

DCS800-E

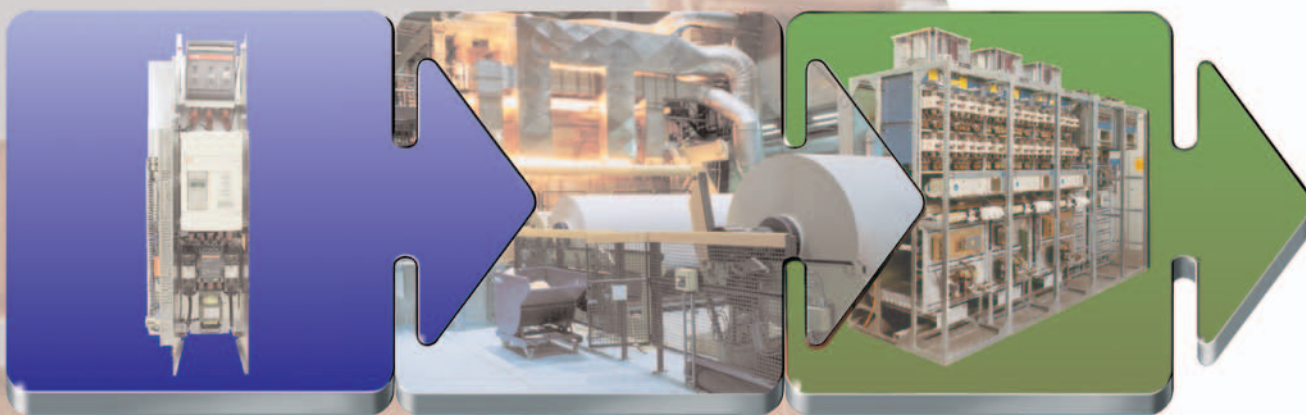
DC Drive Panel Solution

20...450 A DC

PRE-MOUNTED

PRE-ENGINEERED

FAST INSTALLATION



DIN EN ISO 9001

DIN EN ISO 14001

Standard Features

- All necessary components installed
- Easy installation: 'Ready for use'
- Very short installation time
- Reduces power-down-time in rebuilding projects to a minimum



ABB



DCS800-E mounted in old cabinet



Main contactor

DC fuses *

Aux. transformer

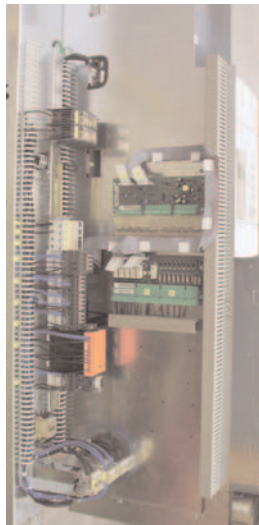
DC output terminals *

* as option

DCS800-E bottom view



DCS800-E top view



DCS800-E side view

The DCS800-E Panel Solution

The DCS800-E is a compact user-friendly Panel-Solution. 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 minimum.

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 thyristor stack and field exciter.

When re-using the power part in bigger-sized DC-Drives please take our special Rebuild Kits in consideration, 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 disconnect 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 minimum.
- Additional tools for simple assembly on site.

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

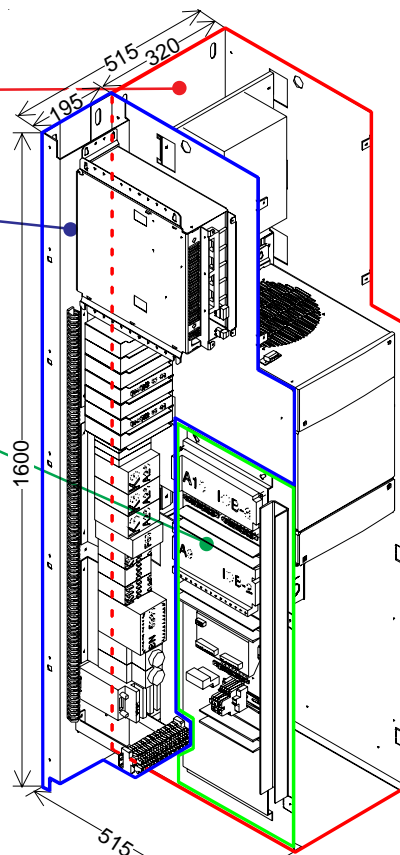
A mounting kit is available for Standard TYRAK 8/L cabinets (Types YxMK, YxML, YxMp). It consists of an upper and lower mounting support, that are screwed to the cabinet for easy fixing of the panel, and two sliding rails for easily sliding the whole DCS800-E-Panel into the cabinet. The Sliding Rails 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 $W \times D \times H = 515 \times 515 \times 1600$ 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

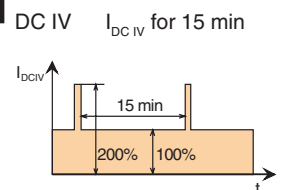
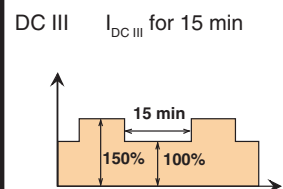
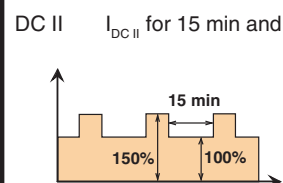
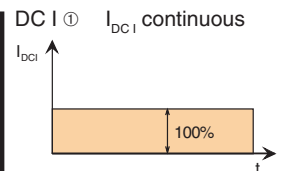
Voltage class: (example: DCS800-E02-0025-04-960t)

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



Scope of delivery and options

DCS800-E0x (Std)
DCS800-E0x (P&P)

Standard Scope of Delivery	Remarks		
DCS800 module	DCS800-S01/S02-0025...0520 (Design current 22-450A DC)	X	X
Main Contactor K1		X	X
Standard Fuseholder incl. Semiconductor Fuses F1	Fuseholder incl. Disconnecting device as option	X	X
Power unit has Protection Class IPauc	as standard	X	X
AC-connection at top of F1, DC-connection at DCS-Module bottom (if DC-Fuses are selected, DC-connection is at bottom of DC-fuses)	for 1.5m long pre-mounted AC- and DC-cables check options	X	X
Auxiliary Devices			
Digital I/O-board IOB-2x		.	.
Converter Fan contactor K8		X	X
EStop Time Relay K15		X	X
Safety Relais A04 acc. to P&P Standard	not possible, when 2nd Fex is installed (shared Motion)		X
Aux. Transformer T2 incl. F2 and MCB F5 on secondary side	T2 primary side not connected to incoming AC-Supply, but to terminals. Connection to be done by user.	X	X
Fusing of Auxiliary Circuits with MCBs	as standard	X	X
Single Wires are tinned	as standard	X	X
Complete set of drawings in a binder	as standard	X	X
Control panel DCS800-PAN	mounted on converter module	X	X
Field Exciter Circuit 6/15/20 A	for 400 V and 525 V types	X	X

Options (price see pricelist)

Power Devices			
Line Chokes L1 Type NDxx uk=1%	For light Industrial Environment	.	.
Field Transformer T3	depending on line and field voltage	.	.
Fuseholder incl. Disconnecting Function (F1)	replaces Standard Fuseholder	.	.
Motor Fan Supply for Motor Currents/A (please specify when ordering): 0.4-0.63; 0.63-1; 1-1.5; 1.5-1.7; 1.7-2.3; 2.3-3; 3-3.8; 3.8-4.8; 4.8-6.3; 6.3-8	incl. K6, F6, F60 not possible, when 2nd Fex is installed (shared Motion)	.	.
DC-Fuse-Holder and DC-Fuses for Armature Circuit		.	.
I/O Options			
Analogue I/O-Board IOB-3	also necessary for Residual Current Detection	.	.
RDIO Digital extension board	inside converter module	.	.
RAIO Analogue extension board	inside converter module	.	.
24V Supply 2A		.	.
Local I/O Control with latching function	incl. K11+K12	.	.
Electrical Disconnect K16		.	.
Aux Control Voltage 115V (IOB-22)		.	.
Fieldbusadapter	inside converter module	.	.
DACS Communication board	inside converter module	.	.
Other Options			
Coated Boards		.	.
Cable Marking A2 plus		.	.
Prepared for UL certification (Cabling and Aux-Fuses)		.	.
Door Mounting Kit for Panel DCS800-PAN		.	.
2 pc cable W0205 + W0206, each 7x1mm ² , 4m	loose delivery, free of use	.	.
Spare cable 4*2*0.5, 4m long	can be used for encoder, IOB-2x, IOB-3 for RDIO RAIO	.	.
Isolation switch replacement kit	suitable for TYRAK8 types	.	.
AC and DC Connection cables	3 pc. AC-cables connected to the AC-fuseholder plus 2 pc DC output terminals at the very bottom of the power unit	.	.
Mounting Kit	2 Mounting Supports to be screwed into the old cabinet plus 2 rails for sliding the Kit easily into the cabinet, to be removed after mounting. Details see mounting instruction.	.	.

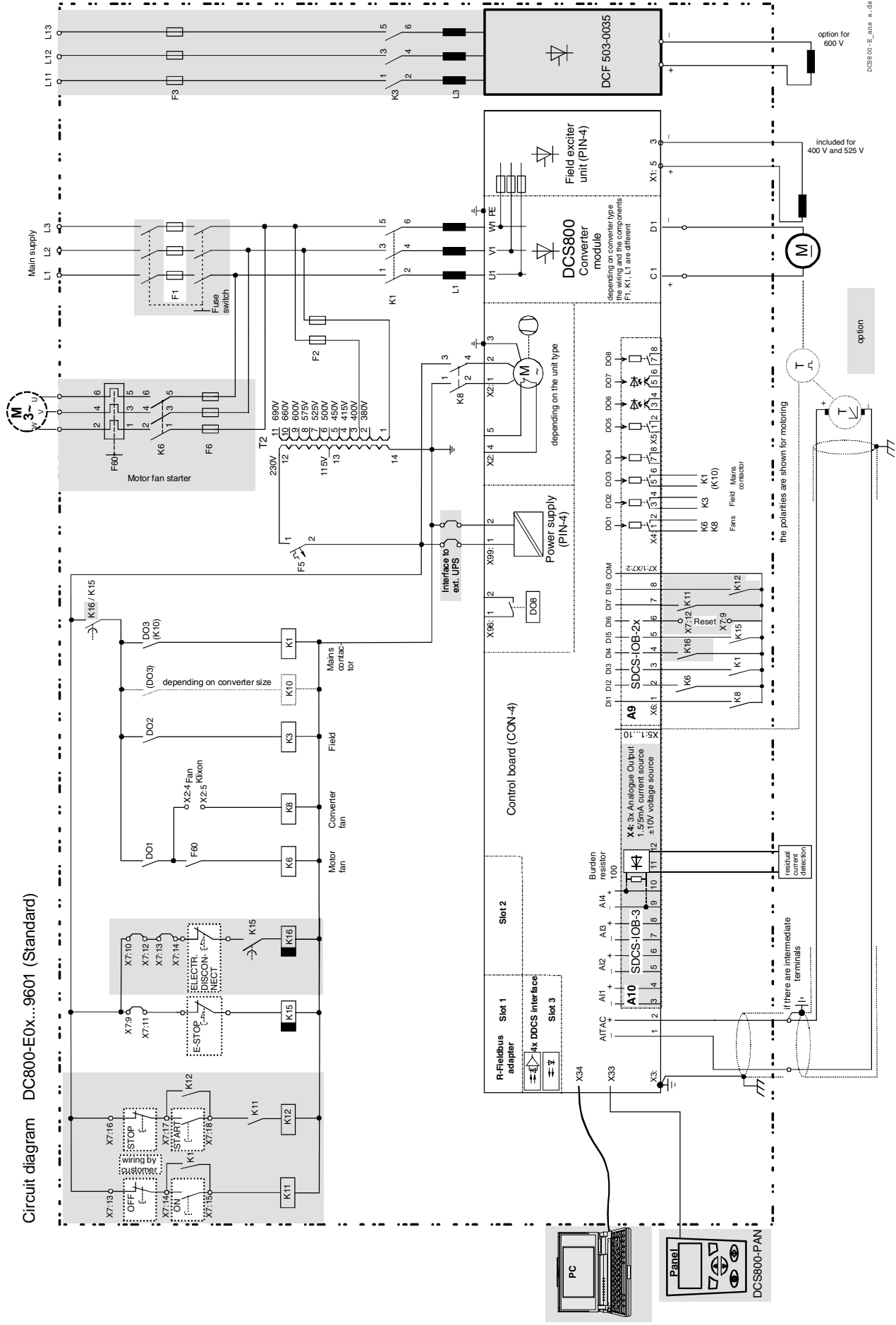


ABB Automation Products
68526 Ladenburg • GERMANY
Phone +49(0) 62 03 71-0
Fax +49(0) 62 03 71-76 09
www.abb.com/motors&drives
e-mail: dc-drives@de.abb.com



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Circuit diagram DC800-E0x...9601 (Standard)



Circuit diagram DCS800-E0x...9602 (DCS800-E P&P)

