

DCS800

Quick Guide en, de se, pt

DCS800 Drives (20 A to 5200 A)

DCS800 Quick Guide

english Contents

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ABB's after sales service is globally consistent due to common targets, rules, and the way of operation. This means for our customers:

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DC Drives Worldwide Service Network

Country	Local ABB Service	Town	Service Phone No.
Argentina	Asea Brown Boveri S.A.	BUENOS AIRES	+54 (0) 12 29 55 00
Australia	ABB	NOTTING HILL	+61 (0) 3 85 44 00 00
Austria	ABB AG	WIEN	+43 1 60 10 90
Belgium	ABB N.V.	ZAVENTEM	+32 27 18 64 86 +32 27 18 65 00 - 24h service
Brazil	ABB Ltda.	OSASCO	+55 0800 0 14 91 11
Canada	ABB Inc.	SAINT-LAURENT	+1800 865 7628
China	ABB China Ltd	BEIJING	+86 40 08 10 88 85 - 24h service
Czech Republic	ABB S.R.O.	PRAHA	+42 02 34 32 23 60
Finland	ABB Oy Service	KUUSANKOSKI	+35 8 10 22 51 00
Finland	ABB Oy Product Service	HELSINKI	+35 8 10 22 20 00
Finland	ABB Oy Service	NOKIA	+35 8 10 22 51 40
France	ABB Automation ABB Process Industry	MONTLUEL	from abroad France +33 1 34 40 25 81 +0810 02 00 00
Germany	ABB Process Industries	MANNHEIM	+49 18 05 22 25 80
Greece	ABB SA	METAMORPHOSSIS	+30 69 36 58 45 74
Ireland	ABB Ireland Ltd.	TALLAGHT	+35 3 14 05 73 00
Italy	ABB	MILAN	+39 02 90 34 73 91
Korea, Republic	ABB Ltd., Korea	CHONAN	+82 (0) 4 15 29 22
Malaysia	ABB Malaysia Sdn. Bhd.	KUALA LUMPUR	+60 3 56 28 42 65
Mexico	ABB Sistemas S.A. DE C.V.	TLALNEPANTLA	+52 53 28 14 00
Netherlands	ABB B.V.	ROTTERDAM	+31 1 04 07 88 66
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Poland	ABB Centrum IT Sp.zo.o	WROCLAW LODZ	+48 42 61 34 96 2 +48 42 29 93 91 39 5
Russia	ABB Automation LLC	MOSCOW	+74 95 96 0
Sweden	ABB AB DriveService	VÄSTERÅS	+46 (0) 21 325000
Switzerland	ABB AG	DÄTTWIL	+41 5 85 86 87 86
Singapore	ABB Industry Pte Ltd	SINGAPORE	+65 67 76 57 11
Slovakia	ABB Elektro s.r.o.	BANSKA BYSTRICA	+42 19 05 58 12 78
South Africa	ABB South Africa (Pty) Lt	JOHANNESBURG	+27 1 16 17 20 00
Spain	ABB Automation Products	BARCELONA	+34 9 37 28 73 00
Taiwan	ABB Ltd.	TAIPEI 105	+88 62 25 77 60 90
Thailand	ABB Limited	SAMUTPRAKARN	+66 27 09 33 46
Turkey	ABB Elektrik Sanayi A.S.	ISTANBUL	+90 2 16 36 52 90 +1 26 27 85 32 00
USA	ABB Industrial Products	NEW BERLIN	+1.262.435.7365
Venezuela	ABB S.A.	C R C S	+58 (0) 22 38 24 11 / 12

DCS800 Drive Manuals

	Public. number	Language											
		E	D	I	ES	F	CN	RU	PL	PT	SE		
DCS800 Quick Guide	3ADW000191	x	x	x	x	x						x	x
DCS800 Tools & Documentation CD	3ADW000211	x											
DCS800 Converter module													
Flyer DCS800	3ADW000190	x	x			x	x					x	
Technical Catalog DCS800	3ADW000192	x	x	x	x	x	x	x	x	x	x	x	
Hardware Manual DCS800	3ADW000194	x	x	x	x	x	x	x	x	x			
Hardware Manual DCS800 update DCF503B/DCF504B	3ADW000194Z	x											
Firmware Manual DCS800	3ADW000193	x	x	p	x	x	x	x	x				
Installation according to EMC	3ADW000032	x											
Technical Guide	3ADW000163	x											
Service Manual DCS800	3ADW000195	x	x										
12-Pulse Manual	3ADW000196	x											
CMA-2 Board	3ADW000136	x											
Flyer Hard - Parallel	3ADW000213	x											
Drive Tools													
DriveWindow 2.x - User's Manual	3BFE64560981	x											
DriveOPC 2.x - User's Manual	3BFE00073846	x											
Optical DDCS Communication Link	3AFE63988235	x											
DDCS Branching Units - User's Manual	3BFE64285513	x											
DCS800 Applications													
PLC Programming with CoDeSys	CoDeSys_V23	x	x				x						
61131 DCS800 target +tool description - Application Program	3ADW000199	x											
DCS800 Crane Drive													
DCS800 Crane Drive Manual suppl.	3AST004143	x											
DCS800 Crane Drive Product note	PDC5 EN	x											
DCS800 Winder ITC													
DCS800 Winder Product note	PDC2 EN	x											
DCS800 Winder description ITC	3ADW000308	x											
Winder Questionnaire	3ADW000253Z	x											
DCS800-E Panel Solution													
Flyer DCS800-E Panel solution	3ADW000210	x											
Hardware Manual DCS800-E	3ADW000224	x											
DCS800-A Enclosed Converters													
Flyer DCS800-A	3ADW000213	x											
Technical Catalog DCS800-A	3ADW000198	x											
Installation of DCS800-A	3ADW000091	x	x										
DCS800-R Rebuild System													
Flyer DCS800-R	3ADW000007	x	x										
DCS800-R Manual	3ADW000197	x											
DCS800-R Optical Rebuild Kits	3ADW000415	x											
DCS800-R DCS500/DCS600 Upgrade Kits	3ADW000256	x											
Extension Modules													
RAIO-01 Analog IO Extension	3AFE64484567	x											
RDIO-01 Digital IO Extension	3AFE64485733	x											
RRIA-01 Resolver Interface Module	3AFE68570760	x											
RTAC-01 Pulse Encoder Interface	3AFE64486853	x											
RTAC-03 TTL Pulse Encoder Interface	3AFE68650500	x											
AIMA R-slot extension	3AFE64661442	x											
Door mounting kits													
Door mounting DCS Control Panel (IP54, click in)	3AUA0000076085	x											
Door mounting DCS Control Panel (fix mounting)	3AFE68294673	x											
Door mounting DCS Control Panel (IP66, fix mounting)	3AFE68829593	x											
Serial Communication													
Drive specific serial communication													
NETA Remote diagnostic interface	3AFE64605062	x											
Fieldbus Adapter with DC Drives RPBA- (PROFIBUS)	3AFE64504215	x											
Fieldbus Adapter with DC Drives RCAN-02 (CANopen)													
Fieldbus Adapter with DC Drives RCNA-01 (ControlNet)	3AFE64506005	x											
Fieldbus Adapter with DC Drives RDNA- (DeviceNet)	3AFE64504223	x											
Fieldbus Adapter with DC Drives RMBA (MODBUS)	3AFE64498851	x											
Fieldbus Adapter with DC Drives RETA (Ethernet)	3AFE64539736	x											
x -> existing p -> planned													
Status 06.2012													

DCS800 Drive Manuals-List_I.doc



Standard Features

- compact
- highest power ability
- simple operation
- comfortable assistants, e.g. for autotuning or commissioning
- scalable to all applications
- free programmable by means of integrated IEC61131-PLC

DCS800 DC Drives

Technical data

Mains supply volt.	230...1,200 V, +/-10%, 3~
Frequency	50...60 Hz, +/-5 Hz
Electronics supply	115...230 V, -15% / +10%, 1~
DC Output current	20...5,200 A
Overload capability	200%

Ambient conditions

Ambient temperat.	0° ... +40° C 40° ... 55° C with reduction
Storage temperat.	-40° ... +55° C
Transport temper.	-40° ... +70° C
Relative humidity	5 ... 95%, not condensing (max. 50% betw. 0°...5° C)
Pollution degree	Class 2
Protection class	IP 00
Altitude	< 1,000 m height above sea level: nominal Current > 1,000 m height above sea level: with reduction

I/O

Digital inputs: 8 standard, up to 14 optional
Digital outputs: 8 standard, up to 12 optional
Analog inputs: 4 standard +/- 10 V; 0/2...10 V, up to 8 optional +/- 20 mA; 0/4...20 mA
Analog outputs: 3 standard (1x I_{act}) +/-10 V; 0/2...10 V, up to 7 optional -20 mA; 0/4...20 mA

PC-Tools

DriveWindow Light: free of charge with every converter, Standard RS232 PC-connection
DriveWindow: Real-time optical connection
ControlBuilder DCS800: IEC61131 programming tool
DriveSize: Converter- and motor dimensioning

Maintenance / Diagnosis

Remote diagnosis with any Internet-PC worldwide
 • with internet browser / internet explorer
 • or with DriveWindow full drive control via OPC

Approvals

Adaptive Programming

pre-defined drive-specific function blocks, e.g.
 • Free process controller (PI-Controller)
 • I/O- and digital Operations With control panel or PC-Tool, no need for additional hardware

Speed Feedback

EMF
 Analog tacho
 Encoder
 2nd Encoder possible (RTAC)

Communication

Serial communication
 • Ethernet • Profibus
 • CANopen • DeviceNet
 • ControlNet • DDCS
 • Modbus • CS31
 • AF100 • Selma2

DCSLink Peer-to-Peer

• up to 800 kBaud, < 2.5 ms
 • Master-Follower
 • Armature-fieldconverter
 • Free selectable data

High Current Solutions

- 12-pulse up to 20,000 A, serial and parallel
- Hard parallel and sequential
- up to 1,500 V

Protections

Speed feedback monitoring •
 Temperature • Overload • Over speed • Motor stalled • Motor over current • Motor over voltage • Field over current • Minimum field current • Zero speed • Armature current ripple • Mains over- and under voltage

Integrated IEC 61131-PLC

- Open standard programming tool ControlBuilder DCS800
- Support of all five IEC-languages
- Drive-specific function blocks
- Saving of program and source in Memory Card
- Online debugging and forcing

Current ratings, dimensions

Unit size	2-Q		4-Q		Supply voltage [V _{AC}]						max. field current internal [A _{pc}]	Dimensions		
	rated Current DCS800-01	rated Current DCS800-02	I _{pc} [A]	I _{pc} [A]	400	525	600	690	800	990		1200	h x w x d [mm]	h x w x d [inch]
D1	20	25	•	•								370 x 270 x 200	14.56 x 10.65 x 7.90	
	45	50	•	•										
	65	75	•	•										
	90	100	•	•										
	125	140	•	•										
D2	180	200	•	•								370 x 270 x 270	14.56 x 10.65 x 10.65	
	230	260	•	•										
D3	315	350	•	•			• ³⁾					459 x 270 x 310	18.07 x 10.65 x 12.25	
	405	450	•	•										
	470	520	•	•										
D4	610	680	•	•			• ³⁾					644 x 270 x 345	25.35 x 10.65 x 13.60	
	740	820	•	•										
	900	1000	•	•										
D5	900	900					•	•				1050 x 510 x 410	41.35 x 20.10 x 16.15	
	1200	1200	•	•										
	1500	1500	•	•			•	•						
	2000	2000	•	•			• ¹⁾	• ¹⁾						
D6	1900	1900										1750 x 460 x 410	68.90 x 18.15 x 16.15	
	2050	2050									external field			
	2500	2500	•	•			•	•			35A, 1~/3~			
	3000	3000	•	•			•	•			50/60A, 1~ 520A, 3~			
D7	2050	2050										1750 x 760 x 570	68.90 x 29.95 x 22.45	
	2600	2600												external field
	3300	3300	•	•			•	•			• ²⁾			35A, 1~/3~
	4000	4000	•	•			•	•			• ²⁾			50/60A, 1~ 520A, 3~
	4800	4800	•	•			•	•						
5200	5200	•	•											

•¹⁾ only available as 2-Q drive

•²⁾ on request

•³⁾ 600V

2-Q -> 290 A / 590 A
 4-Q -> 320 A / 650 A

Brief instructions for CD and documents overview

We appreciate that you purchased an ABB DC drive power converter and thank you for the trust you put in our products.

This brochure was put together to make sure that you continue to be satisfied with our product. It is intended to provide you with a brief overview of the product's key data, EMC notes, typical applications, start-up and trouble-shooting.

If you need more information about the product you are provided with a **CD-ROM** in addition to this brief documentation. The CD-ROM is part of the delivery and features the following contents:

Technical catalog (3ADW000192)

Comprehensive information to engineer complete DC drive systems.

Hardware manual (3ADW000194)

Detailed information, with all important particulars about the individual components, like module dimensions, electronic boards, fans and auxiliary components.

Information for mechanical and electrical installation are also included.

Firmware manual (3ADW000193)

Detailed information with all important issues about firmware and setting of parameters. The manual includes information for start-up and maintenance of the entire drive, in detailed form.

This manual also includes Fault and Alarm codes and information for trouble shooting.

Service Manual (3ADW000195)

for maintenance and repair of the converters.

Applications

DCS800 DC Drive can include application software e.g. cranes, winders. In such case following procedures and assistants can be blocked or not completed. Please check for further documentation and manuals (check parameter 4.03, 83.01). Additional **information about applications and technical accessories** (e.g. Hardware extension or Field bus interfaces) are handled by separate manuals. See table *DCS800 manuals*.

System requirements to use the CD-ROM

- Operating system
WINDOWS 2000, XP
- ACROBAT READER

In case the CD ROM does not start automatically, please double click on **Setup.exe**.



Further support

In addition we offer further support, since we can only be satisfied when you, as our customer, are satisfied with us and our products.

Internet

On the ABB homepage under

www.abb.com/dc

you'll find abundant information for

- DC products
- service support
- the latest updates
- tools
- downloads, etc.

Please don't hesitate to visit us.

Contacts

If you require any further information, please contact your nearest **ABB Drives** office or send an email to:

DC-Drives@de.abb.com

Please give us your name, your company address and phone number. We immediately put you in contact with our specialist.

Notes on EMC

You will find further information in publication:

**Technical Guide chapter:
EMC Compliant Installation
and Configuration for a
Power Drive System**

The paragraphs below describe selection of the electrical components in conformity with the EMC Guideline.

The aim of the EMC Guideline is, as the name implies, to achieve electromagnetic compatibility with other products and systems. The guideline ensures that the emissions from the product concerned are so low that they do not impair another product's interference immunity. In the context of the EMC Guideline, two aspects must be borne in mind:

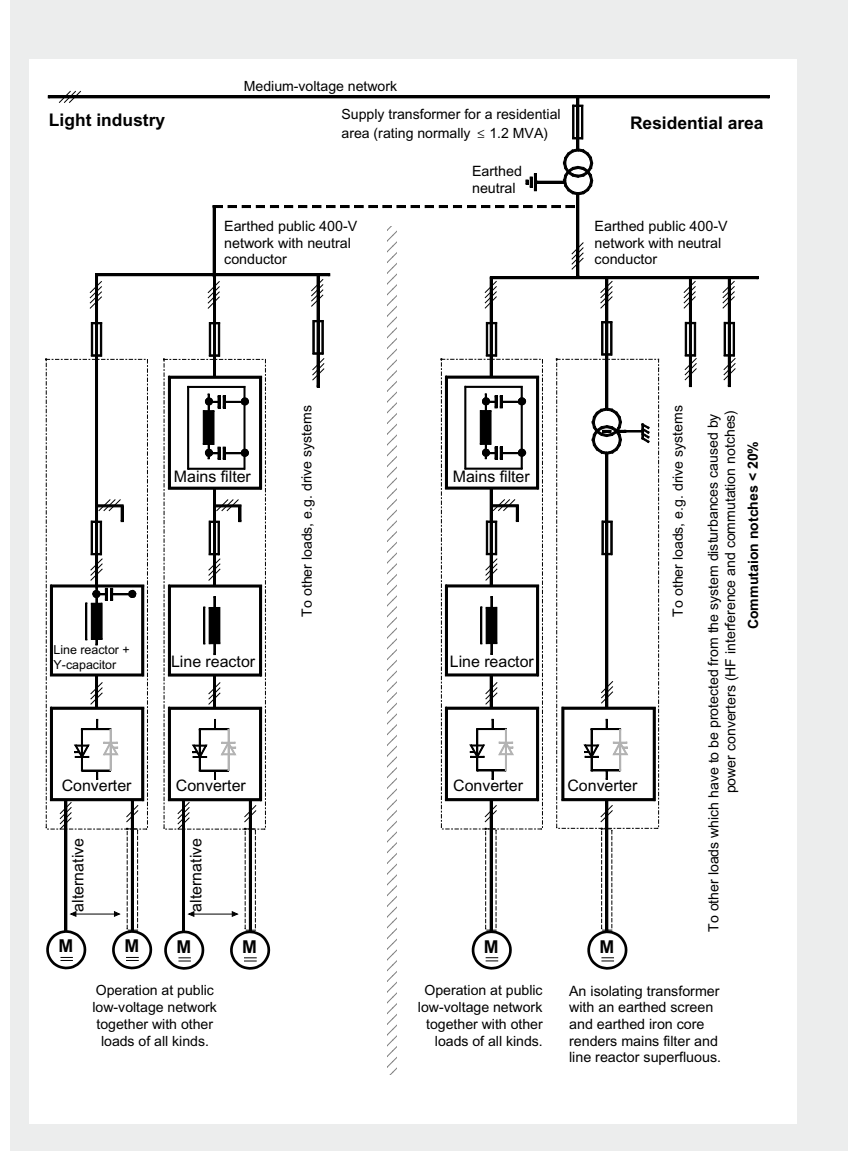
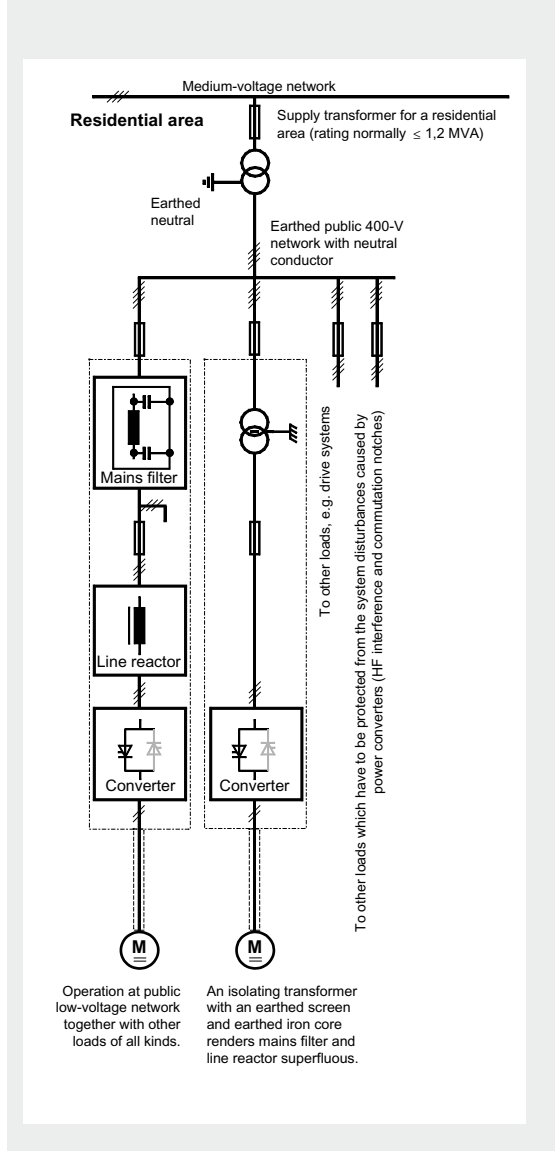
- the product's interference immunity
- the product's actual emissions

The EMC Guideline expects EMC to be taken into account when a product is being developed; however, EMC cannot be designed in, it can only be quantitatively measured.

Note on EMC conformity

The conformity procedure is the responsibility of both the power converter's supplier and the manufacturer of the machine or system concerned, in proportion to their share in expanding the electrical equipment involved.

First environment (residential area with light industry) with PDS category C2	
Not applied, since category C1 (general distribution sales channel) excluded	
Not applicable	satisfied
satisfied	



For compliance with the protection objectives of the German EMC Act (EMVG) in systems and machines, the following EMC standards must be satisfied:

Product Standard EN 61800-3

EMC standard for drive systems (PowerDriveSystem), interference immunity and emissions in residential areas, enterprise zones with light industry and in industrial facilities.

This standard must be complied with in the EU for satisfying the EMC requirements for systems and machines!

For emitted interference, the following apply:

- EN 61000-6-3** Specialised basic standard for emissions in **light industry** can be satisfied with special features (mains filters, screened power cables) in the lower rating range *(EN 50081-1).
- EN 61000-6-4** Specialised basic standard for emissions in **industry** *(EN 50081-2)

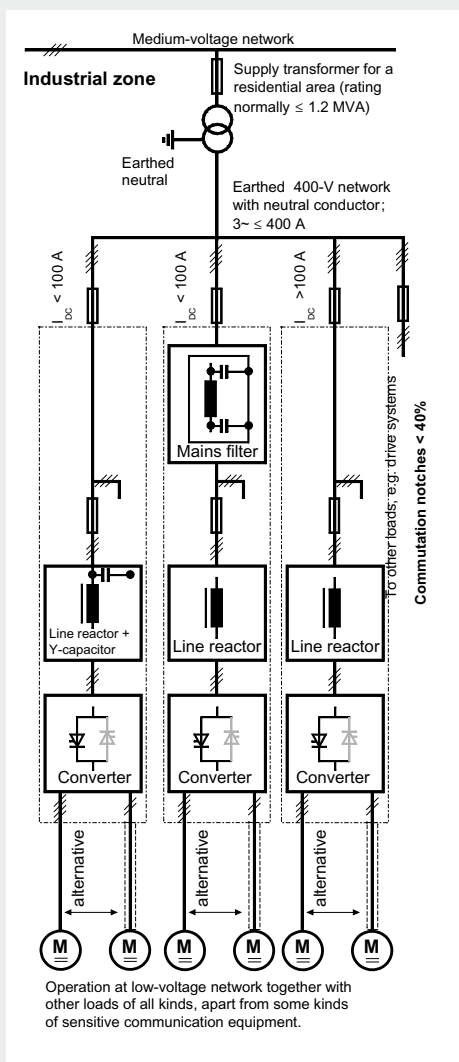
For interference immunity, the following apply:

- EN 61000-6-1** Specialised basic standard for interference immunity in **residential areas** *(EN 50082-1)
- EN 61000-6-2** Specialised basic standard for interference immunity in **industry**. If this standard is satisfied, then the EN 61000-6-1 standard is automatically satisfied as well *(EN 50082-2)

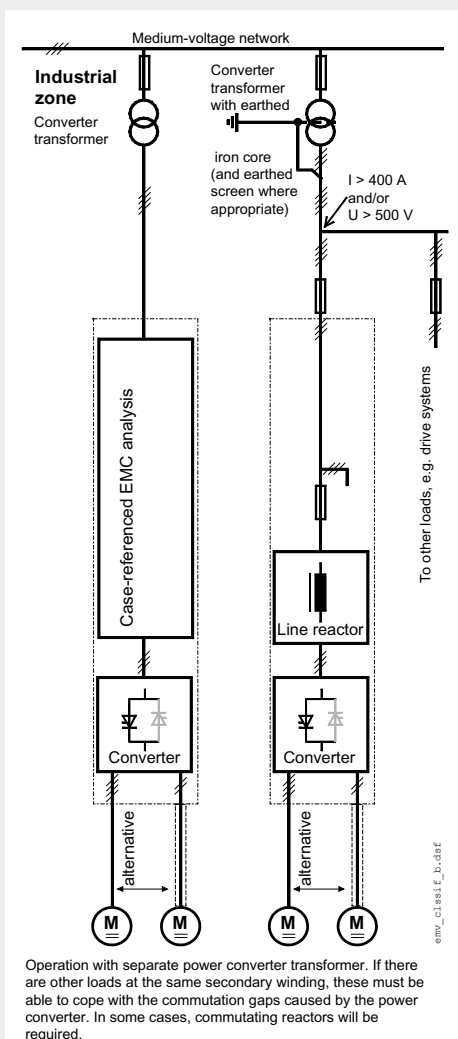
* The generic standards are given in brackets

			Standards
Second environment (industry) with PDS categories C3, C4			EN 61800-3
Not applicable			EN 61000-6/3
satisfied	on customer's request	satisfied	EN 61000-6/3
satisfied			EN 61000-6-2 EN 61000-6-1

PDS category C3



PDS category C4



Classification

The following overview utilises the terminology and indicates the action required in accordance with Product Standard **EN 61800-3**. For the DCS800 series, the limit values for emitted interference are complied with, provided the measure indicated is carried out. PDS of category C2 (formerly restricted distribution in first environment) is intended to be installed and commissioned only by a professional (person or organization with necessary skills in installing and/or commissioning PDS including their EMC aspects).

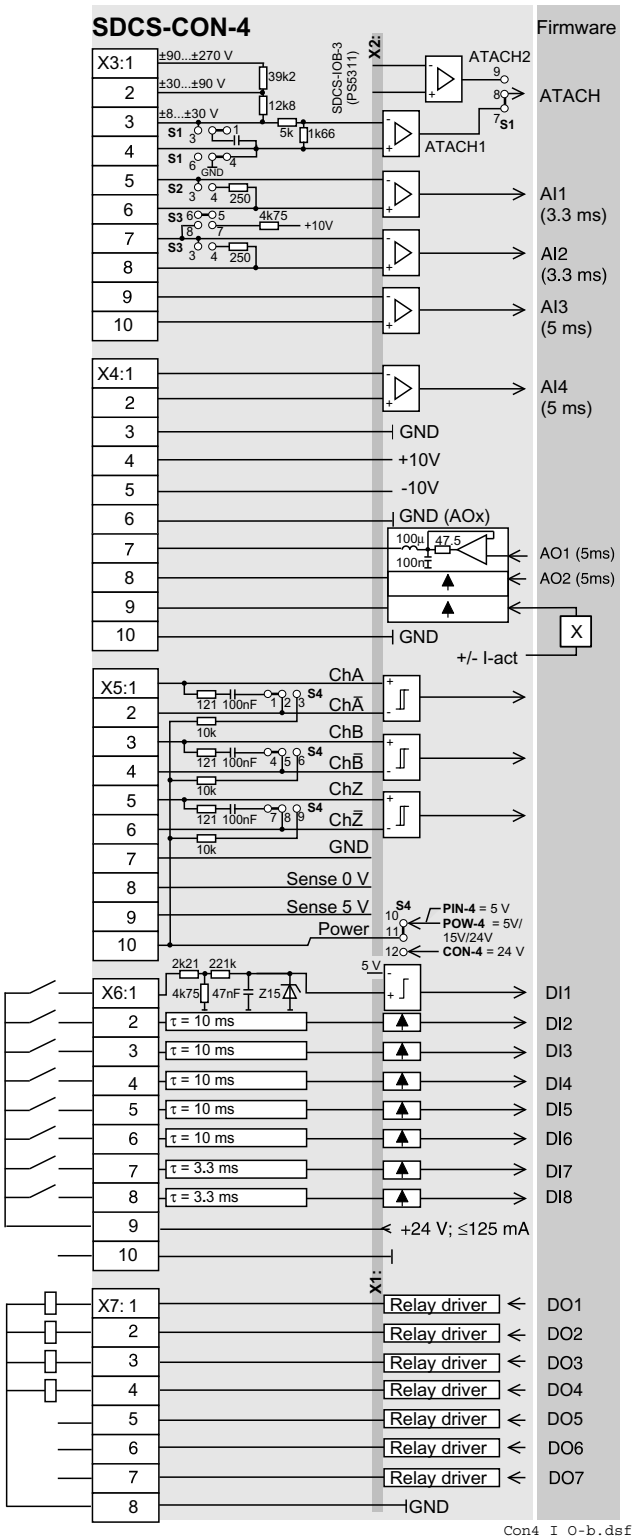
For power converters without additional components, the following warning applies: This is a product of category C2 under IEC 61800-3:2004. In a domestic/residential environment this product may cause radio interference in which case supplementary mitigation measures may be required.

The field supply is not depicted in this overview diagram. For the field current cables, the same rules apply as for the armature-circuit cables.

Legend

	Screened cable
	Unscreened cable with restriction

Standard function assignments for the terminals



Resolution [bit]	Input/output values Hardware	Scaling by	Common mode range	Remarks
15 + sign	±90...270 V ±30...90 V ±8...30 V	① Firmware	±15 V	
15 + sign	-10...0...+10 V	Firmware	±15 V	
15 + sign	-10...0...+10 V	Firmware	±15 V	
15 + sign	-10...0...+10 V	Firmware	±15 V	
15 + sign	-10...0...+10 V	Firmware	±15V	
			Power	
	+10 V		≤ 5 mA	for ext. use e.g. refer. pot.
	-10 V		≤ 5 mA	
11 + sign	-10...0...+10 V	Firmware	≤ 5 mA	
11 + sign	-10...0...+10 V	Firmware	≤ 5 mA	
	-10...0...+10 V	Firmware+ Hardware	≤ 5 mA	8 V -> min. of 325% of [99.03] or 230% of [4.05]

Encoder supply	Remarks
	Inputs not isolated Impedance = 120 Ω, if selected max. frequency ≤ 300 kHz
5 V 24 V	≤ 250 mA ≤ 250 mA
	Sense lines for GND and supply to correct voltage drops on cable (only if 5 V encoder is in use).

Input value	Signal definition by	Remarks
0...7.3 V 7.5...50 V	Firmware	-> "0" status -> "1" status

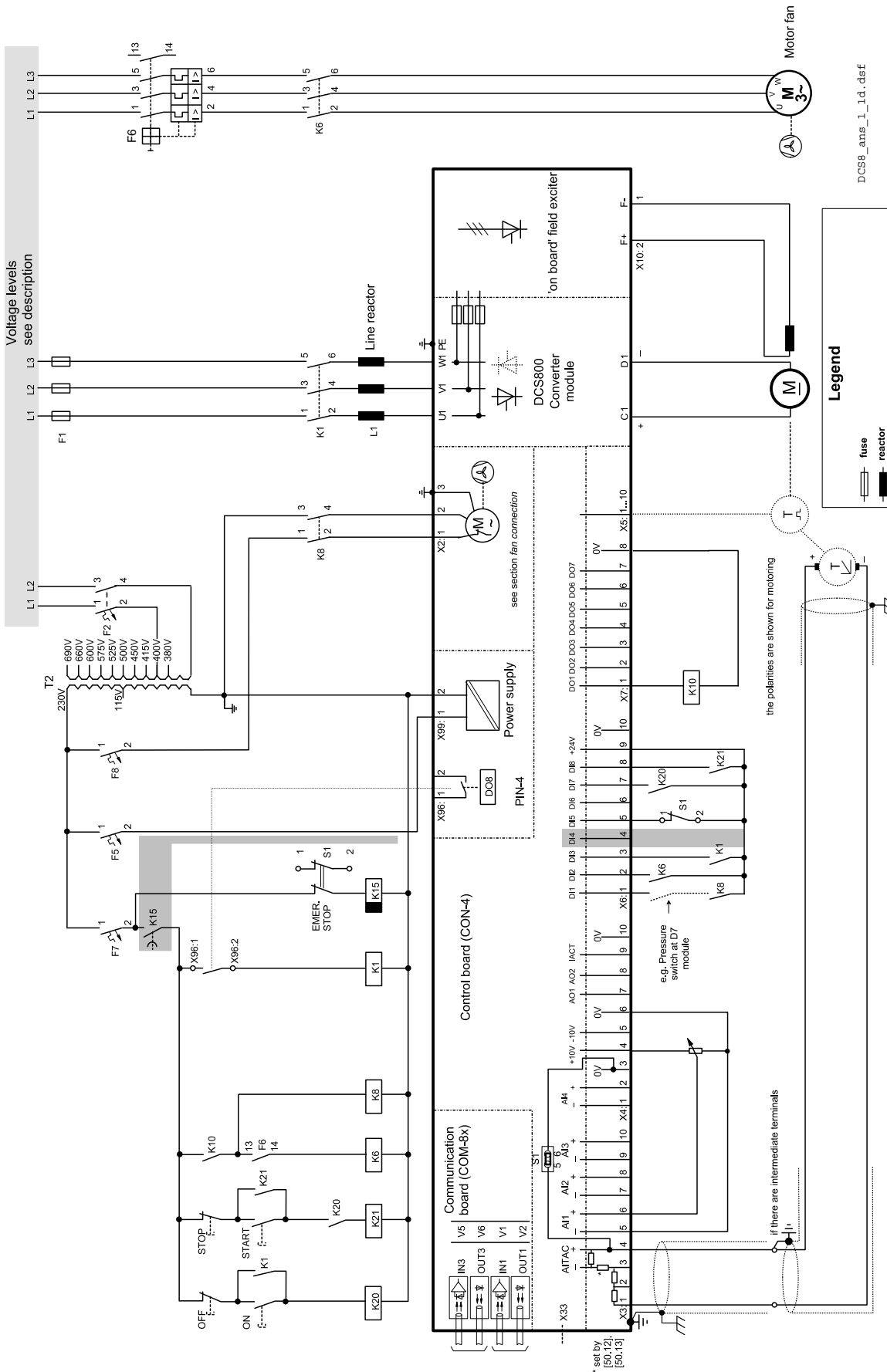
Output value	Signal definition by	Remarks
50 * mA 22 V at no load	Firmware	Current limit for all 7 outputs = 160 mA Do not apply any reverse voltages!

* short circuit protected

① gain can be varied in 15 steps between 1 and 4 by software parameter

Connection example

Converters F1...F4 drive configuration using 'OnBoard' field exciter
Terminal selection according FACTORY macro (default)

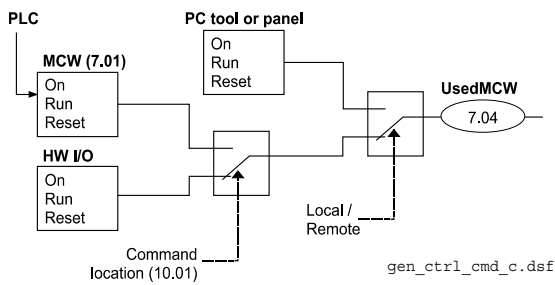


further information see the following page

START, STOP and E-STOP control

The relay logic can be split into three parts:

a: Generation of the ON/OFF and START/STOP command:
The commands represented by K20 and K21 (latching interface relay) can be e.g. generated by a PLC and transferred to the terminals of the converter either by relays, using galvanic isolation or directly via 24V signals.
These commands can be as well transferred via serial communication. Even a mixed solution can be realized by selecting different possibilities for the one or the other signal (see parameter group 11).



b: Generation of control and monitoring signals:

The main contactor K1 for the armature circuit is controlled by a dry contact (DO 8) located on the SDCS-PIN-F. Status of fans and fans klixon can be monitored by means of fan ack signals: MotFanAck (10.06) and ConvFanAck (10.20).

c: OFF2, OFF3 Stop function:

Beside ON/OFF and START/STOP, the drive is equipped with two additional stop functions, OFF2 and OFF3, according to Profibus standard. OFF3 is a scalable stop function (ramp-stop, max torque stop, dynamic braking ...) to perform stop category 1. This function should be connected to the E-STOP button without any time delay. In case of ramp stop selection the, K 15 timer relay must be set longer than the EStopRamp (22.04). For COAST selection, the drive opens the main contactor immediately.

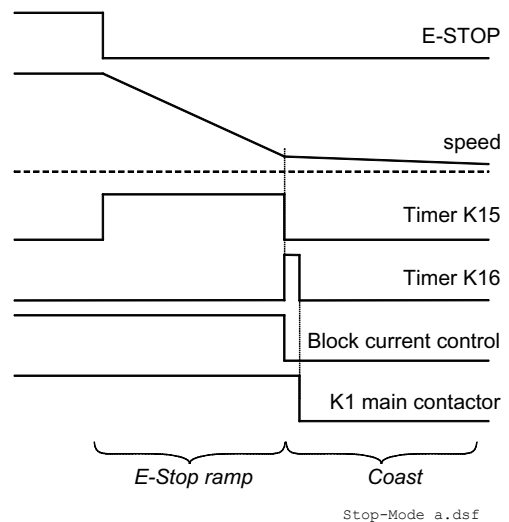
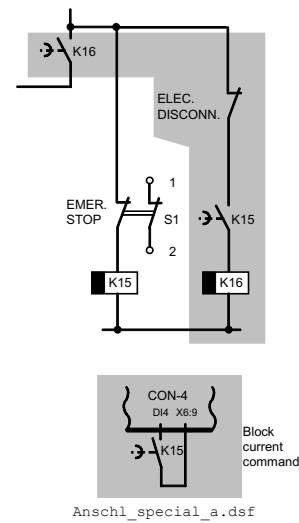
OFF2 switches off DC current as fast as possible and prepares the drive for opening main contactor or drop down mains supply. For a normal DC motor load the time to switch OFF the DC current is below 20 ms. This function should be connected to all signals and safety functions opening the main contactor. This function is important for 4-quadrant drives. Do not open main contactor during regenerative current.

The correct sequence is

1. switch off regenerative current
2. then open the main contactor

In case of the E-STOP is hit, the information is transferred to the converter via digital input 5. In case of rampstop, or max torque selection the converter will decelerate the motor and then open main contactor.

If the drive has not finished the function within the K15 timer setting, the drive must get the command to switch OFF the current via K16. After K16 timer set has elapsed the main contactor is opened independent of the drives status.



E-Stop reaction

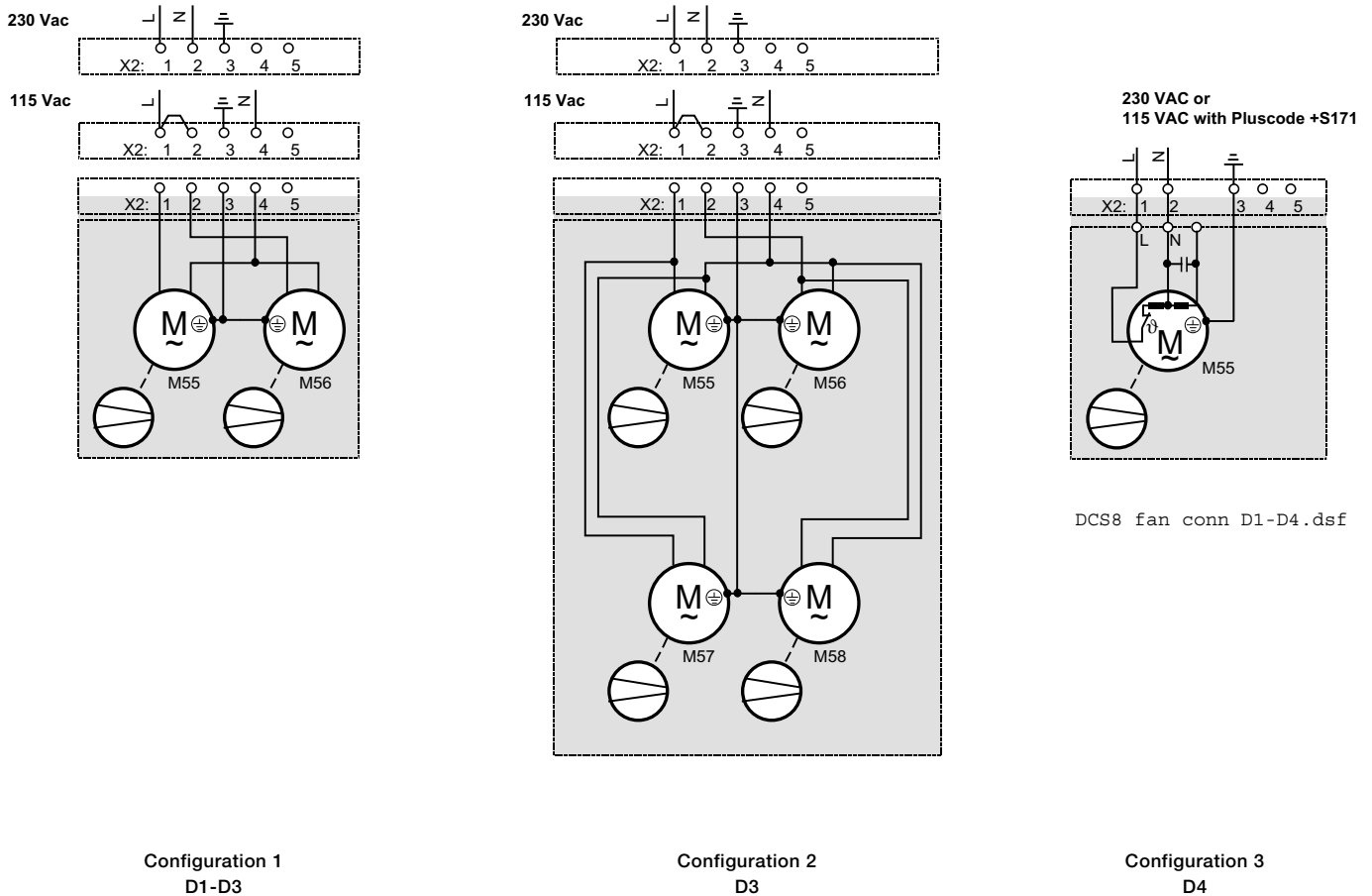
Fan power connection

Fan assignment for DCS800

Converter type	Model	Configuration	Fan voltage
DCS800-S01-0020-04/05, ..., DCS800-S02-0025-04/05	D1	-	no fan, convection cooled
DCS800-S0x-0045-04/05, ..., DCS800-S0x-0140-04/05	D1	1	1 x 3110KL-05W... (internal 24 VDC)
DCS800-S0x-0180-04/05, ..., DCS800-S0x-0260-04/05	D2	2	2 x 4715MS (115 / 230 VAC)
DCS800-S0x-0315-04/05, ..., DCS800-S0x-0350-04/05	D3	2	2 x 4715MS (115 / 230 VAC)
DCS800-S0x-0405-04/05, ..., DCS800-S0x-0520-04/05	D3	3	2 x 4715MS (115 / 230 VAC) 2 x 3115FS (115 / 230 VAC)
DCS800-S0x-0610-04/05, ..., DCS800-S0x-0820-04/05	D4	4	1 x W2E200 (230 VAC)
DCS800-S0x-0610-04/05, ..., DCS800-S0x-0820-04/05	D4 Pluscode S171	4	1 x W2E200 (230 VAC)
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	D4	4	1 x W2E250 (230 VAC)
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	D4 Pluscode S171	4	1 x W2E250 (230 VAC)

Fan connection for DCS550

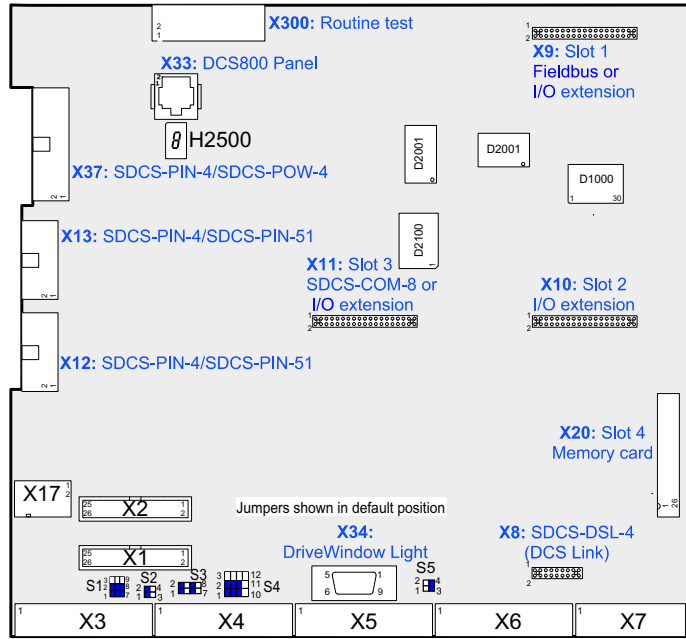
Terminals on top of converter housing



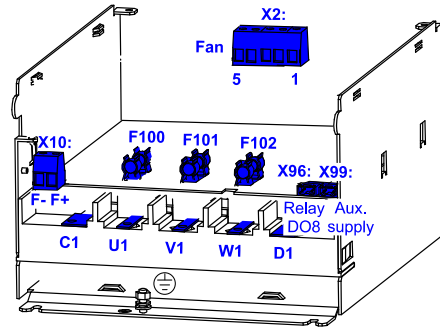
DCS8 fan conn D1-D4.dsf

Terminal locations on the converter

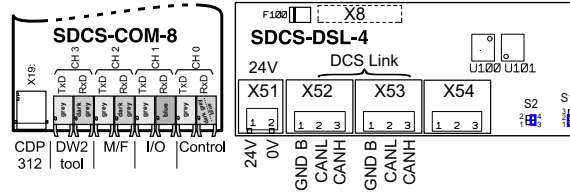
SDCS-CON-4 CONNECTOR ALLOCATION



DCS800 module TERMINAL ALLOCATION



DCS800 Accessories



SDCS-CON-4: TERMINAL ALLOCATION

X3 Tacho and AI			X4 AI and AO			X5 Encoder			X6 DI			X7 DO																																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																													
90...270V	30...90V	8...30V	0V	AI1-	AI1+	AI2-	AI2+	AI3-	AI3+	AI4-	AI4+	0V	+10V	-10V	0V	AO1	AO2	AO3 (act)	0V	+A	-A	+B	-B	+Z	-Z	GND	Sense GND	Sense Us	DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	+24V	0V	DO1	DO2	DO3	DO4	DO5	DO6	DO7	DO8

DCS800 terminal alloc.dsf

Macro name	Main Contactor	ON / OFF Start/Stop	DI function	Comment	DI5 --> ESTOP DI6 --> Reset
Standard					
	AC	Static	Jog1 --> DI1 Jog2 --> DI2 Ext Fault --> DI 3 Ext Alarm --> DI4	Hardware I/O control	x
2-wire DC cont. US					
	DC	Static	Jog1 --> DI1 Jog2 --> DI2 Ext Fault --> DI 3 Main Cont Ack --> DI4	Hardware I/O control	x
3-wire DC cont. US					
	DC	Pulse	Fix speed1 --> DI1 Ext Fault --> DI 3 Main Cont Ack --> DI4	Hardware I/O control	x
3-wire Standard					
	AC	Pulse	Fix speed1 --> DI1 Ext Fault --> DI 3 Ext Alarm --> DI4	Hardware I/O control	x
Torque limit					
	AC	Static	Jog1 --> DI1 Jog2 --> DI2 Ext Fault --> DI 3 Ext Alarm --> DI4	Hardware I/O control + Torque limit	x
Manual / Const					
	AC	Pulse	Jog1 --> DI1 Jog2 --> DI2 Direction --> DI 3 SpC - KP, KI --> DI4	Hardware I/O control select gain	x
Hand / Auto					
	AC	Static	Control select --> DI2 Reference select --> DI2 Direction select --> DI 3	Hardware I/O control or field bus control	x
Hand / Mot Pot					
	AC	Pulse	Motor pot up --> DI1 Motor pot down --> DI2 Direction select --> DI 3 Reference select --> DI4	Hardware I/O control Reference hardware or Motor potentiometer	x
Motor Pot					
	AC	Static	Direction select --> DI 1 Motor pot up --> DI2 Motor pot down --> DI3 Motor pot minimum --> DI4	Hardware I/O control Reference Motor potentiometer	x
Torque Ctrl					
	AC	Static	OFF2 (coast stop) --> DI1 Torque select --> DI2 Ext Fault --> DI 3	Hardware I/O control Speed control or Torque reference	x

Enabling a macro

Use the [DCS800Wizard] 2. Macro assistant of DriveWindow Light or

Parameter browser, either through the control panel, DriveWindow, or DriveWindow Light.

Use the following parameters:

ApplMacro (99.08) =

Macro selection

AppIstore (99.07) =

YES = execute selection

MacroSel (8.10) =

double check

NOTE

Functions and inputs defined by macro can be changed later on without restrictions.

NOTE

Macro diagrams see page 91 ...

Notes For North American Installations

1. **EMC conformity** is not usually required in North America. In most cases, the section “Notes on EMC” can be bypassed. In this manual, you will see references to DIN, EN and VDE standards. These are European standards and, generally, do not apply to North America. It is, however, the responsibility of the user to determine which standards need to be followed.

2. **If using a DC contactor**, you must connect an **auxiliary contact** to a digital input of your choice and set para. *MainContAck* accordingly. Set the following parameters:

MainContAck (10.21) = **DI-1** (or any input you choose for the DC cont. auxiliary contact)
DO8BitNo (14.16) = **10**
MainContCtrlMode (21.16) = **DCcontact** (3)

Set these parameters AFTER macros are loaded but BEFORE the drive is commissioned.

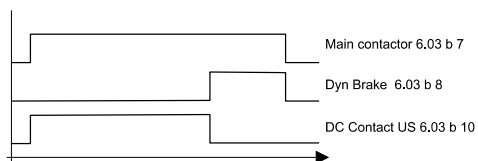
Digital output 8 (DO-8) must be used to turn the DC contactor on and off.

DC contactor US:

DC contactor US K1.1 is a special designed contactor with 2x NO contacts for C1 and D1 connection and 1x NC contact for connection of Dynamic Brake resistor RB.

The contactor should be controlled by signal 6.03 Bit 10.

The acknowledge can be connected to parameter:
 10.21 *MainContAck*
 10.23 *DCBreakAck*



Overview of the Installation and Commissioning Process

Step 1:

Check converter for damage. Contact ABB Technical Support if damage is found. In North America, call **1-800-435-7365 (1-800-HELP-365)**

Step 2:

Select supporting hardware for the converter:

For specific recommendations for fuses, reactors, and contactors, see the DCS800 Manual or technical catalog.

Circuit breaker or disconnect:

$$\begin{aligned} \text{Current rating} &= I_{DC} * 0.816 * 1.25 \text{ (min)} \\ &= I_{DC} * 0.816 * 2.50 \text{ (max)} \end{aligned}$$

Where: I_{DC} = nominal DC motor current

Fuses:

AC Line Fuses: To properly protect the converter, semi-conductor fuses on the incoming AC power line are required in all cases.

3. **If using Dynamic Braking**, the drive allows you to select the stopping method under three different situations. Parameters 21.02, 21.03 and 21.04 select the stopping method for loss of the OnOff, run command (StartStop, Jog1, Jog2, etc.), and E-Stop input, respectively.

Each can be set to:

- RampStop
- TorqueLimit
- CoastStop
- DynBraking

In order to command the drive to perform a DB stop, one or more of these parameters must be set to DynBraking. Most users will want the drive to ramp stop when OnOff or a run command (StartStop, Jog1, Jog2, etc.) input is cleared, and dynamically brake when the E-Stop input is cleared. In that case, use the following settings:

- Off1Mode (21.02) = RampStop
- StopMode (21.03) = RampStop
- E StopMode (21.04) = DynBraking

However, any case is allowed and the final decision is left to the user.

Other parameters control stops during faults.

See:

LocalLossCtrl (30.27) *ComLossCtrl* (30.28)
FaultStopMode (30.30) *SpeedFbFltMode* (30.36)

If using **EMF feedback** with dynamic braking, set:

- *DynBrakeDly* (50.11) = t
 Where: t = the time (sec) it normally takes the motor to stop during dynamic braking

DC Output Fuses: Fuses between the motor and the converter are required for all regenerative (4-Q) converters.

This is to protect the motor and converter if a commutation fault should occur. NOTE: DC output fuses are the same type and size as AC line fuses.

Line reactor:

All thyristor-based dc converters cause notching in the AC line due to motor commutation. A properly sized line reactor will mitigate the effect on the line. Unless the converter uses a dedicated isolation transformer, each converter requires its own line reactor.

AC or DC contactor:

A contactor is required to safely disconnect the motor from the incoming power when the converter is off. The contactor can be installed between the line and the converter (an AC contactor) or between the converter and the motor (a DC contactor). Do not use both.

IMPORTANT: Other equipment may be necessary depending on application and local codes.

Step 3:

Mount and wire the converter and supporting hardware inside an industrial enclosure with adequate cooling (DCS800 modules have rating of NEMA type OPEN).

The following control and signal wiring is required:

- If using an AC contactor, we recommend wiring an auxiliary contact to the digital input you have designated as *MainContAck* (10.21) or *Start/Stop* (10.16).
- If using a DC contactor, you must wire an auxiliary contact from the contactor to the digital input you have designated as *MainContAck* (10.21).
- Wire 115 or 230 V_{AC} 1-phase power to terminal block 99 for converter control power.
- Wire 1-phase power to converter for cooling fans. See table and wiring diagrams in this manual.
 - **F1 – F3 frames:** 115/230 V_{AC} selectable. Fan terminal X52 is on top of the converter.
 - **F4 frame:** use 230 V_{AC}. Fan terminal X52 is on top of the converter.
- Wire tachometer or encoder to terminal block X1 (tacho) or X3 (encoder).
- Wire analog inputs (e.g., speed reference) and outputs (e.g., meters for motor voltage, current) to terminal block X1 and/or X2.
- Wire high speed serial interface if needed. (Requires optional fieldbus interface board.)
- The DCS800 allows you to choose the usage of each digital and analog input and output. The converter has factory default settings which can be changed by loading a macro, but some designations are universal. They include:
 - Digital input 5: Estop
 - Digital input 6: Fault reset
 - Digital input 7: On/Off (maintained) or On-Start (pulsed)
 - *Digital input 8: Start/Stop (maintained) or Off-Stop (pulsed)
 - Digital output 8: Main Contactor On (3 Amps max. at 115 – 230 V_{AC})
*except Hand/Auto macro
- Other signals may be required depending on your application (e.g., motor fan acknowledge input, Off2 input, fan-on output, brake output).

- You will select the macro and / or choose the configuration for digital and analog inputs and outputs in step 2 of the commissioning process, or by updating group 10 and 14 parameters.
- Check all wire terminations (with continuity tester) before proceeding to the next step.

Step 4:

Connect the drive system to incoming power and the motor to the converter (both field and armature) as well as accessory equipment (motor fan, thermal switch, brake, etc.).

- See hardware manual for typical cable size and tightening torque recommendations.
- **IMPORTANT: Be sure all safety equipment is properly sized for your application**

Step 5:

Apply control power to the converter.

- **IMPORTANT: See section “Safety and Operating Instructions” in this manual before proceeding.**
- Apply power to terminal block 99 and X52. The keypad should light up and show the menu screen. The converter fans should start to run (if converter has fans).

Step 6:

Commission the converter using DriveWindow Light (preferred) or the control panel.

- **IMPORTANT: See safety alerts and general instructions in the section “Commissioning” before proceeding.**
- Install the DCS800 PC tools on your computer. Instructions are in this manual. Use DriveWindow Light to commission your converter.
- If no PC is available, commission your drive using the control panel as follows:
 - On the control panel, press the softkey to select MENU.
 - Using the down arrow, select ASSISTANTS. Then press ENTER.
 - Starting with “name plate data,” press SEL. Change the value with the arrow keys. Then press SAVE.
 - Repeat above with other parameters. Follow directions on the screen.

Configuring and Displaying analog and digital I/O

HINT: To see if the drive is responding to an “on” or “run” command, view signal 8.08.

Control Panel:

- Digital Status: View signal 8.05 (DI's) or 8.06 (DO's). Display is in hexadecimal.
- Configure digital inputs with Group 10.
- Analog Status: View signal 5.03 (AI1) or 5.11 (AO1). Display is in Volts.
- Configure analog speed ref. with Group 11.

DriveWindow Light:

- Connect to the DCS800 and go on line by clicking on File, then New Online Drive.
- Click on Wizard, at left side of the screen.
- Click on Advanced.
- Check the box for “I/O assistant,” then click on Next.
- Click on “edit parameters” in the appropriate section (analog or digital inputs or outputs).



for drive converters DCS / DCF / DCR

(in conformity with the low-voltage directive 73/23/EEC)

1. General

In operation, drive converters, depending on their degree of protection, may have live, uninsulated, and possibly also moving or rotating parts, as well as hot surfaces.

In case of inadmissible removal of the required covers, of improper use, wrong installation or maloperation, there is the danger of serious personal injury and damage to property.

For further information, see documentation.

All operations serving transport, installation and commissioning as well as maintenance are to be carried out by skilled technical personnel (Observe IEC 364 or CENELEC HD 384 or DIN VDE 0100 and IEC 664 or DIN/VDE 0110 and national accident prevention rules!).

For the purposes of these basic safety instructions, "skilled technical personnel" means persons who are familiar with the installation, mounting, commissioning and operation of the product and have the qualifications needed for the performance of their functions.

2. Intended use

Drive converters are components designed for inclusion in electrical installations or machinery and are to be mounted in a cubicle or finger protected area.

In case of installation in machinery, commissioning of the drive converter (i.e. the starting of normal operation) is prohibited until the machinery has been proved to conform to the provisions of the directive 89/392/EEC (Machinery Safety Directive - MSD). Account is to be taken of EN 60204.

Commissioning (i.e. the starting of normal operation) is admissible only where conformity with the EMC directive (89/336/EEC) has been established.

The drive converters meet the requirements of the low-voltage directive 73/23/EEC. They are subject to the harmonized standards of the series prEN 50178/DIN VDE 0160 in conjunction with EN 60439-1/ VDE 0660, part 500, and EN 60146/ VDE 0558.

The technical data as well as information concerning the supply conditions shall be taken from the rating plate and from the documentation and shall be strictly observed.

3. Transport, storage

The instructions for transport, storage and proper use shall be complied with.

The climatic conditions shall be in conformity with prEN 50178.

4. Installation

The installation and cooling of the appliances shall be in accordance with the specifications in the pertinent documentation.

The drive converters shall be protected against excessive strains. In particular, no components must be bent or isolating distances altered in the course of transportation or handling. No contact shall be made with electronic components and contacts.

Drive converters contain electrostatic sensitive components which are liable to damage through improper use. Electric components must not be mechanically damaged or destroyed (potential health risks).

5. Electrical connection

When working on live drive converters, the applicable national accident prevention rules (e.g. VBG 4) must be complied with.

The electrical installation shall be carried out in accordance with the relevant requirements (e.g. cross-sectional areas of conductors, fusing, PE connection). For further information, see documentation.

Instructions for the installation in accordance with EMC requirements, like screening, earthing, location of filters and wiring, are contained in the drive converter documentation. They must always be complied with, also for drive converters bearing a CE marking. Observance of the limit values required by EMC law is the responsibility of the manufacturer of the installation or machine.

6. Operation

Installations which include drive converters shall be equipped with additional control and protective devices in accordance with the relevant applicable safety requirements, e.g. Act respecting technical equipment, accident prevention rules etc. Changes to the drive converters by means of the operating software are admissible.

After disconnection of the drive converter from the voltage supply, live appliance parts and power terminals must not be touched immediately because of possibly energized capacitors. In this respect, the corresponding signs and markings on the drive converter must be respected.

During operation, all covers and doors shall be kept closed.

7. Maintenance and servicing

The manufacturer's documentation shall be followed.

Keep safety instructions in a safe place!

Installing the DCS800 PC tools on Your computer

After inserting the DCS800 CD all programs and documentation necessary to work with the DCS800 will be automatically installed.

This includes:

1. DriveWindow Light for parameterization, commissioning and service
2. Hitachi FDT 2.2 for firmware download
3. Installation CD of DCS800 Drive for e.g. DWL Wizard, ABB documents
4. CoDeSys for 61131 application programming

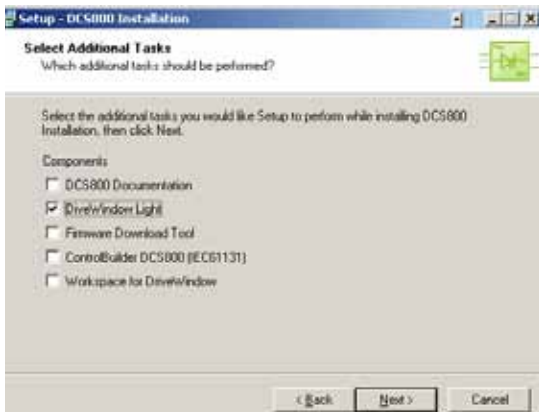
Attention:

If You do not want to install a certain program just skip it by using Cancel at the beginning of the program's wizard.



If the installation routine does not start automatically:

- Go to Start/Run and browse for setup.exe on the CD.
- Now start the installation by confirming with OK
- Compact installation for DriveWindow Light + DCS800 add ons is recommended



Steps to connect Drive to PC

- The documentation can be found under **C:\ABB\DCS800\Docu**
- Remove design cover from the converter module

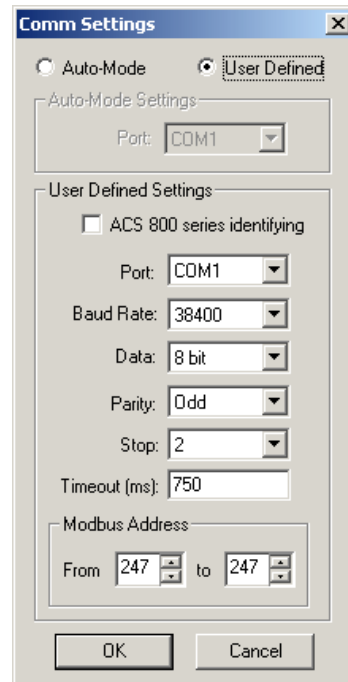


Remove the DCS800 Control Panel if present. Depress the locks to remove the cover

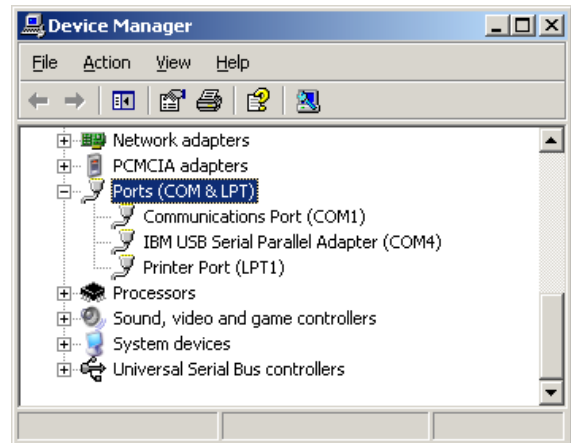


Connect drive (X34) to your PC COM port

- Start DriveWindow Light PC tool
- Check the communication setting of your COM port



If You use ExpressCard to COM port interface or PCMCIA / COM port double check the active COM enabled Start => Settings => Control Panel => System => Hardware => Device Manager



- COM address of USB interface **can** change after the next boot procedure or after disconnecting and reconnecting of the USB interface.

Note:

ExpressCard / PCMCIA to COM port provide a stable and faster drive interface.

Utilize DriveWindow Light or DCS800 Panel Wizard continue with chapter *Commissioning* in this manual.

For commissioning by DriveWindow find a workspace description in the DCS800 Firmware manual.

Commissioning



Danger! High voltage: this symbol warns of high voltages which may result in injuries to persons and/or damage to equipment. Where appropriate, the text printed adjacent to this symbol describes how risk of this kind may be avoided



General warning: this symbol warns of non-electrical risks and dangers which may result in serious or even fatal injuries to persons and/or damage to equipment. Where appropriate, the text printed adjacent to this symbol describes how risk of this kind may be avoided.



Warning of electrostatic discharge: this symbol warns you against electrostatic discharges which may damage to unit. Where appropriate, the text printed adjacent to this symbol describes how risk of this kind may be avoided.

NEC motor overload protection

The DCS800 provides a solid-state motor overload protection in accordance with the NEC. The overload protection (e.g. protection level in percent of full-load motor current) can be adjusted by parameters in group 31 and group 99

The instructions can be found in chapter *Motor thermal model* of the *DCS800 Manual*.

General instructions

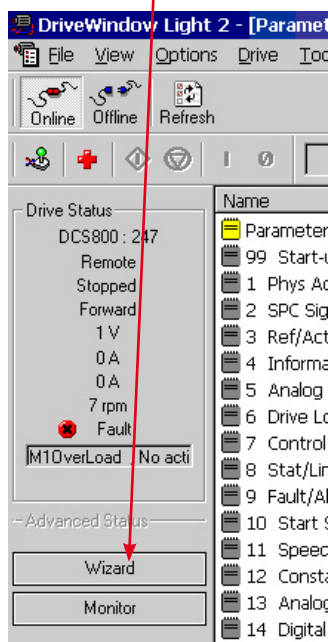
- This short commissioning refers to chapter *Connection examples* of this publication.
- *Safety and operating instructions* - chapter of this publication.
- Recommendations for motor and field voltages see *Technical catalog*.
- In accordance with DIN 57 100 Part 727 / VDE 0100 Part 727, precautions must be taken to enable the drive to be shut down, e.g. in the event of danger. The unit's digital inputs or the control panel are not sufficient as the sole measure for this purpose!

Preparations

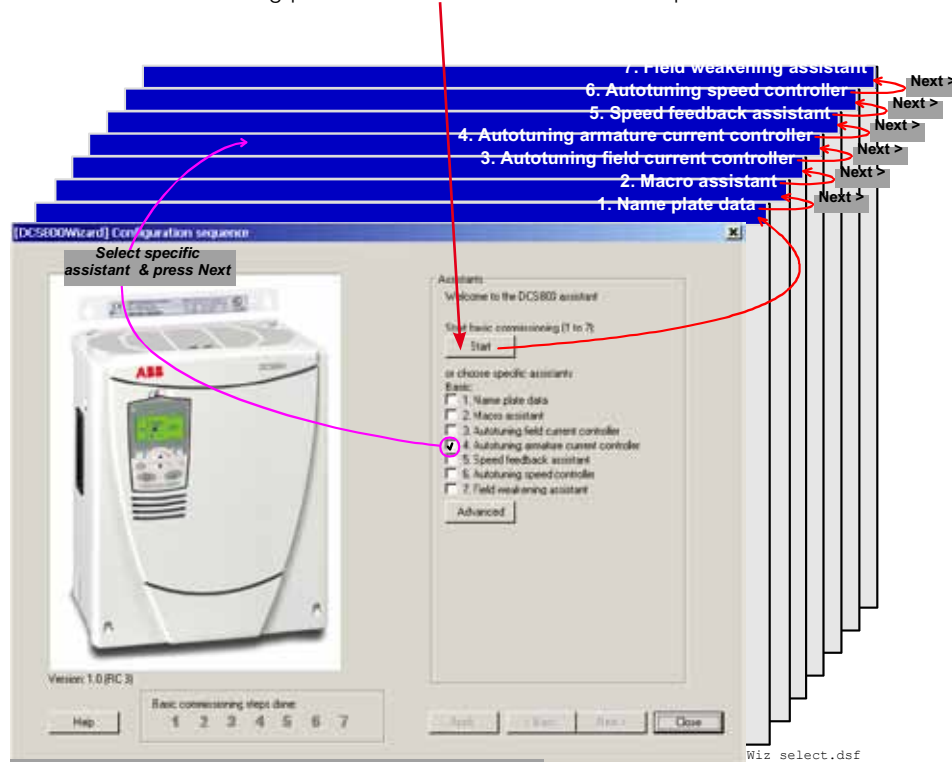
- Check unit for any damage!
- Install unit and wire it up
- Supply voltage level / Rated value correct for electronics and fan?
- Supply voltage level / Rated value correct for armature-circuit converter?
- Supply voltage level / Rated value correct for field supply?
- Wiring / cross-sections, etc. correct?
- EMERGENCY STOP functioning properly?
- COAST STOP functioning properly?

Commissioning DriveWindow Light

Start the wizard in DriveWindow Light



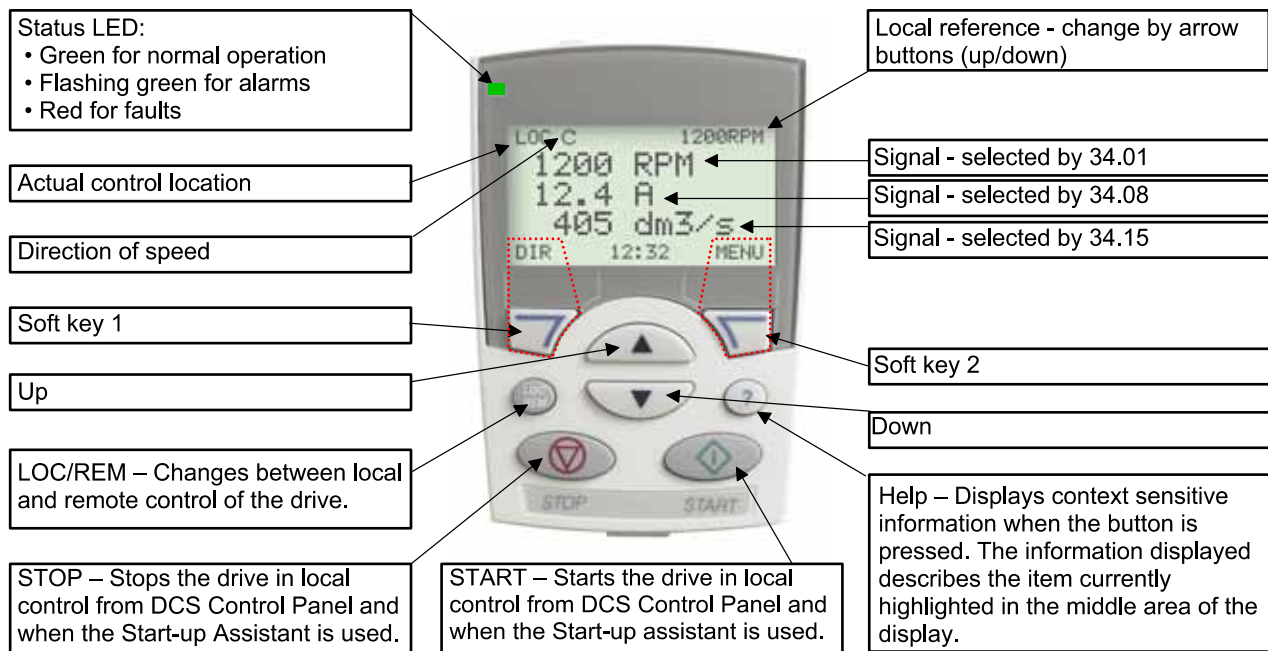
For basic commissioning press the *Start* button or select a specific assistant:



For more information about the wizard, parameters faults and alarms press the *Help* button!

DCS800 Control Panel

The following table summarizes the button functions and displays of the DCS800 Control Panel



DCS800 QG pan ov_c.dsf

With USISel (16.09) it is possible to limit the amount of displayed parameters!

General display features

Following modes are available in the MAIN MENU:

1. Parameters mode
2. Start-up assistants mode
 - a. Name plate data
 - b. Macro assistant
 - c. Autotuning field current controller
 - d. Autotuning armature current controller
 - e. Speed feedback assistant
(Tacho fine tuning not available)
 - f. Autotuning speed controller
 - g. Field weakening assistant
(only used when maximum speed is higher than base speed)
3. Macros mode (currently not used)
4. Changed parameters mode (compare to default and display changed parameters)
5. Fault logger mode (Display fault history)
6. Clock set mode
7. Parameter backup mode
 - copy active parameter set from the drive into the DCS800 Control Panel (only in local mode)
 - copy parameter set from DCS800 Control Panel into the drive (only in local mode)
8. I/O settings mode (currently not used)

Parameters entered by assistant

99.02	Motor 1 nominal Voltage
99.03	Motor 1 nominal current
99.04	Motor 1 base speed
20.01	Motor 1 minimum speed
20.02	Motor 1 maximum speed
99.11	Motor 1 nominal field current
30.09	Armature over current level
30.16	Motor 1 over speed
99.10	Nominal mains voltage
99.12	Motor 1 used fex type
20.05	Torque maximum
20.06	Torque minimum
20.12	Motor 1 current limit bridge 1
20.13	Motor 1 current limit bridge 2
50.04	Motor 1 encoder pulse number, if selected
50.02	Motor 1 encoder measured mode, if selected
50.13	Motor 1 tacho volt, only DWL
50.12	Motor 1 tacho adapt, only DWL
20.03	Zero speed limit
22.01	Acceleration time 1
22.02	Deceleration time 1
30.12	Motor 1 field minimum trip
44.01	Field control mode



Standard Features

- kompakt
- Höchste Leistungsfähigkeit
- Einfachste Bedienung
- Komfortable Assistenten, z. B. zur Inbetriebnahme oder Fehlersuche
- Skalierbar für alle Anwendungen
- Frei programmierbar dank eingebauter IEC61131-SPS

DCS800 Gleichstromantriebe

Technische Daten

Nennanschlusssp	230...1.200 V, +/-10%, 3~
Frequenz	50 bis 60 Hz +/-5 Hz
Elektronikspg.	115...230 V, -15% / +10%, 1~
DC Ausgangsstrom	20...5.200 A
Überlastbarkeit	200%

Umgebungsgrenzwerte

Umgebungstemp.	0° ... +40° C 40° ... 55° C Stromreduktion
Lagertemperatur	-40° ... +55° C
Transporttemp.	-40° ... +70° C
Relative Luftfeucht.	5 ... 95%, nicht kondensierend (max. 50% zw. 0°...5° C)
Verschmutzungsgrad	Klasse 2
Schutzgrad	IP 00
Betriebshöhe	bis 1.000 m üNN Nennstrom Über 1.000 m üNN Stromreduktion

Ein-/ Ausgänge

Digitale Eingänge: 8 Standard, bis 14 optional
Digitale Ausgänge: 8 Standard, bis 12 optional
Analoge Eingänge: 4 Standard +/-10 V; 0/2...10 V, bis 8 optional +/- 20 mA; 0/4...20 mA
Analoge Ausgänge: 3 Standard (1x I_{act}) +/-10 V; 0/2...10 V, bis 7 optional -20 mA; 0/4...20 mA

PC-Tools

DriveWindow Light: kostenlos mit jedem Antrieb, Standard RS232 Verbindung

ControlBuilder DCS800

IEC61131 Programmierung
DriveSize Antriebs- und Motorauslegung

Wartung / Diagnose

Fernwartung von jedem Internet-PC aus
 • mit Internet Browser / Internet Explorer
 • oder mit DriveWindow Vollzugriff via OPC

Zulassungen



Adaptive Programmierung

fertige antriebsspezifische Blöcke, darunter
 • Freier Prozessregler (PI-Regler)
 • Ein/Ausgänge
 Mit Bedien-Panel oder PC-Tool, ohne zusätzliche Hardware

Drehzahlrückführung

EMK
 Analoges Tachometer
 Inkrementalgeber
 Zweiter Inkrementalgeber möglich (RTAC)

Kommunikation

Verfügbare serielle Schnittstellen
 • Ethernet • Profibus
 • CANopen • DeviceNet
 • ControlNet • DDCS
 • Modbus • CS31
 • Selma2 • AF100

DCSLink Peer-to-Peer

• bis 800 kBaud, < 2,5 ms
 • Master-Follower
 • Anker-Feldstromrichter

• frei definierbare Daten

Hochstromlösungen

- 12-puls bis 20.000 A, seriell und parallel
- Hart parallel und sequenziell
- bis 1.500 V

Schutzfunktionen

- Tachosignalüberwachung
 • Temperatur • Überlast
 • Überdrehzahl • Motor blockiert • Motorüberstrom
 • Motorüberspannung
 • Feldüberstrom • Feldüberspannung • Mindestfeldstrom • Drehzahl Null
 • Ankerstromwelligkeit • Netz Über- und Unterspannung

Integrierte IEC 61131-SPS

- Offenes Programmierool ControlBuilder DCS800
- Unterstützung aller fünf IEC-Sprachen
- Antriebsspezifische Funktionsblöcke
- Speicherung in Memory Karte
- Online Debugging und Forcing

Nennstrom, Abmessungen

Unit size	2-Q		4-Q		Supply voltage [V _{AC}]						max. field current internal [A _{pc}]	Dimensions		
	rated Current DCS800-01		rated Current DCS800-02		400	525	600	690	800	990		1200	h x w x d [mm]	h x w x d [inch]
	I _{pc} [A]	I _{pc} [A]	I _{pc} [A]	I _{pc} [A]										
D1	20	25	•	•								370 x 270 x 200	14.56 x 10.65 x 7.90	
	45	50	•	•										
	65	75	•	•										
	90	100	•	•										
	125	140	•	•										
D2	180	200	•	•								370 x 270 x 270	14.56 x 10.65 x 10.65	
	230	260	•	•										
D3	315	350	•	•	• ³⁾							459 x 270 x 310	18.07 x 10.65 x 12.25	
	405	450	•	•										
	470	520	•	•										
D4	610	680	•	•	• ³⁾							644 x 270 x 345	25.35 x 10.65 x 13.60	
	740	820	•	•										
	900	1000	•	•										
D5	900	900			•	•						1050 x 510 x 410	41.35 x 20.10 x 16.15	
	1200	1200	•	•										
	1500	1500	•	•	•	•								
	2000	2000	•	•	• ¹⁾	• ¹⁾								
D6	1900	1900										1750 x 460 x 410	68.90 x 18.15 x 16.15	
	2050	2050			•	•	•				external field 35A, 1~/3~			
	2500	2500	•	•	•	•	•				50/60A, 1~			
	3000	3000	•	•	•	•	•				520A, 3~			
D7	2050	2050										1750 x 760 x 570	68.90 x 29.95 x 22.45	
	2600	2600												external field 35A, 1~/3~
	3300	3300	•	•	•	•	•				50/60A, 1~			
	4000	4000	•	•	•	•	•				520A, 3~			
	4800	4800			•	•	•							
5200	5200	•	•											

•¹⁾ only available as 2-Q drive

•²⁾ on request

•³⁾ 600V

2-Q -> 290 A / 590 A
 4-Q -> 320 A / 650 A

Kurzanweisung CD und Dokumentationsübersicht

Wir freuen uns, dass Sie einen ABB DC-Stromrichter erworben haben und bedanken uns für das Vertrauen, welches Sie unseren Produkten entgegengebracht haben.

Damit Sie auch weiterhin mit unserem Produkt zufrieden sind, haben wir diese Broschüre für Sie zusammengestellt. Sie soll hauptsächlich dazu dienen, Ihnen einen kurzen Überblick über das Produkt, EMV Hinweise, typische Anwendungen, Inbetriebnahme und Fehlersuche zu verschaffen.

Weitere Informationen zum Produkt finden Sie auf der beiliegenden **CD-ROM**. Die CD-ROM ist Teil der Lieferung und hat folgende Bestandteile:

Technischer Katalog (3ADW000192)

Umfassende Information zur Planung kompletter DC-Stromrichter.

Hardware Handbuch (3ADW000194)

Detailinformation mit allen wichtigen Angaben zu den Einzelkomponenten, wie z.B. Modulabmaße, Elektronikarten, Lüfter und Zusatzkomponenten.

Informationen zur mechanischen und elektrischen Installation sind ebenfalls enthalten.

Firmware Handbuch (3ADW000193)

Detailinformation mit allen wichtigen Angaben zur Firmware und Einstellungen der Parameter. Dieses Handbuch enthält alle notwendigen Informationen zur Inbetriebnahme. Außerdem sind sowohl alle Fehler- und Alarmmeldungen aufgelistet als auch Informationen zur Fehlersuche.

Service Handbuch (3ADW000195)

Information zur Wartung und Reparatur der Stromrichter.

Applikationen

Der DCS800 DC-Stromrichter kann auch Applikationsprogramme enthalten z.B. für Kräne und Wickler. In solchen Fällen ist es möglich, daß die folgenden Anweisungen oder diverse Assistenten entweder gesperrt sind oder nicht beendet werden können. Bitte mit Hilfe weiterführender Dokumentation überprüfen (siehe auch Parameter 4.03 und 83.01).

Weitere **Informationen über Applikationen** (z.B. 12-Puls) und technisches Zubehör (z.B. Hardwareerweiterungen oder Feldbusadapter) werden in separaten Handbüchern behandelt. Siehe Tabelle *DCS800 Handbücher*.

Systemvoraussetzungen für die Nutzung der CD ROM

- Betriebssystem
WINDOWS 2000, XP
- ACROBAT READER

Falls die CD ROM nicht automatisch startet, klicken Sie bitte doppelt auf **Setup.exe**.



Weitere Unterstützung

Wir bieten Ihnen darüber hinaus weitere Unterstützung an, denn nur wenn Sie als Kunde mit uns und unseren Produkten zufrieden sind, können auch wir zufrieden sein.

Internet

Auf der ABB Homepage unter

www.abb.com/dc

finden Sie viele Informationen zu

- DC Produkten
- Service
- neueste Updates
- Anwendersoftware
- Downloads etc.

Bitte zögern Sie nicht uns dort zu besuchen.

Kontakte

Benötigen Sie weitere Informationen, sprechen Sie bitte Ihr nächstgelegenes **ABB Drives** Büro an oder schreiben Sie eine E-Mail an:

DC-Drives@de.abb.com

Geben Sie bitte Ihren Namen, Ihre Firmenadresse und Telefonnummer an und wir werden Ihnen umgehend den für Sie zuständigen Ansprechpartner mitteilen.

EMV Filter

Weitere Informationen hierzu siehe:

Technical Guide Kapitel: EMC Compliant Installation and Configuration for a Power Drive System

Nachfolgend wird die Auswahl der elektrischen Komponenten entsprechend der EMV-Richtlinie beschrieben.

Ziel der EMV-Richtlinie ist es, eine elektromagnetische Verträglichkeit mit anderen Produkten und Systemen herzustellen. Die Richtlinie stellt sicher, dass die von dem Produkt abgestrahlten Emissionen so gering sind, dass sie die Störfestigkeit eines anderen Produkts nicht beeinträchtigen. Im Zusammenhang mit der EMV-Richtlinie sind zwei Aspekte zu berücksichtigen:

- die Störfestigkeit des Produkts
- die tatsächlichen Emissionen des Produkts

Die EMV-Richtlinie verlangt, dass die EMV bereits bei der Produktentwicklung berücksichtigt werden muss; jedoch kann die EMV nicht mit eingeplant werden, sie kann nur quantitativ gemessen werden.

Hinweis zur EMV

Das richtige Vorgehen liegt sowohl in der Verantwortung der Stromrichterlieferanten wie auch des Maschinen- oder Anlagenbauers entsprechend ihrem Anteil an den elektrischen Einrichtungen.

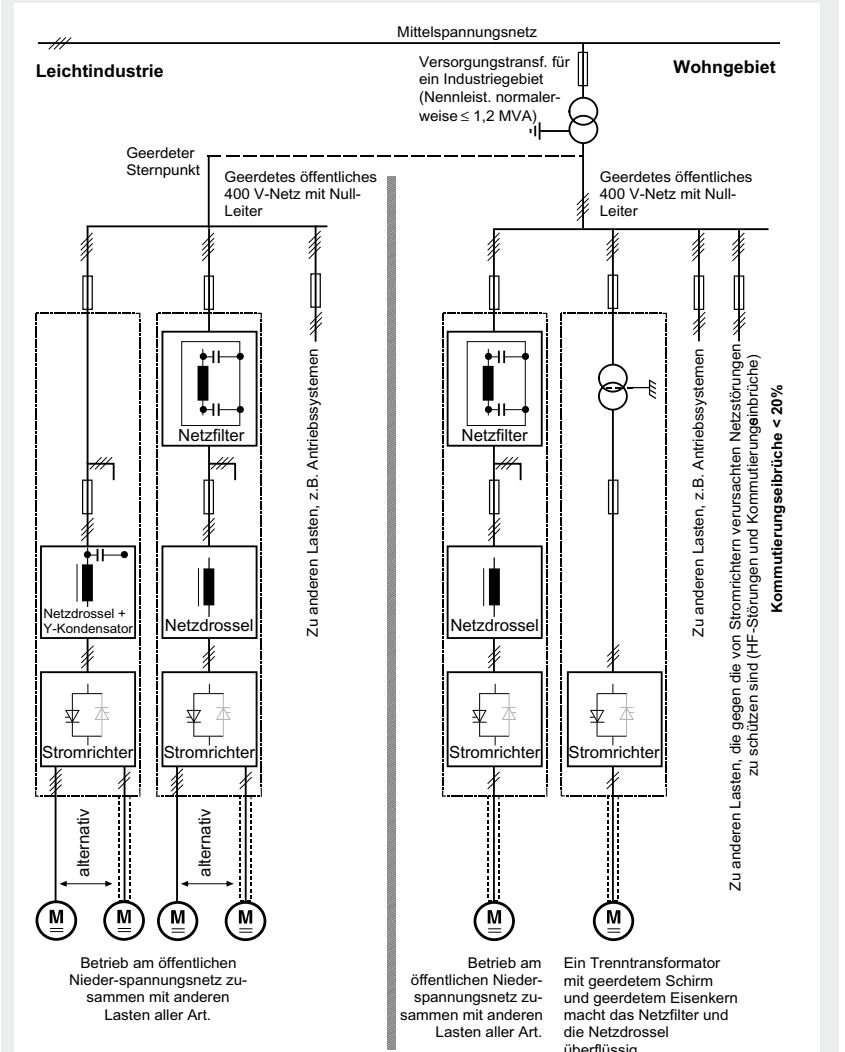
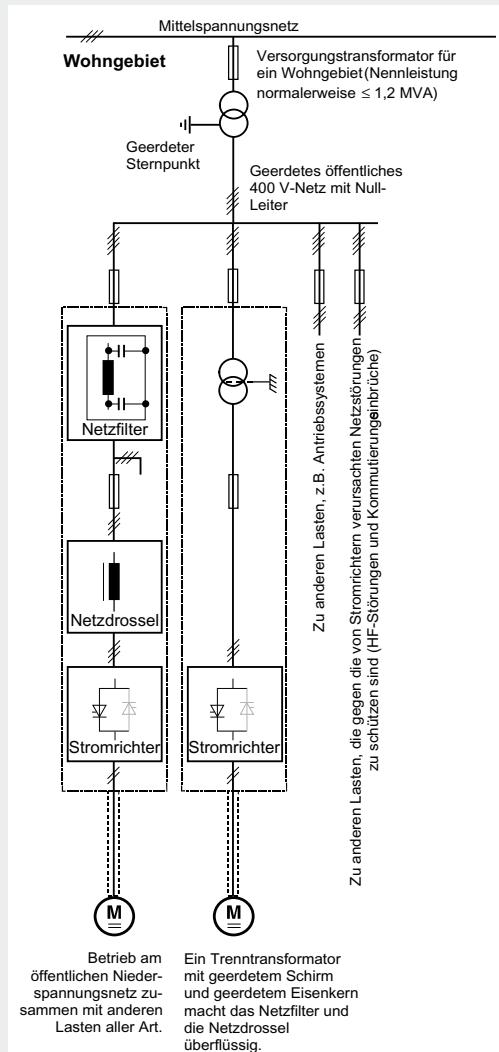
Erste Umgebung (Wohnggebiete mit Leichtindustrie) mit PDS Kategorie C2

Nicht möglich, da Kategorie C1 (Vertriebskanäle für Produkte mit allgemeiner Erhältlichkeit) entfällt

Entfällt

Erfüllt

Erfüllt



Um bei Maschinen und Anlagen die Schutzvorgaben des deutschen EMV-Gesetzes (EMVG) erfüllen zu können, müssen folgende EMV-Normen eingehalten werden:

Produktnorm EN 61800-3

EMC-Norm für Stromrichtersysteme (PowerDriveSystem), Störfestigkeit und Abstrahlungen in Wohn-, Gewerbegebieten mit Leichtindustrie und Industrieanlagen.

Diese Norm innerhalb der EU zur Einhaltung der EMV-Anforderungen für Maschinen und Anlagen erfüllt werden!

Normen für Störabstrahlungen:

- EN 61000-6-3** Die spezielle Basisnorm für Abstrahlungen in der **Leichtindustrie** kann mit speziellen Einrichtungen (Netzfiltern, geschirmten Kabeln) im unteren Leistungsbereich erfüllt werden *(EN 50081-1).
- EN 61000-6-4** Spezielle Basisnorm für Abstrahlungen in der **Industrie** *(EN 50081-2)

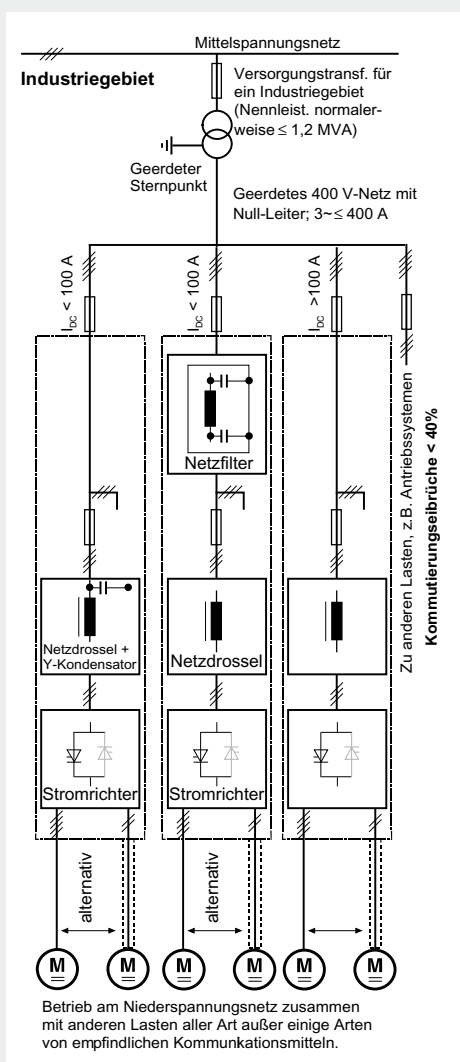
Normen für Störfestigkeit::

- EN 61000-6-1** Spezielle Basisnorm für Störfestigkeit in **Wohngebieten** *(EN 50082-1)
- EN 61000-6-2** Spezielle Basisnorm für Störfestigkeit in Industrieanlagen. Wenn diese Norm erfüllt ist, ist auch automatisch die Norm EN 61000-6-1 erfüllt *(EN 50082-2).

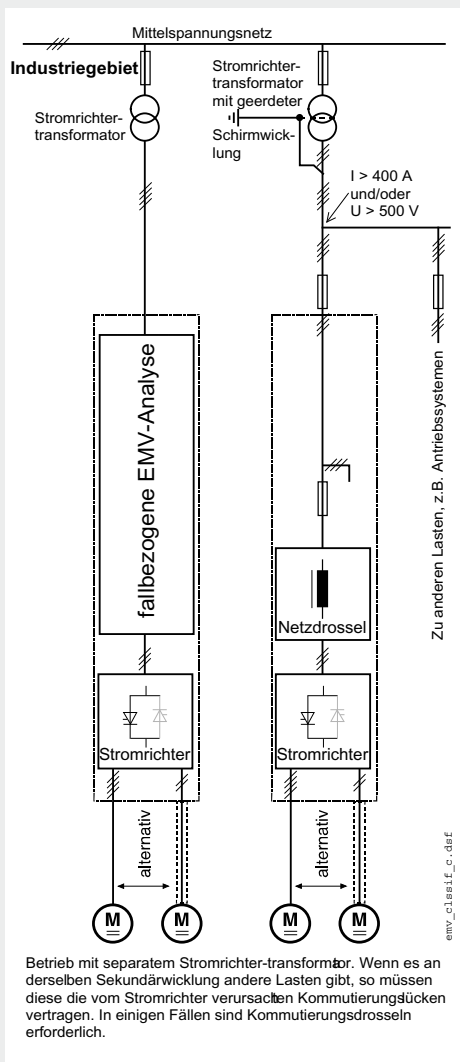
* Die alten Normen sind in Klammern angegeben.

			Standards
Zweite Umgebung (Industrie) mit den PDS-Kategorien C3, C4			EN 61800-3
Entfällt			EN 61000-6/3
Erfüllt	Auf Kundenwunsch	Erfüllt	EN 61000-6/3
Erfüllt			EN 61000-6-2 EN 61000-6-1

PDS Kategorie C3



PDS Kategorie C4



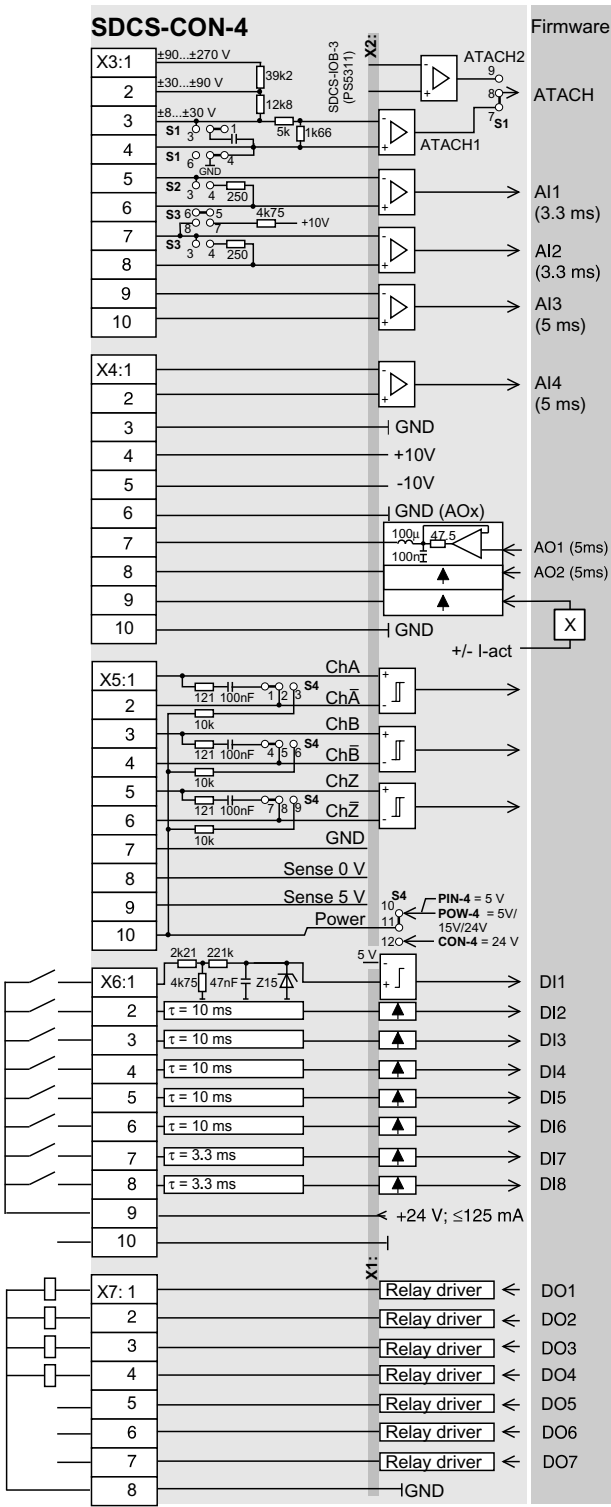
Klassifizierung

In der folgenden Übersicht werden die Maßnahmen dargestellt, die zur Einhaltung der Produktnorm erforderlich sind. **EN 61800-3.** Bei der DCS800-Serie werden die Grenzwerte für Störabstrahlungen eingehalten, wenn die angegebenen Maßnahmen durchgeführt werden. PDS der Kategorie C2 (früher eingeschränkte Erhältlichkeit in der Ersten Umgebung) ist ausschließlich für die Installation und Inbetriebnahme durch Fachpersonal (Person oder Organisation mit dem erforderlichen Sachverstand bzw. Inbetriebnahme des PDS einschließlich EMV-Maßnahmen) vorgesehen. Bei Stromrichtern ohne Zusatzkomponenten sind folgende Warnhinweise zu beachten: Es handelt sich um ein Produkt der Kategorie C2 gemäß IEC 61800-3:2004. In Wohngebieten kann dieses Produkt Funkstörungen verursachen. In diesem Fall sind zusätzliche Maßnahmen erforderlich. Die Feldversorgung wird in dieser Übersicht nicht dargestellt. Für Feldstromkabel gelten dieselben Regeln wie für die Ankerstromkreis.

Legende

	abgeschirmtes Kabel
	ungeschirmtes Kabel mit Einschränkung

Digitaler und analoger E/A-Anschluss von SDCS-CON-4



Con4_I_0-b.dsf

Auflösung [bit]	Ein-/Ausgangswerte Hardware	Skalierung durch	Gleich-takt-bereiche	Anmerkungen
15 + Vorzeichen	$\pm 90... \pm 270$ V $\pm 30... \pm 90$ V $\pm 8... \pm 30$ V	Firmware	± 15 V	
15 + Vorzeichen	$-10...0...+10$ V	Firmware	± 15 V	
15 + Vorzeichen	$-10...0...+10$ V	Firmware	± 15 V	
15 + Vorzeichen	$-10...0...+10$ V	Firmware	± 15 V	
15 + Vorzeichen	$-10...0...+10$ V	Firmware	± 15 V	

Spannung			
	+10 V		≤ 5 mA
	-10 V		≤ 5 mA
11 + Vorzeichen	$-10...0...+10$ V	Firmware	≤ 5 mA
11 + Vorzeichen	$-10...0...+10$ V	Firmware	≤ 5 mA
	$-10...0...+10$ V	Firmware+ Hardware	≤ 5 mA

8 V -> min von 325% von [99.03], oder 230% von [4.05]

Impulsgebersversorgung	Anmerkungen
	Eingänge nicht potentialgetrennt Impedanz = 120 Ω , falls gewählt max. Frequenz ≤ 300 kHz
5 V 24 V	≤ 250 mA ≤ 250 mA

Leitungen für GND und Einspeisung zur Korrektur von Spannungsschwankungen (nur bei Verwendung eines 5 V Impulsgebers)

Eingangswert	Signaldefinition durch	Anmerkungen
0...7.3 V 7.5...50 V	Firmware	-> "0" Status -> "1" Status

Ausgangswert	Signaldefinition durch	Anmerkungen
50 * mA 22 V bei Null-Last	Firmware	Stromgrenzwert für alle 7 Ausgänge = 160 mA Keine Gegenspannungen verwenden!

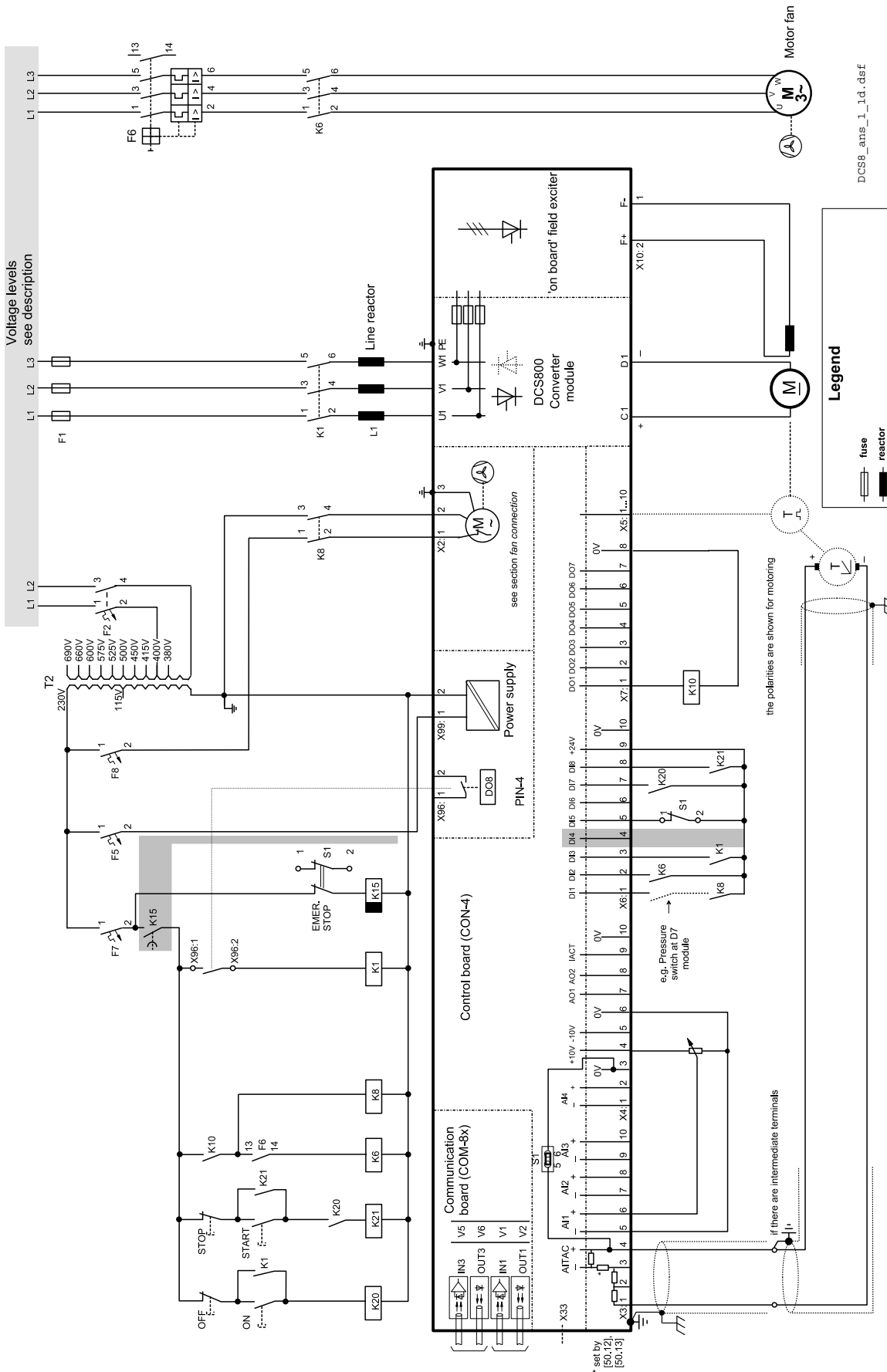
* kurzschlussfest

① Verstärkung kann in 15 Schritten zwischen 1 und 4 über Softwareparameter geändert werden

Anschlussbeispiel

Stromrichter D1...D4 mit 'On Board' Felderregler

Die Verdrahtung des Stromrichters entspricht dem Macro FACTORY (default)



weitere Informationen finden Sie auf der folgenden Seite

START, STOP und NOT-AUS-Steuerung

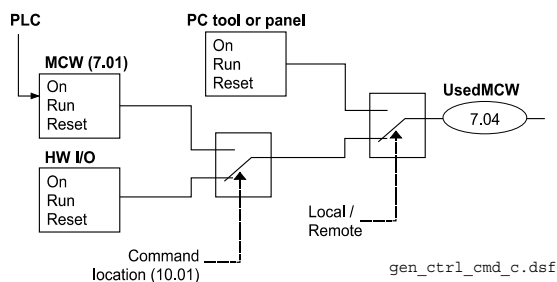
Die Relaislogik kann in drei Teile untergliedert werden:

a: Ausgabe des EIN/AUS- und START/STOPP-Befehls:

Die mit K20 und K21 dargestellten Befehle (Steuerung über Hardware-Klemmen) können z.B. mit einer SPS erzeugt werden und entweder über Relais mit galvanischer Trennung oder direkt über 24V-Signale an die Anschlüsse des Stromrichters übertragen werden.

Festverdrahtete Signale sind nicht notwendig.

Diese Befehle können auch über die serielle Kommunikation übertragen werden. Eine kombinierte Lösung ist ebenfalls möglich, indem für das eine oder andere Signal unterschiedliche Optionen gewählt werden (siehe Parametergruppe 11).



b: Ausgabe von Steuer- und Überwachungssignalen:

Das Hauptschütz K1 für den Ankerstromkreis wird über einen Relaisausgang (DO 8) auf der SDCS-PIN-4 gesteuert, der Status der Lüfter kann über die Lüfterrückmeldesignale überwacht werden: MotFanAck (10.06) und ConvFanAck (10.20).

c: OFF2, OFF3 Stoppfunktion:

Neben EIN/AUS und START/STOPP verfügt der Stromrichter auch über zwei zusätzliche Stoppfunktionen OFF2 und OFF3 gemäß Profibus-Standard. OFF3 ist eine skalierbare Stoppfunktion (Rampenstopp, Stopp max. Drehmoment, dynamische Bremsung...) für Stoppkategorie 1. Diese Funktion muss unverzüglich auf den NOT-AUS- (Not-Halt-) Taster angeschlossen werden. Bei Stopp über Rampe muss das Zeitrelais K15 auf eine längere Zeit als EStopRamp (22.04) eingestellt werden. Bei COAST öffnet der Stromrichter das Hauptschütz sofort.

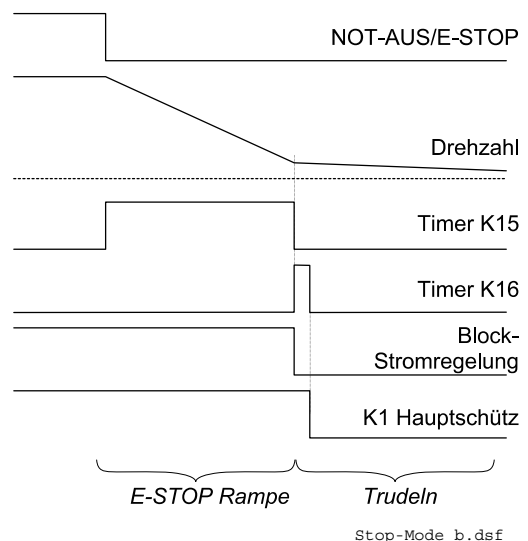
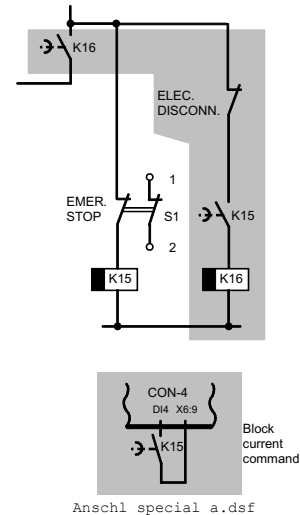
OFF2 schaltet den DC-Strom so schnell wie möglich ab und bereitet den Stromrichter auf das Öffnen des Hauptschützes oder den Abfall der Netzspannung vor. Bei Normallast eines DC-Motors beträgt die Zeit zum Abschalten des DC-Stroms weniger als 20 ms. Diese Funktion sollte für alle Signale und Schutzfunktionen zum Öffnen des Hauptschützes benutzt werden. Diese Funktion ist wichtig für 4- Quadranten-Antriebe. Das Hauptschütz darf nicht während der Energie-Rückspeisung ins Netz geöffnet werden.

Die korrekte Sequenz ist

1. den Rückspeisestrom abschalten
2. das Hauptschütz öffnen

Wenn NOT-AUS (Not-Halt) gedrückt wird, wird die Meldung über Digitaleingang DI5 an den Stromrichter gesendet. Bei Rampenstopp oder max. Drehmoment verzögert der Stromrichter den Motor und öffnet dann das Hauptschütz.

Wenn der Stromrichter die Funktion nicht innerhalb der mit Timer K15 eingestellten Zeit ausgeführt hat, muss der Stromrichter den Befehl zum Abschalten des Stroms über K16 erhalten. Nach Ablauf der mit Timer K16 eingestellten Zeit wird das Hauptschütz unabhängig vom Status des Stromrichters geöffnet.



Reaktion bei Not-Aus/E-STOP

Lüfterkühlung

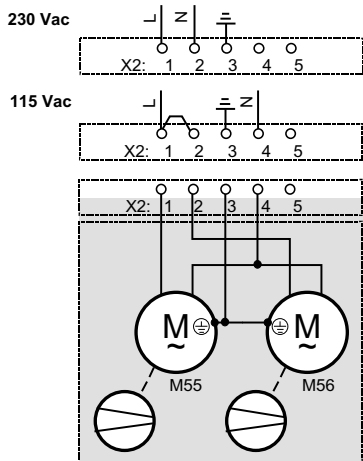
Lüfterzuordnung für DCS800

Stromrichtertyp	Model	Konfiguration	Lüfterspannung
DCS800-S01-0020-04/05, ..., DCS800-S02-0025-04/05	D1	-	kein Lüfter
DCS800-S0x-0045-04/05, ..., DCS800-S0x-0140-04/05	D1	1	1 x 3110KL-05W... (internal 24 VDC)
DCS800-S0x-0180-04/05, ..., DCS800-S0x-0260-04/05	D2	2	2 x 4715MS (115 / 230 VAC)
DCS800-S0x-0315-04/05, ..., DCS800-S0x-0350-04/05	D3	2	2 x 4715MS (115 / 230 VAC)
DCS800-S0x-0405-04/05, ..., DCS800-S0x-0520-04/05	D3	3	2 x 4715MS (115 / 230 VAC) 2 x 3115FS (115 / 230 VAC)
DCS800-S0x-0610-04/05, ..., DCS800-S0x-0820-04/05	D4	4	1 x W2E200 (230 VAC)
DCS800-S0x-0610-04/05, ..., DCS800-S0x-0820-04/05	D4	4	1 x W2E200 (230 VAC)
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	Pluscode S171		
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	D4	4	1 x W2E250 (230 VAC)
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	D4	4	1 x W2E250 (230 VAC)
DCS800-S0x-1000-04/05	Pluscode S171		

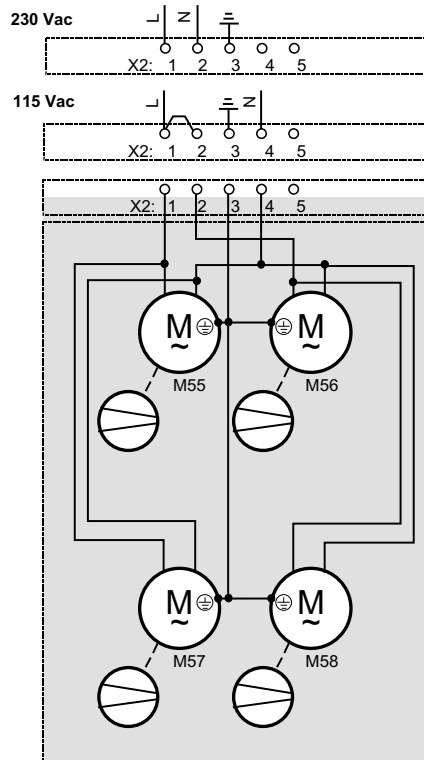
deutsch

Lüfteranschluss für DCS800

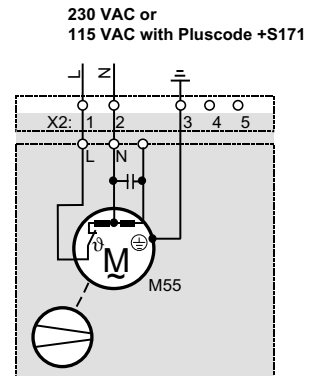
Anschlüsse oben auf dem Stromrichtergehäuse



Konfiguration 1
D1-D3



Konfiguration 2
D3

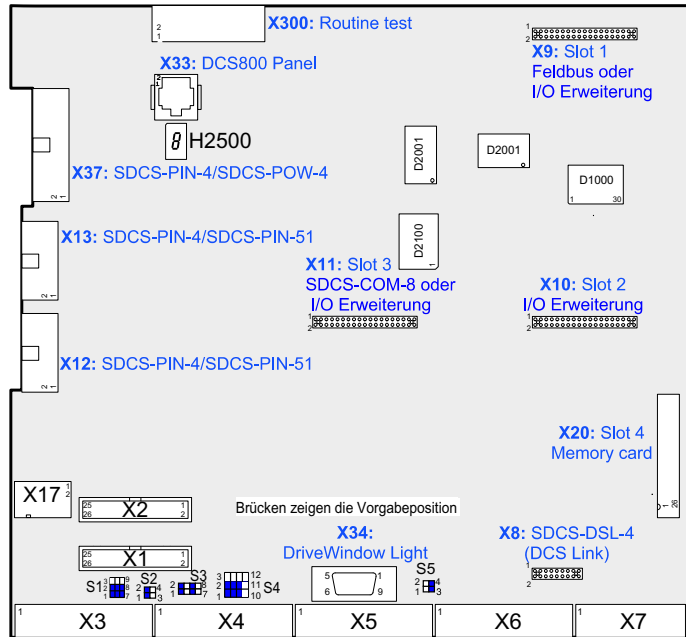


DCS8 fan conn D1-D4.dsf

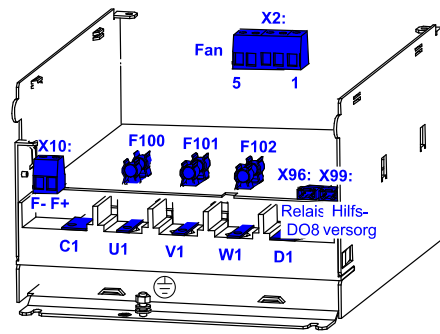
Konfiguration 3
D4

Klemmen- und Steckeranordnung des Stromrichters

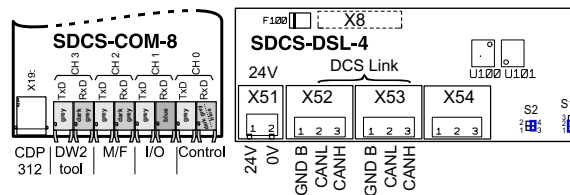
SDCS-CON-4 Steckeranschlüsse



DCS800 Modul ANSCHLUSSKLEMMEN



DCS800 Zubehör



SDCS-CON-4: KLEMMENZUORDNUNG

X3 Tacho and AI										X4 AI and AO										X5 Encoder										X6 DI										X7 DO							
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8
90...270V	30...90V	8...30V	0V	AI1-	AI1+	AI2-	AI2+	AI3-	AI3+	0V	0V	+10V	-10V	AO1	AO2	AO3 (fact)	0V	+A	-A	+B	-B	+Z	-Z	GND	GND	Us	Us	DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	DI9	DI10	+24	0V	DO1	DO2	DO3	DO4	DO5	DO6	DO7	DO8

DCS800 terminal alloc_a.dsif

Macro name	Haupt-schützr	ON / OFF Start/Stop	DI Funktion	Kommentar	DI5 --> ESTOP DI6 --> Reset
Standard	AC	Static	Jog1 --> DI1 Jog2 --> DI2 Ext Fault --> DI 3 Ext Alarm --> DI4	Hardware I/O Steuerung	x
2-wire DC cont. US	DC	Static	Jog1 --> DI1 Jog2 --> DI2 Ext Fault --> DI 3 Main Cont Ack --> DI4	Hardware I/O Steuerung	x
3-wire DC cont. US	DC	Pulse	Fix speed1 --> DI1 Ext Fault --> DI 3 Main Cont Ack --> DI4	Hardware I/O Steuerung	x
3-wire Standard	AC	Pulse	Fix speed1 --> DI1 Ext Fault --> DI 3 Ext Alarm --> DI4	Hardware I/O Steuerung	x
Torque limit	AC	Static	Jog1 --> DI1 Jog2 --> DI2 Ext Fault --> DI 3 Ext Alarm --> DI4	Hardware I/O Steuerung + Torque limit	x
Manual / Const	AC	Pulse	Jog1 --> DI1 Jog2 --> DI2 Direction --> DI 3 SpC - KP, KI --> DI4	Hardware I/O Steuerung Verstärkung auswählen	x
Hand / Auto	AC	Static	Control select --> DI2 Reference select --> DI2 Direction select --> DI 3	Hardware I/O Steuerung oder Feldbussteuerung	x
Hand / Mot Pot	AC	Pulse	Motor pot up --> DI1 Motor pot down --> DI2 Direction select --> DI 3 Reference select --> DI4	Hardware I/O Steuerung Sollwert durch Hardware oder Motorpotentiometer	x
Motor Pot	AC	Static	Direction select --> DI 1 Motor pot up --> DI2 Motor pot down --> DI3 Motor pot minimum --> DI4	Hardware I/O Steuerung Sollwert durch Motor potentiometer	x
Torque Ctrl	AC	Static	OFF2 (coast stop) --> DI1 Torque select --> DI2 Ext Fault --> DI 3	Hardware I/O Steuerung Drehzahlregelung oder Momentensollwert	x

Macro auswählen

benutze den [DCS800Wizard] 2. Macro assistant im DriveWindow Light oder

Parameter Menue, der Steuertafel, oder von DriveWindow, oder DriveWindow Light

Benutze folgende Parameter:

- ApplMacro (99.08) = Macroauswahl
- Apprestore (99.07) = YES = aktivieren
- MacroSel (8.10) = Überprüfung

ANMERKUNG

Funktionen und Eingänge, die durch das Macro bestimmt werden, können später ohne Einschränkung geändert werden

ANMERKUNG

Macro diagram siehe Seite 91 ..



1. Allgemein

Während des Betriebes können Antriebsstromrichter ihrer Schutzart entsprechend spannungsführende, blanke, gegebenenfalls auch bewegliche oder rotierende Teile, sowie heiße Oberflächen besitzen.

Bei unzulässigem Entfernen der erforderlichen Abdeckung, bei unsachgemäßem Einsatz, bei falscher Installation oder Bedienung, besteht die Gefahr von schweren Personen- oder Sachschäden.

Weitere Informationen sind der Dokumentation zu entnehmen.

Alle Arbeiten zum Transport, zur Installation und Inbetriebnahme sowie zur Instandhaltung sind von qualifiziertem Fachpersonal auszuführen (IEC 364 bzw. CENELEC HD 384 oder DIN VDE 0100 und IEC 664 oder DIN VDE 0110 und nationale Unfallverhütungsvorschriften beachten).

Qualifiziertes Fachpersonal im Sinne dieser grundsätzlichen Sicherheitshinweise sind Personen, die mit Aufstellung, Montage, Inbetriebsetzung und Betrieb des Produktes vertraut sind und über die ihrer Tätigkeit entsprechenden Qualifikationen verfügen.

2. Bestimmungsgemäße Verwendung

Antriebsstromrichter sind Komponenten, die zum Einbau in elektrische Anlagen oder Maschinen bestimmt sind und werden in einen Schaltschrank oder einen berührungssicheren Bereich eingebaut.

Bei Einbau in Maschinen ist die Inbetriebnahme der Antriebsstromrichter (d.h. die Aufnahme des bestimmungsgemäßen Betriebes) solange untersagt, bis festgestellt wurde, dass die Maschine den Bestimmungen der EG-Richtlinie 89/392/EWG (Maschinenrichtlinie) entspricht; EN 60204 ist zu beachten.

Die Inbetriebnahme (d.h. die Aufnahme des bestimmungsgemäßen Betriebes) ist nur bei Einhaltung der EMV-Richtlinie (89/336/EWG) erlaubt.

Die Antriebsstromrichter erfüllen die Anforderungen der Niederspannungsrichtlinie 73/23/EWG. Die harmonisierten Normen der Reihe prEN 50178/DIN VDE 0160 in Verbindung mit EN 60439-1/ VDE 0660 Teil 500 und EN 60146/ VDE 0558 werden für die Antriebsstromrichter angewendet.

Die technischen Daten sowie die Angaben zu Anschlussbedingungen sind dem Leistungsschild und der Dokumentation zu entnehmen und unbedingt einzuhalten.

3. Transport, Einlagerung

Die Hinweise für Transport, Lagerung und sachgemäße Handhabung sind zu beachten.

Klimatische Bedingungen sind entsprechend prEN 50178 einzuhalten.

4. Aufstellung

Die Aufstellung und Kühlung der Geräte muss entsprechend den Vorschriften der zugehörigen Dokumentation erfolgen.

Die Antriebsstromrichter sind vor unzulässiger Beanspruchung zu schützen. Insbesondere dürfen bei Transport und Handhabung keine Bauelemente verbogen und/oder Isolationsabstände verändert werden. Die Berührung elektronischer Bauelemente und Kontakte ist zu vermeiden.

Antriebsstromrichter enthalten elektrostatisch gefährdete Bauelemente, die leicht durch unsachgemäße Behandlung beschädigt werden können. Elektrische Komponenten dürfen nicht mechanisch beschädigt oder zerstört werden (unter Umständen Gesundheitsgefährdung!).

5. Elektrischer Anschluss

Bei Arbeiten an unter Spannung stehenden Antriebsstromrichtern sind die geltenden nationalen Unfallverhütungsvorschriften (z.B. VBG 4) zu beachten.

Die elektrische Installation ist nach den einschlägigen Vorschriften durchzuführen (z.B. Leitungsquerschnitte, Absicherungen, Schutzleiteranbindung). Darüberhinausgehende Hinweise sind in der Dokumentation enthalten.

Hinweise für die EMV-gerechte Installation – wie Schirmung, Erdung, Anordnung von Filtern und Verlegung der Leitungen – befinden sich in der Dokumentation der Antriebsstromrichter. Diese Hinweise sind auch bei CE-gekennzeichneten Antriebsstromrichtern stets zu beachten. Die Einhaltung der durch die EMV-Gesetzgebung geforderten Grenzwerte liegt in der Verantwortung des Herstellers der Anlage oder Maschine.

6. Betrieb

Anlagen, in die Antriebsstromrichter eingebaut sind, müssen ggf. mit zusätzlichen Überwachungs- und Schutzeinrichtungen gemäß den jeweils gültigen Sicherheitsbestimmungen, z.B. Gesetz über technische Arbeitsmittel, Unfallverhütungsvorschriften usw. ausgerüstet werden. Veränderungen der Antriebsstromrichter mit der Bediensoftware sind gestattet.

Nach dem Trennen der Antriebsstromrichter von der Versorgungsspannung dürfen spannungsführende Geräteteile und Leistungsanschlüsse wegen möglicherweise aufgeladener Kondensatoren nicht sofort berührt werden. Hierzu sind die entsprechenden Hinweisschilder auf dem Antriebsstromrichter zu beachten.

Während des Betriebes sind alle Abdeckungen und Türen geschlossen zu halten.

7. Wartung und Instandhaltung

Die Dokumentation des Herstellers ist zu beachten.

Diese Sicherheitshinweise sind aufzubewahren!

Installation der DCS800 Programme auf dem PC

Nachdem die DCS800 CD eingelegt wurde, werden alle Programme und Dokumente, die nötig sind um mit den DCS800 zu arbeiten, automatisch installiert.

1. DriveWindow Light zu Parametrisierung, Inbetriebnahme und Service
2. Hitachi FDT 2.2 zum Laden der Firmware
3. DCS800 Komponenten z.B. DWL Assistent, ABB Dokumente
4. CoDeSys für die 61131 Applikationsprogrammierung

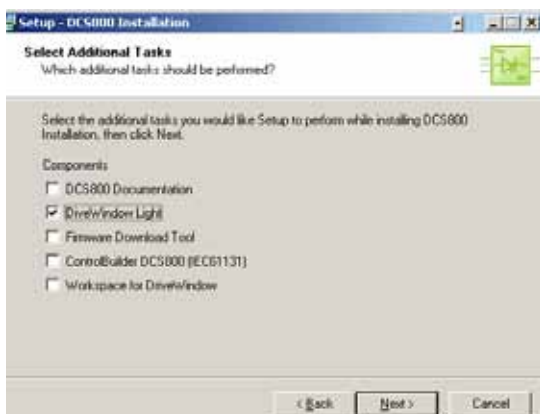
Achtung:

Falls ein Programm nicht installiert werden soll, einfach die dazugehörige Installationsroutine mit Hilfe von Abbrechen überspringen.



Falls die Installation nicht automatisch startet:

- Start drücken, dann Ausführen und Durchsuchen der CD nach setup.exe. Danach die Installation mit OK starten
- Eine Kurzinstallation mit Auswahl von DriveWindow Light + Inbetriebnahme Assistent und DriveWindow Light AP wird empfohlen



Verbindung zum Antrieb herstellen

- Die Dokumentation kann unter **C:\ABB\DCS800\Docu** gefunden werden
- Den Gerätedeckel vom Stromrichtermodul entfernen



Haken mit einem Schraubendreher herunterdrücken

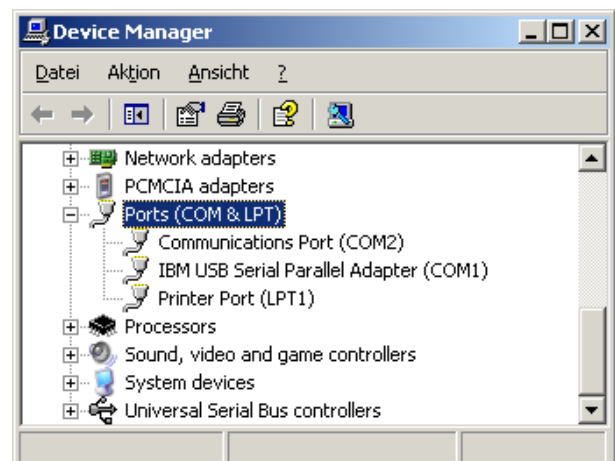


Geräteanschluss (X34) mit seriellen Port des PC's verbinden

- DriveWindow Light starten
- Die Kommunikationseinstellungen des COM Ports überprüfen



Falls ein USB / COM oder PCMCIA / COM Adapter benutzt wird bitte die Einstellungen des COM Ports überprüfen
Start => Einstellungen => Systemsteuerung => System => Hardware => Geräte-Manager



- Die COM Adresse des USB Adapters kann sich nach dem nächsten Booten oder bei erneutem Anschluss ändern.

Hinweis:

PCMCIA / COM Adapter stellen eine sicherere und schnellere Verbindung zum Antrieb her.

Um DriveWindow Light oder den DCS800 Steuertafelassistenten zu benutzen mit Kapitel Inbetriebnahme fortfahren.

Für die Inbetriebnahme mit DriveWindow mit dem Kapitel Workspaces im DCS800 Firmware Manual fortfahren.

Inbetriebnahme



Vorsicht! Hochspannung: Dieses Symbol warnt vor hohen Spannungen, die eine Verletzungsgefahr darstellen und/oder Schäden an der Anlage verursachen können. Neben dem Symbol werden ggf. geeignete Vorsichtsmaßnahmen zur Vermeidung dieser Gefahren beschrieben.



Allgemeine Warnung: Dieses Symbol warnt vor nicht elektrischen Gefahren, die zu schweren oder sogar tödlichen Verletzungen von Personen und/oder Schäden an Geräten führen können. Der Text neben diesem Symbol beschreibt ggf. Möglichkeiten zur Vermeidung dieser Gefahr.



Warnung vor elektrostatischer Entladung: Dieses Symbol warnt vor elektrostatischen Entladungen, die zu Schäden an Geräten führen können. Neben dem Symbol werden ggf. geeignete Vorsichtsmaßnahmen zur Vermeidung dieser Gefahren beschrieben.

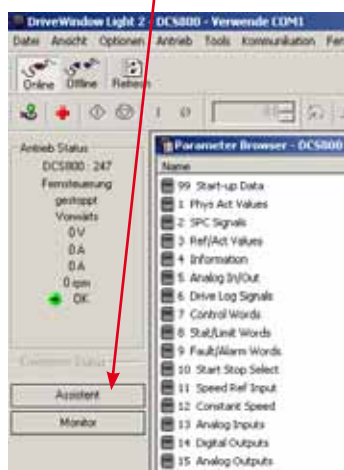
NEC Motorüberlastschutz

Der DCS800 stellt einen elektronischen Motorüberlastschutz in Übereinstimmung mit NEC bereit. Der Überlastschutz (z.B. Schutzwelle in Prozent vom Vollaststrom des Motors) kann mit Parametern in den Gruppen 31 und 99 eingestellt werden.

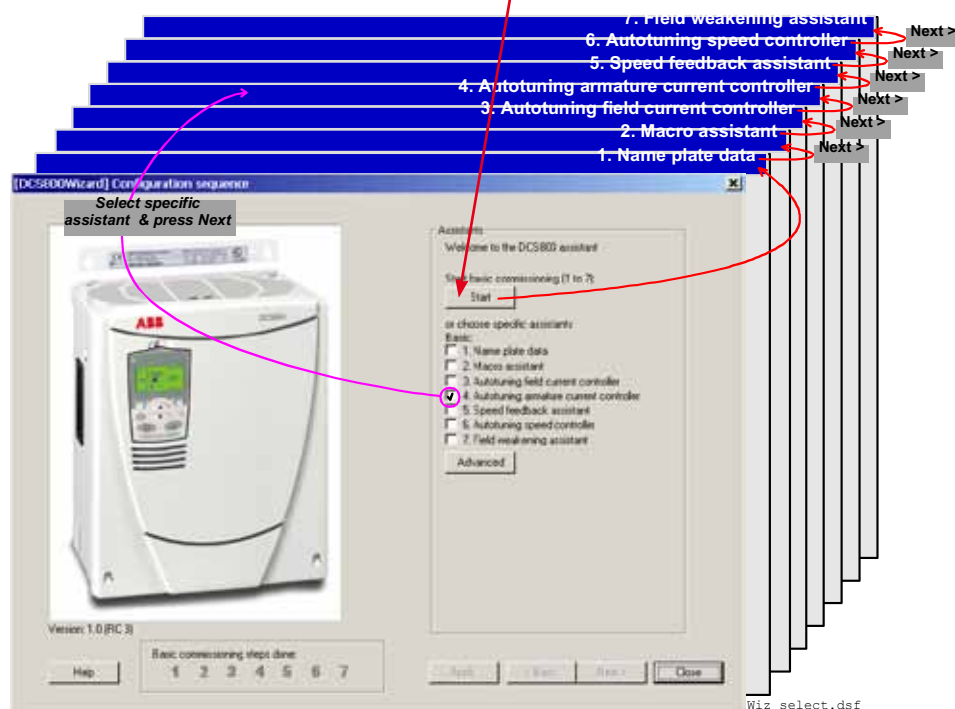
Die Anweisungen können dem Kapitel *Thermisches Motormodell* im *DCS800 Firmware Handbuch* entnommen werden.

Inbetriebnahme mit DriveWindow Light

Aufrufen der Assistenten in DriveWindow Light:



Um die Basisinbetriebnahme aufzurufen auf Start drücken oder gezielt einen Assistenten aufrufen: Einen Assistenten auswählen & auf Weiter drücken



Um zusätzliche Informationen über die Assistenten, Parameter, Fehler und Alarmer zu erhalten auf Hilfe drücken!

Allgemeine Hinweise

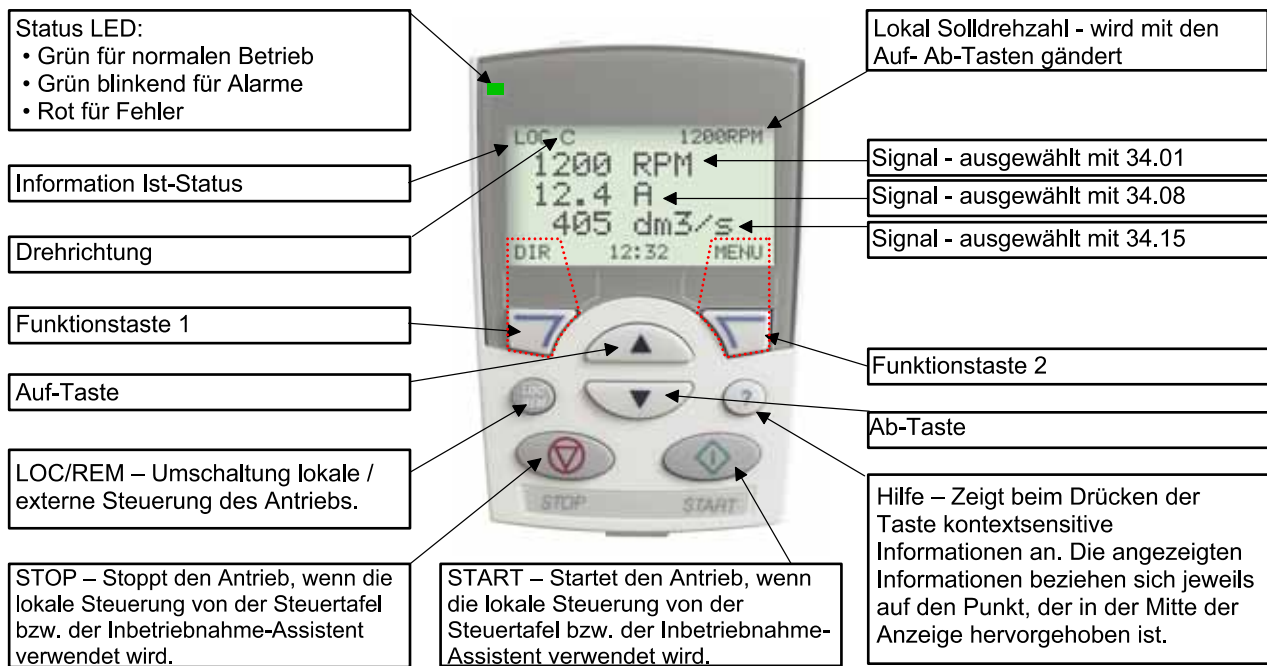
- Diese Kurzinbetriebnahme bezieht sich auf Kapitel *Anschlussbeispiele* dieser Druckschrift.
- *Sicherheits- und Anwendungshinweise* - Kapitel dieser Druckschrift.
- Empfehlungen von Motor- und Feldspannungen siehe *Technischer Katalog*.
- Gemäß DIN 57100 Teil 727 / VDE 0100 Teil 727 sind Vorkehrungen zu treffen um den Antrieb z.B. im Gefahrenfall still setzen zu können. Die digitalen Eingänge des Gerätes oder die Steuertafel reichen dazu als alleinige Maßnahme nicht aus!

Vorbereitende Arbeiten

- Gerät auf eventuelle Schäden überprüfen!
- Gerät montieren und verdrahten
- Versorgungsspannung / Nennspannung für Elektronik und Lüfter korrekt?
- Versorgungsspannung / Nennspannung für Ankerstromrichter korrekt?
- Versorgungsspannung / Nennspannung für Feldversorgung korrekt?
- Verdrahtung / Querschnitte, etc korrekt?
- NOT-HALT funktionstüchtig?
- NOT-AUS funktionstüchtig?

DCS800 Steuertafel

In der folgenden Abbildung sind die Tastenfunktionen und Anzeigen der DCS800-Steuertafel dargestellt.



DCS800_QG_pan_ov_c.dsf

Mit USISel (16.09) ist es möglich die Menge der Parameter, die angezeigt werden, zu reduzieren.

Allgemeine Displayfunktionen

Folgende Modi sind im HAUPMENÜ vorhanden:

1. Modus Parameter
2. Modus Inbetriebnahme-Assistenten
 - a. Typenschild Daten
 - b. Makro Assistent
 - c. Selbsteinstellung Feldstromregler
 - d. Selbsteinstellung Ankerstromregler
 - e. Drehzahlrückführungs-Assistent (Der Tachofeinabgleich ist nicht vorhanden)
 - f. Selbsteinstellung Drehzahlregler
 - g. Feldschwächungs-Assistent (wird nur verwendet, wenn die Maximaldrehzahl höher ist als die Grunddrehzahl)
3. Modus Makros (wird derzeit nicht verwendet)
4. Modus geänderte Parameter (Auflistung aller Parameter, deren Grundeinstellung geändert wurde)
5. Modus Fehlerspeicher (Fehlerprotokoll anzeigen)
6. Modus Uhreinstellung
7. Parametersicherung
 - kopiert den aktuellen Parametersatz vom Antrieb in die DCS800-Steuertafel (nur im Lokalbetrieb)
 - kopiert den Parametersatz von der DCS800-Steuertafel in den Antrieb (nur im Lokalbetrieb)
8. Modus E/A-Einstellungen (wird derzeit nicht verwendet)

Parameter, die über den Assistenten eingegeben werden

99.02	Motor 1 Nennspannung
99.03	Motor 1 Nennstrom
99.04	Motor 1 Nenndrehzahl
20.01	Motor 1 Minimaldrehzahl
20.02	Motor 1 Maximaldrehzahl
99.11	Motor 1 Feldnennstrom
30.09	Ankerüberstromschwelle
30.16	Motor 1 Überdrehzahl
99.10	Netznennspannung
99.12	Motor 1 verwendeter Feldstellertyp
20.05	maximales Drehmoment
20.06	minimales Drehmoment
20.12	Motor 1 Strombegrenzung Brücke 1
20.13	Motor 1 Strombegrenzung Brücke 2
50.04	Motor 1 Impulszahl Impulsgeber 1, wenn ausgewählt
50.02	Motor 1 Impulsgeber 1 Messmodus, wenn ausgewählt
50.13	Motor 1 Tachospaltung bei 1000 U/min, nur DWL
50.12	Motor 1 Tachoabgleich, nur DWL
20.03	Schwelle Nulldrehzahl
22.01	Beschleunigungszeit 1
22.02	Verzögerungszeit 1
30.12	Motor 1 Feldsteller Unterstrom
44.01	Wahlschalter Steuermodus Feld



Standardfunktioner

- kompakt
- hög effektkapacitet
- enkel hantering
- praktiska assistenter, t.ex. för autotuning eller idrifttagning
- skalbar lösning för alla tillämpningar
- fritt programmerbar med hjälp av integrerad PLC enligt IEC61131

Strömriktare DCS800

Tekniska data

Nätspänning	230...1 200 V, +/-10%, 3-fas
Frekvens	50...60 Hz, +/-5 Hz
Elektronikmatning	115...230 V, -15% / +10%, 1-fas
DC-ström ut	20...5 200 A
Överbelastningskap.	200%

Miljövillkor

Omgivningstemp.	0° ... +40° C 40° ... 55° C med nedstämpling
Lagringstemp.	-40° ... +55° C
Transporttemp.	-40° ... +70° C
Relativ fuktighet	5 ... 95%, ej kondenserande (max. 50% inom området 0°...5° C)
Föreningssklass	Klass 2
Kapslingsklass	IP 00
Max. höjd över havet	< 1 000 m vid märckström > 1 000 m med nedstämpling

I/O

Digitala ingångar: 8 som standard, upp till 14 som tillval
Digitala utgångar: 8 som standard, upp till 12 som tillval
Analoga ingångar: 4 som standard +/-10V; 0/2...10 V, upp till 8 som tillval +/- 20 mA; 0/4...20 mA
Analoga utgångar: 3 som standard (1x I_{ar}) +/-10 V; 0/2...10 V, upp till 7 som tillval -20 mA; 0/4...20 mA

PC-verktyg

DriveWindow Light: medföljer kostnadsfritt varje strömriktare, standardmässig PC-anslutning RS232
DriveWindow: Fiberoptisk kommunikation i realtid
ControlBuilder DCS800: IEC61131 programmeringsverktyg
DriveSize: Strömriktar- och motor dimensionering

Underhåll / Diagnos

Fjärrdiagnostik från varje Internet-ansluten PC via konventionell webbläsare, eller fullständig drivsystemstyrning via OPC med DriveWindow.

Godkännanden



Adaptiv Programmering

Fördefinierade strömriktarspecifika funktionsblock, t.ex.
 • Fri processregulator (PI-regulator)
 • I/O- och digital styrning. Med manöverpanel eller PC-verktyg finns inget behov av ytterligare maskinvara

Varvtalsåterkoppling

EMK
 Analog varvtalsgivare
 Pulsgivare
 En 2:a pulsgivare kan anslutas (RTAC)

Kommunikation

Seriell kommunikation
 • Ethernet • Profibus
 • CANopen • DeviceNet
 • ControlNet • DDCS
 • Modbus • CS31
 • AF100 • Selma2

Industrial IT® förberedd

DCSLink Peer-to-Peer

- Upp till 800 kBaud, < 2,5 ms
- Ledare-följare
- Rotor-Fält-strömriktare
- Fritt valbara data

Högströmslösningar

- 12 puls till 20 000 A, seriell och parallell
- Fast kopplad parallell och sekventiell, upp till 1 500 V

Skydd

Övervakning av varvtalsåterkoppling • Temperatur
 • Överlast • Övervarvtal • Motor fastlöst • Motoröverström • Motoröverspänning • Fältöverström • Fältöverspänning • Min fältström • Nollvarvtal • Rotorströmrippel • Matning, över- och underspänning

Integrerad PLC, IEC 61131

- Programmeringsverktyg enligt öppen standard, ControlBuilder DCS800
- Stöd för alla fem IEC-språk
- Strömriktarspecifika funktionsblock
- Program och källa sparas på minneskort
- Felsökning och forcering online

Strömdata, mått

Enhetsstorlek	2-kvadrant märckström		4-kvadrant märckström		Matningsspänning [V _{AC}]						Max. fältström internl [A _{pc}]	Mått		
	DCS800-01	DCS800-02	I _{pc} [A]	I _{pc} [A]	400	525	600	690	800	990		1200	H x B x D [mm]	H x B x D [tum]
D1	20	25	●	●								6	370 x 270 x 200	14.56 x 10.65 x 7.90
	45	50	●	●										
	65	75	●	●										
	90	100	●	●										
	125	140	●	●										
D2	180	200	●	●								15	370 x 270 x 270	14.56 x 10.65 x 10.65
	230	260	●	●										
D3	315	350	●	●	● ³⁾							20	459 x 270 x 310	18.07 x 10.65 x 12,25
	405	450	●	●										
	470	520	●	●										
D4	610	680	●	●	● ³⁾							25	644 x 270 x 345	25.35 x 10.65 x 13.60
	740	820	●	●										
	900	1000	●	●										
D5	900	900			●	●						25	1050 x 510 x 410	41.35 x 20.10 x 16.15
	1200	1200	●	●										
	1500	1500	●	●	●	●								
	2000	2000	●	●	● ¹⁾	● ¹⁾								
D6	1900	1900									●	extern fältmatning	1750 x 460 x 410	68.90 x 18.15 x 16.15
	2050	2050			●	●	●							
	2500	2500	●	●	●	●	●							
	3000	3000	●	●	●	●	●							
D7	2050	2050									●	extern fältmatning	1750 x 760 x 570	68.90 x 29.95 x 22.45
	2600	2600									● ²⁾			
	3300	3300	●	●	●	●	●				● ²⁾			
	4000	4000	●	●	●	●	●							
	4800	4800	●	●	●	●	●							
5200	5200	●	●											

● 1) endast tillgänglig som 2-kvadrantsströmriktare

● 2) på begäran

● 3) 600V

2-kvadrant -> 290 A / 590 A
 4-kvadrant -> 320 A / 650 A

Kortfattade instruktioner för CD-skiva samt dokumentöversikt

Vi uppskattar att du har köpt en strömriktare från ABB och tackar för ditt förtroende för våra produkter.

Denna broschyr är avsedd att hjälpa dig få ut så mycket som möjligt av produkten. Den ger dig en kortfattad överblick över produktens nyckeldata, EMC-data, typiska tillämpningar, igångkörning och felsökning.

Om du behöver ytterligare information kompletteras denna kortfattade dokumentation av en **CD-ROM**. CD-ROM-skivan utgör en del av detta dokument och innehåller följande:

Teknisk katalog (3ADW000192)

Fullständig information för konstruktion av kompletta DC-drivsystem.

Hårdvaruhandledning (3ADW000194)

Detaljerad information, med alla viktiga detaljer om enskilda komponenter, som modulernas fysiska mått, elektronikkort, fläktar och hjälpkomponenter.

Här finns även information för mekanisk och elektrisk installation.

Beskrivning av systemprogramvara (3ADW000193)

Detaljerad information med alla viktiga data om systemprogramvara och parameterinställning. I användarhandledningen finns detaljerad information för igångkörning och underhåll av hela drivsystemet.

I användarhandledningen finns även fel- och alarmkoder samt information för felsökning.

Servicehandbok (3ADW000195)

för underhåll och reparation av strömriktare.

Tillämpningar

I strömriktare DCS800 kan det ingå tillämpningsprogram, t.ex. för kranar eller rullmaskiner. I sådana fall kan en eller flera av följande assistenter vara blockerade eller begränsade. Kontrollera om det finns ytterligare dokumentation och handböcker (se parametrarna 4.03 och 83.01). Ytterligare **information om tillämpningar** (t.ex. 12-puls) **och tekniska tillbehör** (t.ex. maskinvarumoduler eller fältbussgränssnitt) finns i separata handböcker.

Se tabellen *Handböcker för strömriktare DCS800*.

Systemkrav för att använda bifogad CD-ROM:

- Operativsystem
WINDOWS 2000, XP
- ACROBAT READER

Om programmet på CD-ROM-skivan inte startar automatiskt, dubbelklicka på filen **setup.exe**.



Ytterligare support

Dessutom erbjuder vi ytterligare support - eftersom vi inte är nöjda med mindre än att våra kunder är nöjda med oss och våra produkter.

Internet

På ABB:s webbplats, via

www.abb.com/dc

finns det riklig information om

- DC-produkter
- service & support
- de senaste uppdateringarna
- verktyg
- nedladdningsbara filer etc.

Tveka inte att besöka oss på internet.

Kontakt

Om du behöver information som inte finns på internet, kontakta närmaste ABB Drives-kontor eller skicka E-post till:

DC-Drives@de.abb.com

Ange namn, företag, adress och telefonnummer. Vi kommer omgående att sätta dig i kontakt med en specialist.

Information om EMC

Djupare information finns i dokumentet:

Technical Guide, kapitlet: EMC Compliant Installation and Configuration for a Power Drive System

Avsnitten nedan beskriver val av elektriska komponenter i enlighet med EMC-direktivet. Syftet med EMC-direktivet är att uppnå elektromagnetisk kompatibilitet mellan produkter och system. Direktivet säkerställer att den elektromagnetiska emissionen från en produkt är så låg att den inte påverkar andra produkters funktion negativt. Med avseende på EMC-direktivet måste två aspekter beaktas:

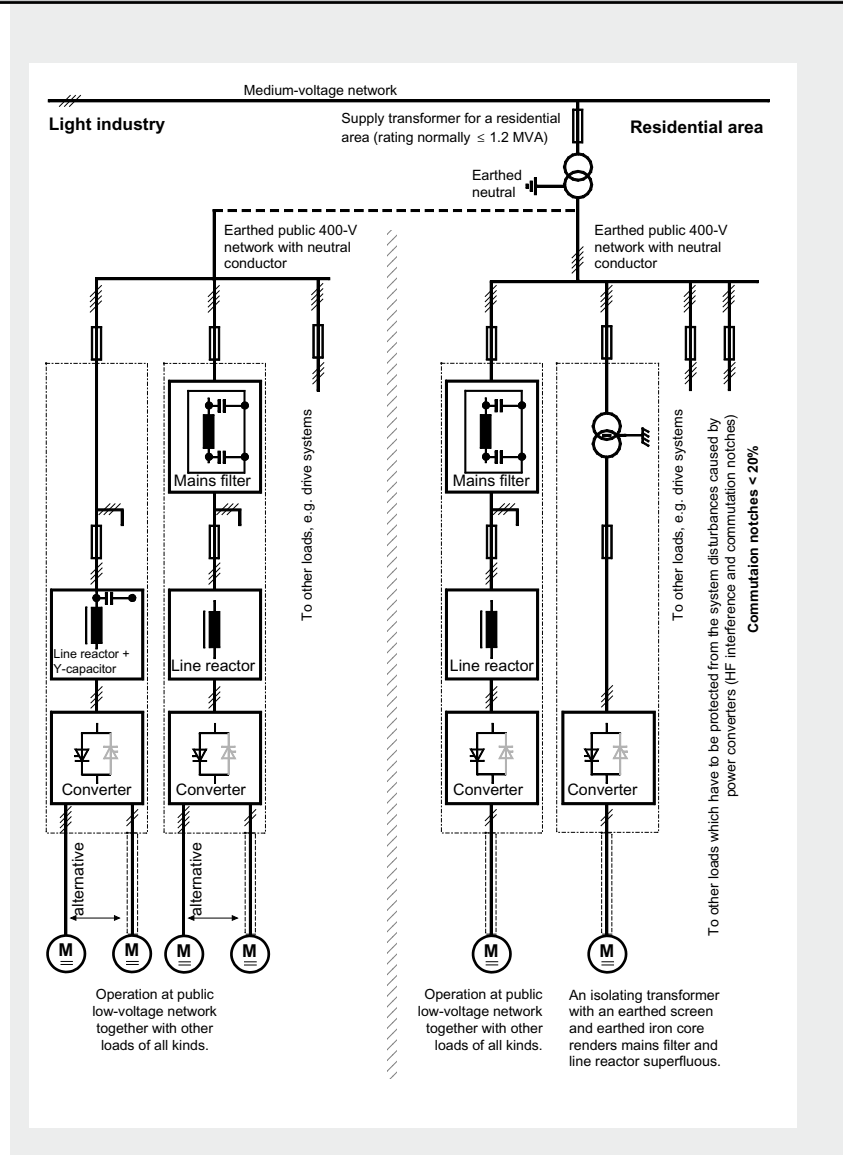
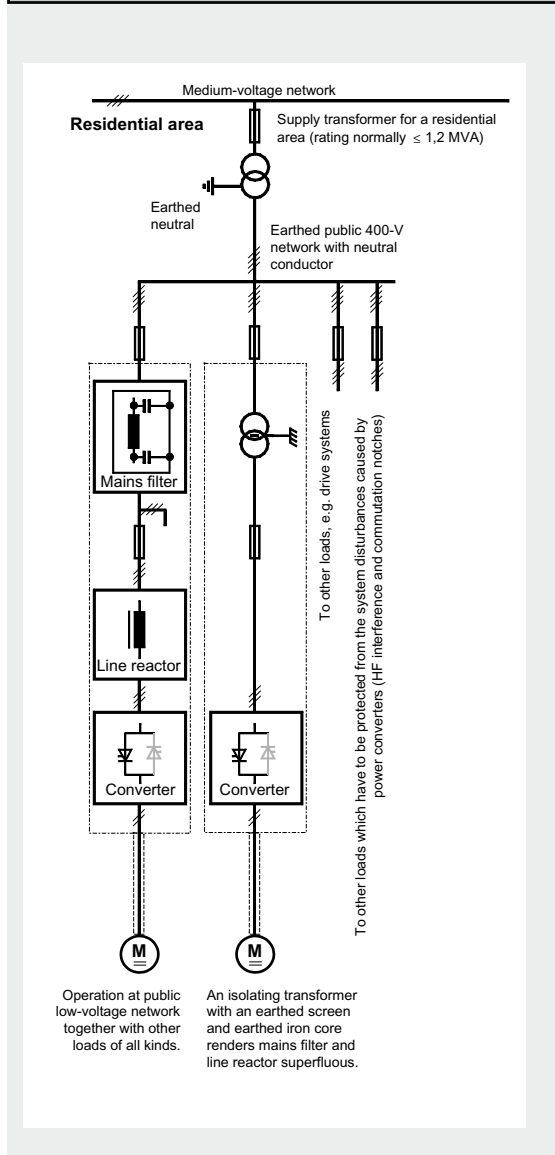
- produktens störningsimmunitet
- produktens elektromagnetiska emission

EMC-direktivet förutsätter att EMC-aspekterna beaktas när en produkt utvecklas. EMC kan dock inte styras konstruktionsmässigt, utan kan bara mätas kvantitativt i efterhand.

Information om EMC-konformitet

Konformitetsproceduren är båda parter ansvar, såväl tillverkaren av strömriktaren som tillverkaren av den utrustning som potentiellt kan påverkas. Ansvaret fördelas utgående från parternas andel i ett utbyggnadsprojekt.

Miljöklass 1 (områden med bostäder och lätt industri) med drivsystemkategori C2	
Tillämpas ej, eftersom kategori C1 (obegränsad distribution) exkluderas	
Ej tillämpligt	uppfylls
uppfylls	



För att uppfylla skydds målen för den tyska EMC-lagen (EMVG) i system och maskiner måste följande EMC-standarder uppfyllas:

Produktstandard EN 61800-3

EMC-standard för elektriska drivsystem, störningsimmunitet och emission i bostadsområden, områden med lätt industri och i industrianläggningar. Denna standard måste uppfyllas inom EU för att EMC-kraven för system och maskiner ska anses vara uppfyllda!

För emission gäller följande:

- EN 61000-6-3** Speciell grundläggande standard för emission inom **lätt industri** kan uppfyllas med speciella produkter (nätfilter, skärmade kraftkablarna) i det lägre effektområdet *(EN 50081 -1)
- EN 61000-6-4** Speciell grundläggande standard för emission inom **industri** *(EN 50081-2)

För störningsimmunitet gäller följande:

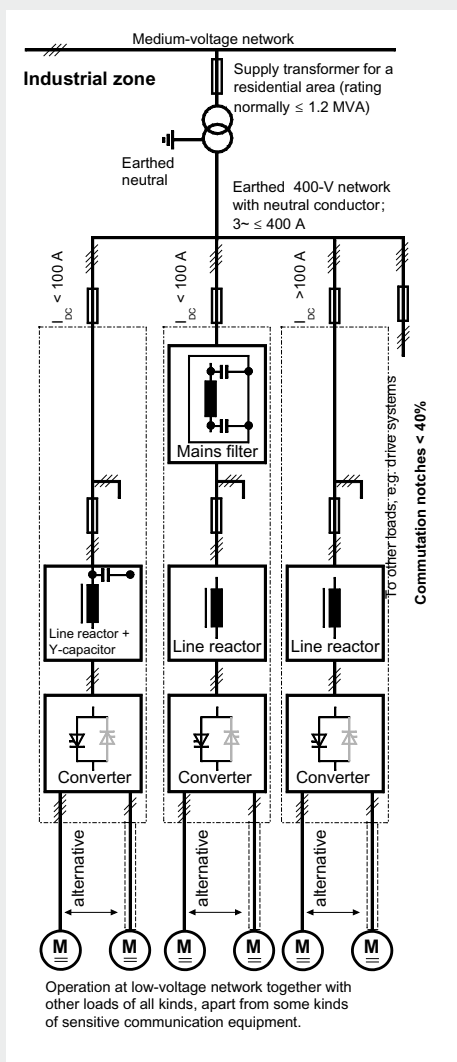
- EN 61000-6-1** Speciell grundläggande standard för störningsimmunitet i **bostadsområden** *(EN 50082-1)
- EN 61000-6-2** Speciell grundläggande standard för störningsimmunitet **inom industri**. Om denna standard är uppfylld så är standarden EN 61000-6-1 automatiskt uppfylld *(EN 50082-2)

* De generella standarderna anges inom parentes

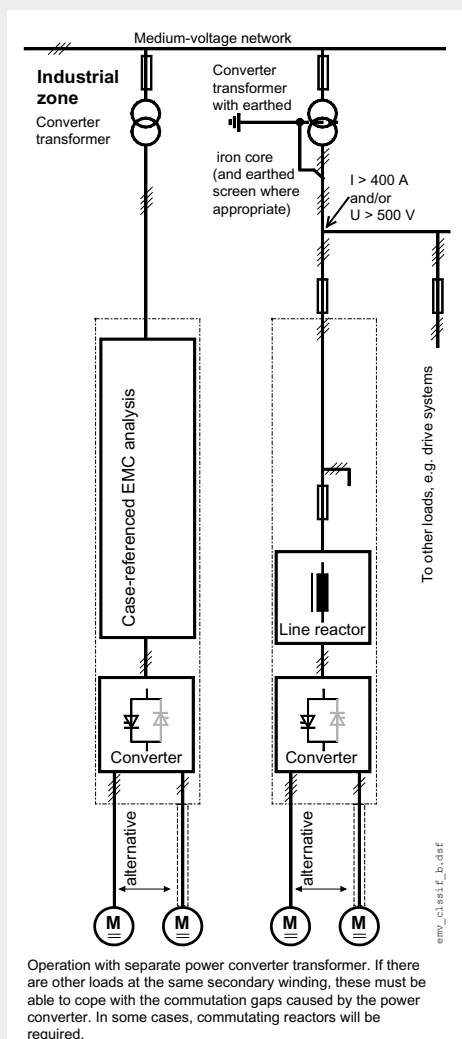
			Standarder
Miljöklass 2 (industri) med drivsystemkategorierna C3 och C4			EN 61800-3
Ej tillämpligt			EN 61000-6/3
uppfylls	på kundens begäran	uppfylls	EN 61000-6/3
uppfylls			EN 61000-6-2 EN 61000-6-1

svenska

Drivsystemkategori C3



Drivsystemkategori C4



Klassificering

Följande översikt använder terminologi och hänvisar till åtgärder i enlighet med produktstandard **EN 61800-3**. DCS800-produkter uppfyller gällande gränsvärden för emitterade störningar, förutsatt att angivna åtgärder vidtas. Drivsystemkategori C2 (tidigare benämnd begränsad distribution i Miljöklass 1) omfattar produkter avsedda att installeras och tas i drift av yrkesperson (person eller företag med nödvändig kompetens för installation av och/eller idrifttagning av drivsystem, med hänsyn tagen till EMC-aspekter).

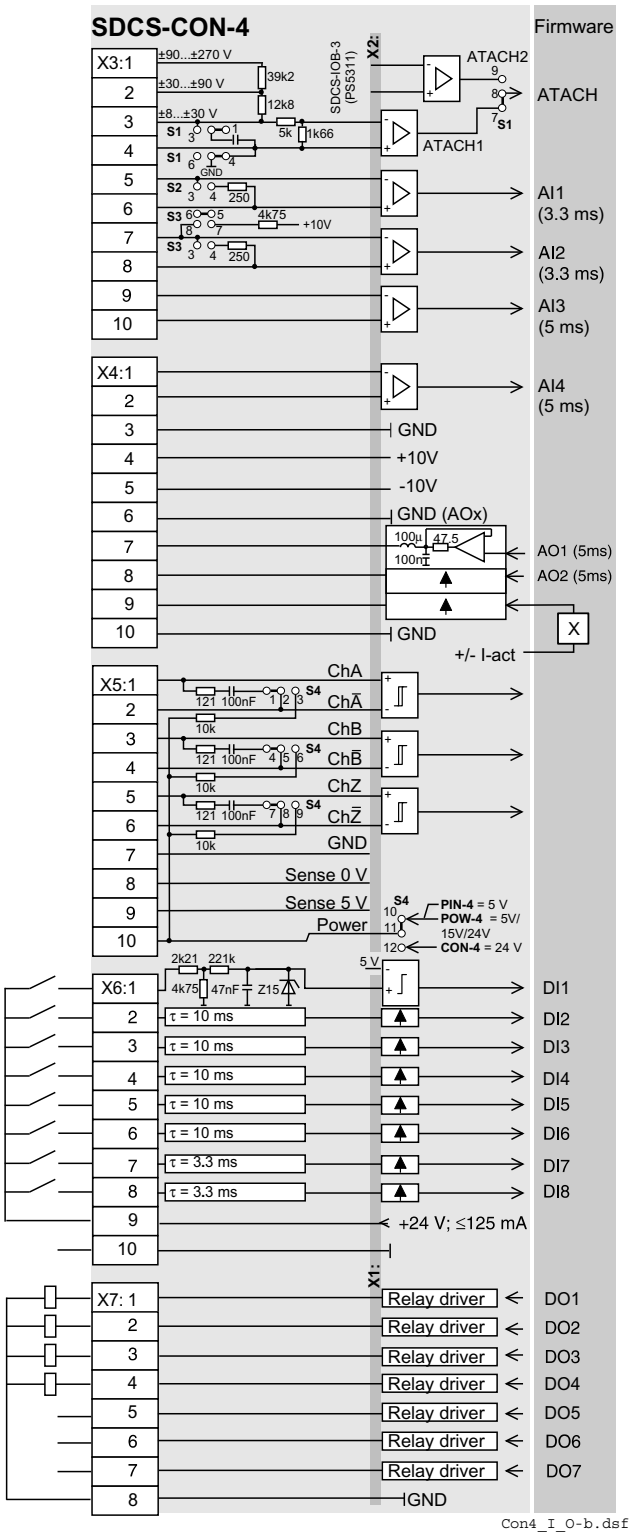
För strömräktare utan extra komponenter gäller följande varning: Detta är en produkt av kategori C2 enligt EC 61800-3:2004. I bostadsmiljö kan denna produkt orsaka radiofrekventa störningar, i vilket fall kompletterande dämpningsåtgärder kan krävas.

Fältmatningen illustreras inte i detta översiktsschema. För fältströmkablar gäller samma regler som för rotorkretskablar.

Legend

	Screened cable
	Unscreened cable with restriction

Standardfunktionstilldelning för plintar



Upplösning [t]	In-/utgångsvärden Maskinvara	Skalning	Common mode-område	Anmärkningar
15 + sign	$\pm 90 \dots 270 \text{ V}$ $\pm 30 \dots 90 \text{ V}$ $\pm 8 \dots 30 \text{ V}$	① Firmware	$\pm 15 \text{ V}$	
15 + sign	$-10 \dots 0 \dots +10 \text{ V}$	Firmware	$\pm 15 \text{ V}$	
15 + sign	$-10 \dots 0 \dots +10 \text{ V}$	Firmware	$\pm 15 \text{ V}$	
15 + sign	$-10 \dots 0 \dots +10 \text{ V}$	Firmware	$\pm 15 \text{ V}$	
15 + sign	$-10 \dots 0 \dots +10 \text{ V}$	Firmware	$\pm 15 \text{ V}$	

		Power		
	$+10 \text{ V}$		$\leq 5 \text{ mA}$	för ext. anv. t.ex. ref.pot.
	-10 V		$\leq 5 \text{ mA}$	
11 + sign	$-10 \dots 0 \dots +10 \text{ V}$	Firmware	$\leq 5 \text{ mA}$	
11 + sign	$-10 \dots 0 \dots +10 \text{ V}$	Firmware	$\leq 5 \text{ mA}$	
	$-10 \dots 0 \dots +10 \text{ V}$	Firmware+ Maskinvara	$\leq 5 \text{ mA}$	8V -> min. av 325% för [99.03] eller 230% för [4.05]

Pulsgivarmatning		Anmärkningar
		Ingångar ej isolerade Impedans = 120Ω , om valt max. frekvens $\leq 300 \text{ kHz}$
5 V 24 V	$\leq 250 \text{ mA}$ $\leq 250 \text{ mA}$	Detekteringsledare för GND och matning för att kompensera för spänningsfall i kabel (endast om 5 V-pulsgivare används).

Ingångsvärde	Signaldefinitioner	Anmärkningar
$0 \dots 7.3 \text{ V}$ $7.5 \dots 50 \text{ V}$	Firmware	-> "0" status -> "1" status

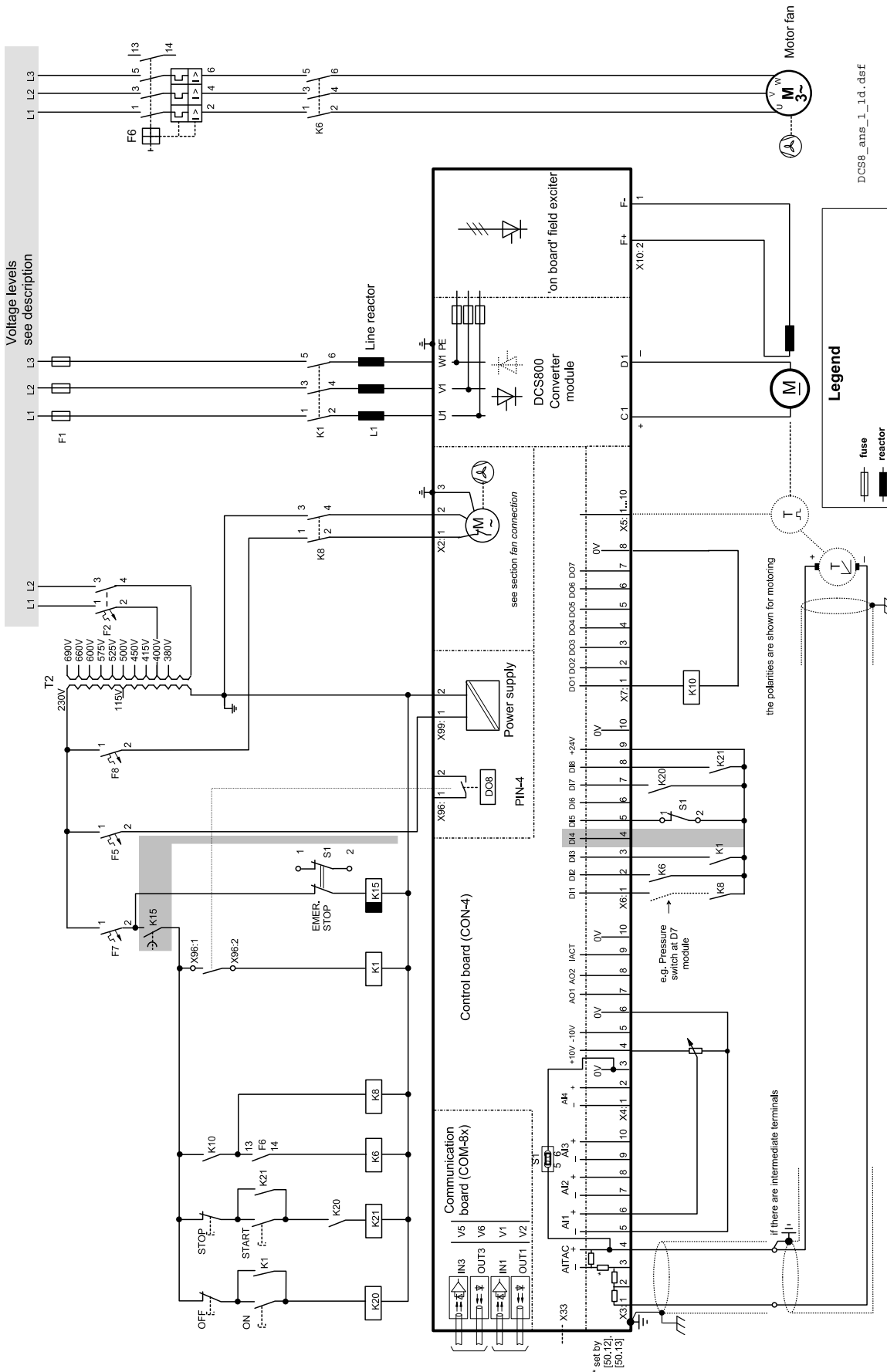
Inget utgångsvärde	Signaldefinitioner	Anmärkningar
$50 * \text{ mA}$ 22 V utan belastning	Firmware	Strömgräns för alla 7 utgångar = 160 mA Applisera inte spänning i backriktning!

* kortslutningsskyddad

① förstärkningen kan varieras i 15 steg mellan 1 och 4 med parametrar

Anslutningsexempel

Strömriktare D1...D4 drivsystemkonfiguration med "OnBoard"-fältmagnetiseringsenhet Plintval enligt makrot FABRIK (förvalt)

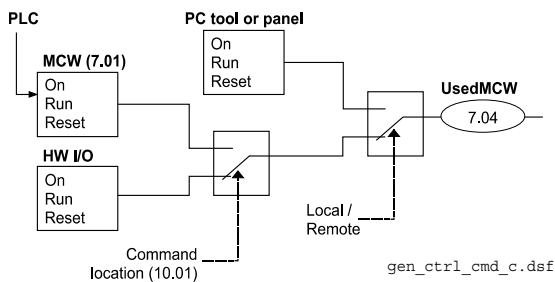


För ytterligare information, se nästa sida

START, STOPP och NÖDSTOPP

Relälogiken kan delas i tre delar: a: Generering av TILL/FRÅN- och START/STOPP-kommando:

a: Kommandona som representeras av K20 och K21 (gränssnittrelä för latching) kan t.ex. genereras av en PLC och överförs till plintarna på strömriktaren, antingen via reläer, med galvanisk isolation, eller direkt via 24 V-signaler. Dessa kommandon kan även överföras via seriell kommunikation. Även en blandad lösning kan realiseras genom val av olika möjligheter för den ena eller den andra signalen (se parametergrupp 11).



b: Generering av styr- och övervakningssignaler: Huvudkontaktorn K1 för rotorkretsen styrs av en potentialfri kontakt (DO 8) som sitter på SDCS-PIN-4. Status för fläktar och klixonkontakter till fläktar kan övervakas med hjälp av fläktkvitterings-signaler: MotFanAck (10.06) och ConvFanAck (10.20).

c: Stoppfunktionerna OFF2 och OFF3:

Förutom TILL/FRÅN och START/STOPP är strömriktaren utrustad med två extra stoppfunktioner, OFF2 och OFF3, enligt Profibus-standarderna. OFF3 är en skalbar stoppfunktion (rampstopp, maxmomentstopp, dynamisk bromsning ...) för att realisera stoppkategori 1. Denna funktion ska kopplas till nödstoppknappen utan någon fördröjning. I händelse av val av rampstopp måste tidur K 15 sättas till en tid längre än EStopRamp (22.04). Vid stoppsätt UTRULLNING öppnar strömriktaren huvudkontaktorn omedelbart.

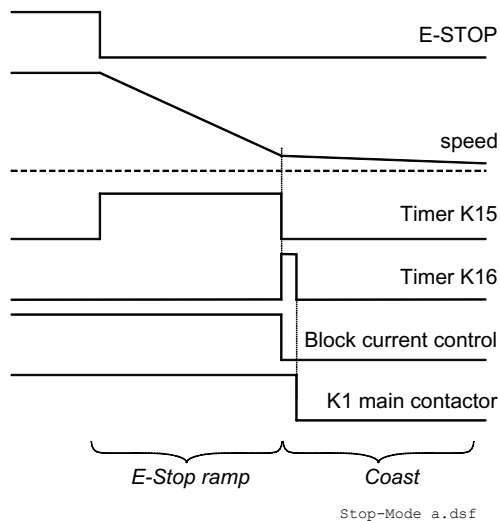
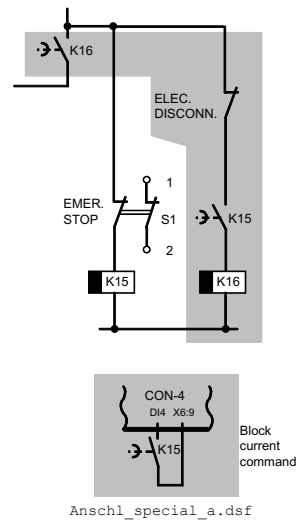
OFF2 bryter DC-strömmen så snabbt som möjligt och förbereder strömriktaren för att öppna huvudkontaktorn eller bryta nätmatningen. För en normal likströmsmotor understiger tiden för att bryta DC-strömmen 20 ms. Denna funktion ska anslutas till alla signaler och säkerhetsfunktioner som öppnar huvudkontaktorn. Denna funktion är viktig för 4-kvadrantströmriktare. Öppna inte huvudkontaktorn medan regenerativ ström flyter.

Den korrekta sekvensen är

1. Bryt regenerativ ström
2. Öppna huvudkontaktorn

Om NÖDSTOPP aktiveras överförs informationen till strömriktaren via digital ingång 5. I händelse av rampstopp, eller maxmomentval retarderar strömriktaren motorn och öppnar huvudkontaktorn.

Om strömriktaren inte har avslutat funktionen inom den tid som är inställd på tidur K15 måste strömriktaren få kommandot att bryta strömmen via K16. När tiden inställd på tidur K16 har löpt ut öppnas huvudkontaktorn oberoende av strömriktarens status.



E-stoppreaktion

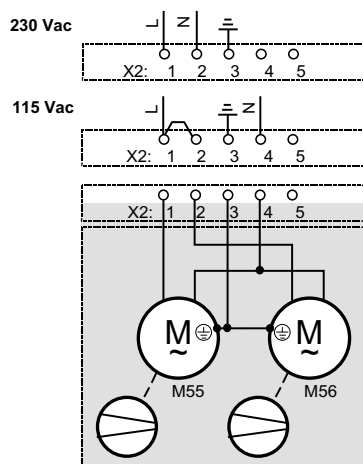
Anslutning av fläktmatning

Fläkttilldelning för DCS800

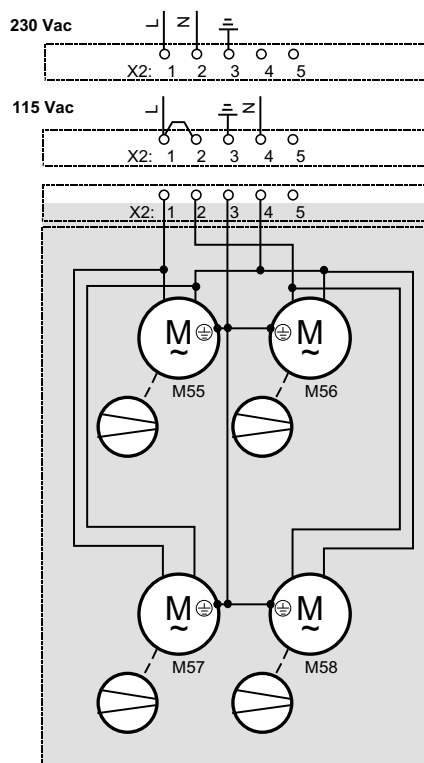
Strömriktartyp	Modell	Konfigurering	Fläktspänning
DCS800-S01-0020-04/05, ...	D1	-	no fan, convection cooled
DCS800-S02-0025-04/05			
DCS800-S0x-0045-04/05, ...	D1	1	1 x 3110KL-05W... (ingen fläkt 24 V _{DC})
DCS800-S0x-0140-04/05			
DCS800-S0x-0180-04/05, ...	D2	2	2 x 4715MS (115 eller 230 V _{AC})
DCS800-S0x-0260-04/05			
DCS800-S0x-0315-04/05, ...	D3	2	2 x 4715MS (115 eller 230 V _{AC})
DCS800-S0x-0350-04/05			
DCS800-S0x-0405-04/05, ...	D3	3	2 x 4715MS (115 eller 230 V _{AC})
DCS800-S0x-0520-04/05			2 x 3115FS (115 eller 230 V _{AC})
DCS800-S0x-0610-04/05, ...	D4	4	1 x W2E200 (230 V _{AC})
DCS800-S0x-0820-04/05			
DCS800-S0x-0610-04/05, ...	D4	4	1 x W2E200 (230 V _{AC})
DCS800-S0x-0820-04/05	Pluskod S171		
DCS800-S0x-0900-04/05, ...	D4	4	1 x W2E250 (230 V _{AC})
DCS800-S0x-1000-04/05			
DCS800-S0x-0900-04/05, ...	D4	4	1 x W2E250 (230 V _{AC})
DCS800-S0x-1000-04/05	Pluskod S171		

Fläktanslutning för DCS800

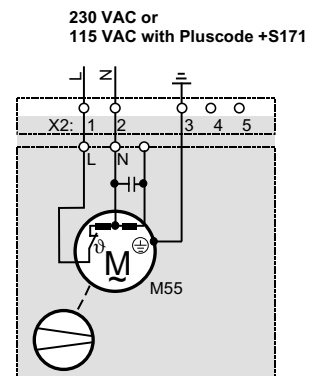
Anslutningar på toppen av strömriktarmodulens kapsling



Konfiguration 1
D1-D3



Konfiguration 2
D3

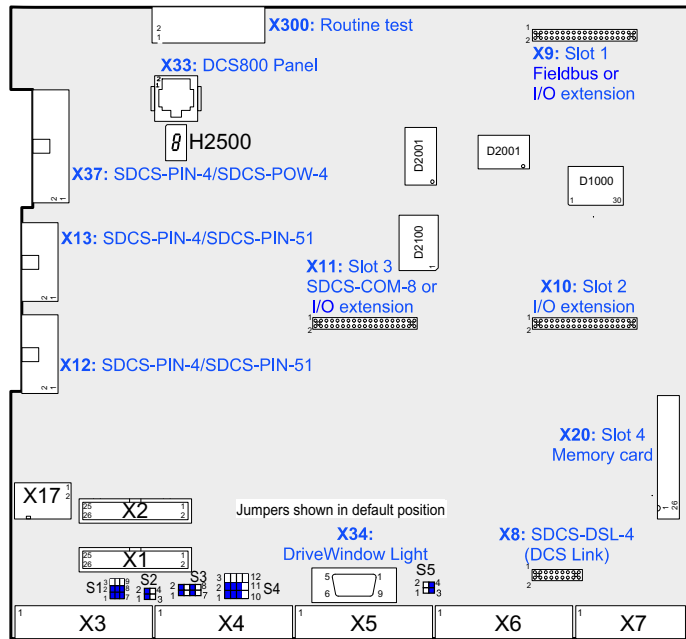


Konfiguration 3
D4

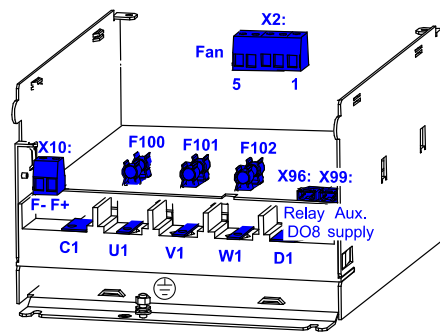
DCS8 fan conn D1-D4.dsf

Plintplaceringar på strömriktaren

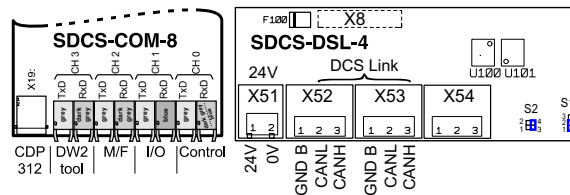
SDCS-CON-4 CONNECTOR ALLOCATION



DCS800 module TERMINAL ALLOCATION



DCS800 Accessories



SDCS-CON-4: TERMINAL ALLOCATION

X3 Tacho and AI			X4 AI and AO			X5 Encoder			X6 DI			X7 DO																																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																													
90...270V	30...90V	8...30V	0V	AI1-	AI1+	AI2-	AI2+	AI3-	AI3+	AI4-	AI4+	0V	+10V	-10V	0V	AO1	AO2	AO3 (Iact)	0V	+A	-A	+B	-B	+Z	-Z	GND	Sense GND	Sense Us	DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	+24	0V	DO1	DO2	DO3	DO4	DO5	DO6	DO7	DO8

DCS800 terminal alloc.dsf

Makroval

Makronamn	Huvudkon-taktor	ON / OFF Start/Stop	DI funktion	Kommentar	DI5 --> NÖDSTOPP DI6 --> Reset
Standard					
	AC	Statisk	:Jog1 --> DI1 :Jog2 --> DI2 :Ext Fault --> DI3 :Ext Alarm --> DI4	Hårdvarumässig I/O-styrning	x
2-tråds DC kont. US					
	DC	Statisk	:Jog1 --> DI1 :Jog2 --> DI2 :Ext Fault --> DI3 :Main Cont Ack --> DI4	Hårdvarumässig I/O-styrning	x
3-tråds DC kont. US					
	DC	Puls	:Fix speed1 --> DI1 :Ext Fault --> DI3 :Main Cont Ack --> DI4	Hårdvarumässig I/O-styrning	x
3-tråds standard					
	AC	Puls	:Fix speed1 --> DI1 :Ext Fault --> DI3 :Ext Alarm --> DI4	Hårdvarumässig I/O-styrning	x
Momentgräns					
	AC	Statisk	:Jog1 --> DI1 :Jog2 --> DI2 :Ext Fault --> DI3 :Ext Alarm --> DI4	Hårdvarumässig I/O-styrning + Momentgräns	x
Manuell / Konst					
	AC	Puls	:Jog1 --> DI1 :Jog2 --> DI2 :Direction --> DI3 :SpC - KP, KI --> DI4	Hårdvarumässig I/O-styrning välj förstärkning	x
Hand / Auto					
	AC	Statisk	:Control select --> DI2 :Reference select --> DI2 :Direction select --> DI3	Hårdvarumässig I/O-styrning eller fältbusstyrning	x
Hand / Mot Pot					
	AC	Puls	:Motor pot up --> DI1 :Motor pot down --> DI2 :Direction select --> DI3 :Reference select --> DI4	Hårdvarumässig I/O-styrning Referens maskinvara eller motorpotentiometer	x
Motor Pot					
	AC	Statisk	:Direction select --> DI1 :Motor pot up --> DI2 :Motor pot down --> DI3 :Motor pot minimum --> DI4	Hårdvarumässig I/O-styrning Referensmotorpotentiometer	x
Momentreglering					
	AC	Statisk	:OFF2 (coast stop) --> DI1 :Torque select --> DI2 :Ext Fault --> DI3	Hårdvarumässig I/O-styrning Varvtalsreglering eller Moment- börvärde	x

Aktivering av ett makro

Använd [DCS800Wizard] 2. Macro assistant i DriveWindow Light eller

Parameterläsare, via manöverpanel, DriveWindow eller DriveWindow Light.

Använd följande parametrar:

ApplMacro (99.08) = Makroval

Apprestore (99.07) =

YES = Utför val

MacroSel (8.10) =

dubbelkontroll

VIKTIGT

Funktioner och ingångar som definieras av ett makro kan utan hinder ändras vid senare tillfälle.

VIKTIGT

Makrodiagram, se sid 93 ...

Säkerhets- och användningsanvisningar Strömriktare



för motordrivning DCS / DCF / DCR

(enligt Lågspänningsdirektivet 73/23/EWG)

1. Allmänt

Beroende på sin resp. kapslingsklass kan strömriktare för motordrivning under driften ha spänningsförande, blanka och i vissa fall även rörliga eller roterande delar samt heta ytor.

Risk för allvarliga person- eller utrustningsskador uppstår, om man tar bort erforderliga skydd, eller använder, installerar eller manövrerar strömriktaren på felaktigt sätt.

Ytterligare information om detta finns i dokumentationen.

Allt arbete i samband med transport, installation, idrifttagning och underhåll skall utföras av kvalificerad yrkespersonal (Följ IEC 364 bzw. CENELEC HD 384 eller DIN VDE 0100 och IEC-Report 664 eller DIN VDE 0110 samt gällande svenska bestämmelser rörande förebyggande av olycksfall).

Kvalificerad yrkespersonal är i detta fall personer som är väl förtrogna med installation, montering, idrifttagning och drift av produkten och har de kvalifikationer som arbetet förutsätter.

2. Avsedd användning

Strömriktare för motordrivning är komponenter avsedda att byggas in system eller maskiner.

Vid inbyggnad i maskiner får strömriktaren inte tas i drift (dvs. start av avsedd användning) förrän det fastställts att maskinen uppfyller kraven i EG-direktiv 89/392/EEC (Maskindirektivet). Följ även EN 60204.

Idrifttagningen (dvs. start av avsedd användning) tillåts bara under reglerna i EMC-direktivet (98/37/EC).

Strömriktare för motordrivning tillfredsställer kraven i lågspänningsdirektivet 73/23/EEC. De harmoniserade standarderna serie EN 50178/DIN VDE 0160 tillämpas för strömriktarna tillsammans med EN 60439-1/DIN VDE 0660 del 500 och EN 60146/DIN VDE 0558.

Tekniska data samt uppgifter rörande anslutningsvillkor finns på märkskylten och i dokumentationen och måste följas.

3. Transport, förvaring

Följ anvisningarna för transport, förvaring och korrekt hantering.

Observera de klimatvillkor som anges i EN 50178 och motsvarande uppgifter i dokumentationen.

4. Installation

Utrustningen måste installeras och kylas enligt föreskrifterna i tillämplig dokumentation.

Strömriktare för motordrivning måste skyddas mot otillåtna påfrestningar. Framför allt får inga delar böjas och inga isolationsavstånd ändras vid transport och hantering. Berör inte elektroniska komponenter och kontakter.

Strömriktare för motordrivning innehåller elektrostatiskt utsatta komponenter, som lätt kan skadas om de hanteras på fel sätt. Elektriska komponenter får inte skadas mekaniskt eller förstöras (kan vara hälsovådliga!).

5. Elektrisk anslutning

Vid arbete på redan spänningsförande strömriktare för motordrivning gäller tillämpliga nationella föreskrifter för förebyggande av olycksfall (t.ex. VBG 4).

Einstallationen måste utföras enligt tillämpliga föreskrifter (t.ex. ledarareor, säkringar, skyddsledaranslutning). Ytterligare anvisningar finns i dokumentationen.

Anvisningar för installation enligt EMC-reglerna - såsom smörjning, jordning, placering av filter och ledningsdragnings - finns i dokumentationen för strömriktarna. Dessa anvisningar måste alltid beaktas även för CE-märkta strömriktare. Den som tillverkat systemet/maskinen ansvarar för att de gränsvärden som anges i EMC-reglerna inte överskrids.

6. Drift

System i vilka strömriktare för motordrift byggs in måste ev. förses med ytterligare övervaknings- och skyddsanordningar enligt tillämpliga säkerhetsbestämmelser, t.ex. lagar rörande teknisk utrustning och föreskrifter för förebyggande av olycksfall. Ändring av strömriktare med manöverprogram tillåts.

När strömriktaren skilts från matningsspänningen får man inte omedelbart beröra spänningsförande apparatdelar och effektanslutningar, eftersom kondensatorer fortfarande kan vara uppladdade. Ge akt på anvisningarna om detta på varningsskyltarna på själva utrustningen.

Håll alla skydd och dörrar stängda under driften.

7. Underhåll och service

Följ tillverkarens dokumentation.

Förvara dessa säkerhetsanvisningar för framtida bruk!

Installation av PC-verktyg för DCS800 i en dator

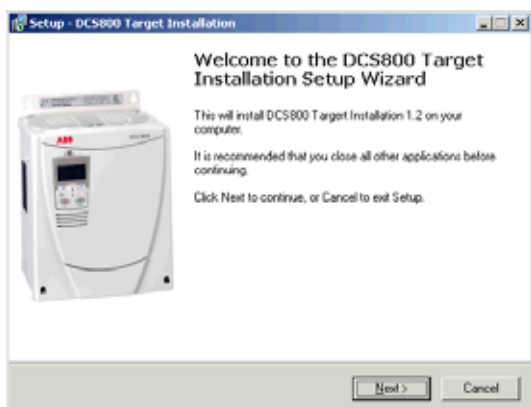
När man sätter CD-skivan DCS800 i datorns CD-läsare kommer alla program och all dokumentation som krävs för att arbeta med DCS800 att installeras automatiskt.

Detta inkluderar:

1. DriveWindow Light för parametersättning, idrifttagning och service
2. Hitachi FDT 2.2 för nedladdning av mjukvara
3. Installations-CD för strömriktare DCS800, för t.ex. DWL Wizard, ABB-dokument
4. CoDeSys 61131-tillämpningsprogrammering

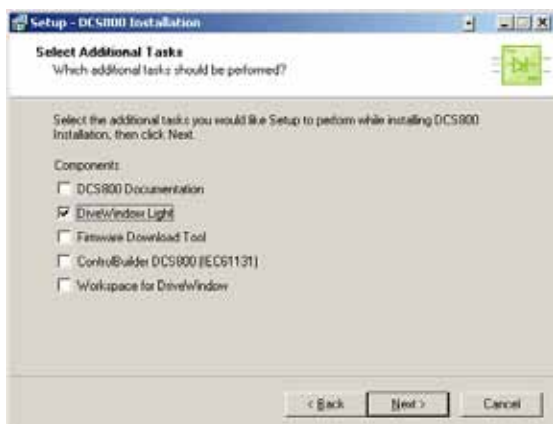
Obs:

Om du inte vill installera ett visst program, hoppa helt enkelt över det genom att klicka på Cancel i början av programmets guide.



Om installationsrutinen inte startar automatiskt:

- Gå till Start/Kör och leta efter filen setup.exe på CD:n. Markera filen och klicka på OK för att starta installationen
- Vi rekommenderar Compact installation for DriveWindow Light + Commission Wizard + DriveWindow Light AP



Steg för att ansluta strömriktaren till PC:n

- Dokumentation kan hittas under

C:\ABB\DCS800\Docu

- Ta bort kåpan från strömriktarmodulen

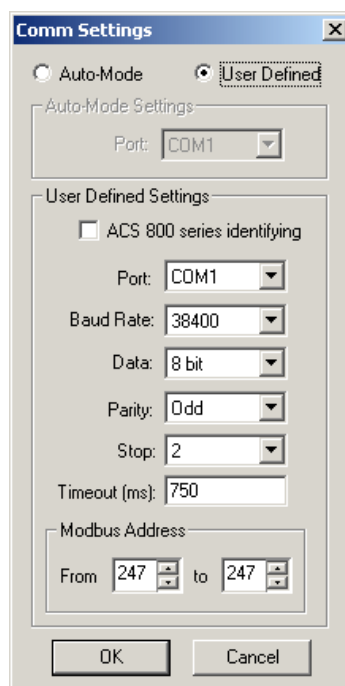


Ta bort DCS800-manöverpanelen om sådan finns. Tryck ner spärrknapparna för att ta av kåpan

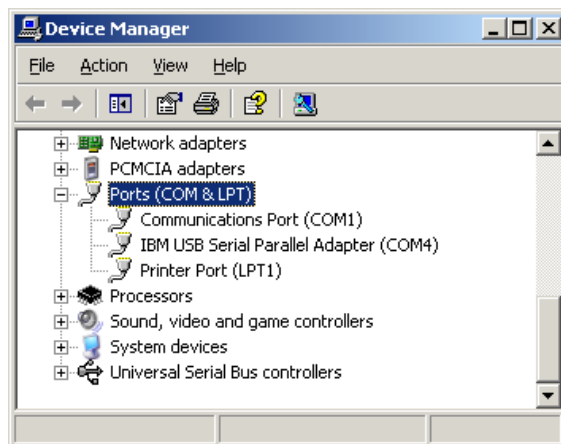


Anslut strömriktaren (X34) till PC:ns COM-port

- Starta PC-verktyget DriveWindow Light
- Kontrollera kommunikationsinställningarna för COM-porten



Om du använder en USB-port som COM-port, eller en PC-MCIA/COM adapter, kontrollera vilken COM-adress som är aktiverad Start => Inställningar => Manöverpanel => System => Maskinvara => Enhetshanteraren



- COM-adressen för USB-gränssnittet kan ändras efter omstart av datorn, eller om USB-gränssnittet kopplas ifrån och kopplas in på nytt.

Obs:

PCMCIA till COM-port utgör ett stabilt och snabbt gränssnitt mot drivsystemet.

Använd DriveWindow Light eller guiden i DCS800-manöverpanelen, och fortsätt med kapitlet Idrifttagning i detta dokument.

För idrifttagning med DriveWindow, se beskrivningen i DCS800 Beskrivning av systemprogramvara.

Idrifttagning



Fara! Högspänning: Denna symbol varnar för högspänning som kan medföra personskador och/eller skada på utrustning. I tillämpliga fall beskriver texten i anslutning till symbolen hur faran kan undvikas



Allmän varning: Denna symbol varnar för icke-elrelaterade risker och faror som kan resultera i personskador, inklusive dödsfall, och/eller i skada på utrustning. I tillämpliga fall beskriver texten i anslutning till symbolen hur faran kan undvikas.



Varning för elektrostatisk urladdning: Denna symbol varnar för elektrostatisk urladdning som kan skada enheten. I tillämpliga fall beskriver texten i anslutning till symbolen hur faran kan undvikas.

Överlastskydd för NEC-motorer

DCS800 har ett programvarubaserat överlastskydd i enlighet med NEC. Överlastskyddet (t.ex. aktiveringsnivå i procent av maximal motorström) kan anpassas med hjälp av parametrar i grupp 31 och grupp 99

Instruktioner finns i kapitlet Termisk motormodell i DCS800 Beskrivning av systemprogramvara

Allmänna instruktioner

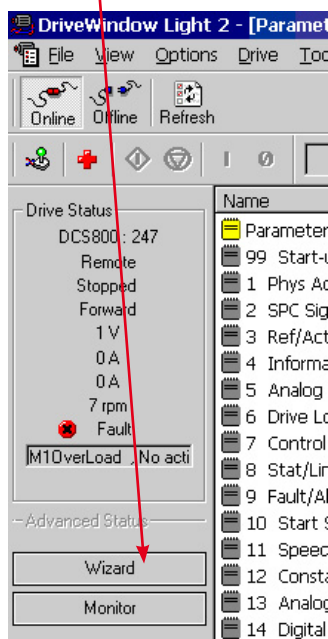
- Denna korta idrifttagningsprocedur refererar till anslutnings-exemplet i kapitel *Anslutningsexempel* i detta dokument.
- *Säkerhets- och driftanvisningar* - kapitel i detta dokument.
- Rekommendationer för motor och fältspänningar finns i *Teknisk katalog*.
- I enlighet med DIN 57100 Del 727 / VDE 0100 Del 727 måste säkerhetsåtgärder vidtas för att strömriktaren skall kunna stängas av, t.ex. vid fara. Enhetens digitala ingångar och manöverpanel räcker inte som enda väg att beordra avstängning!

Förberedelser

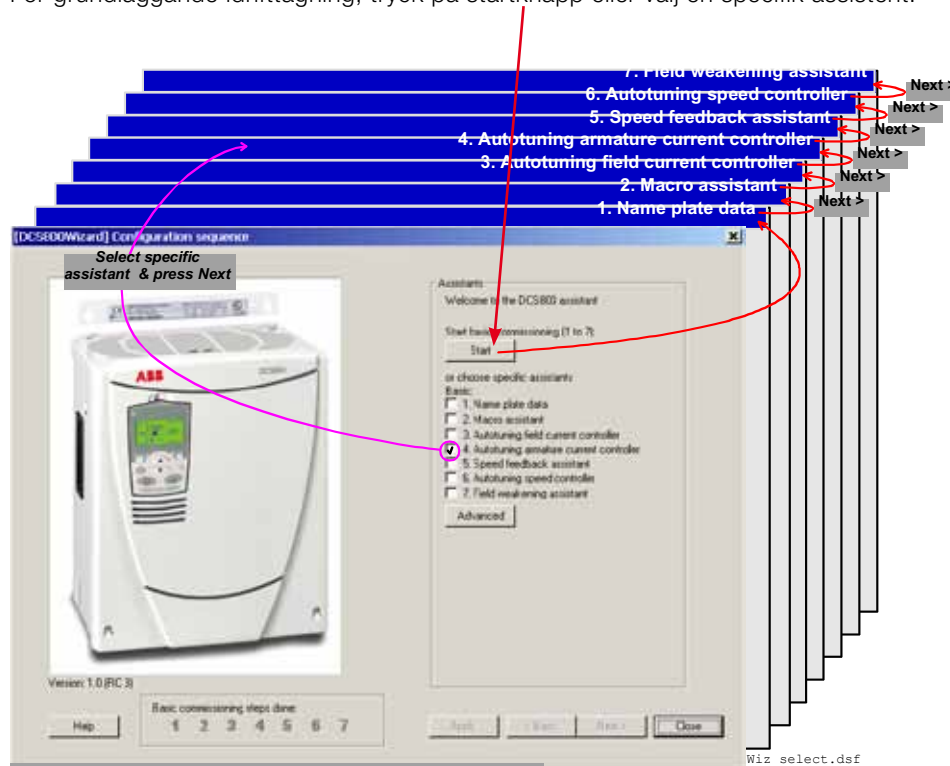
- Kontrollera enheten med avseende på skador!
- Installera enheten och utför alla anslutningar
- Matningsspänning / märkvärdet korrekt för elektronik och fläktar?
- Matningsspänning / märkvärdet korrekt för rotorkretsen?
- Matningsspänning / märkvärdet korrekt för fältmatningen?
- Kabeldragning / ledartvärnsnittsareor etc. korrekt?
- NÖDSTOPP fungerar korrekt?
- UTRULLNING fungerar korrekt?

Idrifttagning med DriveWindow Light

Starta guiden i DriveWindow Light



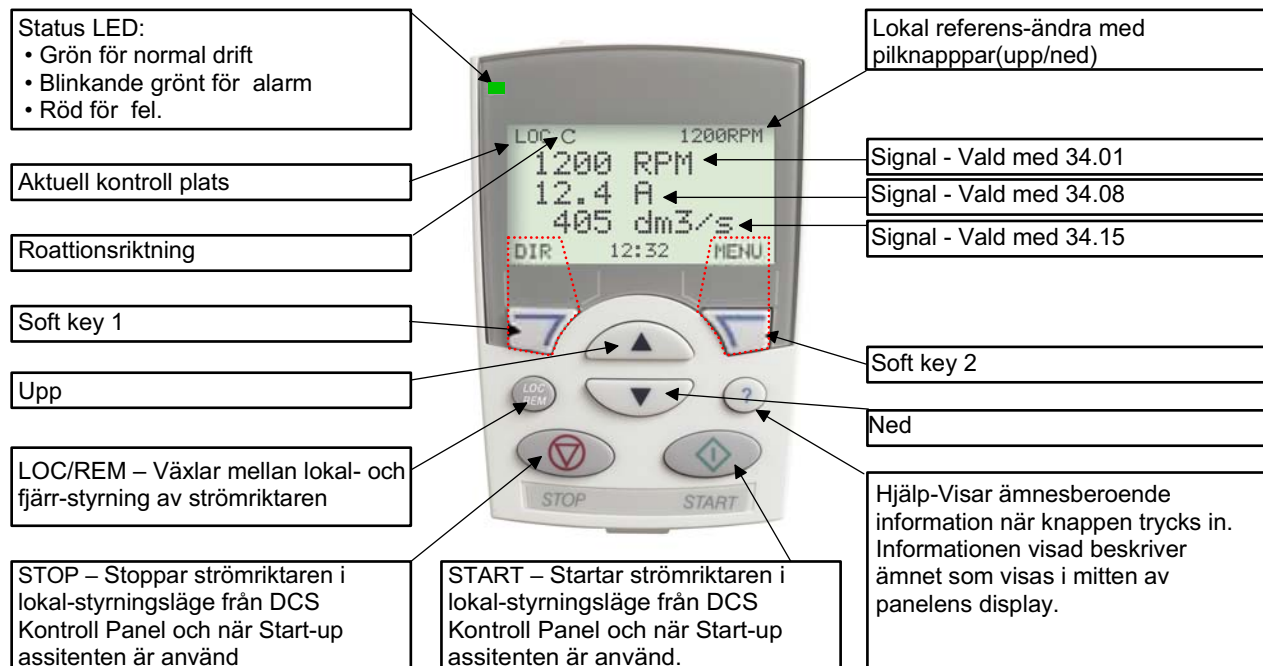
För grundläggande idrifttagning, tryck på startknapp eller välj en specifik assistent:



För ytterligare information om assistenten, parameterfel och larm, tryck på *hjälpknappen!*

DCS800 manöverpanel

Följande tabell sammanfattar tangentfunktioner och displaytexter på DCS800-manöverpanelen



BE_PAN_001_a.dsf

Med USISel (16.09) går det att begränsa antalet parametrar som visas!

Allmän information om displayen

Följande driftlägen är tillgängliga i HUVUDMENY:

- Parameterläge
- Idrifttagningsassistenter
 - Märkdata
 - Makroassistent
 - Autotuning av fältströmregulator
 - Autotuning av rotorströmregulator
 - Varvtalsåterkopplingsassistent (fininställning av varvtalsgivare finns ej)
 - Autotuning av varvtalsregulatorn
 - Fältförsvagningsassistent (används endast när max varvtal är högre än basvarvtal)
- Makroläge (används för närvarande ej)
- Driftläge Ändrade parametrar (jämför med förvalda inställningar och visar ändrade parametrar)
- Felhistorikläge (visar felhistorik)
- Driftläge Datum & tid
- Kopieringsläge
 - Kopierar aktiv parameteruppsättning från strömriktaren till DCS800-manöverpanelen (endast vid lokal styrning)
 - kopierar parameteruppsättning från DCS800-manöverpanelen till strömriktaren (endast vid lokal styrning)
- Driftläge I/O konfig (används för närvarande ej)

Parametrar som matas in via assistent

99.02	Motor 1 märkspänning
99.03	Motor 1 märkström
99.04	Motor 1 basvarvtal
20.01	Motor 1 min varvtal
20.02	Motor 1 max varvtal
99.11	Motor 1 nominell fältström
30.09	Rotoröverström
30.16	Motor 1 övervarvtal
99.10	Nominell nätspänning
99.12	Motor 1 använd fex-typ
20.05	Max moment
20.06	Min moment
20.12	Motor 1 strömgräns brygga 1
20.13	Motor 1 strömgräns brygga 2
50.04	Motor 1 pulsgivare pulstal, om valt
50.02	Motor 1 pulsgivare uppmätt läge, om valt
50.13	Motor 1 takometerspänning, endast DWL
50.12	Motor 1 takometeranpassning, endast DWL
20.03	Nollvarvtalsgräns
22.01	Accelerationstid 1
22.02	Retardationstid 1
30.12	Motor 1 mingräns fält för utlösning
44.01	Fältstyrningsläge



Características Padrão

- Compacto
- Alta potência
- Operação simples
- Simples Assistentes, por exemplo, para autoparametrização ou comissionamento
- Dimensionável para todas as aplicações
- Livrementeprogramável por meio de um IEC61131-PLC integrado

DCS800 Conversores CC

Dados técnicos

Principais tensões de alimentação.
230...1.200 V, +/- 10%, 3~

Frequencia 50...60 Hz, +/- 5 Hz

Alimentação eletrônica 115...230 V, -15% / +10%, 1~

Corrente de saída CC 20...5.200 A

Capacidade de Sobrecarga 200%

Condições ambientais

Temp. Ambiente 0° ... +40° C
40° ... 55°C com redução

Temp. armazenamento. -40° ... +55°C

Temp. Transport -40° ... +70° C

Umidade relativa 5 ... 95 %, sem condensação (max. 50 % entre 0°...5° C)

Grau de poluição Classes 2

Classe de proteção IP 00

Altitude < 1000 m altura acima do nível do mar: corrente nominal > 1000 m altura acima do nível do mar: com redução da corrente

Entradas/Saídas

Entradas digitais: 8 padrão até 14 opcionais

Saídas digitais: 8 padrão até 12 opcionais

Entradas analógicas: 4 padrão +/-10 V; 0/2...10 V, até 8 optional +/- 20 mA; 0/4...20 mA

Saídas analógicas: 3 padrão (1x I_{act}) +/-10 V; 0/2...10 V, até 7 opcionais -20 mA; 0/4...20 mA

PC-Tools

DriveWindow Light: fornecido gratuitamente com cada conversor, conexão RS232 PC-padrão

DriveWindow: conexão ótica em tempo real

ControlBuilder DCS800: IEC61131 ferramenta de programação

DriveSize: Conversor e dimensionamento do motor

Manutenção / Diagnóstico

Diagnóstico à distância com qualquer PC-Internet em todo o mundo

- com navegador / internet explorer
- ou com DriveWindow total controle do conversor via OPC

Aprovações



Programação adaptativa

Blocos de função específica – acionador pré-definidas, por ex

- Regulador PI integrado (processo)
- Configuração personalizada das E/S

Com micro-console ou ferramenta de software PC sem necessidade de nenhum equipamento suplementar.

Medida da Velocidade

FEM
Tacogerador
Encoder
Possível 2° encoder (RTAC)

Comunicação

Comunicação Serial

- Ethernet
- CANopen
- ControlNet
- Modbus
- AF100
- Profibus
- DeviceNet
- DDCS
- CS31
- Selma2

DCSLink ponto a ponto

- até 800 kBaud, < 2,5 ms
- Mestre-escravo
- Conversor de Armadura de Campo
- Dados selecionáveis livres

Soluções para Altas Correntes

- 12-pulsos até 20.000 A, serial e paralelo
- Hard parallel e sequencial
- até 1.500 V

Proteções

Monitoramento da velocidade do feedback

- Temperatura
- Sobrecarga
- Excesso de velocidade
- Motor parado
- Sobrecorrente do Motor
- Sobretensão do Motor
- Sobrecorrente de campo
- Sobretensão de campo
- Corrente mínima de campo
- Velocidade zero
- Ondulação da corrente de armadura
- Sub e Sobretensão de campo

IEC 61131-PLC integrado

- Ferramenta de Programação aberta padrão ControlBuilder DCS800
- Suporte de todas as cinco línguas IEC
- Blocos de funções específicas do conversor
- Salvar o programa e fonte no Cartão de Memória
- depuração e expurgação Online

Correntes nominais, dimensões

Tamanho da unidade	Corrente nominal		Tensão de Alimentação [V _{AC}]								Corrente nominal max. interna [A _{CC}]	Dimensões	
	2-Q DCS800-01	4-Q DCS800-02	400	525	600	690	800	990	1200	h x w x d [mm]		h x w x d [polegada]	
D1	20	25	●	●							6	370 x 270 x 200	14.56 x 10.65 x 7.90
	45	50	●	●									
	65	75	●	●									
	90	100	●	●									
	125	140	●	●									
D2	180	200	●	●							15	370 x 270 x 270	14.56 x 10.65 x 10.65
	230	260	●	●									
D3	315	350	●	●	● ³⁾						20	459 x 270 x 310	18.07 x 10.65 x 12,25
	405	450	●	●									
	470	520	●	●									
D4	610	680	●	●	● ³⁾						25	644 x 270 x 345	25.35 x 10.65 x 13.60
	740	820	●	●									
	900	1000	●	●									
D5	900	900			●	●					25	1050 x 510 x 410	41.35 x 20.10 x 16.15
	1200	1200	●	●									
	1500	1500	●	●	●	●							
	2000	2000	●	●	● ¹⁾	● ¹⁾							
	1900	1900					●				(campo ext.)	1750 x 460 x 410	68.90 x 18.15 x 16.15
D6	2050	2050					●				35A, 1~/3~		
	2500	2500	●	●	●	●					50/60A, 1~		
	3000	3000	●	●	●	●					520A, 3~		
	2050	2050							●		(campo ext.)	1750 x 760 x 570	68.90 x 29.95 x 22.45
D7	2600	2600							●	● ²⁾	35A, 1~/3~		
	3300	3300	●	●	●	●				● ²⁾	50/60A, 1~		
	4000	4000	●	●	●	●					520A, 3~		
	4800	4800			●	●							
5200	5200	●	●										

●¹⁾ Apenas disponível como conversor 2-Q

●²⁾ Sob encomenda

●³⁾ 600V

2-Q -> 290 A / 590 A
4-Q -> 320 A / 650 A

Breves instruções para o CD e visão geral dos documentos

Apreciamos que você tenha comprado um Conversor de Acionamento de Potência CC ABB e obrigado pela confiança que você coloca em nossos produtos.

Esta documentação foi elaborada para garantir que você continue satisfeito com seu produto. Ela pretende fornecer a você uma breve visão global dos dados essenciais do produto, notar EMC, aplicações típicas, inicialização e resolução de problemas.

Se você precisar de mais informações sobre o produto você as encontrará no **CD-ROM** fornecido com esta breve documentação. O CD-ROM é parte desta documentação e apresenta os seguintes conteúdos:

Documentação

Nossa documentação está basicamente estruturada de acordo com o seguinte sistema:

Catálogo Técnico (3ADW000192)

Informações o mais abrangente possível para executar os sistemas de conversor CC.

Manual de hardware (3ADW000194)

Informações o mais detalhadas possível, com todas as particularidades importantes sobre os componentes individuais, como dimensões do módulo, placas eletrônicas, ventiladores e componentes auxiliares.

Também estão incluídas informações para instalação mecânica e elétrica.

Manual Firmware (3ADW000193)

Informações detalhadas com todas as questões importantes sobre firmware e fixação de parâmetros. O manual inclui informação para inicialização e manutenção de todo o conversor de forma detalhada.

Este manual também inclui códigos de falha e alarme e informação sobre resolução de problemas.

Manual de Manutenção (3ADW000195)

Para manutenção e conserto dos conversores.

Aplicações

O DCS800 Conversor CC pode incluir um software de aplicação, por exemplo, pontes rolantes, bobinadoras. Em tal caso os procedimentos a seguir e assistentes podem ser bloqueados ou não completados. Por favor, verifique mais adiante a documentação e manuais (verifique parâmetro 4.03, 83.01).

Informações adicionais sobre aplicações (por ex. 12-pulse) e acessórios técnicos (por ex. extensão de hardware ou interfaces Field bus) são tratadas por manuais em separado.

Ver a tabela *DCS800 Manuais de conversor*.

Requisitos de sistema para utilizar o CD-ROM

- Sistema operacional Windows 2000, XP
- ACROBAT READER 4.0 é suficiente (nós recomendamos 8.0 – incluído no CD-ROM)



Caso o CD-ROM não inicie automaticamente, por favor, clique duas vezes em **Setup.exe**.

Suporte adicional

Além disso, oferecemos suporte adicional, uma vez que nós só podemos estar satisfeitos quando você, como nosso cliente, estão satisfeito com nossos produtos.

Internet

Na página inicial da ABB

www.abb.com/dc

Você encontrará vasta informação sobre

- Produtos DC
- Suporte de manutenção
- As últimas atualizações
- Ferramentas
- Downloads, etc.

Por favor, não hesite em nos visitar

Contatos

Se você necessita de qualquer informação adicional entre em contato com o escritório **ABB conversores** mais próximo ou envie-nos um email para:

DC-Drives@de.abb.com

Por favor, informe-nos seu nome, o endereço de sua empresa, e telefone. Nós o colocaremos imediatamente em contato com nosso especialista.

Notas sobre EMC

Você encontrará informações adicionais na publicação:

Capítulo de **Guia Técnico:** Instalação em Conformidade com EMC e Configuração para um Sistema de Inversão de Potência

Os parágrafos abaixo descrevem a seleção dos componentes elétricos em conformidade com as Diretrizes EMC.

O objetivo das Diretrizes EMC é, como diz o nome, alcançar a compatibilidade eletromagnética com outros produtos e sistemas. As diretrizes garantem que as emissões do produto em questão são tão baixas que elas não prejudicam a imunidade à interferência do outro produto. No contexto das Diretrizes EMC, dois aspectos devem ser levados em consideração:

- A imunidade à interferência do produto
- As emissões reais do produto

As Diretrizes EMC esperam que a EMC seja levada em consideração quando um produto está sendo desenvolvido; entretanto, a EMC não pode ser projetada, ela só pode ser medida quantitativamente.

Nota sobre a conformidade EMC

O procedimento de conformidade é de responsabilidade tanto do fornecedor do conversor de energia quanto do fabricante da máquina ou do sistema em questão, proporcionalmente à sua parte na expansão do equipamento elétrico envolvido.

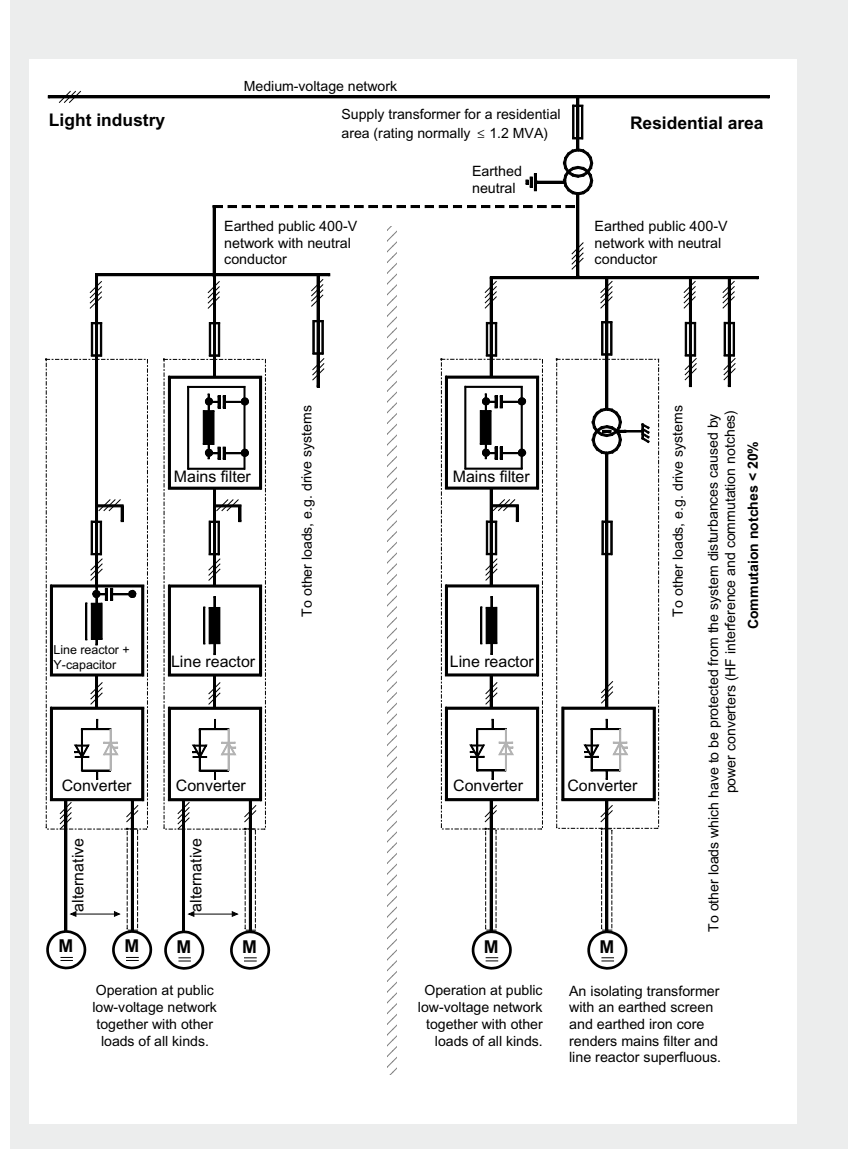
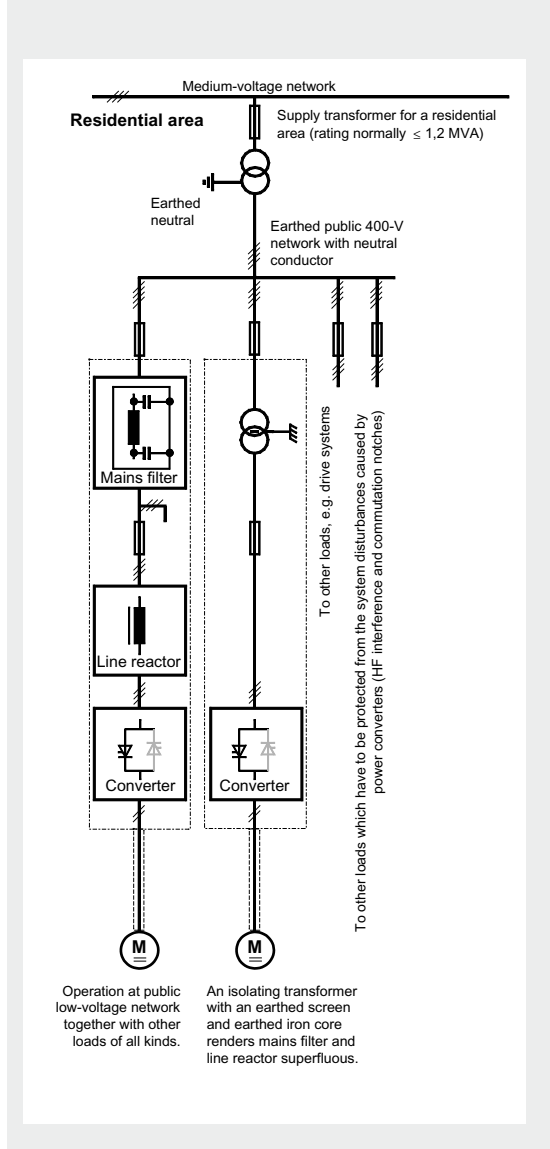
Primeiro ambiente (área residencial com indústria leve) com PDS categoria C2

Não se aplica uma vez que a categoria C1 (canal de vendas de distribuição geral) está excluída

Não se aplica

Atende

Atende



Para o cumprimento dos objetivos de proteção do EMC Act alemão (EMVG) sobre sistemas e máquinas, os seguintes padrões EMC devem ser atendidos:

Padrão do Produto EN 61800-3 EMC padrão para sistemas de conversor (PowerDriveSystem), imunidade de interferência e emissões em áreas residenciais, zonas de empresa com indústria leve e instalações industriais. Este padrão deve estar de acordo com a EU para Atender as exigências EMC (compatibilidade eletromagnética) para sistemas e máquinas!

Para interferência emitida, o seguinte se aplica:

EN 61000-6-3 Norma básica especializada para emissões em indústria leve podem ser atendidas com características especiais (filtros de rede, cabos de energia blindados) na faixa nominal mais baixa *(EN 50081-1).

EN 61000-6-4 Norma básica especializada para emissões em **indústria** *(EN 50081-2) Para imunidade de interferência, o seguinte se aplica

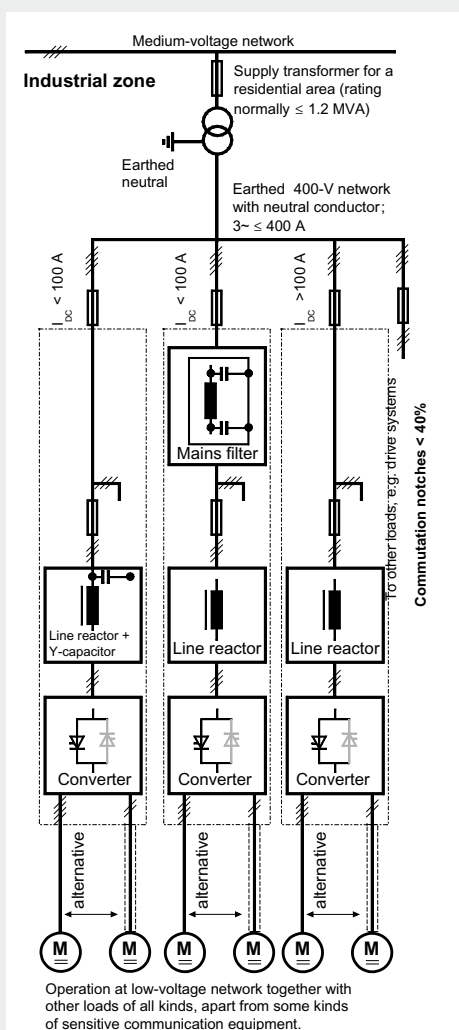
EN 61000-6-1 Norma básica especializada para imunidade de interferência em **áreas residenciais***(EN 50082-1)

EN 61000-6-2 Norma básica especializada para imunidade de interferência na **indústria**. Se esta norma é atende, então a **norma EN 61000-6-1** também é automaticamente atende *(EN 50082-2)

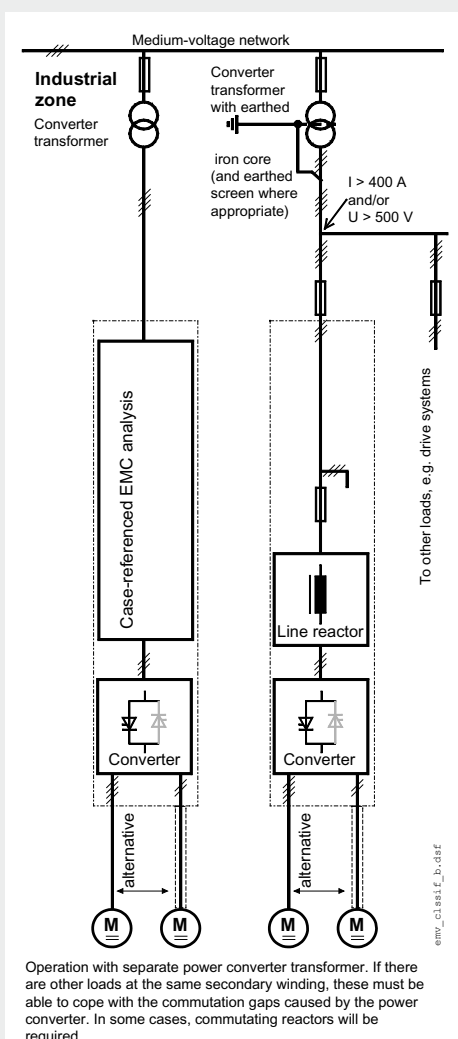
* As normas genéricas são dadas entre parênteses.ets

			Normas
Segundo ambiente (indústria) com categorias PDS C3, C4			EN 61800-3
Não aplicável			EN 61000-6/3
Atende	A pedido do cliente	Atende	EN 61000-6/3
Atende			EN 61000-6-2 EN 61000-6-1

PDS categoria C3



PDS categoria C4



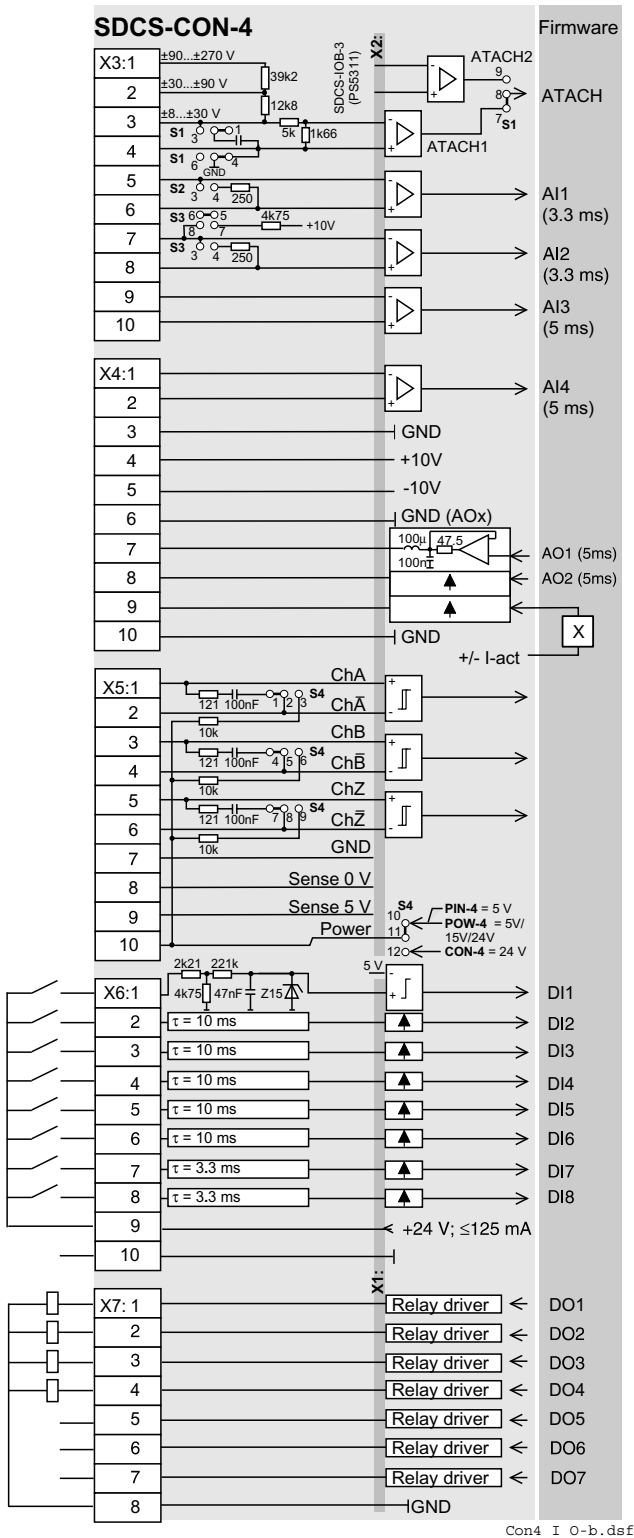
Classificação

A visão geral a seguir utiliza a terminologia e indica a ação necessária de acordo com a Norma do Produto **EN 61800-3**. Para as séries DCS800. Os valores limite para a interferência emitida são respeitados, desde que a medida indicada é executada. PDS de categoria C2 (distribuição anteriormente restrita no primeiro ambiente) se destina a ser instalada e comissionada apenas por um profissional (pessoa ou organização com as habilidades necessárias para instalação e/ou comissionamento PDS incluindo seus aspectos EMC). Para conversores de energia sem componentes adicionais, as seguintes advertências se aplicam: Este é um produto de categoria C2 sob IEC 61800-3:2004. Em ambiente doméstico/residencial este produto pode causar interferência de radio caso no qual medidas de atenuação suplementar podem ser necessárias. A fonte de campo não está representada neste diagrama de visão geral. Para os cabos de corrente de campo, as mesmas regras se aplicam como para os cabos de circuito de armadura.

Legend

	Screened cable
	Unscreened cable with restriction

Atribuições da função padrão para os terminais



Resolução [bit]	Valores de entrada/saída Hardware	Escala de	Faixa de modo comum	Observações
15 + sinal	±90...270 V ±30...90 V ±8...30 V	① Firmware	±15 V	
15 + sinal	-10...0...+10 V	Firmware	±15 V	
15 + sinal	-10...0...+10 V	Firmware	±15 V	
15 + sinal	-10...0...+10 V	Firmware	±15 V	
15 + sinal	-10...0...+10 V	Firmware	±15V	

		Potência		
	+10 V		≤ 5 mA	Para uso ext. por ex. pot. Refer.
	-10 V		≤ 5 mA	
11 + sinal	-10...0...+10 V	Firmware	≤ 5 mA	
11 + sinal	-10...0...+10 V	Firmware	≤ 5 mA	
	-10...0...+10 V	Firmware+ Hardware	≤ 5 mA	8 V -> min. de 325% de [99.03] on 230% de [4.05]

Fonte de alimentação do encoder		Observações
		Entradas não isoladas Impedância = 120 Ω, se seleccionada Frequencia Max. ≤ 300 kHz
5 V 24 V	≤ 250 mA ≤ 250 mA	Linhas de sentido para GND e a alimentação para corrigir as quedas de tensão no cabo (apenas se um encoder de 5V está em uso)

Valor de entrada	Definição de sinal por	Observações
0...7.3 V 7.5...50 V	Firmware	-> "0" status -> "1" status

Valor de saída	Definição de sinal por	Observações
50 * mA 22 V sem carga	Firmware	Limite de corrente para todas as 7 saídas = 160 mA Não aplicar qualquer tensão reversa!

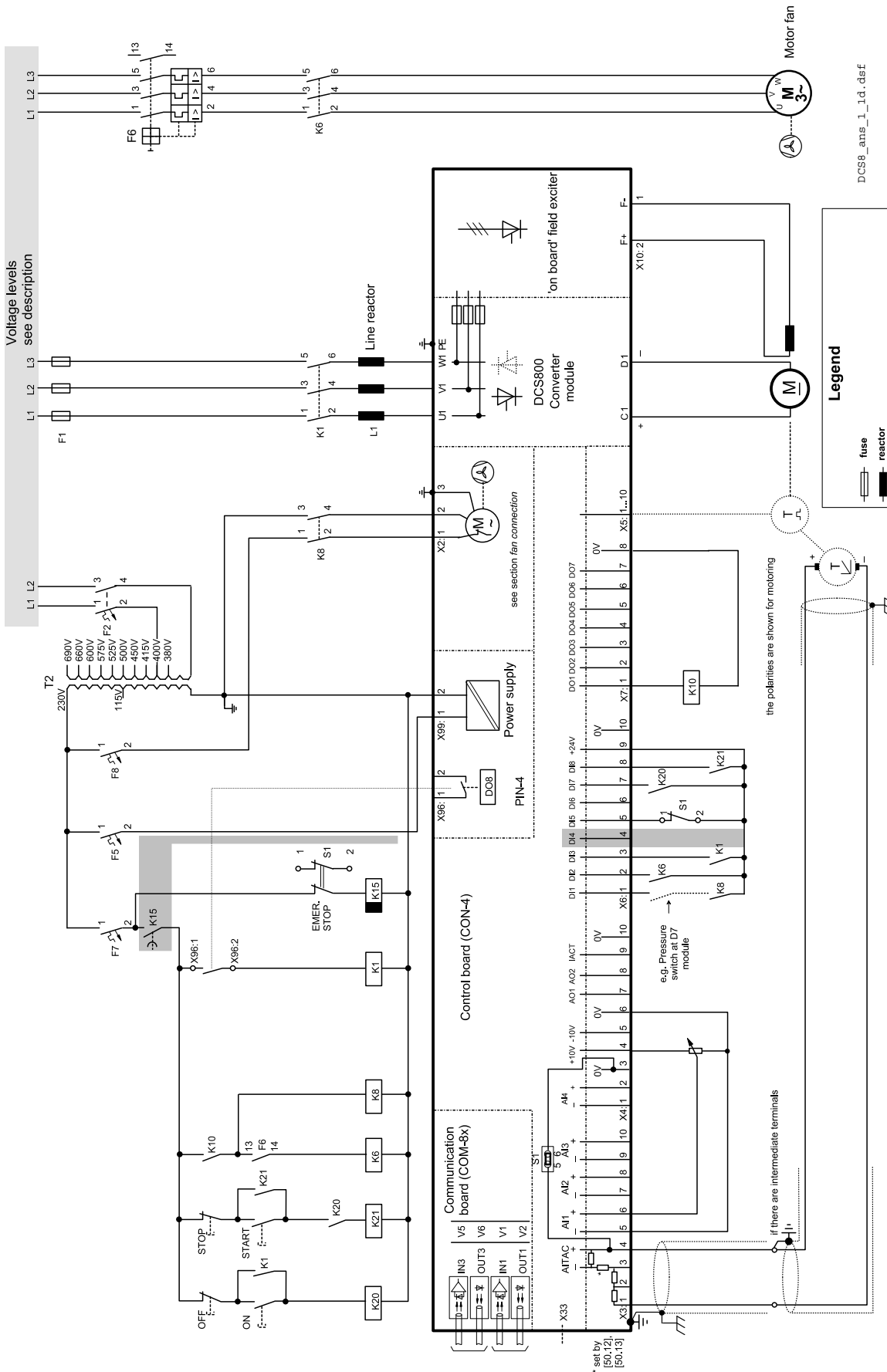
* protegido de curto circuito

① o ganho pode ser variado em 15 passos entre 1 e 4 pelo parâmetro do software

Exemplo de conexão

Conversores D1...D4 configuração do conversor usando excitador de campo "OnBoard"

Seleção do terminal de acordo com a FABRICA macro (omissão)



further information see the following page

portuguese

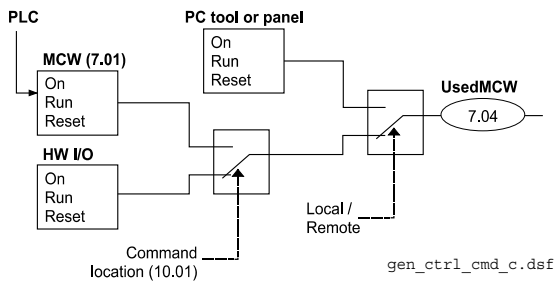
Controle Iniciar, Parar e E-STOP (parada de emergência)

A lógica do relé pode ser dividida em três partes:

a: Geração de comando de Liga/Desliga e Inicia/Para

Os comandos representados por K20 e K21 (relé de travamento da interface) podem ser, por exemplo, gerados por um PLC e transferidos para os terminais do conversor tato pelos relés, usando isolamento galvânico ou diretamente via sinais 24 V.

Estes comandos também podem ser transferidos via comunicação serial. Mesmo uma solução mista pode ser realizada pela seleção de diferentes possibilidades para um ou outro sinal (ver grupo de parâmetro 11).



b: Geração de sinais de controle e monitoramento:

O contator principal para circuito de armadura é controlado por um contato seco (DO 8) localizado no SDCS-PIN-4. Os status dos ventiladores e Klixon On dos ventiladores podem ser monitorados por meio de sinais de reconhecimento do ventilador: MotFanAck (10.06) e ConvFanAck (10.20).

c: Função OFF2, OFF3 Stop:

Além de LIGA/DESLIGA e INICIAR/PARAR, o conversor é equipado com duas funções de parada adicionais, OFF2 e OFF3, de acordo com a norma Profibus. OFF3 é uma função de parada escalonável (parada progressiva, torque máximo de parada, frenagem dinâmica...) para realizar parada de categoria 1; Essa função deve estar conectada com botão E-STOP sem nenhum tempo de atraso. No caso da seleção de parada progressiva, o relé temporizador deve ser definido maior do que o EStopRamp (22.04). Para a seleção COAST (rampa), o conversor abre o contator principal imediatamente.

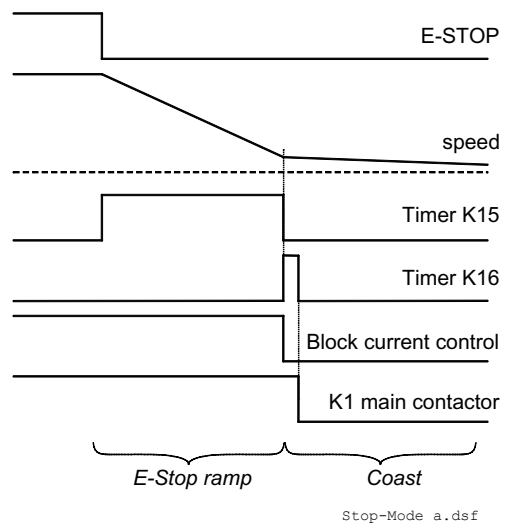
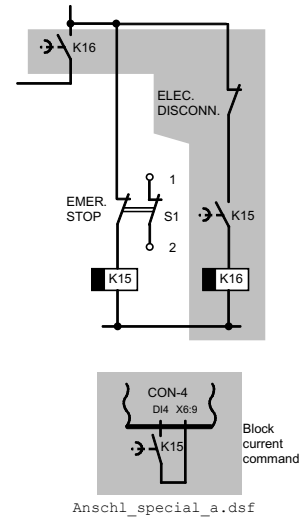
OFF2 desliga a corrente CC o mais rápido possível e prepara o conversor para abrir o contator principal ou suspende a alimentação elétrica. Para uma carga normal do motor de corrente contínua o tempo para desligar a corrente contínua está abaixo de 20 ms. Esta função deve estar ligada a todos os sinais e funções de segurança que abram o contator principal. Esta função é importante para os conversores 4-quadrante. Não abra o contator principal durante corrente regenerativa.

A sequencia correta é

1. 1.Desligue a corrente regenerativa
2. 2.Então abra o contator principal

No caso que o E-STOP seja atingido, a informação é transferida para o conversor via entrada digital 5. No caso da seleção de parada progressiva, ou torque máximo, o conversor irá desacelerar o motor e então abrir o contator principal.

Se o conversor não terminou a função dentro da configuração do temporizador K15, o conversor deve receber o comando para desligar a corrente via K16. Depois que o tempo estabelecido por K16 tiver decorrido, o contator principal é aberto independentemente do status do conversor



E-Stop reaction

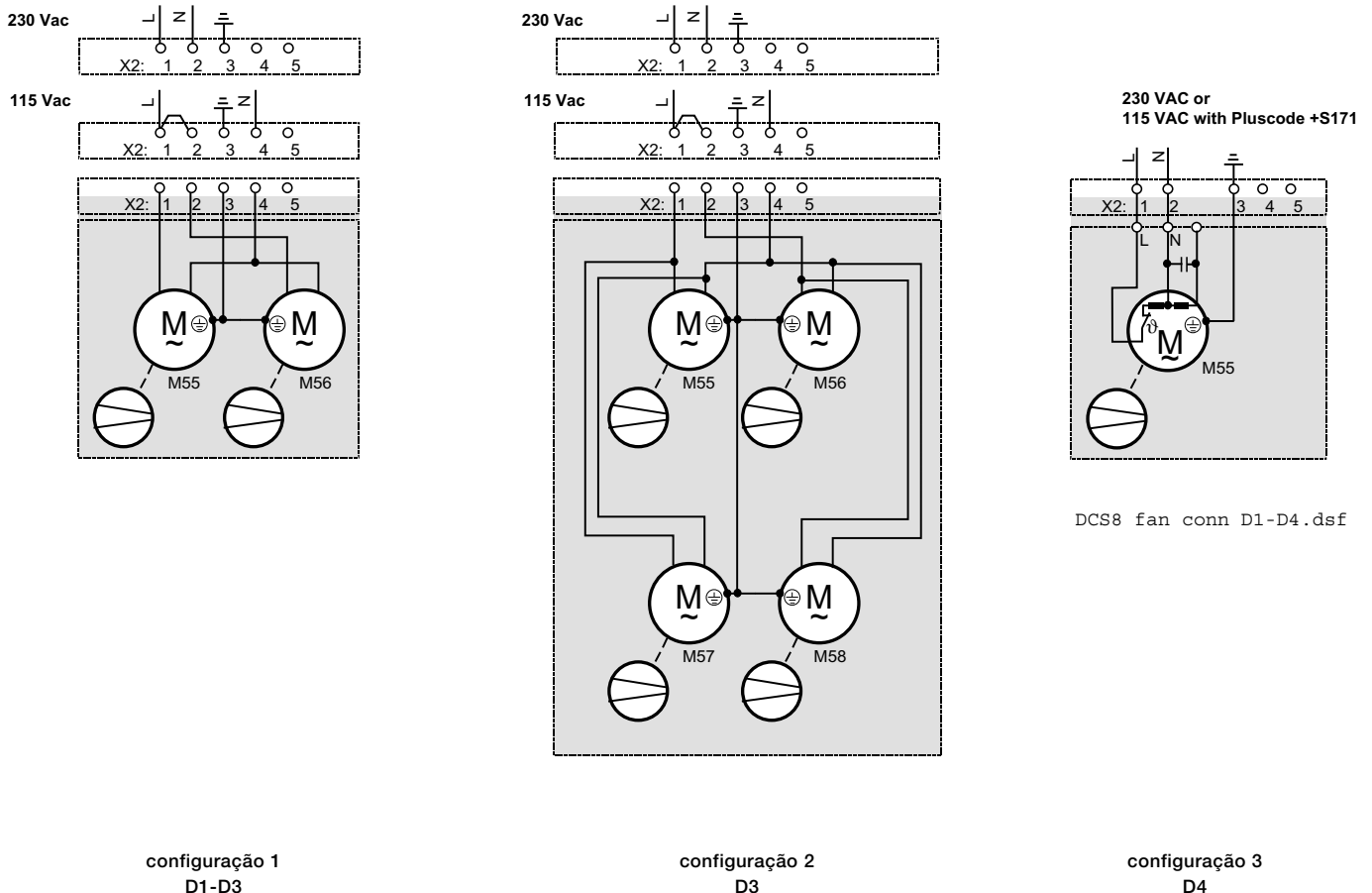
Conexão de alimentação do ventilador

Atribuição de ventilador para DCS800

Tipo de conversor	Modelo	Configuração	Tensão do ventilador
DCS800-S01-0020-04/05, ..., DCS800-S02-0025-04/05	D1	-	Sem ventilador
DCS800-S0x-0045-04/05, ..., DCS800-S0x-0140-04/05	D1	1	1 x 3110KL-05W... (internal 24 V _{CC})
DCS800-S0x-0180-04/05, ..., DCS800-S0x-0260-04/05	D2	2	2 x 4715MS (115 / 230 V _{AC})
DCS800-S0x-0315-04/05, ..., DCS800-S0x-0350-04/05	D3	2	2 x 4715MS (115 / 230 V _{AC})
DCS800-S0x-0405-04/05, ..., DCS800-S0x-0520-04/05	D3	3	2 x 4715MS (115 / 230 V _{AC}) 2 x 3115FS (115 / 230 V _{AC})
DCS800-S0x-0610-04/05, ..., DCS800-S0x-0820-04/05	D4	4	1 x W2E200 (230 V _{AC})
DCS800-S0x-0610-04/05, ..., DCS800-S0x-0820-04/05	D4 Pluscode S171	4	1 x W2E200 (230 V _{AC})
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	D4	4	1 x W2E250 (230 V _{AC})
DCS800-S0x-0900-04/05, ..., DCS800-S0x-1000-04/05	D4 Pluscode S171	4	1 x W2E250 (230 V _{AC})

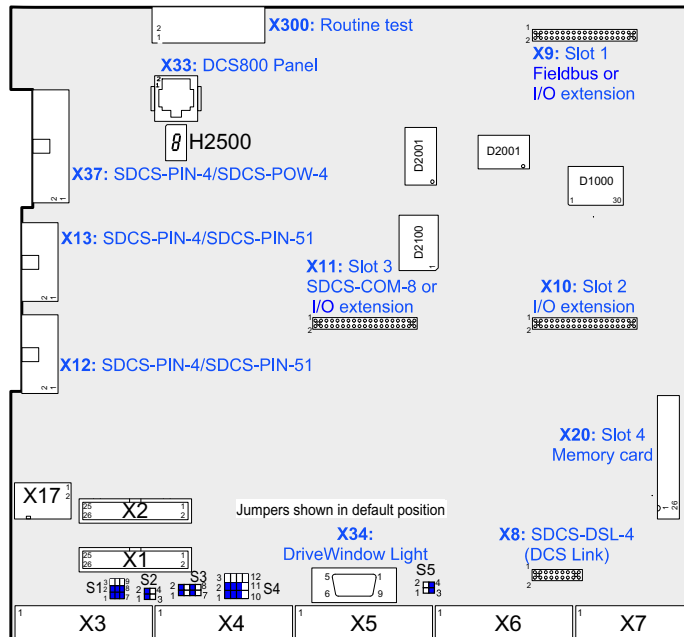
Conexão do ventilador para DCS800

Terminais na parte superior da carcaça do conversor

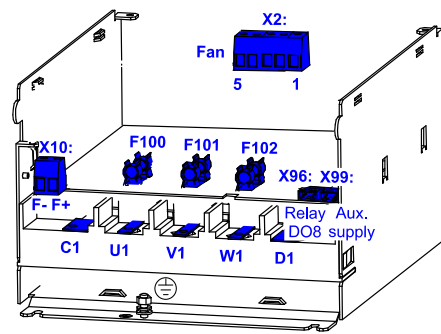


Localizações do terminal no conversor

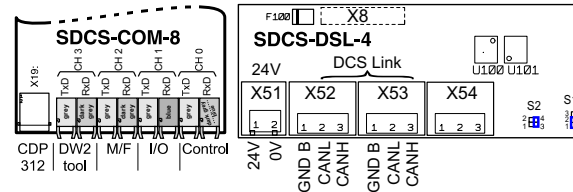
SDCS-CON-4 CONNECTOR ALLOCATION



DCS800 module TERMINAL ALLOCATION



DCS800 Accessories



SDCS-CON-4: TERMINAL ALLOCATION

X3 Tacho and AI										X4 AI and AO										X5 Encoder										X6 DI										X7 DO									
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
90...270V	30...90V	8...30V	0V	AI1-	AI1+	AI2-	AI2+	AI3-	AI3+	AO1	AO2	AO3 (Iact)	0V	+A	-A	+B	-B	+Z	-Z	GND	Sense GND	Sense Us	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	+24	0V	DO1	DO2	DO3	DO4	DO5	DO6	DO7	DO8							

DCS800 terminal alloc.dsf

Nome de macro	Contador principal	Ligar/desligar Iniciar/parar	Tipo de macro	Função DI	Comentário	DI5 --> ESTOP DI6 --> Reset	
Padrão	CA	Estática	Estática	Jog1 --> DI1 Jog2 --> DI2 Falha ext. --> DI 3 Alarme ext. --> DI4	Controle de E/S hardware	x	
2-cabos CC cont. US	CC	Estática	Estática	Jog1 --> DI1 Jog2 --> DI2 Falha ext. --> DI 3 Recon. do cont. princ. --> DI4	Controle de E/S hardware	x	
3- cabos CC cont. US	CC	Estática	Estática	Veloc. deter. --> DI1 Falha ext. --> DI 3 Recon.cont. princ. --> DI4	Controle de E/S hardware	x	
3 cabos Padrão	CA	Pulso	Pulso	Veloc. deter. --> DI1 Falha ext. --> DI 3 Alarme ext. --> DI4	Controle de E/S hardware	x	
Limite de torque	CA	Estática	Estática	Jog1 --> DI1 Jog2 --> DI2 Falha ext. --> DI 3 Alarme ext. --> DI4	Controle de E/S hardware + Limite de torque	x	
Manual/constante	CA	Pulso	Pulso	Jog1 --> DI1 Jog2 --> DI2 Direção --> DI 3 SpC - KP, KI --> DI4	Controle de E/S hardware	x	seleção de ganho
Manual / auto	CA	Estática	Estática	Sel. de contr. --> DI2 Sel. de refer --> DI2 Sel. de direção --> DI 3	Controle de E/S hardware ou controle de fieldbus	x	
Manual / potência do motor	CA	Pulso	Pulso	Pot. do motor para cima --> DI1 Pot. do motor para baixo --> DI2 Sel. de direção --> DI 3 Sel. de referencia --> DI4	Controle de E/S hardware Hardware de referencia ou potenciômetro do motor	x	
Pot. Motor	CA	Estática	Estática	Sel. de direção --> DI 1 Pot. do motor para cima --> DI2 Pot.do motor para baixo --> DI3 Pot. Min. Motor --> DI4	Controle de E/S hardware Hardware de referencia ou potenciômetro do motor	x	
Controle de torque	CA	Estática	Estática	OFF2 (parada rampa) --> DI1 Sel. Torque --> DI2 Falha ext --> DI 3	Controle de E/S hardware Controle de velocidade ou referencia de torque	x	

Ativando uma macro

Utilize o [DCS800Wizard] 2. Macro assistant do DriveWindow Light ou

Navegador de Parâmetros, seja através do painel de controle DriveWindow, ou DriveWindow Light.

Utilize os seguintes parâmetros:

ApplMacro (99.08) =

Seleção Macro

AppIstore (99.07) =

Sim = executar seleção

MacroSel (8.10) =

dupla verificação

NOTA

As funções e insumos definidos pela macro podem ser alterados posteriormente sem restrições.

NOTA

Diagramas de macro consultar página 91 ...

Instruções de segurança e operação



para conversores DCS / DCF / DCR

(em conformidade com as diretivas de baixa-tensão 73/23/EEC)

1. Geral

Em operação, conversores CC, dependendo de seu grau de proteção, podem possuir partes vivas, não isoladas, e possivelmente partes móveis ou rotativas, assim como superfícies quentes.

Em caso de remoção inadmissível das capas necessárias, de uso inapropriado, instalação errada ou má operação, há perigo de sérios danos pessoais e à propriedade.

Para maiores informações, veja documentação.

Todas as operações referentes a transporte, instalação e comissionamento, assim como manutenção, devem ser executadas por pessoal técnico especializado (observe IEC364 ou CENELEC HD 384 ou DIN/VDE 0100 e IEC664 ou DIN/VDE 0110 e regras nacionais de prevenção de acidente).

Com o propósito dessas instruções básicas de segurança, “pessoal técnico especializado” significa pessoas que estão familiarizadas com a instalação, montagem, comissionamento e operação do produto e possuem as qualificações necessárias para desempenhar as suas funções.

2. Intenção de uso

Conversores CC são componentes projetados para inclusão em instalações elétricas ou maquinários.

No caso de instalação em maquinários, o comissionamento do conversor CC (ex.: a inicialização de operação normal) é proibida até que o maquinário tenha sido provado estar em conformidade com as provisões das diretivas 89/392/EEC (Diretivas de Segurança de Maquinários – MSD). Deve-se levar em conta a EN60204.

O comissionamento (ex.: a inicialização de operação normal) é admissível somente onde a conformidade com as diretivas de EMC (89/336/EEC) forem estabelecidas.

Os conversores CC atendem as exigências das diretivas de baixa-tensão 73/23/EEC. Elas estão sujeitas as normas harmonizadas das séries prEN50178/DIN VDE 0160 em conjunto com a EN 60439-1/VDE0660, parte 500, e EN 60146/VDE 0558.

Os dados técnicos assim como as informações referentes as condições de fornecimento devem ser obtidas da placa classificativa e da documentação e devem ser estritamente observadas.

3. Transporte e armazenamento

As instruções de transporte, armazenamento e uso adequado devem ser compiladas em conjunto.

As condições climáticas devem estar em conformidade com a prEN 50178.

4. Instalação

A instalação e resfriamento dos aparelhos devem estar em conformidade com as especificações pertinentes a esse documento.

O conversor CC deve ser protegido contra esforços excessivos. Em particular, nenhum componente deve ser dobrado ou suas distâncias de isolamento alteradas durante o transporte ou manuseio. Nenhum contato deve ser feito com os componentes eletrônicos e terminais.

Conversores CC possuem componentes eletrostáticos sensíveis que estão suscetíveis a danos devido ao uso incorreto. Componentes elétricos não devem ser danificados mecanicamente ou destruídos (risco em potencial a saúde).

5. Conexão elétrica

Quando trabalhando em conversores CC energizados, as regras nacionais de prevenção de acidentes (ex.: VBG4) devem ser respeitadas. A instalação elétrica deve ser feita de acordo com as exigências relevantes (ex.: seção transversal dos condutores, fusíveis, conexões de aterramento). Para informações adicionais, veja documentação.

6. Operação

Instalações que incluam conversores CC devem ser equipadas com dispositivos de controles adicionais e proteções de acordo com as exigências de segurança aplicáveis, ex.: ações técnicas do equipamento, regras de prevenção de acidentes, etc. Mudanças no conversor CC por meio de softwares de operações são aceitáveis.

Após a desconexão do conversor CC com a fonte de alimentação, partes vivas acessíveis e terminais de energia não devem ser imediatamente tocados devido a possíveis capacitores energizados. Nesse caso, os avisos e marcações correspondentes no conversor CC devem ser respeitados.

Durante operação, todas as tampas, capas e portas devem ser mantidas fechadas.

7. Manutenção e serviço

A documentação do fabricante deve ser seguida.

Mantenha as instruções de segurança em local seguro!

Instalando o DCS800 PC tools em seu computador

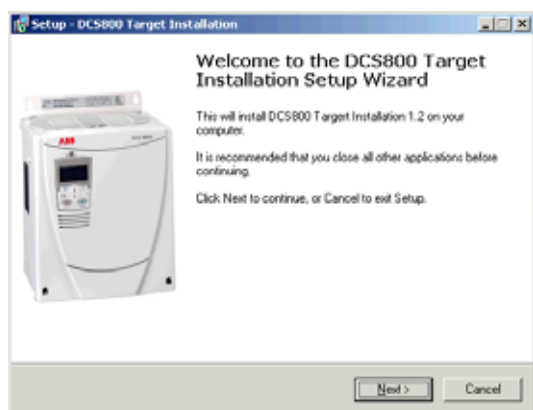
Após inserir o CD do DCS800, todos os programas e documentações necessárias para trabalhar com o DCS800 serão automaticamente instalados.

Isso inclui:

1. DriveWindow Light para parametrização, comissionamento e serviço
2. Hitachi FDT 2.2 para download de firmware
3. Instalação do DCS800 Drive para, por exemplo, assistente de DWL, documentação ABB
4. CoDeSys para programação de aplicação 61131

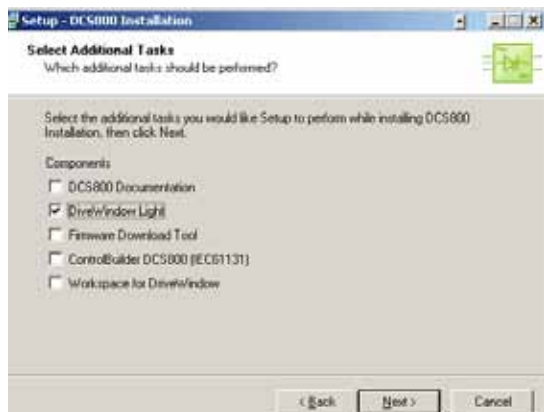
Atenção:

Se você não quiser instalar algum programa, apenas pule-o clicando no botão "Cancel" no começo do assistente do programa.



Se a rotina de instalação não iniciar automaticamente:

- Vá em Iniciar/Executar e busque por setup.exe no CD. Agora inicie a instalação, confirmando com OK
- A instalação compacta do DriveWindow Light + Commissioning Wizard + DriveWindow Light AP é recomendável.



Passos para conectar o Conversor ao PC

- A documentação pode ser encontrada em **C:\ABB\DCS800\Docu**
- Remova a capa do módulo do conversor

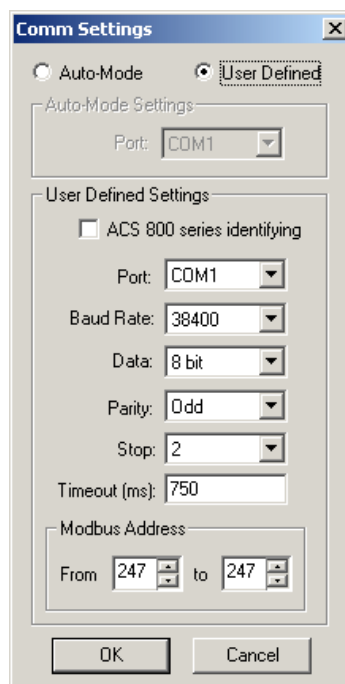


Remova o Painel de Controle do DCS800 caso presente. Destrave as travas para remover a capa

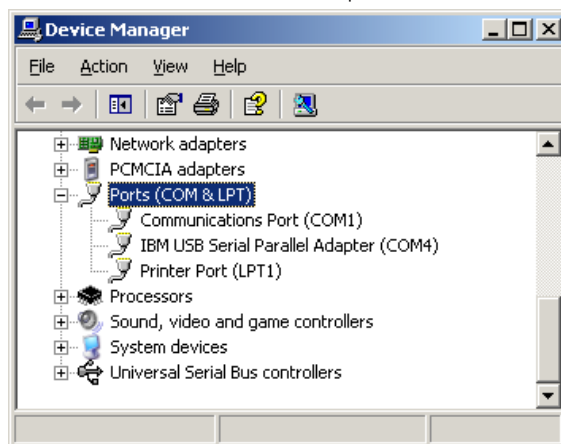


Conecte o conversor (X34) a porta COM do seu PC

- Inicie o DriveWindow Light PC tool
- Verifique as configurações de comunicação com sua porta COM



Se você usa uma interface de USB para porta COM ou adaptador PCMCIA/COM, verifique o COM ativo selecionado Iniciar => Configurações => Painel de Controle => Sistema => Hardware => Gerenciador de Dispositivo



- Endereço COM da interface USB pode mudar após o próximo processo de reinicialização ou após desconectar e reconectar a interface USB

Nota:

PCMCIA para porta COM fornece uma interface mais estável e rápida com o conversor.

Uso do DriveWindow Light ou Assistente do Painel do DCS800 continua com o capítulo Comissionamento nesse manual.

Para comissionamento pelo DriveWindow, encontre uma descrição do programa no manual do Firmware do DCS800

Comissionando



Perigo! Alta tensão: esse símbolo avisa sobre alta tensão que pode resultar em lesões a pessoas e/ou danos ao equipamento. Onde o apropriado texto presente adjacente a esse símbolo descreve como um risco desses pode ser evitado.



Aviso geral: esse símbolo avisa sobre riscos não elétricos e perigos que podem resultar em danos sérios ou até fatalidades a pessoas e/ou danos ao equipamento. Onde o apropriado texto presente adjacente a esse símbolo descreve como um risco desses pode ser evitado.



Aviso de descarga eletrostática: esse símbolo avisa você sobre descargas eletrostáticas que podem danificar a unidade. Onde o apropriado texto presente adjacente a esse símbolo descreve como um risco desses pode ser evitado.

NEC proteção de sobrecarga do motor

O DCS800 fornece uma proteção de sobrecarga do motor de estado-sólido em conformidade com a NEC. A proteção de sobrecarga (ex.: nível de proteção em porcentagem de corrente do motor em plena carga) pode ser ajustada por meio de parâmetros no grupo 31 e no grupo 99.

As instruções podem ser encontradas no capítulo Modelo térmico do motor no manual do Firmware do DCS800.

Instruções gerais

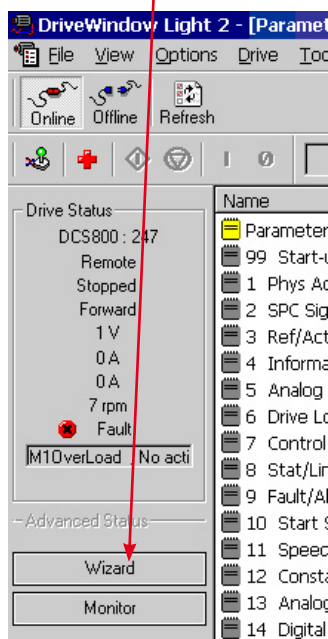
- Esse comissionamento rápido refere-se ao Capítulo 5 Conexões desse documento.
- Instruções de segurança e operação – veja capítulo 6 desse documento.
- Recomendações para tensões do motor e de campo veja Catálogo Técnico.
- Em conformidade com a DIN 57 100 Parte 727 / VDE 0100 Parte 727, precauções devem ser levadas em consideração para permitir o conversor a ser desligado, ex.: no caso de um perigo. As entradas digitais da unidade ou o painel de controle não são suficientes como únicas condições para esse propósito.

Preparação

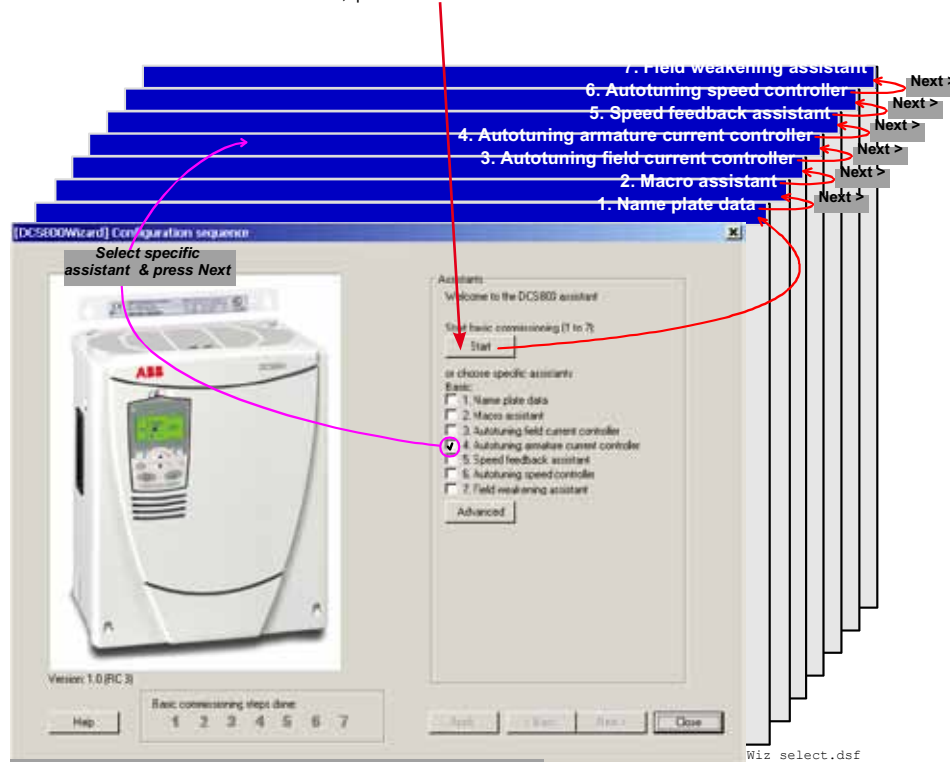
- Verifique se há qualquer dano na unidade!
- Instale a unidade e conecte-a
- Valores tensão nominal da fonte de alimentação para comando de partes eletrônicas e ventiladores estão corretos?
- Valores de tensão nominal da fonte de alimentação para circuito de armadura do conversor estão corretos?
- Valores de tensão nominal da fonte de alimentação para fornecimento em campo estão corretos?
- Cabeamento / bitolas, etc. estão corretos?
- BOTÃO DE EMERGÊNCIA funcionando perfeitamente?
- PARADA POR INÉRCIA funcionando perfeitamente?

Comissionando por DriveWindow Light

Inicie o assistente do DriveWindow Light:



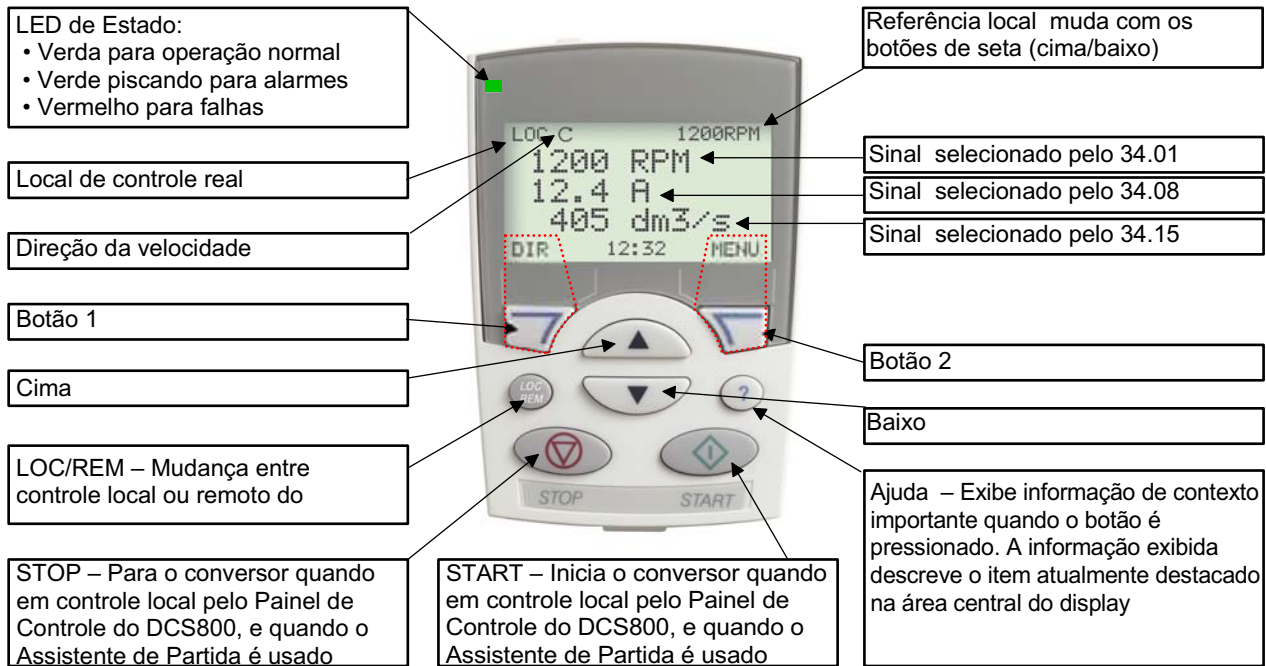
Para comissionamento básico, pressione o botão Start ou selecione um assistente específico:



Para mais informações sobre o assistente, falhas de parametrização e alarmes, pressione o botão *Help*!

Painel de Controle do DCS800

A tabela a seguir resume as funções dos botões e display do Painel de Controle do DCS800 (DCS CP)



BE_PAN_001_a.dsf

Com USISel (16.09), é possível limitar a quantidade de parâmetros exibidos!

Características gerais exibidas

Os modos a seguir estão disponíveis no MENU PRINCIPAL:

1. Modos de parâmetros
2. Modo de assistência de partida
 - a. Dados da placa do motor
 - b. Assistente de Macro
 - c. Auto-ajustes do controlador de corrente de campo
 - d. Auto-ajustes do controlador de corrente de armadura
 - e. Assistente de feedback de velocidade (ajuste fino do taco não disponível)
 - f. Auto-ajustes do controlador de velocidade
 - g. Assistente de enfraquecimento de campo (usado somente quando velocidade máxima é maior que velocidade base)
3. Modo macros (atualmente não usado)
4. Modo parâmetros modificados (compara com padrão e exibe parâmetros modificados)
5. Modo registro de falhas (exibe histórico de falhas)
6. Modo ajuste de relógio
7. Modo back-up de parâmetros
 - Copia os parâmetros ativos definidos do conversor para o Painel de Controle do DCS800 (somente em modo local)
 - Copia os parâmetros do Painel de Controle do DCS800 para o conversor (somente em modo local)
8. Modo configuração de E/S (atualmente não usado)

Parâmetros entrados pelo assistente

99.02	Tensão nominal Motor 1
99.03	Corrente nominal Motor 1
99.04	Velocidade base Motor 1
20.01	Velocidade mínima Motor 1
20.02	Velocidade máxima Motor 1
99.11	Corrente nominal de campo Motor 1
30.09	Nível de corrente da armadura
30.16	Sobrevelocidade Motor 1
99.10	Tensão nominal de alimentação
99.12	Tipo fex usado Motor 1
20.05	Torque máximo
20.06	Torque mínimo
20.12	Ponte 1 limitadora de corrente Motor 1
20.13	Ponte 2 limitadora de corrente Motor 1
50.04	Número de pulsos do encoder Motor 1, caso usado
50.02	Modo de medida do encoder Motor 1, caso usado
50.13	Tensão do taco Motor 1, somente DWL
50.12	Adapt. taco Motor 1, somente DWL
20.03	Limite velocidade zero
22.01	Tempo de aceleração 1
22.02	Tempo de desaceleração 1
30.12	Disparo mínimo de campo Motor 1
44.01	Modo de controle de campo

Dimensions, drilling patterns and weights – Abmessungen, Bohrbild und Gewichte – Mått, vikt och borring mönster – Dimensões, padrões de perfuração e pesos

Module D1

DCS800-S01-0020
DCS800-S01-0045
DCS800-S01-0065
DCS800-S01-0090
DCS800-S01-0125

DCS800-S02-0025
DCS800-S02-0050
DCS800-S02-0075
DCS800-S02-0100
DCS800-S02-0140

Module D2

DCS800-S01-0180
DCS800-S01-0230

DCS800-S02-0200
DCS800-S02-0260

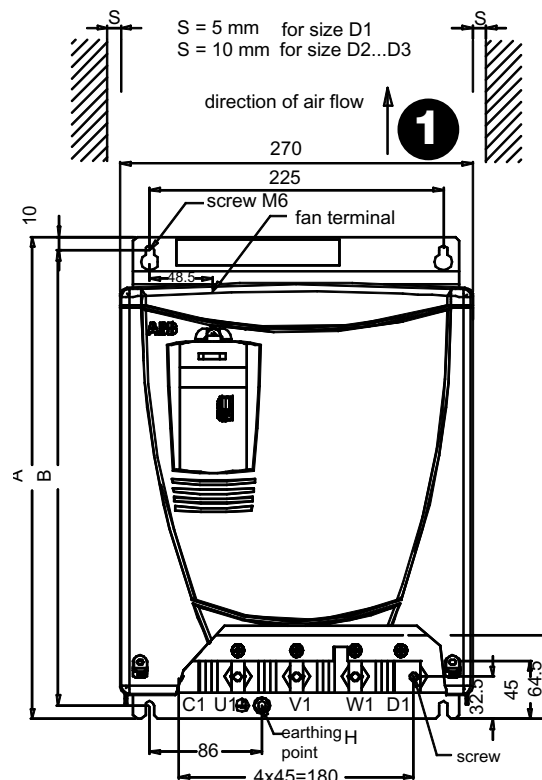
Module D3

DCS800-S01-0315
DCS800-S01-0405
DCS800-S01-0470

DCS800-S02-0350
DCS800-S02-0450
DCS800-S02-0520

600 V types

DCS800-S01-0290
DCS800-S02-0320

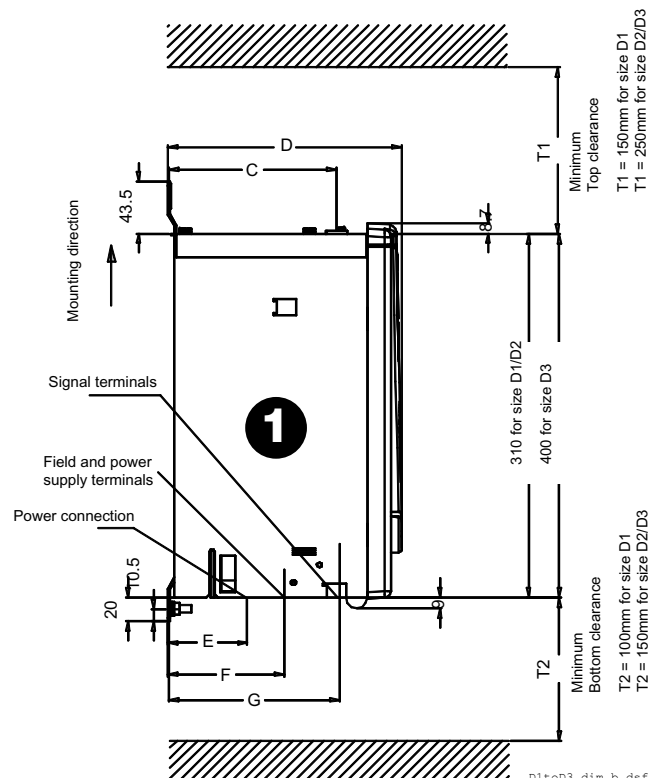


Dimensions in mm
Maße in mm
Mått i mm
Dimensões em mm



Air direction
Luftrichtung
Luftriktning
Direção do Ar

Size	A	B	C	D	E	F	G	H	Weight
D1	370	350	142	200	67	98	145	M6	ca. 11kg
D2	370	350	209	267	121,5	163,5	212	M10	ca. 16kg
D3	459	437,5	262,5	310	147,5	205	252	M10	ca. 25kg



Module D4

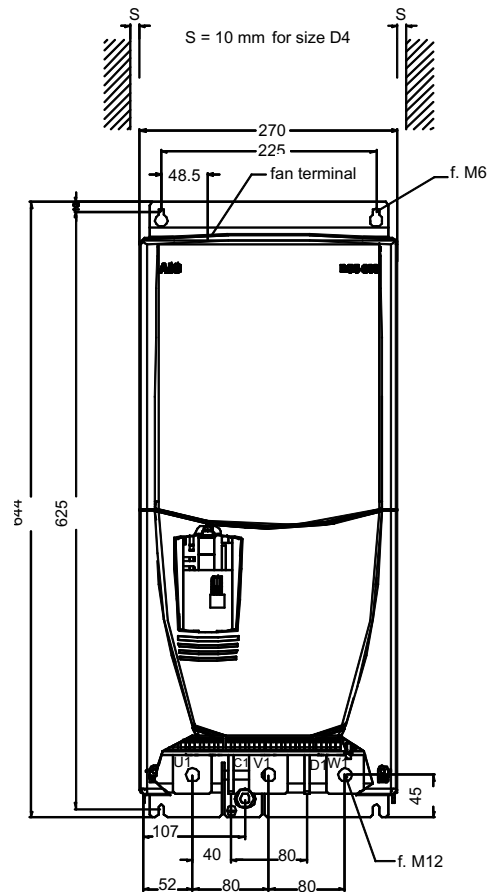
DCS800-S01-0610
 DCS800-S01-0740
 DCS800-S01-0900

DCS800-S02-0680
 DCS800-S02-0820
 DCS800-S02-1000

600 V types

DCS800-S01-0590
 DCS800-S02-0650

Weight appr. 38 kg



Power terminal: Busbar 40x5 mm
 Weight appr. 38 kg



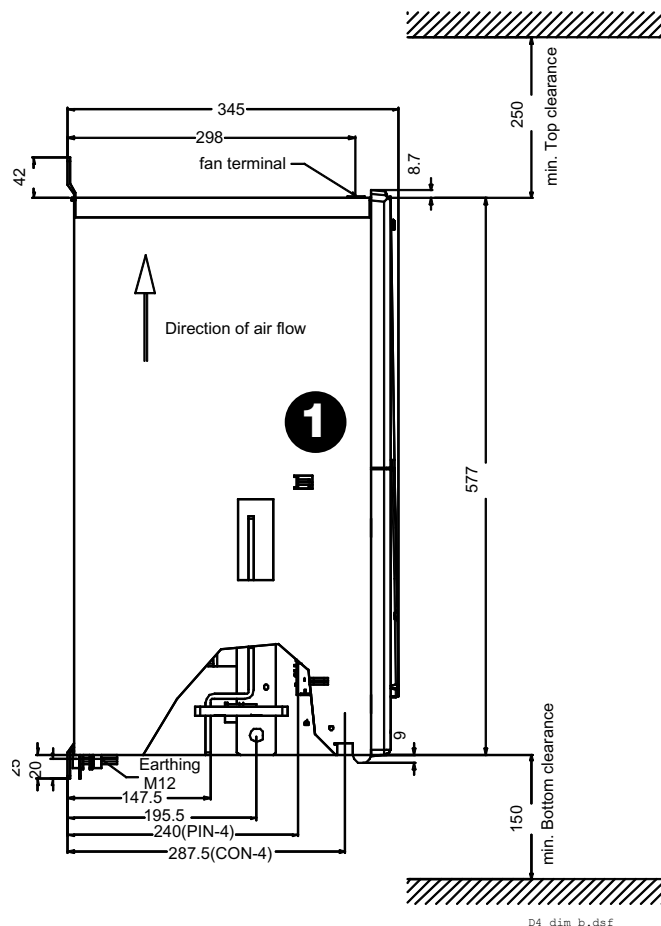
Air direction
 Luftrichtung
 Luftriktning
 Direção do Ar

Data converters with more than 1000 A (D5), see hardware manual

Daten für Stromrichter mit mehr als 1000 A (D5), siehe Hardware-Handbuch

Data för strömriktare med mer än 1000 A (D5) se Hardwaremanual

Dados para conversores com mais de 1000 A (D5) consultar manual de Hardware



D4_dim_b.dsf

Fault list – Fehlerliste – Fellaista – Falhas

LED	Fault	Word	Text on DCS800 Panel, DriveWindow Light and DriveWindow Definition EN	Text in DCS800 Panel, DriveWindow Light und DriveWindow Beschreibung DE	Text p DCS800-man verpanel, DriveWindow Light och DriveWindow Definition SW	Texto no painel DCS800, DriveWindow Light e DriveWindow Definição PT
F501	9.01	Bit 0	AuxUnderVolt Auxiliary undervoltage, terminal X99 on SDCS-PIN-4 and SDCS-POW-4	AuxUnderVolt Hilfs-Unterspannung, Klemme X99 auf SDCS-PIN-4 und SDCS-POW-4	AuxUnderVolt Hjälpmatning, underspänning, plint X99 på SDCS-PIN-4 och SDCS- POW-4	AuxUnderVolt Subtensão auxiliar, terminal X99 em SDCS-PIN-4 e SDCS-POW-4
F502	9.01	Bit 1	ArmOverCur Armature overcurrent, ArmOvrCurLev (30.09)	ArmOverCur Überstrom Anker, ArmOvrCurLev (30.09)	ArmOverCur Rotoröverström, ArmOvrCurLev (30.09)	ArmOverCur Sobrecorrente de armadura, ArmOvrCurLev (30.09)
F503	9.01	Bit 2	ArmOverVolt Armature overvoltage (DC), ArmOvrVoltLev (30.08)	ArmOverVolt Überspannung Gleichstromkreis (DC), ArmOvrVoltLev (30.08)	ArmOverVolt Rotoröverspänning (DC), ArmOvrVoltLev (30.08)	ArmOverVolt Sobrecorrente de armadura (CC), ArmOvrVoltLev (30.08)
F504	9.01	Bit 3	ConvOverTemp Converter overtemperature, MaxBridgeTemp (4.17)	ConvOverTemp Übertemperatur Stromrichter, MaxBridgeTemp (4.17)	ConvOverTemp Strömrätkare övertemperatur, MaxBridgeTemp (4.17)	ConvOverTemp Conversor de sobretemperatura, MaxBridgeTemp (4.17)
F505	9.01	Bit 4	ResCurDetect Residual current detection (Σ I differs from zero), ResCurDetectSel (30.05)	ResCurDetect Summenstromüberwachung (Σ I ungleich Null), ResCurDetectSel (30.05)	ResCurDetect Restströmdetektor (Σ I skild från noll), ResCurDetectSel (30.05)	ResCurDetect Detecção de corrente residual (Σ I difere de zero), ResCurDetectSel (30.05)
F506	9.01	Bit 5	M1OverTemp Motor 1 measured overtemperature, M1FaultLimTemp (31.07)	M1OverTemp Motor 1 gemessene Übertemperatur, M1FaultLimTemp (31.07)	M1OverTemp Motor 1 uppmätt övertemperatur, M1FaultLimTemp (31.07)	M1OverTemp Motor 1 sobretemperatura medida, M1FaultLimTemp (31.07)
F507	9.01	Bit 6	M1OverLoad Motor 1 calculated overload, M1FaultLimLoad (31.04)	M1OverLoad Motor 1 berechnete Überlast, M1FaultLimLoad (31.04)	M1OverLoad Motor 1 beräknad överlast, M1FaultLimLoad (31.04)	M1OverLoad Motor 1 sobrecarga calculada, M1FaultLimLoad (31.04)
F508	9.01	Bit 7	I/OBoardLoss I/O board not found or faulty, see groups 94 and 98	I/OBoardLoss E/A-Karte nicht gefunden oder fehlerhaft, s. Gruppe 94 und 98	I/OBoardLoss I/O-kort ej hittat eller defekt, se grupperna 94 och 98	I/OBoardLoss Painel E/S não encontrado ou defeituoso, see groups 94 and 98
F509	9.01	Bit 8	M2OverTemp Motor 2 measured overtemperature, M2FaultLimTemp (49.37)	M2OverTemp Motor 2 gemessene Übertemperatur, M2FaultLimTemp (49.37)	M2OverTemp Motor 2 uppmätt övertemperatur, M2FaultLimTemp (49.37)	M2OverTemp Motor 2 sobretemperatura medida, M2FaultLimTemp (49.37)
F510	9.01	Bit 9	M2OverLoad Motor 2 calculated overload, M2FaultLimLoad (49.34)	M2OverLoad Motor 2 berechnete Überlast, M2FaultLimLoad (49.34)	M2OverLoad Motor 2 beräknad övertemperatur, M2FaultLimLoad (49.34)	M2OverLoad Motor 2 sobrecarga calculada, M2FaultLimLoad (49.34)
F511	9.01	Bit 10	ConvFanCur Current converter fan not within limits, ConvTempDly (97.05)	ConvFanCur Geräteleüfterstrom nicht innerhalb der Grenzen, ConvTempDly (97.05)	ConvFanCur Strömmen till strömrätkarfläkten ej inom angivna gränser, ConvTempDly (97.05)	ConvFanCur Corrente do ventilador do conversor fora dos limites, ConvTempDly (97.05)
F512	9.01	Bit 11	MainsLowVolt Mains low (under-) voltage (AC), UmetMin1 (30.22)	MainsLowVolt Netz-Unterspannung (AC), UmetMin1 (30.22)	MainsLowVolt Underspanning i AC-matningsnät, UmetMin1 (30.22)	MainsLowVolt Rede baixa(sub-) tensão (CA), UmetMin1 (30.22)
F513	9.01	Bit 12	MainsOverVolt Mains overvoltage (AC), > 1.3 * NormMainsVolt (99.10)	MainsOverVolt Netz-Überspannung (AC), > 1.3 * NormMainsVolt (99.10)	MainsOverVolt Överspanning i AC-matningsnät, > 1.3 * NormMainsVolt (99.10)	MainsOverVolt Sobretensão da rede (CA), > 1.3 * NormMainsVolt (99.10)

LED	Fault	Word	Text on DCS800 Panel, DriveWindow Light and DriveWindow Definition EN	Text in DCS800 Panel, DriveWindow Light und DriveWindow Beschreibung DE	Text p DCS800-panel verpanel, DriveWindow Light och DriveWindow Definition SW	Texto no painel DCS800, DriveWindow Light e DriveWindow Definição PT
F514	9.01	Bit 13	MainsNotSync Mains not in synchronism (AC), DevLimPLL (97.13)	MainsNotSync Netz nicht synchronisiert (AC), DevLimPLL (97.13)	MainsNotSync AC-matningsnät ej synkroniserat, DevLimPLL (97.13)	MainsNotSync Rede sem sincronismo (CA), DevLimPLL (97.13)
F515	9.01	Bit 14	M1FexOverCur Motor 1 Field exciter overcurrent, M1FldOvrCurLev (30.13)	M1FexOverCur Motor 1 Überstrom Feldversorgung, M1FldOvrCurLev (30.13)	M1FexOverCur Motor 1 fältmagnetiseringsenhet överström, M1FldOvrCurLev (30.13)	M1FexOverCur Motor 1 sobrecorrente do excitador de campo, M1FldOvrCurLev (30.13)
F516	9.01	Bit 15	M1FexCom Motor 1 field exciter communication loss, FexTimeOut (94.07)	M1FexCom Motor 1 Kommunikationsverlust Feldversorgung, FexTimeOut (94.07)	M1FexCom Motor 1 fältmagnetiseringsenhet kommunikationsbortfall, FexTimeOut (94.07)	M1FexCom Motor 1 perda de comunicação do excitador de campo FexTimeOut (94.07)
F517	9.02	Bit 0	ArmCurRipple Armature current ripple, CurRippleSel (30.18)	ArmCurRipple Welligkeit Ankerstrom, CurRippleSel (30.18)	ArmCurRipple Rotorströmrivell, CurRippleSel (30.18)	ArmCurRipple Ondulação de corrente de armadura, CurRippleSel (30.18)
F518	9.02	Bit 1	M2FexOverCur Motor 2 field exciter overcurrent, M2FldOvrCurLev (49.09)	M2FexOverCur Motor 2 Überstrom Feldversorgung, M2FldOvrCurLev (49.09)	M2FexOverCur Motor 2 fältmagnetiseringsenhet överström, M2FldOvrCurLev (49.09)	M2FexOverCur Motor 2 sobrecorrente do excitador de campo, M2FldOvrCurLev (49.09)
F519	9.02	Bit 2	M2FexCom Motor 2 field exciter communication loss, FexTimeOut (94.07)	M2FexCom Motor 2 Kommunikationsverlust Feldversorgung, FexTimeOut (94.07)	M2FexCom Motor 2 fältmagnetiseringsenhet kommunikationsbortfall, FexTimeOut (94.07)	M2FexCom Motor 2 perda de comunicação do excitador de campo, FexTimeOut (94.07)
F521	9.02	Bit 4	FieldAck Selected motor, field acknowledge missing, Mot1FexStatus (6.12)	FieldAck Ausgewählter Motor, Rückmeldung Feldversorgung fehlt, Mot1FexStatus (6.12)	FieldAck Vald motor, fältkvtivering saknad, Mot1FexStatus (6.12)	FieldAck Motor selecionado, reconhecer falta de campo, Mot1FexStatus (6.12)
F522	9.02	Bit 5	SpeedFb Speed feedback, M1SpeedFbSel (50.03)	SpeedFb Drehzahlrückmeldung, M1SpeedFbSel (50.03)	SpeedFb Vald motor, varvtalsåterkoppling, M1SpeedFbSel (50.03)	SpeedFb Motor selecionado feedback da velocidade, M1SpeedFbSel (50.03)
F523	9.02	Bit 6	ExtFanAck External fan acknowledge missing, MotFanAck (10.06)	ExtFanAck Rückmeldung externer Lüfter fehlt, MotFanAck (10.06)	ExtFanAck Kvtivering för extern fläkt saknas, MotFanAck (10.06)	ExtFanAck Reconhecer falta de ventilador externo, MotFanAck (10.06)
F524	9.02	Bit 7	MainContAck Main contactor acknowledge missing, MainContAck (10.21)	MainContAck Rückmeldung Hauptschütz fehlt, MainContAck (10.21)	MainContAck Huvudkontaktorkvtivering saknas, MainContAck (10.21)	MainContAck Reconhecer falta de contator principal, MainContAck (10.21)
F525	9.02	Bit 8	TypeCode Type code mismatch, TypeCode (97.01)	TypeCode Fehlpassung Stromrichtertyp, TypeCode (97.01)	TypeCode Typkod överensstämmer ej, TypeCode (97.01)	TypeCode Incompatibilidade do tipo de código, TypeCode (97.01)
F526	9.02	Bit 9	ExternalDI External fault via binary input, ExtFaultSel (30.31)	ExternalDI Externer Fehler an binärem Eingang, ExtFaultSel (30.31)	ExternalDI Extern fel via digital ingång, ExtFaultSel (30.31)	ExternalDI Falha externa através da entrada binária, ExtFaultSel (30.31)

LED	Fault	Word	Text on DCS800 Panel, DriveWindow Light and DriveWindow Definition EN	Text in DCS800 Panel, DriveWindow Light und DriveWindow Beschreibung DE	Text p DCS800-man verpanel, DriveWindow Light och DriveWindow Definition SW	Texto no Painel DCS800, DriveWindow Light e DriveWindow Definition PT
F527	9.02	Bit 10	Converter Fan acknowledge missing, ConvFanAck (10.20)	Rückmeldung Stromrichterlüfter fehlt, ConvFanAck (10.20)	ConvFanAck Kvittering från strömriktarfläkt saknas, ConvFanAck (10.20)	ConvFanAck Reconhecer falta de ventilador do conversor, ConvFanAck (10.20)
F528	9.02	Bit 11	Fieldbus communication loss, ComLossCtrl (30.28), TimeOut (30.35)	Kommunikationsfehler Feldbus, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Bortfall av fältbusskommunikation, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Perda de comunicação fieldbus, ComLossCtrl (30.28), TimeOut (30.35)
F529	9.02	Bit 12	M1FexNotOK Motor 1 field exciter not okay, hardware failure fieldexciter	M1FexNotOK Motor 1 Feldversorgung nicht OK, Hardwarefehler Feldversorgung	M1FexNotOK Motor 1 fältmagnetiseringsenhet ej OK, maskinvarufel fältmagnetiseringsenhet	M1FexNotOK Motor 1, excitador de campo não ok, hardware failure fieldexciter
F530	9.02	Bit 13	M2FexNotOK Motor 2 field exciter not okay, hardware failure fieldexciter	M2FexNotOK Motor 2 Feldversorgung nicht OK, Hardwarefehler Feldversorgung	M2FexNotOK Motor 2 fältmagnetiseringsenhet ej OK, maskinvarufel fältmagnetiseringsenhet	M2FexNotOK Motor 2 fexcitador de campo não ok, hardware failure fieldexciter
F531	9.02	Bit 14	Motor stalled Motor stalled, StallTime (30.01)	Motor stalled Motor blockiert, StallTime (30.01)	MotorStalled Motor fastlåst, StallTime (30.01)	MotorStalled Motor enguçado, StallTime (30.01)
F532	9.02	Bit 15	Motor overspeed, M1OvrSpeed (30.16)	Motor overspeed, M1OvrSpeed (30.16)	MotorOvrSpeed Motor övervarvtal, M1OvrSpeed (30.16)	MotorOvrSpeed Excesso de velocidade do motor, M1OvrSpeed (30.16)
F533	9.03	Bit 0	Reversal time is elapsed, ZeroCurTimeOut (97.19), RevDly (43.14)	Zeit Stromrichtungswechsel abgelaufen, ZeroCurTimeOut (97.19), RevDly (43.14)	MotorOvrSpeed Strömreverseringstiden har gått ut, ZeroCurTimeOut (97.19), RevDly (43.14)	MotorOvrSpeed Tempo de reversão expirado, ZeroCurTimeOut (97.19), RevDly (43.14)
F534	9.03	Bit 1	12PCurDiff 12-pulse current difference, DiffCurLim (47.02)	12PCurDiff 12-pulse Stromistwertabweichung, DiffCurLim (47.02)	12PCurDiff 12-pulse strömskillnad, DiffCurLim (47.02)	12PCurDiff Diferença de corrente 12-pulso, DiffCurLim (47.02)
F535	9.03	Bit 2	12PCom 12-pulse communication, 12P TimeOut (94.03)	12PCom 12-pulse Kommunikation, 12P TimeOut (94.03)	12PCom 12-pulse kommunikation, 12P TimeOut (94.03)	12PCom Comunicação 12-pulso, 12P TimeOut (94.03)
F536	9.03	Bit 3	12PSlaveFail 12-pulse slave failure. 12-pulse master is tripped by a fault of the 12-pulse slave	12PSlaveFail Fehler 12-Puls Slave. 12-Puls Master wurde wegen Fehler im 12-Puls Slave abgeschaltet	12PSlaveFail 12-puls slavfel. 12-puls master har lösts ut av ett fel hos 12-puls slav	12PSlaveFail Falha de escravo 12-pulso, o mestre 12-pulso é disparado por uma falha do escravo 12-pulso
F537	9.03	Bit 4	M1FexRdyLost Motor 1 field exciter lost ready-for-operation	M1FexRdyLost Motor 1 Feldversorgung hat die Betriebsbereitschaft verloren	M1FexRdyLost Motor 1 fältmagnetiseringsenhet förlust klar-för-drift	M1FexRdyLost Motor 1 excitador de campo perdeu pronto-para-operar
F538	9.03	Bit 5	M2FexRdyLost Motor 2 field exciter lost ready-for-operation	M2FexRdyLost Motor 2 Feldversorgung hat die Betriebsbereitschaft verloren	M2FexRdyLost Motor 2 fältmagnetiseringsenhet förlust klar-för-drift	M2FexRdyLost Motor 2 excitador de campo perdeu pronto-para-operar
F539	9.03	Bit 6	FastCurRise Actual armature current rises faster than allowed, ArmCurRiseMax (30.10)	FastCurRise Ankerstromwert steigt schneller als erlaubt, ArmCurRiseMax (30.10)	FastCurRise Faktisk rotorström ökar snabbare än tillåtet, ArmCurRiseMax (30.10)	FastCurRise A corrente de armadura real se eleva mais rápido do que permitido, ArmCurRiseMax (30.10)

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F540	9.03	Bit 7	COM8Faulty SDCS-COM-8 faulty or not found, SysComBoard (98.16)	COM8Faulty SDCS-COM-8 fehlerhaft oder nicht gefunden, SysComBoard (98.16)	COM8Faulty SDCS-COM-8 defekt eller hittas ej, SysComBoard (98.16)	COM8Faulty SDCS-COM-8 defeituoso ou não encontrado, SysComBoard (98.16)
F541	9.03	Bit 8	M1FlexLowCur Motor 1 field exciter low current, M1FldMinTrip (30.12)	M1FlexLowCur Motor 1 Unterstrom Feldversorgung, M1FldMinTrip (30.12)	M1FlexLowCur Motor 1 fältmagnetiseringsenhet låg ström, M1FldMinTrip (30.12)	M1FlexLowCur Motor 1 baixa corrente do excitador de campo, M1FldMin Trip (30.12)
F542	9.03	Bit 9	M2FlexLowCur Motor 2 field exciter low current, M2FldMinTrip (49.08)	M2FlexLowCur Motor 2 Unterstrom Feldversorgung, M2FldMinTrip (49.08)	M2FlexLowCur Motor 2 fältmagnetiseringsenhet låg ström, M2FldMinTrip (49.08)	M2FlexLowCur Motor 2 baixa corrente do excitador de campo, M2FldMin Trip (49.08)
F543	9.03	Bit 10	COM8Com Communication between SDCS-COM-8 and overriding control respectively master-follower link, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COM8Com Kommunikation zwischen SDCS-COM-8 und übergeordneter Steuerung bzw. Master-Follower Verbindung, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COM8Com Kommunikation mellan SDCS-COM-8 och överordnad styrenhet respektive ledare-följare-länk, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COM8Com Comunicação entre SDCS-Com-8 e sobreposição de controle respectivamente link mestre-seguidor, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)
F544	9.03	Bit 11	P2PAndHFCom Peer to peer respectively master-follower link communication, ComLossCtrl (30.28)	P2PAndHFCom Kommunikation Peer to Peer bzw. Master - Follower Verbindung, ComLossCtrl (30.28)	P2PAndHFCom Peer to peer respektive ledare-följare-länkkommunikation, ComLossCtrl (30.28)	P2PAndHFCom Ponto a ponto respectivamente mestre-seguidor link de comunicação, ComLossCtrl (30.28)
F545	9.03	Bit 12	APPLoadFail Application load failure (ControlBuilder), Diagnosis (9.11)	APPLoadFail Fehler beim Laden der Applikation (ControlBuilder), Diagnosis (9.11)	APPLoadFail Fel vid laddning av applikationsprogram (ControlBuilder), Diagnosis (9.11)	APPLoadFail Falha de carregamento da aplicação (ControlBuilder), Diagnosis (9.11)
F546	9.03	Bit 13	LocalCmdLoss Communication fault with panel (X33), DriveWindow (CH3) or DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Kommunikationsfehler mit Panel (X33), DriveWindow (CH3) oder DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Kommunikationsfel med panel (X33), DriveWindow (CH3) eller DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Falha de comunicação com o painel (X33), DriveWindow (CH3) or DriveWindow Light (X34), LocalLossCtrl (30.27)
F547	9.03	Bit 14	HwFailure Hardware failure, Diagnosis (9.11)	HwFailure Hardwarefehler, Diagnosis (9.11)	HwFailure Hårdvarufel, Diagnosis (9.11)	HwFailure Falha do hardware, Diagnosis (9.11)
F548	9.03	Bit 15	FwFailure Firmware failure, Diagnosis (9.11)	FwFailure Firmwarerfehler, Diagnosis (9.11)	FwFailure Systemprogramvarufel, Diagnosis (9.11)	FwFailure Falha de firmware, Diagnosis (9.11)
F549	9.04	Bit 0	ParComp Parameter Compatibility, Diagnosis (9.11)	ParComp Parameter Kompatibilität, Diagnosis (9.11)	ParComp Parameterkompatibilitet, Diagnosis (9.11)	ParComp Compatibilidade de parâmetro, Diagnosis (9.11)
F550	9.04	Bit 1	ParMemRead Parameter Memory Card read	ParMemRead Lesen Parameter Memory Card	ParMemRead Parameterminneskort, läsning	ParMemRead Ler parâmetro do cartão de memóriad

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F551	9.04	Bit 2	AIRange Analog input range, AI Mon4mA (30.29)	AIRange Unterschreitung Analogeingangsbereich, AI Mon4mA (30.29)	AIRange Analog ingång mätområde AI Mon4mA (30.29)	AIRange Faixa de entrada analógica, AI Mon4mA (30.29)
F552	9.04	Bit 3	MechBrake Selected motor, mechanical brake, BrakeFaultFunc (42.06)	MechBrake Ausgewählter Motor, mechanische Bremsen, BrakeFaultFunc (42.06)	MechBrake Vald motor, mekanisk broms, BrakeFaultFunc (42.06)	MechBrake Motor selecionado, freio mecânico, BrakeFaultFunc (42.06)
F553	9.04	Bit 4	TachPolarity Selected motor, tacho polarity, polarity of analog tacho signal incorrect	TachPolarity Ausgewählter Motor, Tachopolarität, analoger Tacho verpolt	TachPolarity Vald motor, takometerpolaritet, polaritet för analog varvtalsgivarsignal felaktig	TachPolarity Motor selecionado, polaridade tacométrica, polaridade do sinal analógico tacométrico incorreto
F554	9.04	Bit 5	TachoRange Selected motor, tacho range, terminals X3:1 to X3:4 on SDCS- CON-4	TachoRange Ausgewählter Motor, Überschreitung Tachobereich, Klemmen X3:1 bis X3:4 auf SDCS- CON-4	TachoRange Vald motor,takometer mätområde, plintar X3:1 till X3:4 på SDCS-CON-4	TachoRange Motor selecionado, faixa tacométrica, terminais X3: 1 a X3: 4 em SDCS- CON-4
F556	9.04	Bit 7	TorqProvIngr Selected motor, torque proving, acknowledge signal is missing	TachoRange Ausgewählter Motor, Drehmomentprüfung, Rückmeldesignal fehlt	TachoRange Vald motor, momentverifiering, kvitteringssignal saknas	TorqProvIngr Motor selecionado, comprovação de torque, sinal de reconhecimento está ausente

LED	Alarm	Word	Text on DC550 Panel,	DriveWindow Light and DriveWindow Definition EN	Text in DC550 Panel,	DriveWindow Light and DriveWindow Beschreibung DE	Text P DC5800-man verPanel,	DriveWindow Light and DriveWindow Definition SW	Text on DC550 Panel,	DriveWindow Light and DriveWindow Definition PT
A113	9.06	Bit 12	COMBCom Communication between SDCS-COM-8 and overriding control respectively master-follower link, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COMBCom Kommunikation zwischen SDCS-COM-8 und übergeordneter Steuerung bzw. Master-Follower Verbindung, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COMBCom Kommunikation zwischen SDCS-COM-8 och överordnad styrenhet respektive ledare-följare-länk Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COMBCom Kommunikation mellan SDCS-COM-8 och överordnad styrenhet respektive ledare-följare-länk Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COMBCom Comunicação entre SDCS-Com-8 e sobreposição de controle respectivamente link mestre-seguidor, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COMBCom Comunicação entre SDCS-Com-8 e sobreposição de controle respectivamente link mestre-seguidor, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	COMBCom Comunicação entre SDCS-Com-8 e sobreposição de controle respectivamente link mestre-seguidor, Ch0ComLossCtrl (70.05), Ch2ComLossCtrl (70.15)	
A114	9.06	Bit 13	ArmCurDev Armature current deviation, MotCur (1.06), CurRefUsed (3.12)	ArmCurDev Ankerstrom-Abweichung, MotCur (1.06), CurRefUsed (3.12)	ArmCurDev Rotorströmvvikelse, MotCur (1.06), CurRefUsed (3.12)	ArmCurDev Rotorströmvvikelse, MotCur (1.06), CurRefUsed (3.12)	ArmCurDev Rotorströmvvikelse, MotCur (1.06), CurRefUsed (3.12)	ArmCurDev Rotorströmvvikelse, MotCur (1.06), CurRefUsed (3.12)	ArmCurDev Armature current deviation, MotCur (1.06), CurRefUsed (3.12)	
A115	9.06	Bit 14	TachoRange Selected motor, tacho range, terminals X3:1 to X3:4 on SDCS-CON-4	TachoRange Ausgewählter Motor, Überschreitung Tachobereich, Klemmen X3:1 bis X3:4 on SDCS-CON-4	TachoRange Vald motor takometer mätområde, plintar X3:1 till X3:4 på SDCS-CON-4	TachoRange Vald motor takometer mätområde, plintar X3:1 till X3:4 på SDCS-CON-4	TachoRange Motor selecionado, faixa tacométrica, terminais X3:1 a X3:4 em SDCS-CON-4	TachoRange Motor selecionado, faixa tacométrica, terminais X3:1 a X3:4 em SDCS-CON-4		
A116	9.06	Bit 15	BrakeLongFalling Selected motor, mechanical brake, acknowledge signal is missing	BrakeLongFalling Ausgewählter Motor, mechanische Bremse, Rückmeldesignal fehlt	BrakeLongFalling Vald motor, mekanisk broms, kvitteringssignal saknas	BrakeLongFalling Vald motor, mekanisk broms, kvitteringssignal saknas	BrakeLongFalling Motor selecionado, freio mecânico, sinal de reconhecimento ausente	BrakeLongFalling Motor selecionado, freio mecânico, sinal de reconhecimento ausente		
A117	9.07	Bit 0	ArmCurRipple Armature current ripple One or several thyristors may carry no current, CurRippleSel (30.18)	ArmCurRipple Welligkeit Ankerstrom Ein oder mehrere Thyristor(en) führen wahrscheinlich keinen Strom, CurRippleSel (30.18)	ArmCurRipple Rotorströmrippel En eller flera tyristorer leder ej ström, CurRippleSel (30.18)	ArmCurRipple Rotorströmrippel En eller flera tyristorer leder ej ström, CurRippleSel (30.18)	ArmCurRipple Ondulação de corrente de armadura Um ou vários tiristores pode não levar corrente, CurRippleSel (30.18)	ArmCurRipple Ondulação de corrente de armadura Um ou vários tiristores pode não levar corrente, CurRippleSel (30.18)		
A118	9.07	Bit 1	FoundNewApp1 Found new application on Memory Card ParSave (16.06)	FoundNewApp1 Neue Applikation auf der Memory Card gefunden ParSave (16.06)	FoundNewApp1 Hittade ny tillämpning på minneskort ParSave (16.06)	FoundNewApp1 Hittade ny tillämpning på minneskort ParSave (16.06)	FoundNewApp1 Nova aplicação encontrada no cartão de memória ParSave (16.06)	FoundNewApp1 Nova aplicação encontrada no cartão de memória ParSave (16.06)		
A119	9.07	Bit 2	AppIDiff Application on drive and Memory Card are different ParSave (16.06)	AppIDiff Applikationen auf Antrieb und Memory Card sind unterschiedlich ParSave (16.06)	AppIDiff Tillämpning i strömriktare och på minneskort är olika ParSave (16.06)	AppIDiff Tillämpning i strömriktare och på minneskort är olika ParSave (16.06)	AppIDiff Aplicação no conversor e no cartão de memória é diferente ParSave (16.06)	AppIDiff Aplicação no conversor e no cartão de memória é diferente ParSave (16.06)		
A120	9.07	Bit 3	OverVoltProt Overvoltage protection active OvrVoltProt (10.13)	OverVoltProt Überspannungsschutz aktiv OvrVoltProt (10.13)	OverVoltProt Överspänningsskydd aktiv OvrVoltProt (10.13)	OverVoltProt Överspänningsskydd aktiv OvrVoltProt (10.13)	OverVoltProt Proteção ativa da sobretensão OvrVoltProt (10.13)	OverVoltProt Proteção ativa da sobretensão OvrVoltProt (10.13)		
A121	9.07	Bit 4	AutoTuneFail Autotuning failed, Diagnosis (9.11)	AutoTuneFail Selbststeinstellung abgebrochen, Diagnosis (9.11)	AutoTuneFail Autotune misslyckades Diagnosis (9.11)	AutoTuneFail Autotune misslyckades Diagnosis (9.11)	AutoTuneFail Ajuste automático falhou, Diagnosis (9.11)	AutoTuneFail Ajuste automático falhou, Diagnosis (9.11)		
A122	9.07	Bit 5	MechBrake Selected motor, mechanical brake, BrakeFailFunc (42.06)	MechBrake Ausgewählter Motor, mechanische Bremse, BrakeFailFunc (42.06)	MechBrake Vald motor, mekanisk broms, BrakeFailFunc (42.06)	MechBrake Vald motor, mekanisk broms, BrakeFailFunc (42.06)	MechBrake Motor selecionado, freio mecânico, BrakeFailFunc (42.06)	MechBrake Motor selecionado, freio mecânico, BrakeFailFunc (42.06)		
A123	9.07	Bit 6	FaultSuppres Fault suppressed, FaultMask (30.25)	FaultSuppres Fehler unterdrückt, FaultMask (30.25)	FaultSuppres Fel undertryckt FaultMask (30.25)	FaultSuppres Fel undertryckt FaultMask (30.25)	FaultSuppres Falha suprimida, FaultMask (30.25)	FaultSuppres Falha suprimida, FaultMask (30.25)		

LED	Alarm	Word	Text on DCS550 Panel,	DriveWindow Light and DriveWindow Definition EN	Text in DCS550 Panel,	DriveWindow Light und DriveWindow Beschreibung DE	Text P DCS800-man verPanel,	DriveWindow Light och DriveWindow Definition SW	Text on DCS550 Panel,	DriveWindow Light and DriveWindow Definition PT
A124	9.07	Bit 7	SpeedScale Speed scaling out of range, Diagnosis (9.11)	SpeedScale Drehzahlnormierung außerhalb des erlaubten Bereiches, Diagnosis (9.11)	SpeedScale Varvtalsskaling utanför område, Diagnosis (9.11)	SpeedScale Varvtalsskaling utanför område, Diagnosis (9.11)	SpeedScale Varvtalsskaling utanför område, Diagnosis (9.11)	SpeedScale Escalonamento da velocidade fora da faixa, Diagnóstico (9.11)	SpeedScale Escalonamento da velocidade fora da faixa, Diagnóstico (9.11)	SpeedScale Escalonamento da velocidade fora da faixa, Diagnóstico (9.11)
A125	9.07	Bit 8	SpeedFb Selected motor, speed feedback, M1SpeedFbSel (50.03)	SpeedFb Ausgewählter Motor, Drehzahlrückmeldung, M1SpeedFbSel (50.03)	SpeedFb Vald motor, varvtalsåterkoppling, M1SpeedFbSel (50.03)	SpeedFb Vald motor, varvtalsåterkoppling, M1SpeedFbSel (50.03)	SpeedFb Motor selecionado, feedback da velocidade, M1SpeedFbSel (50.03)	SpeedFb Motor selecionado, feedback da velocidade, M1SpeedFbSel (50.03)	SpeedFb Motor selecionado, feedback da velocidade, M1SpeedFbSel (50.03)	SpeedFb Motor selecionado, feedback da velocidade, M1SpeedFbSel (50.03)
A126	9.07	Bit 9	ExternalDI External alarm via binary input, ExtAlarmSel (30.32)	ExternalDI Externer Alarm am binären Eingang, ExtAlarmSel (30.32)	ExternalDI Externer Alarm am binären Eingang, ExtAlarmSel (30.32)	ExternalDI Externer Alarm am binären Eingang, ExtAlarmSel (30.32)	ExternalDI Externer Alarm via digital ingång, ExtAlarmSel (30.32)	ExternalDI Externer Alarm via digital ingång, ExtAlarmSel (30.32)	ExternalDI Alarme externo via entrada binária, ExtAlarmSel (30.32)	ExternalDI Alarme externo via entrada binária, ExtAlarmSel (30.32)
A127	9.07	Bit 10	AIRange Analog input range, AI Mon4mA (30.29)	AIRange Unterschreitung Analogeingangsbereich, AI Mon4mA (30.29)	AIRange Unterschreitung Analogeingangsbereich, AI Mon4mA (30.29)	AIRange Unterschreitung Analogeingangsbereich, AI Mon4mA (30.29)	AIRange Analog ingång mätområde AI Mon4mA (30.29)	AIRange Analog ingång mätområde AI Mon4mA (30.29)	AIRange Faixa de entrada analógica, AI Mon4mA (30.29)	AIRange Faixa de entrada analógica, AI Mon4mA (30.29)
A128	9.07	Bit 11	FieldBusCom Fieldbus communication loss, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Kommunikationsfehler Feldbus, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Kommunikationsfehler Feldbus, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Kommunikationsfehler Feldbus, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Bortfall av fältbusskommunikation, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Perda de comunicação fieldbus, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Perda de comunicação fieldbus, ComLossCtrl (30.28), TimeOut (30.35)	FieldBusCom Perda de comunicação fieldbus, ComLossCtrl (30.28), TimeOut (30.35)
A129	9.07	Bit 12	ParRestored Parameter restored	ParRestored Parameter wiederhergestellt (zurückgespeichert)	ParRestored Parameter wiederhergestellt (zurückgespeichert)	ParRestored Parameter wiederhergestellt (zurückgespeichert)	ParRestored Parameter återställd	ParRestored Parameter återställd	ParRestored Parâmetro restaurado	ParRestored Parâmetro restaurado
A130	9.07	Bit 13	LocalCmdLoss Communication fault with panel Panel (X33), DriveWindow (CH3) or DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Kommunikationsfehler mit Panel (X33), DriveWindow (CH3) oder DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Kommunikationsfehler mit Panel (X33), DriveWindow (CH3) oder DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Kommunikationsfehler mit Panel (X33), DriveWindow (CH3) oder DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Kommunikationsfel med panel (X33), DriveWindow (CH3) eller DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Falha de comunicação com painel X33), DriveWindow (CH3) ou DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Falha de comunicação com painel X33), DriveWindow (CH3) ou DriveWindow Light (X34), LocalLossCtrl (30.27)	LocalCmdLoss Falha de comunicação com painel X33), DriveWindow (CH3) ou DriveWindow Light (X34), LocalLossCtrl (30.27)
A131	9.07	Bit 14	ParAdded Parameter added, Diagnosis (9.11)	ParAdded Parameter hinzugeführt, Diagnosis (9.11)	ParAdded Parameter hinzugeführt, Diagnosis (9.11)	ParAdded Parameter hinzugeführt, Diagnosis (9.11)	ParAdded Parameter tillagd, Diagnosis (9.11)	ParAdded Parameter tillagd, Diagnosis (9.11)	ParAdded Parâmetro adicionado, Diagnóstico (9.11)	ParAdded Parâmetro adicionado, Diagnóstico (9.11)
A132	9.07	Bit 15	ParConflict Parameter settings conflict, Diagnosis (9.11)	ParConflict Konflikt Parametereinstellung, Diagnosis (9.11)	ParConflict Konflikt Parametereinstellung, Diagnosis (9.11)	ParConflict Konflikt Parametereinstellung, Diagnosis (9.11)	ParConflict Parameterinställingskonflikt Diagnosis (9.11)	ParConflict Parameterinställingskonflikt Diagnosis (9.11)	ParConflict Conflito configurações de parâmetros, Diagnóstico (9.11)	ParConflict Conflito configurações de parâmetros, Diagnóstico (9.11)
A133	9.08	Bit 0	RetainInv Retain data invalid, backup data loaded	RetainInv Retaindaten ungültig, Backupdaten wurden geladen	RetainInv Retaindaten ungültig, Backupdaten wurden geladen	RetainInv Retaindaten ungültig, Backupdaten wurden geladen	RetainInv Sparade data ogiltiga, backupdata laddade	RetainInv Sparade data ogiltiga, backupdata laddade	RetainInv Reter dados inválidos, dados de backup carregados	RetainInv Reter dados inválidos, dados de backup carregados
A134	9.08	Bit 1	ParComp Parameter Compatibility, Diagnosis (9.11)	ParComp Parameter Kompatibilität, Diagnosis (9.11)	ParComp Parameter Kompatibilität, Diagnosis (9.11)	ParComp Parameter Kompatibilität, Diagnosis (9.11)	ParComp Parameterkompatibilitet, Diagnosis (9.11)	ParComp Parameterkompatibilitet, Diagnosis (9.11)	ParComp Compatibilidade de parâmetro, Diagnóstico (9.11)	ParComp Compatibilidade de parâmetro, Diagnóstico (9.11)
A135	9.08	Bit 2	ParUpDwnLoad Parameter up / download failed, try again	ParUpDwnLoad Parameter Up / Download gescheitert, nochmals versuchen	ParUpDwnLoad Parameter Up / Download gescheitert, nochmals versuchen	ParUpDwnLoad Parameter Up / Download gescheitert, nochmals versuchen	ParUpDwnLoad Parameteruppladdning / nedladdning misslyckades, försök igen	ParUpDwnLoad Parameteruppladdning / nedladdning misslyckades, försök igen	ParUpDwnLoad Parâmetro para cima/ download falhou, tentar novamente	ParUpDwnLoad Parâmetro para cima/ download falhou, tentar novamente
A136	9.08	Bit 3	NoAPTTaskTime Adaptive Program task time not set, TimeLevSel (83.04)	NoAPTTaskTime Adaptive Program Taskzeit nicht gesetzt, TimeLevSel (83.04)	NoAPTTaskTime Adaptive Program Taskzeit nicht gesetzt, TimeLevSel (83.04)	NoAPTTaskTime Adaptive Program Taskzeit nicht gesetzt, TimeLevSel (83.04)	NoAPTTaskTime Adaptivt program task tid ej satt, TimeLevSel (83.04)	NoAPTTaskTime Adaptivt program task tid ej satt, TimeLevSel (83.04)	NoAPTTaskTime Tempo de tarefa adaptável programa não definido, TimeLevSel (83.04)	NoAPTTaskTime Tempo de tarefa adaptável programa não definido, TimeLevSel (83.04)

LED Alarm	Word	Text on DC5550 Panel, DriveWindow Light and DriveWindow Definition EN	Text in DC5550 Panel, DriveWindow Light und DriveWindow Beschreibung DE	Text P DC5800-man verPanel, DriveWindow Light och DriveWindow Definition SW	Text on DC5550 Panel, DriveWindow Light and DriveWindow Definition PT
A137	9.08 Bit 4	SpeedNotZero Speed not zero, ZeroSpeedLim (20.03) Off2FieldBus	SpeedHotZero Drehzahl ist ungleich Null, ZeroSpeedLim (20.03) Off2FieldBus	SpeedHotZero Varvtalet ej noll, ZeroSpeedLim (20.03) Off2FieldBus	SpeedHotZero Velocidade não zero, ZeroSpeedLim (20.03) Off2FieldBus
A138	9.08 Bit 5	Off2 (Emergency Off / Coast stop) pending via MainCtrlWord (7.01)	Off2 (Notaus / Austrudeln) ist am MainCtrlWord (7.01) aktiv	Off2 (Nödavstängning / utruddning) aktiv via MainCtrlWord (7.01)	Off2 (Emergencia Desligada/ Parada de rampa) pendente via MainCtrlWord (7.01)
A139	9.08 Bit 6	Off3FieldBus Off3 (E-stop) pending via MainCtrlWord (7.01)	Off3FieldBus Off3 (Nothalt) ist am MainCtrlWord (7.01) aktiv	Off3FieldBus Från3 (Nödstop) aktiv via MainCtrlWord (7.01)	Off3 (E-stop) pendente via MainCtrlWord (7.01)
A140	9.08 Bit 7	IllegalFieldBus Illegal fieldbus settings, see group 51	IllegalFieldBus Illegale Feldbuseinstellung, s. Gruppe 51	IllegalFieldBus Illegala fältbussinställningar, se grupp 51	IllegalFieldBus Configurações de fieldbus ilegais, ver grupo 51
A141	9.08 Bit 8	COM8FwVer SDCS-COM-8 firmware version conflict, FirmwareVer (4.01), Com8SwVersion (4.11)	COM8FwVer SDCS-COM-8 Konflikt Firmwareversion, FirmwareVer (4.01), Com8SwVersion (4.11)	COM8FwVer SDCS-COM-8 systemprogramvaruversions- konflikt, FirmwareVer (4.01), Com8SwVersion (4.11)	COM8FwVer SDCS-COM-8 firmware conflito de versão, FirmwareVer (4.01), Com8SwVersion (4.11)
A142	9.08 Bit 9	MemCardMiss Memory Card missing, ParSave (16.06)	MemCardMiss Memory Card fehlt, ParSave (16.06)	MemCardMiss Minneskort saknas, ParSave (16.06)	MemCardMiss Cartão de memória ausente, ParSave (16.06)
A143	9.08 Bit 10	MemCardFail Memory Card failure, ParSave (16.06)	MemCardFail Fehler Memory Card, ParSave (16.06)	MemCardFail Minneskortfel, ParSave (16.06)	MemCardFail Falha do cartão de memória, ParSave (16.06)

Diagnosis messages – Diagnosemeldungen – Diagnostiska meddelanden – Diagnósticos

Signal	Diagnosis messages Definition EN	Diagnosemeldungen Beschreibung DE	Diagnosis messages Definition SW	Mensagem de diagnóstico Definição PT
0	no message Firmware	keine Meldung Firmware	inget meddelande Systemprogramvara	Sem mensagem Firmware
1	default setting of parameters wrong	die Grundeinstellung der Parameter ist falsch	förvalda parametervärden felaktiga	Configuração de falha de parâmetros errada
2	parameter flash image too small for all parameters	Parameter-Flash-Image ist für alle Parameter zu klein	<i>parameterflashminne för litet för alla parametrar</i>	Imagem instantânea no parâmetro pequena demais para todos os parâmetros
3	reserved	reserviert	reservad	reservado
4	illegal write attempt on a write-protected parameter	illegaler Schreibversuch auf einen geschützten Parameter	försök att skriva till skrivskyddad parameter	Tentativa de escrever ilegal num parâmetro protegido-escrita.
5	reserved	reserviert	reservad	reservado
6	wrong type code	falscher Typenschlüssel	fel typkod	Tipo de código errado
7	an un-initialized interrupted has occurred	Unterbrechung aufgetreten	avbrott utan initering har skett	Uma inicialização interrompida ocorreu
8, 9	reserved	reserviert	reservad	reservado
10	wrong parameter value	falscher Parameterwert	felaktigt parametervärde	Valor de parâmetro errado
	Autotuning	Selbsteinstellung	Autotuning	Auto ajuste
11	autotuning aborted by fault or removing the Run command [UsedMCW (7.04) bit 3]	Selbsteinstellung durch Fehler oder Wegnahme des Run-Befehls [UsedMCW (7.04) Bit 3] abgebrochen	autotuning avbruten på grund av fel eller att RUN-kommando tagits bort [UsedMCW (7.04) bit 3]	Ajuste automático abortado por falha ou remoção do comando Executar (RUN) [UsedMCW (7.04) bit 3]
12	autotuning timeout, RUN command [UsedMCW (7.04) bit 3] is not set in time	Selbsteinstellung Zeitüberschreitung, Run-Befehl [UsedMCW (7.04) Bit 3] wurde nicht rechtzeitig gesetzt	autotuning-timeout, RUN-kommando [UsedMCW (7.04) bit 3] ej satt i tid	Limite de tempo do ajuste automático, comando Executar (RUN) [UsedMCW (7.04) bit 3] não está definido a tempo
13	motor is still turning, no speed zero indication	Motor dreht, keine Nulldrehzahlanzeige	motorn roterar fortfarande, ingen indikering av nollvarv	Motor ainda girando, sem indicação de velocidade zero
14	field current not zero	Feldstrom nicht Null	fältströmmen skild från noll	Corrente de campo não zero
15	armature current not zero	Ankerstrom nicht Null	rotorström skild från noll	Corrente de armadura não zero
16	armature voltage measurement circuit open (e.g. not connected) or interrupted, check also current and torque limits	Ankerspannungsmesskreis offen (z.B. nicht angeschlossen) oder unterbrochen, auch die Strom- und Drehmomentgrenzen prüfen	kretsen för rotorspänningsmätning öppen (t.ex. ej ansluten) eller avbruten, kontrollera även ström- och momentgränser	Circuito de medição de tensão de armadura aberto (por exemplo, não conectado) ou interrompido, verificar também os limites de corrente e torque
17	armature circuit and/or armature voltage measurement circuit wrongly connected	Ankerstromkreis und/oder Ankerspannungsmesskreis falsch angeschlossen	rotorkrets och/eller rotorspänningsmätningsskrets felaktigt ansluten	Circuito de armadura/ou circuito de medição de tensão de armadura erroneamente conectada
18	no load connected to armature circuit	keine Last an den Ankerstromkreis angeschlossen	ingen last ansluten till rotorkrets	Sem carga conectada ao circuito de armadura
19	invalid nominal armature current setting; armature current <i>M1MotNomCur (99.03)</i> is set to zero	ungültige Einstellung des Nennankerstroms; Ankerstrom <i>M1MotNomCur (99.03)</i> ist auf Null eingestellt	ogiltig inställning av nominell rotorström; rotorström <i>M1MotNomCur (99.03)</i> är satt till noll	Configuração da corrente de armadura nominal inválida; corrente de armadura <i>M1MotNomCur (99.03)</i> é definida como zero
20	field current does not decrease when the excitation is switched off	Feldstrom verringert sich nicht, wenn die Erregung ausgeschaltet ist	fältströmmen minskar inte när magnetiseringen avbryts	A corrente de campo não diminui quando a excitação é desligada

Signal	Diagnosis messages Definition EN	Diagnosemeldungen Beschreibung DE	Diagnosis messages Definition SW	Mensagem de diagnóstico Definição PT
21	field current actual doesn't reach field current reference; no detection of field resistance; field circuit open (e.g. not connected) respectively interrupted	der Feldstromistwert erreicht nicht den Feldstromsollwert; keine Erkennung des Feldwiderstands; Feldstromkreis offen (z.B. nicht angeschlossen) bzw. unterbrochen	fältströmmens ärvärde når inte fältströmmens börvärde ingen fältresistans detekteras; fältkrets öppen (t.ex. ej ansluten), eller avbruten	A corrente de campo real não atinge a corrente de campo referencia; sem detecção de resistência de campo; circuito de campo aberto (por exemplo, não conectado) respectivamente interrompido
22	no writing of control parameters of speed controller	die Parameter des Drehzahlreglers werden nicht geschrieben	ingen skrivning av styrparametrar för varvtalesregulatorn	sem programação de parâmetro de comando do regulador de velocidade
23	tacho adjustment faulty or not OK or the tacho voltage is too high during autotuning	Tachoeinstellung falsch oder nicht in Ordnung	takometerinställning felaktig eller ej OK eller takometerspänning för hög under autotuning	Erro de ajuste ou tensão alta no tacométrico
24	tuning of speed controller not possible due to speed limitation	die Abstimmung des Drehzahlreglers ist aufgrund der Drehzahlbegrenzung nicht möglich	trimning av varvtalesregulatorn ej möjlig på grund av varvtalesbegränsning	Calibragem do controlador de velocidade impossível em razão dos limites de velocidade
25	tuning of speed controller not possible due to voltage limitation	die Abstimmung des Drehzahlreglers ist aufgrund der Spannungsbegrenzung nicht möglich	trimning av varvtalesregulatorn ej möjlig på grund av spänningsbegränsning	Calibragem do controlador de velocidade impossível em razão dos limites de tensão
26	field weakening not allowed, see M1SpeedFbSel (50.03) and FidCtrlMode (44.01)	Feldschwächung nicht zulässig, siehe M1SpeedFbSel (50.03) und FidCtrlMode (44.01)	fältförsvagning tillåts ej, se M1SpeedFbSel (50.03) och FidCtrlMode (44.01)	Enfriamento de campo não permitido, ver M1SpeedFbSel (50.03) and FidCtrlMode (44.01)
27...30	reserved	reserviert	reserverad	reservado
31	DCS800 Control Panel up- or download not started	DCS800-Steuertafel Hoch- oder Runterlesen nicht gestartet	DCS800-manöverpanel, upp- eller nedladdning ej startad	Upload ou download do Painel de Controle do DCS800 não iniciado
32	DCS800 Control Panel data not up- or downloaded in time	DCS800-Steuertafel Daten werden nicht rechtzeitig Hoch- oder Runtergelesen	DCS800-manöverpanel, data ej upp- eller nedladdade i tid	Upload ou download do Painel de Controle do DCS800 não iniciado
33	reserved	reserviert	reserverad	reservado
34	DCS800 Control Panel up -or download checksum faulty	Hoch- oder Runterlesen der DCS800-Steuertafel Prüfsummenfehler	DCS800-manöverpanel, upp- eller nedladdning av checksumma felaktig	Upload ou Download de falha de checksum no Painel de Controle do DCS800
35	DCS800 Control Panel up- or download software faulty	Hoch- oder Runterlesen der DCS800-Steuertafel Software fehlerhaft	DCS800-manöverpanel, upp- eller nedladdning av programvara felaktig	Upload ou download do Painel de Controle do DCS800 falha do software
36	DCS800 Control Panel up- or download verification failed	Hoch- oder Runterlesen der DCS800-Steuertafel Verifizierung misslungen	DCS800-manöverpanel, verifiering av upp- eller nedladdning misslyckades	Upload ou download do Painel de Controle do DCS800 a verificação falhou
37...49	reserved	reserviert	reserverad	reservado
	Hardware	Hardware	Maskinvara	Hardware
50	parameter flash faulty (erase)	Parameter Flash fehlerhaft (löschen)	parameterflashminne defekt (radera)	Parâmetros flash defeituoso (apagar)
51	parameter flash faulty (program)	Parameter Flash fehlerhaft (Programm)	parameterflashminne defekt (program)	Parâmetros flash defeituoso (programa)
52...69	reserved	reserviert	reserverad	reservado
	A132 ParConflict (alarm parameter setting conflict):	A132 ParConflict (Alarm Parameter-Konflikt):	(alarmparameterinställning ger upphov till konflikt):	A132 ParConflict (alarme conflito parametrização):
70	reserved	reserviert	reserverad	reservado
71	flux linearization parameters not consistent	Parameter für die Flusslinearisierung nicht konsistent	parametrar för flödeslinjärisering inkonsekventa	Incoerência dos parâmetros de fluxo de linearização
72	reserved	reserviert	reserverad	reservado
73	armature data not consistent [e.g. TypeCode (97.01) = None and S ConvScaleVolt (97.03) is not set properly or ConvNormVolt (4.04) = 0]	Parameterüberlauf	rotordata inkonsekventa [t.ex. TypeCode (97.01) = None och S ConvScaleVolt (97.03) är inte korrekt inställd eller ConvNormVolt (4.04) = 0]	Dados de armadura não consistentes [por exemplo TypeCode (97.01) = None and S ConvScaleVolt (97.03) is not set properly or ConvNormVolt (4.04) = 0]
74...79	reserved	reserviert	reserverad	reservado

Signal	Diagnosis messages Definition EN	Diagnosemeldungen Beschreibung DE	Diagnosis messages Definition SW	Mensagem de diagnóstico Definição PT
9.11	Autotuning speed does not reach setpoint (EMF control) motor is not accelerating or wrong tachopolarity (tachometer / encoder)	Selbsteinstellung Drehzahl erreicht nicht den Sollwert (EMK-Regelung) Motor beschleunigt nicht oder falsche Tachopolarität (Tacho / Impulsgeber)	Sjävinställning varvtalet når inte börvärdet (EMK-styrning) motorn accelererar ej eller fel takometerpolaritet (takometer / pulsgivare)	Autotuning A velocidade não alcança o ponto de ajuste (controle EMF) O motor não acelera ou erro de polaridade tacômetro (tacômetro/codificador)
80	not enough load (too low inertia) for the detection of speed controller parameters	unzureichende Last (Trägheitsmoment zu gering) für die Erkennung der Drehzahlreglerparameter	inte tillräcklig belastning (för lågt tröghetsmomentet) för detektering av varvtaletsregulatorparametrar	Carga insuficiente (inércia muito baixa) para detectar os parâmetros do regulador de velocidade
81	reserved	reserved	reserved	reserved
82...89	Thyristor diagnosis	Thyristordiagnose	Tyristordiagnostik	Diagnóstico tiristor
90	shortcut caused by V1	Kurzschluss verursacht durch V1	kortslutning orsakad av V1	Curto circuito provocado por V1
91	shortcut caused by V2	Kurzschluss verursacht durch V2	kortslutning orsakad av V2	Curto circuito provocado por V2
92	shortcut caused by V3	Kurzschluss verursacht durch V3	kortslutning orsakad av V3	Curto circuito provocado por V3
93	shortcut caused by V4	Kurzschluss verursacht durch V4	kortslutning orsakad av V4	Curto circuito provocado por V4
94	shortcut caused by V5	Kurzschluss verursacht durch V5	kortslutning orsakad av V5	Curto circuito provocado por V5
95	shortcut caused by V6	Kurzschluss verursacht durch V6	kortslutning orsakad av V6	Curto circuito provocado por V6
96	thyristor block test failed	Thyristorblockertest misslungen	tyristorblocktest misslyckades	Defeito de teste de bloco dos tiristores
97	shortcut caused by V15 or V22	Kurzschluss verursacht durch V15 o. V22	kortslutning orsakad av V15 eller V22	Curto circuito provocado por V15 ou V22
98	shortcut caused by V16 or V23	Kurzschluss verursacht durch V16 o. V23	kortslutning orsakad av V16 eller V23	Curto circuito provocado por V16 ou V23
99	shortcut caused by V11 or V24	Kurzschluss verursacht durch V11 o. V24	kortslutning orsakad av V11 eller V24	Curto circuito provocado por V11 ou V24
100	shortcut caused by V12 or V25	Kurzschluss verursacht durch V12 o. V25	kortslutning orsakad av V12 eller V25	Curto circuito provocado por V12 ou V25
101	shortcut caused by V13 or V26	Kurzschluss verursacht durch V13 o. V26	kortslutning orsakad av V13 eller V26	Curto circuito provocado por V13 ou V26
102	shortcut caused by V14 or V21	Kurzschluss verursacht durch V14 o. V21	kortslutning orsakad av V14 eller V21	Curto circuito provocado por V14 ou V21
103	motor connected to ground	Motor an Masse kurzgeschlossen	motor ansluten till jord	Motor conectado a terra
104	armature winding is not connected	Ankerwicklung ist nicht angeschlossen	rotorfindning ej ansluten	Bobinagem da armadura não está conectada
105...120	reserved	reserved	reserved	reserved
121	AI monitoring AI1 below 4 mA	AI Überwachung AI1 unter 4 mA	AI-övervakning AI1 under 4 mA	Monitoramento Entrada Analógica (EA) EA1 inferior a 4 mA
122	AI2 below 4 mA	AI2 unter 4 mA	AI2 under 4 mA	EA2 inferior a 4 mA
123	AI3 below 4 mA	AI3 unter 4 mA	AI3 under 4 mA	EA3 inferior a 4 mA
124	AI4 below 4 mA	AI4 unter 4 mA	AI4 under 4 mA	EA4 inferior a 4 mA
125	AI5 below 4 mA	AI5 unter 4 mA	AI5 under 4 mA	EA5 inferior a 4 mA
126	AI6 below 4 mA	AI6 unter 4 mA	AI6 under 4 mA	EA6 inferior a 4 mA
127	AITAC below 4 mA	AITAC unter 4 mA	AITAC under 4 mA	AITAC inferior a 4 mA
128...149	reserved	reserved	reserved	reserved
150	Option modules fieldbus module missing see <i>CommModule (98.02)</i>	Optionsmodule Feldbusmodul fehlt siehe <i>CommModule (98.02)</i>	Tillvalsmoduler Fältbusmodul saknas, se <i>CommModule (98.02)</i>	Módulos opcionais Módulo fieldbus ausente, ver <i>CommModule (98.02)</i>
151	SDCS-COM-8 for DDCS- respectively fieldbus communication missing see <i>CommModule (98.02)</i>	SDCS-COM-8 für DDCS- bzw. Feldbuskommunikation fehlt, siehe <i>CommModule (98.02)</i>	SDCS-COM-8 för DDCS- respektive fältbuskommunikation saknas, se <i>CommModule (98.02)</i>	SDCS-COM-8 for DDCS- respectivamente comunicação fieldbus ausente, ver <i>CommModule (98.02)</i>
152	SDCS-COM-8 for master-follower communication missing see group 70	SDCS-COM-8 für Master-Slave Kommunikation fehlt, siehe Gruppe 70	SDCS-COM-8 för ledare-följare-kommunikation saknas, se grupp 70	SDCS-COM-8 para master-follower communication ausente, ver grupo 70
153	reserved	reserved	reserved	reserved
154	RMBA-xx module missing see group 98	RMBA-xx Modul fehlt, siehe Gruppe 98	RMBA-xx modul saknas, se grupp 98	RMBA-xx ausente; ver grupo 98
155	RAIO-xx in option slot on SDCS-CON-4 missing see group 98	RAIO-xx in Optionssteckplatz auf SDCS-CON-4 fehlt, siehe Gruppe 98	RAIO-xx i utökningstack på SDCS-CON-4 saknas, se grupp 98	RAIO-xx ausente nas ranhuras (slots) dos módulos opcionais de SDCS-CON-4; ver grupo 98

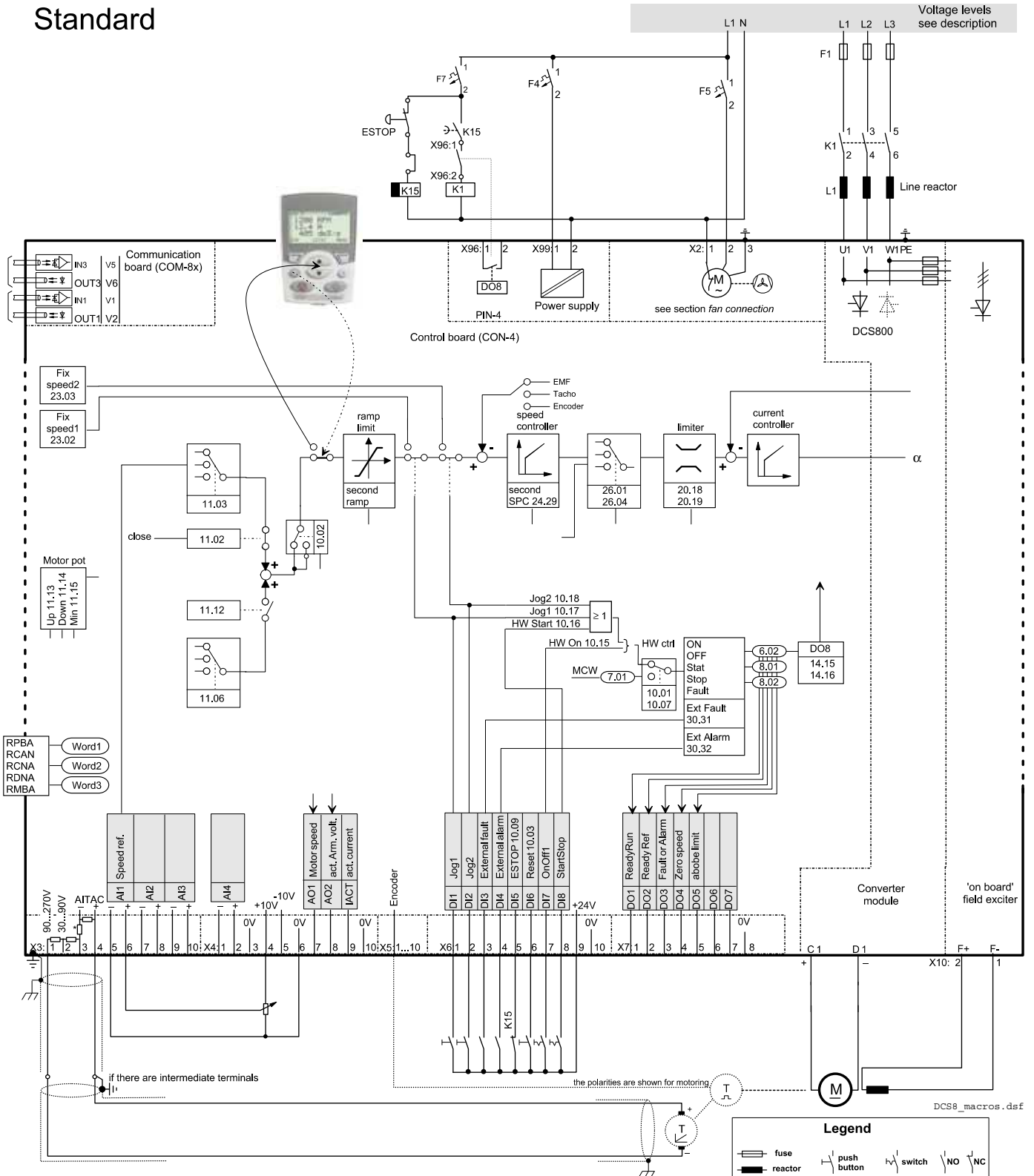
Signal	Diagnosis messages Definition EN	Diagnosemeldungen Beschreibung DE	Diagnosis messages Definition SW	Mensagem de diagnóstico Definição PT
156	RAIO-xx in option slot on AIMA missing see group 98	RAIO-xx in Optionssteckplatz auf AIMA fehlt, siehe Gruppe 98	RAIO-xx i utökningsfack på AIMA saknas, se grupp 98	RAIO-xx ausente nas ranhuras (slots) dos módulos opcionais de AIMA ausente, ver grupo 98
157	RDIO-xx in option slot on SDCS-CON missing see group 98	RAIO-xx in Optionssteckplatz auf SDCS-CON fehlt, siehe Gruppe 98	RDIO-xx i utökningsfack på SDCS-CON saknas se grupp 98	RDIO-xx ausente nas ranhuras (slots) dos módulos opcionais de SDCS-CON-4, ver grupo 98
158	RDIO-xx in option slot on AIMA missing see group 98	RAIO-xx in Optionssteckplatz auf AIMA fehlt, siehe Gruppe 98	RDIO-xx i utökningsfack på AIMA saknas, se grupp 98	RDIO-xx ausente nas ranhuras (slots) dos módulos opcionais de AIMA ausente, ver grupo 98
159	RTAC-xx in option slot on SDCS-CON-4 missing see group 98	RAIO-xx in Optionssteckplatz auf SDCS-CON-4 fehlt, siehe Gruppe 98	RTAC-xx i utökningsfack på SDCS-CON-4 saknas, se grupp 98	RTAC-xx ausente nas ranhuras (slots) dos módulos opcionais de SDCS-CON-4, ver grupo 98
160	RTAC-xx in option slot on AIMA missing see group 98	RAIO-xx in Optionssteckplatz auf AIMA fehlt, siehe Gruppe 98	RTAC-xx i utökningsfack på AIMA saknas, se grupp 98	RTAC-xx ausente nas ranhuras (slots) dos módulos opcionais de AIMA ausente, ver grupo 98
161	reserved	reserviert	reservat	reservado
162	SDCS-IOB-2x respectively SDCS-IOB-3 connection does not match selection in IO BoardConfig (98.15)	SDCS-IOB2x bzw. SDCS-IOB-3 Anschluss entspricht nicht der Auswahl in IO BoardConfig (98.15)	SDCS-IOB-2x- respektive SDCS-IOB-3- anslutning motsvarar inte val i IO BoardConfig (98.15)	A conexão de SDCS-IOB-2x e SDCS-IOB-3 não corresponde a seleção em IO BoardConfig (98.15)
163	SDCS-DSL-4 missing see group 94 (needed for DCSLink)	SDCS-DSL-4 fehlt, siehe Gruppe 94 (für DCSLink benötigt)	SDCS-DSL-4 saknas, se grupp 94 (behövs för DCSLink)	SDCS-DSL-4 ausente; ver grupo 94 (necessário para DCSLink)
164	SDCS-DSL-4 missing see group 94 (needed for Modbus)	SDCS-DSL-4 fehlt, siehe Gruppe 94 (für Modbus benötigt)	SDCS-DSL-4 saknas, se grupp 94 (behövs för Modbus)	SDCS-DSL-4 ausente; ver grupo 94 (necessário para Modbus)
10000... 19999	A134 ParComp (alarm parameter compatibility conflict): the parameter with the compatibility conflict can be identified by means of the last 4 digits	A134 ParComp (Alarm Parameter-Compatibilität): der Parameter mit dem Kompatibilitätskonflikt kann anhand der letzten vier Ziffern ermittelt werden	A134 ParComp (konflikt med avseende på alarmparameterkompatibilitet): parametern med kompatibilitetskonflikt kan identifieras via de fyra sista siffrorna	A134 ParComp (conflito de compatibilidade dos parâmetros de alarme): O parâmetro que apresenta conflito de compatibilidade pode ser identificado mediante os quatro últimos dígitos.
30000	Thyristor diagnosis possibly trigger pulse channels are mixed up	Thyristordiagnose eventuell sind die Zündimpulskanäle vertauscht	Tyristordiagnostik möjligt att triggpulskanalerna är förväxlade	Diagnóstico do tiristor E possível que os canais de pulso de ativação não estejam corretos
31xddd	V1 or V11 not conducting	V1 oder V11 leitet nicht	V1 eller V11 leder ej	V1 ou V11 não conduzindo
32xddd	V2 or V12 not conducting	V2 oder V12 leitet nicht	V2 eller V12 leder ej	V2 ou V12 não conduzindo
33xddd	V3 or V13 not conducting	V3 oder V13 leitet nicht	V3 eller V13 leder ej	V3 ou V13 não conduzindo
34xddd	V4 or V14 not conducting	V4 oder V14 leitet nicht	V4 eller V14 leder ej	V4 ou V14 não conduzindo
35xddd	V5 or V15 not conducting	V5 oder V15 leitet nicht	V5 eller V15 leder ej	V5 ou V15 não conduzindo
36xddd	V6 or V16 not conducting	V6 oder V16 leitet nicht	V6 eller V16 leder ej	V6 ou V16 não conduzindo
	x = 0: only a single thyristor in bridge 1 is not conducting (e.g. 320dd means V2 respectively V12 is not conducting)	x = 0: nur ein einzelner Thyristor in Brücke 1 leitet nicht (z.B. 320dd bedeutet, dass V2 bzw. V12 nicht leiten)	x = 0: endast en tyristor i brygga 1 leder V12 ej leder	x = 0: apenas um tiristor da ponte não é condutor (por ex., 320dd = V2 ou V12 não está conduzindo)
	x = 1 ... 6: additionally a second thyristor in bridge 1 is no conducting (e.g. 325ddd means V2 and V5 respectively V12 and V15 are not conducting)	x = 1 ... 6: darüber hinaus leitet ein zweiter Thyristor in Brücke 1 nicht (z.B. 325ddd bedeutet, dass V2 und V5 bzw. V12 und V15 nicht leiten)	x = 1 ... 6: Dessutom är det en andra tyristor i brygga 1 som inte leder (t.ex. 325DD betyder att V2 och V5 respektive V12 och V15 inte leder)	x = 1 ... 6: um segundo tiristor da ponte 1 não é condutor (por ex. 325ddd = V2 e V5 ou V12 e V15 não são condutores)
	ddd = don't care, the numbers of this digits do not carry any information about the thyristors of the first bridge. Example: 36030; means V16 in bridge 1 and V23 in bridge 2 are not conducting	ddd = don't care, diese Ziffern enthalten keine Informationen über die Thyristoren der ersten Brücke. Beispiel: 36030; bedeutet, dass V16 in Brücke 1 und V23 in Brücke 2 nicht leiten	ddd = ingen betydelse, värdet i dessa positioner saknar betydelse för tyristorerna i den första bryggan. Exempel: 36030; betyder att V16 i brygga 1 och V23 i brygga 2 inte leder	ddd = sem importância, esses números não contém nenhuma informação sobre os tiristores da primeira ponte Exemplo: 36030 = V16 (ponte 1) e V23 (ponte 2) não conduzindo
3dd1y	V21 not conducting	V21 leitet nicht	V21 leder ej	V21 não conduzindo

Signal	Diagnosis messages Definition EN	Diagnosemeldungen Beschreibung DE	Diagnosis messages Definition SW	Mensagem de diagnóstico Definição PT
3dd2y	V22 not conducting	V22 leitet nicht	V22 leder ej	V22 não conduzindo
3dd3y	V23 not conducting	V23 leitet nicht	V23 leder ej	V23 não conduzindo
3dd4y	V24 not conducting	V24 leitet nicht	V24 leder ej	V24 não conduzindo
3dd5y	V25 not conducting	V25 leitet nicht	V25 leder ej	V25 não conduzindo
3dd6y	V26 not conducting	V26 leitet nicht	V26 leder ej	V26 não conduzindo
	y = 0: only a single thyristor in bridge 2 is not conducting (e.g. 3dd0020 means V22 is not conducting)	y = 0: nur ein einzelner Thyristor in Brücke 2 leitet nicht (z.B. 3dd0020 bedeutet, dass V22 nicht leitet)	y = 0: endast en tyristor i bryggga 2 leder ej (t.ex. 3dd0020 betyder att V22 inte leder)	y = 0: apenas um tiristor da ponte 2 não está conduzindo (por exemplo, 3dd0020 = V22 não está conduzindo)
	y = 1 ... 6: additionally a second thyristor in bridge 2 is no conducting (e.g. 3dd25 means V22 and V25 are not conducting)	y = 1 ... 6: darüber hinaus leitet ein zweiter Thyristor in Brücke 2 nicht (z.B. 3dd25 bedeutet, dass V22 und V25 nicht leiten)	y = 1 ... 6: Dessutom är det en andra tyristor i bryggga 2 som inte leder (t.ex. 3dd25 betyder att V22 och V25 inte leder)	y = 1 ... 6: um segundo tiristor da ponte 2 não está conduzindo (por exemplo 2dd25 = V22 e 25 não estão conduzindo)
	dd = don't care, the numbers of this digits do not carry any information about the thyristors of the second bridge. Example: 36030: means V16 in bridge 1 and V23 in bridge 2 are not conducting	dd = don't care, diese Ziffern enthalten keine Informationen über die Thyristoren der ersten Brücke. Beispiel: 36030: bedeutet, dass V16 in Brücke 1 und V23 in Brücke 2 nicht leiten	dd = ingen betydelse, värdet i dessa positioner saknar betydelse för tyristorerna i den andra bryggan. Exempel: 36030: betyder att V16 i bryggga 1 och V23 i bryggga 2 inte leder	dd = sem importância, esses números não contém nenhuma informação sobre os tiristores da segunda ponte Exemplo: 36030 = V16 (ponte 1) e V23 (ponte 2) não conduzindo
40000 ... 49999	A124 SpeedScale (alarm speed scaling): the parameter with the speed scaling conflict can be identified by means of the last 4 digits	A124 SpeedScale (Alarm Drehzahlnormierung): der Parameter mit dem Konflikt in der Drehzahlnormierung kann anhand der letzten vier Ziffern ermittelt werden	A124 SpeedScale (alarm varvtalskalning): parametern med varvtalskalningskonflikt kan identifieras med hjälp av de 4 sista siffrorna	A124 SpeedScale (alarme dimensionamento de velocidade): O parâmetro que apresenta conflito de dimensionamento de velocidade pode ser identificado por meio dos quatro últimos dígitos.
	F549 ParComp (fault parameter compatibility conflict): task not configured attempt to run an illegal copy of a protected program retain data invalid caused by SDCS-CON-4 hardware problem 5 ms task halted (e.g. task contains an endless loop)	F549 ParComp (Fehler Parameter Kompatibilität): Zykluszeit nicht konfiguriert Versuch, eine illegale Kopie eines geschützten Programms auszuführen gesicherte Daten auf der SDCS-CON-4 sind durch ein Hardwareproblem ungültig 5 ms Zykluszeit angehalten (z.B. Zykluszeit enthält eine Endlosschleife)	F549 ParComp (felparameter, kompatibilitetskonflikt): Program Task ej konfigurerat försök att köra en illegal kopia av ett skyddat program Sparade data ogiltiga på grund av hårdvaruproblem i SDCS-CON-4 5 ms-Programtask avbrutet (t.ex. för att uppgiften innehåller en ändlös slinga)	F549 ParComp (falha de conflito de compatibilidade de parâmetros): Tarefa não configurada Tentativa de execução de uma cópia ilegal de um programa protegido Cópia dos dados incorreta em razão de um problema do hardware SDCS-CON-4 Tarefa parada durante 5 ms (por ex., a tarefa contém um loop infinito)
64110	task not configured	Zykluszeit nicht konfiguriert	Program Task ej konfigurerat	Tarefa não configurada
64112	attempt to run an illegal copy of a protected program	Versuch, eine illegale Kopie eines geschützten Programms auszuführen	försök att köra en illegal kopia av ett skyddat program	Tentativa de execução de uma cópia ilegal de um programa protegido
64113	retain data invalid caused by SDCS-CON-4 hardware problem	gesicherte Daten auf der SDCS-CON-4 sind durch ein Hardwareproblem ungültig	Sparade data ogiltiga på grund av hårdvaruproblem i SDCS-CON-4	Cópia dos dados incorreta em razão de um problema do hardware SDCS-CON-4
64125	5 ms task halted (e.g. task contains an endless loop)	5 ms Zykluszeit angehalten (z.B. Zykluszeit enthält eine Endlosschleife)	5 ms-Programtask avbrutet (t.ex. för att uppgiften innehåller en ändlös slinga)	Tarefa parada durante 5 ms (por ex., a tarefa contém um loop infinito)
64126	20 ms task halted (e.g. task contains an endless loop)	20 ms Zykluszeit angehalten (z.B. Zykluszeit enthält eine Endlosschleife)	20 ms-Programtask avbrutet (t.ex. för att uppgiften innehåller en ändlös slinga)	Tarefa parada durante 20 ms (por ex., a tarefa contém um loop infinito)
64127	100 ms task halted (e.g. task contains an endless loop)	100 ms Zykluszeit angehalten (z.B. Zykluszeit enthält eine Endlosschleife)	100 ms-Programtask avbrutet (t.ex. för att uppgiften innehåller en ändlös slinga)	Tarefa parada durante 100 ms (por ex., a tarefa contém um loop infinito)
64128	500 ms task halted (e.g. task contains an endless loop)	500 ms Zykluszeit angehalten (z.B. Zykluszeit enthält eine Endlosschleife)	500 ms-Programtask avbrutet (t.ex. för att uppgiften innehåller en ändlös slinga)	Tarefa parada durante 500 ms (por ex., a tarefa contém um loop infinito)

Macro & Firmware structure – Makro & Firmware Struktur – Macro & Firmware struktur – Estrutura Macro & Firmware

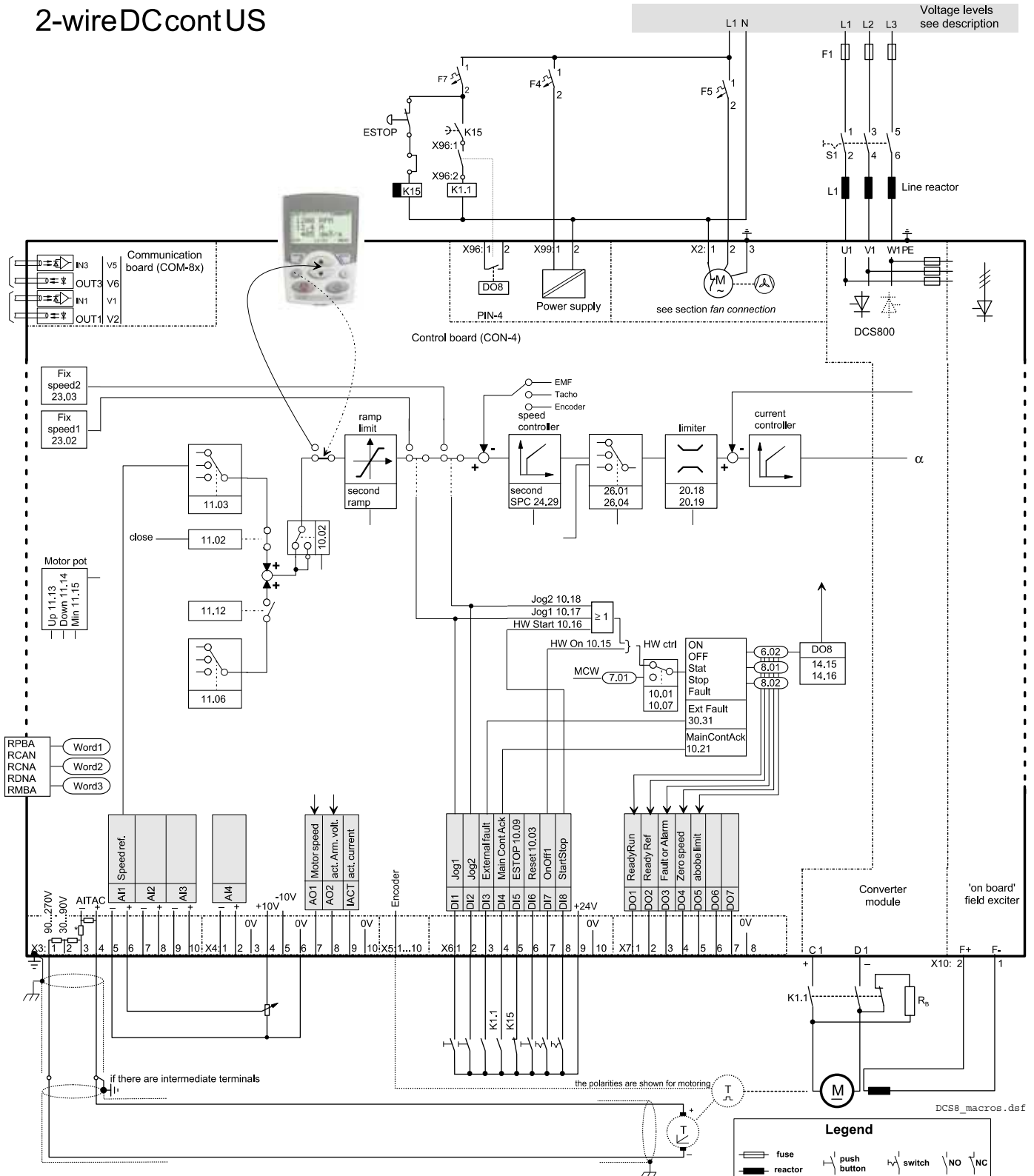


Standard



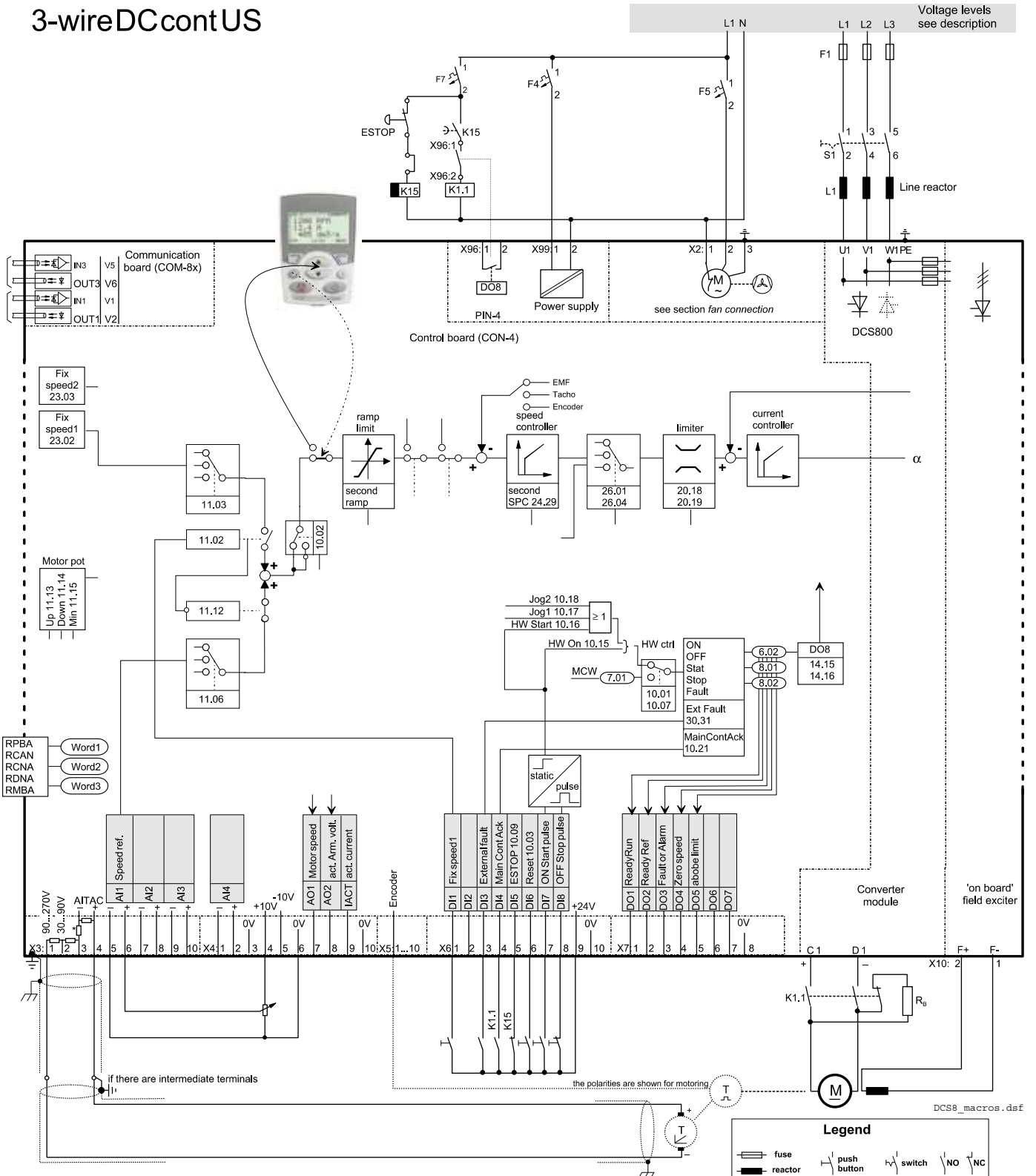


2-wireDCcontUS



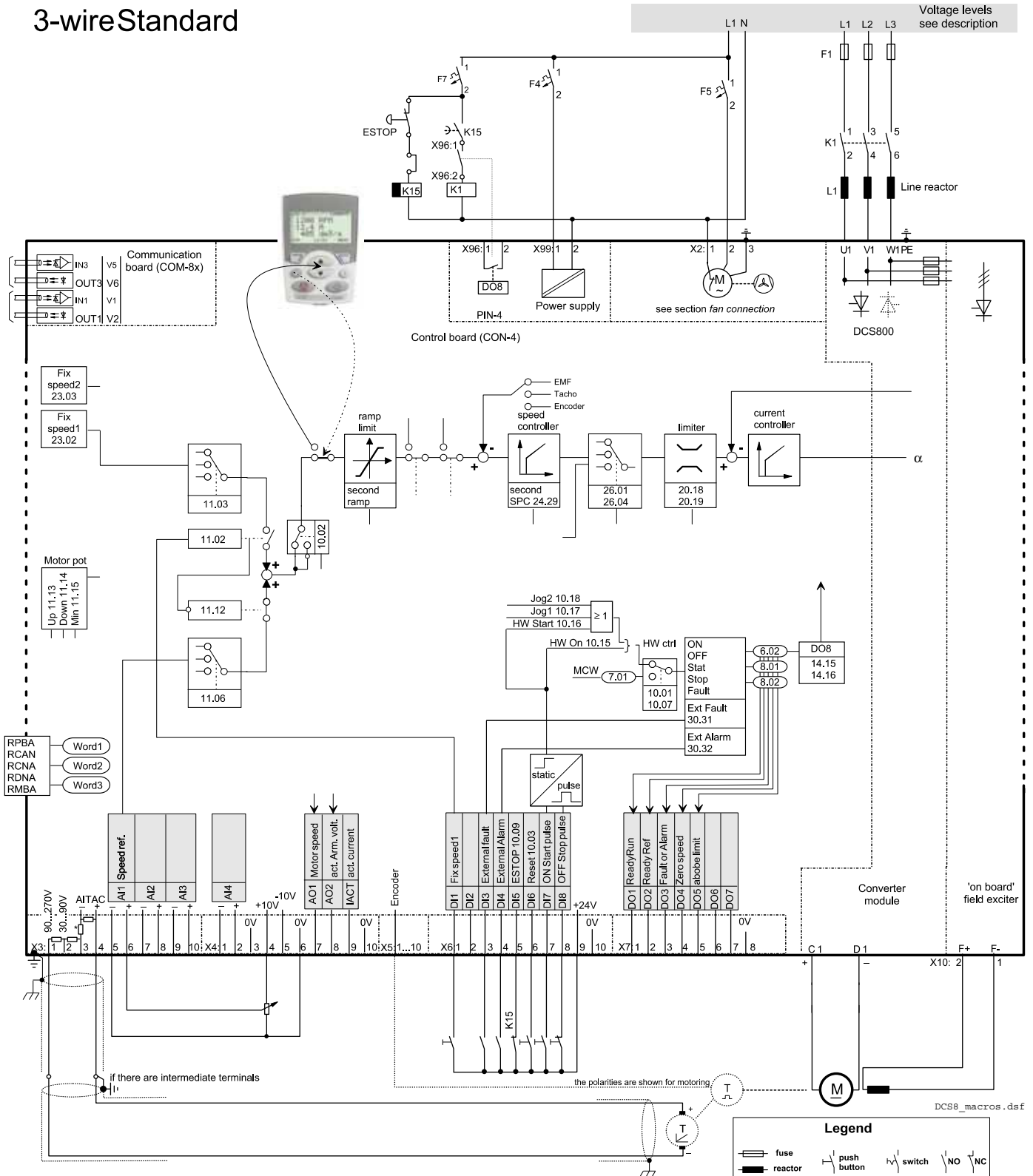


3-wireDCcontUS



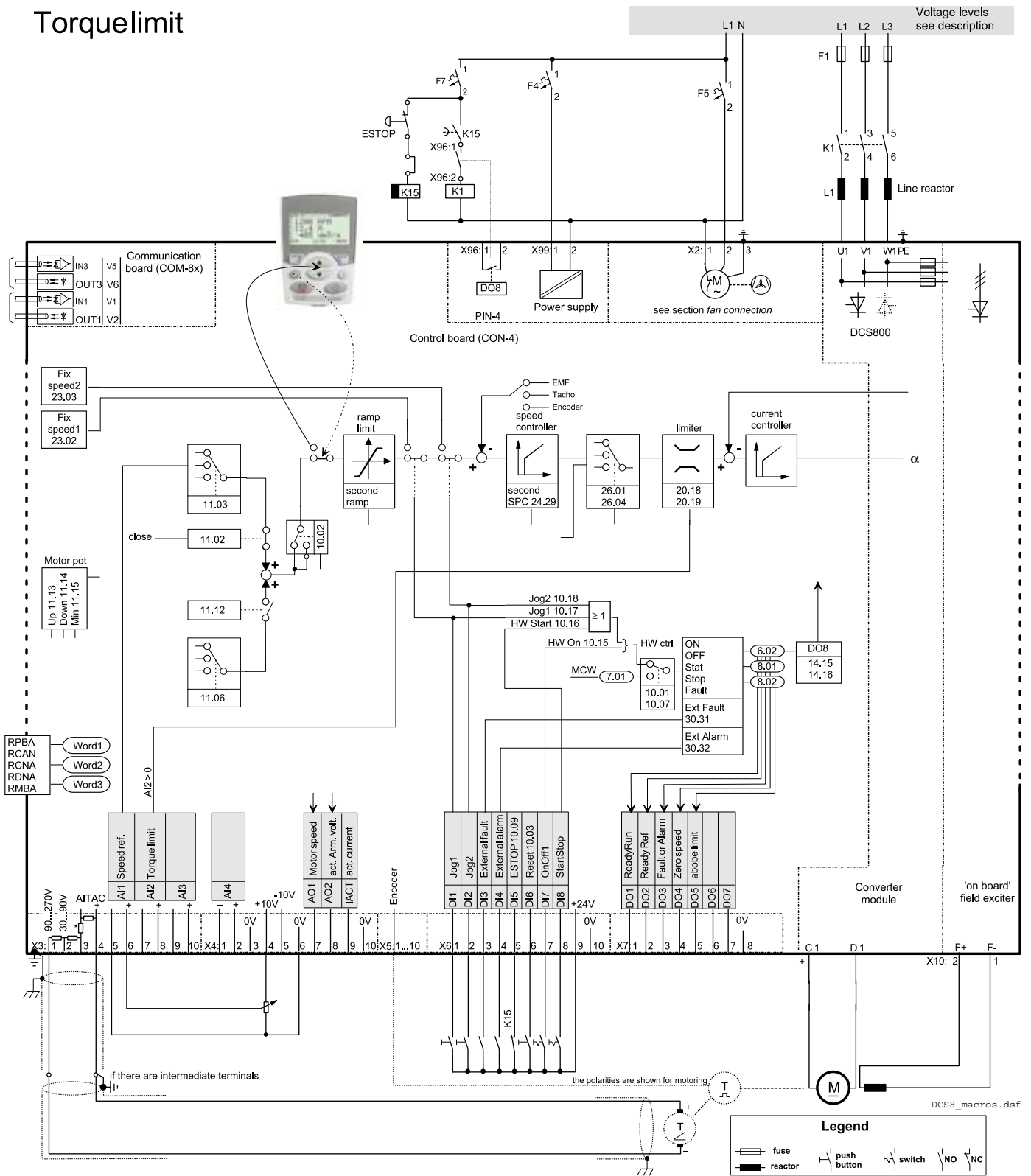


3-wireStandard



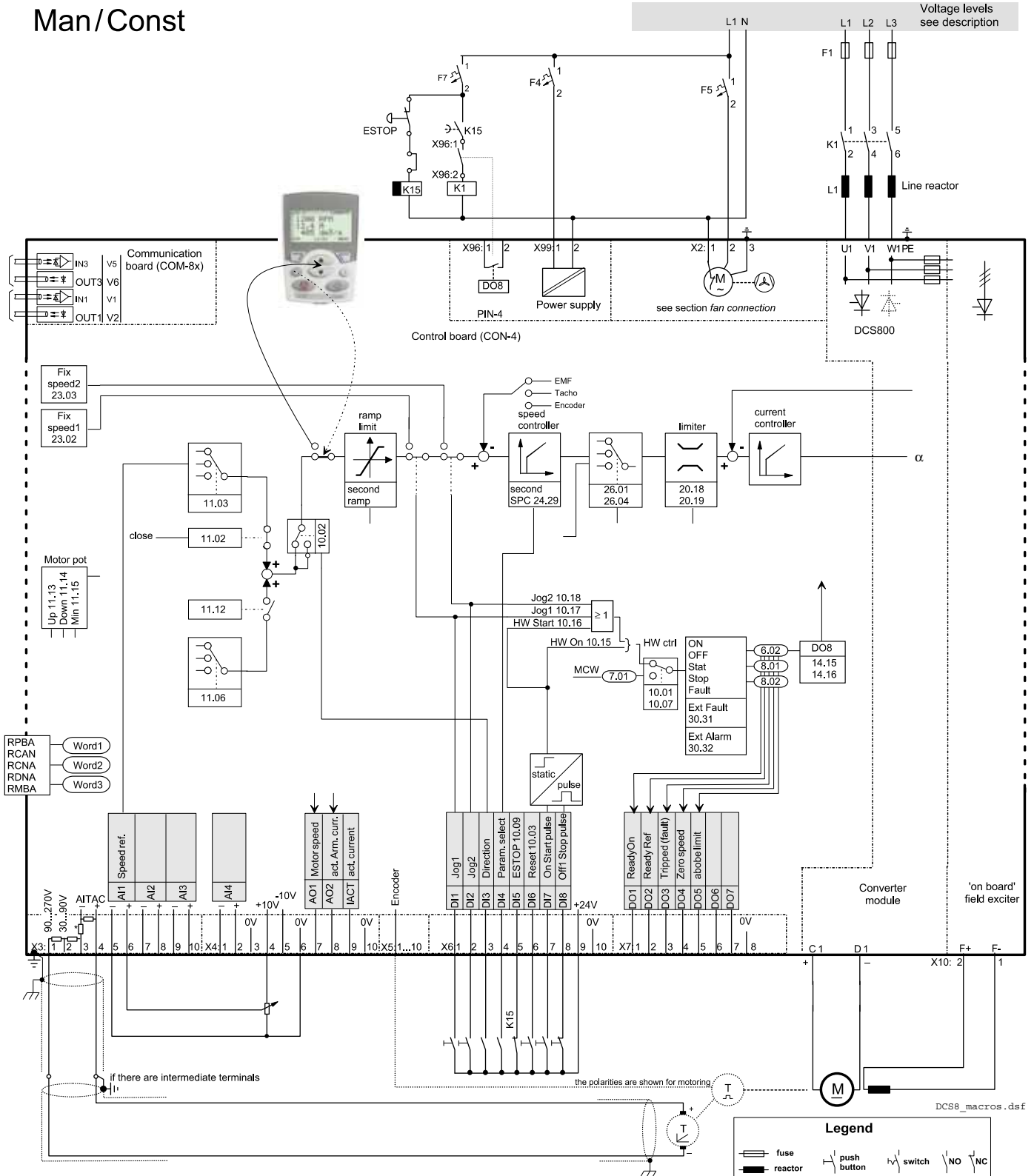


Torque limit



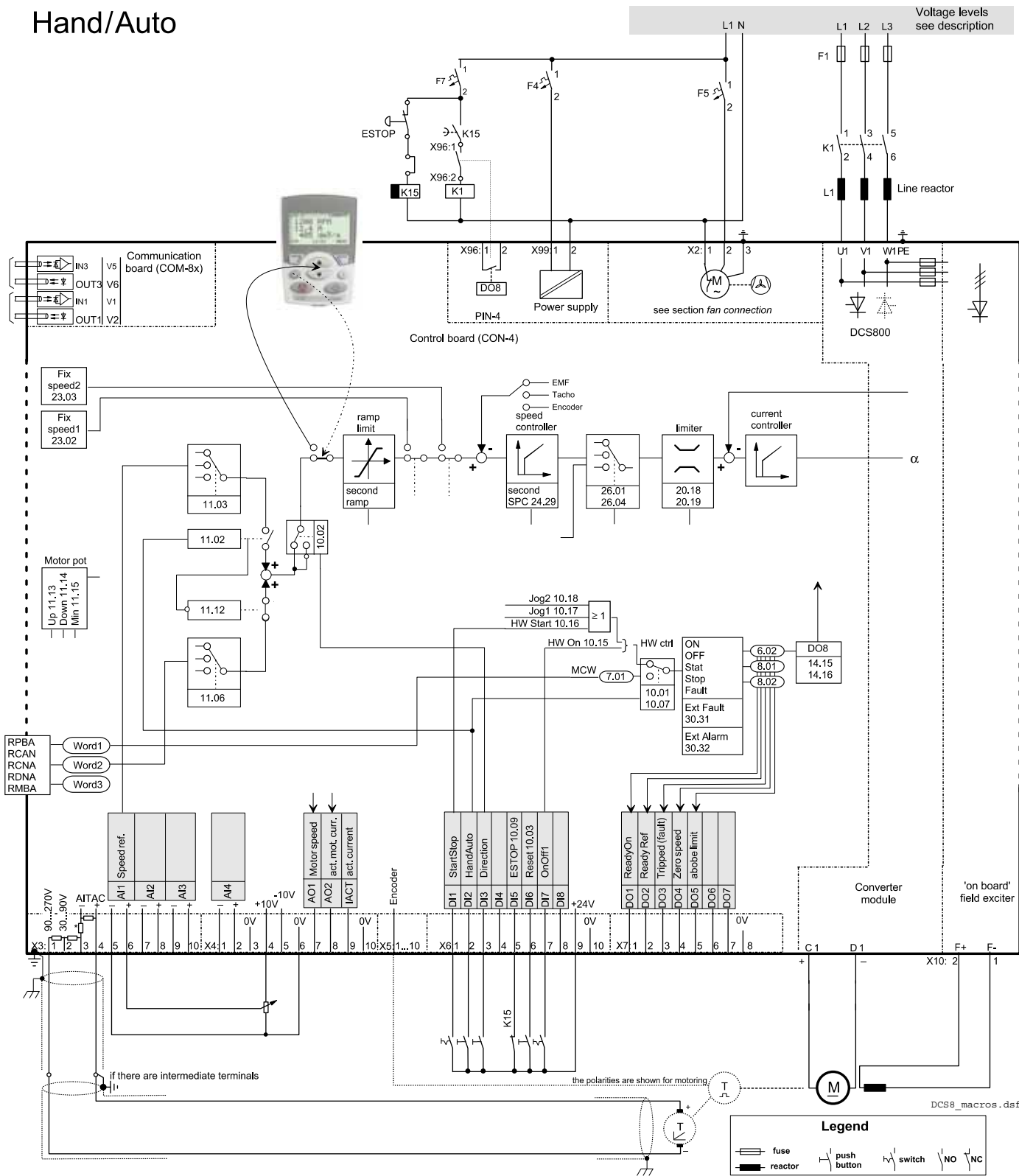


Man/Const



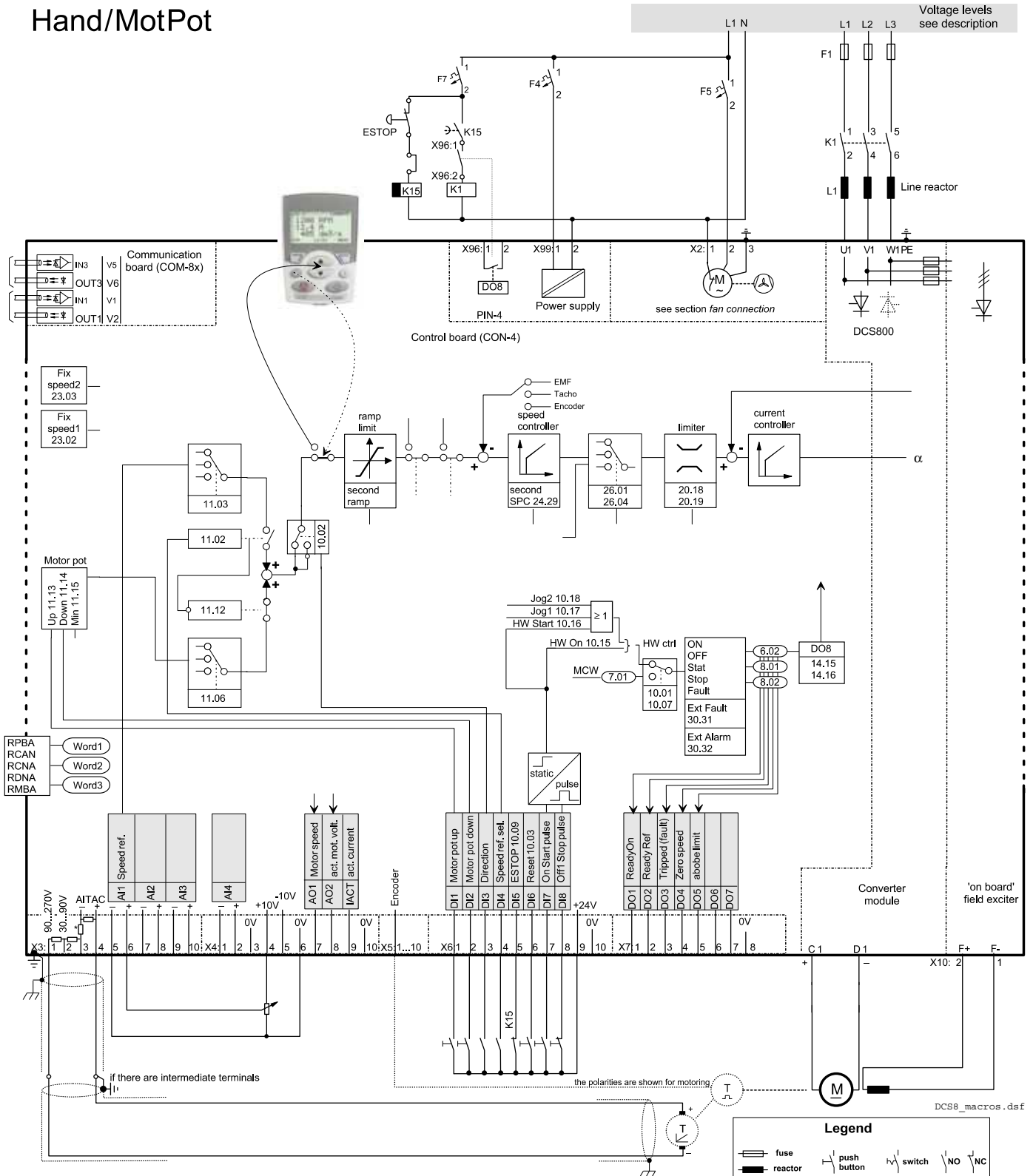


Hand/Auto



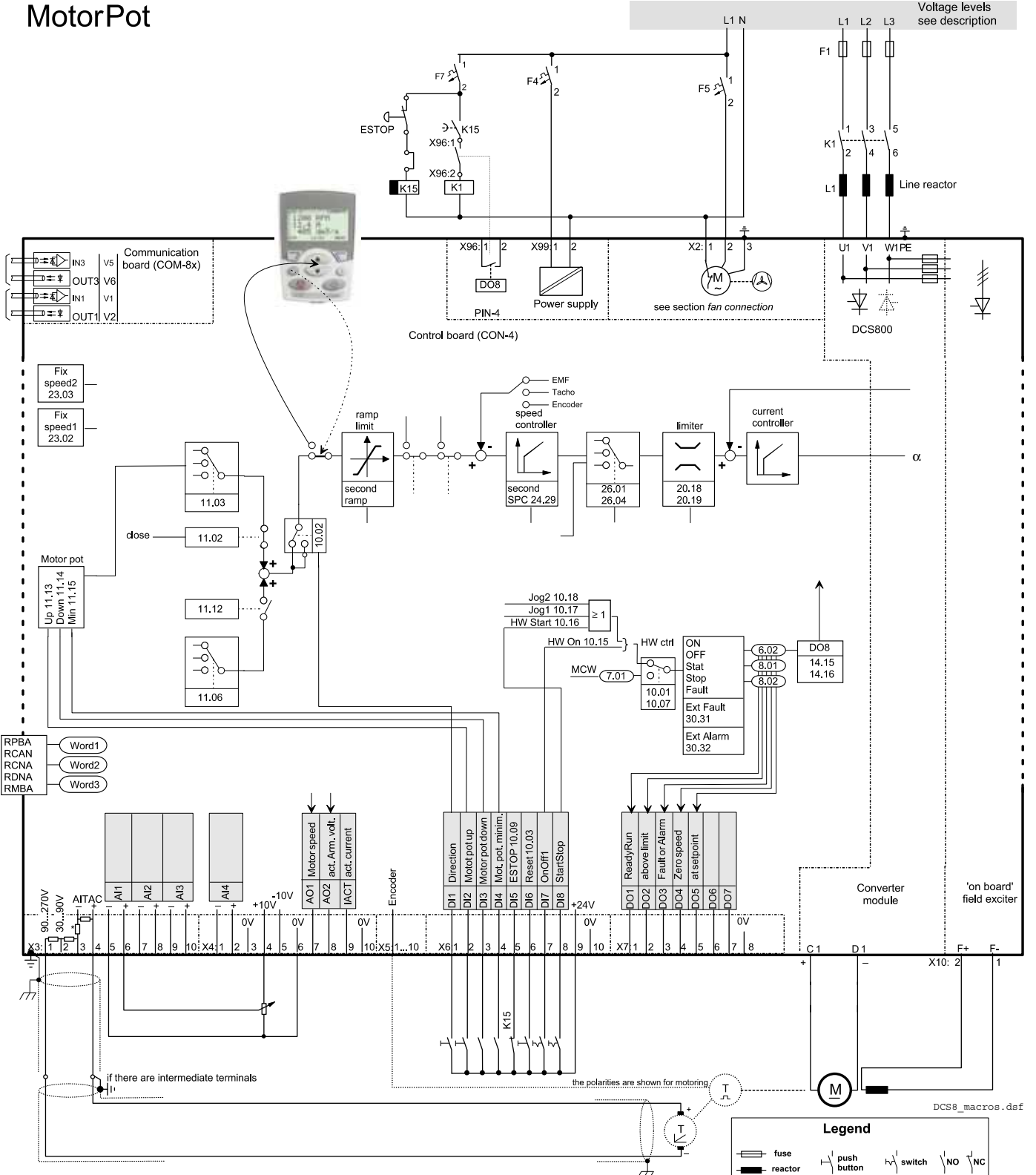


Hand/MotPot



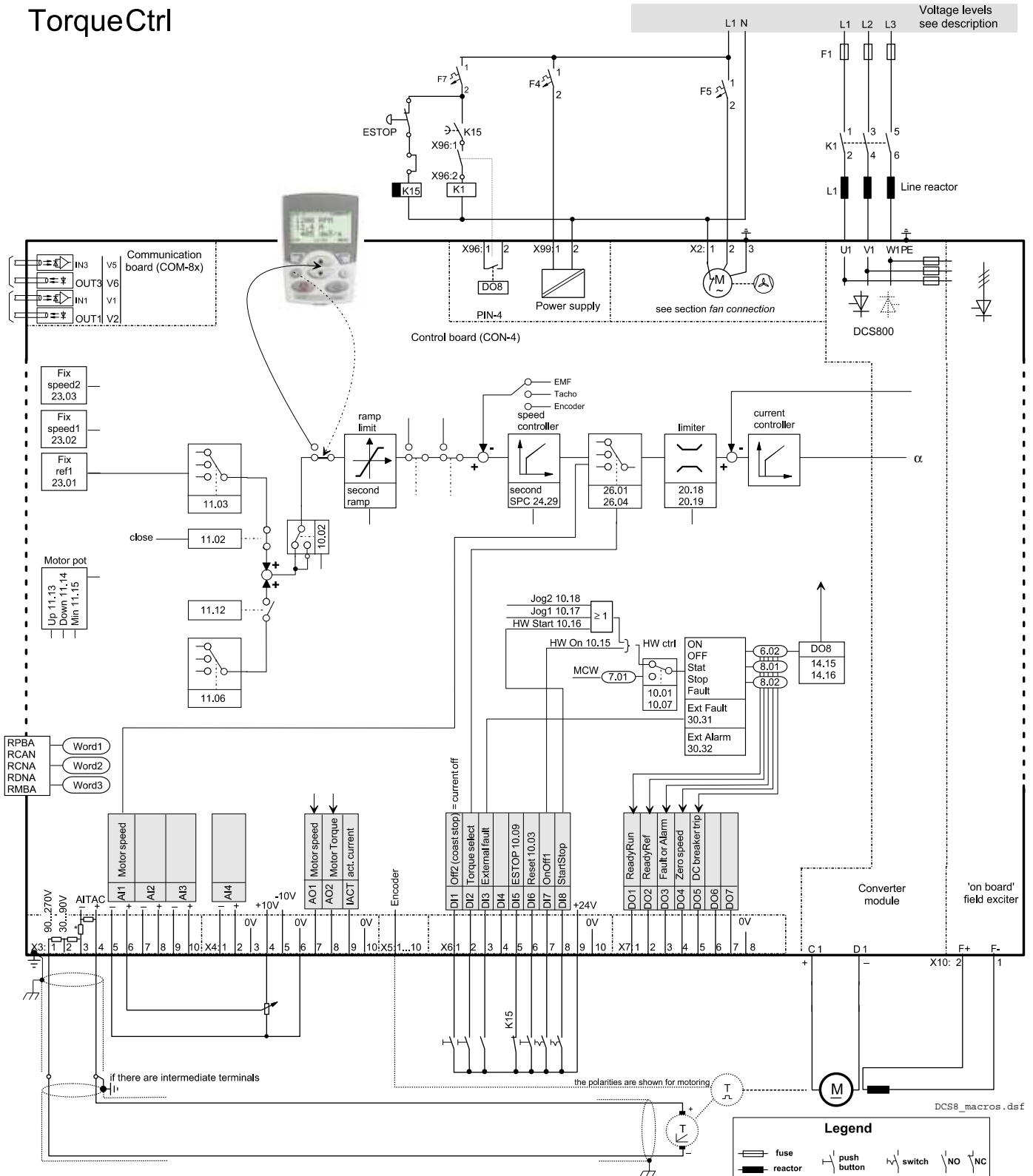


MotorPot

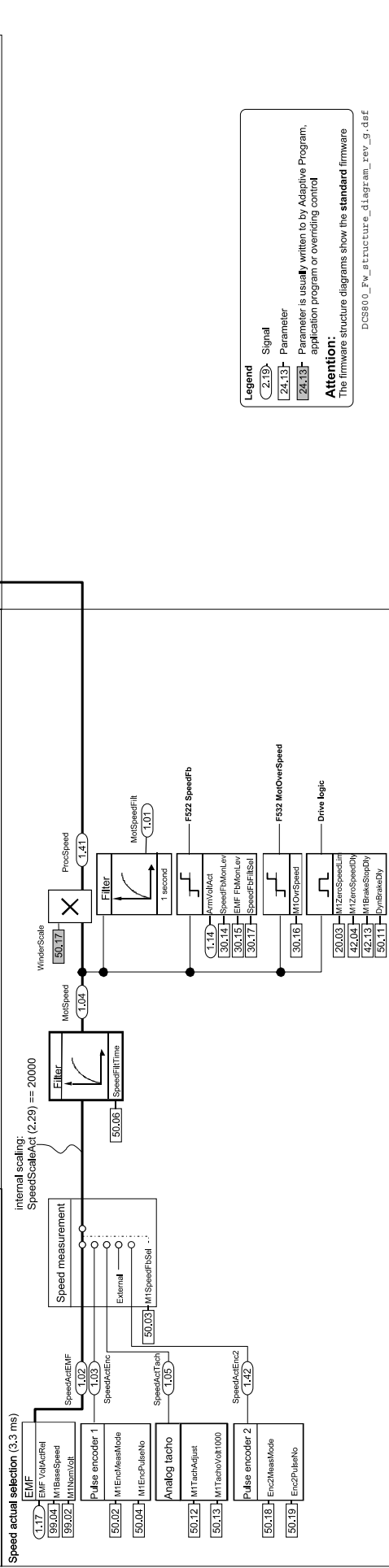
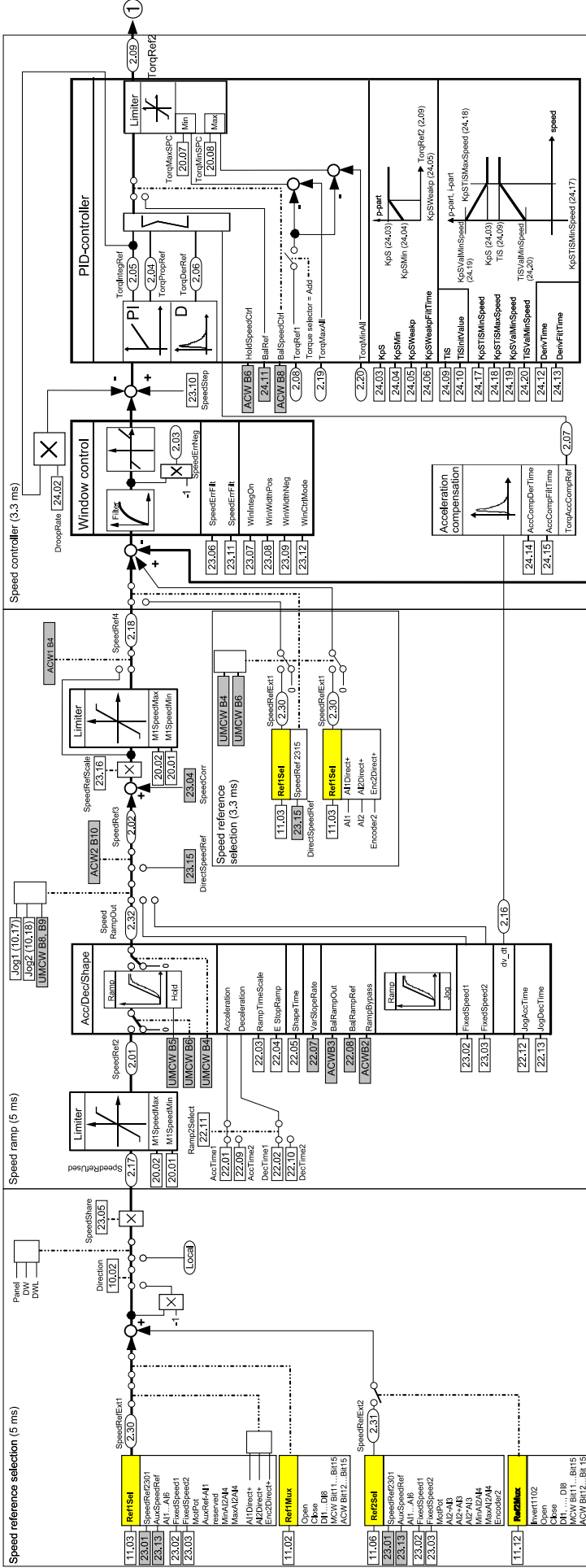




TorqueCtrl



SPEED REFERENCE CHAIN



DCS800_Fw_structure_diagram_rev_g.daf

TORQUE CONTROL CHAIN

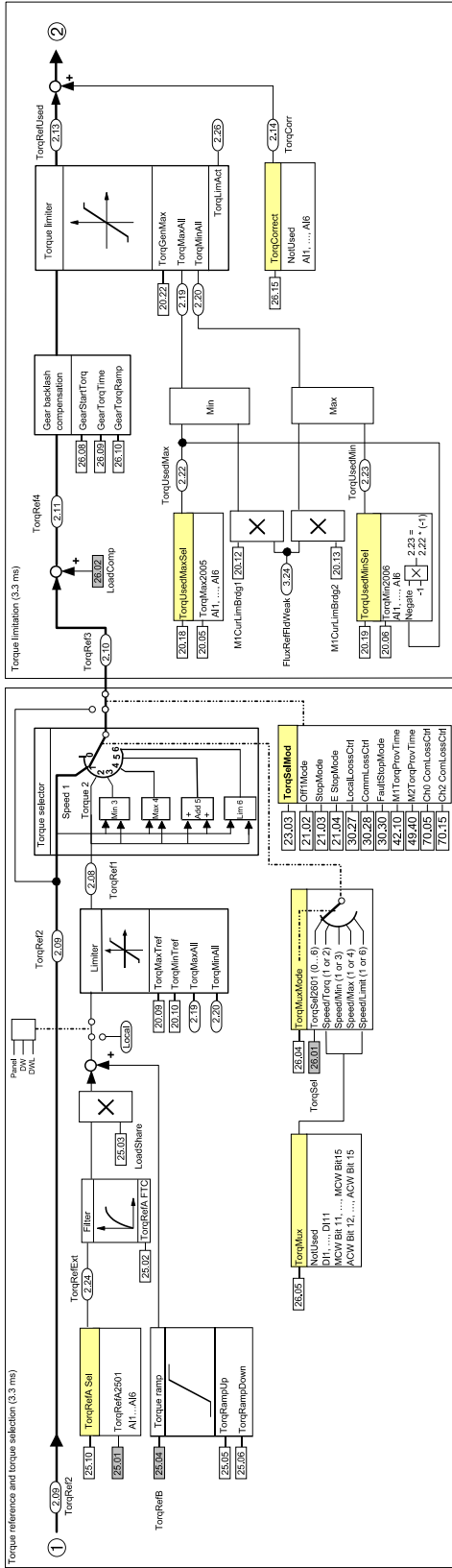
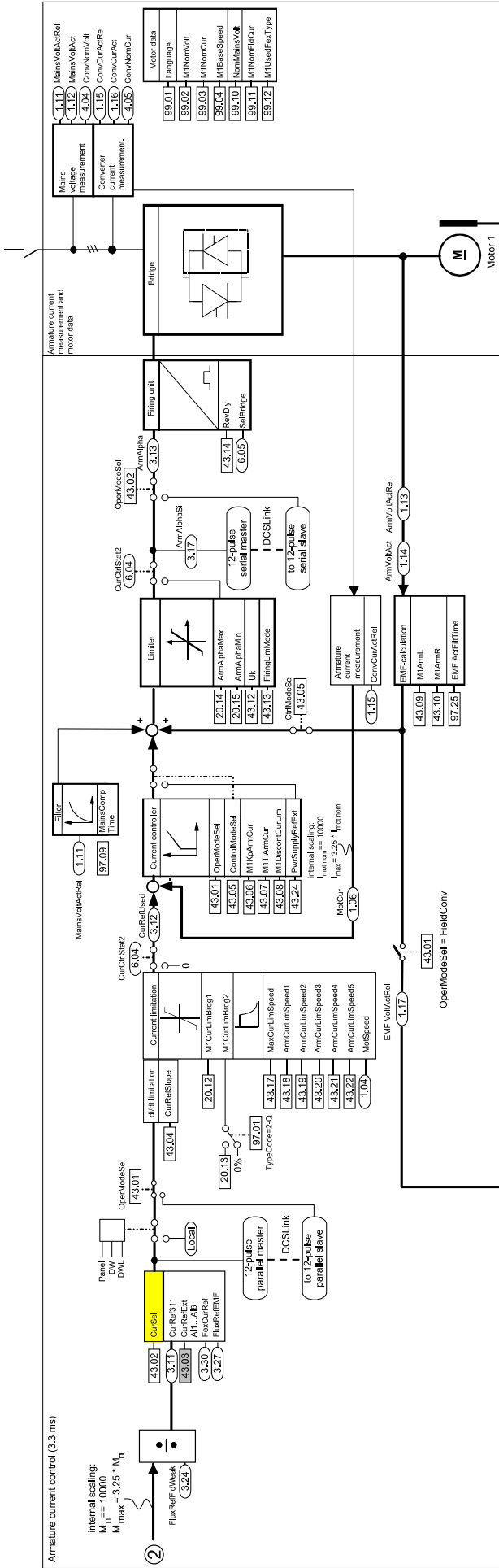


ABB Drive profile control

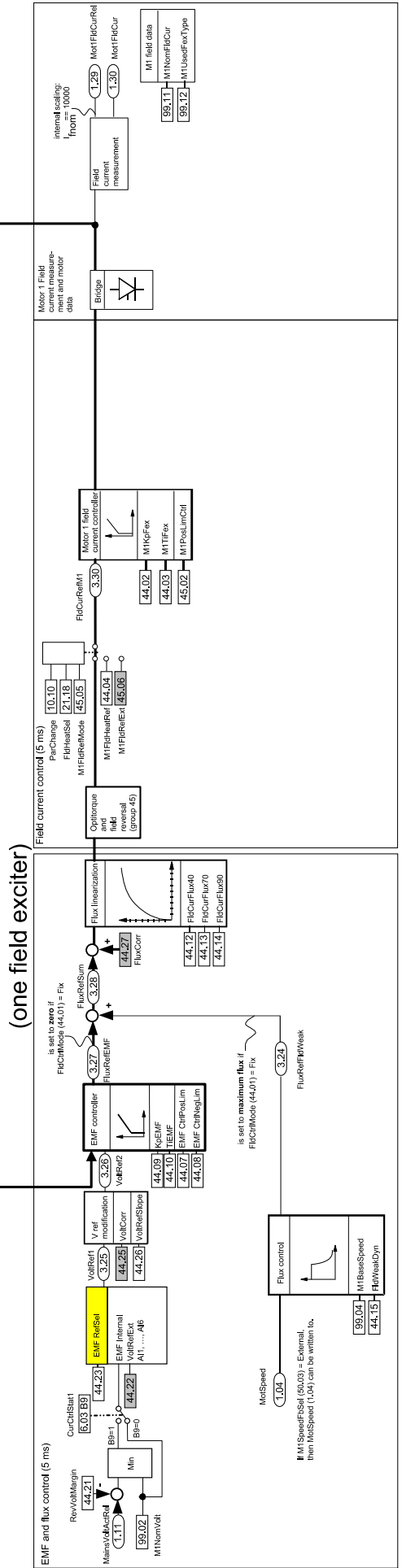
7.02	7.03	7.01	7.04	6.03	8.01	8.02
AuxCntrlWord (ACW1)	AuxCntrlWord2 (ACW2)	MainCntrlWord (MCW)	UseMCW (UMCW)	Drive Logic	CurChBstArt	MainStatWord (MSW)
Bit0 RestartDataLog	Bit0 reserved	Bit0 On (Off1N)	Bit0 On (Off1N)	Faults	Bit0 FansOn Cmd.	Bit0 RdyOn
Bit1 TrigDataLog	Bit1 reserved	Bit1 Off2N (Coast Stop)	Bit1 Off2N (Coast Stop)	Alarms	Bit1 reserved	Bit1 RdyRun
Bit2 RampBypass	Bit2 reserved	Bit2 Off3N (E-Stop)	Bit2 Off3N (E-Stop)	MaxSpeed	Bit2 E-StopCoast	Bit2 TripRef
Bit3 BallRampOut	Bit3 reserved	Bit3 Run	Bit3 Run	Off1Mode	Bit3 Tripped	Bit3 User1
Bit4 LmSpeedRef4	Bit4 DisableBrdge1	Bit4 RampOutZero	Bit4 RampOutZero	StopMode	Bit4 Off2NStatus	Bit4 User2
Bit5 reserved	Bit5 DisableBrdge2	Bit5 RampHold	Bit5 RampHold	E StopMode	Bit5 Off3NStatus	Bit5 SyncRdy
Bit6 HoldSpeedCntrl	Bit6 reserved	Bit6 RampInZero	Bit6 RampInZero	FNSStart	Bit6 FieldOn Cmd.	Bit6 SyncRdy
Bit7 WindowCntrl	Bit7 reserved	Bit7 Reset	Bit7 Reset	FNStdy	Bit6 dynamic braking	Bit6 Flex1Act
Bit8 BalSpeedCntrl	Bit8 DriveDirection	Bit8 Inching1	Bit8 Inching1	MainContCntrlMode	Bit7 MainContactor Cntrl	Bit7 Flex2Ack
Bit9 SyncCommand	Bit9 reserved	Bit8 Inching2	Bit8 Inching2	FltHeatSel	Bit8 ASetpoint	Bit8 BrakeCmd
Bit10 SyncDisable	Bit10 DirectSpeedRef	Bit9 RemoteCmd	Bit9 RemoteCmd		Bit9 drive generating	Bit9 Limiting
Bit11 ResetSyncRdy	Bit11 reserved	Bit10 RemoteCmd	Bit10 RemoteCmd		Bit10 DC contactor US	Bit10 TorcCntrl
Bit12 aux. control	Bit12 ForceBrake	Bit11...Bit15 aux. control	Bit11...Bit15 aux. control		Bit12 continuous current	Bit11 reserved
Bit13 aux. control	Bit13 reserved				Bit13 zero current	Bit12 reserved
Bit14 aux. control	Bit14 reserved				Bit14 DC-breaker trip cmd	Bit13 reserved
Bit15 aux. control	Bit15 ResetPDCntrl				Bit15 DC-breaker trip cmd	Bit14 reserved
						Bit15 reserved

DCS800_EW_structure_diagram_rev_9.dwg

ARMATURE CURRENT CONTROL

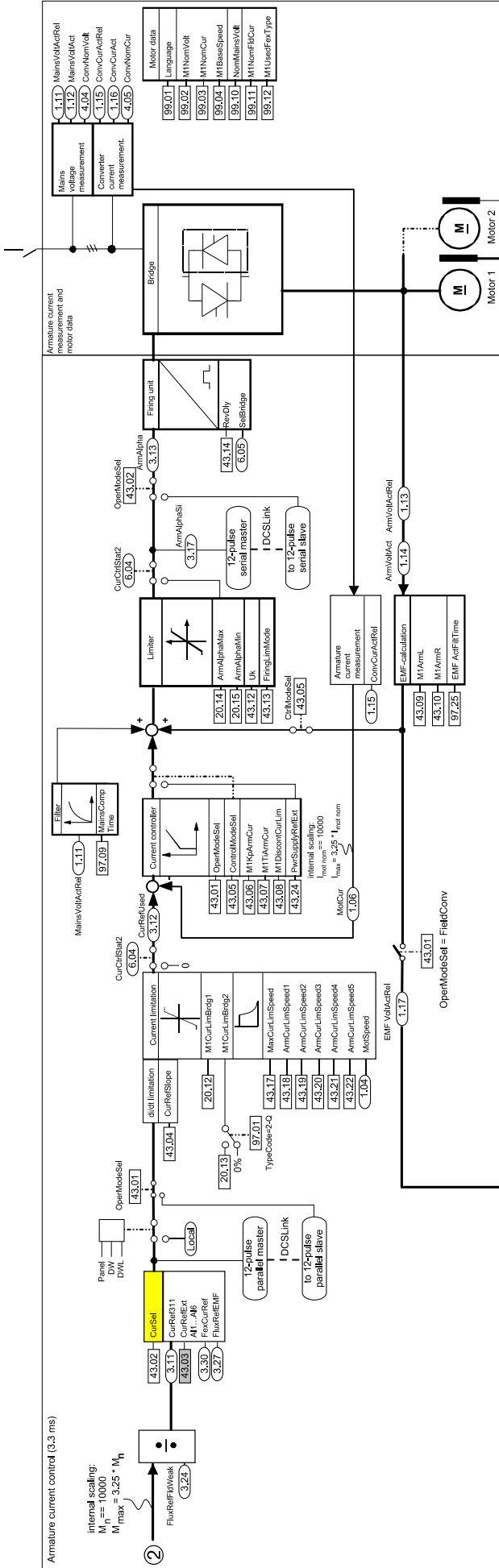


FIELD CURRENT CONTROL (one field exciter)

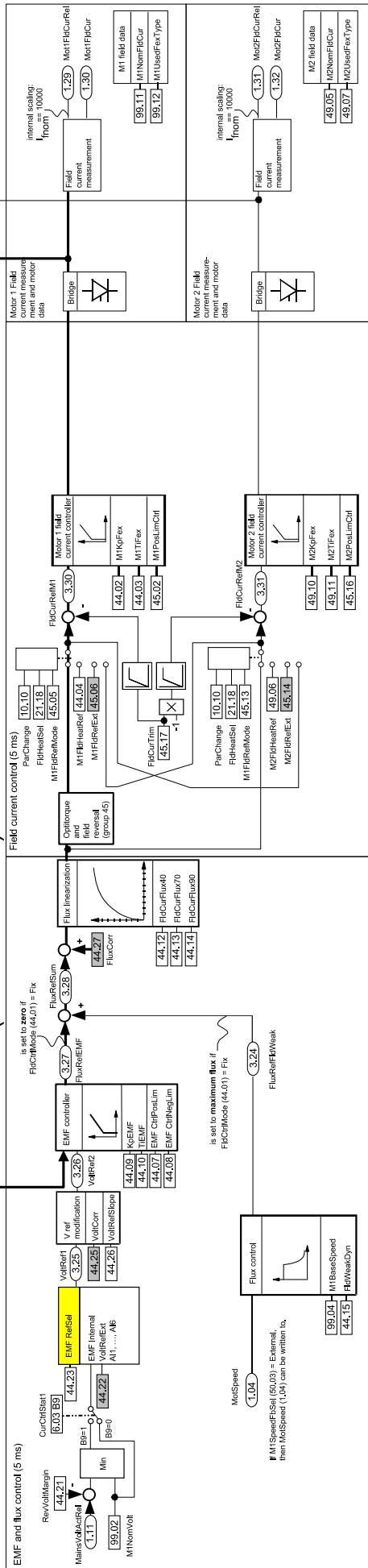


DCS800_Pw_structure_diagram_rev_g.dwg

ARMATURE CURRENT CONTROL



FIELD CURRENT CONTROL (two field exciters)



DCS800_Fw_structure_diagram_rev_g.daf

Declaration of Conformity

(Directive 73/23/EEC [Low Voltage], as amended by 93/68/EEC)
(Directive 89/336/EEC [EMC], as amended by 93/68/EEC)

Document code : ABB/DEAPR/AD 06-02

We, ABB Automation Products GmbH
Division Drives & Motors
Wallstadter Str. 59 D68526 Ladenburg, Germany

herewith declare under our sole responsibility, that the product series

DCS 800 Converter Module up to supply voltage of 1000V~

to which this declaration relates, is a BDM / CDM according EN 61800-1: 1998
[IEC 61 800-1]

It is in conformity with

- the **Low Voltage Directive (LVD) 73/23/EEC**, including amendment 93/68/EEC.
Following standards have been applied:

- EN 61800-1: 1998 [IEC 61 800-1]
- EN 60204-1: 1997 [IEC 60 204-1] and

- the **Electromagnetic Compatibility (EMC) Directive 89/336/EEC**, including amendment 93/68/EEC. Following standards have been applied:

- EN 61800-3: 2004 [IEC 61800-3]

This declaration is based on Technical Construction File, code 3ADT061024. It is provided, that instructions for installation, operation and maintenance are according the product documentation.

Ladenburg, 24.03.2006



APR Christian Wendler
President



APR / AD Harald Jetses
PRU Manager

This declaration does not express any assurance of characteristics.
Installation and safety instructions mentioned in our installation manual must be obeyed.
The conformity was tested in a typical configuration.



AWQ - 051201

Herstellbescheinigung / Certificate of Manufacture

Datum / date: 01.12.2005

Identifizierung des Produktes / Identification of product

Typ / type : ABB DC Converter Families DCS 400, DCS 500, DCS 600, DCS 800

Prüfung / Test

Die Prüfung erfolgt nach interner, produktspezifischer Prüfanweisung.

Routine test is performed in accordance with ABB product specific test instruction.

Erklärung / Declaration

Wir bestätigen die einwandfreie Herstellung und Prüfung der oben erwähnten Produkte in unserer Fabrik in Lampertheim, Deutschland nach unseren Normen und Sicherheitsvorschriften.

We hereby confirm that the above mentioned products are manufactured and tested in our facility in Lampertheim, Germany in conformity with our standards and safety rules.

**ABB Automation Products GmbH
BUU Drives & Motors
Factory Lampertheim**

Werksleiter
General Manager


Harald Jetses

Produktionsleiter
Operations Manager


Bernd Schmalenberger

ABB Automation Products GmbH

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For Your Notes

A series of horizontal dotted lines for writing notes.

For Your Notes

A series of horizontal dotted lines for taking notes.

For Your Notes

A series of horizontal dotted lines for taking notes.

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 process industry

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



DCS800-A enclosed converters

Complete drive solutions

20 ... 20,000 A_{DC}
0 ... 1,500 V_{DC}
230 ... 1,200 V_{AC}
IP21 – IP54

- Individually adaptable to customer requirements
- User-defined accessories like external PLC or automation systems can be included
- High power solutions in 6- and 12-pulse up to 20,000 A, 1,500 V
- In accordance to usual standards
- Individually factory load tested
- Detailed documentation



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 PxD
 - BBC SZxD
 - ASEA TYRAK
 - other manufacturers

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