



Contactor, Size 2, 2-pole, DC-3 and 5, 32 A Auxiliary contacts 22 (2 NO + 2 NC) 230V AC 50Hz, 277 V 60 Hz AC operation

|                                                                                                       |                           |
|-------------------------------------------------------------------------------------------------------|---------------------------|
| product designation                                                                                   | Contactor                 |
| product type designation                                                                              | 3TC                       |
| <b>General technical data</b>                                                                         |                           |
| size of contactor                                                                                     | 2                         |
| product extension                                                                                     |                           |
| • function module for communication                                                                   | No                        |
| • auxiliary switch                                                                                    | Yes                       |
| insulation voltage rated value                                                                        | 800 V                     |
| maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1 | 300 V                     |
| shock resistance at rectangular impulse                                                               |                           |
| • at AC                                                                                               | 7,5g / 5 ms, 3,4g / 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)                                                                         | 02/01/2012                |
| <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                                                                                 | 32 A                      |
| — at 110 V rated value                                                                                | 32 A                      |
| — at 220 V rated value                                                                                | 32 A                      |
| • with 2 current paths in series at DC-1                                                              |                           |
| — at 24 V rated value                                                                                 | 32 A                      |
| — at 110 V rated value                                                                                | 32 A                      |
| — at 220 V rated value                                                                                | 32 A                      |
| — at 440 V rated value                                                                                | 32 A                      |
| — at 600 V rated value                                                                                | 32 A                      |

|                                                         |           |
|---------------------------------------------------------|-----------|
| — at 750 V rated value                                  | 32 A      |
| • <b>at 1 current path at DC-3 at DC-5</b>              |           |
| — at 24 V rated value                                   | 32 A      |
| — at 110 V rated value                                  | 32 A      |
| — at 220 V rated value                                  | 32 A      |
| • <b>with 2 current paths in series at DC-3 at DC-5</b> |           |
| — at 24 V rated value                                   | 32 A      |
| — at 110 V rated value                                  | 32 A      |
| — at 220 V rated value                                  | 32 A      |
| — at 440 V rated value                                  | 29 A      |
| — at 600 V rated value                                  | 21 A      |
| — at 750 V rated value                                  | 7.5 A     |
| <b>operating power</b>                                  |           |
| • <b>at DC-1</b>                                        |           |
| — at 110 V rated value                                  | 3.5 kW    |
| — at 220 V rated value                                  | 7 kW      |
| — at 440 V rated value                                  | 14 kW     |
| — at 750 V rated value                                  | 24 kW     |
| • <b>at DC-3 at DC-5</b>                                |           |
| — at 110 V rated value                                  | 2.5 kW    |
| — at 220 V rated value                                  | 5 kW      |
| — at 440 V rated value                                  | 9 kW      |
| — at 600 V rated value                                  | 9 kW      |
| — at 750 V rated value                                  | 4 kW      |
| <b>operating frequency</b>                              |           |
| • at DC-1 maximum                                       | 1 500 1/h |
| • at DC-3 maximum                                       | 750 1/h   |
| • at DC-5 maximum                                       | 750 1/h   |

#### Control circuit/ Control

|                                                                                       |              |
|---------------------------------------------------------------------------------------|--------------|
| <b>type of voltage of the control supply voltage</b>                                  | AC           |
| <b>control supply voltage at AC</b>                                                   |              |
| • at 50 Hz rated value                                                                | 230 V        |
| • at 60 Hz rated value                                                                | 277 V        |
| <b>operating range factor control supply voltage rated value of magnet coil at AC</b> |              |
| • at 50 Hz                                                                            | 0.8 ... 1.1  |
| <b>apparent pick-up power of magnet coil at AC</b>                                    | 68 VA        |
| • at 50 Hz                                                                            | 68 VA        |
| • at 60 Hz                                                                            | 95 VA        |
| <b>inductive power factor with closing power of the coil</b>                          | 0.86         |
| • at 50 Hz                                                                            | 0.86         |
| • at 60 Hz                                                                            | 0.79         |
| <b>apparent holding power of magnet coil at AC</b>                                    | 10 VA        |
| • at 50 Hz                                                                            | 10 VA        |
| • at 60 Hz                                                                            | 12 VA        |
| <b>inductive power factor with the holding power of the coil</b>                      | 0.29         |
| • at 50 Hz                                                                            | 0.29         |
| • at 60 Hz                                                                            | 0.3          |
| <b>arcing time</b>                                                                    | 20 ... 30 ms |

#### Auxiliary circuit

|                                                                |       |
|----------------------------------------------------------------|-------|
| <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     |
| number of CO contacts for auxiliary contacts                   | 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>                            |       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                        | 10 A<br>10 A<br>10 A<br>3.2 A<br>2.5 A<br>0.9 A<br>0.22 A                                                                                                                       |
| <b>operational current at DC-13</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>                                                                                                                                                                                                                                                                                                                        | 10 A<br>5 A<br>5 A<br>1.14 A<br>0.98 A<br>0.48 A<br>0.07 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>                                                                                                                                                                                                                                                                        | 2 x 3NA3020 (50 A) in series (750 V, 3 kA)<br>2 x 3NA3020 (50 A) in series (750 V, 3 kA)<br>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; standing, on horizontal mounting surface |
| <b>fastening method</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022                                                                                                        |
| <ul style="list-style-type: none"> <li>• side-by-side mounting</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Yes                                                                                                                                                                             |
| <b>height</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 85 mm                                                                                                                                                                           |
| <b>width</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 70 mm                                                                                                                                                                           |
| <b>depth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 104 mm                                                                                                                                                                          |
| <b>required spacing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 15 mm<br>0 mm<br>10 mm<br>10 mm<br>10 mm<br>30 mm<br>0 mm<br>10 mm<br>10 mm<br>10 mm<br>30 mm<br>0 mm<br>10 mm<br>10 mm<br>10 mm                                                |
| <b>Connections/ Terminals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                 |
| <b>type of electrical connection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | screw-type terminals                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | screw-type terminals<br>screw-type terminals                                                                                                                                    |
| type of connectable conductor cross-sections for main contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• solid or stranded</li> <li>• finely stranded with core end processing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2x (2,5 ... 10 mm <sup>2</sup> )<br>2x (1,5 ... 4 mm <sup>2</sup> )                                                                                                             |
| <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> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2x (1 ... 2.5 mm <sup>2</sup> )                                                                                                                                                 |

— finely stranded with core end processing

2x (0.75 ... 1.5 mm<sup>2</sup>)

#### Safety related data

product function mirror contact according to IEC 60947-4-1  
protection class IP on the front according to IEC 60529

Yes; One NC contact each must be connected in series for the right and left auxiliary switch block respectively  
IP00

#### Certificates/ approvals

General Product Approval

Functional  
Safety/Safety of  
Machinery



[Confirmation](#)



[Type Examination  
Certificate](#)

Functional  
Safety/Safety of  
Machinery

Declaration of Conformity

Test Certificates

[Type Examination  
Certificate](#)



EG-Konf.

[Type Test Certificates/Test Report](#)

[Miscellaneous](#)

[Special Test Certificate](#)

Marine / Shipping

other

Dangerous Good



[Confirmation](#)

[Transport Information](#)

#### 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=3TC4417-0BP0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC4417-0BP0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TC4417-0BP0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TC4417-0BP0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC4417-0BP0&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TC4417-0BP0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC4417-0BP0&objecttype=14&gridview=view1>



