



power contactor, AC-3, 95 A, 45 kW / 400 V, 4-pole, 175-280 V AC/DC, 50/60 Hz, with integrated varistor, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S3

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|---|--|
| product brand name | SIRIUS |
| product designation | Power contactor |
| product type designation | 3RT23 |
| General technical data | |
| size of contactor | S3 |
| 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 | 27.2 W |
| • at AC in hot operating state per pole | 6.8 W |
| • without load current share typical | 3.3 W |
| type of calculation of power loss current-dependent | quadratic |
| insulation voltage | |
| • of main circuit with degree of pollution 3 rated value | 690 V |
| • of the auxiliary and control circuit with degree of pollution 3 rated value | 690 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 | 6.7 g / 5 ms, 4.0 g / 10 ms |
| • at DC | 6.7 g / 5 ms, 4 g / 10 ms |
| shock resistance with sine pulse | |
| • at AC | 10.6 g / 5 ms, 6.3 g / 10 ms |
| • at DC | 10.6 g / 5 ms, 6.3 g / 10 ms |
| mechanical service life (operating cycles) | |
| • of contactor typical | 10 000 000 |
| • of the contactor with added auxiliary switch block typical | 10 000 000 |
| reference code according to IEC 81346-2 | Q |
| SVHC substance name | Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 |
| Net Weight | 2.155 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 % |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum | 95 % |
| Main circuit | |
| number of poles for main current circuit | 4 |
| number of NO contacts for main contacts | 4 |
| type of voltage for main current circuit | AC |
| operational current | |
| • at AC-1 at 400 V at ambient temperature 40 °C rated value | 110 A |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 110 A |
| — up to 690 V at ambient temperature 60 °C rated value | 100 A |
| • at AC-3 | |
| — at 400 V rated value | 95 A |
| — at 690 V rated value | 58 A |
| • at AC-4 at 400 V rated value | 80 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 35 mm ² |
| operational current | |
| • at 1 current path at DC-1 | |
| — at 24 V rated value | 80 A |
| — at 60 V rated value | 60 A |
| — at 110 V rated value | 9 A |
| — at 220 V rated value | 2 A |
| — at 440 V rated value | 0.6 A |
| • with 2 current paths in series at DC-1 | |
| — at 24 V rated value | 80 A |
| — at 60 V rated value | 80 A |
| — at 110 V rated value | 80 A |
| — at 220 V rated value | 10 A |
| — at 440 V rated value | 1.8 A |
| • with 3 current paths in series at DC-1 | |
| — at 24 V rated value | 80 A |
| — at 60 V rated value | 80 A |
| — at 110 V rated value | 80 A |
| — at 220 V rated value | 80 A |
| — at 440 V rated value | 4.5 A |
| • at 1 current path at DC-3 at DC-5 | |
| — at 24 V rated value | 20 A |
| — at 60 V rated value | 6.5 A |
| — at 110 V rated value | 2.5 A |
| — at 220 V rated value | 1 A |
| — at 440 V rated value | 0.15 A |
| • with 2 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 80 A |
| — at 60 V rated value | 80 A |
| — at 110 V rated value | 80 A |
| — at 220 V rated value | 7 A |
| — at 440 V rated value | 0.42 A |
| • with 3 current paths in series at DC-3 at DC-5 | |
| — at 24 V rated value | 80 A |
| — at 60 V rated value | 80 A |
| — at 110 V rated value | 80 A |
| — at 220 V rated value | 35 A |
| — at 440 V rated value | 0.8 A |
| operating power | |

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|---|---|
| <ul style="list-style-type: none"> • at AC-3 at 400 V rated value | 45 kW |
| <ul style="list-style-type: none"> • at AC-4 at 400 V rated value | 45 kW |
| 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 | 1 511 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> • limited to 5 s switching at zero current maximum | 1 511 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> • limited to 10 s switching at zero current maximum | 1 511 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> • limited to 30 s switching at zero current maximum | 610 A; Use minimum cross-section acc. to AC-1 rated value |
| <ul style="list-style-type: none"> • limited to 60 s switching at zero current maximum | 486 A; Use minimum cross-section acc. to AC-1 rated value |
| no-load switching frequency | |
| <ul style="list-style-type: none"> • at AC | 1 000 1/h |
| <ul style="list-style-type: none"> • at DC | 1 000 1/h |
| operating frequency | |
| <ul style="list-style-type: none"> • at AC-1 maximum | 900 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 | |
| <ul style="list-style-type: none"> • at 50 Hz rated value | 175 ... 280 V |
| <ul style="list-style-type: none"> • at 60 Hz rated value | 175 ... 280 V |
| control supply voltage at DC rated value | 175 ... 280 V |
| operating range factor control supply voltage rated value of magnet coil at DC | |
| <ul style="list-style-type: none"> • initial value | 0.8 |
| <ul style="list-style-type: none"> • full-scale value | 1.1 |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.8 ... 1.1 |
| <ul style="list-style-type: none"> • at 60 Hz | 0.8 ... 1.1 |
| design of the surge suppressor | with varistor |
| inrush current peak | 65 A |
| duration of inrush current peak | 5 µs |
| pickup current mean value | 0.44 A |
| pickup current peak | 1.2 A |
| duration of pickup current | 150 ms |
| holding current mean value | 10 mA |
| apparent pick-up power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 151 VA |
| <ul style="list-style-type: none"> • at 60 Hz | 151 VA |
| apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> • at 50 Hz | 3.5 VA |
| <ul style="list-style-type: none"> • at 60 Hz | 3.5 VA |
| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> • at 50 Hz | 0.95 |
| <ul style="list-style-type: none"> • at 60 Hz | 0.95 |
| closing power of magnet coil at DC | 76 W |
| holding power of magnet coil at DC | 2.7 W |
| closing delay | |
| <ul style="list-style-type: none"> • at AC | 50 ... 70 ms |
| <ul style="list-style-type: none"> • at DC | 50 ... 70 ms |
| opening delay | |
| <ul style="list-style-type: none"> • at AC | 38 ... 57 ms |
| <ul style="list-style-type: none"> • at DC | 38 ... 57 ms |
| arcing time | 10 ... 20 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |

Auxiliary circuit

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|---|---|
| number of NC contacts for auxiliary contacts | 1 |
| <ul style="list-style-type: none"> • attachable | 2 |
| <ul style="list-style-type: none"> • instantaneous contact | 1 |
| number of NO contacts for auxiliary contacts | 1 |

| | |
|--|--|
| <ul style="list-style-type: none"> • attachable | 2 |
| <ul style="list-style-type: none"> • instantaneous contact | 1 |
| 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-12 | |
| <ul style="list-style-type: none"> • at 24 V rated value | 10 A |
| <ul style="list-style-type: none"> • at 48 V rated value | 6 A |
| <ul style="list-style-type: none"> • at 60 V rated value | 6 A |
| <ul style="list-style-type: none"> • at 110 V rated value | 3 A |
| <ul style="list-style-type: none"> • at 125 V rated value | 2 A |
| <ul style="list-style-type: none"> • at 220 V rated value | 1 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 0.15 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 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) |
| UL/CSA ratings | |
| contact rating of auxiliary contacts according to UL | A600 / P600 |
| 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 | gG: 250 A (690 V, 100 kA), aM: 160 A (690 V, 100 kA), BS88: 200 A (415 V, 80 kA) |
| <ul style="list-style-type: none"> — with type of coordination 2 required | gG: 160 A (690 V, 100 kA), aM: 100 A (690 V, 100 kA), BS88: 125 A (415 V, 80 kA) |
| <ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required | gG: 10 A (690 V, 1 kA) |
| Installation/ mounting/ dimensions | |
| mounting position | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| fastening method side-by-side mounting | Yes |
| fastening method | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 |
| height | 140 mm |
| width | 96 mm |
| depth | 152 mm |
| required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards | 20 mm |
| <ul style="list-style-type: none"> — upwards | 10 mm |
| <ul style="list-style-type: none"> — downwards | 10 mm |
| <ul style="list-style-type: none"> — at the side | 0 mm |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards | 20 mm |
| <ul style="list-style-type: none"> — upwards | 10 mm |
| <ul style="list-style-type: none"> — at the side | 10 mm |
| <ul style="list-style-type: none"> — downwards | 10 mm |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards | 20 mm |
| <ul style="list-style-type: none"> — upwards | 10 mm |
| <ul style="list-style-type: none"> — downwards | 10 mm |
| <ul style="list-style-type: none"> — 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 | screw-type terminals screw-type terminals Screw-type terminals Screw-type terminals |
| type of connectable conductor cross-sections <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — stranded — solid or stranded — finely stranded with core end processing • for AWG cables for main contacts | 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 16 mm ²), 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 1/0), 1x (10 ... 2/0) |
| connectable conductor cross-section for main contacts <ul style="list-style-type: none"> • solid • solid or stranded • stranded • finely stranded with core end processing | 2.5 ... 16 mm ² 4 ... 70 mm ² 6 ... 70 mm ² 2.5 ... 50 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 ... 2.5 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) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14) |
| AWG number extended as coded connectable conductor cross section for main contacts | 10 ... 2/0 |
| AWG number as coded connectable conductor cross section for auxiliary contacts | 20 ... 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 |
|---|-----------|

Electrical Safety

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|--|--|
| protection class IP on the front according to IEC 60529 | IP20 |
| touch protection on the front according to IEC 60529 | finger-safe, for vertical contact from the front |

Communication/ Protocol

| | |
|---|----|
| product function bus communication | No |
|---|----|

Approvals Certificates

| | |
|--|--|
| Environmental Product Declaration | |
| <ul style="list-style-type: none"> • global warming potential [CO2 eq] / during manufacturing • global warming potential [CO2 eq] / during operation • global warming potential [CO2 eq] / after end of life • global warming potential [CO2 eq] / total | 11.3 kg 329 kg -1.8 kg 339 kg |

Environment

General Product Approval

[Environmental Con-
firmations](#)



General Product Approval

EMV

Test Certificates

Maritime application



EG-Konf.



RCM

[Special Test Certificates](#)

[Type Test Certificates/Test Report](#)



ABS



[Confirmation](#)



Railway

[Special Test Certificate](#)

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=3RT2346-1NP30-4AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2346-1NP30-4AA0>

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

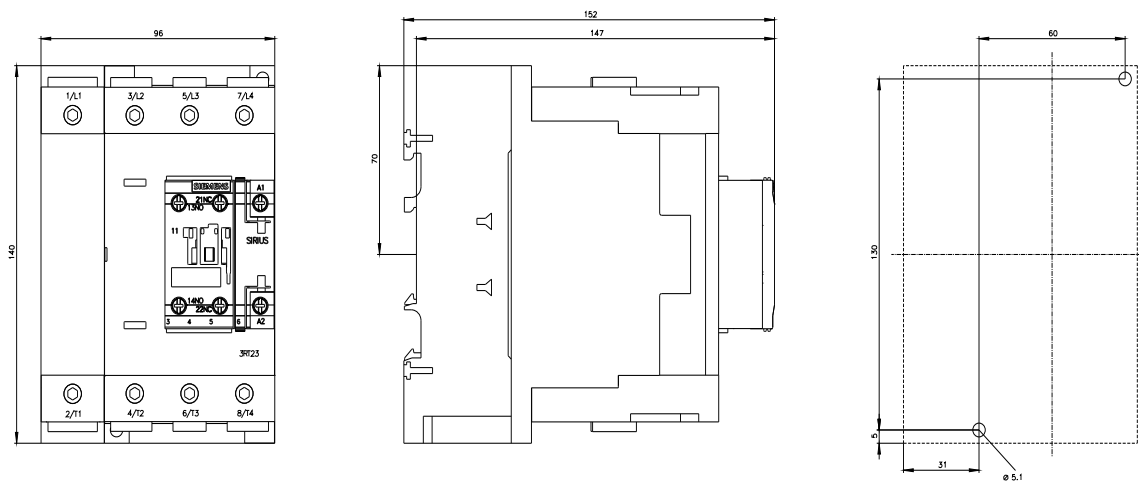
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2346-1NP30-4AA0&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2346-1NP30-4AA0>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)





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