



power contactor, AC-3e/AC-3 150 A, 75 kW / 400 V AC (50-60 Hz) / DC U_c: 96-127 V x (0.8-1.1) F-PLC input 24 V DC 3-pole, auxiliary contacts 2 NO + 2 NC permanently mounted drive: electronic main circuit: busbar control and auxiliary circuit: screw terminal

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| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT1 |
| 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 | 27 W |
| • at AC in hot operating state per pole | 9 W |
| • without load current share typical | 2.8 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 |
| 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 | 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) | |
| SVHC substance name | Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5 Perfluorobutane sulfonic acid (PFBS) and its salts - - |
| Weight | 3.386 kg |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |

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| <ul style="list-style-type: none"> during operation during storage | -25 ... +60 °C -55 ... +80 °C |
| 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 | |
| <ul style="list-style-type: none"> at AC-3 rated value maximum at AC-3e rated value maximum | 1 000 V 1 000 V |
| operational current | |
| <ul style="list-style-type: none"> at AC-1 at 400 V at ambient temperature 40 °C rated value 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 60 °C rated value up to 1000 V at ambient temperature 40 °C rated value up to 1000 V at ambient temperature 60 °C rated value at AC-3 <ul style="list-style-type: none"> at 400 V rated value at 500 V rated value at 690 V rated value at 1000 V rated value at AC-3e <ul style="list-style-type: none"> at 400 V rated value at 500 V rated value at 690 V rated value at 1000 V rated value at AC-4 at 400 V rated value at AC-5a up to 690 V rated value at AC-5b up to 400 V rated value at AC-6a <ul style="list-style-type: none"> up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 1000 V for current peak value n=20 rated value at AC-6a <ul style="list-style-type: none"> up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 1000 V for current peak value n=30 rated value | 185 A 185 A 160 A 90 A 90 A 150 A 150 A 150 A 65 A 150 A 150 A 150 A 65 A 132 A 162 A 124 A 150 A 150 A 150 A 150 A 65 A 105 A 105 A 105 A 105 A 65 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 95 mm ² |
| operational current for approx. 200000 operating cycles at AC-4 | |
| <ul style="list-style-type: none"> at 400 V rated value at 690 V rated value | 68 A 57 A |
| 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 | 160 A 160 A 18 A 3.4 A 0.8 A 0.5 A |

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| <ul style="list-style-type: none"> ● 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 — at 600 V rated value | <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>20 A</p> <p>3.2 A</p> <p>1.6 A</p> <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>11.5 A</p> <p>4 A</p> <p>160 A</p> <p>7.5 A</p> <p>2.5 A</p> <p>0.6 A</p> <p>0.17 A</p> <p>0.12 A</p> <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>2.5 A</p> <p>0.65 A</p> <p>0.37 A</p> <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>160 A</p> <p>1.4 A</p> <p>0.75 A</p> |
| <p>operating power</p> <ul style="list-style-type: none"> ● at AC-2 at 400 V rated value ● at AC-3 <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 — at 1000 V rated value ● at AC-3e <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 — at 1000 V rated value | <p>75 kW</p> <p>45 kW</p> <p>75 kW</p> <p>90 kW</p> <p>132 kW</p> <p>90 kW</p> <p>45 kW</p> <p>75 kW</p> <p>90 kW</p> <p>132 kW</p> <p>90 kW</p> |
| <p>operating power for approx. 200000 operating cycles at AC-4</p> <ul style="list-style-type: none"> ● at 400 V rated value ● at 690 V rated value | <p>38 kW</p> <p>55 kW</p> |
| <p>operating apparent power at AC-6a</p> <ul style="list-style-type: none"> ● up to 230 V for current peak value n=20 rated value ● up to 400 V for current peak value n=20 rated value ● up to 500 V for current peak value n=20 rated value ● up to 690 V for current peak value n=20 rated value ● up to 1000 V for current peak value n=20 rated value | <p>60 000 kVA</p> <p>100 000 VA</p> <p>130 000 VA</p> <p>170 000 VA</p> <p>110 000 VA</p> |
| <p>operating apparent power at AC-6a</p> <ul style="list-style-type: none"> ● up to 230 V for current peak value n=30 rated value | <p>40 000 VA</p> |

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|---|---|
| <ul style="list-style-type: none"> • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 1000 V for current peak value n=30 rated value | 70 000 VA 90 000 VA 120 000 VA 110 000 VA |
| 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 | 2 727 A; Use minimum cross-section acc. to AC-1 rated value 1 831 A; Use minimum cross-section acc. to AC-1 rated value 1 300 A; Use minimum cross-section acc. to AC-1 rated value 850 A; Use minimum cross-section acc. to AC-1 rated value 703 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency <ul style="list-style-type: none"> • at AC • at DC | 1 000 1/h 1 000 1/h |
| operating frequency <ul style="list-style-type: none"> • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e maximum • at AC-4 maximum | 750 1/h 300 1/h 750 1/h 750 1/h 130 1/h |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC <ul style="list-style-type: none"> • at 50 Hz rated value • at 60 Hz rated value | 96 ... 127 V 96 ... 127 V |
| control supply voltage at DC rated value | 96 ... 127 V |
| operating range factor control supply voltage rated value of magnet coil at DC <ul style="list-style-type: none"> • initial value • full-scale value | 0.8 1.1 |
| operating range factor control supply voltage rated value of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.8 ... 1.1 0.8 ... 1.1 |
| type of PLC-control input according to IEC 60947-1 | Type 1 |
| consumed current at PLC-control input according to IEC 60947-1 maximum | 14 mA |
| voltage at PLC-control input rated value | 24 V |
| operating range factor of the voltage at PLC-control input | 0.8 ... 1.1 |
| design of the surge suppressor | with varistor |
| apparent pick-up power <ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 60 Hz — at 50 Hz | 190 VA 190 VA 280 VA 280 VA |
| apparent pick-up power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 280 VA 280 VA |
| inductive power factor with closing power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | 0.8 0.8 |
| apparent holding power <ul style="list-style-type: none"> • at minimum rated control supply voltage at DC • at maximum rated control supply voltage at DC | 2.1 VA 2.8 VA |
| apparent holding power <ul style="list-style-type: none"> • at minimum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz • at maximum rated control supply voltage at AC <ul style="list-style-type: none"> — at 50 Hz | 3.5 VA 3.5 VA 4.8 VA |

| | |
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| — at 60 Hz | 4.8 VA |
| inductive power factor with the holding power of the coil | |
| • at 50 Hz | 0.6 |
| • at 60 Hz | 0.6 |
| closing power of magnet coil at DC | 320 W |
| holding power of magnet coil at DC | 2.8 W |
| closing delay | |
| • at AC | 60 ... 75 ms |
| • at DC | 60 ... 75 ms |
| opening delay | |
| • at AC | 115 ... 130 ms |
| • at DC | 115 ... 130 ms |
| recovery time after power failure typical | 2 s |
| arcing time | 10 ... 15 ms |
| control version of the switch operating mechanism | Fail-safe PLC input (F-PLC-IN) |
| Auxiliary circuit | |
| design of the auxiliary switch | lateral, permanently connected |
| 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 | |
| • 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 | |
| full-load current (FLA) for 3-phase AC motor | |
| • at 480 V rated value | 156 A |
| • at 600 V rated value | 144 A |
| yielded mechanical performance [hp] | |
| • for single-phase AC motor | |
| — at 230 V rated value | 30 hp |
| • for 3-phase AC motor | |
| — at 200/208 V rated value | 50 hp |
| — at 220/230 V rated value | 60 hp |
| — at 460/480 V rated value | 125 hp |
| — at 575/600 V rated value | 150 hp |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| Short-circuit protection | |
| design of the fuse link | |
| • for short-circuit protection of the main circuit | |
| — with type of coordination 1 required | gG: 355 A (690 V, 100 kA) |

— with type of assignment 2 required

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

• for short-circuit protection of the auxiliary switch required

gG: 10 A (500 V, 1 kA)

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 |
| 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 20 mm — upwards 10 mm — downwards 10 mm — at the side 0 mm • for grounded parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — at the side 10 mm — downwards 10 mm • for live parts <ul style="list-style-type: none"> — forwards 20 mm — upwards 10 mm — downwards 10 mm — at the side 10 mm | |

Connections/ Terminals

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|---|-------|
| type of electrical connection | |
| <ul style="list-style-type: none"> • 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 | 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 2x 1/0 | |
| connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> • stranded 25 ... 120 mm² | |
| connectable conductor cross-section for auxiliary contacts | |
| <ul style="list-style-type: none"> • solid or stranded 0.5 ... 4 mm² • finely stranded with core end processing 0.5 ... 2.5 mm² | |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), max. 2x (0.75 ... 4 mm²) — solid or stranded 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²) — finely stranded with core end processing 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) • for AWG cables for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 1x 12 | |
| AWG number as coded connectable conductor cross section | |
| <ul style="list-style-type: none"> • 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 Yes • positively driven operation according to IEC 60947-5-1 No • suitable for safety function Yes | |
| suitability for use safety-related switching OFF | Yes |
| safe state | off |
| test wear-related service life necessary | Yes |
| stop category according to IEC 60204-1 | 0 |

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| proportion of dangerous failures | |
| • with low demand rate according to SN 31920 | 40 % |
| • with high demand rate according to SN 31920 | 73 % |
| B10 value with high demand rate according to SN 31920 | 1 000 000 |
| failure rate [FIT] with low demand rate according to SN 31920 | 100 FIT |
| MTBF | 75 a |
| IEC 62061 | |
| PFHD with high demand rate according to IEC 62061 | 4.5E-7 1/h |
| ISO 13849 | |
| performance level (PL) according to ISO 13849-1 | c |
| overdimensioning according to ISO 13849-2 necessary | Yes |
| IEC 61508 | |
| Safety Integrity Level (SIL) according to IEC 61508 | 2 |
| safety device type according to IEC 61508-2 | Type B |
| PFHD with high demand rate according to IEC 61508 | 4.5E-7 1/h |
| PFDavg with low demand rate according to IEC 61508 | 0.007 |
| Safe failure fraction (SFF) | 93 % |
| hardware fault tolerance according to IEC 61508 | 0 |
| T1 value of service life according to IEC 61508 | 20 a |
| Electrical Safety | |
| 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



EG-Konf.



CCC

[Confirmation](#)



UL

[KC](#)

| | | | | |
|--------------------------|-----|-------------------|-------------------|-------|
| General Product Approval | EMV | Functional Safety | Test Certificates | other |
|--------------------------|-----|-------------------|-------------------|-------|



RCM

[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Confirmation](#)

| | | |
|-------|---------|-------------|
| other | Railway | Environment |
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[Miscellaneous](#)

[Special Test Certificate](#)

[Environmental Conformations](#)

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=3RT1055-6SF36-3PA0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-6SF36-3PA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6SF36-3PA0>

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

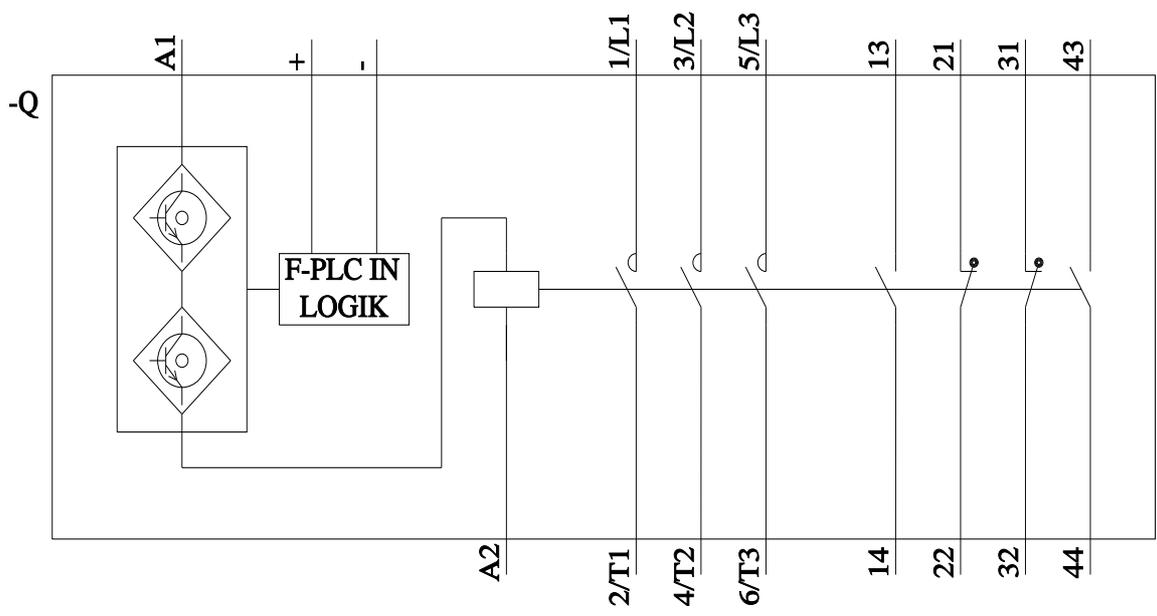
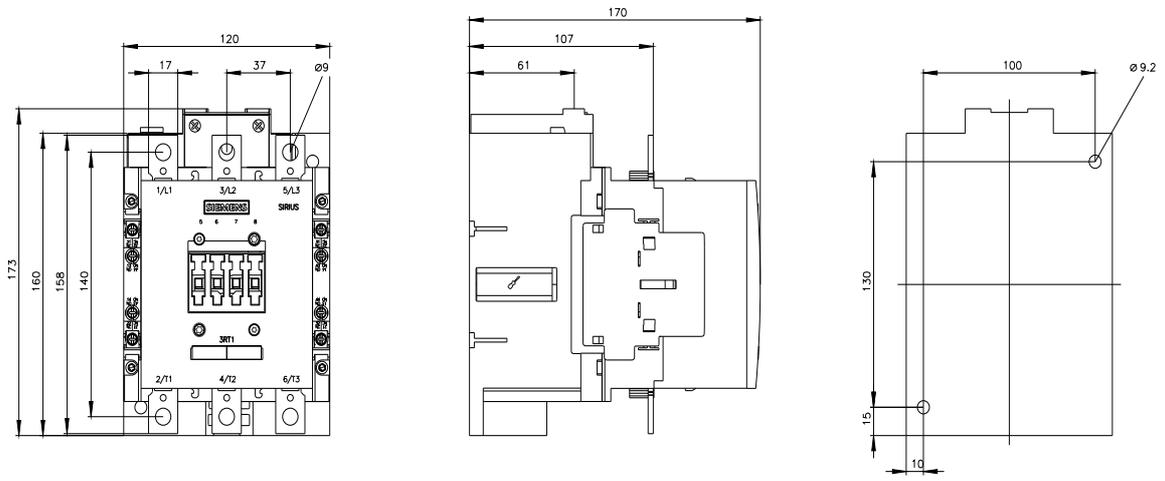
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-6SF36-3PA0&lang=en

Characteristic: Tripping characteristics, I_t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6SF36-3PA0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-6SF36-3PA0&objecttype=14&gridview=view1>



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