

Contactor, size 12, 2-pole, DC-3 and 5, 400 A, Auxiliary switch 4
NO+4 NC 24 V DC DC operation DC operation



Product designation	Contactor
Product type designation	3TC
General technical data	
Size of contactor	12
Product extension	
• function module for communication	No
• Auxiliary switch	No
Insulation voltage rated value	1 500 V
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation between coil and main contacts acc. to EN 60947-1	630 V
Protection class IP	IP00
• on the front	IP00
• of the terminal	IP00
Mechanical service life (switching cycles)	
• of contactor typical	30 000 000
• of the contactor with added auxiliary switch block typical	30 000 000
Reference code acc. to DIN EN 81346-2	Q

Ambient conditions

Ambient temperature

- during operation -25 ... +55 °C
- during storage -50 ... +80 °C

Main circuit

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

Operating current

- with 2 current paths in series at DC-1
 - at 24 V rated value 500 A
 - at 110 V rated value 500 A
 - at 220 V rated value 500 A
 - at 440 V rated value 500 A
 - at 600 V rated value 500 A

Operating current

- at DC-3 at DC-5
 - 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 1500 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

Operating power

- at DC-1
 - at 110 V rated value 55 kW
 - at 220 V rated value 110 kW
 - at 440 V rated value 220 kW
 - at 750 V rated value 375 kW
 - at 1500 V rated value 750 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
— at 1200 V rated value	400 kW
— at 1500 V rated value	500 kW
Operating frequency	
• at DC-1 maximum	1 000 1/h
• at DC-3 maximum	500 1/h
• at DC-5 maximum	500 1/h

Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
• rated value	24 V
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.2
Closing power of magnet coil at DC	92 W
Holding power of magnet coil at DC	92 W
Closing delay at DC	60 ... 100 ms
Opening delay at DC	20 ... 35 ms
Arcing time	40 ... 70 ms

Auxiliary circuit

Number of NC contacts for auxiliary contacts	4
• instantaneous contact	4
Number of NO contacts for auxiliary contacts	4
• instantaneous contact	4
Number of CO contacts	
• for auxiliary contacts	0
Identification number and letter for switching elements	44
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
• at 230 V rated value	5.6 A
• at 400 V rated value	3.6 A
• at 500 V rated value	2.5 A
Operating current at DC-12	
• 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

Operating current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value • at 48 V rated value • at 60 V rated value • at 110 V rated value • at 125 V rated value • at 220 V rated value • at 600 V rated value 	<p>10 A</p> <p>5 A</p> <p>5 A</p> <p>1.14 A</p> <p>0.98 A</p> <p>0.48 A</p> <p>0.07 A</p>
Contact reliability of auxiliary contacts	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)

Short-circuit protection

Design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	<p>gG: 630 A (690 V, 100 kA)</p> <p>gG: 500 A (690 V, 100 kA)</p> <p>gG: 16 A (500 V, 1 kA)</p>

Installation/ mounting/ dimensions



Mounting position	+/-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
Mounting type	screw fixing
<ul style="list-style-type: none"> • Side-by-side mounting 	Yes
Height	375 mm
Width	160 mm
Depth	290 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — Backwards 	<p>20 mm</p> <p>0 mm</p> <p>25 mm</p> <p>10 mm</p> <p>10 mm</p> <p>50 mm</p> <p>0 mm</p> <p>25 mm</p> <p>10 mm</p> <p>10 mm</p> <p>50 mm</p> <p>0 mm</p>

— upwards	25 mm
— downwards	10 mm
— at the side	10 mm

Connections/ Terminals

Type of electrical connection	screw-type terminals
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— single or multi-stranded	2x (1 ... 2,5 mm ²)
— finely stranded with core end processing	2x (0.75 ... 2.5 mm ²)

Certificates/ approvals

General Product Approval	Functional Safety/Safety of Machinery	Test Certificates	other
 CCC		Type Examination Certificate	Special Test Certificate
		Miscellaneous	Confirmation

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3TC7814-0EB>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC7814-0EB>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-0EB>

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

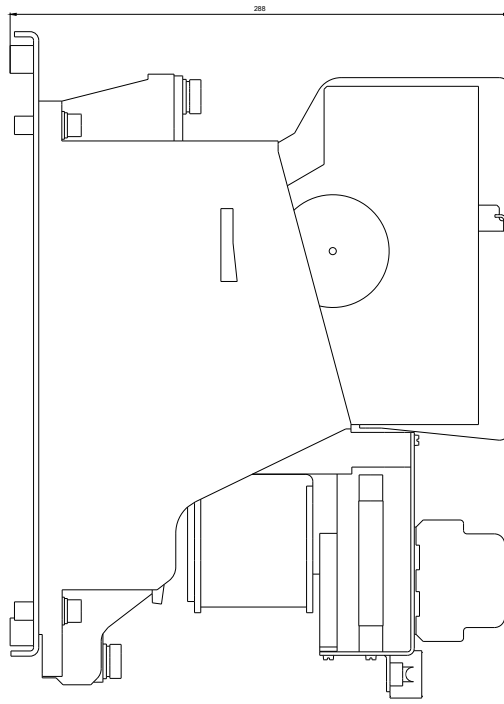
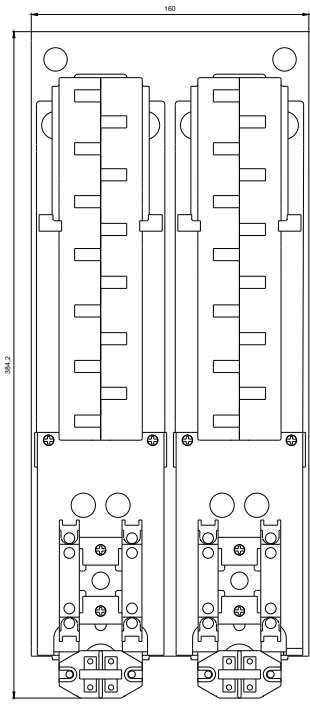
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC7814-0EB&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

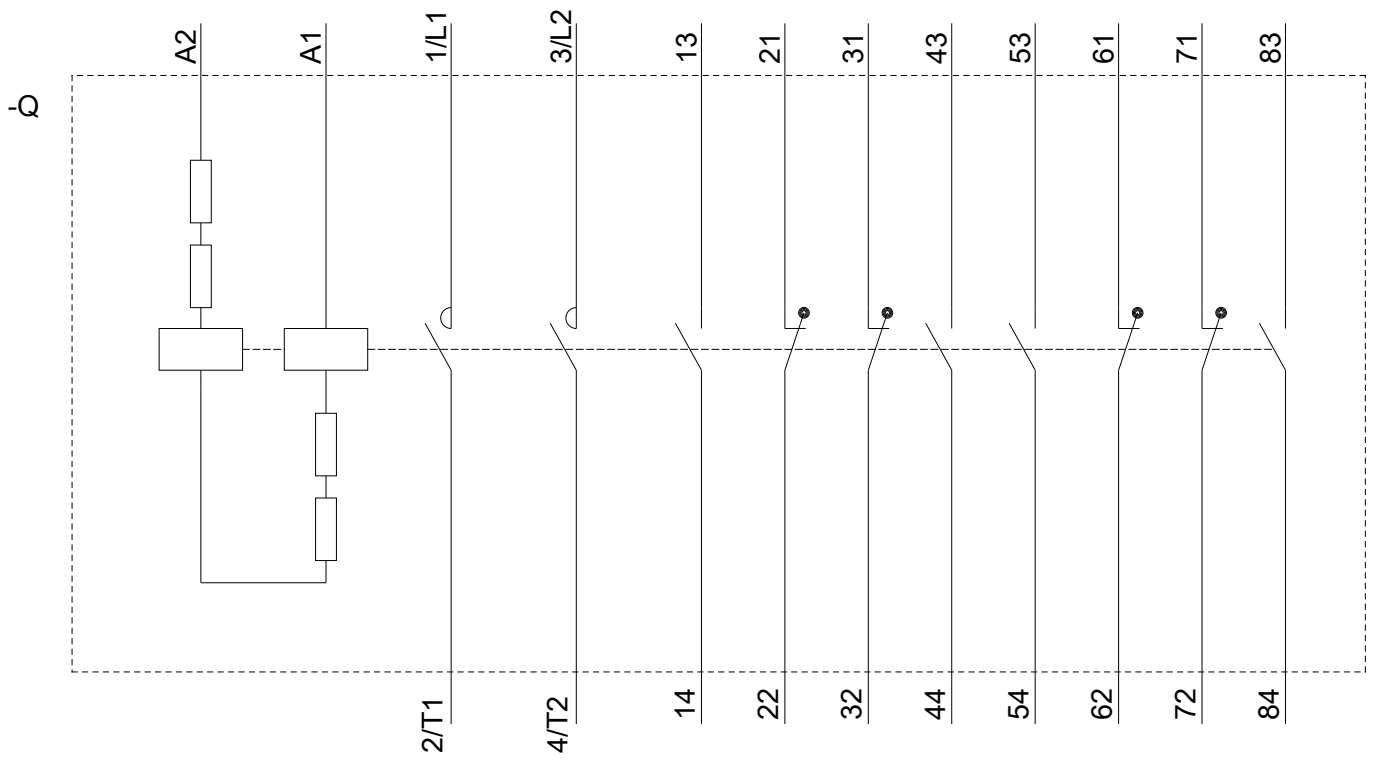
<https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-0EB/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC7814-0EB&objecttype=14&gridview=view1>



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