
| Type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit | screw-type terminals spring-loaded 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"> — single or multi-stranded • at AWG conductors for main contacts | 2x (25 ... 120 mm ²) 4 ... 250 kcmil |
| Type of connectable conductor cross-sections <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for auxiliary contacts | 2x (0,25 ... 2,5 mm ²) 2x (0.25 ... 1.5 mm ²) 2x (0.25 ... 2.5 mm ²) 2x (24 ... 14) |

| Safety related data | |
|---|-----------|
| Product function <ul style="list-style-type: none"> • Mirror contact acc. to IEC 60947-4-1 • positively driven operation acc. to IEC 60947-5-1 | Yes No |

| Certificates/approvals | | |
|--|--|---|
| General Product Approval | Functional Safety/Safety of Machinery | Declaration of Conformity |
|  CCC |  CSA |  UL |
|  EAC | Type Examination Certificate |  EG-Konf. |

| Test Certificates | other | Railway | | |
|--|------------------------------|-------------------------------|-------------------------------------|------------------------------|
| Special Test Certificate | Confirmation | Miscellaneous | Vibration and Shock | Confirmation |

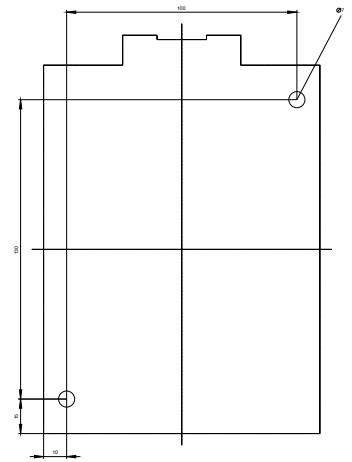
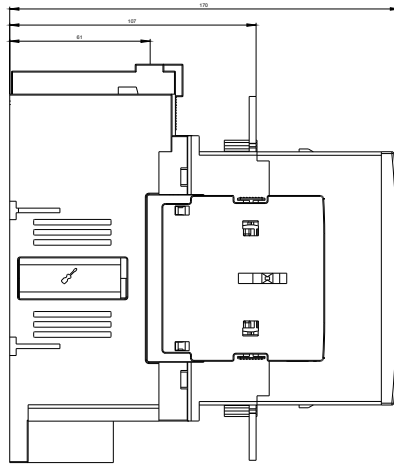
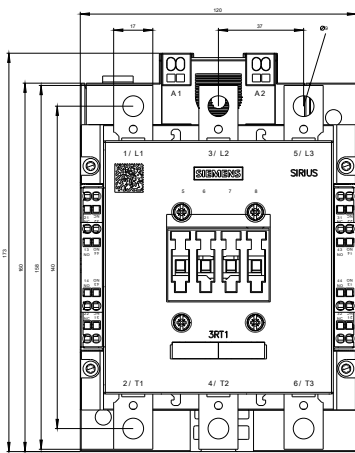
| Further information |
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| Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs |
| Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1056-2XB46-0LA2 |
| Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1056-2XB46-0LA2 |
| Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-2XB46-0LA2 |
| Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1056-2XB46-0LA2&lang=en |

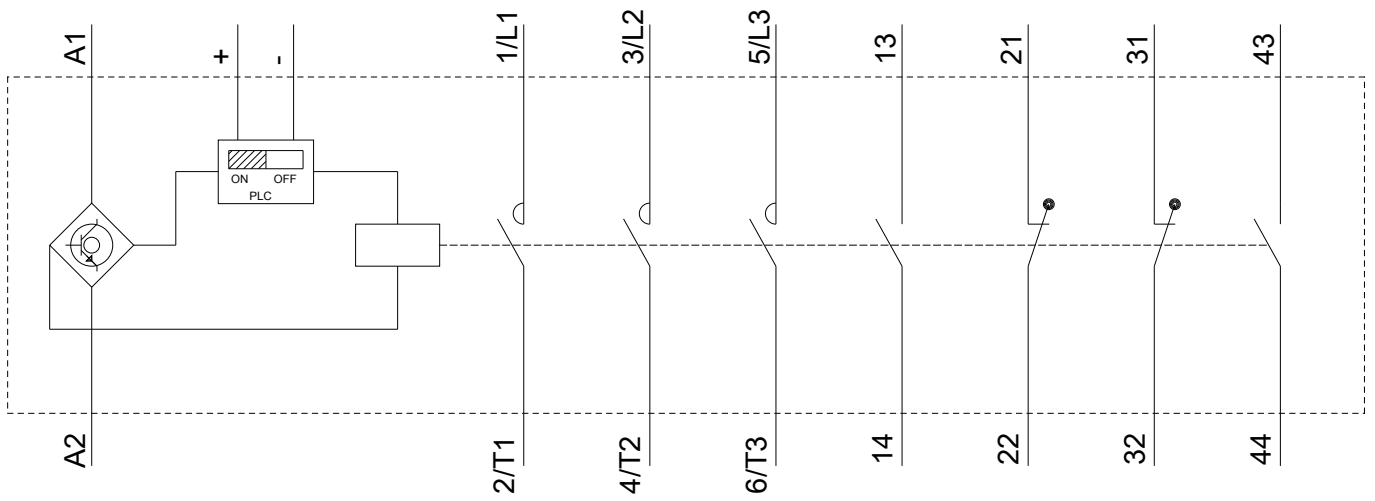
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1056-2XB46-0LA2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1056-2XB46-0LA2&objecttype=14&gridview=view1>





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