



Contactor, AC-1, 690 A/690 V/40 °C, S12, 3-pole, 200-277 V AC/DC, F-PLC-IN with varistor, 2 NO+2 NC, Connection rail/ screw terminal

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|---|---|
| product brand name | SIRIUS |
| product designation | Contactor |
| product type designation | 3RT14 |
| General technical data | |
| size of contactor | S12 |
| 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 without load current share typical | <p>185.7 W</p> <p>61.9 W</p> <p>3.6 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>500 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 at DC | <p>8,5g / 5 ms, 4,2g / 10 ms</p> <p>8,5g / 5 ms, 4,2g / 10 ms</p> |
| shock resistance with sine pulse | |
| <ul style="list-style-type: none"> at AC at DC | <p>13,4g / 5 ms, 6,5g / 10 ms</p> <p>13,4g / 5 ms, 6,5g / 10 ms</p> |
| 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 Prohibitation (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 | 95 % |

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| maximum | |
| Main circuit | |
| number of poles for main current circuit | 3 |
| 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 | |
| <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 — up to 690 V at ambient temperature 55 °C rated value — up to 690 V at ambient temperature 60 °C rated value ● at AC-3 <ul style="list-style-type: none"> — at 400 V rated value — at 690 V rated value | <p>690 A</p> <p>600 A</p> <p>600 A</p> <p>170 A</p> <p>170 A</p> |
| minimum cross-section in main circuit at maximum AC-1 rated value | 480 mm ² |
| no-load switching frequency | |
| <ul style="list-style-type: none"> ● at AC ● at DC | <p>500 1/h</p> <p>500 1/h</p> |
| operating frequency at AC-1 maximum | 200 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 ● at 60 Hz rated value | <p>200 ... 277 V</p> <p>200 ... 277 V</p> |
| control supply voltage at DC | |
| <ul style="list-style-type: none"> ● rated value | 200 ... 277 V |
| type of PLC-control input according to IEC 60947-1 | Type 1 |
| consumed current at PLC-control input according to IEC 60947-1 maximum | 30 mA |
| 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 | 750 VA |
| inductive power factor with closing power of the coil | |
| <ul style="list-style-type: none"> ● at 50 Hz | 0.8 |
| apparent holding power of magnet coil at AC | |
| <ul style="list-style-type: none"> ● at 50 Hz | 7 VA |
| inductive power factor with the holding power of the coil | |
| <ul style="list-style-type: none"> ● at 50 Hz | 0.8 |
| closing power of magnet coil at DC | 800 W |
| holding power of magnet coil at DC | 3.6 W |
| closing delay | |
| <ul style="list-style-type: none"> ● at AC ● at DC | <p>60 ... 75 ms</p> <p>60 ... 75 ms</p> |
| opening delay | |
| <ul style="list-style-type: none"> ● at AC ● at DC | <p>115 ... 130 ms</p> <p>115 ... 130 ms</p> |
| arcing time | 10 ... 15 ms |
| control version of the switch operating mechanism | Fail-safe PLC input (F-PLC-IN) |

| Auxiliary circuit | |
|---|--|
| number of NC contacts for auxiliary contacts | 2 |
| • attachable | 4 |
| • instantaneous contact | 2 |
| number of NO contacts for auxiliary contacts | 2 |
| • attachable | 4 |
| • 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-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 |
| 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 | |
| • for short-circuit protection of the main circuit | |
| — with type of coordination 1 required | gG: 800 A (690 V, 50 kA) |
| — with type of assignment 2 required | gR: 710 A (690 V, 100 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 | 214 mm |
| width | 160 mm |
| depth | 225 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 | |
| • for main current circuit | Connection bar |
| • for auxiliary and control circuit | screw-type terminals |

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| <ul style="list-style-type: none"> • at contactor for auxiliary contacts • of magnet coil | Screw-type terminals Screw-type terminals |
| width of connection bar | 25 mm |
| thickness of connection bar | 6 mm |
| diameter of holes | 11 mm |
| number of holes | 1 |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • at AWG cables for main contacts | 2/0 ... 500 kcmil |
| connectable conductor cross-section for main contacts | |
| <ul style="list-style-type: none"> • solid or stranded • stranded | 70 ... 240 mm ² 70 ... 240 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 |

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 | Yes No |
| safety device type according to IEC 61508-2 | Type B |
| B10 value with high demand rate according to SN 31920 | 1 000 000 |
| Safety Integrity Level (SIL) according to IEC 61508 | 2 |
| SIL Claim Limit (subsystem) according to EN 62061 | 2 |
| performance level (PL) according to EN ISO 13849-1 | c |
| category according to EN ISO 13849-1 | 2 |
| stop category according to EN 60204-1 | 0 |
| 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 | 40 % 73 % |
| PFHD with high demand rate according to EN 62061 | 0.00000045 1/h |
| PFDavg with low demand rate according to IEC 61508 | 0.007 |
| MTBF | 75 y |
| hardware fault tolerance according to IEC 61508 | 0 |
| T1 value for proof test interval or service life according to IEC 61508 | 20 y |
| 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 |

Certificates/ approvals

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|---------------------------------|------------|
| General Product Approval | EMC |
|---------------------------------|------------|



[Confirmation](#)



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|--|----------------------------------|--------------------------|--------------|
| Functional Safety/Safety of Machinery | Declaration of Conformity | Test Certificates | other |
|--|----------------------------------|--------------------------|--------------|



Railway

[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=3RT1476-6SP36>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1476-6SP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6SP36>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1476-6SP36&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6SP36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1476-6SP36&objecttype=14&gridview=view1>

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