SIEMENS

Data sheet 3TC7814-1CF

Contactor size 12, 2-pole DC-3 and 5, 400 A Auxiliary switch 4 NO + 4 NC AC operation 110 V AC 50 Hz

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 protective separation between coil and main contacts according to EN 60947-1	630 V
mechanical service life (operating cycles)	
● of contactor typical	30 000 000
● of the contactor with added auxiliary switch block typical	30 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	03/01/2017
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	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
— at 750 V rated value	500 A
● 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
— at 750 V rated value	500 A
— at 1500 V rated value	500 A
● at 1 current path 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
— 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
— at 750 V rated value	400 A
— at 1500 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	AC
control supply voltage at AC	
● at 50 Hz rated value	110 V
operating range factor control supply voltage rated value of magnet coil at AC	
● at 50 Hz	0.8 ... 1.2
apparent pick-up power of magnet coil at AC	160 VA
● at 50 Hz	160 VA
inductive power factor with closing power of the coil	0.95
● at 50 Hz	0.95
apparent holding power of magnet coil at AC	160 VA
● at 50 Hz	160 VA
inductive power factor with the holding power of the coil	0.95
● at 50 Hz	0.95
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

operational current at AC-12 maximum	10 A
operational 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
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
Short-circuit protection	
design of the fuse link	
● for short-circuit protection of the main circuit	
— with type of coordination 1 required	2 x 3NE1330-5E (315 A) parallel (1500 V, 12 kA)
— with type of assignment 2 required	2 x 3NE1330-5E (315 A) parallel (1500 V, 12 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 fixing
● side-by-side mounting	Yes
height	375 mm
width	160 mm
depth	290 mm
required spacing	
● with side-by-side mounting	
— forwards	20 mm
— backwards	0 mm
— upwards	25 mm
— downwards	10 mm
— at the side	10 mm
● for grounded parts	
— forwards	50 mm
— backwards	0 mm
— upwards	25 mm
— at the side	10 mm
— downwards	10 mm
● for live parts	
— forwards	50 mm
— backwards	0 mm
— 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 circuit	screw-type terminals
type of connectable conductor cross-sections	
● for auxiliary contacts	

— solid or stranded	2x (1 ... 2.5 mm²)
— finely stranded with core end processing	2x (0.75 ... 1.5 mm²)

Safety related data	
product function mirror contact according to IEC 60947-4-1	Yes; 1 auxiliary NC contact each of the right and left current path must be connected in series
protection class IP on the front according to IEC 60529	IP00

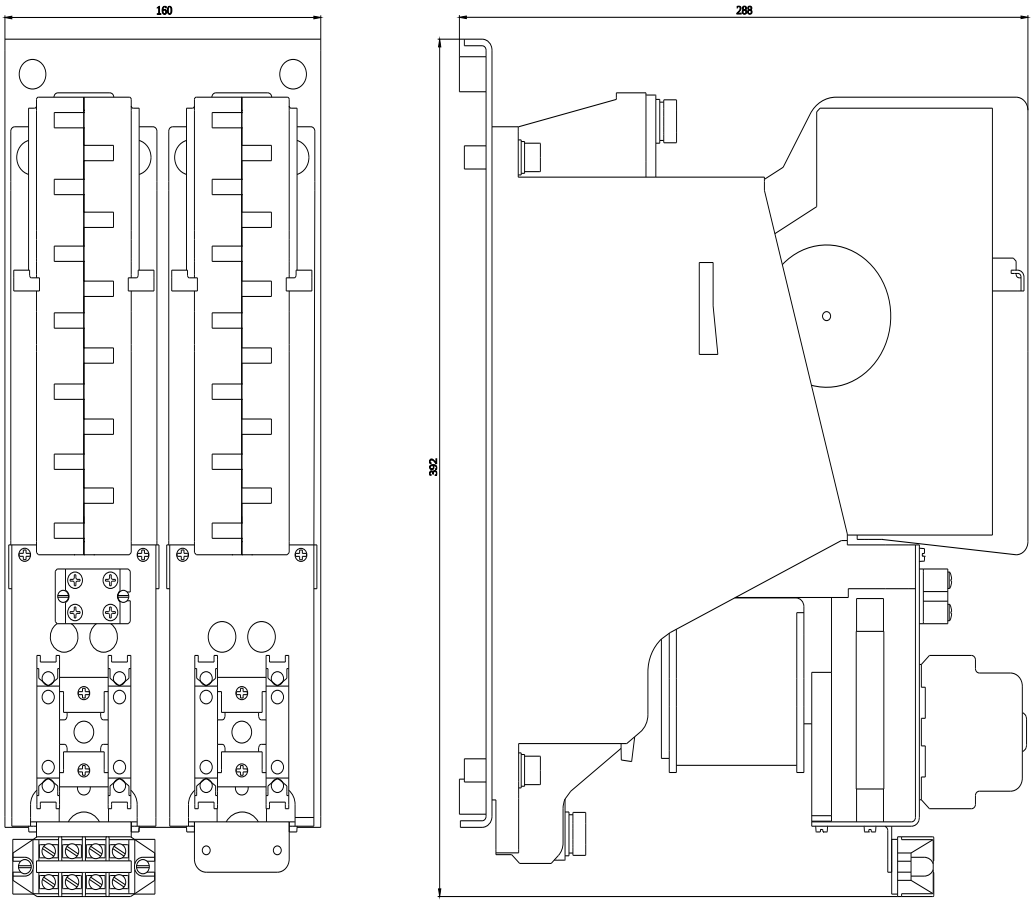
Certificates/ approvals

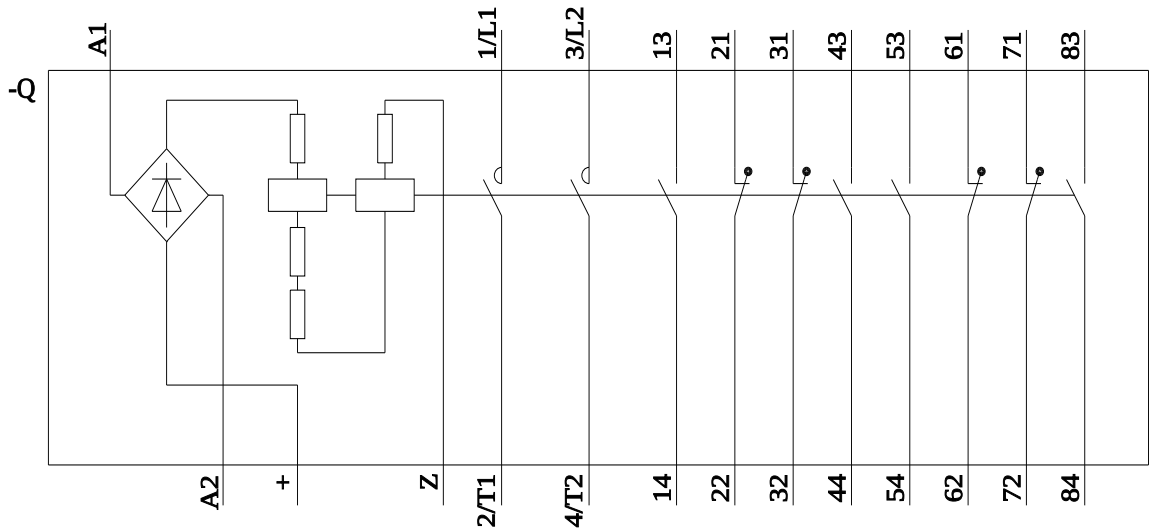
General Product Approval			Functional Safety/Safety of Machinery		Declaration of Conformity
CCC	Confirmation	EAC	Type Examination Certificate	Type Examination Certificate	UKCA

Declaration of Conformity	Test Certificates		other	Dangerous Good
CE EG-Konf.	Special Test Certificate	Miscellaneous	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=3TC7814-1CF
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3TC7814-1CF
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-1CF
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3TC7814-1CF&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3TC7814-1CF/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3TC7814-1CF&objecttype=14&gridview=view1





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