

<b>ABB</b> ABB AG	<b>DCS880, DCT880, DCS800 DCS880, DCT880 and DCS800 plus code lists</b>	<b>Hardware Hint HW DCS880/DCT880/DCS800 3ADW000795R0101</b>
Date: 02.05.2022	Name: Thomas Vinz	Department: MO-DCP

<b>Types concerned</b>	
	All DCS880 modules.  All DCS880 enclosed converters.  All DCT880 modules.  All DCS800 modules.

<b>Summary</b>	
	This document contains all plus codes for: <ul style="list-style-type: none"> <li>- DCS880-S modules.</li> <li>- DCS880-A enclosed converters.</li> <li>- DCT880 modules.</li> <li>- DCS800 modules.</li> </ul>

## **DCS880-S module plus code list**

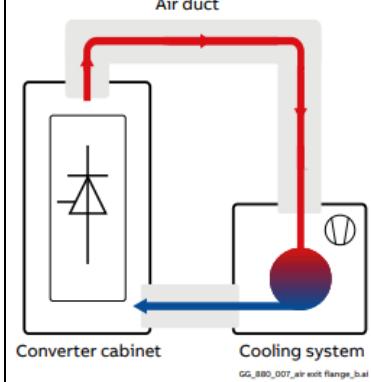
<b>Plus code</b>	<b>Option</b>	<b>Description</b>
0J404	No ACS-AP-I	The DCS880 is delivered without a control panel.
0S163	No OnBoard field exciter	The DCS880 is delivered without an OnBoard field exciter. Valid for modules size H1 ... H4 only.
0S521	No SDCS-DSL-H10	The DCS880 is delivered without a DSL board. Valid for modules size H5 and H6 only.
+J428	SDCS-DPI-H01	Daisy chain adapters are used to connect several drives to one control panel or to a PC via a control panel.
+J429	ACS-AP-W	The DCS880 is delivered with a Bluetooth capable control panel instead of the standard control panel.
+K451	FDNA-01	DeviceNet fieldbus adapter.
+K454	FPBA-01	PROFIBUS DP fieldbus adapter.
+K457	FCAN-01	CANOpen fieldbus adapter.
+K458	FSCA-01	Modbus/RTU, RS-485 fieldbus adapter.
+K462	FCNA-01	CONTROLNET fieldbus adapter.
+K469	FECA-01	ETHERCAT fieldbus adapter.
+K470	FEPL-02	ETHERNET, POWERLINK fieldbus adapter.
+K475	FENA-21	EtherNet/IP, PROFINET IO, Modbus/TCP (2-port) fieldbus adapter.
+K490	FEIP-21	EtherNet/IP (2-port) fieldbus adapter.
+K491	FMBT-21	Modbus/TCP (2-port) fieldbus adapter.
+K492	FPNO-21	PROFINET IO (2-port) fieldbus adapter.

<b>Plus code</b>	<b>Option</b>	<b>Description</b>
+L500	FIO-11	Analog I/O extension (3 AI, 1 AO, 2 DIO) module. – AI for $\pm 20$ mA. – AI for $\pm 10$ V. – AO for 0 mA ... 20 mA. – DIO for 24 V <sub>DC</sub> .
+L501	FIO-01	Digital I/O extension (4 DIO, 2 RO) module. – DIO for 24 V <sub>DC</sub> . – RO for 240 V <sub>AC</sub> , 2 A resistive load. – RO for 30 V <sub>DC</sub> , 5 A resistive load.
+L502	FEN-31	HTL pulse encoder interface module.
+L503	FDCO-01	DDCS communication module (10/10 MBd). For fiber optic communication.
+L508	FDCO-02	DDCS communication module (5/10 MBd). For fiber optic communication.
+L516	FEN-21	Resolver, TTL pulse encoder interface module.
+L517	FEN-01	TTL pulse encoder interface module.
+L521	FSE-31	HTL pulse encoder interface module. The safety pulse encoder interface module provides an easy way to extend safety functions of the DCS880. <b>Note:</b> Requires an FSO-21. See +Q972.
+L525	FAIO-01	Analog I/O extension (2 AI, 2 AO) module. – AI for $\pm 20$ mA. – AI for $\pm 10$ V. – AO for 0 mA ... 20 mA.
+L526	FDIO-01	Digital I/O extension (3 DI, 2 RO) module. – DI for 24 V <sub>DC</sub> ... 250 V <sub>DC</sub> . – DI for 110 V <sub>AC</sub> ... 230 V <sub>AC</sub> . – RO for 250 V <sub>AC</sub> , 1250 VA load. – RO for 24 V <sub>DC</sub> , 5 A load. – RO for 120 V <sub>DC</sub> , 0.4 A load.
+P904	Extended warranty	Extended warranty. 24 months from commissioning or 30 months from delivery, whichever occurs first.
+P909	Extended warranty	Extended warranty. 30 months from commissioning or 42 months from delivery, whichever occurs first.
+P912	Seaworthy packing	Seaworthy packing for modules size H1 ... H8.
+Q972	FSO-21	Safety functions module. The safety functions module provides an easy way to extend safety functions of the DCS880.
+Q986	FSPS-21	PPROFINET IO, PROFISAFE fieldbus adapter.
+S164	SDCS-FEX-425-INT	Built-in external field exciter for modules size H5 and H6. Provides up to 25 A field current. Including DSL cable.
+S175	SDCS-CMA-2	Current measurement aid for modules size H6 ... H8. See <a href="#">Current measurement aid (SDCS-CMA-2) manual</a> . Recommended for 12-pulse and hardparallel configurations.
+S176	3 <sup>rd</sup> CT plus SDCS-CMA-2	Add a 3 <sup>rd</sup> CT and a SDCS-SMA-2 to power units of size H8. Used for hardparallel configurations only.
+S186	SDCS-SUB-4	External voltage measurement for mains voltages lower than 100 V <sub>AC</sub> . See <a href="#">Interface Board SDCS-SUB-4</a> . For modules size H1 ... H5 only.

<b>Plus code</b>	<b>Option</b>	<b>Description</b>
+S189	Galvanic Isolation	No cable connections to high ohmic voltage measurement on the SDCS-PIN-H51. For galvanic isolation use X15 on the SDCS-PIN-H51. For modules size H6 ... H8 only. For galvanic isolation use SDCS-SUB-4. See <a href="#">Galvanic Isolated Voltage Measurement</a> . For modules size H1 ... H5 only.
+S206	Memory unit with magnet application	Memory unit including magnet application. See <a href="#">Product note DCS880 Lift Magnet Supply</a> .
+S230	Customer specific	Customer specific plus code.
+S521	SDCS-DSL-H10	Provides one DCSLink channel for external field excitors and 12-pulse configurations. Provides no OPL channel. For modules size H1 ... H4 only.
+S522	SDCS-DSL-H12	Provides one DCSLink channel for external field excitors and 12-pulse configurations. Provides two OPL channels.
+S523	SDCS-DSL-H14	Provides one DCSLink channel for external field excitors and 12-pulse configurations. Provides four OPL channels. Used for hardparallel configurations with more than 2 power units. For modules size H8 only.
+S551	Memory unit with license	Memory unit including application programming license instead of standard memory unit. See <a href="#">Drive application programming (IEC 61131-3) Programming manual</a> .
+S912	Airworthy packing	Airworthy packing for modules size H1 ... H8.

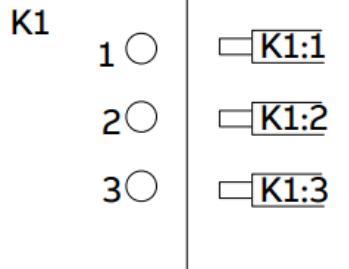
## DCS880-A enclosed converter plus code list

Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
0S163	No OnBoard field exciter	The DCS880 in the cabinet is delivered without an OnBoard field exciter. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						
		X	-	-	-	-	-	-
0S775	No air circuit breaker	Without air circuit breaker for H7 cabinet: – 1900 A .... 3000 A. – 500 V <sub>AC</sub> ... 800 V <sub>AC</sub> . See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Description of DCS880-A Enclosed converters and Overview Enclosed converter DCS880-A.						
		-	-	X	-	-	-	-
+B054	Protection class IP42	IP42: – Grid/mesh at the air entry. – Grid/mesh at the air exit. – Water protective louvers in the cabinet doors. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.						
		<b>Notes:</b>	<ul style="list-style-type: none"><li>– Only in combination with the option bottom plate and/or gland plate (+S780 and +S781).</li><li>– Air inlet filters reduce the rated current of the cabinets.</li></ul>					
+B055	Protection class IP54	IP54: – S-folded filter at the air entry. – A fan box at the air exit. Thus, the total height of the cabinet is 2300 mm. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.						
		<b>Notes:</b>	<ul style="list-style-type: none"><li>– Only in combination with the option bottom plate and/or gland plate (+S780 and +S781).</li><li>– Air inlet filters reduce the rated current of the cabinets.</li></ul>					
+C129	Built according to UL/CSA standard	Built according to UL 61800-5-1/CSA 22.2 274-17 certification and cable markings: <ul style="list-style-type: none"><li>– Cabinet is built according to UL.</li><li>– UL listed/recognized components are used.</li></ul> <b>Note:</b> Not all components in the cabinet have UL.						
		X	X	-	-	-	X	-

Plus code	Option	Description																																																							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty																																																	
		<table border="1"> <thead> <tr> <th>Name</th> <th>Device</th> <th>UL</th> <th>IEC</th> </tr> </thead> <tbody> <tr> <td>U1</td> <td>Converter</td> <td>• ①</td> <td>•</td> </tr> <tr> <td>K1</td> <td>Contactor</td> <td>• ②</td> <td>•</td> </tr> <tr> <td>Q1</td> <td>Air circuit breaker</td> <td>• ②</td> <td>•</td> </tr> <tr> <td>F2/F3/F6</td> <td>Motor fan-/exciter-/aux. fuses</td> <td>• ②</td> <td>•</td> </tr> <tr> <td>L1</td> <td>Line reactor</td> <td>• ③</td> <td>•</td> </tr> <tr> <td>T2</td> <td>Isolation transformer aux. supply</td> <td></td> <td>•</td> </tr> <tr> <td>T3</td> <td>Autotransformer exciter T3.01...T3.16</td> <td></td> <td>•</td> </tr> <tr> <td>T8/T8.7</td> <td>Autotransformer fan supply U1 (size H7/H8)</td> <td></td> <td>•</td> </tr> <tr> <td>U5</td> <td>Oversupply protection</td> <td>•</td> <td>•</td> </tr> <tr> <td>T90</td> <td>Galvanic isolation measurement</td> <td></td> <td>•</td> </tr> <tr> <td>A90</td> <td>Bender isolation monitor ISO685</td> <td>•</td> <td>•</td> </tr> </tbody> </table>								Name	Device	UL	IEC	U1	Converter	• ①	•	K1	Contactor	• ②	•	Q1	Air circuit breaker	• ②	•	F2/F3/F6	Motor fan-/exciter-/aux. fuses	• ②	•	L1	Line reactor	• ③	•	T2	Isolation transformer aux. supply		•	T3	Autotransformer exciter T3.01...T3.16		•	T8/T8.7	Autotransformer fan supply U1 (size H7/H8)		•	U5	Oversupply protection	•	•	T90	Galvanic isolation measurement		•	A90	Bender isolation monitor ISO685	•	•
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X      X      X      X      X      X      -																																																									
+C130	Air outlet duct connection	<p>Instead of a roof an air outlet duct connection is used. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>  <p>GG_880_007_air_exit_flange_bai</p>																																																							
+C160	Back-to-back cabinet alignment	<p>Back-to-back cabinet alignment. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>																																																							
+F259	Earthing switch for group drives	<p>Earthing switch:</p> <ul style="list-style-type: none"> <li>– Possible up to a nominal current of 3000 A<sub>AC</sub>.</li> <li>– The maximum SCCR = 50 kA.</li> <li>– It is possible to have an electrical interlocking between the earthing switch and the circuit breaker.</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A50 Incomings.</p> 																																																							
+F291	DC fuses	<p>DC fuses at the output for 4-Q drives. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>																																																							

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<b>Notes:</b>	<ul style="list-style-type: none"> <li>– No additions for group drives needed.</li> <li>– For single drives an additional 400 mm cabinet is required.</li> </ul>						
		X	-	-	-	-	-	-	
+G300	Anticondensation heater	50 W anticondensation heater per cabinet. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options. <b>Note:</b> Must be supplied with 230 V <sub>AC</sub> by the customer.	X	X	X	X	X	X	
+G301	Cabinet Lighting	LED cabinet lighting including door contact (Rittal fluorescent). See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options. <b>Note:</b> Must be supplied with 115 V <sub>AC</sub> /230 V <sub>AC</sub> by the customer.	X	X	X	X	X	X	
+G304	115 V <sub>AC</sub> auxiliary voltage	115 V <sub>AC</sub> auxiliary voltage instead of 230 V <sub>AC</sub> : <ul style="list-style-type: none"> <li>– Auxiliary transformer (T2) for the electronic system/cooling fan supply.</li> <li>– I/O hardware for 115 V<sub>AC</sub>.</li> </ul> See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options. <b>Note:</b> The cooling fan voltage for modules size H4 and H6 remains at 230 V <sub>AC</sub> .	X	X	X	X	X	X	
+G307	Terminals for auxiliary voltage	Terminals for external 115 V <sub>AC</sub> /230 V <sub>AC</sub> auxiliary Voltage. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options. <b>Note:</b> Without auxiliary transformer (T2).	-	-	-	-	-	X	
+G312	Tin plated busbars	Tin plated busbars inside the cabinet. Available for converters with a current $\geq 1000$ A <sub>AC</sub> . See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.	X	X	X	X	X	-	
+G324	US style 115 V <sub>AC</sub> plug socket	115 V <sub>AC</sub> plug socket (US standard) with FI protective switch (F31). Thus, provides a separate 115 V <sub>AC</sub> customer supply. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.							

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<p>Customer terminal 230 V, 50/60 Hz to be supplied by customer</p> <p>F31</p> <p>X19:1</p> <p>X19:2</p> <p>K8</p> <p>R10 50W</p> <p>S10</p> <p>RCD switch</p> <p>Anticondensing heater in each cubicle</p> <p>Cabinet light in each cubicle</p> <p>Plug socket control cabinet</p> <p>SF_880_57_schrank_a.ai</p>							
		X	X	X	X	X	-	-	
+G331	E-stop button in door (E-Stop control from local)	<p>Red E-stop push button in the door with latching function and turn to release function.</p> <p><b>Note:</b> The control of the E-stop circuit is located in the cabinet and thus from local.</p> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+G332	Black coast-stop (electrical disconnect) push button	<p>Black coast-stop (electrical disconnect) push button in the door with latching function and turn to release function. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+G333	E-stop button in door (E-stop control from remote)	<p>Red E-stop push button in the door with latching function and turn to release function.</p> <p><b>Note:</b> The control of the E-stop circuit is located outside the cabinet e.g., in the overriding control and thus, from remote.</p> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+G334	AC voltmeter for group drives	<p>One AC voltmeter with phase selector switch in the door. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A50 Incomings.</p>							
+G335	AC current meters for group drives	<p>Three current meters including current transformers in the door. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A50 Incomings.</p>							
+G336	Arc monitoring sensors for group drives	<p>Arc monitoring sensors (<a href="#">TVOC-2-240</a>). A maximum of 9 sensors possible, with detectors every 10 m ... 20 m. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A50 Incomings.</p>							

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
+G341	Cable markings, class B1	Cable markings class B1 according to EN 60204-1:  See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		X	X	X	X	X	X	-	
+G392	Light indicator	Red light indicator for e.g., E-Stop, POUS-Indication, drive tripped, external fault. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		X	X	X	X	X	X	-	
+G396	External auxiliary power supply	External auxiliary power supply is used. <b>Note:</b> Without auxiliary transformer (T2).							
		-	-	-	-	-	X	X	
+G429	Interface to an external UPS	Interface to an external UPS, wired to terminals (orange cables according to IEC). Thus, provides a separate 230 V <sub>AC</sub> customer supply. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.							
		X	X	X	X	X	-	-	
+H351	Top entry for the AC cables	Top entry for the AC cables including cable gland plates. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options. <b>Notes:</b> <ul style="list-style-type: none"><li>– The cabinet type H6 requires 800 mm depth. Use +S800.</li><li>– Available for single drives only.</li></ul>							
		X	X	X	X	-	X	-	
+H353	Top exit for the DC cables	Top exit for the DC cables including cable gland plates. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options. <b>Note:</b> Cabinet types H1 ... H6 require an additional 400 mm cabinet. Use +H362.							
		X	X	X	X	-	-	-	
+H355	Top entry for the AC busbars	Top entry for the AC busbars. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options. <b>Notes:</b> <ul style="list-style-type: none"><li>– This leads to a cabinet IP derating to IP20. The busbars IP rating is IP00.</li><li>– Available for single drives only.</li></ul>							
		-	-	X	X	-	-	-	
+H356	Top exit for the DC busbars	Top exit for the DC busbars. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<b>Note:</b> This leads to a cabinet IP derating to IP20. The busbars IP rating is IP00.							
-	-	-	X	X	-	-	-	-	-
+H362	400 mm connection cabinet	Additional 400 mm connection cabinet for DC cable connection from the top. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options and +H353.							
		X	X	-	-	-	-	-	-
+J429	ACS-AP-W	The DCS880-A cabinet is delivered with a Bluetooth capable control panel instead of the standard control panel. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		X	X	X	X	X	-	-	-
+K451	FDNA-01	DeviceNet fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K454	FPBA-01	PROFIBUS DP fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K457	FCAN-01	CANOpen fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K458	FSCA-01	Modbus/RTU, RS-485 fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K462	FCNA-01	CONTROLNET fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K469	FECA-01	ETHERCAT fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K470	FEPL-02	ETHERNET, POWERLINK fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K475	FENA-21	EtherNet/IP, PROFINET IO, Modbus/TCP (2-port) fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K480	8-port Ethernet switch	8-port Ethernet switch (Spider 8TX). See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.							
		X	X	X	X	X	X	X	X
+K484	NETA-21	The gateway to internet as remote monitoring tool. It requires Ethernet connection at the drives. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.							
		X	X	X	X	X	X	X	X
+K490	FEIP-21	EtherNet/IP (2-port) fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K491	FMBT-21	Modbus/TCP (2-port) fieldbus adapter.							
		X	X	X	X	X	-	-	-
+K492	FPNO-21	PROFINET IO (2-port) fieldbus adapter. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules.							
		X	X	X	X	X	-	-	-
+L500	FIO-11	Analog I/O extension (3 AI, 1 AO, 2 DIO) module.							

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<ul style="list-style-type: none"> <li>– AI for <math>\pm 20</math> mA.</li> <li>– AI for <math>\pm 10</math> V.</li> <li>– AO for 0 mA ... 20 mA.</li> <li>– DIO for 24 V<sub>DC</sub>.</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
		X	X	X	X	X	-	-	
+L501	FIO-01	<p>Digital I/O extension (4 DIO, 2 RO) module.</p> <ul style="list-style-type: none"> <li>– DIO for 24 V<sub>DC</sub>.</li> <li>– RO for 240 V<sub>AC</sub>, 2 A resistive load.</li> <li>– RO for 30 V<sub>DC</sub>, 5 A resistive load.</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+L502	FEN-31	<p>Isolated HTL pulse encoder interface module. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+L503	FDCO-01	<p>DDCS communication module (10/10 MBd). For fiber optic communication e.g., master-follower communication. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+L504	Encoder terminal block	<p>External encoder terminal block X9 (cable extension) connected to XENC on the SDCVS-CON-H01. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+L505	PTC thermistor relay	<p>PTC Thermistor Relay (ABB <a href="#">CM-MSS.23S</a>) with a one channel. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+L506	PT100 interface	<p>One PT100 temperature monitoring interface (ABB <a href="#">CM-TCS.13S</a>) with a one channel from 0°C ... 200°C. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+2L506	PT100 interface	<p>Two PT100 temperature monitoring interfaces (ABB <a href="#">CM-TCS.13S</a>) with a one channel each from 0°C ... 200°C. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+3L506	PT100 interface	<p>Three PT100 temperature monitoring interfaces (ABB <a href="#">CM-TCS.13S</a>) with a one channel each from 0°C ... 200°C. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p>							
+L512	FDCO-01, FEA-03 and FDIO-01	<p>2 additional slots and a digital I/O extension (3 DI, 2 RO) module.</p> <ul style="list-style-type: none"> <li>– DI for 24 V<sub>DC</sub> ... 250 V<sub>DC</sub>.</li> <li>– DI for 110 V<sub>AC</sub> ... 230 V<sub>AC</sub>.</li> <li>– RO for 250 V<sub>AC</sub>, 1250 VA load.</li> <li>– RO for 24 V<sub>DC</sub>, 5 A load.</li> <li>– RO for 120 V<sub>DC</sub>, 0.4 A load.</li> </ul>							

Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
		See +L503, +L515, +L526 and <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+L515	FEA-03	Additional I/O extension adapter provides 2 more slots for I/O extension modules. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+L516	FEN-21	Resolver, TTL pulse encoder interface module.						
		X	X	X	X	X	-	-
+L517	FEN-01	Isolated TTL pulse encoder interface module. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+L521	FSE-31	HTL pulse encoder interface module. The safety pulse encoder interface module provides an easy way to extend safety functions of the DCS880. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules. <b>Note:</b> Requires an FSO-21. See +Q972.						
		X	X	X	X	X	-	-
+L525	FAIO-01	Analog I/O extension (2 AI, 2 AO) module. – AI for $\pm 20$ mA. – AI for $\pm 10$ V. – AO for 0 mA ... 20 mA. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+L526	FDIO-01	Digital I/O extension (3 DI, 2 RO) module. – DI for $24\text{ V}_{\text{DC}}$ ... $250\text{ V}_{\text{DC}}$ . – DI for $110\text{ V}_{\text{AC}}$ ... $230\text{ V}_{\text{AC}}$ . – RO for $250\text{ V}_{\text{AC}}$ , 1250 VA load. – RO for $24\text{ V}_{\text{DC}}$ , 5 A load. – RO for $120\text{ V}_{\text{DC}}$ , 0.4 A load. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+L529	PT100 interface	PT100 temperature monitoring interface (via FAIO-01) with two channels. See +L525 and <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+M600	Motor fan starter (1 A ... 1.6 A)	One IEC motor fan starter: – 1 A ... 1.6 A. – $400\text{ V}_{\text{AC}}$ ... $690\text{ V}_{\text{AC}}$ . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						

Plus code	Option	Description
	Cabinet type	H1 ... H4    H6    H7    H8    H8P    Incoming    Empty
		X    X    X    X    X    -    -
+M601	Motor fan starter (1.6 A ... 2.5 A)	<p>One IEC motor fan starter:</p> <ul style="list-style-type: none"> <li>– 1.6 A ... 2.5 A.</li> <li>– 400 V<sub>AC</sub> ... 690 V<sub>AC</sub>.</li> <li>– Including motor fan starter contactor (K6).</li> <li>– Including motor fan starter thermal overload (F60).</li> <li>– Including motor fan starter fuses (F6).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>
+M604	Motor fan starter (7.6 A ... 10 A)	<p>One IEC motor fan starter:</p> <ul style="list-style-type: none"> <li>– 7.6 A ... 10 A.</li> <li>– 400 V<sub>AC</sub> ... 690 V<sub>AC</sub>.</li> <li>– Including motor fan starter contactor (K6).</li> <li>– Including motor fan starter thermal overload (F60).</li> <li>– Including motor fan starter fuses (F6).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>
+M633	Terminals for motor fan starter	<p>Separate terminals for motor fan starter. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p> <p><b>Note:</b> Voltage must be supplied by the customer.</p>
+M638	Motor fan starter (2.3 A ... 3.1 A)	<p>One IEC motor fan starter:</p> <ul style="list-style-type: none"> <li>– 2.3 A ... 3.1 A.</li> <li>– 400 V<sub>AC</sub> ... 690 V<sub>AC</sub>.</li> <li>– Including motor fan starter contactor (K6).</li> <li>– Including motor fan starter thermal overload (F60).</li> <li>– Including motor fan starter fuses (F6).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>

Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
		X	X	X	X	X	-	-
+M639	Motor fan starter (3.1 A ... 4.2 A)	One IEC motor fan starter: – 3.1 A ... 4.2 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
+M640	Motor fan starter (4.2 A ... 5.7 A)	One IEC motor fan starter: – 4.2 A ... 5.7 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
+M641	Motor fan starter (5.7 A ... 7.6 A)	One IEC motor fan starter: – 5.7 A ... 7.6 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
+M650	Motor fan starter (10 A ... 13 A)	One IEC motor fan starter: – 10 A ... 13 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
+M651	Motor fan starter (13 A ... 16 A)	One IEC motor fan starter: – 13 A ... 16 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
+M652	Motor fan starter (16 A ... 20 A)	One IEC motor fan starter: – 16 A ... 20 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6).						

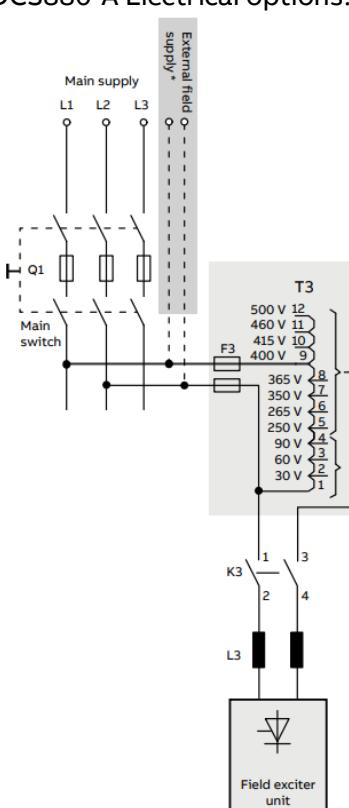
Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
		See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+M653	Motor fan starter (20 A ... 24 A)	One IEC motor fan starter: – 20 A ... 24 A. – 400 V <sub>AC</sub> ... 690 V <sub>AC</sub> . – Including motor fan starter contactor (K6). – Including motor fan starter thermal overload (F60). – Including motor fan starter fuses (F6).						
		See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+P902	Customized options (additional engineering)	<b>ETO = Engineered-To-Order.</b> Basic fee according to the technical appendix. Prices for the customized options is on request only. E.g., a 4 <sup>th</sup> door meter, EMC-filters. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Mechanical options.						
+P904	Extended warranty	Extended warranty. 24 months from commissioning or 30 months from delivery, whichever occurs first.						
		X	X	X	X	X	X	-
+P909	Extended warranty	Extended warranty. 30 months from commissioning or 42 months from delivery, whichever occurs first.						
		X	X	X	X	X	X	-
+P912	Seaworthy packing	Seaworthy packing.						
		X	X	X	X	X	X	X
+Q951	E-stop category 0 with MC opening	Emergency Stop category 0 (coast stop) with opening the mains contactor according to EN 60204-1. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Cabinet based safety functions. <b>Note:</b> Without E-stop push button in the door.						
		X	X	X	X	X	X	X
+Q952	E-stop category 1 with MC opening	Emergency Stop category 1 (ramp stop plus STO) with opening the mains contactor according to EN 60204-1. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Cabinet based safety functions. <b>Note:</b> Without E-stop push button in the door.						
		X	X	X	X	X	X	X
+Q954	Bender Isometer ISO685 for group drives	Insulation monitor (A90): – Connected to the AC-side. Other connections see +P902. – IT network (isolated mains). <a href="#">Bender Isometer ISO685</a> . – Including detection and alarm circuit. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A, DCS880-A Electrical options and DCS880-A50 Incoming.						
		-	X	X	X	X	X	-
+Q956	STO-reset push button	STO-reset push button in the door with indication light. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.						

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<b>Note:</b> Needed because an automatic restart is not allowed.							
		X	X	X	X	X	X	-	
+Q957	POUS without MC opening	Prevention of unexpected start-up (POUS) without opening the mains contactor according to EN ISO 14118. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Cabinet based safety functions. <b>Note:</b> Including indication light in the door.							
		X	X	X	X	X	X	X	
+Q963	E-stop category 0 without MC opening	Emergency Stop category 0 (coast stop) without opening the mains contactor according to EN 60204-1. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Cabinet based safety functions. <b>Note:</b> Without E-stop push button in the door.							
		X	X	X	X	X	X	X	
+Q964	E-stop category 1 without MC opening	Emergency Stop category 1 (ramp stop plus STO) without opening the mains contactor according to EN 60204-1. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Cabinet based safety functions. <b>Note:</b> Without E-stop push button in the door.							
		X	X	X	X	X	X	X	
+Q972	FSO-21	Functional safety module. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules. <b>Note:</b> Requires an FSE-31. See +L521.							
		X	X	X	X	X	-	-	
+Q982	PROFISAFE using FSO-21	PROFISAFE communication using an FSO-21. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules. <b>Note:</b> Requires an FSO-21, see +Q972 and an FPNO-21, see +K492 or a FENA-21, see +K475.							
		X	X	X	X	X	-	-	
+Q986	FSPS-21	PPROFINET IO, PROFISAFE fieldbus adapter. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules.							
		X	X	X	X	X	-	-	
+S164	SDCS-FEX-425-INT	Built-in external field exciter (U3): – Single-phase or 3-phase. – Provides up to 25 A field current. – 1-Q (positive voltage and positive current only). – Including excitation contactor (K3). – Including excitation line reactor (L3). – Including excitation fuse (F3). – Without transformer (T3). See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.							
		-	X	-	-	-	-	-	
+S175	SDCS-CMA-2	Current measurement aid. See <a href="#">Current measurement aid (SDCS-CMA-2) manual</a> . Recommended for 12-pulse and hardparallel configurations. <b>Note:</b> Standard for hardparallel cabinets.							
		-	X	X	X	S	-	-	
+S521	SDCS-DSL-H10	DCSLink board:							

Plus code	Option	Description																																																																																																																																																																																		
	Cabinet type	H1 ... H4    H6    H7    H8    H8P    Incoming    Empty																																																																																																																																																																																		
		<ul style="list-style-type: none"> <li>– One DCSLink channel for external field excitors and 12-pulse configurations.</li> <li>– Without OPL channel.</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p> <p><b>Note:</b> Standard for H6 cabinets.</p>																																																																																																																																																																																		
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+S522	SDCS-DSL-H12	<p>DCSLink board:</p> <ul style="list-style-type: none"> <li>– One DCSLink channel for external field excitors and 12-pulse configurations.</li> <li>– Two OPL channels.</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p> <p><b>Note:</b> Standard for H7, H8 and two times hardparallel cabinets.</p>																																																																																																																																																																																		
+S522	SDCS-DSL-H12	-    -    S    S    S    -    -																																																																																																																																																																																		
+S523	SDCS-DSL-H14	<p>DCSLink board:</p> <ul style="list-style-type: none"> <li>– One DCSLink channel for external field excitors and 12-pulse configurations.</li> <li>– Four OPL channels.</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.</p> <p><b>Note:</b> Standard for three times and four times hardparallel cabinets.</p>																																																																																																																																																																																		
+S523	SDCS-DSL-H14	-    -    -    -    S    -    -																																																																																																																																																																																		
+S551	Memory unit with license	<p>Memory unit including application programming license instead of standard memory unit. See <a href="#">Drive application programming (IEC 61131-3) Programming manual</a>.</p>																																																																																																																																																																																		
+S551	Memory unit with license	X    X    X    X    X    -    -																																																																																																																																																																																		
+S604	DC/DC transducer for analog I/O	<p>Transducer of type <a href="#">ACT20P</a> (3ADT751014P0001) for galvanic isolation of the analog I/O on the SDCS-CON-H01. Programmable range e.g., 4 mA ... 20 mA, 0 V ... 10V.</p> <table border="1" style="margin-bottom: 10px;"> <thead> <tr> <th rowspan="2">Input range</th> <th colspan="4">DIP switch</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>configuration via display</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-10...+10 V</td> <td></td> <td></td> <td>■</td> <td></td> </tr> <tr> <td>-5...+5V</td> <td></td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>0...300 V</td> <td></td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>0...100 V</td> <td>■</td> <td></td> <td></td> <td></td> </tr> <tr> <td>0...30 V</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>0...10 V</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>2...10 V</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>0...5 V</td> <td>■</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1...5 V</td> <td>■</td> <td></td> <td>■</td> <td></td> </tr> <tr> <td>0...150 mV</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>0...60 mV</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>-20...+20 mA</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>0...20 mA</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>4...20 mA</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>reserved</td> <td>■</td> <td>■</td> <td>■</td> <td>■</td> </tr> </tbody> </table> <table border="1" style="margin-bottom: 10px;"> <thead> <tr> <th rowspan="2">Output range</th> <th colspan="4">DIP switch</th> </tr> <tr> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>configuration via display</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-10...+10 V</td> <td></td> <td></td> <td>■</td> <td></td> </tr> <tr> <td>-5...+5V</td> <td></td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>10...0 V *</td> <td></td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>0...10 V</td> <td>■</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2...10 V</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>5...0 V *</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>0...5 V</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>1...5 V</td> <td>■</td> <td></td> <td></td> <td></td> </tr> <tr> <td>-20...+20 mA</td> <td>■</td> <td></td> <td></td> <td></td> </tr> <tr> <td>-10...+10 mA</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>20...0 mA *</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>0...20 mA</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>20...4 mA *</td> <td>■</td> <td>■</td> <td></td> <td></td> </tr> <tr> <td>4...20 mA</td> <td>■</td> <td>■</td> <td>■</td> <td></td> </tr> <tr> <td>reserved</td> <td>■</td> <td>■</td> <td>■</td> <td>■</td> </tr> </tbody> </table> <p>■ = ON    * = Inverted output range: Output polarity must be reversed!</p>	Input range	DIP switch				1	2	3	4	configuration via display					-10...+10 V			■		-5...+5V		■			0...300 V		■	■		0...100 V	■				0...30 V	■	■			0...10 V	■	■			2...10 V	■	■	■		0...5 V	■				1...5 V	■		■		0...150 mV	■	■			0...60 mV	■	■	■		-20...+20 mA	■	■			0...20 mA	■	■	■		4...20 mA	■	■	■		reserved	■	■	■	■	Output range	DIP switch				5	6	7	8	configuration via display					-10...+10 V			■		-5...+5V		■			10...0 V *		■	■		0...10 V	■				2...10 V	■	■			5...0 V *	■	■			0...5 V	■	■	■		1...5 V	■				-20...+20 mA	■				-10...+10 mA	■	■			20...0 mA *	■	■	■		0...20 mA	■	■			20...4 mA *	■	■			4...20 mA	■	■	■		reserved	■	■	■	■
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+S604	DC/DC transducer for analog I/O	X    X    X    X    X    -    -																																																																																																																																																																																		
+2S604	DC/DC transducer for analog I/O	Two transducers of type <a href="#">ACT20P</a> (3ADT751014P0001) for galvanic isolation of the analog I/O on the SDCS-CON-H01. Programmable range e.g., 4 mA ... 20 mA, 0 V ... 10V.																																																																																																																																																																																		

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+S610	H7 cooling fan autotransformer	Supply autotransformer (T8.7) for H7 cooling fans. With supply voltages of 3 x 600 V <sub>AC</sub> or 690 V <sub>AC</sub> . See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	-	-	X	-	-	-	-																																																																																																																																																																																																																																																				
+S611	H8 cooling fan autotransformer	Supply autotransformer (T8.1) for H8 cooling fans. With supply voltages of 3 x 525 V <sub>AC</sub> or 600 V <sub>AC</sub> . See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	-	-	-	X	X	-	-																																																																																																																																																																																																																																																				
+S612	H7/H8 engineered cooling fan isolation transformer	Engineered/customized supply isolation transformer (T8) for H7/H8 cooling fans. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	-	-	X	X	X	-	-																																																																																																																																																																																																																																																				
+S615	Field exciter autotransformer 7 A	Single-phase autotransformer (T3.01) for the field exciter. With 500 V <sub>AC</sub> and 7 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.																																																																																																																																																																																																																																																											

Plus code	Option	Description	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
	Cabinet type								
			X	X	X	X	-	-	
+S616	Field exciter autotransformer 17 A	Single-phase autotransformer (T3.03) for the field exciter. With 500 V <sub>AC</sub> and 17 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	X	X	X	X	X	-	-
+S617	Field exciter autotransformer 33 A	Single-phase autotransformer (T3.04) for the field exciter. With 500 V <sub>AC</sub> and 33 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	X	X	X	X	X	-	-
+S618	Field exciter autotransformer 57 A	Single-phase autotransformer (T3.05) for the field exciter. With 500 V <sub>AC</sub> and 57 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	X	X	X	X	X	-	-
+S620	Field exciter autotransformer 7 A	Single-phase autotransformer (T3.11) for the field exciter. With 690 V <sub>AC</sub> and 7 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	X	X	X	X	X	-	-
+S621	Field exciter autotransformer 17 A	Single-phase autotransformer (T3.13) for the field exciter. With 690 V <sub>AC</sub> and 17 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.	X	X	X	X	X	-	-
+S622	Field exciter autotransformer 33 A	Single-phase autotransformer (T3.14) for the field exciter. With 690 V <sub>AC</sub> and 33 A. See <a href="#">DCS880-A enclosed converters Catalog</a>							

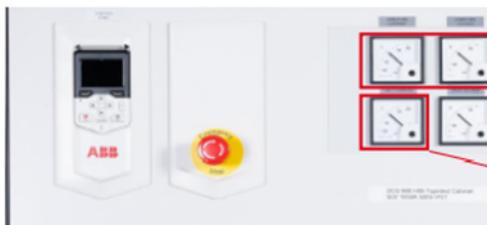
Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
		chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S623	Field exciter autotransformer 576 A	Single-phase autotransformer (T3.15) for the field exciter. With 690 V <sub>AC</sub> and 57 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S624	Field exciter autotransformer 60 A	Single-phase autotransformer (T3.16) for the field exciter. With 690 V <sub>AC</sub> and 60 A. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S650	External field exciter supply	Terminals to connect an external mains voltage for the field exciter. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						
		 <p><b>Note:</b> Voltage must be supplied by the customer.</p>						
		X	X	-	-	-	-	-
+S651	External auxiliary supply	Terminals to connect an external auxiliary voltage. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options. <b>Note:</b> Voltage must be supplied by the customer.						
		X	X	-	-	-	-	-
+S705	Door key lock	Cabinet door key lock including safety key. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options. <b>Note:</b> Valid per door, not for the complete converter.						
		X	X	X	X	X	X	X
+S706		Cabinet door with guard locking safety switch.						

Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
	Guard locking safety switch	<b>Note:</b> Valid per door, not for the complete converter.						
		X	X	X	X	-	-	-
+S711	DCF803-0016	External field exciter (U3): <ul style="list-style-type: none"> <li>– Single-phase or 3-phase.</li> <li>– Provides up to 16 A field current.</li> <li>– 1-Q (positive voltage and positive current only).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S713	DCF803-0035	External field exciter (U3): <ul style="list-style-type: none"> <li>– Single-phase or 3-phase.</li> <li>– Provides up to 35 A field current.</li> <li>– 1-Q (positive voltage and positive current only).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S715	DCF803-0050	External field exciter (U3): <ul style="list-style-type: none"> <li>– Single-phase.</li> <li>– Provides up to 50 A field current.</li> <li>– 1-Q (positive voltage and positive current only).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S716	DCF803-0060	External field exciter (U3): <ul style="list-style-type: none"> <li>– Single-phase.</li> <li>– Provides up to 60 A field current.</li> <li>– 1-Q (positive voltage and positive current only).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.						
		X	X	X	X	X	-	-
+S718	DCF804-0050	External field exciter (U3): <ul style="list-style-type: none"> <li>– Single-phase.</li> <li>– Provides up to 50 A field current.</li> <li>– 4-Q.</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> </ul>						

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<ul style="list-style-type: none"> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
		X	X	X	X	X	-	-	
+S719	DCF804-0060	<p>External field exciter (U3):</p> <ul style="list-style-type: none"> <li>– Single-phase.</li> <li>– Provides up to 60 A field current.</li> <li>– 4-Q.</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S719	DCF804-0060	X	X	X	X	X	-	-	
+S721	Mounting fee for a single-phase autotransformer	<p>Mounting fee for a single-phase autotransformer including contactors and fuses. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Overview Enclosed converter DCS880-A.</p>							
+S721	Mounting fee for a single-phase autotransformer	X	X	X	X	X	-	-	
+S728	Integrated large field exciter 84 A	<p>Large field exciter DCS880-S01-0090-05X0 (U3) integrated into the H7/H8 control cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 500 V<sub>AC</sub>.</li> <li>– Provides up to 84 A field current.</li> <li>– 2-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S728	Integrated large field exciter 84 A	-	-	X	X	X	-	-	
+S729	Integrated large field exciter 160 A	<p>Large field exciter DCS880-S01-0270-05X0 (U3) integrated into the H7/H8 control cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 500 V<sub>AC</sub>.</li> <li>– Provides up to 160 A field current.</li> <li>– 2-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S729	Integrated large field exciter 160 A	-	-	X	X	X	-	-	
+S730	Integrated large field exciter 285 A	<p>Large field exciter DCS880-S01-0315-05X0 (U3) integrated into the H7/H8 control cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 500 V<sub>AC</sub>.</li> <li>– Provides up to 285 A field current.</li> <li>– 2-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> </ul>							
+S730	Integrated large field exciter 285 A	-	-	X	X	X	-	-	

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<ul style="list-style-type: none"> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
		-	-	X	X	X	-	-	
+S739	Integrated large field exciter 90 A	<p>Large field exciter DCS880-S02-0100-05X0 (U3) integrated into the H7/H8 control cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 500 V<sub>AC</sub>.</li> <li>– Provides up to 90 A field current.</li> <li>– 4-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S740	Integrated large field exciter 180 A	<p>Large field exciter DCS880-S02-0300-05X0 (U3) integrated into the H7/H8 control cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 500 V<sub>AC</sub>.</li> <li>– Provides up to 180 A field current.</li> <li>– 4-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S741	Integrated large field exciter 300 A	<p>Large field exciter DCS880-S02-0350-05X0 (U3) integrated into the H7/H8 control cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 500 V<sub>AC</sub>.</li> <li>– Provides up to 300 A field current.</li> <li>– 4-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including excitation contactor (K3).</li> <li>– Including excitation line reactor (L3).</li> <li>– Including excitation fuse (F3).</li> <li>– Without transformer (T3).</li> </ul> <p>See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S745	Large field exciter in a cabinet 90 A ... 520 A	<p>Large field exciter DCS880-A0b-0ccc-04/05X1 (U1) in a cabinet:</p> <ul style="list-style-type: none"> <li>– 3-phase, up to 415 V<sub>AC</sub>/500 V<sub>AC</sub>.</li> <li>– Provides 90 A ... 520 A field current.</li> <li>– 2-Q or 4-Q.</li> <li>– Including DCF506 overvoltage protection (U5).</li> <li>– Including isolation switch (Q1).</li> <li>– Including contactor (K1).</li> <li>– Including line reactor (L1).</li> <li>– Including auxiliary fuse (F2).</li> <li>– Including transformer (T2) if required.</li> </ul>							

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		– Including SDCS-DSL-H10. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A +S745 3-phase field exciters in a separate cabinet. <b>Note:</b> Higher field-currents on request.							
		X	-	-	-	-	-	-	
+S751	12-pulse parallel configuration	Cabinet configuration for 12-pulse parallel: – Including SDCS-CMA-2. – Including DCSSLink cable between 12-pulse master and 12-pulse slave. – Without T-reactor. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		-	-	X	X	X	-	-	
+S752	Serial sequential/12-pulse serial configuration	Cabinet configuration for serial sequential/12-pulse serial: – Including SDCS-CMA-2. – Including DCSSLink cable between serial sequential/12-pulse master and serial sequential/12-pulse slave. – Without T-reactor. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		-	-	X	X	X	-	-	
+S755	Emergency short circuit busbar	Emergency short circuit busbar on the DC side for serial sequential/12-pulse serial. Maximum current is 5200 A.							
		-	-	X	X	-	-	-	
+S773	Air circuit breaker	Air circuit breaker (Q1) for H8 cabinet: – IEC (Emax E4.2) 3300 A .... 4000 A. – 3300 A: Additional 800 mm cabinet (total length 2600 mm). – 4000 A: Extended 200 mm cabinet (total length 2600 mm). – UL/CSA (Emax E6.2) on request. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Overview Enclosed converter DCS880-A.							
		-	-	-	X	-	-	-	
+S776	Additional door meter	Additional meter (3 <sup>rd</sup> meter) installed in the cabinet door. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		 <b>Note:</b> A fourth door meter requires additional engineering, see +P902.							
+S777	Door meters	Armature current and armature voltage meters installed in the (control) cabinet door. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.							
		X	X	X	X	X	X	-	

Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
		 <span style="color: yellow;">+S777</span> <span style="color: yellow;">+S776</span>						
		X	X	X	X	X	X	-
+S780	Bottom plate	Bottom plate without holes. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options. <b>Note:</b> Holes to be drilled by the customer.						
+S781	Gland plates and bottom plates	Gland plates together with bottom plates. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters DCS880-A Mechanical options and DCS880-A Mechanical options. Gland plates:  <b>Note:</b> Required for IP41/IP42.						
+S782	NDBU-95	NDBU-95 branching unit for DDCS network. Includes fiber optic cabling. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters DCS880-A Electrical options and DCS880-A50 Incomings.						
+S783	ND17	Line reactor ND17 for H7 cabinet. Either top entry or group drive.						
+S785	Second field exciter	Second field exciter: - DCF803-0016. - DCF803-0035. - DCF803-0050. - DCF803-0060. - DCF804-0050. - DCF804-0060.						
+S790	German style 230 V <sub>AC</sub> plug socket	230 V <sub>AC</sub> plug socket (German standard) with FI protective switch (F31). Thus, provides a separate 230 V <sub>AC</sub> customer supply. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Electrical options.						

Plus code	Option	Description							
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty	
		<p style="text-align: center;">SF_880_57_schrank_a.ai</p>							
		X	X	X	X	X	X	-	
+S798	Galvanic isolation	<p>Galvanic isolation of voltage measurement:</p> <ul style="list-style-type: none"> <li>– Transformer (T90, 3ADT745047P0001).</li> <li>– Fuse (F90, 1000 V, 10 A).</li> <li>– DC-DC transducer (A92, 3ADN260008P0001).</li> </ul> <p>Recommended for mains voltages <math>\geq 690 \text{ V}_{\text{AC}}</math>. See <a href="#">DCS880-A enclosed converters Catalog</a> chapters Overview Enclosed converter DCS880-A and DCS880-A Electrical options.</p>							
+S800	Cabinet depth 800 mm	<p>Cabinet depth 800 mm.</p>							
+S818	Joining cabinet	<p>Joining cabinet kit/Horizontal busbar connection kit. Requires an empty cabinet. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+S820	Horizontal AC busbars 1000 A <sub>AC</sub>	<p>Horizontal AC busbars for 1000 A<sub>AC</sub> in copper. For group drives in connection with Incomer only. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+S821	Horizontal AC busbars 2000 A <sub>AC</sub>	<p>Horizontal AC busbars for 2000 A<sub>AC</sub> in copper. For group drives in connection with Incomer only. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+S823	Horizontal AC busbars 3000 A <sub>AC</sub>	<p>Horizontal AC busbars for 3000 A<sub>AC</sub> in copper. For group drives in connection with Incomer only. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+S825	Horizontal AC busbars 1000 A <sub>AC</sub>	<p>Tin-plated horizontal AC busbars for 1000 A<sub>AC</sub> in copper. For group drives in connection with Incomer only. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+S826	Horizontal AC busbars 2000 A <sub>AC</sub>	<p>Tin-plated horizontal AC busbars for 2000 A<sub>AC</sub> in copper. For group drives in connection with Incomer only. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter DCS880-A Mechanical options.</p>							
+S827	Horizontal AC busbars 3000 A <sub>AC</sub>	<p>Tin-plated horizontal AC busbars for 3000 A<sub>AC</sub> in copper. For group drives in connection with Incomer only. See <a href="#">DCS880-A</a></p>							

Plus code	Option	Description						
	Cabinet type	H1 ... H4	H6	H7	H8	H8P	Incoming	Empty
		<a href="#">enclosed converters Catalog</a> chapter DCS880-A Mechanical options.						
		X	X	X	-	-	X	X
+S870	Air circuit breaker next to module	The Emax is located next to the H7 module. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Overview Enclosed converter DCS880-A.						
		-	-	X	-	-	-	-
+S925	Terminal X25	Terminal X25 for safety options in group drive incl. engineering fee. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules. <ul style="list-style-type: none"> <li>– Interface for up to 2 line-ups associated to the same E-stop group.</li> <li>– Necessary for each drive in the complete line-up.</li> <li>– Also necessary in the incoming cabinet.</li> </ul>						
		X	X	X	X	-	X	X
+S926	Safety transmitter for group drives	Safety transmitter for group drives. Transmit interface for up to 2 line-ups associated to the same E-stop group/POUS group. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules.						
		-	-	-	-	-	X	X
+S927	Safety receiver for group drives	Safety receiver for group drives. Receive interface for up to 2 line-ups associated to the same E-stop group/POUS group. See <a href="#">DCS880-A enclosed converters Catalog</a> chapter Functional safety modules.						
		-	-	-	-	-	X	X
+S958	Emergency stop control circuit	Emergency stop control circuit according to customer specification, no approval.						
		X	X	X	X	X	-	-
+S990	Parts list	Part list of electrical components as Excel file.						
		X	X	X	X	X	X	X
+S991	As built drawings	2-D AutoCAD DWG as built drawings including dimensions.						
		X	X	X	X	X	X	X
+S992	Visual inspection	One day visual inspection.						
		X	X	X	X	X	X	X
+S993	Function test for 12-pulse/serial sequential	Function test for 12-pulse/serial sequential configurations connected to a three-winding transformer with a maximum capacity of 690 V and 40 A.						
		-	X	X	X	-	-	-
+S994	Drawing as built	E-Plan drawings as built including dimensions.						
		X	X	X	X	X	X	X

**Legend:**

X = available.

- = not available.

S = Standard.

## DCT880-W module plus code list

Plus code	Option	Description
+J404	ACS-AP-I	The DCT880 is delivered with a standard control panel.
+J428	SDCS-DPI-H01	Daisy chain adapters are used to connect several units to one control panel or to a PC via a control panel.
+J429	ACS-AP-W	The DCT880 is delivered with a Bluetooth capable control panel.
+K451	FDNA-01	DeviceNet fieldbus adapter.
+K454	FPBA-01	PROFIBUS DP fieldbus adapter.
+K457	FCAN-01	CANOpen fieldbus adapter.
+K458	FSCA-01	Modbus/RTU, RS-485 fieldbus adapter.
+K462	FCNA-01	CONTROLNET fieldbus adapter.
+K469	FECA-01	ETHERCAT fieldbus adapter.
+K470	FEPL-02	ETHERNET, POWERLINK fieldbus adapter.
+K475	FENA-21	EtherNet/IP, PROFINET IO, Modbus/TCP (2-port) fieldbus adapter.
+K490	FEIP-21	EtherNet/IP (2-port) fieldbus adapter.
+K491	FMBT-21	Modbus/TCP (2-port) fieldbus adapter.
+K492	FPNO-21	PROFINET IO (2-port) fieldbus adapter.
+L500	FIO-11	Analog I/O extension (3 AI, 1 AO, 2 DIO) module.
+L501	FIO-01	Digital I/O extension (4 DIO, 2 RO) module.
+L503	FDCO-01	DDCS communication module (10/10 MBd). For fiber optic communication.
+L508	FDCO-02	DDCS communication module (5/10 MBd). For fiber optic communication.
+L525	FAIO-01	Analog I/O extension (2 AI, 2 AO) module.
+L526	FDIO-01	Digital I/O extension (3 DI, 2 RO) module.
+P904	Extended warranty	Extended warranty. 24 months from commissioning or 30 months from delivery, whichever occurs first.
+P909	Extended warranty	Extended warranty. 30 months from commissioning or 42 months from delivery, whichever occurs first.
+P912	Seaworthy packing	Seaworthy packing for modules size T1 ... T8.
+S500	Internal line fuses	Adds internal line fuses. For modules size T1 ... T4 only.
+S510	Phase V: Input and output terminals	For a DCT880-W02 (as standard phase V is not assembled) the input and output terminals, including the current measurement (CT), are added.
+S551	Memory unit with license	Memory unit including application programming license instead of standard memory unit. See <a href="#">Drive application programming (IEC 61131-3) Programming manual</a> .
+S552	Memory unit with power optimizer	Memory unit including power optimizer.
+S912	Airworthy packing	Airworthy packing for modules size T1 ... T8.

## DCS800-S module plus code list

Plus code	Option	Description
0J404	No control panel	The DCS800 is delivered without a control panel.
0S163	No OnBoard field exciter	The DCS800 is delivered without an OnBoard field exciter. Valid for modules size D1 ... D4 only.
0S199	No SDCS-DSL-4	The DCS800 is delivered without a DSL board. Valid for modules size D4+ and D5 only.
+J409	Door mounting kit for the control panel	Control panel door mounting kit. For fix mounting, includes the drilling pattern and a 3 m RJ45 cable.
+K451	RDNA-01	DeviceNet fieldbus adapter.
+K454	RPBA-01	PROFIBUS DP fieldbus adapter.
+K457	RCAN-01	CANOpen fieldbus adapter.
+K458	RMBA-01	Modbus/RTU fieldbus adapter.
+K462	RCNA-01	CONTROLNET fieldbus adapter.
+K466	RETA-01	Modbus/TCP, EtherNet/IP fieldbus adapter.
+K467	RETA-02	Modbus/TCP, PROFINET IO fieldbus adapter.
+K469	RECA-01	ETHERCAT fieldbus adapter.
+L500	RAIO-01	Analog I/O extension (2 AI, 2 AO) module.
+L501	RDIO-01	Digital I/O extension (3 DI, 2 RO) module.
+L502	RTAC-01	Pulse encoder interface module for supply voltages of 15 V <sub>DC</sub> and 24 V <sub>DC</sub> .
+L508	SDCS-COM-81	DDCS communication board (10 MBd CH0). For fiber optic communication.
+L509	SDCS-COM-82	DDCS communication board (5 MBd CH0). For fiber optic communication.
+L517	RTAC-03	TTL pulse encoder interface module.
+P904	Extended warranty	Extended warranty. 24 months from commissioning or 30 months from delivery, whichever occurs first.
+P905	No control unit	No external control unit. The electronic boards are located in the D7 module.
+P906	Control unit	External control unit. The electronic boards are located in an external control unit outside the D7 module.
+P907	Control unit on swing frame	External control unit. The electronic boards are located on a 600 mm swing frame outside the D7 module. For ABB MNS cabinets only.
+P908	Control unit on swing frame	External control unit. The electronic boards are located on an 800 mm swing frame outside the D7 module. For ABB MNS cabinets only.
+P909	Extended warranty	Extended warranty from 30 month to 42 month.
+P912	Seaworthy packing	Seaworthy packing for modules size D1 ... D7.
+S164	SDCS-FEX-425-INT	Built-in external field exciter for modules size D4+ and D5. Provides up to 25 A field current. Including DSL cable.

<b>Plus code</b>	<b>Option</b>	<b>Description</b>
+S171	115 V <sub>AC</sub> cooling fans	Supply voltage for the cooling fans is 115 V <sub>AC</sub> instead of 230 V <sub>AC</sub> . For modules size D4 only.
+S172	400 V <sub>AC</sub> ... 525 V <sub>AC</sub> cooling fan	Supply voltage for the cooling fans is 400 V <sub>AC</sub> ... 525 V <sub>AC</sub> . For modules size D6 only. <b>Note:</b> This non ErP cooling fan is obsolete and not available anymore.
+S173	525 V <sub>AC</sub> ... 600 V <sub>AC</sub> cooling fan	Supply voltage for the cooling fans is 525 V <sub>AC</sub> ... 600 V <sub>AC</sub> . For modules size D6 only. <b>Note:</b> This non ErP cooling fan is obsolete and not available anymore.
+S175	SDCS-CMA-2	Current measurement aid for modules size D5 ... D7. See <a href="#">Current measurement aid (SDCS-CMA-2) manual</a> . Recommended for 12-pulse and hardparallel configurations.
+S176	Hardparallel master	Add a 3 <sup>rd</sup> CT, a SDCS-SMA-2, and a SDSCS-PAR-1 to a drive of size D7. Used for hardparallel configurations only.
+S177	Hardparallel slave	Add a 3 <sup>rd</sup> CT, a SDCS-SMA-2, and a SDSCS-PAR-2 to a drive of size D7. Used for hardparallel configurations only.
+S179	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 500 V. For modules size D5 ... D7 used in 12-pulse serial or serial sequential configurations only.
+S180	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 600 V. For modules size D5 ... D7 used in 12-pulse serial or serial sequential configurations only.
+S181	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 690 V. For modules size D5 ... D7 used in 12-pulse serial or serial sequential configurations only.
+S182	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 800 V. For modules size D5 ... D7 used in 12-pulse serial or serial sequential configurations only.
+S183	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 990 V. For modules size D5 ... D7 used in 12-pulse serial or serial sequential configurations only.
+S185	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 120 V. For modules size D5 ... D7 only.
+S186	SDCS-SUB-4	External voltage measurement for mains voltages lower than 100 V <sub>AC</sub> . See <a href="#">Interface Board SDCS-SUB-4</a> . For modules size D1 ... D4+ only.
+S187	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 70 V. For modules size D5 ... D7 only.
+S188	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for 40 V. For modules size D5 ... D7 only.
+S189	SDCS-PIN-51 modification	The SDCS-PIN-51 is configured for galvanic isolation. For modules size D6 and D7 only.
+S199	SDCS-DSL-4	The DCS800 is delivered with a DSL board. Valid for modules size D1 ... D4 only.
+S200	SDCS-MEM-8 for experts	Memory card for application programming (ControlBuilder DCS800). Registered experts only.
+S201	SDCS-MEM-8	Memory card for application programming (ControlBuilder DCS800). For non-experts.
+S202	SDCS-MEM-8 plus winder application	Memory card for application programming (ControlBuilder DCS800) with loaded winder application. Registered experts only.
+S203	SDCS-MEM-8 plus winder application	Memory card for application programming (ControlBuilder DCS800) with loaded winder application. For non-experts.
+S204	SDCS-MEM-8 plus crane application	Memory card for application programming (ControlBuilder DCS800) with loaded crane application (DCC). Registered experts only.

<b>Plus code</b>	<b>Option</b>	<b>Description</b>
+S205	SDCS-MEM-8 plus crane application	Memory card for application programming (ControlBuilder DCS800) with loaded crane application (DCC). For non-experts.
+S206	SDCS-MEM-8 plus magnet application	Memory card for application programming (ControlBuilder DCS800) with loaded magnet application. Registered experts only.
+S207	SDCS-MEM-8 plus magnet application	Memory card for application programming (ControlBuilder DCS800) with loaded magnet application. For non-experts.
+S912	Airworthy packing	Airworthy packing for modules size D1 ... D7.