



contactor, DC-3/DC-5, 32 A, 2-pole, 380 V AC, 50 Hz / 440 V AC, 60 Hz, auxiliary contacts: 2 NO + 1 NC, with OFF delay, screw terminal, frame size 2

<b>product designation</b>	Contactor
<b>product type designation</b>	3TC
<b>General technical data</b>	
<b>size of contactor</b>	2
<b>product extension</b>	
• function module for communication	No
• auxiliary switch	Yes
<b>insulation voltage rated value</b>	800 V
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	300 V
<b>shock resistance at rectangular impulse</b>	
• at AC	7,5g / 5 ms, 3,4g / 10 ms
<b>mechanical service life (operating cycles)</b>	
• of contactor typical	10 000 000
• of the contactor with added auxiliary switch block typical	10 000 000
<b>reference code according to IEC 81346-2</b>	Q
<b>Substance Prohibitance (Date)</b>	02/01/2012
<b>SVHC substance name</b>	Lead - 7439-92-1
<b>Weight</b>	1.466 kg
<b>Ambient conditions</b>	
<b>ambient temperature</b>	
• during operation	-25 ... +55 °C
• during storage	-50 ... +80 °C
<b>relative humidity minimum</b>	10 %
<b>relative humidity at 55 °C according to IEC 60068-2-30 maximum</b>	95 %
<b>Main circuit</b>	
<b>number of poles</b>	2
<b>number of poles for main current circuit</b>	2
<b>number of NO contacts for main contacts</b>	2
<b>number of NC contacts for main contacts</b>	0
<b>type of voltage</b>	DC
<b>operational current</b>	
• 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 DC-3 at DC-5</b>	
— at 220 V rated value	32 A
— at 600 V rated value	21 A
— at 750 V rated value	7.5 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>	
● <b>at DC-1 maximum</b>	1 500 1/h
● <b>at DC-3 maximum</b>	750 1/h
● <b>at DC-5 maximum</b>	750 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>	
● <b>at 50 Hz rated value</b>	380 V
● <b>at 60 Hz rated value</b>	460 V
<b>operating range factor control supply voltage rated value of magnet coil at AC</b>	
● <b>at 50 Hz</b>	0.8 ... 1.1
<b>apparent pick-up power of magnet coil at AC</b>	68 VA
● <b>at 50 Hz</b>	68 VA
● <b>at 60 Hz</b>	95 VA
<b>inductive power factor with closing power of the coil</b>	0.86
● <b>at 50 Hz</b>	0.86
● <b>at 60 Hz</b>	0.79
<b>apparent holding power of magnet coil at AC</b>	10 VA
● <b>at 50 Hz</b>	10 VA
● <b>at 60 Hz</b>	12 VA
<b>inductive power factor with the holding power of the coil</b>	0.29
● <b>at 50 Hz</b>	0.29
● <b>at 60 Hz</b>	0.3
<b>arcing time</b>	20 ... 30 ms
<b>Auxiliary circuit</b>	
<b>number of NC contacts for auxiliary contacts</b>	1

• 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>	21
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	3.2 A
• at 125 V rated value	2.5 A
• at 220 V rated value	0.9 A
• at 600 V rated value	0.22 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	1.14 A
• at 125 V rated value	0.98 A
• at 220 V rated value	0.48 A
• at 600 V rated value	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>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	2 x 3NA3020 (50 A) in series (750 V, 3 kA)
— with type of coordination 2 required	2 x 3NA3020 (50 A) in series (750 V, 3 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 and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022
<b>height</b>	120 mm
<b>width</b>	85 mm
<b>depth</b>	107 mm
<b>required spacing</b>	
• with side-by-side mounting	
— forwards	15 mm
— backwards	0 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
• for grounded parts	
— forwards	30 mm
— backwards	0 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	30 mm
— backwards	0 mm
— upwards	10 mm

— downwards	10 mm
— at the side	10 mm

### Connections/ Terminals

<b>type of electrical connection</b>	screw terminal
• for main current circuit	screw-type terminals
• for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections for main contacts	
• solid or stranded	2x (2,5 ... 10 mm <sup>2</sup> )
• finely stranded with core end processing	2x (1,5 ... 4 mm <sup>2</sup> )
<b>type of connectable conductor cross-sections</b>	
• for auxiliary contacts	
— solid or stranded	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	Yes; One NC contact each must be connected in series for the right and left auxiliary switch block respectively
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### Electrical Safety

protection class IP on the front according to IEC 60529	IP00
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### Approvals Certificates

General Product Approval	Functional Safety	Test Certificates
   	<a href="#">Type Examination Certificate</a>	<a href="#">Special Test Certificate</a>

Test Certificates	other	Dangerous goods	Environment
<a href="#">Type Test Certificates/Test Report</a>	<a href="#">Miscellaneous</a> 	<a href="#">Confirmation</a>	<a href="#">Transport Information</a>
			<a href="#">Environmental Confirmations</a>

### 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=3TC4416-5CQ0>
- Cax online generator  
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC4416-5CQ0>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3TC4416-5CQ0>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3TC4416-5CQ0&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC4416-5CQ0&lang=en)
- Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current  
<https://support.industry.siemens.com/cs/ww/en/ps/3TC4416-5CQ0/char>
- Further characteristics (e.g. electrical endurance, switching frequency)  
<https://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC4416-5CQ0&objecttype=14&gridview=view1>



