SIEMENS

Data sheet 3TC4413-0BK2



Contactor, Size 2, 2-pole, DC-3 and 5, 32 A Auxiliary contacts 11 (1NO + 1NC) 2x solid-state compatible auxiliary contact AC operation 120 V AC 50/60 Hz Special-purpose device

product designation	Contactor
product type designation	3TC
General technical data	
size of contactor	2
product extension	
 function module for communication 	No
auxiliary switch	Yes
insulation voltage rated value	800 V
maximum permissible voltage for protective separation 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
Ambient conditions	
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 %
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
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
• at 1 current path at DC-3 at DC-5	
— 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-3 at DC-5 	
— 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
operating power	
• at DC-1	
— 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
• at DC-3 at DC-5	
— 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
operating frequency	
• 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	
type of voltage of the control supply voltage	AC
control supply voltage at AC • at 50 Hz rated value	120 V
control supply voltage at AC	120 V 120 V
control supply voltage at AC • at 50 Hz rated value	
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of	
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC	120 V
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz	120 V 0.8 1.1
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz	120 V 0.8 1.1
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC	120 V 0.8 1.1 0.85 1.1
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz	120 V 0.8 1.1 0.85 1.1 68 VA
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz at 60 Hz arcing time Auxiliary circuit	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz arcing time Auxiliary circuit number of NC contacts for auxiliary contacts	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with closing power of the coil at 50 Hz inductive power factor with closing power of the coil at 50 Hz inductive power factor with closing power of the coil at 50 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 60 Hz inductive power factor with closing power of the coil at 60 Hz inductive power factor with closing power of the coil at 60 Hz inductive power factor with closing power of the coil at 60 Hz	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz instantaneous contacts for auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact number of CO contacts for auxiliary contacts	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz interval in the holding power of the coil interval in the holding power of the coil at 50 Hz interval in the holding power of the coil interval in the holding power of the coil at 60 Hz interval in the holding power of the coil interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz interval in the holding power of the coil at 60 Hz at 60	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil instantaneous contact on auxiliary contacts instantaneous contact number of NO contacts for auxiliary contacts instantaneous contact number of CO contacts for auxiliary contacts operational current at AC-12 maximum operational current at AC-15	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC • at 50 Hz • at 60 Hz apparent pick-up power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with closing power of the coil • at 50 Hz • at 60 Hz apparent holding power of magnet coil at AC • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz inductive power factor with the holding power of the coil • at 50 Hz • at 60 Hz instantaneous contact of auxiliary contacts • instantaneous contact number of NO contacts for auxiliary contacts • instantaneous contact number of CO contacts for auxiliary contacts operational current at AC-12 maximum operational current at AC-15 • at 230 V rated value	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms
control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of magnet coil at AC at 50 Hz at 60 Hz apparent pick-up power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with closing power of the coil at 50 Hz at 60 Hz apparent holding power of magnet coil at AC at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz at 60 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 50 Hz inductive power factor with the holding power of the coil at 60 Hz inductive power factor with the holding power of the coil at 60 Hz a	120 V 0.8 1.1 0.85 1.1 68 VA 95 VA 0.86 0.79 10 VA 12 VA 0.29 0.3 20 30 ms

operational 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
operational current at DC-13	
• 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
UL/CSA ratings	
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
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 assignment 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)
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
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 50022
side-by-side mounting	Yes
height	85 mm
width	81 mm
depth	104 mm
required spacing	
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	
type of electrical connection	screw-type terminals
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 mm²)
finely stranded with core end processing	2x (1.5 4 mm²)
type of connectable conductor cross-sections	
for auxiliary contacts	

— solid or stranded
2x (1 ... 2.5 mm²)
2x (0.75 ... 1.5 mm²)

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

Certificates/ approvals

General Product Approval

Functional Safety/Safety of Machinery



Confirmation







Type Examination Certificate

Functional
Safety/Safety of Ma-
chinery

Declaration of Conformity

Test Certificates

Type Examination Certificate





Special Test Certificate

Type Test Certificates/Test Report

Miscellaneous

other Dangerous Good

Confirmation Transport Information

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3TC4413-0BK2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC4413-0BK2

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

 $\underline{https://support.industry.siemens.com/cs/ww/en/ps/3TC4413-0BK2}$

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

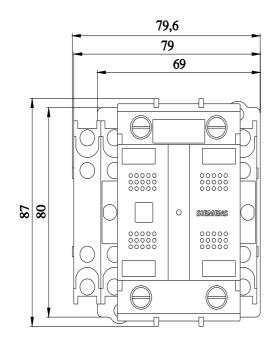
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC4413-0BK2&lang=en

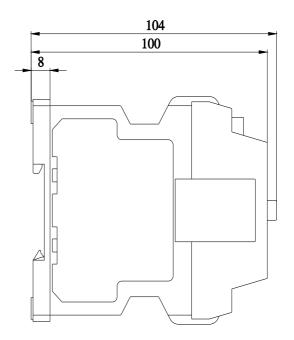
Characteristic: Tripping characteristics, I2t, Let-through current

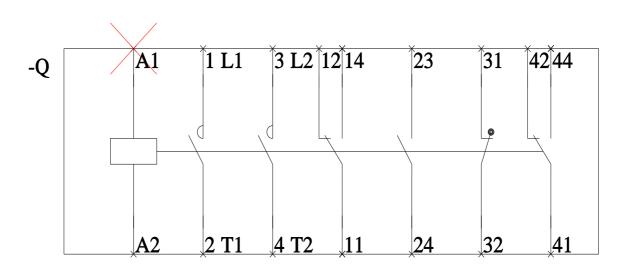
https://support.industry.siemens.com/cs/ww/en/ps/3TC4413-0BK2/char

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

 $\underline{\text{http://www.automation.siemens.com/bilddb/index.aspx?view=Search\&mlfb=3TC4413-0BK2\&objecttype=14\&gridview=view1}$







last modified: 2/13/2023 🖸

