



Contactor size 12, 2-pole DC-3 and 5, 400 A Auxiliary switch 22 (2 NO + 2 NC)  
Direct current operation 120 V AC 60 Hz/100 V AC 50 Hz

|                                                                                                              |                          |
|--------------------------------------------------------------------------------------------------------------|--------------------------|
| product designation                                                                                          | Contactor                |
| product type designation                                                                                     | 3TC                      |
| <b>General technical data</b>                                                                                |                          |
| size of contactor                                                                                            | 12                       |
| product extension                                                                                            |                          |
| • function module for communication                                                                          | No                       |
| • auxiliary switch                                                                                           | Yes                      |
| insulation voltage rated value                                                                               | 1 000 V                  |
| maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1 | 660 V                    |
| shock resistance at rectangular impulse                                                                      |                          |
| • at AC                                                                                                      | 12g / 5 ms, 5,6g / 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                        |
| Substance Prohibitance (Date)                                                                                | 05/01/2012               |
| SVHC substance name                                                                                          | Lead - 7439-92-1         |
| Weight                                                                                                       | 14.568 kg                |
| <b>Ambient conditions</b>                                                                                    |                          |
| ambient temperature                                                                                          |                          |
| • during operation                                                                                           | -25 ... +55 °C           |
| • during storage                                                                                             | -50 ... +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                                                                                              | 2                        |
| number of poles for main current circuit                                                                     | 2                        |
| number of NO contacts for main contacts                                                                      | 2                        |
| number of NC contacts for main contacts                                                                      | 0                        |
| type of voltage                                                                                              | DC                       |
| operational current                                                                                          |                          |
| • at 1 current path at DC-1                                                                                  |                          |
| — at 24 V rated value                                                                                        | 400 A                    |
| — at 110 V rated value                                                                                       | 400 A                    |
| — at 220 V rated value                                                                                       | 400 A                    |
| • with 2 current paths in series at DC-1                                                                     |                          |
| — at 24 V rated value                                                                                        | 400 A                    |
| — at 110 V rated value                                                                                       | 400 A                    |
| — at 220 V rated value                                                                                       | 400 A                    |

|                                                                                       |              |
|---------------------------------------------------------------------------------------|--------------|
| — at 440 V rated value                                                                | 400 A        |
| — at 600 V rated value                                                                | 400 A        |
| — at 750 V rated value                                                                | 400 A        |
| ● at DC-3 at DC-5                                                                     |              |
| — at 220 V rated value                                                                | 400 A        |
| — at 600 V rated value                                                                | 400 A        |
| — at 750 V rated value                                                                | 400 A        |
| ● at 1 current path at DC-3 at DC-5                                                   |              |
| — at 24 V rated value                                                                 | 220 A        |
| — at 110 V rated value                                                                | 220 A        |
| — at 220 V rated value                                                                | 400 A        |
| ● with 2 current paths in series at DC-3 at DC-5                                      |              |
| — at 24 V rated value                                                                 | 400 A        |
| — at 110 V rated value                                                                | 400 A        |
| — at 220 V rated value                                                                | 400 A        |
| — at 440 V rated value                                                                | 400 A        |
| — at 600 V rated value                                                                | 400 A        |
| — at 750 V rated value                                                                | 400 A        |
| <b>operating power</b>                                                                |              |
| ● at DC-1                                                                             |              |
| — at 110 V rated value                                                                | 44 kW        |
| — at 220 V rated value                                                                | 88 kW        |
| — at 440 V rated value                                                                | 176 kW       |
| — at 750 V rated value                                                                | 300 kW       |
| ● at DC-3 at DC-5                                                                     |              |
| — at 110 V rated value                                                                | 35 kW        |
| — at 220 V rated value                                                                | 70 kW        |
| — at 440 V rated value                                                                | 140 kW       |
| — at 600 V rated value                                                                | 200 kW       |
| — at 750 V rated value                                                                | 250 kW       |
| <b>operating frequency</b>                                                            |              |
| ● at DC-1 maximum                                                                     | 1 000 1/h    |
| ● at DC-3 maximum                                                                     | 600 1/h      |
| ● at DC-5 maximum                                                                     | 600 1/h      |
| <b>Control circuit/ Control</b>                                                       |              |
| <b>type of voltage of the control supply voltage</b>                                  | AC           |
| <b>control supply voltage at AC</b>                                                   |              |
| ● at 50 Hz rated value                                                                | 100 V        |
| ● at 60 Hz rated value                                                                | 120 V        |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |              |
| ● at 60 Hz                                                                            | 0.8 ... 1.1  |
| <b>apparent pick-up power of magnet coil at AC</b>                                    | 1 780 VA     |
| ● at 50 Hz                                                                            | 1 780 VA     |
| ● at 60 Hz                                                                            | 2 140 VA     |
| <b>inductive power factor with closing power of the coil</b>                          | 0.3          |
| ● at 50 Hz                                                                            | 0.3          |
| ● at 60 Hz                                                                            | 0.3          |
| <b>apparent holding power of magnet coil at AC</b>                                    | 121 VA       |
| ● at 50 Hz                                                                            | 121 VA       |
| ● at 60 Hz                                                                            | 140 VA       |
| <b>inductive power factor with the holding power of the coil</b>                      | 0.22         |
| ● at 50 Hz                                                                            | 0.22         |
| ● at 60 Hz                                                                            | 0.29         |
| <b>arcing time</b>                                                                    | 20 ... 30 ms |
| <b>Auxiliary circuit</b>                                                              |              |
| <b>number of NC contacts for auxiliary contacts</b>                                   | 2            |
| ● instantaneous contact                                                               | 2            |
| <b>number of NO contacts for auxiliary contacts</b>                                   | 2            |
| ● instantaneous contact                                                               | 2            |
| <b>number of CO contacts for auxiliary contacts</b>                                   | 0            |

|                                                                 |                                                                                                                                       |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>identification number and letter for switching elements</b>  | 22                                                                                                                                    |
| operational current at AC-12 maximum                            | 10 A                                                                                                                                  |
| <b>operational current at AC-15</b>                             |                                                                                                                                       |
| • at 230 V rated value                                          | 5.6 A                                                                                                                                 |
| • at 400 V rated value                                          | 3.6 A                                                                                                                                 |
| • at 500 V rated value                                          | 2.5 A                                                                                                                                 |
| <b>operational current at DC-12</b>                             |                                                                                                                                       |
| • at 24 V rated value                                           | 10 A                                                                                                                                  |
| • at 48 V rated value                                           | 10 A                                                                                                                                  |
| • at 60 V rated value                                           | 10 A                                                                                                                                  |
| • at 110 V rated value                                          | 8 A                                                                                                                                   |
| • at 125 V rated value                                          | 6 A                                                                                                                                   |
| • at 220 V rated value                                          | 2 A                                                                                                                                   |
| • at 600 V rated value                                          | 0.4 A                                                                                                                                 |
| <b>operational current at DC-13</b>                             |                                                                                                                                       |
| • at 24 V rated value                                           | 10 A                                                                                                                                  |
| • at 48 V rated value                                           | 5 A                                                                                                                                   |
| • at 60 V rated value                                           | 5 A                                                                                                                                   |
| • at 110 V rated value                                          | 2.4 A                                                                                                                                 |
| • at 125 V rated value                                          | 2.1 A                                                                                                                                 |
| • at 220 V rated value                                          | 1.1 A                                                                                                                                 |
| • at 600 V rated value                                          | 0.21 A                                                                                                                                |
| <b>UL/CSA ratings</b>                                           |                                                                                                                                       |
| <b>contact rating of auxiliary contacts according to UL</b>     | A600 / P600                                                                                                                           |
| <b>Short-circuit protection</b>                                 |                                                                                                                                       |
| <b>design of the fuse link</b>                                  |                                                                                                                                       |
| • for short-circuit protection of the main circuit              |                                                                                                                                       |
| — with type of coordination 1 required                          | 2 x 3NE1330-4D (315 A) parallel (750 V, 12 kA)                                                                                        |
| — with type of assignment 2 required                            | 2 x 3NE1330-4D (315 A) parallel (750 V, 12 kA)                                                                                        |
| • for short-circuit protection of the auxiliary switch required | gG: 16 A (500 V, 1 kA)                                                                                                                |
| <b>Installation/ mounting/ dimensions</b>                       |                                                                                                                                       |
| <b>mounting position</b>                                        | +/-22,5° 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                                                                                                                                   |
| <b>fastening method</b>                                         | screw fixing                                                                                                                          |
| <b>height</b>                                                   | 281 mm                                                                                                                                |
| <b>width</b>                                                    | 160 mm                                                                                                                                |
| <b>depth</b>                                                    | 255 mm                                                                                                                                |
| <b>required spacing</b>                                         |                                                                                                                                       |
| • with side-by-side mounting                                    |                                                                                                                                       |
| — forwards                                                      | 25 mm                                                                                                                                 |
| — backwards                                                     | 0 mm                                                                                                                                  |
| — upwards                                                       | 10 mm                                                                                                                                 |
| — downwards                                                     | 10 mm                                                                                                                                 |
| — at the side                                                   | 10 mm                                                                                                                                 |
| • for grounded parts                                            |                                                                                                                                       |
| — forwards                                                      | 100 mm                                                                                                                                |
| — backwards                                                     | 0 mm                                                                                                                                  |
| — upwards                                                       | 10 mm                                                                                                                                 |
| — at the side                                                   | 10 mm                                                                                                                                 |
| — downwards                                                     | 10 mm                                                                                                                                 |
| • for live parts                                                |                                                                                                                                       |
| — forwards                                                      | 100 mm                                                                                                                                |
| — backwards                                                     | 0 mm                                                                                                                                  |
| — upwards                                                       | 10 mm                                                                                                                                 |
| — downwards                                                     | 10 mm                                                                                                                                 |
| — at the side                                                   | 10 mm                                                                                                                                 |
| <b>Connections/ Terminals</b>                                   |                                                                                                                                       |
| <b>type of electrical connection</b>                            | screw terminal                                                                                                                        |
| • for main current circuit                                      | screw-type terminals                                                                                                                  |
| • for auxiliary and control circuit                             | screw-type terminals                                                                                                                  |

|                                                                                                                                                                                                       |                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>type of connectable conductor cross-sections</b>                                                                                                                                                   |                                                                       |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> </ul> | 2x (1 ... 2.5 mm <sup>2</sup> )<br>2x (0.75 ... 1.5 mm <sup>2</sup> ) |

#### Safety related data

|                                                                |                                                             |
|----------------------------------------------------------------|-------------------------------------------------------------|
| product function mirror contact according to IEC 60947-4-1     | Yes                                                         |
| Electrical Safety                                              |                                                             |
| <b>protection class IP on the front according to IEC 60529</b> | IP00; IP20 with box terminal/cover                          |
| <b>touch protection on the front according to IEC 60529</b>    | finger-safe, for vertical contact from the front with cover |

#### Approvals Certificates

|                          |                   |
|--------------------------|-------------------|
| General Product Approval | Functional Safety |
|--------------------------|-------------------|



[Type Examination Certificate](#)

|                   |                   |       |                 |
|-------------------|-------------------|-------|-----------------|
| Functional Safety | Test Certificates | other | Dangerous goods |
|-------------------|-------------------|-------|-----------------|

[Type Examination Certificate](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Miscellaneous](#)

[Confirmation](#)

[Transport Information](#)

#### Environment

[Environmental Conformations](#)

#### Further information

##### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

##### 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=3TC5617-0BK1>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC5617-0BK1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TC5617-0BK1>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TC5617-0BK1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC5617-0BK1&lang=en)

##### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3TC5617-0BK1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC5617-0BK1&objecttype=14&gridview=view1>



