



power contactor AC-1 400 A / 690 V / 40 °C 3-pole, U<sub>c</sub>: 220-240 V AC(50-60 Hz) / DC drive: conventional auxiliary contacts 2 NO + 2 NC main circuit: busbar control and auxiliary circuit: screw terminal

|                                                                                       |                            |
|---------------------------------------------------------------------------------------|----------------------------|
| product brand name                                                                    | SIRIUS                     |
| product designation                                                                   | Contacteur                 |
| product type designation                                                              | 3RT14                      |
| General technical data                                                                |                            |
| size of contactor                                                                     | S10                        |
| 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                                                        | 105.6 W                    |
| • at AC in hot operating state per pole                                               | 35.2 W                     |
| • without load current share typical                                                  | 7.4 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                       |
| 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 Prohibittance (Date)                                                        | 05/01/2012                 |
| SVHC substance name                                                                   | Lead - 7439-92-1           |
| Net Weight                                                                            | 6.511 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 %                |
| <b>Main circuit</b>                                               |                     |
| 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                                               |                     |
| • at AC-1                                                         |                     |
| — up to 690 V at ambient temperature 40 °C rated value            | 400 A               |
| — up to 690 V at ambient temperature 55 °C rated value            | 380 A               |
| — up to 690 V at ambient temperature 60 °C rated value            | 380 A               |
| • at AC-3                                                         |                     |
| — at 400 V rated value                                            | 138 A               |
| — at 690 V rated value                                            | 138 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value | 240 mm <sup>2</sup> |
| operational current                                               |                     |
| • at 1 current path at DC-1                                       |                     |
| — at 24 V rated value                                             | 380 A               |
| — at 60 V rated value                                             | 380 A               |
| — at 110 V rated value                                            | 33 A                |
| — at 220 V rated value                                            | 3.8 A               |
| — at 440 V rated value                                            | 0.9 A               |
| — at 600 V rated value                                            | 0.6 A               |
| • with 2 current paths in series at DC-1                          |                     |
| — at 24 V rated value                                             | 380 A               |
| — at 60 V rated value                                             | 380 A               |
| — at 110 V rated value                                            | 380 A               |
| — at 220 V rated value                                            | 380 A               |
| — at 440 V rated value                                            | 4 A                 |
| — at 600 V rated value                                            | 2 A                 |
| • with 3 current paths in series at DC-1                          |                     |
| — at 24 V rated value                                             | 380 A               |
| — at 60 V rated value                                             | 380 A               |
| — at 110 V rated value                                            | 380 A               |
| — at 220 V rated value                                            | 380 A               |
| — at 440 V rated value                                            | 11 A                |
| — at 600 V rated value                                            | 5.2 A               |
| • at 1 current path at DC-3 at DC-5                               |                     |
| — at 24 V rated value                                             | 380 A               |
| — at 60 V rated value                                             | 11 A                |
| — at 110 V rated value                                            | 3 A                 |
| — at 220 V rated value                                            | 0.6 A               |
| — at 440 V rated value                                            | 0.18 A              |
| — at 600 V rated value                                            | 0.125 A             |
| • with 2 current paths in series at DC-3 at DC-5                  |                     |
| — at 24 V rated value                                             | 380 A               |
| — at 60 V rated value                                             | 380 A               |
| — at 110 V rated value                                            | 380 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                                             | 380 A               |
| — at 60 V rated value                                             | 380 A               |

|                                                                                       |                  |
|---------------------------------------------------------------------------------------|------------------|
| — at 110 V rated value                                                                | 380 A            |
| — at 220 V rated value                                                                | 380 A            |
| — at 440 V rated value                                                                | 1.4 A            |
| — at 600 V rated value                                                                | 0.75 A           |
| <b>no-load switching frequency</b>                                                    |                  |
| • at AC                                                                               | 2 000 1/h        |
| • at DC                                                                               | 2 000 1/h        |
| operating frequency at AC-1 maximum                                                   | 600 1/h          |
| <b>Control circuit/ Control</b>                                                       |                  |
| <b>type of voltage</b>                                                                | AC/DC            |
| <b>type of voltage of the control supply voltage</b>                                  | AC/DC            |
| <b>control supply voltage at AC</b>                                                   |                  |
| • at 50 Hz rated value                                                                | 220 ... 240 V    |
| • at 60 Hz rated value                                                                | 220 ... 240 V    |
| <b>control supply voltage at DC rated value</b>                                       | 220 ... 240 V    |
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |                  |
| • initial value                                                                       | 0.8              |
| • full-scale value                                                                    | 1.1              |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |                  |
| • at 50 Hz                                                                            | 0.8 ... 1.1      |
| • at 60 Hz                                                                            | 0.8 ... 1.1      |
| <b>design of the surge suppressor</b>                                                 | with varistor    |
| <b>apparent pick-up power</b>                                                         |                  |
| • at minimum rated control supply voltage at AC                                       |                  |
| — at 50 Hz                                                                            | 490 VA           |
| — at 60 Hz                                                                            | 490 VA           |
| • at maximum rated control supply voltage at AC                                       |                  |
| — at 60 Hz                                                                            | 590 VA           |
| — at 50 Hz                                                                            | 590 VA           |
| <b>apparent pick-up power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz                                                                            | 590 VA           |
| <b>inductive power factor with closing power of the coil</b>                          |                  |
| • at 50 Hz                                                                            | 0.9              |
| <b>apparent holding power</b>                                                         |                  |
| • at minimum rated control supply voltage at DC                                       | 6.1 VA           |
| • at maximum rated control supply voltage at DC                                       | 7.4 VA           |
| <b>apparent holding power</b>                                                         |                  |
| • at minimum rated control supply voltage at AC                                       |                  |
| — at 50 Hz                                                                            | 5.6 VA           |
| — at 60 Hz                                                                            | 5.6 VA           |
| • at maximum rated control supply voltage at AC                                       |                  |
| — at 50 Hz                                                                            | 6.7 VA           |
| — at 60 Hz                                                                            | 6.7 VA           |
| <b>apparent holding power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz                                                                            | 6.7 VA           |
| <b>inductive power factor with the holding power of the coil</b>                      |                  |
| • at 50 Hz                                                                            | 0.9              |
| <b>closing power of magnet coil at DC</b>                                             | 650 W            |
| <b>holding power of magnet coil at DC</b>                                             | 7.4 W            |
| <b>closing delay</b>                                                                  |                  |
| • at AC                                                                               | 30 ... 95 ms     |
| • at DC                                                                               | 30 ... 95 ms     |
| <b>opening delay</b>                                                                  |                  |
| • at AC                                                                               | 40 ... 80 ms     |
| • at DC                                                                               | 40 ... 80 ms     |
| <b>arcing time</b>                                                                    | 10 ... 15 ms     |
| <b>control version of the switch operating mechanism</b>                              | Standard A1 - A2 |

| Auxiliary circuit                                                                                         |                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>number of NC contacts for auxiliary contacts</b>                                                       | 2                                                                                                                        |
| • attachable                                                                                              | 4                                                                                                                        |
| • instantaneous contact                                                                                   | 2                                                                                                                        |
| <b>number of NO contacts for auxiliary contacts</b>                                                       | 2                                                                                                                        |
| • attachable                                                                                              | 4                                                                                                                        |
| • instantaneous contact                                                                                   | 2                                                                                                                        |
| operational current at AC-12 maximum                                                                      | 10 A                                                                                                                     |
| <b>operational current at AC-15</b>                                                                       |                                                                                                                          |
| • 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                                                                                                                      |
| <b>operational current at DC-13</b>                                                                       |                                                                                                                          |
| • 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                                                                                                                    |
| <b>contact reliability of auxiliary contacts</b>                                                          | 1 faulty switching per 100 million (17 V, 1 mA)                                                                          |
| 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                                                                                           |
| <b>design of the fuse link</b>                                                                            |                                                                                                                          |
| • for short-circuit protection of the main circuit                                                        |                                                                                                                          |
| — with type of coordination 1 required                                                                    | gG: 500 A (690 V, 100 kA)                                                                                                |
| — with type of coordination 2 required                                                                    | gR: 500 A (690 V, 100 kA)                                                                                                |
| • for short-circuit protection of the auxiliary switch required                                           | gG: 10 A (500 V, 1 kA)                                                                                                   |
| Installation/ mounting/ dimensions                                                                        |                                                                                                                          |
| <b>mounting position</b>                                                                                  | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| fastening method side-by-side mounting                                                                    | Yes                                                                                                                      |
| <b>fastening method</b>                                                                                   | screw fixing                                                                                                             |
| <b>height</b>                                                                                             | 210 mm                                                                                                                   |
| <b>width</b>                                                                                              | 145 mm                                                                                                                   |
| <b>depth</b>                                                                                              | 202 mm                                                                                                                   |
| <b>required spacing</b>                                                                                   |                                                                                                                          |
| • 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                                                                                    |                                                                                                                          |
| <b>type of electrical connection</b>                                                                      |                                                                                                                          |
| • 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                                                        | 25 mm                                                                                                        |
| thickness of connection bar                                                    | 6 mm                                                                                                         |
| diameter of holes                                                              | 11 mm                                                                                                        |
| number of holes                                                                | 1                                                                                                            |
| type of connectable conductor cross-sections                                   |                                                                                                              |
| • for AWG cables for main contacts                                             | 2/0 ... 500 kcmil                                                                                            |
| connectable conductor cross-section for main contacts                          |                                                                                                              |
| • solid or stranded                                                            | 70 ... 240 mm <sup>2</sup>                                                                                   |
| • stranded                                                                     | 70 ... 240 mm <sup>2</sup>                                                                                   |
| connectable conductor cross-section for auxiliary contacts                     |                                                                                                              |
| • solid or stranded                                                            | 0.5 ... 4 mm <sup>2</sup>                                                                                    |
| • finely stranded with core end processing                                     | 0.5 ... 2.5 mm <sup>2</sup>                                                                                  |
| type of connectable conductor cross-sections                                   |                                                                                                              |
| • for auxiliary contacts                                                       |                                                                                                              |
| — solid                                                                        | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) |
| — solid or stranded                                                            | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), max. 2x (0.75 ... 4 mm <sup>2</sup> ) |
| — finely stranded with core end processing                                     | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                                        |
| • for AWG cables for auxiliary contacts                                        | 2x (20 ... 16), 2x (18 ... 14), 1x 12                                                                        |
| AWG number as coded connectable conductor cross section for auxiliary contacts | 18 ... 14                                                                                                    |

#### Safety related data

|                                                          |      |
|----------------------------------------------------------|------|
| product function                                         |      |
| • mirror contact according to IEC 60947-4-1              | Yes  |
| • positively driven operation according to IEC 60947-5-1 | No   |
| service life maximum                                     | 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 | EMV |
|--------------------------|-----|



|                   |                   |                      |
|-------------------|-------------------|----------------------|
| Functional Safety | Test Certificates | Maritime application |
|-------------------|-------------------|----------------------|

[Type Examination Certificate](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                      |       |
|----------------------|-------|
| Maritime application | other |
|----------------------|-------|



[Confirmation](#)

[Confirmation](#)

[Miscellaneous](#)

|         |             |
|---------|-------------|
| Railway | Environment |
|---------|-------------|

[Special Test Certificate](#)

[Environmental Confirmations](#)

#### 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=3RT1466-6AP36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1466-6AP36>

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

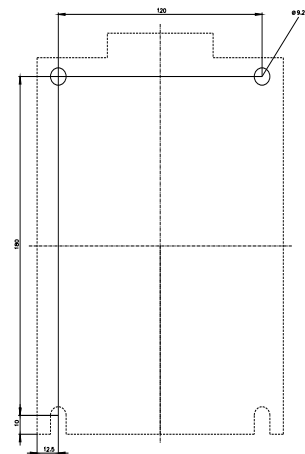
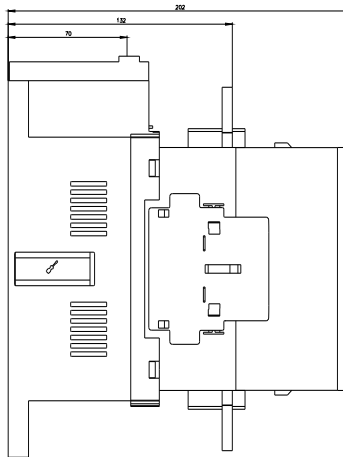
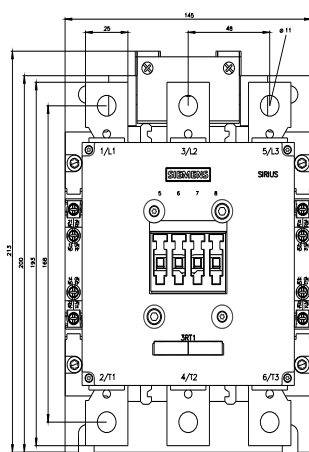
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1466-6AP36&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1466-6AP36&lang=en)

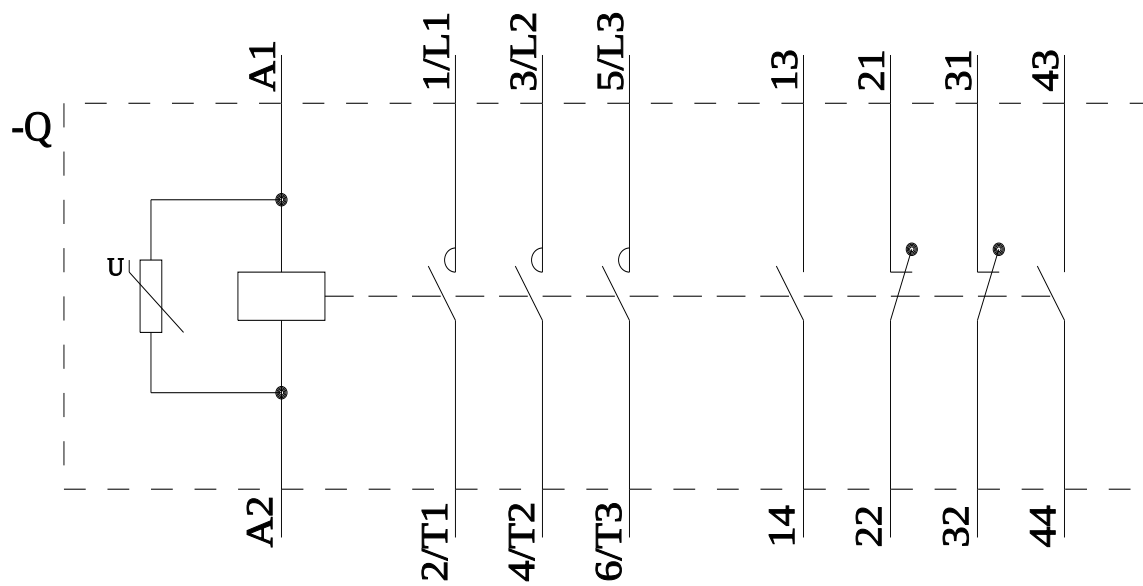
**Cax online generator**

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1466-6AP36>

**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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