



Contactor, AC-1, 140 A/690 V/40 °C, S3, 3-pole, 110 V AC, 50/60 Hz, 1 NO+1 NC, box terminal/screw terminal

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| product brand name | SIRIUS |
| product designation | Contactor |
| product type designation | 3RT24 |
| General technical data | |
| size of contactor | S3 |
| product extension | |
| <ul style="list-style-type: none"> function module for communication auxiliary switch | <p>No</p> <p>Yes</p> |
| 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 | <p>29.4 W</p> <p>9.8 W</p> |
| 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 | <p>1 000 V</p> <p>690 V</p> |
| surge voltage resistance | |
| <ul style="list-style-type: none"> of main circuit rated value of auxiliary circuit rated value | <p>8 kV</p> <p>6 kV</p> |
| shock resistance at rectangular impulse | |
| <ul style="list-style-type: none"> at AC | 6.7 g / 5 ms, 4.0 g / 10 ms |
| shock resistance with sine pulse | |
| <ul style="list-style-type: none"> at AC | 10.6 g / 5 ms, 6.3 g / 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 | <p>10 000 000</p> <p>5 000 000</p> <p>10 000 000</p> |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 03/01/2017 |
| 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 | <p>-25 ... +60 °C</p> <p>-55 ... +80 °C</p> |
| 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 |

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| 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 | |
| • at AC-1 | |
| — up to 690 V at ambient temperature 40 °C rated value | 140 A |
| — up to 690 V at ambient temperature 55 °C rated value | 130 A |
| — up to 690 V at ambient temperature 60 °C rated value | 130 A |
| — up to 1000 V at ambient temperature 40 °C rated value | 60 A |
| — up to 1000 V at ambient temperature 60 °C rated value | 60 A |
| • at AC-3 | |
| — at 400 V rated value | 44 A |
| — at 690 V rated value | 44 A |
| minimum cross-section in main circuit at maximum AC-1 rated value | 50 mm ² |
| no-load switching frequency | |
| • at AC | 5 000 1/h |
| operating frequency at AC-1 maximum | 650 1/h |
| Control circuit/ Control | |
| type of voltage | AC |
| type of voltage of the control supply voltage | AC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 110 V |
| • at 60 Hz rated value | 110 V |
| operating range factor control supply voltage rated value of magnet coil at AC | |
| • at 50 Hz | 0.8 ... 1.1 |
| • at 60 Hz | 0.85 ... 1.1 |
| apparent pick-up power of magnet coil at AC | |
| • at 50 Hz | 348 VA |
| • at 60 Hz | 296 VA |
| inductive power factor with closing power of the coil | |
| • at 50 Hz | 0.62 |
| • at 60 Hz | 0.55 |
| apparent holding power of magnet coil at AC | |
| • at 50 Hz | 25 VA |
| • at 60 Hz | 18 VA |
| inductive power factor with the holding power of the coil | |
| • at 50 Hz | 0.35 |
| • at 60 Hz | 0.41 |
| closing delay | |
| • at AC | 13 ... 50 ms |
| opening delay | |
| • at AC | 10 ... 21 ms |
| arcing time | 10 ... 20 ms |
| control version of the switch operating mechanism | Standard A1 - A2 |
| Auxiliary circuit | |
| number of NC contacts for auxiliary contacts | 1 |
| • attachable | 2 |
| • instantaneous contact | 1 |
| number of NO contacts for auxiliary contacts | 1 |
| • attachable | 2 |
| • instantaneous contact | 1 |
| operational current at AC-12 maximum | 10 A |
| operational current at AC-15 | |
| • at 230 V rated value | 6 A |

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| <ul style="list-style-type: none"> • at 400 V rated value • at 500 V rated value • at 690 V rated value | <p>3 A</p> <p>2 A</p> <p>1 A</p> |
| operational 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 | <p>10 A</p> <p>2 A</p> <p>2 A</p> <p>1 A</p> <p>0.9 A</p> <p>0.3 A</p> <p>0.1 A</p> |
| design of the miniature circuit breaker for short-circuit protection of the auxiliary switch required | gG: 10 A (230 V, 400 A) |
| contact reliability of auxiliary contacts | 1 faulty switching per 100 million (17 V, 1 mA) |
| Short-circuit protection | |
| product function short circuit protection | No |
| 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 | <p>gG: 250 A (690 V, 100 kA)</p> <p>gR: 250 A (690 V, 100 kA)</p> <p>gG: 10 A (500 V, 1 kA)</p> |
| 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 | screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715 |
| <ul style="list-style-type: none"> • side-by-side mounting | Yes |
| height | 140 mm |
| width | 70 mm |
| depth | 152 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 • for grounded parts <ul style="list-style-type: none"> — forwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — upwards — downwards — at the side | <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> |
| 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 | <p>box terminal</p> <p>screw-type terminals</p> <p>Screw-type terminals</p> <p>Screw-type terminals</p> |
| type of connectable conductor cross-sections <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — stranded — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts | <p>2x (2.5 ... 16 mm²)</p> <p>2x (2,5 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²)</p> <p>2x (2.5 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²)</p> <p>2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²)</p> <p>2x (10 ... 1/0), 1x (10 ... 2)</p> |
| connectable conductor cross-section for main | |

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| contacts | |
| <ul style="list-style-type: none"> • solid • solid or stranded • stranded • finely stranded with core end processing | <p>2.5 ... 16 mm²</p> <p>4 ... 70 mm²</p> <p>6 ... 70 mm²</p> <p>2.5 ... 50 mm²</p> |
| connectable conductor cross-section for auxiliary contacts | |
| <ul style="list-style-type: none"> • solid or stranded • finely stranded with core end processing | <p>0.5 ... 2.5 mm²</p> <p>0.5 ... 2.5 mm²</p> |
| 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 | <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)</p> <p>2x (20 ... 16), 2x (18 ... 14)</p> |

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 | <p>Yes</p> <p>No</p> |
| proportion of dangerous failures | |
| <ul style="list-style-type: none"> • with low demand rate according to SN 31920 • with high demand rate according to SN 31920 | <p>40 %</p> <p>73 %</p> |
| 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 |

Certificates/ approvals

General Product Approval



[Confirmation](#)



[KC](#)



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|------------|--|----------------------------------|--------------------------|--|
| EMC | Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | |
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[Type Examination Certificate](#)

[UK Declaration of Conformity](#)



EG-Konf.

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



| | | |
|--------------|----------------|-----------------------|
| other | Railway | Dangerous Good |
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[Confirmation](#)

[Vibration and Shock](#)

[Transport Information](#)

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=3RT2446-1AG20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2446-1AG20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1AG20>

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

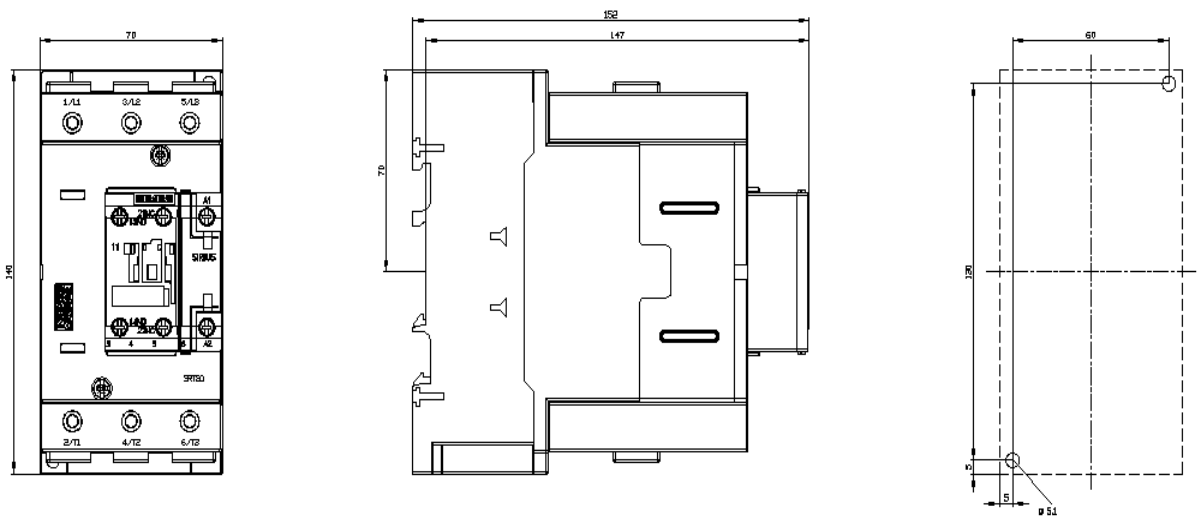
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2446-1AG20&lang=en

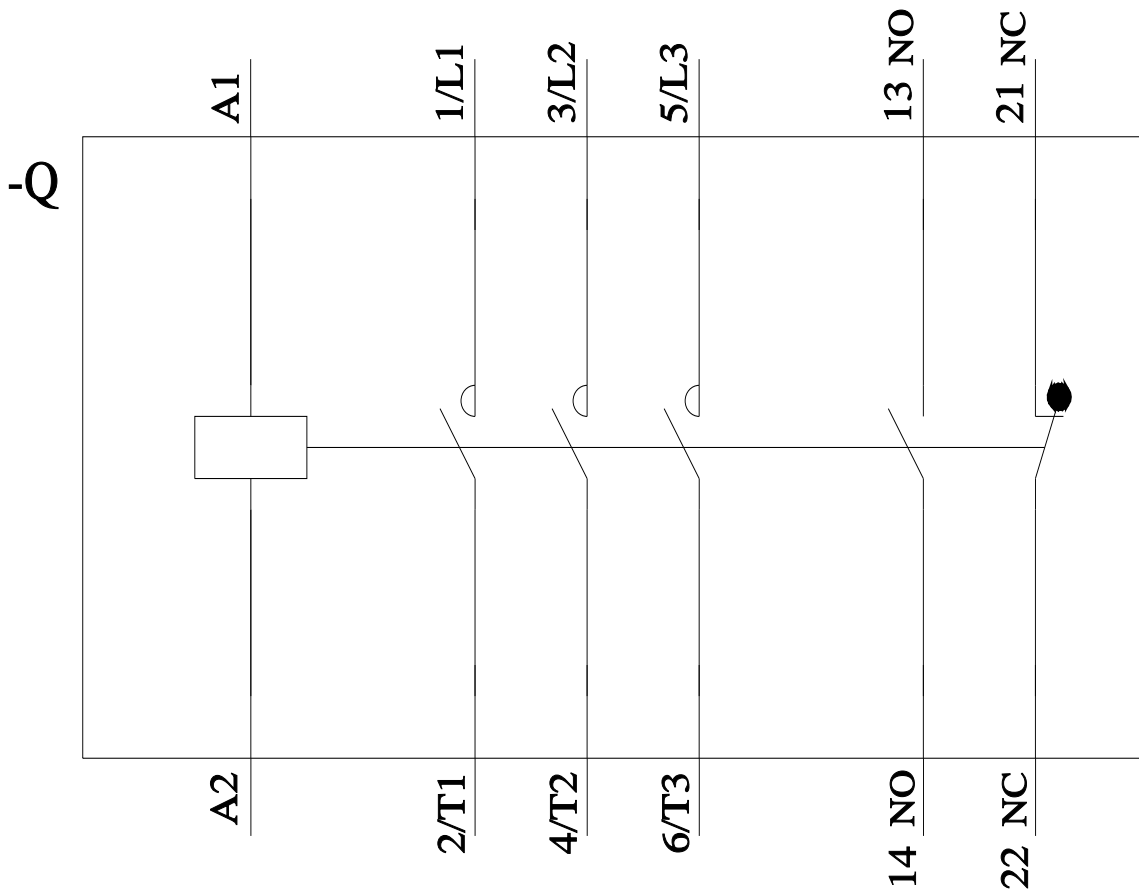
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2446-1AG20/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2446-1AG20&objecttype=14&gridview=view1>





last modified:

3/15/2022 