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Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

<https://abbdrives.nt-rt.ru/> || aei@nt-rt.ru

ПРИВОДЫ ПОСТОЯННОГО ТОКА

Техническое описание на регуляторы мощности DCS800, DCS880



DCS800-A enclosed converters

DCS800-A enclosed converters are suitable for three-phase supply voltages from 230 V to 990 (1200) V, 50 or 60 Hz. The rated DC current range is from 18 to 9800/19600 A. DCS800-A enclosed converters with rated DC current from 18 A up to 1850 A are available in two different layouts:

- Single drive configuration without horizontal busbars therefore AC cable connection
- Group drive configuration with horizontal busbars (size-dependending on rated amps)

The standard configuration is protection class IP21 and cable connection from bottom.

Group drives from sizes D6 and D7 on request. DCS800-A can be tailored to meet different needs by using combinations of the following options:

- Earth Fault Detection (current sensitive) • Insulation Monitor (voltage sensitive) • Motor Fan Starter • Galvanic Isolation of converter voltage measurement • Cabinet design according to EMC-regulations • EMC Filters • Protection Class IP 21-Standard • Protection Class IP 31 with filter (insect screen) in air inlet and outlet • Protection Class IP 42 with filter in air inlet; air outlet same as IP 21 • IP 54 on request • Gland plate and bottom plate • Special Colour (only outside) acc. to RAL standard • Heater • Lighting • Horizontal Busbars

DCA 650 Control Cabinet

Advant controller AC 800 • Fieldbus interface FCI (AE 400)

The S800 I/O system consists of the control module (AC 80, FCI, AC 800M), digital and analogue I/O modules.

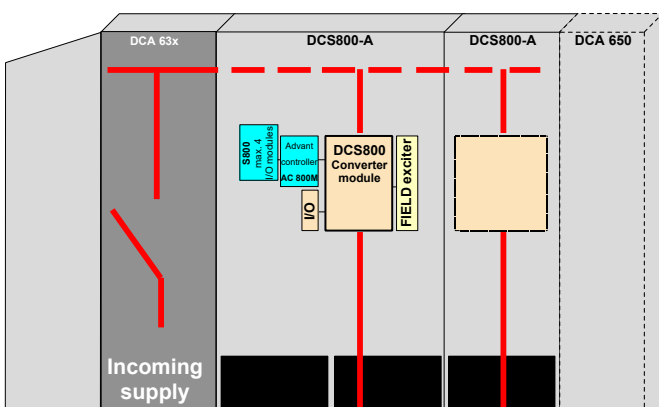
Digital inputs and outputs

8 channels • input voltages from 24 V...250 V

Analogue inputs and outputs (12 bit resolution) 8 channels

Drive Bus Communication

CI854 provides fast optical DDCS communication



Incoming Supply Sections for Group Drives

Incoming supply sections (DCA 63x) are used to supply several droup drives connected by horizontal busbars. The connection to the AC supply can be made by cables or busbars. The cable / busbar entry is at the bottom of the incoming supply section.

The incoming supply section can be located preferable left side of line-ups, but also right side and even in the middle of line-ups.

Options

- Cabinet design according to EMC-regulations • Isolation Switch (DCA 631) • Breaker (DCA 632) • Earthing switch • Residual Current Detection • AC Current Measurement • AC Voltage Measurement • Arc Detecting Relay • Emergency stop relays, tripping circuits

Field Exciters

Several Solutions available

- Ratings from 6 to 450 A • Integrated, separate or external
- 2-phase or 3-phase versions • 1-; 2-; 4-quadrant • Digital control • Auto/manual tuning

The field exciters are controlled via a serial DCS-Link with a speed of 500 kBaud for fast and accurate control.

On board field exciters are 3-phase half controlled field exciters 6 A / 15 A / 20 A / 25 A in D1 up to D4 converter modules (525 V).

FEX-425 field exciter is also a 25 A 3-phase half controlled unit assembled in a D5 converter module.

DCF803: 0050 B

2-phase, 1-quadrant, half controlled

DCF804: 0050 B

2-phase, 4-quadrant, full controlled (field reversal)

DCS800-A21: 18...400 A (2-Q), DCS800-A22: 22...450 A (4-Q), 18...400 (22...450) A, 3-phase, full controlled, separate cabinet including overvoltage protection

DCS800-F01: 18...285 A (2-Q), DCS800-F02: 22...300 A (4-Q), 18...285 (22...300) A, 3-phase, inside D6 / D7

armature cabinet is possible; including overvoltage protection

DCS800 Converter modules

Basic design

The DCS800 flexibility allows the user to configure functions of the drive easily, suitable for different applications. The basic firmware includes following options:

Processing the speed reference with a speed ramp generator (S-ramp capability, accel/decel ramp) • Processing the speed feedback • Speed controller • Torque reference processing

- Current controller • Field weakening • Automatic/manual field reversal • Autotuning of current controller • Autotuning of speed controller • Speed monitor • Drive control logic • Remote/local operation • Emergency stop • Electronic circuits are not sensitive to line phase sequence • Motor overload protection • Dual field • Programmable analogue outputs • Field supply • Master/follower via fibre optics • 12-Pulse link

I/O's of the converter module

- SDCS-IOB-23 + IOB-3 standard configuration • RDIO, RAI0, AMIA as option

Dimensions Converter cabinet

	Height ①	Depth	Single drive		Weight [kg]	Height ①	Depth	Group drive		Weight ⑦
			Width ②	Width ③				Width ②	Width ③	
DC-Converter, Size D1										
DCS800-A0x-0020-04/05-D	2120	600	600	-	220	2120	600	600	-	190+z
DCS800-A0x-0025-04/05-D	2120	600	600	-	220	2120	600	600	-	190+z
DCS800-A0x-0045-04/05-D	2120	600	600	-	230	2120	600	600	-	200+z
DCS800-A0x-0050-04/05-D	2120	600	600	-	230	2120	600	600	-	200+z
DCS800-A0x-0065-04/05-D	2120	600	600	-	230	2120	600	600	-	200+z
DCS800-A0x-0075-04/05-D	2120	600	600	-	230	2120	600	600	-	200+z
DCS800-A0x-0125-04/05-D	2120	600	600	-	250	2120	600	600	-	220+z
DCS800-A0x-0140-04/05-D	2120	600	600	-	250	2120	600	600	-	220+z
DC-Converter, Size D2/D3										
DCS800-A0x-0200-04/05-D	2120	600	600	-	250	2120	600	600	-	220+z
DCS800-A0x-0250-04/05-D	2120	600	600	-	250	2120	600	600	-	220+z
DCS800-A0x-0315-04/05-D	2120	600	600	-	300	2120	600	600	-	270+z
DCS800-A0x-0350-04/05-D	2120	600	600	-	300	2120	600	600	-	270+z
DCS800-A0x-0470-04/05-D	2120	600	800	-	310	2120	600	800	-	280+z
DCS800-A0x-0520-04/05-D	2120	600	800	-	310	2120	600	800	-	280+z
DC-Converter, Size D4										
DCS800-A0x-0610-04/05-D	2120	600	800	-	360	2120	600	800	-	330+z
DCS800-A0x-0680-04/05-D	2120	600	800	-	360	2120	600	800	-	330+z
DCS800-A0x-0740-04/05-D	2120	600	800	-	360	2120	600	800	-	330+z
DCS800-A0x-0820-04/05-D	2120	600	800	-	360	2120	600	800	-	330+z
DCS800-A0x-0900-04/05-D	2120	600	800	-	360	2120	600	800	-	330+z
DCS800-A0x-1000-04/05-D	2120	600	800	-	360	2120	600	800	-	330+z
DC-Converter, Size D5										
DCS800-A0x-0900-06/07-D	2120	600	1400	-	620	2120	600	1400	-	590+z
DCS800-A0x-1200-04/05-D	2120	600	1400	-	640	2120	600	1400	-	610+z
DCS800-A0x-1500-04/05/06/07-D	2120	600	1400	-	720	2120	600	1400	-	690+z
DCS800-A0x-2000-04/05/06/07-D ⑥	2120	600	1400	-	740	2120	600	1400	-	710+z
DC-Converter, Size D6										
DCS800-A0x-1900-08-D ④	2120	600	-	2000	850					
DCS800-A0x-2050-05/06/07-D ⑧	2120	600	2400	-	1100					
DCS800-A0x-2500-04/05/06/07-D ⑥	2120	600	2400	-	1100					
DCS800-A0x-2500-08-D ④	2120	600	-	2000	850					
DCS800-A0x-3000-04/05/06/07-D ⑧	2120	600	2400	-	1250			on request		
DCS800-A0x-3000-08-D ④	2120	600	-	2000	950					
DC-Converter, Size D7										
DCS800-A0x-2050-10-D ④	2120	600	-	2100	790					
DCS800-A0x-2600-10/12-D ④	2120	600	-	2100	850					
DCS800-A0x-3300-04/05/06/07/08/10/12-D ④	2120	600	-	2100	950					
DCS800-A0x-4000-04/05/06/07/08/10/12-D ④	2120	600	-	2700 ⑨	1170					
DCS800-A0x-4800-06/07/08-D ④	2120	600	-	2700 ⑨	1200					
DCS800-A0x-5200-04/05-D ④	2120	600	-	2700 ⑨	1200					
DC-Converter, Size D7P										
DCS800-A0x-5200-10PD	2120	600	-	3600	1430			not available		
DCS800-A0x-6600-04/05/06/07/08/10PD	2120	600	-	3600	1630					
DCS800-A0x-8000-04/05/06/07/08/10PD	2120	600	-	4800 ⑩	2070					
DCS800-A0x-9600-06/07/08PD	2120	600	-	4800 ⑩	2140					
DCS800-A0x-10400-04/05PD	2120	600	-	4800 ⑩	2140					
Incoming Supply Sections										
DCA 63u-1000-04/05/06/07-D						2120	600	600	600	300
DCA 63u-2000-4/5/6/7-D						2120	600	600	600	320
DCA 63u-3000-4/5/6/7-D ⑩			not available			2120	600	800	800	340
DCA 63u-4000-4/5/6/7-D ⑩						2120	600	800	1000	380
Busbar joining cabinet ⑥										
						2120	600	200	-	30+z

Fan data

Fan type	Air volume freely blowing [m³/h]	Converter Size
	50 Hz 60 Hz	
2x CN2B2	320 360	D1 D2 D3
4x CN2B2	640 720	D3 D4 0405...0520
W2E200 (230 V)	925 1030	D4 0610...0820
W2E200 (115 V)	925 1030	D4 0610...0820
W2E250 (230 V)	1860 1975	D4 0900...1000
W2E250 (115 V)	1835 1940	D4 0900...1000
D2E 160	800 750	D5
GR31M	1500 1600	D6 *
400...500 V		
GR31M	1500 1600	D6 *
500...690 V		
GR35C	4200 4250	D7 *
400/690V		
2x GR35C	8400 8500	D7P *
400/690V		

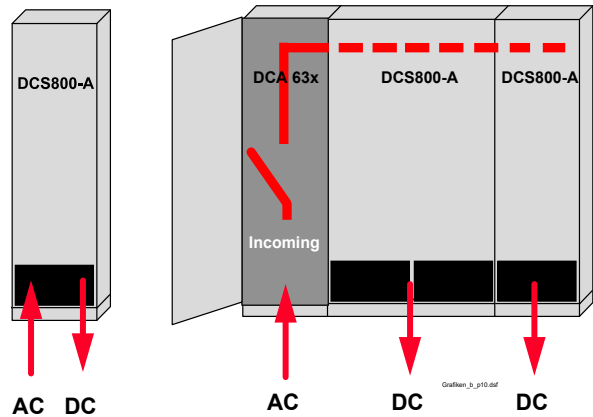
Table 2: Dimensions of the DCS800-A series

x=1 → 2-Q converter
 x=2 → 4-Q converter
 P → hard parallel (two conv. mod. in parallel) break in com. without options
 u=0 → incoming without switch
 u=1 → incom. w. insulation
 switch u=2 → incom. w. circuit breaker

Voltage class: (example: DCS800-A0x-0025-04y-D)
 04 → 400 V 05 → 500 / 525 V 06 → 600 V 07 → 690 V
 08 → 800 V 10 → 990 V 12 → 1200 V

Notes:

- All dimensions are in mm
- Please add for each end panel 15 mm and for a door (without buttons) 20 mm
- ① Height is including detachable hood (120 mm)
- ② circuit breaker or contactor
- ③ without circuit breaker or contactor
- ④ DCS800-A with AC supply voltage 3 x 800 V...1200 V or current ≥ 3300 A are generally without circuit breaker.
- ⑤ Max length of a shipping split is 3.40 m. If the line-up width is longer than 3.40 m busbar joining cabinets are required.
- ⑥ at 600 V (6) and 690 V (7) only available as 2-Q
- ⑦ weight for busbars: 1000 A / 2000 A = 35 kg/m; 3000 A = 70 kg/m
- ⑧ The air circuit breaker stands out of the line-up's front. Thus 78 mm have to be added to the total depth of the line-up.
- ⑨ listed width for cable connection reduced width for busbar connection on request
- ⑩ DCA 63 rated current as IEC rating 3000 A UL type on request



Single Drive

Group Drive

DCS family



DCS550-S modules

The compact drive for machinery application

20 ... 1,000 A_{DC}
 0 ... 610 V_{DC}
 230 ... 525 V_{AC}
 IP00

- Compact
- Robust design
- Adaptive and winder program
- High field exciter current



DCS800-S modules

The versatile drive for processindustry

20 ... 5,200 A_{DC}
 0 ... 1,160 V_{DC}
 230 ... 1,000 V_{AC}
 IP00

- Compact
- Highest power ability
- Simple operation
- Comfortable assistants, e.g. for commissioning or fault tracing
- Scalable to all applications
- Free programmable by means of integrated IEC61131-PLC



DCT880 Thyristor power controller

Controlling electro-thermal processes

16 ... 4,160 A_{DC}
 14 kW... 5 MW
 230 ... 690 (1200) V_{AC}

- Resistive and inductive loads, infrared heaters
- Phase angle, full wave burst and half wave mode
- U, I, P, I² control
- Clear text display with USB port
- Load monitoring
- For all typical load configurations star, delta, open delta, single phase, and multitap
- Reduces energy costs by power optimizer function



DCS800-E series

Pre-assembled drive-kits

20 ... 2,000 A_{DC}
 0 ... 700 V_{DC}
 230 ... 600 V_{AC}
 IP00

- DCS800 module with all necessary accessories mounted and fully cabled on a panel
- Very fast installation and commissioning
- Squeezes shut-down-times in revamp projects to a minimum
- Fits into Rittal cabinets
- Compact version up to 450 A and Vario version up to 2,000 A



DCS800-R Rebuild Kit

Digital control-kit for existing powerstacks

20 ... 20,000 A_{DC}
 0 ... 1,160 V_{DC}
 230 ... 1,200 V_{AC}
 IP00

- Proven long life components are re-used, such as power stacks, (main) contactors, cabinets and cabling / busbars, cooling systems
- Use of up-to-date communication facilities
- Increase of production and quality
- Very cost-effective solution
- Open Rebuild Kits for nearly all existing DC drives
- tailor-made solutions for:
 - BBC SX
 - BBC SZx
 - ASEA
 - TYRA
 - other manufacturers

The DCS800-E Panel Solution

The DCS800-E is a compact user-friendly Panel-Solu-tion. It offers all needed components pre-mounted, fully wired and factory-tested. While mounting it into an empty cabinet the mechanical installation will be completed. This ready-to-use concept allows to squeeze the power-down-time in rebuilding projects to a min-imum.

The DCS800-E aims for revamping projects to replace old DC-Drives up to 450 A, where the most economic solution is to replace the whole drive including thyris-tor stack and field exciter.

When re-using the power part in bigger-sized DC-Drives please take our special Rebuild Kits in consider-ation, that are tailor made for special ancient converters (e.g. TYRAK8 Rebuild Kit for old ASEA TYRAK Series) and offer modern digital control and auxiliary electronics, while the thyristor stack and other power-parts can be re-used.

Features

- Output currents from 25 to 450 A DC.
- AC input voltage from 400, 525 to 600 V AC.
- AC-Connection from top. Bottom-Connection can also be realized.
- DC-connection from bottom of DCS-Module or from DC-fuses if ordered.
- Pre-wired DC-Terminals at very bottom of DCS-Panel as option for re-using existing motor cables.
- DCS is fully tested with DC-motor acc. DCS800-E Enclosed Converters Test Specification.
- Special solutions for Pulp&Paper (incl. Safety relay) available.
- The DCS800-E is available in different types:
 - DCS800-E Standard - for standard applications
 - with DCS800 converter modules.
 - DCS800-E Pulp and Paper - with safety relay for P&P-Applications.

For every type a wide range of options is offered.

User Benefits

- Cost-Saving by reusing long-life components, like cabinet, power cables or busbars, incoming discon-necter and line fuses and other power parts.
- Digital technology with up-to-date communication interfaces and control performance offers increased process availability, quality and productivity.
- Pre-engineered standard solution requires only a minimum of engineering time.
- Pre-mounted components on a ready-to-connect panel offer reduced installation time.
- System shut down time can be squeezed to a mini-mum.
- Additional tools for simple assembly on site.



DCS800-E mounted in old cabinet

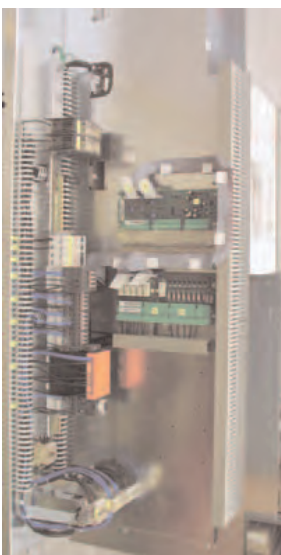


DCS800-E bottom view

- Main contactor
- DC fuses *
- Aux. transformer
- DC output terminals *
- * as option



DCS800-E top view



DCS800-E side view

Layout

DCS800-E consists of 3 separate units:

Power unit

- Includes all power devices.

Aux unit

- Includes all auxiliary devices
- Can be mounted either on the left or on the right side of the power unit.

I/O unit

- For IOB-2/3 and terminals.

- All three units are fixed together to be mounted as one single unit.
- They may also be mounted separately in different places for space saving and small cabinets.

Mounting

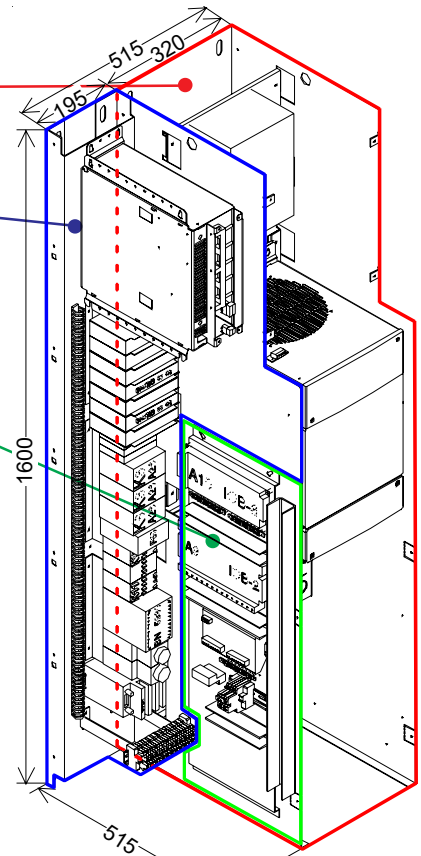
A mounting kit is available for Standard TYRAK 8/L cabinets (Types YxMK, YxML, YxMp). It consists of an upper and lower mounting support, that are screwed to the cabinet for easy fixing of the panel, and two sliding rails for easily sliding the whole DCS800-E-Panel into the cabinet. The Sliding Rails may be removed and re-used after the installation. Mounting kits for other types of cabinets on request.



DCS800-E mounting supports



Sliding rails in cabinet bottom



DCS800-E draw_3d.dsf

With total dimensions of WxDxH=515x515x1600 mm the DCS800-E Panel can be used for most cabinets with a footprint of 600x600 mm.

DCS800-E Panel Solution unit types

Unit type	DC I ① [A]	DC II current		DC III current		DC IV current		Field current [A]	Power loss ② [kW]
		100 % 15 min	150 % 60 sec.	100 % 15 min	150 % 120 sec.	100 % 15 min	200 % 10 sec.		
400 V / 525 V									
DCS800-E01-0020-04/05-960t	18	17	27	16	26	14	30	6	<0.58
DCS800-E02-0025-04/05-960t	22	21	32	20	31	18	35	6	<0.58
DCS800-E01-0045-04/05-960t	41	36	55	33	51	32	68	6	<0.65
DCS800-E02-0050-04/05-960t	45	40	59	37	56	36	72	6	<0.65
DCS800-E01-0065-04/05-960t	61	47	73	44	68	44	93	6	<0.72
DCS800-E02-0075-04/05-960t	67	53	80	50	75	50	100	6	<0.72
DCS800-E01-0090-04/05-960t	81	55	70	41	66	41	91	6	<1.00
DCS800-E02-0100-04/05-960t	90	64	96	62	93	61	122	6	<1.00
DCS800-E01-0125-04/05-960t	115	87	130	83	123	83	166	6	<1.00
DCS800-E02-0140-04/05-960t	125	95	142	91	136	91	186	6	<1.00
DCS800-E01-0180-04/05-960t	160	119	180	118	178	99	198	15	<1.51
DCS800-E02-0200-04/05-960t	180	134	201	131	197	111	223	15	<1.51
DCS800-E01-0230-04/05-960t	210	150	225	141	212	124	248	15	<1.51
DCS800-E02-0260-04/05-960t	225	159	239	150	225	132	264	15	<1.51
DCS800-E01-0315-04/05-960t	285	219	329	211	316	192	384	20	<1.89
DCS800-E02-0350-04/05-960t	300	228	342	222	333	200	400	20	<1.89
DCS800-E01-0405-04/05-960t	365	285	428	275	413	254	509	20	<2.47
DCS800-E02-0450-04/05-960t	405	316	475	306	459	283	567	20	<2.47
DCS800-E01-0470-04/05-960t	400	308	462	290	435	275	550	20	<2.57
DCS800-E02-0520-04/05-960t	450	345	517	330	495	308	616	20	<2.57
600 V									
DCS800-E01-0290-06-960t	260	214	300	192	268	192	344	DCF503	<1.85
DCS800-E02-0320-06-960t	285	235	330	211	294	210	377	DCF503	<1.85

Table 1: DCS800-E types

t=1 ⇒ Standard type

t=2 ⇒ P&P type

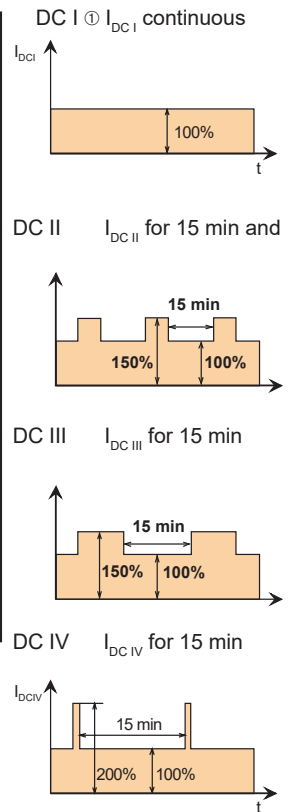
Voltage class: (example: DCS800-E02-0025-04-960t)

4 ⇒ 400V 5 ⇒ 525V 6 ⇒ 600V

① = Given Ratings are typical values for mounting in IP 21 cabinets; actual values may differ and are strongly depending on the cabinet and its cooling, especially with higher protection classes

② = Values are valid for Standard Scope of delivery without options

Load cycles



DCS800-EP Installation and Start-Up Manual

Technical data

Electrical and environmental data

Specification	Permitted Value
Electrical	
Input Voltage, 3-Phase	230 / 460 Vac
Input voltage deviation	±10% continuous, ±15% short time
Note: Special consideration must be given to voltage deviation in regeneration mode.	
Rated Frequency	50 Hz. or 60 Hz. ±2%
Environmental	
Cabinet internal ambient temperature	0 to 40°C
Change of ambient temperature	< 0.5°C
Relative humidity	5% to 95%, non-condensing
Site altitude	< 1000 m above sea level at 100% current > 1000 m above sea level at reduced current
Storage temperature	-40 to +55°C
Transportation temperature	-40 to +70°C

Reference DSC800 Hardware Manual *Technical Data*

Specifications

Environmental

Cabinet internal ambient temperature: 0 to 40 C
Protection Class: UL Type Open / IP00

Overload

150 pct of rated current for 60 seconds followed by 15 minutes at rated current or below
NOTE: Cannot be rerated for higher continuous current since all system components are sized based on these ratings

Input reactance

1.5 pct impedance when optional line reactor is included (available up to 150 hp)
NOTE: All drives require line reactor or dedicated isolation transformer with input impedance of 1.5 pct min; 4 to 10 pct max depending on system configuration. See "Line Reactors" in DCS800 Hardware Manual for details.

Fuse Protection

AC input line fuses (3)
DC output armature fuses, regen only
(2)

Accessories

Line reactors

External Line Reactors								
Non-Regenerative (2Q)	Regenerative (4Q)	HP	Line Reactor for Configuration A			Line Reactor for Configuration B		
			Manufactured by TCI					
			1.5% impedance	Watts Loss	Weight (Lbs.)	5% impedance	Watts Loss	Weight (Lbs.)
DCS800-EP1-0020-05	DCS800-EP2-0025-05	10	KLR16BTB	0	7	KLR16CTB	58	12
DCS800-EP1-0045-05	DCS800-EP2-0050-05	20	KLR35BTB	55	8	KLR35CTB	97	22
DCS800-EP1-0065-05	DCS800-EP2-0075-05	30	KLR45BTB	59	8	KLR45CTB	118	24
DCS800-EP1-0090-05	DCS800-EP2-0100-05	40	KLR55BTB	70	11	KLR55CTB	150	32
DCS800-EP1-0125-05	DCS800-EP2-0140-05	60	KLR110BCB	95	26	KLR110CCB	191	50
DCS800-EP1-0180-05	–	75	KLR110BCB	95	26	KLR110CCB	191	50
–	DCS800-EP2-0200-05	100	KLR160BCB	127	47	KLR160CCB	254	84
DCS800-EP1-0230-05	DCS800-EP2-0260-05	125	KLR200BCB	135	53	KLR200CCB	337	110
DCS800-EP1-0315-05	DCS800-EP2-0350-05	150	KLR200BCB	135	53	KLR200CCB	337	110
DCS800-EP1-0405-05	DCS800-EP2-0450-05	200	KLR300BCB	216	54	KLR300CCB	443	122
DCS800-EP1-0470-05	DCS800-EP2-0520-05	250	KLR360BCB	221	65	KLR360CCB	406	156
DCS800-EP1-0610-05	DCS800-EP2-0680-05	300	KLR420BCB	275	85	KLR420CCB	500	160
DCS800-EP1-0740-05	DCS800-EP2-0820-05	400	KLR600BCB	338	96	KLR600CCB	650	275
DCS800-EP1-0900-05	DCS800-EP2-1000-05	500	KLR750BCB	372	147	KLR750CCB	732	295
–	DCS800-EP2-1010-05	600	KLR850BCB	389	150	KLR850CCB	850	300

Current ratings

The current ratings for the DCS800 with 50 Hz and 60 Hz supplies are given below. The symbols are described below the table. The characteristics are based on an ambient temperature of max. 40°C and an elevation of max. 1000 m a.s.l.

Unit type 2-Q converters	P _{out} ③			Unit type 4-Q converters	P _{out} ③			int. field current	Fan volt. [V _{DC}]	Air volume [m³/h]	P _{Loss} [kW]	④	Frame size
	I _{DC} [A]	[kW]	[kW]		I _{DC} [A]	[kW]	[kW]						
400 V / 500 V / 525 V		400V	500V		400V	500V							
DCS800-S01-0020-04/05	20	9	12	DCS800-S02-0025-04/05	25	10	13	6	without fan	300	0.11		D1
DCS800-S01-0045-04/05	45	21	26	DCS800-S02-0050-04/05	50	21	26	6		300	0.17		D1
DCS800-S01-0065-04/05	65	30	38	DCS800-S02-0075-04/05	75	31	39	6		300	0.22		D1
DCS800-S01-0090-04/05	90	42	52	DCS800-S02-0100-04/05	100	42	52	6		300	0.28		D1
DCS800-S01-0125-04/05	125	58	73	DCS800-S02-0140-04/05	140	58	73	6		300	0.38		D1
DCS800-S01-0180-04/05	180	84	104	DCS800-S02-0200-04/05	200	83	104	15	115/230; 1-ph	300	0.56		D2
DCS800-S01-0230-04/05	230	107	133	DCS800-S02-0260-04/05	260	108	135	15		300	0.73		D2
DCS800-S01-0315-04/05	315	146	183	DCS800-S02-0350-04/05	350	145	182	20		600	0.91		D3
DCS800-S01-0405-04/05	405	188	235	DCS800-S02-0450-04/05	450	187	234	20		600	1.12		D3
DCS800-S01-0470-04/05	470	213	280	DCS800-S02-0520-04/05	520	218	276	20		600	1.32		D3
DCS800-S01-0610-04/05	610	284	354	DCS800-S02-0680-04/05	680	282	354	25		950	1.76		D4
DCS800-S01-0740-04/05	740	344	429	DCS800-S02-0820-04/05	820	340	426	25	230; 1-ph ①	950	2.14		D4
DCS800-S01-0900-04/05	900	490	522	DCS800-S02-1000-04/05	1000	415	520	25		1900	2.68		D4
DCS800-S01-1190-04/05	1190 ⑤	553	690	DCS800-S02-1190-04/05	1190 ⑤	553	690	25 ②		800	5.00	●	D4+
DCS800-S01-1200-04/05	1200	558	696	DCS800-S02-1200-04/05	1200	498	624	25 ②		800	5.10	●	D5
DCS800-S01-1500-04/05	1500	698	870	DCS800-S02-1500-04/05	1500	623	780	25 ②	230; 1-ph	800	5.30	●	D5
DCS800-S01-2000-04/05	2000	930	1160	DCS800-S02-2000-04/05	2000	830	1040	25 ②		800	6.60	●	D5
DCS800-S01-2050-05	2050	953	1189	DCS800-S02-2050-05	2050	851	1066	-	400; 3-ph; 50 Hz	1600	8.00	●	D6
DCS800-S01-2500-04/05	2500	1163	1450	DCS800-S02-2500-04/05	2500	1038	1300	-	525; 3-ph; 50 Hz	1600	9.00	●	D6
DCS800-S01-3000-04/05	3000	1395	1740	DCS800-S02-3000-04/05	3000	1245	1560	-	460; 3-ph; 60 Hz	1600	11.10	●	D6
DCS800-S01-3300-04/05	3300	1535	1914	DCS800-S02-3300-04/05	3300	1370	1716	-		4200	11.70	●	D7
DCS800-S01-4000-04/05	4000	1860	2320	DCS800-S02-4000-04/05	4000	1660	2080	-	400; 3-ph; 50 Hz	4200	13.00	●	D7
DCS800-S01-5200-04/05	5200	2418	3016	DCS800-S02-5200-04/05	5200	2158	2704	-	460; 3-ph; 60 Hz	4200	19.00	●	D7
600 V / 690 V		600V	690V		600V	690V							
DCS800-S01-0290-06	290	203		DCS800-S02-0320-06	320	200		-	115/230; 1-ph	600	0.91	●	D3
DCS800-S01-0590-06	590	413		DCS800-S02-0650-06	650	405		-	230; 1-ph	950	1.86	●	D4
DCS800-S01-0900-06/07	900	630	720	DCS800-S02-0900-06/07	900	563	648	25 ②		800	5.10	●	D5
DCS800-S01-1500-06/07	1500	1050	1200	DCS800-S02-1500-06/07	1500	938	1080	25 ②	230; 1-ph	800	6.30	●	D5
DCS800-S01-2000-06/07	2000	1400	1600					25 ②		800	8.10	●	D5
DCS800-S01-2050-06/07	2050	1435	1640	DCS800-S02-2050-06/07	2050	1281	1476	-	400; 3-ph; 50 Hz	1600	9.20	●	D6
DCS800-S01-2500-06/07	2500	1750	2000	DCS800-S02-2500-06/07	2500	1563	1800	-	525; 3-ph; 50 Hz	1600	10.20	●	D6
DCS800-S01-3000-06/07	3000	2100	2400	DCS800-S02-3000-06/07	3000	1875	2160	-	460; 3-ph; 60 Hz	1600	12.20	●	D6
DCS800-S01-3300-06/07	3300	2310	2640	DCS800-S02-3300-06/07	3300	2063	2376	-		4200	13.10	●	D7
DCS800-S01-4000-06/07	4000	2800	3200	DCS800-S02-4000-06/07	4000	2500	2880	-	400; 3-ph; 50 Hz	4200	15.10	●	D7
DCS800-S01-4800-06/07	4800	3360	3840	DCS800-S02-4800-06/07	4800	3000	3456	-	460; 3-ph; 60 Hz	4200	19.50	●	D7
800 V		800V			800V								
DCS800-S01-1900-08	1900	1739		DCS800-S02-1900-08	1900	1558		-	400; 3-ph; 50 Hz	1600	9.00	●	D6
DCS800-S01-2500-08	2500	2288		DCS800-S02-2500-08	2500	2050		-	525; 3-ph; 50 Hz	1600	10.70	●	D6
DCS800-S01-3000-08	3000	2745		DCS800-S02-3000-08	3000	2460		-	460; 3-ph; 60 Hz	1600	12.70	●	D6
DCS800-S01-3300-08	3300	3020		DCS800-S02-3300-08	3300	2706		-		4200	13.40	●	D7
DCS800-S01-4000-08	4000	3660		DCS800-S02-4000-08	4000	3280		-	400; 3-ph; 50 Hz	4200	15.60	●	D7
DCS800-S01-4800-08	4800	4392		DCS800-S02-4800-08	4800	3936		-	460; 3-ph; 60 Hz	4200	20.00	●	D7
990 V		990V			990V								
DCS800-S01-2050-10	2050	2378		DCS800-S02-2050-09	2050	2132		-		4200	9.70	●	D7
DCS800-S01-2600-10	2600	3016		DCS800-S02-2600-09	2600	2704		-	400; 3-ph; 50 Hz	4200	12.10	●	D7
DCS800-S01-3300-10	3300	3828		DCS800-S02-3300-09	3300	3432		-	460; 3-ph; 60 Hz	4200	16.60	●	D7
DCS800-S01-4000-10	4000	4640		DCS800-S02-4000-09	4000	4160		-		4200	20.20	●	D7
1200 V	Data on request												

① with plus code 115 V selectable

② FEX425 internal field exciter as option; three-phase or single phase, separate supply max. 500 V_{AC}

③ ratings for rated input voltage -10%

④ SDCS-DSL-4 board as standard

⑤ Continuous rating is 1190 A_{DC} for 35°C and 1140 A_{DC} for 40°C ambient temperature

$$I_{AC\ input} = I_{DC\ out} \cdot 0.82$$

Environmental conditions

System connection	
Voltage, 3-phase:	230 to 1000 V acc. to IEC 60038
Voltage deviation:	±10% continuous; ±15% short-time *
Rated frequency:	50 Hz or 60 Hz
Static frequency deviation:	50 Hz ± 2%; 60 Hz ± 2%
Dynamic: frequency range:	50 Hz: ± 5 Hz; 60 Hz: ± 5 Hz
df/dt:	17% / s
* = de 0.5 a 30 cycles	
Please note: Special consideration must be taken for voltage deviation in regenerative mode.	
Degree of protection	
Converter module and options (line chokes, fuse holder, field supply unit, etc.):	IP 00
Enclosed converters:	IP 20/21/31/41/54
Paint finish	
Converter module:	RAL 9002
Enclosed converter:	light grey RAL 7035

Sound pressure level

Size	Sound pressure level L _p (1 m distance)		Vibraciones
	as module	enclosed conv.	as module
D1	55 dBA	68 dBA	
D2	55 dBA	72 dBA	
D3	60 dBA	78 dBA	0,5 g, 5...55 Hz
D4	66...70 dBA, depending on fan	77 dBA	
D5	73 dBA	78 dBA	1 mm, 2...9 Hz
D6	75 dBA	73 dBA	0,3 g, 9...200 Hz
D7	82 dBA	80 dBA	

Regulatory compliance

The converter module and enclosed converter components are designed for use in industrial environments. In EEA countries, the components fulfil the requirements of the EU directives, see table below.

European union directive	Manufacturer's assurance	Harmonized standards	
		Converter module	Enclosed converter
Machinery Directive 98/37/EEC 93/68/EEC	Declaration of Incorporation	EN 60204-1 [IEC 60204-1]	EN 60204-1 [IEC 60204-1]
Low Voltage Directive 73/23/EEC 93/68/EEC	Declaration of Conformity	EN 60146-1-1 [IEC 60146-1-1] EN 61800-5-1 (EN 50178 [IEC --]) véase también IEC 60664	EN 60204-1 [IEC 60204-1] EN 61800-5-1 EN 60439-1 [IEC 60439-1]
EMC Directive 89/336/EEC 93/68/EEC	Declaration of Conformity (Provided that all installation instructions concerning cable selection, cabling and EMC filters or dedicated transformer are followed.)	EN 61800-3 ① [IEC 61800-3] ① in accordance with 3ADW 000 032	EN 61800-3 ① [IEC 61800-3] ① in accordance with 3ADW 000 032/3ADW 000 091

Environmental limit values	
Permissible cooling air temperat.	
- at converter module air inlet	0 to +55°C
with rated DC current:	0 to +40°C
with different DC current:	+30 to +55°C
- Options	0 to +40°C
Relative humidity (at 5...+40°C):	5 to 95%, no condensation
Relative humidity (at 0...+5°C):	5 to 50%, no condensation
Change of the ambient temp.:	< 0,5°C / minute
Storage temperature:	-40 to +55°C
Transport temperature:	-40 to +70°C
Pollution degree (IEC 60664-1, IEC 60439-1):	2
Site elevation	
<1000 m above M.S.L.:	100%, without current reduction
>1000 m above M.S.L.:	with current reduction

North American Standards

In North America the system components fulfil the requirements of the table below.

Rated supply voltage	Standards	
	Converter module	Enclosed converter
to 600 V	UL 508 C Power Conversion Equipment CSA C 22.2 No. 14-95 Industrial Control Equipment, Industrial Products Available for converter modules including field exciter units. Types with UL mark: certificate no. E196914 • or on request	UL/CSA types: on request

Номинальные показатели тока

2-квadrантные преобразователи

Ниже приведены номинальные показатели тока для модели DCS880 с частотой источника питания 50 Гц и 60 Гц. Обозначения разъяснены под таблицей. Характеристики указаны для температуры окружающей среды до 40 °C и высоты до 1000 м над уровнем моря.

Модули с 2-квadrантными преобразователями	I _{пост. тока} [A]	P _{вых} ²⁾ [кВт]	Внутренний ток возбуждения		Напряжение вентилятора [V _{перем. тока}]	Объем воздуха [м ³ /ч]	P _{потери} [кВт]	Типоразмер корпуса
			P _{вых} ²⁾ [кВт]	[A]				
400 В/500 В/525 В		400 В	500 В					
DCS880-S01-0020-04/05	20	9	12	6	без вентилятора	0,11		
DCS880-S01-0045-04/05	45	21	26	12	внутренняя	57	0,17	H1
DCS880-S01-0065-04/05	65	30	38	12		57	0,22	
DCS880-S01-0090-04/05	90	42	52	12	внутренняя	57	0,28	H2
DCS880-S01-0135-04/05	135	58	73	18		170	0,38	
DCS880-S01-0180-04/05	180	84	104	18	внутренняя	170	0,56	H2
DCS880-S01-0225-04/05	225	107	133	18		170	0,73	
DCS880-S01-0270-04/05	270	128	159	18	внутренняя	170	0,82	H3
DCS880-S01-0315-04/05	315	146	183	25		170	0,91	
DCS880-S01-0405-04/05	405	188	235	25	внутренняя	170	1,12	H3
DCS880-S01-0470-04/05	470	213	280	25		255	1,32	
DCS880-S01-0610-04/05	610	284	354	30	230; 1 фаза	388	1,76	H4
DCS880-S01-0740-04/05	740	344	429	30		388	2,14	
DCS880-S01-0900-04/05	900	490	522	30	230; 1 фаза	425	2,68	H5
DCS880-S01-1190-04/05	1190 ⁴⁾	553	690	25 ¹⁾		918	5,00 ●	
DCS880-S01-1200-04/05	1200	558	696	25 ¹⁾	230; 1 фаза	850	5,10 ●	H6
DCS880-S01-1500-04/05	1500	698	870	25 ¹⁾		850	5,30 ●	
DCS880-S01-2000-04/05	2000	930	1160	25 ¹⁾	400; 3 фазы; 50 Гц	850	6,60 ●	H7
DCS880-S01-2050-05	2050	953	1189	-		1700	8,00 ●	
DCS880-S01-2500-04/05	2500	1163	1450	-	525; 3 фазы; 50 Гц	1700	9,00 ●	H7
DCS880-S01-3000-04/05	3000	1395	1740	-	460; 3 фазы; 60 Гц	1700	11,10 ●	
DCS880-S01-3300-04/05	3300	1535	1914	-	400; 3 фазы; 50 Гц	4500	11,70 ●	H8
DCS880-S01-4000-04/05	4000	1860	2320	-		4500	13,00 ●	
DCS880-S01-5200-04/05	5200	2418	3016	-	460; 3 фазы; 60 Гц	4500	19,00 ●	
600/690 В		600 В	690 В					
DCS880-S01-0290-06	290	203	-	-	внутренняя	170	0,91 ●	H3
DCS880-S01-0590-06	590	413	-	-	230; 1 фаза	425	1,86 ●	H4
DCS880-S01-0900-06/07	900	630	720	25 ¹⁾	230; 1 фаза	850	5,10 ●	H6
DCS880-S01-1500-06/07	1500	1050	1200	25 ¹⁾		850	6,30 ●	
DCS880-S01-2000-06/07	2000	1400	1600	25 ¹⁾	400; 3 фазы; 50 Гц	850	8,10 ●	H7
DCS880-S01-2050-06/07	2050	1435	1640	-		1700	9,20 ●	
DCS880-S01-2500-06/07	2500	1750	2000	-	525; 3 фазы; 50 Гц	1700	10,20 ●	H7
DCS880-S01-3000-06/07	3000	2100	2400	-	460; 3 фазы; 60 Гц	1700	12,20 ●	
DCS880-S01-3300-06/07	3300	2310	2640	-	400; 3 фазы; 50 Гц	4500	13,10 ●	H8
DCS880-S01-4000-06/07	4000	2800	3200	-		4500	15,10 ●	
DCS880-S01-4800-06/07	4800	3360	3840	-	460; 3 фазы; 60 Гц	4500	19,50 ●	
800 В		800 В						
DCS880-S01-1900-08	1900	1739	-	-	400; 3 фазы; 50 Гц	1500	9,00 ●	H7
DCS880-S01-2500-08	2500	2288	-	-	525; 3 фазы; 50 Гц	1500	10,70 ●	
DCS880-S01-3000-08	3000	2745	-	-	460; 3 фазы; 60 Гц	1500	12,70 ●	H8
DCS880-S01-3300-08	3300	3020	-	-	400; 3 фазы; 50 Гц	4500	13,40 ●	
DCS880-S01-4000-08	4000	3660	-	-	460; 3 фазы; 60 Гц	4500	15,60 ●	H8
DCS880-S01-4800-08	4800	4392	-	-	4500	20,00 ●		
990 В		990 В						
DCS880-S01-2050-10	2050	2378	-	-	400; 3 фазы; 50 Гц	4500	9,70 ●	H8
DCS880-S01-2600-10	2600	3016	-	-		4500	12,10 ●	
DCS880-S01-3300-10	3300	3828	-	-	460; 3 фазы; 60 Гц	4500	16,60 ●	H8
DCS880-S01-4000-10	4000	4640	-	-	4500	20,20 ●		
1190 В		1190 В						
DCS880-S01-2600-12	2600	3588	-	-	400; 3 фазы; 50 Гц	4500	13,50 ●	H8
DCS880-S01-3300-12	3300	4554	-	-	460; 3 фазы; 60 Гц	4500	18,20 ●	
DCS880-S01-4000-12	4000	5520	-	-	4500	22,20 ●		

1) Внутренний возбудитель FEX-425 в качестве опции; три фазы или одна фаза; отдельный источник питания напряжением до 500 В_{перем. тока}

2) Номинальные показатели для рекомендованного напряжения постоянного тока

3) Плата SDCS-DSL-N1x в стандартном исполнении

4) Номинальное значение тока непрерывной работы — 1190 А_{пост. тока} для температуры окружающего воздуха 35 °C и 1140 А_{пост. тока} для температуры окружающего воздуха 40 °C

I_{вх. перем. тока} = I_{вых. пост. тока} × 0,82

Номинальные показатели тока

4-квadrантные преобразователи

Ниже приведены номинальные показатели тока для модели DCS880 с частотой источника питания 50 Гц и 60 Гц. Обозначения разъяснены под таблицей. Характеристики указаны для температуры окружающей среды до 40 °C и высоты до 1000 м над уровнем моря.

Модули с 4-квadrантными преобразователями	I _{пост. тока} [А]	P _{вых} ²⁾ [кВт]		Внутренний ток возбуждения [А]	Напряжение вентилятора [V _{перем. тока}]	Объем воздуха [м ³ /ч]	P _{потери} [кВт]	Типоразмер корпуса
		400 В	500 В					
400 В/500 В/525 В		400 В	500 В					
DCS880-S02-0025-04/05	25	10	13	6	без вентилятора		0,11	
DCS880-S02-0050-04/05	50	21	26	12	внутренняя	57	0,17	H1
DCS880-S02-0075-04/05	75	31	39	12		57	0,22	
DCS880-S02-0100-04/05	100	42	52	12	внутренняя	57	0,28	H2
DCS880-S02-0150-04/05	150	58	73	18		170	0,38	
DCS880-S02-0200-04/05	200	83	104	18	внутренняя	170	0,56	H2
DCS880-S02-0250-04/05	250	108	135	18		170	0,73	
DCS880-S02-0300-04/05	300	142	162	18	внутренняя	170	0,82	H3
DCS880-S02-0350-04/05	350	145	182	25		170	0,91	
DCS880-S02-0450-04/05	450	187	234	25	внутренняя	170	1,12	H3
DCS880-S02-0520-04/05	520	218	276	25		255	1,32	
DCS880-S02-0680-04/05	680	282	354	30	230; 1 фаза	388	1,76	H4
DCS880-S02-0820-04/05	820	340	426	30		388	2,14	
DCS880-S02-1000-04/05	1000	415	520	30	230; 1 фаза	425	2,68	H5
DCS880-S02-1190-04/05	1190 ⁴⁾	553	690	25 ¹⁾		918	5,00 ●	
DCS880-S02-1200-04/05	1200	498	624	25 ¹⁾	230; 1 фаза	850	5,10 ●	H6
DCS880-S02-1500-04/05	1500	623	780	25 ¹⁾		850	5,30 ●	
DCS880-S02-2000-04/05	2000	830	1040	25 ¹⁾	400; 3 фазы; 50 Гц	850	6,60 ●	H7
DCS880-S02-2050-05	2050	851	1066	-		1700	8,00 ●	
DCS880-S02-2500-04/05	2500	1038	1300	-	525; 3 фазы; 50 Гц	1700	9,00 ●	H7
DCS880-S02-3000-04/05	3000	1245	1560	-	460; 3 фазы; 60 Гц	1700	11,10 ●	
DCS880-S02-3300-04/05	3300	1370	1716	-	400; 3 фазы; 50 Гц	4500	11,70 ●	H8
DCS880-S02-4000-04/05	4000	1660	2080	-		4500	13,00 ●	
DCS880-S02-5200-04/05	5200	2158	2704	-	460; 3 фазы; 60 Гц	4500	19,00 ●	
600/690 В		600 В	690 В					
DCS880-S02-0320-06	320	200		-	внутренняя	170	0,91 ●	H3
DCS880-S02-0650-06	650	405		-	230; 1 фаза	425	1,86 ●	H4
DCS880-S02-0900-06/07	900	563	648	25 ¹⁾	230; 1 фаза	850	5,10 ●	H6
DCS880-S02-1500-06/07	1500	938	1080	25 ¹⁾		850	6,30 ●	
DCS880-S02-2050-06/07	2050	1281	1476	-	400; 3 фазы; 50 Гц	1700	9,20 ●	H7
DCS880-S02-2500-06/07	2500	1563	1800	-	525; 3 фазы; 50 Гц	1700	10,20 ●	
DCS880-S02-3000-06/07	3000	1875	2160	-	460; 3 фазы; 60 Гц	1700	12,20 ●	H8
DCS880-S02-3300-06/07	3300	2063	2376	-	400; 3 фазы; 50 Гц	4500	13,10 ●	
DCS880-S02-4000-06/07	4000	2500	2880	-	460; 3 фазы; 60 Гц	4500	15,10 ●	H8
DCS880-S02-4800-06/07	4800	3000	3456	-	4500	19,50 ●		
800 В		800 В						
DCS880-S02-1900-08	1900	1558		-	400; 3 фазы; 50 Гц	1500	9,00 ●	H7
DCS880-S02-2500-08	2500	2050		-	525; 3 фазы; 50 Гц	1500	10,70 ●	
DCS880-S02-3000-08	3000	2460		-	460; 3 фазы; 60 Гц	1500	12,70 ●	H8
DCS880-S02-3300-08	3300	2706		-	400; 3 фазы; 50 Гц	4500	13,40 ●	
DCS880-S02-4000-08	4000	3280		-	460; 3 фазы; 60 Гц	4500	15,60 ●	H8
DCS880-S02-4800-08	4800	3936		-	4500	20,00 ●		
990 В		990 В						
DCS880-S02-2050-10	2050	2132		-	400; 3 фазы; 50 Гц	4500	9,70 ●	H8
DCS880-S02-2600-10	2600	2704		-		4500	12,10 ●	
DCS880-S02-3300-10	3300	3432		-	460; 3 фазы; 60 Гц	4500	16,60 ●	H8
DCS880-S02-4000-10	4000	4160		-	4500	20,20 ●		
1190 В		1190 В						
DCS880-S02-2600-12	2600	3211		-	400; 3 фазы; 50 Гц	4500	13,50 ●	H8
DCS880-S02-3300-12	3300	4076		-		4500	18,20 ●	
DCS880-S02-4000-12	4000	4940		-	460; 3 фазы; 60 Гц	4500	22,20 ●	

1) Внутренний возбудитель FEX-425 в качестве опции; три фазы или одна фаза; отдельный источник питания напряжением до 500 В_{перем. тока}

2) Номинальные показатели для рекомендованного напряжения постоянного тока

3) Плата SDCS-DSL-N1x в стандартном исполнении

4) Номинальное значение тока непрерывной работы — 1190 А_{пост. тока} для температуры окружающего воздуха 35 °C и 1140 А_{пост. тока} для температуры окружающего воздуха 40 °C

I_{вх. перем. тока} = I_{вых. пост. тока} × 0,82

Installation and wiring

Installation

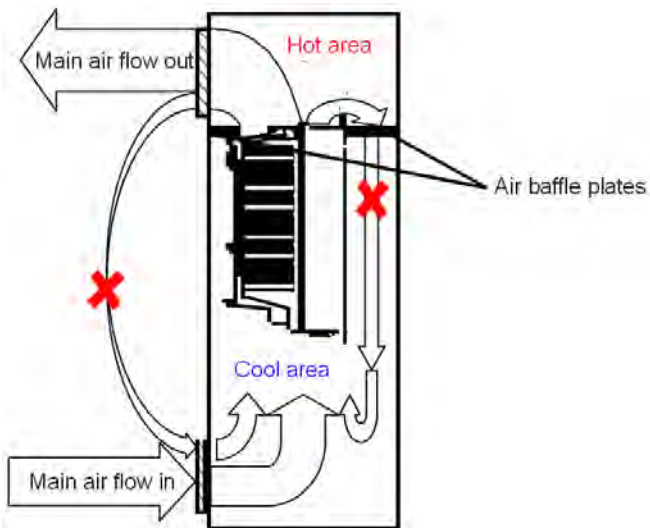
Dimensions and weights

See the dimensional drawings of the DCT880 below. The dimensions are in millimeters.

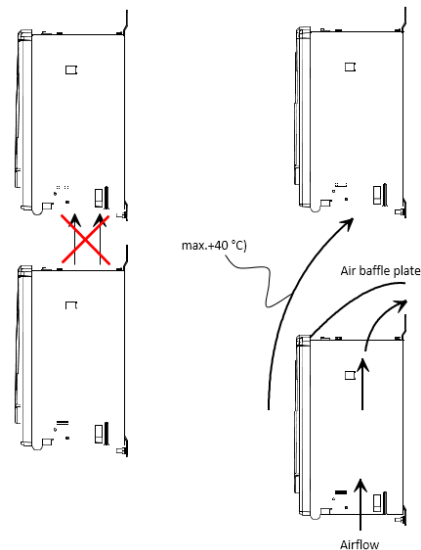
Size	Thyristor power controller	h × w × d (mounting holes h × w [mm])	weight [kg]	Distance parallel units [mm]	Top clearance [mm]	Bottom clearance [mm]
T1	DCT880-W0x-0020-04/05 DCT880-W0x-0035-04/05 DCT880-W0x-0055-04/05 DCT880-W0x-0080-04/05 DCT880-W0x-0100-04/05 DCT880-W0x-0125-04/05	370 × 270 × 215 (350 × 225)	11	10	150	100
T2	DCT880-W0x-0160-04/05 DCT880-W0x-0200-04/05 DCT880-W0x-0245-04/05	370 × 270 × 270 (350 × 225)	16	10	250	150
T3	DCT880-W0x-0325-04/05 DCT880-W0x-0360-04/05 DCT880-W0x-0420-04/05	466 × 270 × 315 (438,5 × 225)	25	10	250	150
T4	DCT880-W0x-0550-04/05 DCT880-W0x-0675-04/05 DCT880-W0x-0740-04/05	670 × 270 × 352 (625 × 225)	38	10	250	150

Preventing cooling air recirculation

Prevent air recirculation inside and outside the cabinet



Unit above another

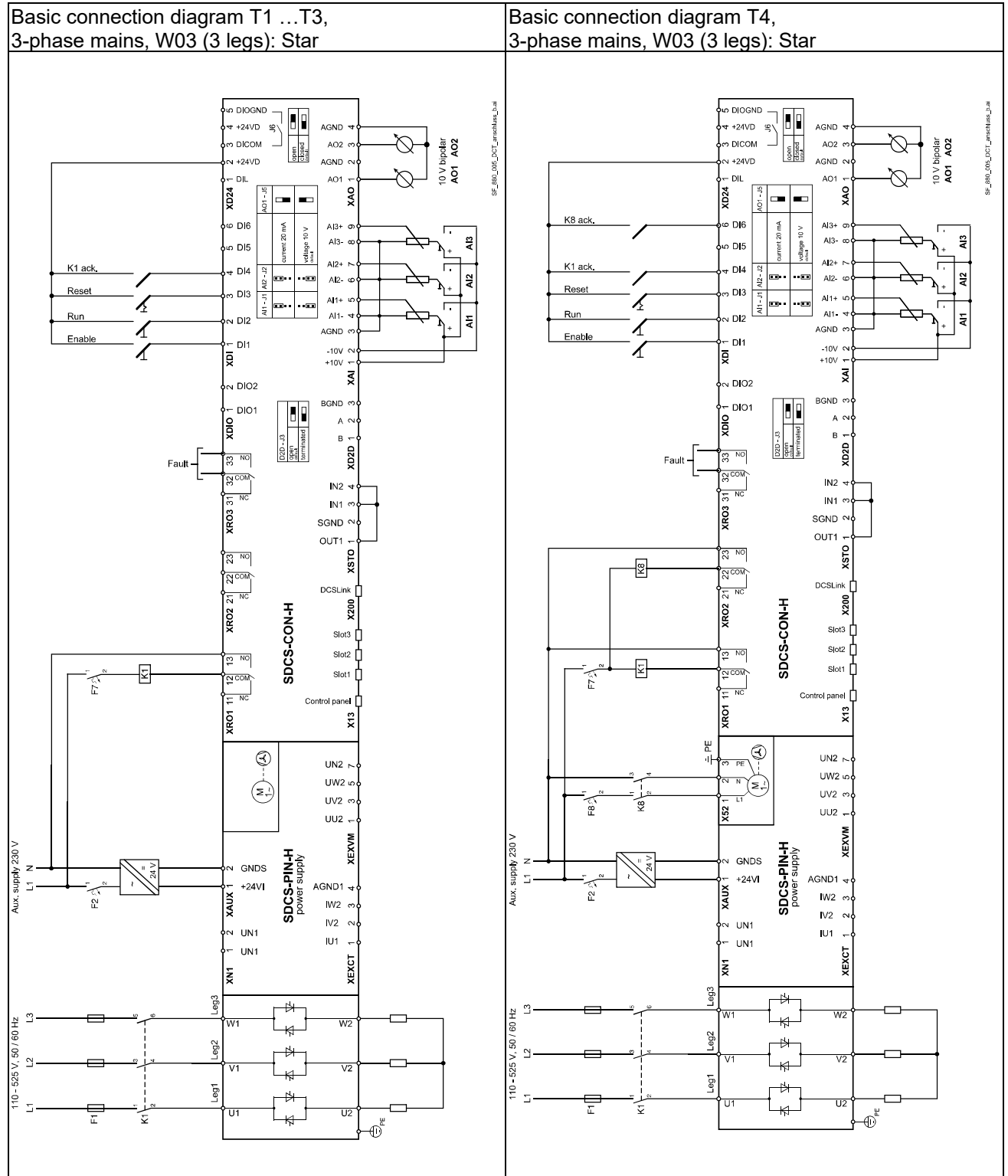


Lead the exhaust cooling air away from the unit above. Distances table above.

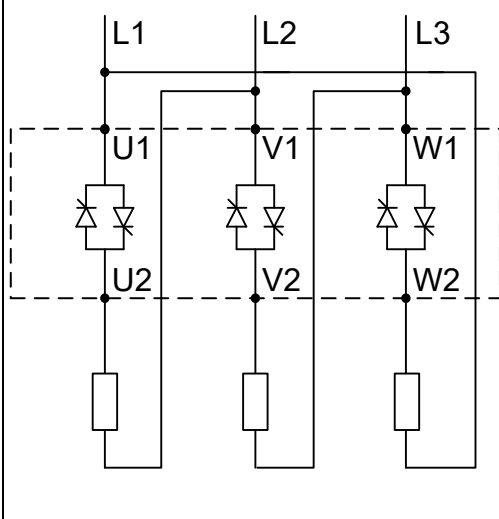
Wiring

This chapter contains the instructions that must be followed when selecting cables, protections, cable routing and way of operation of the thyristor power controller. Always follow local regulations. This chapter applies to all DCT880 thyristor power controllers.

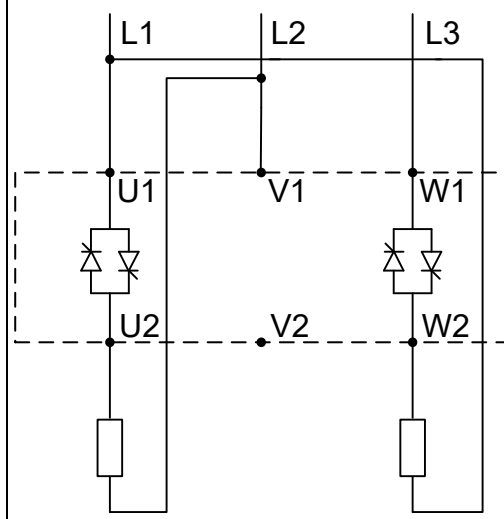
Connection and wiring example for thyristor power controllers T1 ... T4:



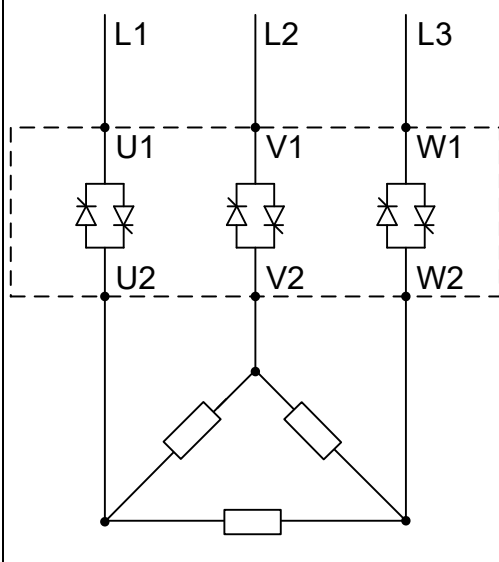
Basic power connection diagram W03:
open delta U, V, 6D



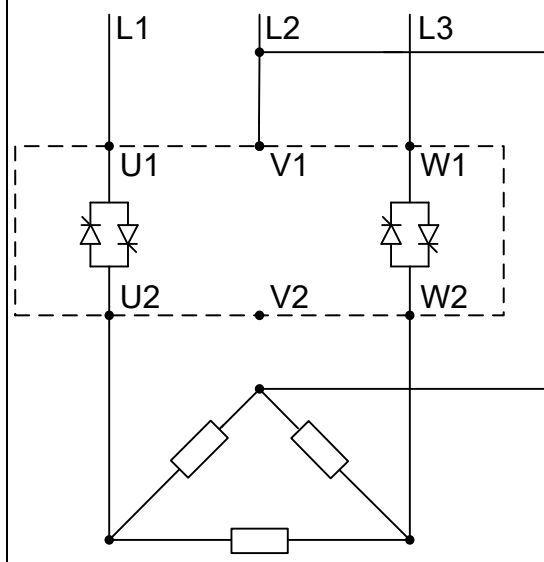
Basic power connection diagram W02:
open delta U, V, 6D



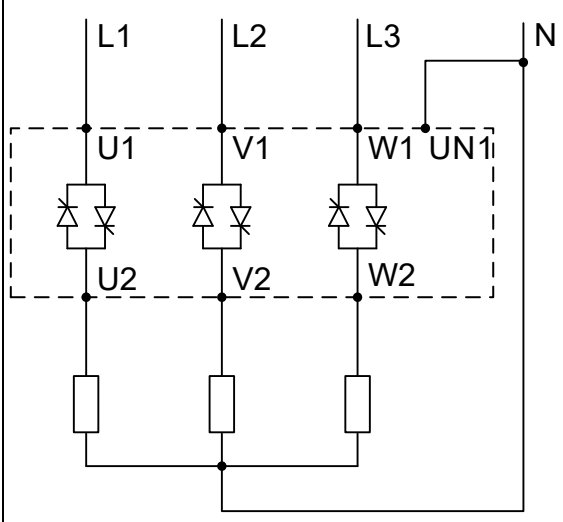
Basic power connection diagram W03: Delta



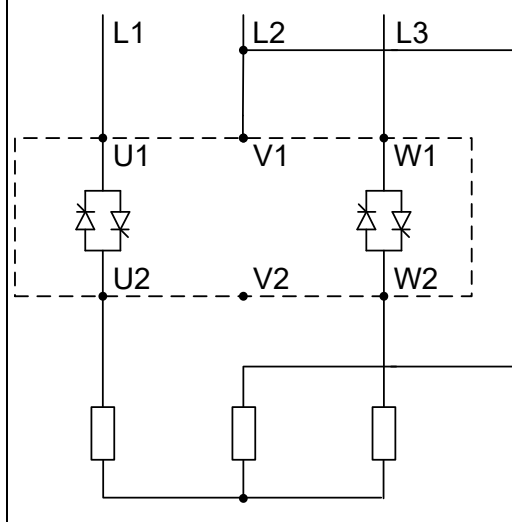
Basic power connection diagram W02: Delta

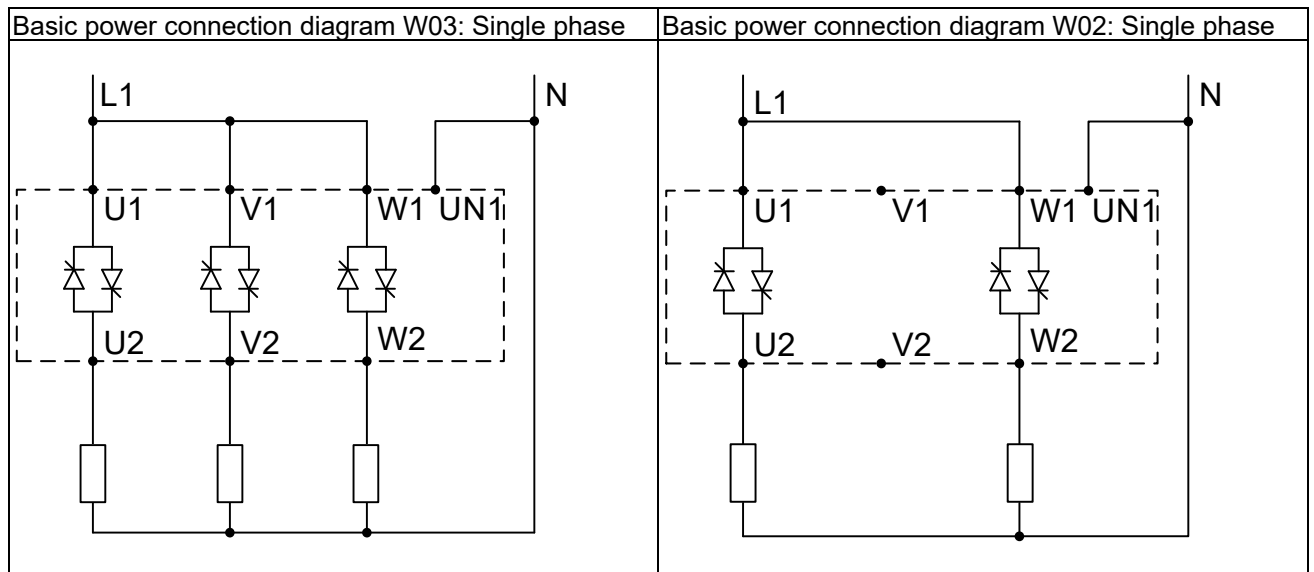


Basic power connection diagram W03: Star + N



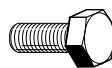

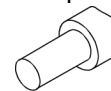

Basic power connection diagram W02: Star

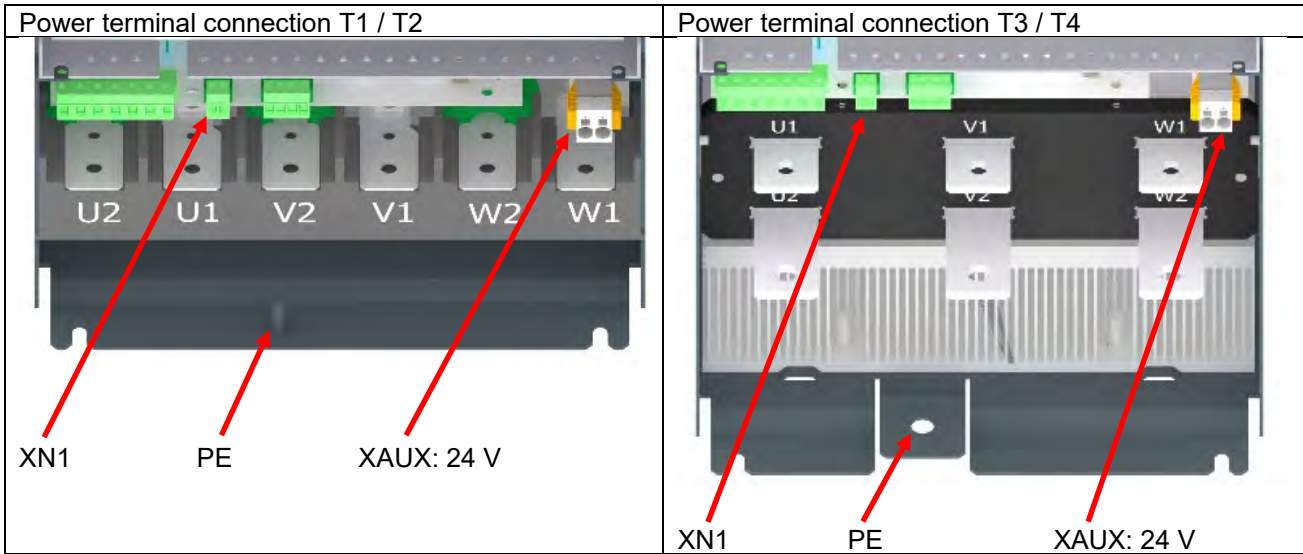




Cabling

U1, V1, W1 are the input power terminal. U2, V2, W2 are the output power terminal. PE is the terminal for protective earth.

Size	Thyristor power controller	U1, V1, W1 / U2, V2, W2			PE		 [Nm]
		Iv [A~]	1  [mm ²]	(2.)  [mm ²]			
T1	DCT880-W0x-0020-04/05	20	1 x 4	-	1x 4	1 x M6	6
	DCT880-W0x-0035-04/05	35	1 x 6	-	1x 6	1 x M6	6
	DCT880-W0x-0055-04/05	55	1 x 25	-	1x 16	1 x M6	6
	DCT880-W0x-0080-04/05	80	1 x 25	-	1x 16	1 x M6	6
	DCT880-W0x-0100-04/05	100	1 x 35	-	1x 16	1 x M6	6
	DCT880-W0x-0125-04/05	125	2 x 25	1 x 70	1x 25	1 x M6	6
T2	DCT880-W0x-0160-04/05	160	2 x 25	1 x 70	1x 25	1 x M10	25
	DCT880-W0x-0200-04/05	200	2 x 25	1 x 95	1x 25	1 x M10	25
	DCT880-W0x-0245-04/05	245	2 x 50	-	1x 50	1 x M10	25
T3	DCT880-W0x-0325-04/05	325	2 x 95	-	1x 50	1 x M10	25
	DCT880-W0x-0360-04/05	360	2 x 95	-	1x 50	1 x M10	25
	DCT880-W0x-0420-04/05	420	2 x 95	-	1x 50	1 x M10	25
T4	DCT880-W0x-0550-04/05	550	2 x 120	-	1x120	1 x M12	50
	DCT880-W0x-0675-04/05	875	2 x 150	-	1x150	1 x M12	50
	DCT880-W0x-0740-04/05	740	2 x 150	-	1x150	1 x M12	50



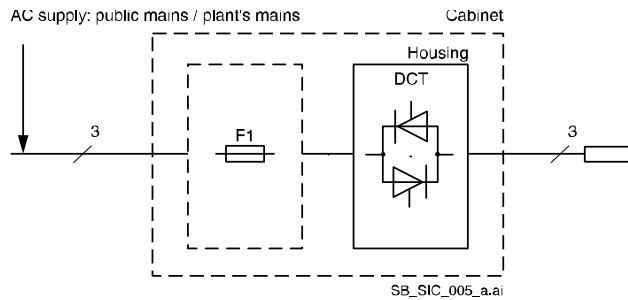
Accessories

Semiconductor fuses (F1)

Aspects of fusing for the thyristor power controller

Thyristor power controller configuration

Fuses are required in all cases to protect against further damage.



The figure shows the arrangement of external fuses in the thyristor power controller.

External fuses are standard for all T1 ... T4 with a mains voltage up to 690 V_{AC}.

Size	Thyristor power controller 400 V / 525 V	Maximum allowed I ² t value at rated voltage [A ² s]	External fuses			
			Fuse type	Fuse holder	Fuse size	
T1	DCT880-W0x-0020-04/05	1,050	50 A 690V UR	OFAX 00 S3L	DIN 000 Type T	
	DCT880-W0x-0035-04/05		80 A 690V UR			
	DCT880-W0x-0055-04/05					
	DCT880-W0x-0080-04/05	5,000	125 A 690V UR		OFAX 1 S3	DIN 1
	DCT880-W0x-0100-04/05	11,000	160 A 690V UR			
	DCT880-W0x-0125-04/05	20,000	200 A 690V UR		OFAX 2 S3	
T2	DCT880-W0x-0160-04/05	137,000	250 A 690V UR			
DCT880-W0x-0200-04/05	315 A 690V UR					
DCT880-W0x-0245-04/05	245,000		350 A 690V UR			
T3	DCT880-W0x-0325-04/05	320,000	450 A 690V UR	OFAX 3 S3	DIN 2	
	DCT880-W0x-0360-04/05		500 A 690V UR			
	DCT880-W0x-0420-04/05		630 A 690V UR			
T4	DCT880-W0x-0550-04/05	781,000	800 A 690V UR	3 * 170H3006	DIN 3	
	DCT880-W0x-0675-04/05	980,000	900 A 690V UR			
	DCT880-W0x-0740-04/05		1000 A 690V UR			

Internal semiconductor fuses (option)

Thyristor power controllers require either external or internal semiconductor fuses. Optional internal fuses are available for all T1 ... T4 with a mains voltage up to 525 V_{AC}.

Please note:

Internal UR fuses can be ordered using pluscode +S500.

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Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

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