

Traction contactor 1-pole 400 A 4 NO+4 NC 24 V DC with integrated varistor



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
• protection class IP on the front	IP00
• Protection class IP 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	1
Number of poles for main current circuit	1
Number of NO contacts for main contacts	1
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
• 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 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

Operating frequency	
<ul style="list-style-type: none"> • at DC-1 maximum 	750 1/h
<ul style="list-style-type: none"> • at DC-3 maximum 	500 1/h
<ul style="list-style-type: none"> • at DC-5 maximum 	500 1/h

Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
<ul style="list-style-type: none"> • rated value 	24 V
Operating range factor control supply voltage rated value of magnet coil at AC	
<ul style="list-style-type: none"> • at 50 Hz 	0.8 ... 1.2
Design of the surge suppressor	with varistor
Closing power of magnet coil at DC	46 W
Holding power of magnet coil at DC	46 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
<ul style="list-style-type: none"> • instantaneous contact 	4
Number of NO contacts for auxiliary contacts	4
<ul style="list-style-type: none"> • instantaneous contact 	4
Number of CO contacts	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at 230 V rated value 	5.6 A
<ul style="list-style-type: none"> • at 400 V rated value 	3.6 A
<ul style="list-style-type: none"> • at 500 V rated value 	2.5 A
Operating current at DC-12	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	10 A
<ul style="list-style-type: none"> • at 60 V rated value 	10 A
<ul style="list-style-type: none"> • at 110 V rated value 	3.2 A
<ul style="list-style-type: none"> • at 125 V rated value 	2.5 A
<ul style="list-style-type: none"> • at 220 V rated value 	0.9 A
<ul style="list-style-type: none"> • at 600 V rated value 	0.22 A
Operating current at DC-13	
<ul style="list-style-type: none"> • at 24 V rated value 	10 A
<ul style="list-style-type: none"> • at 48 V rated value 	5 A

<ul style="list-style-type: none"> • 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 	5 A 1.14 A 0.98 A 0.48 A 0.07 A
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 	gG: 630 A (690 V, 100 kA) gG: 500 A (690 V, 100 kA) gG: 16 A (500 V, 1 kA)
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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 <ul style="list-style-type: none"> • Side-by-side mounting 	screw fixing Yes
Height	360 mm
Width	78 mm
Depth	276 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 — upwards — downwards 	20 mm 0 mm 25 mm 10 mm 10 mm 50 mm 0 mm 25 mm 10 mm 10 mm 50 mm 0 mm 25 mm 10 mm

— at the side

10 mm




Connections/ Terminals

- | | |
|---------------------------------------------------------------------------|----------------------|
| • type of electrical connection | screw-type terminals |
| • Type of electrical connection for main current circuit | screw-type terminals |
| • Type of electrical connection 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	Declaration of Conformity	Test Certificates
 CCC		 EG-Konf.	
	Type Examination Certificate	Miscellaneous	Special Test Certificate

Test Certificates	other
Miscellaneous	Confirmation
Type Test Certificates/Test Report	

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=3TC7414-5KB>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC7414-5KB>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3TC7414-5KB>

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

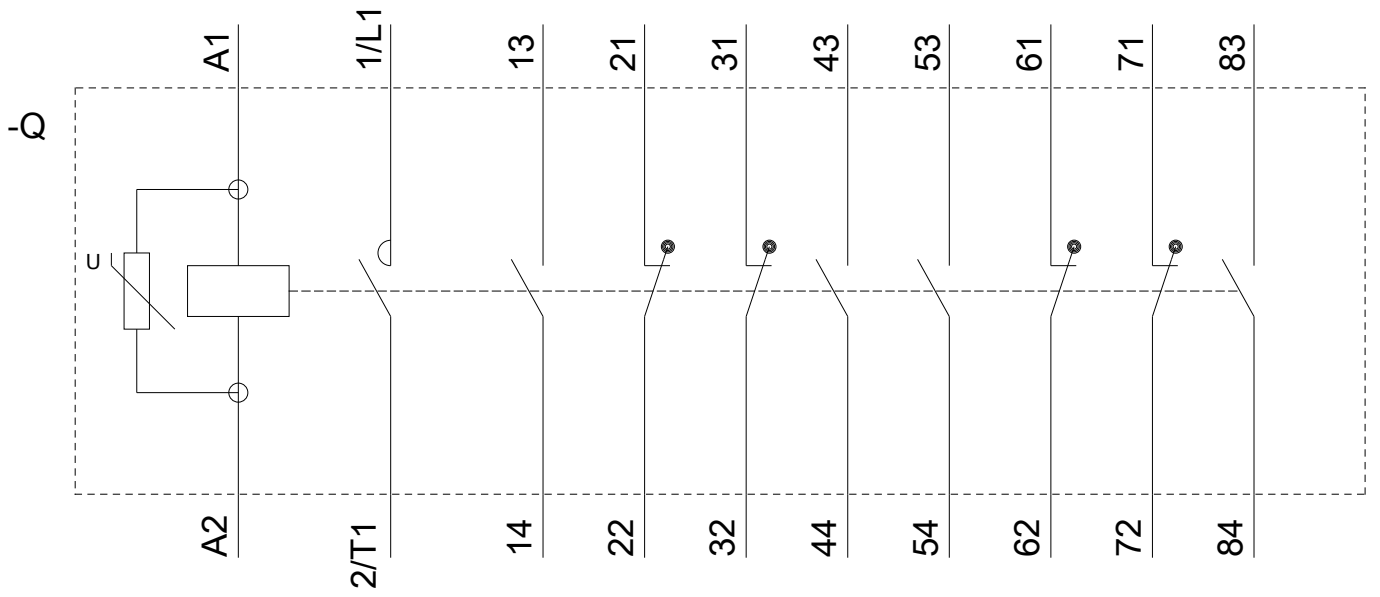
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC7414-5KB&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3TC7414-5KB/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC7414-5KB&objecttype=14&gridview=view1>



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