



power contactor, AC-3 150 A, 75 kW / 400 V AC (50-60 Hz) / DC operation
440-480 V AC/DC auxiliary contacts 2 NO + 2 NC 3-pole, frame size S6
busbar connections drive: conventional screw terminal

| | |
|---|--|
| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT1 |
| General technical data | |
| size of contactor | S6 |
| product extension | |
| <ul style="list-style-type: none"> function module for communication auxiliary switch | No Yes |
| 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 | 27 W 9 W 5.2 W |
| 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 | 1 000 V 500 V |
| surge voltage resistance | |
| <ul style="list-style-type: none"> of main circuit rated value of auxiliary circuit rated value | 8 kV 6 kV |
| 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 | 8,5g / 5 ms, 4,2g / 10 ms 8,5g / 5 ms, 4,2g / 10 ms |
| shock resistance with sine pulse | |
| <ul style="list-style-type: none"> at AC at DC | 13,4g / 5 ms, 6,5g / 10 ms 13,4g / 5 ms, 6,5g / 10 ms |
| 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 | 10 000 000 5 000 000 10 000 000 |
| 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 | -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 | |
| • 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 | 185 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 185 A |
| — up to 690 V at ambient temperature 60 °C rated value | 160 A |
| — up to 1000 V at ambient temperature 40 °C rated value | 90 A |
| — up to 1000 V at ambient temperature 60 °C rated value | 90 A |
| • at AC-3 | |
| — at 400 V rated value | 150 A |
| — at 500 V rated value | 150 A |
| — at 690 V rated value | 150 A |
| — at 1000 V rated value | 65 A |
| • at AC-3e | |
| — at 400 V rated value | 150 A |
| — at 500 V rated value | 150 A |
| — at 690 V rated value | 150 A |
| — at 1000 V rated value | 65 A |
| • at AC-4 at 400 V rated value | 132 A |
| • at AC-5a up to 690 V rated value | 162 A |
| • at AC-5b up to 400 V rated value | 124 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=20 rated value | 150 A |
| — up to 400 V for current peak value n=20 rated value | 150 A |
| — up to 500 V for current peak value n=20 rated value | 150 A |
| — up to 690 V for current peak value n=20 rated value | 150 A |
| — up to 1000 V for current peak value n=20 rated value | 65 A |
| • at AC-6a | |
| — up to 230 V for current peak value n=30 rated value | 105 A |
| — up to 400 V for current peak value n=30 rated value | 105 A |
| — up to 500 V for current peak value n=30 rated value | 105 A |
| — up to 690 V for current peak value n=30 rated value | 105 A |
| — up to 1000 V for current peak value n=30 rated value | 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 | |
| • at 400 V rated value | 68 A |
| • at 690 V rated value | 57 A |
| operational current | |
| • at 1 current path at DC-1 | |

| | |
|--|------------|
| — at 24 V rated value | 160 A |
| — at 110 V rated value | 18 A |
| — at 220 V rated value | 3.4 A |
| — at 440 V rated value | 0.8 A |
| — at 600 V rated value | 0.5 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 20 A |
| — at 440 V rated value | 3.2 A |
| — at 600 V rated value | 1.6 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 160 A |
| — at 440 V rated value | 11.5 A |
| — at 600 V rated value | 4 A |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 160 A |
| — at 110 V rated value | 2.5 A |
| — at 220 V rated value | 0.6 A |
| — at 440 V rated value | 0.17 A |
| — at 600 V rated value | 0.12 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 2.5 A |
| — at 440 V rated value | 0.65 A |
| — at 600 V rated value | 0.37 A |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 160 A |
| — at 110 V rated value | 160 A |
| — at 220 V rated value | 160 A |
| — at 440 V rated value | 1.4 A |
| — at 600 V rated value | 0.75 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 45 kW |
| — at 400 V rated value | 75 kW |
| — at 500 V rated value | 90 kW |
| — at 690 V rated value | 132 kW |
| — at 1000 V rated value | 90 kW |
| • at AC-3e | |
| — at 230 V rated value | 45 kW |
| — at 400 V rated value | 75 kW |
| — at 500 V rated value | 90 kW |
| — at 690 V rated value | 132 kW |
| — at 1000 V rated value | 90 kW |
| operating power for approx. 200000 operating cycles at AC-4 | |
| • at 400 V rated value | 38 kW |
| • at 690 V rated value | 55 kW |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=20 rated value | 60 000 kVA |
| • up to 400 V for current peak value n=20 rated value | 100 000 VA |
| • up to 500 V for current peak value n=20 rated value | 130 000 VA |
| • up to 690 V for current peak value n=20 rated value | 170 000 VA |
| • up to 1000 V for current peak value n=20 rated value | 110 000 VA |
| operating apparent power at AC-6a | |
| • up to 230 V for current peak value n=30 rated value | 40 000 VA |

| | |
|---|--|
| <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 | <p>70 000 VA</p> <p>90 000 VA</p> <p>120 000 VA</p> <p>110 000 VA</p> |
| 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 | <p>2 727 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 831 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>1 300 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>850 A; Use minimum cross-section acc. to AC-1 rated value</p> <p>703 A; Use minimum cross-section acc. to AC-1 rated value</p> |
| no-load switching frequency <ul style="list-style-type: none"> • at AC • at DC | <p>2 000 1/h</p> <p>2 000 1/h</p> |
| 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 | <p>800 1/h</p> <p>300 1/h</p> <p>750 1/h</p> <p>750 1/h</p> <p>130 1/h</p> |
| 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 | <p>440 ... 480 V</p> <p>440 ... 480 V</p> |
| control supply voltage at DC <ul style="list-style-type: none"> • rated value | 440 ... 480 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 | <p>0.8</p> <p>1.1</p> |
| 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 | <p>0.8 ... 1.1</p> <p>0.8 ... 1.1</p> |
| design of the surge suppressor | with varistor |
| apparent pick-up power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | <p>300 VA</p> <p>300 VA</p> |
| inductive power factor with closing power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | <p>0.9</p> <p>0.9</p> |
| apparent holding power of magnet coil at AC <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | <p>5.8 VA</p> <p>5.8 VA</p> |
| inductive power factor with the holding power of the coil <ul style="list-style-type: none"> • at 50 Hz • at 60 Hz | <p>0.8</p> <p>0.8</p> |
| closing power of magnet coil at DC | 360 W |
| holding power of magnet coil at DC | 5.2 W |
| closing delay <ul style="list-style-type: none"> • at AC • at DC | <p>20 ... 95 ms</p> <p>20 ... 95 ms</p> |
| opening delay <ul style="list-style-type: none"> • at AC • at DC | <p>40 ... 60 ms</p> <p>40 ... 60 ms</p> |
| 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 | |
| • 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 / Q600 |
| 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 | |
| mounting position | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method | screw fixing |
| • side-by-side mounting | Yes |
| height | 172 mm |
| width | 120 mm |
| depth | 170 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 | |
| <ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil | Connection bar screw-type terminals Screw-type terminals 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"> • at AWG cables for main contacts | 4 ... 250 kcmil |
| connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> • stranded | 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 • at 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 | |
| <ul style="list-style-type: none"> • for auxiliary contacts | 18 ... 14 |

Safety related data

| | |
|---|--|
| 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 |
| B10 value with high demand rate according to SN 31920 | 1 000 000 |
| 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 |
| suitability for use | |
| <ul style="list-style-type: none"> • safety-related switching OFF | Yes |

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



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

| | | | |
|--|-----------|--|--|
| | Machinery | | |
|--|-----------|--|--|



[Type Examination Certificate](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

| | | | |
|-------------------|-------|--|--|
| Marine / Shipping | other | | |
|-------------------|-------|--|--|



ABS



LRS



PRS



RMRS



DNV-GL

[Confirmation](#)

| | | | |
|-------|---------|--|--|
| other | Railway | | |
|-------|---------|--|--|

[Miscellaneous](#)

[Confirmation](#)

[Miscellaneous](#)

[Special Test Certificate](#)

| |
|---------------------|
| 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=3RT1055-6AR36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-6AR36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6AR36>

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

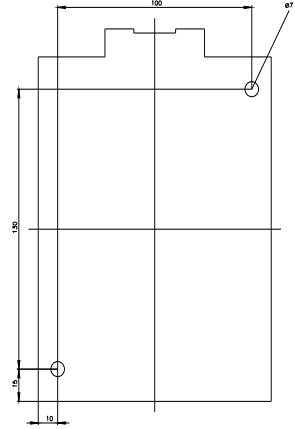
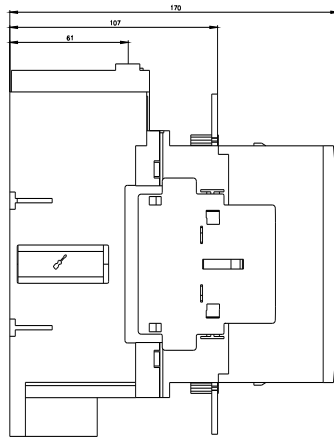
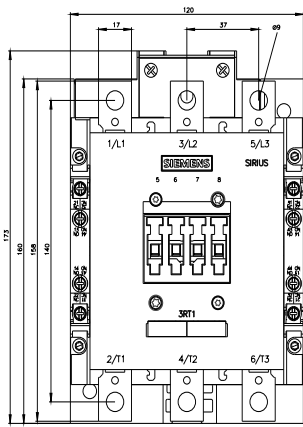
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-6AR36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6AR36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-6AR36&objecttype=14&gridview=view1>



last modified:

3/24/2022 