The DCS880

Chapter overview

This chapter describes briefly the operating principle and construction of the converter modules in short.

The DCS880 converter modules

The DCS880-S size H1 ... H8 are intended for controlling DC motors.

Size H1 ... H5
20 **...** 1190 A

Size H6
900 **...** 2000 A

Size H7
1900 **...** 3000 A

Size H8
2050 **...** 5200 A

Type code

The type code contains information on the specification and configuration of the drive. The first digits from left show the basic configuration (e.g. DCS880-S01-2000). The optional selections are given thereafter on the name plate by plus code. The main selections are described below. Not all selections are available for all types.

The drive's basic type code: DCS880-aab-cccc-ddef + plus code			
Product family	DCS880		
Product type:	aa	= S0 = R0 = E0 = A0	Standard converter module Rebuild kit Panel solution Enclosed converter
Bridge type:	b	= 1 = 2	Single bridge (2-Q) 2 anti-parallel bridges (4-Q)
Module type:	cccc	=	Rated DC current (IP00)
Rated AC voltage:	dd	= 04 = 05 = 06 = 07 = 08 = 10 = 12	100 V_{AC} ... 415 V_{AC} 100 V_{AC} ... 500 V_{AC} (IEC), 525 V_{AC} (UL) 270 V_{AC} ... 600 V_{AC} 315 V_{AC} ... 690 V_{AC} 360 V_{AC} ... 800 V_{AC} 450 V_{AC} ... 990 V_{AC} 540 V_{AC} ... 1190 V_{AC}
Power connection:	e	= X = L = R	Standard H1 ... H7 Left side H8 Right side H8
Revision code:	f	= 0	1st generation
Field exciter configuration:	+0S163 +S164		H1 ... H4 without OnBoard field exciter H5 and H6 with internal field exciter, supply external (H5 and H6: 25 A, Rebuild kit: 16 A / 25 A)
Fan voltage:	Standard		Size H4 Fan voltage: 230 V / 1-ph
Application programming:	+S551		Memory unit including drive application programming license
SDCS-DSL-H10:	+S521		1 DCSLink channel, 0 channels optical power link SDCS-DSL-H10 (H1 ... H4)
Current measurement:	+S175		SDCS-CMA-2 (H6 ... H8)
Voltage measurement:	+S185		SDCS-PIN-H51 configured for 20 V_{AC} ... 100 V_{AC} (H6 ... H8)
Control panel:	+0J404 +J428 +J429		Without control panel daisy-chain option DPI-H01 kit Bluetooth control panel ACS-AP-W

The technical data and specifications are valid as of going to press. ABB reserves the right to make subsequent alterations.

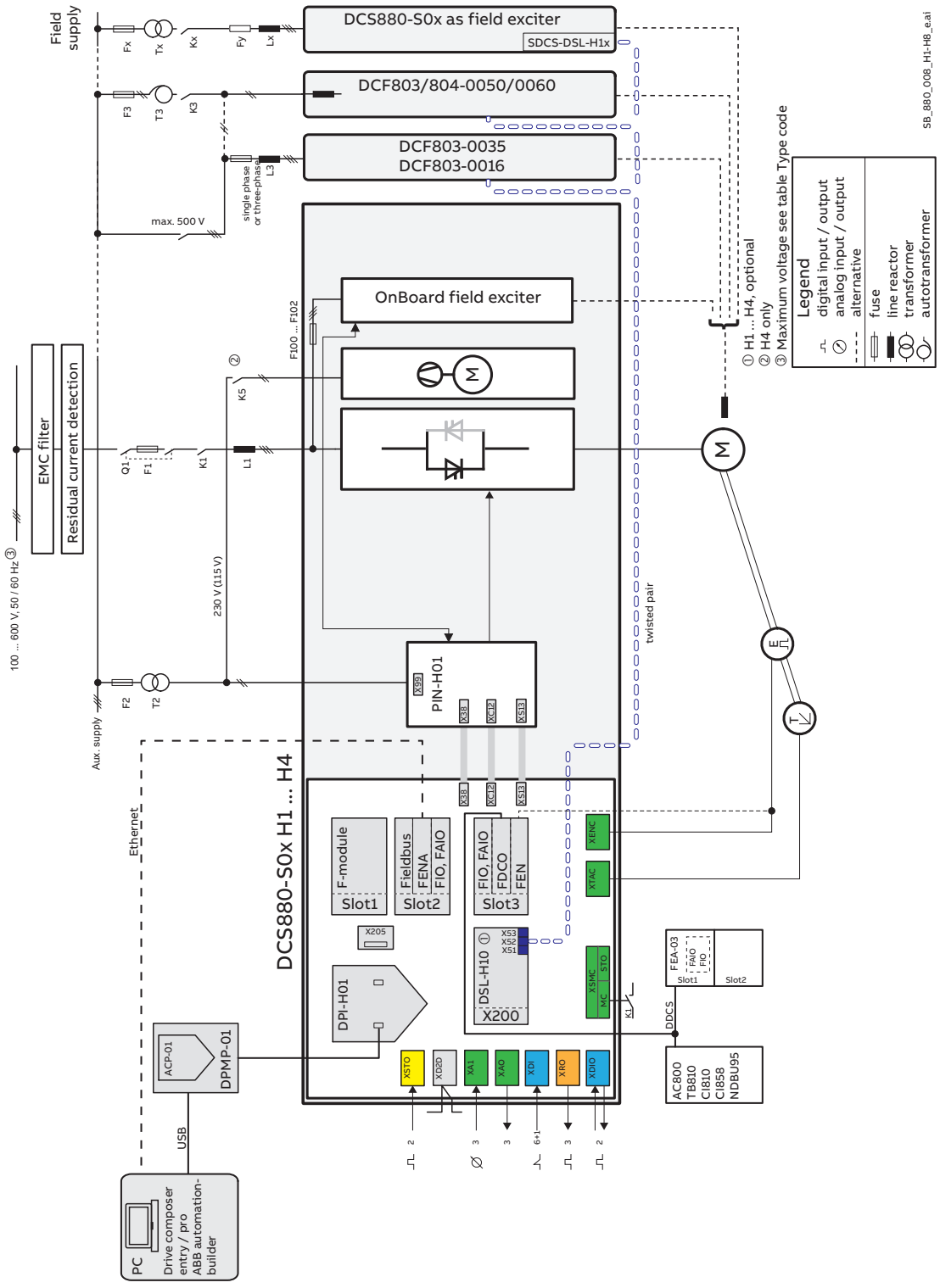
Plus codes

Option	Option code	Description
ACS-AP-I	standard	built-in
no ACS-AP-I	0J404	No Control Panel
ACS-AP-W	+J429	Bluetooth panel
DPI-H01	+J428	daisy-chain option
FDNA-01	+K451	Fieldbus DeviceNet
FPBA-01	+K454	Fieldbus PROFIBUS
FCAN-01	+K457	Fieldbus CANOpen
FSCA-01	+K458	Fieldbus Modbus
FCNA-01	+K462	Fieldbus ControlNet
FECA-01	+K469	Fieldbus EtherCat
FEPL-02	+K470	Fieldbus Ethernet POWERLINK
FENA-11	+K473	Ethernet/IP, Modbus/TCP, Profinet
FENA-21	+K475	Ethernet/IP, Modbus/TCP, Profinet
FIO-11	+L500	Analog I/O Extension (3 AI, 1 AO, 2 DIO)
FIO-01	+L501	Digital I/O Extension (4 DIO, 2 RO)
FAIO-01	+L525	Analog I/O Extension (2 AI, 2 AO)
FDIO-01	+L526	Digital I/O Extension (3 DI, 2 RO)
FPTC-01	+L536	Thermistor protection module
FEN-01	+L517	TTL Encoder interface
FEN-21	+L516	Resolver Interface
FEN-31	+L502	HTL Encoder Interface
FDCO-01	+L503	DDCS communication 10/10 MBd
FDCO-02	+L508	DDCS communication 5/10 MBd
Application programming	+S551	Memory unit including drive application programming license
no OnBoard field exciter	0S163	Excludes OnBoard field exciter (H1 ... H4)
SDCS-DSL-H10	+S521	1 DCSLink channel, 0 channels optical power link
FSO-21	+Q972	Functional Safety Option
FSE-31	+L521	Functional Safety Encoder

Main circuit and control

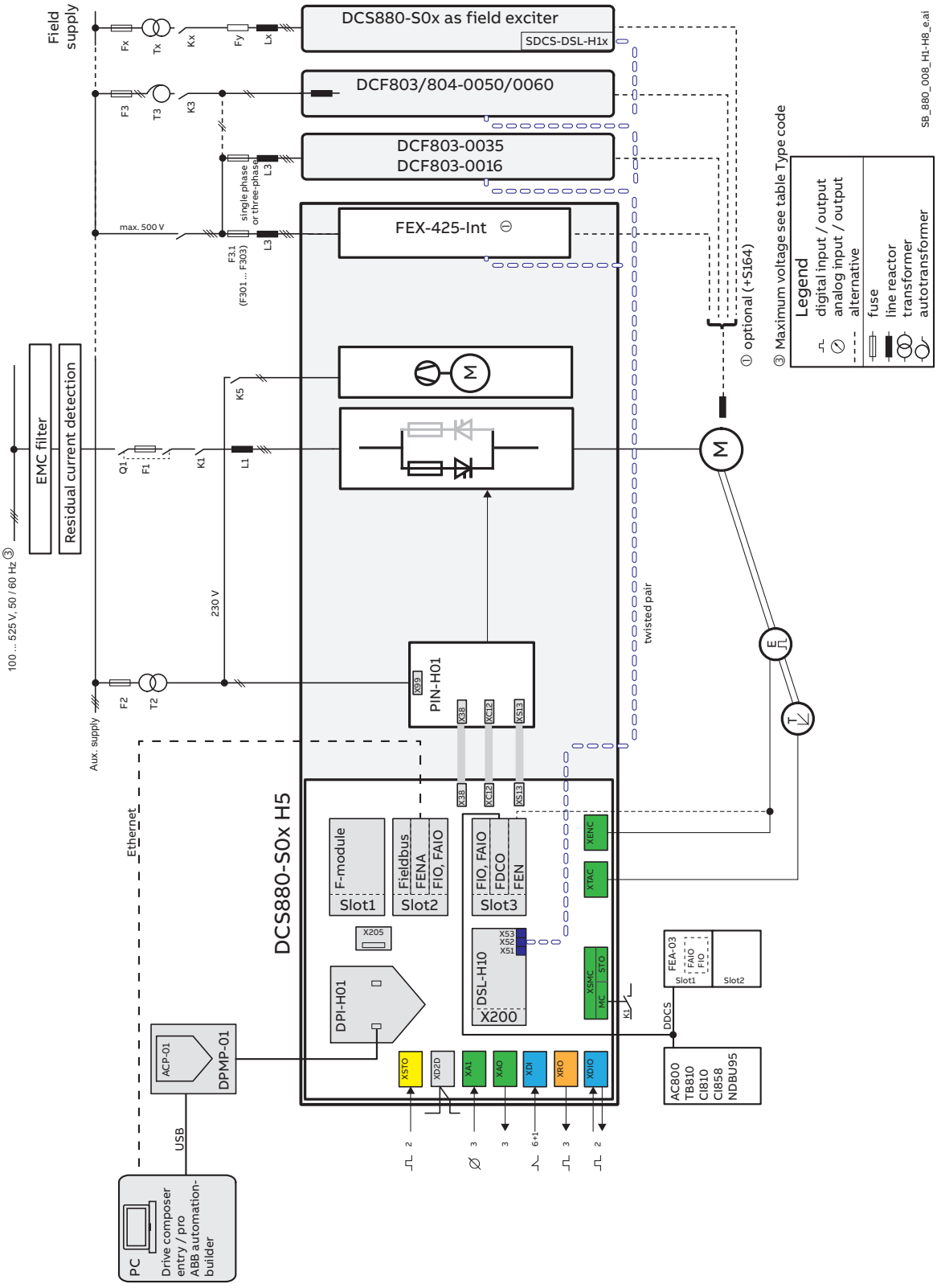
Armature converter DCS880 H1 ... H4

400 V and 500 V (IEC) / 525 V (UL) units with OnBoard field exciter. 600 V units are always without OnBoard field exciter.

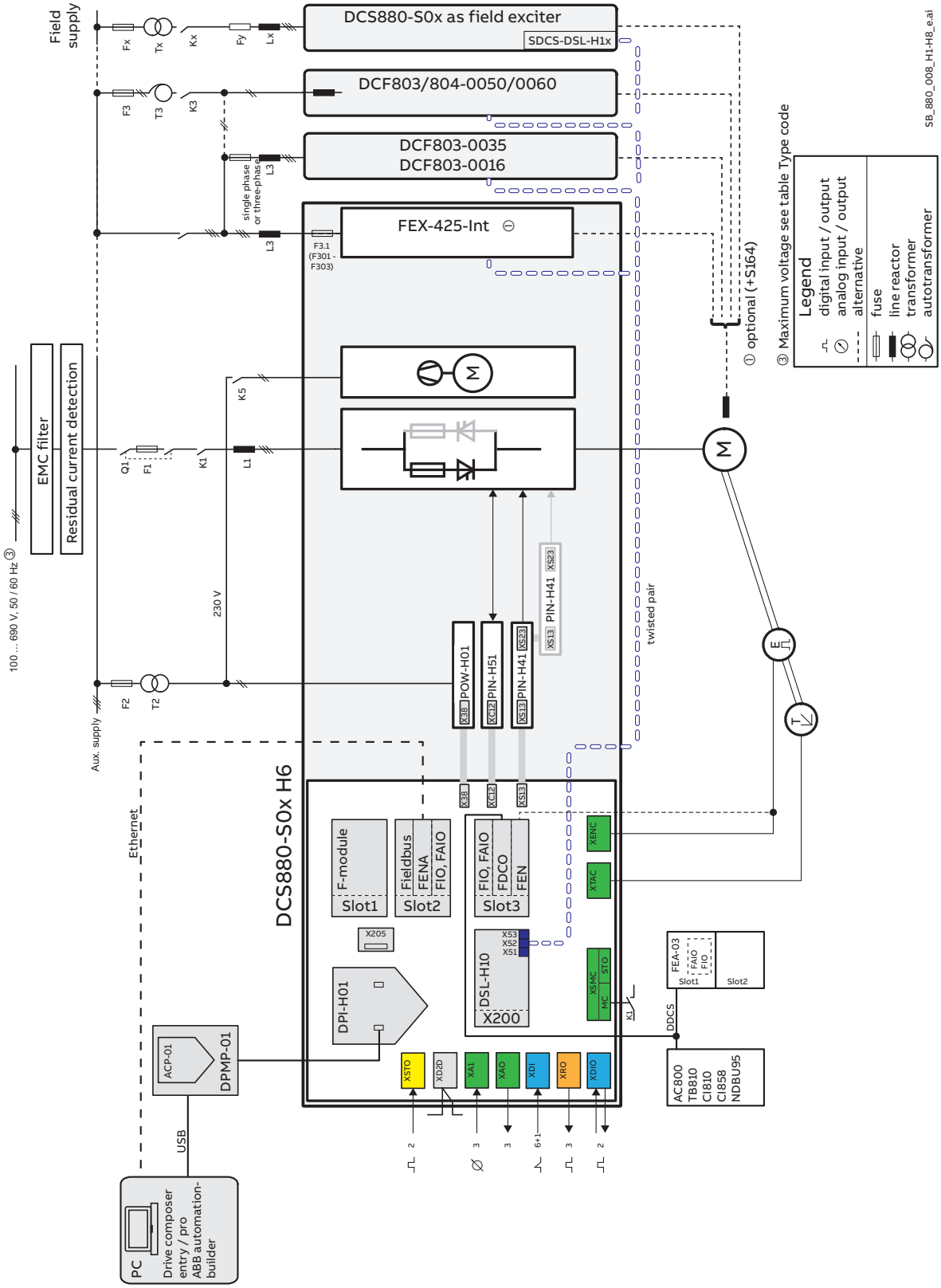


Armature converter DCS880 H5

H5 units with optional internal field exciter.



Armature converter DCS880 H6



Armature converter DCS880 H7 and H8