

DCS880

Hardware Manual DCS880 Drives (20 to 5200 A)

Additional

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 = U1 = A0	Standard converter module Rebuild kit Upgrade kit 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 = A = B	1 st generation H7: fusing adaption due to UL certification H5/H6: New cooling fan R2E250-RE04-10
Field exciter configuration:	+0S163		H1 ... H4 without OnBoard field exciter
	+S164		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		Without control panel
	+J428		daisy-chain option DPI-H01 kit
	+J429		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.

Delivery check

Check that there are no signs of damage. Before attempting installation and operation, check the information on the nameplate of the converter module to verify that the unit is of the correct type. The label includes an IEC rating, cULus, C-tick (N713) and CE markings, a type code and a serial number, which allow individual identification of each unit. The remaining digits complete the serial number so that there are no two units with the same serial number.

See an example nameplate below.

125.00			
20.0	ABB Automation Products GmbH	U _{1IEC} : 3 ~ 230 - 525 V _{AC}	U _{2IEC} : 0 - 545 V _{DC}
	Type: DCS880-S02-0050-05X0	I ₁ : 41 A _{AC}	I ₂ : 50 A _{DC}
	Ser No: 1111111Aaabbcccc	f ₁ : 50/60 Hz	I _f : 1 - 12 A _{DC}
		SCCR: 65 kA	U _{Fan} : Internal
125.00			
85.0			
	ABB Automation Products AG Wallstadter Straße 59 68526 Ladenburg, Germany		
	DCS880-S02-0050-05X0		Ser No: 1111111Aaabbcccc
	Ser. No. Barcode		
	Rated Converter Data		
	U _{1IEC} : 3 ~ 230 - 525 V _{AC}	I ₁ : 41 A _{AC}	U _{Fan} : Internal
	U _{2IEC} : 0 - 545 V _{DC}	I ₂ : 50 A _{DC}	Airflow: 57 m ³ /h
	U _{1UL} : 3 ~ 230 - 525 V _{AC}	I _f : 1 - 12 A _{DC}	U _{Aux} : 115 V _{AC} / 230 V _{AC}
	U _{2UL} : 0 - 545 V _{DC}	f ₁ : 50/60 Hz	SCCR: 65 kA
	Temp: 40°C		
Designed by ABB in Germany		Assembled in Poland	
			
			
			
			

LG_DCS_001_name plates_b.ai

Ser. No.	0025421A17294264 1729 = Production year 2017 and week 29.
U _{1IEC}	Rated input voltage according to IEC.
U _{2IEC}	Rated output voltage according to IEC.
U _{1UL}	Rated input voltage according to UL.
U _{2UL}	Rated output voltage according to UL.
I ₁	Rated input current.
I ₂	Rated output current.
I _f	Rated internal field exciter current.
f ₁	Rated frequency of mains voltage.
U _{Fan}	Rated fan voltage.
Airflow	Rated cooling air flow.
U _{AUX}	Rated auxiliary voltage.
Size	Unit size.
SCCR	Short circuit current ratio.
IP: 00	Protection class according to ISO20653.
UL: open type	Protection class according to UL.
Temp	Max. permissible cooling air temperature.

Label	Description
	DCS880 Declaration of Conformity, Machinery Directive
	DCS880 Declaration of Conformity, RoHs II
	China RoHs
	DCS880 Declaration of conformity, RCM, Australia
	EAC Certificate for Russian market
	DCS880 Declaration of Conformity UK, Machinery DCS880 Declaration of Conformity UK, RoHs DCS880 Declaration of Conformity UK, single DCS880 Declaration of Conformity UK, Safety and EMC
	DCS880-DCS800-DCS550 Certificate, UL, TÜV-SÜD NRTL DCF505-DCF506-DCF80x Certificate, UL, TÜV-SÜD NRTL TÜV SÜD is NRTL listed.
	EC Type-Examination Certificate

Semiconductor fuses (F1) and fuse holders for armature circuit

Size	Converter type (2-Q)	Converter type (4-Q)	Fuse	Fuse holder	Fuse type	Fuse holder
					North America	
H1	DCS880-S01-0020-04/05	DCS880-S02-0025-04/05	50A 660V UR	OFAZ00 S3L	FWP-50B	1BS101
	DCS880-S01-0045-04/05	DCS880-S02-0050-04/05	80A 660V UR	OFAZ00 S3L	FWP-80B	1BS101
	DCS880-S01-0065-04/05	DCS880-S02-0075-04/05	125A 660V UR	OFAZ00 S3L	FWP-125A	1BS103
	DCS880-S01-0090-04/05	DCS880-S02-0100-04/05	125A 660V UR	OFAZ00 S3L	FWP-125A	1BS103
H2	DCS880-S01-0135-04/05	DCS880-S02-0150-04/05	200A 660V UR	OFAZ1 S3	FWP-200A	1BS103
	DCS880-S01-0180-04/05	DCS880-S02-0200-04/05	250A 660V UR	OFAZ1 S3	FWP-250A	1BS103
	DCS880-S01-0225-04/05	DCS880-S02-0250-04/05	315A 660V UR	OFAZ1 S3	FWP-300A	1BS103
	DCS880-S01-0270-04/05	DCS880-S02-0300-04/05	500A 660V UR	OFAZ2 S3	FWP-300A	1BS103
H3	DCS880-S01-0315-04/05	DCS880-S02-0350-04/05	500A 660V UR	OFAZ3 S3	FWP-500A	1BS103
	DCS880-S01-0405-04/05	DCS880-S02-0450-04/05	700A 660V UR	OFAZ3 S3	FWP-700A	See Note 1
	DCS880-S01-0470-04/05	DCS880-S02-0520-04/05	700A 660V UR	OFAZ3 S3	FWP-700A	See Note 1
H4	DCS880-S01-0610-04/05	DCS880-S02-0680-04/05	900A 660V UR	3x 170H 3006	FWP-900A	See Note 1
	DCS880-S01-0740-04/05	DCS880-S02-0820-04/05	900A 660V UR	3x 170H 3006	FWP-900A	See Note 1
	DCS880-S01-0900-04/05	DCS880-S02-1000-04/05	1250A 660V UR	3x 170H 3006	FWP-1200A	See Note 1
H3	DCS880-S01-0290-06	DCS880-S02-0320-06	500A 660V UR	OFAZ3 S3	FWP-500A	See Note 1
H4	DCS880-S01-0590-06	DCS880-S02-0650-06	900A 660V UR	3x 170H 3006	FWP-900A	See Note 1

Note 1: No fuse holder is available; attach the fuses directly to the busbar.

Fuses and fuse holders for armature circuit (details see chapter Fuses and fuse holders IEC)

Fuses (F3.x) and fuse holders for field circuit

Depending on the protection strategy different types of fuses are used. The fuses can be sized according to the maximum field current. In this case take the fuse, which fits to the rated field current levels. If the field converter is connected to two phases of a network, two fuses should be used. In case the unit is connected to one phase and neutral only one fuse at the phase can be used. The table below lists the fuse currents depending on the table above.

Field converter type	Field current	F3.1	F3.2	F 3.3
DCF803-0016 FEX-425-Int* DCF803-0035 DCF803-0050 DCF804-0050	$I_F \leq 6 \text{ A}$	10 A 660 V UR*	OFAA 00 H10	10 A
	$I_F \leq 12 \text{ A}$	16 A 660 V UR*	OFAA 00 H16	16 A
	$I_F \leq 16 \text{ A}$	25 A 660 V UR*	OFAA 00 H25	25 A
FEX-425-Int* DCF803-0035 DCF803-0050 DCF804-0050	$I_F \leq 25 \text{ A}$	50 A 660 V UR*	OFAA 00 H50	35 A
	$I_F \leq 35 \text{ A}$			50 A
DCF803-0050 DCF804-0050	$I_F \leq 50 \text{ A}$	80 A 660 V UR	OFAA 00 H80	63 A
	$I_F \leq 60 \text{ A}$			80 A
Type of protection elements		Semiconductor fuse fuse holder OFAZ 00 S3L	LV HRC type for 690 V, fuse holder OFAZ 00 S3L	Circuit breaker for 500 V or 690 V

* Fuse (F3.1) KTK25 included in FEX-425-Int package. D4+ field fuses are external. D5 field fuses are internal.

Fuses and fuse holders for field circuit

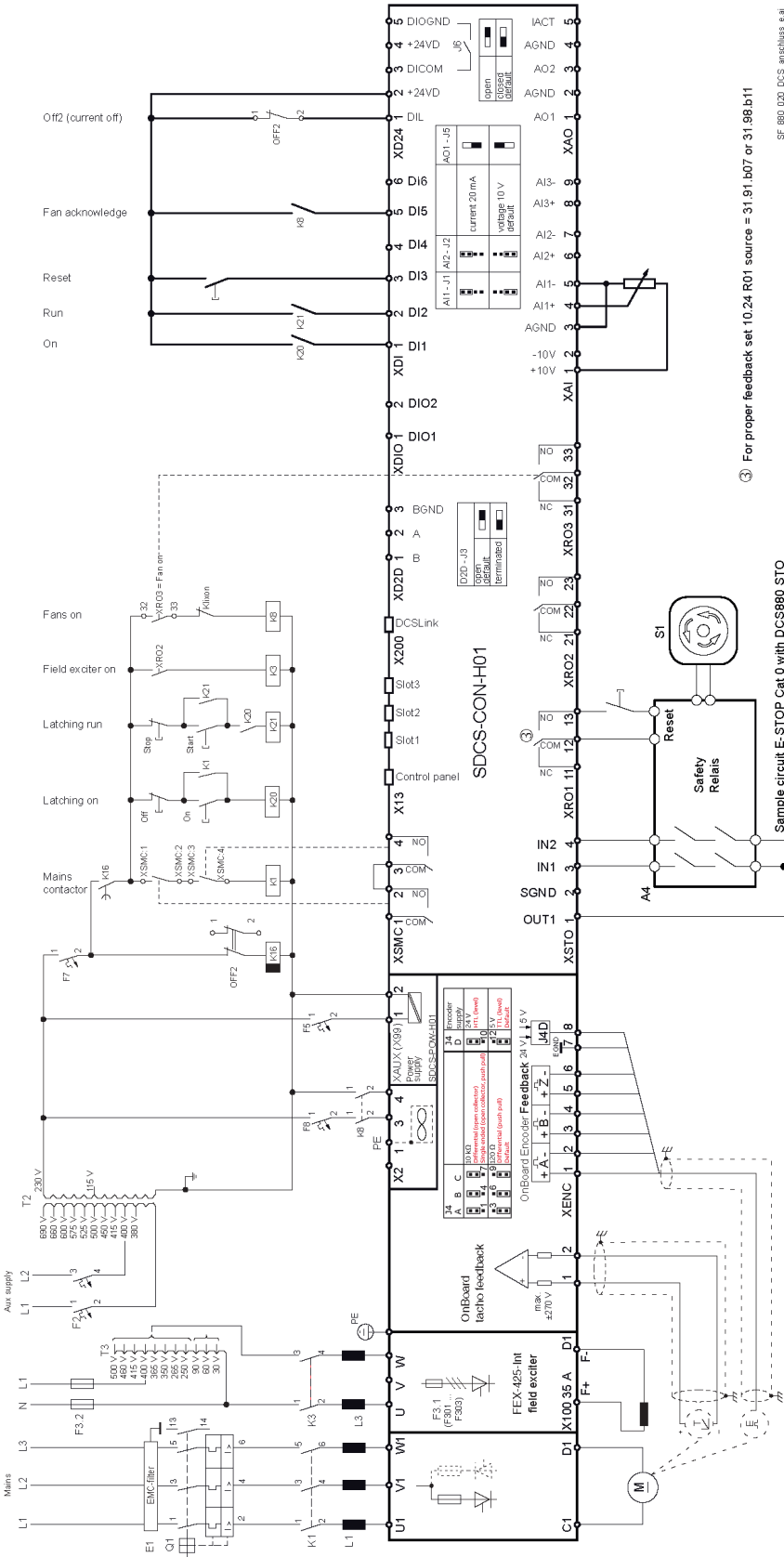
[illegible]

The diagram illustrates the wiring for the SDCS-CON-H01 control unit. It includes connections for the main power supply (L1, L2, N, PE), a three-phase motor (U1, V1, W1, U2, V2, W2), and various control signals. Key components and connections include:

- Power Supply:** A three-phase supply (L1, L2, N, PE) is connected to the motor and the control unit. The control unit has terminals for L1, L2, N, and PE.
- Motor:** The motor is connected to the control unit via terminals U1, V1, W1, U2, V2, and W2. The motor's nameplate shows a rating of 0.37 kW, 230V, 50Hz, and 1.5V.
- Control Unit (SDCS-CON-H01):** The control unit has a terminal block with various pins. Key connections include:
 - Power Supply:** L1, L2, N, and PE are connected to the power supply terminals.
 - Motor:** U1, V1, W1, U2, V2, and W2 are connected to the motor terminals.
 - Control Signals:** The control unit has terminals for various control signals, including:
 - Field Exciter:** F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20, F21, F22, F23, F24, F25, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F36, F37, F38, F39, F40, F41, F42, F43, F44, F45, F46, F47, F48, F49, F50, F51, F52, F53, F54, F55, F56, F57, F58, F59, F60, F61, F62, F63, F64, F65, F66, F67, F68, F69, F70, F71, F72, F73, F74, F75, F76, F77, F78, F79, F80, F81, F82, F83, F84, F85, F86, F87, F88, F89, F90, F91, F92, F93, F94, F95, F96, F97, F98, F99, F100, F101, F102, F103, F104, F105, F106, F107, F108, F109, F110, F111, F112, F113, F114, F115, F116, F117, F118, F119, F120, F121, F122, F123, F124, F125, F126, F127, F128, F129, F130, F131, F132, F133, F134, F135, F136, F137, F138, F139, F140, F141, F142, F143, F144, F145, F146, F147, F148, F149, F150, F151, F152, F153, F154, F155, F156, F157, F158, F159, F160, F161, F162, F163, F164, F165, F166, F167, F168, F169, F170, F171, F172, F173, F174, F175, F176, F177, F178, F179, F180, F181, F182, F183, F184, F185, F186, F187, F188, F189, F190, F191, F192, F193, F194, F195, F196, F197, F198, F199, F200, F201, F202, F203, F204, F205, F206, F207, F208, F209, F210, F211, F212, F213, F214, F215, F216, F217, F218, F219, F220, F221, F222, F223, F224, F225, F226, F227, F228, F229, F230, F231, F232, F233, F234, F235, F236, F237, F238, F239, F240, F241, F242, F243, F244, F245, F246, F247, F248, F249, F250, F251, F252, F253, F254, F255, F256, F257, F258, F259, F260, F261, F262, F263, F264, F265, F266, F267, F268, F269, F270, F271, F272, F273, F274, F275, F276, F277, F278, F279, F280, F281, F282, F283, F284, F285, F286, F287, F288, F289, F290, F291, F292, F293, F294, F295, F296, F297, F298, F299, F300, F301, F302, F303, F304, F305, F306, F307, F308, F309, F310, F311, F312, F313, F314, F315, F316, F317, F318, F319, F320, F321, F322, F323, F324, F325, F326, F327, F328, F329, F330, F331, F332, F333, F334, F335, F336, F337, F338, F339, F340, F341, F342, F343, F344, F345, F346, F347, F348, F349, F350, F351, F352, F353, F354, F355, F356, F357, F358, F359, F360, F361, F362, F363, F364, F365, F366, F367, F368, F369, F370, F371, F372, F373, F374, F375, F376, F377, F378, F379, F380, F381, F382, F383, F384, F385, F386, F387, F388, F389, F390, F391, F392, F393, F394, F395, F396, F397, F398, F399, F400, F401, F402, F403, F404, F405, F406, F407, F408, F409, F410, F411, F412, F413, F414, F415, F416, F417, F418, F419, F420, F421, F422, F423, F424, F425, F426, F427, F428, F429, F430, F431, F432, F433, F434, F435, F436, F437, F438, F439, F440, F441, F442, F443, F444, F445, F446, F447, F448, F449, F450, F451, F452, F453, F454, F455, F456, F457, F458, F459, F460, F461, F462, F463, F464, F465, F466, F467, F468, F469, F470, F471, F472, F473, F474, F475, F476, F477, F478, F479, F480, F481, F482, F483, F484, F485, F486, F487, F488, F489, F490, F491, F492, F493, F494, F495, F496, F497, F498, F499, F500, F501, F502, F503, F504, F505, F506, F507, F508, F509, F510, F511, F512, F513, F514, F515, F516, F517, F518, F519, F520, F521, F522, F523, F524, F525, F526, F527, F528, F529, F530, F531, F532, F533, F534, F535, F536, F537, F538, F539, F540, F541, F542, F543, F544, F545, F546, F547, F548, F549, F550, F551, F552, F553, F554, F555, F556, F557, F558, F559, F560, F561, F562, F563, F564, F565, F566, F567, F568, F569, F570, F571, F572, F573, F574, F575, F576, F577, F578, F579, F580, F581, F582, F583, F584, F585, F586, F587, F588, F589, F590, F591, F592, F593, F594, F595, F596, F597, F598, F599, F600, F601, F602, F603, F604, F605, F606, F607, F608, F609, F610, F611, F612, F613, F614, F615, F616, F617, F618, F619, F620, F621, F622, F623, F624, F625, F626, F627, F628, F629, F630, F631, F632, F633, F634, F635, F636, F637, F638, F639, F640, F641, F642, F643, F644, F645, F646, F647, F648, F649, F650, F651, F652, F653, F654, F655, F656, F657, F658, F659, F660, F661, F662, F663, F664, F665, F666, F667, F668, F669, F670, F671, F672, F673, F674, F675, F676, F677, F678, F679, F680, F681, F682, F683, F684, F685, F686, F687, F688, F689, F690, F691, F692, F693, F694, F695, F696, F697, F698, F699, F700, F701, F702, F703, F704, F705, F706, F707, F708, F709, F710, F711, F712, F713, F714, F715, F716, F717, F718, F719, F720, F721, F722, F723, F724, F725, F726, F727, F728, F729, F730, F731, F732, F733, F734, F735, F736, F737, F738, F739, F740, F741, F742, F743, F744, F745, F746, F747, F748, F749, F750, F751, F752, F753, F754, F755, F756, F757, F758, F759, F760, F761, F762, F763, F764, F7

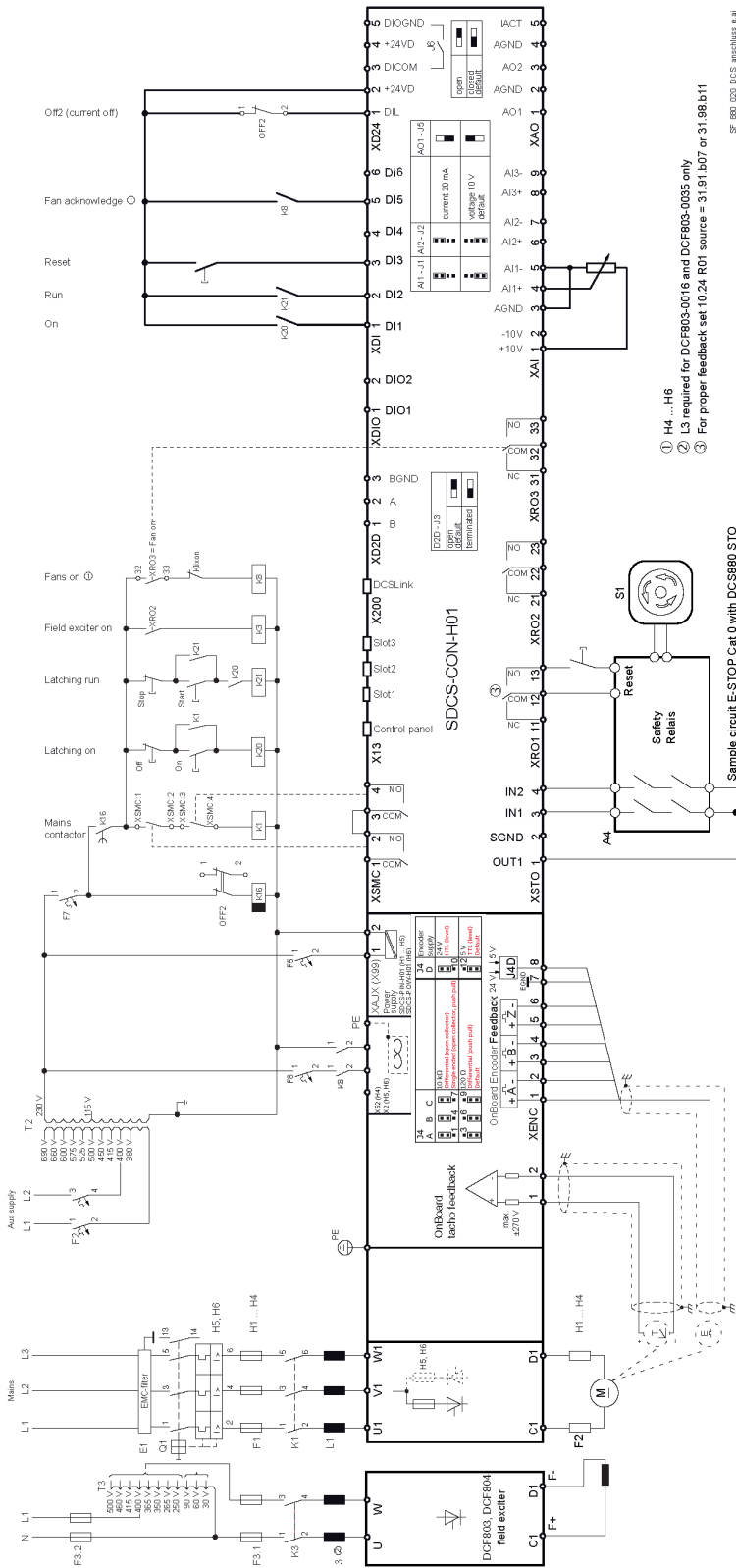
Converters size H6 configuration using a FEX-425-Int field exciter

Wiring the drive according to this diagram offers the highest degree of monitoring functions done by the drive. Field converters FEX-425-Int are equipped with their own synchronization and must be supplied from independent mains supply voltage max. 500 V (single-phase or 3-phase).



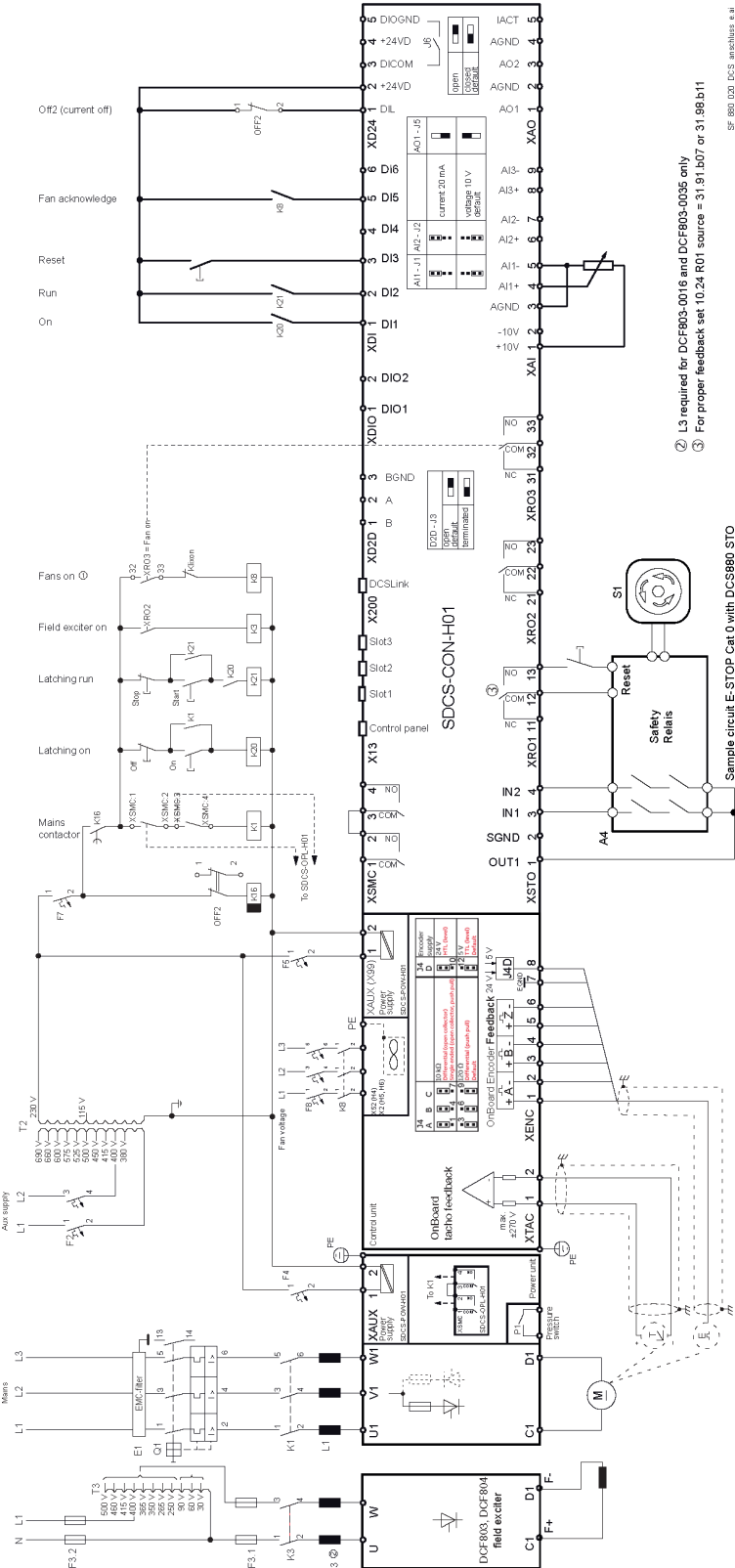
Converters size H1 ... H6 configuration using external field exciters DCF803, DCF804

Wiring the drive according to this diagram offers the highest degree of monitoring functions done by the drive. Field converters DCF803 / DCF804 are equipped with their own synchronization and must be supplied from independent mains supply voltage max. 500 V (single-phase or 3-phase).



Converters size H7 and H8 configuration using external field exciters DCF803, DCF804

Wiring the drive according to this diagram offers the highest degree of monitoring functions done by the drive. Field converters DCF803 / DCF804 are equipped with their own synchronization and must be supplied from independent mains supply voltage max. 500 V (single-phase or 3-phase).



The diagram illustrates the wiring for the SDCS-CON-H01 converter. It includes connections for mains supply (L1, L2, L3), auxiliary supply (AUX), and various control and signal lines. Key components and connections include:

- Mains Supply:** L1, L2, L3 connected to F1, F2, and F3 respectively. F1 is connected to the main supply and the converter's main input.
- Auxiliary Supply:** 230V connected to T2, which is connected to the converter's auxiliary input.
- Control Panel:** X13, X12, X11, X10, X9, X8, X7, X6, X5, X4, X3, X2, X1, X0, X101, X102, X103, X104, X105, X106, X107, X108, X109, X110, X111, X112, X113, X114, X115, X116, X117, X118, X119, X120, X121, X122, X123, X124, X125, X126, X127, X128, X129, X130, X131, X132, X133, X134, X135, X136, X137, X138, X139, X140, X141, X142, X143, X144, X145, X146, X147, X148, X149, X150, X151, X152, X153, X154, X155, X156, X157, X158, X159, X160, X161, X162, X163, X164, X165, X166, X167, X168, X169, X170, X171, X172, X173, X174, X175, X176, X177, X178, X179, X180, X181, X182, X183, X184, X185, X186, X187, X188, X189, X190, X191, X192, X193, X194, X195, X196, X197, X198, X199, X200, X201, X202, X203, X204, X205, X206, X207, X208, X209, X210, X211, X212, X213, X214, X215, X216, X217, X218, X219, X220, X221, X222, X223, X224, X225, X226, X227, X228, X229, X230, X231, X232, X233, X234, X235, X236, X237, X238, X239, X240, X241, X242, X243, X244, X245, X246, X247, X248, X249, X250, X251, X252, X253, X254, X255, X256, X257, X258, X259, X260, X261, X262, X263, X264, X265, X266, X267, X268, X269, X270, X271, X272, X273, X274, X275, X276, X277, X278, X279, X280, X281, X282, X283, X284, X285, X286, X287, X288, X289, X290, X291, X292, X293, X294, X295, X296, X297, X298, X299, X300, X301, X302, X303, X304, X305, X306, X307, X308, X309, X310, X311, X312, X313, X314, X315, X316, X317, X318, X319, X320, X321, X322, X323, X324, X325, X326, X327, X328, X329, X330, X331, X332, X333, X334, X335, X336, X337, X338, X339, X340, X341, X342, X343, X344, X345, X346, X347, X348, X349, X350, X351, X352, X353, X354, X355, X356, X357, X358, X359, X360, X361, X362, X363, X364, X365, X366, X367, X368, X369, X370, X371, X372, X373, X374, X375, X376, X377, X378, X379, X380, X381, X382, X383, X384, X385, X386, X387, X388, X389, X390, X391, X392, X393, X394, X395, X396, X397, X398, X399, X400, X401, X402, X403, X404, X405, X406, X407, X408, X409, X410, X411, X412, X413, X414, X415, X416, X417, X418, X419, X420, X421, X422, X423, X424, X425, X426, X427, X428, X429, X430, X431, X432, X433, X434, X435, X436, X437, X438, X439, X440, X441, X442, X443, X444, X445, X446, X447, X448, X449, X450, X451, X452, X453, X454, X455, X456, X457, X458, X459, X460, X461, X462, X463, X464, X465, X466, X467, X468, X469, X470, X471, X472, X473, X474, X475, X476, X477, X478, X479, X480, X481, X482, X483, X484, X485, X486, X487, X488, X489, X490, X491, X492, X493, X494, X495, X496, X497, X498, X499, X500, X501, X502, X503, X504, X505, X506, X507, X508, X509, X510, X511, X512, X513, X514, X515, X516, X517, X518, X519, X520, X521, X522, X523, X524, X525, X526, X527, X528, X529, X530, X531, X532, X533, X534, X535, X536, X537, X538, X539, X540, X541, X542, X543, X544, X545, X546, X547, X548, X549, X550, X551, X552, X553, X554, X555, X556, X557, X558, X559, X560, X561, X562, X563, X564, X565, X566, X567, X568, X569, X570, X571, X572, X573, X574, X575, X576, X577, X578, X579, X580, X581, X582, X583, X584, X585, X586, X587, X588, X589, X590, X591, X592, X593, X594, X595, X596, X597, X598, X599, X600, X601, X602, X603, X604, X605, X606, X607, X608, X609, X610, X611, X612, X613, X614, X615, X616, X617, X618, X619, X620, X621, X622, X623, X624, X625, X626, X627, X628, X629, X630, X631, X632, X633, X634, X635, X636, X637, X638, X639, X640, X641, X642, X643, X644, X645, X646, X647, X648, X649, X650, X651, X652, X653, X654, X655, X656, X657, X658, X659, X660, X661, X662, X663, X664, X665, X666, X667, X668, X669, X670, X671, X672, X673, X674, X675, X676, X677, X678, X679, X680, X681, X682, X683, X684, X685, X686, X687, X688, X689, X690, X691, X692, X693, X694, X695, X696, X697, X698, X699, X700, X701, X702, X703, X704, X705, X706, X707, X708, X709, X710, X711, X712, X713, X714, X715, X716, X717, X718, X719, X720, X721, X722, X723, X724, X725, X726, X727, X728, X729, X730, X731, X732, X733, X734, X735, X736, X737, X738, X739, X740, X741, X742, X743, X744, X745, X746, X747, X748, X749, X750, X751, X752, X753, X754, X755, X756, X757, X758, X759, X760, X761, X762, X763, X764, X765, X766, X767, X768, X769, X770, X771, X772, X773, X774, X775, X776, X777, X778, X779, X780, X781, X782, X783, X784, X785, X786, X787, X788, X789, X790, X791, X792, X793, X794, X795, X796, X797, X798, X799, X800, X801, X802, X803, X804, X805, X806, X807, X808, X809, X810, X811, X812, X813, X814, X815, X816, X817, X818, X819, X820, X821, X822, X823, X824, X825, X826, X827, X828, X829, X830, X831, X832, X833, X834, X835, X836, X837, X838, X839, X840, X841, X842, X843, X844, X845, X846, X847, X848, X849, X850, X851, X852, X853, X854, X855, X856, X857, X858, X859, X860, X861, X862, X863, X864, X865, X866, X867, X868, X869, X870, X871, X872, X873

CSF 880 042 DCS ans-large field exc a.ai

- ① K1 can also be controlled by the armature converter. If the installation is not equipped with K1 and the converter is directly supplied from a high voltage transformer an additional overvoltage protection (capacitors) is required.
- ② Disabled by parameter or not selected (plus code +0S)

Fan assignment for DCS880

Converter type	Size	Configuration	Fan type	Airflow built in [m³/h]
DCS880-S0b-0045-04/05 ... DCS880-S0b-00100-04/05	H1	1	1 x 3110UL	57
DCS880-S0b-0135-04/05 ... DCS880-S0b-0300-04/05	H2	2	2 x AFB122	170
DCS880-S01-0290-06 DCS880-S02-0320-06 DCS880-S0b-0315-04/05 ... DCS880-S0b-0450-04/05	H3			
DCS880-S0b-0470-04/05 ... DCS880-S0b-0520-04/05			3	2 x 3110UL 2 x AFB122
DCS880-S01-0590-06 DCS880-S02-0650-06 DCS880-S0b-0610-04/05 ... DCS880-S0b-0820-04/05	H4	4	1 x W2E200 230 V; 1□	388
DCS880-S0b-0900-04/05 ... DCS880-S0b-1000-04/05				1 x W2E250 230 V; 1~
DCS880-S0b-1190-04/05	H5	5	R2E250-RB 230 V; 1~	918
DCS880-S0b-0900-0dX0 ... DCS880-S0b-2000-0dX0	H6 (classic)			850
DCS880-S0b-0900-0dXB ... DCS880-S0b-2000-0dXB	H6 (ErP fan)	5	R2E250-RE04-10 230 V; 1~	850
DCS880-S0b-1900-0d ... DCS880-S0b-3000-0d	H7	6	GR28C-2DK 400 V / 500 V @ 50 Hz or 460 V @ 60 Hz	1700
DCS880-S0b-2050-dd ... DCS880-S0b-5200-dd	H8	7	GR35C-2DD 400 V @ 50 Hz or 460 V @ 60 Hz	4500

b = Bridge type

d = Rated AC voltage

Fan data for DCS880 (H5 ... H8)

Sizes H5 and H6

Fan	R2E250-RB (classic)		R2E250-RE04-10 (ErP fan)	
Rated voltage [V _{AC}]	230; 1~		230; 1~	
Tolerance [%]	±10		+10/-15	
Frequency [Hz]	50	60	50	60
Power consumption [W]	227	390	220	348
Current consumption [A]	1.10	1.70	1.00	1.57
Blocking current [A]	3.1	3.1	2.5	2.4
Air flow [m ³ /h] at working point	800 1.0 A	850 1.6 A	800 0.9 A	850 1.5 A
Max. ambient temperature [°C]	< 55		< 80	< 50
Useful lifetime of grease	appr. 40,000 h/40°C		appr. 40,000 h/40°C	
Protection	internal		internal	

Sizes H7 and H8

Fan	GR28C-2DK		GR35C-2DD	
Rated voltage [V _{AC}]	400 Δ 500 λ	460 Δ	400 / 460 ①/ 500 ①	460 / 500 ②
Tolerance [%]	±10		±10	
Frequency [Hz]	50	60	50	60
Power consumption [W]	660 Δ 600 λ	1100 Δ	2100	3000
Current consumption [A]	1.4 Δ 0.8 λ	1.8 Δ	4.0 Δ	5.3 Δ
Blocking current [A]	at 400 V Δ 8.0 at 500 V λ 2.8	at 460 V Δ 8.0	at 400 V > 17	at 460 V > 15
Air flow [m ³ /h] at working point	1600 @ 1.2 A (400 V Δ) 1500 @ 0.7 A (500 V λ)	1700 @ 1.6 A (460 V Δ)	4000 @ 4 A (400 V)	4500 @ 5.3 A (400 V)
Max. ambient temperature [°C]	< 55			
Useful lifetime of grease	appr. 30,000 h/40°C			
Protection	Temperature detector: U _N ≤ 230 V~; I _N ≤ 2.5 A~			

- ① The fan needs an input voltage of 400 V_{AC} at 50 Hz. For 460 V_{AC} / 500 V_{AC} use autotransformer (T8).
- ② The fan needs an input voltage of 460 V_{AC} at 60 Hz. For 500 V_{AC} use autotransformer (T8).

Protecting the drive and the input power and motor cables against thermal overload

The drive protects itself, its mains- and the motor cables against thermal overload when the cables are sized according to the nominal current of the drive. No additional thermal protection devices are needed.

WARNING

If the drive is connected to multiple motors, use a separate circuit breaker or fuses for protecting each motor cable and motor against overload. The drive overload protection is set to the total motor load. It may not trip due to an overload in one motor circuit only.

Protecting the motor against thermal overload

According to regulations, the motor must be protected against thermal overload and the current must be switched off when overload is detected. The drive includes a measured motor temperature function and a motor thermal model function. They protect the motor and switch off the current when necessary.

Measured motor temperature:

For safety, the actual temperature indication is given by motor temperature sensors. The most common temperature sensors are:

- Motor sizes IEC180 ... 225: Thermal switch, e.g. klixon.
- Motor sizes IEC200 ... 250 and larger: PTC or PT100.

See the [DCS880 Firmware Manual](#) for more information on the connection and use of the temperature sensors.

Motor thermal model:

Additionally, depending on drive parameter settings, an implemented function monitors a calculated temperature value (based on a motor thermal model). The user can tune the thermal model by feeding in additional motor and load data.

See the [DCS880 Firmware Manual](#) for more information on the motor thermal model.

WARNING

The motor thermal model function shall not be used solely as electronic motor overload protection safety function.

Protecting the drive against ground faults

The drive is not equipped with an internal ground fault protective function to protect the unit against ground faults in the motor and motor cables.

Residual current device compatibility

The drive is suitable to be used with residual current devices of Type B.

Note:

The EMC filter in front of the drive includes capacitors connected between the main circuit and the frame. These capacitors and long motor cables increase the ground leakage current and may cause fault current circuit breakers to function.

Cross-sectional areas - Tightening torques

Recommended cross-sectional area to **DIN VDE 0276-1000** and **DIN VDE 0100-540 (PE)** trefoil arrangement, up to 50°C ambient temperature. The necessary wire torque at 60°C wire temperature is the same as recommended in the following table.

Armature:

Converter type	C1, D1			U1, V1, W1		PE		
	I_{DC} [A-]	1  [mm²]	(2.)  [mm²]	I_V [A~]	 [mm²]	 [mm²]		
DCS880-S0b-0025-0d	25	1 x 6	-	21	1 x 4	1 x 10	1 x M6	6
DCS880-S0b-0050-0d	50	1 x 10	-	41	1 x 6	1 x 10	1 x M6	6
DCS880-S0b-0075-0d	75	1 x 25	-	61	1 x 25	1 x 16	1 x M6	6
DCS880-S0b-0100-0d	100	1 x 25	-	82	1 x 25	1 x 16	1 x M6	6
DCS880-S0b-0150-0d	150	1 x 35	-	114	1 x 35	1 x 16	1 x M10	25
DCS880-S0b-0200-0d	200	2 x 35	1 x 95	163	2 x 25	1 x 25	1 x M10	25
DCS880-S0b-0250-0d	250	2 x 35	1 x 95	204	2 x 25	1 x 25	1 x M10	25
DCS880-S0b-0300-0d	300	2 x 70	1 x 95	220	2 x 50	1 x 50	1 x M10	25
DCS880-S0b-0320-0d	320	2 x 70	1 x 95	220	2 x 50	1 x 50	1 x M10	25
DCS880-S0b-0350-0d	350	2 x 70	-	286	2 x 50	1 x 50	1 x M10	25
DCS880-S0b-0450-0d	450	2 x 95	-	367	2 x 95	1 x 95	1 x M10	25
DCS880-S0b-0520-0d	520	2 x 95	-	424	2 x 95	1 x 95	1 x M10	25
DCS880-S0b-0650-0d	650	2 x 120	-	555	2 x 120	1 x 120	1 x M12	50
DCS880-S0b-0680-0d	680	2 x 120	-	555	2 x 120	1 x 120	1 x M12	50
DCS880-S0b-0820-0d	820	2 x 150	-	669	2 x 120	1 x 120	1 x M12	50
DCS880-S0b-0900-06/07	900	4 x 95	3 x 150	734	4 x 70	1 x 150	2 x M12	50
DCS880-S0b-1000-0d	1000	2 x 185	-	816	2 x 150	1 x 150	1 x M12	50
DCS880-S0b-1190-0d	1190	4 x 120	-	971	4 x 95	2 x 95	2 x M12	50
DCS880-S0b-1200-0d	1200	4 x 120	-	979	4 x 95	2 x 95	2 x M12	50
DCS880-S0b-1500-0d	1500	4 x 185	-	1224	4 x 150	2 x 150	2 x M12	50
DCS880-S0b-2000-0d	2000	8 x 120	6 x 185	1632	4 x 240	2 x 240	2 x M12	50
DCS880-S0b-1900-0d	1900	8 x 120	6 x 185	1550	4 x 240	2 x 240	4 x M12	50
DCS880-S0b-2050-dd	2050	8 x 120	6 x 185	1673	6 x 120	3 x 120	4 x M12	50
DCS880-S0b-2500-0d	2500	7 x 185	-	2040	8 x 120	4 x 120	4 x M12	50
DCS880-S0b-2600-dd	2600	7 x 185	-	2122	8 x 120	4 x 120	4 x M12	50
DCS880-S0b-3000-0d	3000	8 x 185	-	2448	7 x 185	4 x 185	4 x M12	50
DCS880-S0b-3300-dd	3300	8 x 185	-	2693	7 x 185	4 x 185	4 x M12	50
DCS880-S0b-4000-dd	4000	7 x 300	-	3264	8 x 240	4 x 240	4 x M12	50
DCS880-S0b-4800-0d ①	4800	8 x 300	-	3876	6 x 300	3 x 300	4 x M12	50
DCS880-S0b-5200-0d ①	5200	8 x 300	-	4202	6 x 300	3 x 300	4 x M12	50

① Reduced ambient temperature 40°C.

You will find instructions on how to calculate the PE conductor's cross-sectional area in VDE 0100 or in equivalent national standards. We would remind you that power converters may have a current-limiting effect.

Excitation:

Size	H1	H1	H2	H3, H5, H6	H4	DCF803-0035
DC output current	6 A	12 A	18 A	25 A	30 A	35 A
max. cross sectional area	6 mm²/ AWG 10	6 mm²/ AWG 10	6 mm²/ AWG 10	6 mm²/ AWG 10	6 mm²/ AWG 10	6 mm²/ AWG 10
min. cross sectional area	1 mm²/ AWG 16	2.5 mm²/ AWG 13	4 mm²/ AWG 11	6 mm²/ AWG 10	6 mm²/ AWG 10	6 mm²/ AWG 10
Tightening torque	1.5 1.7 Nm					

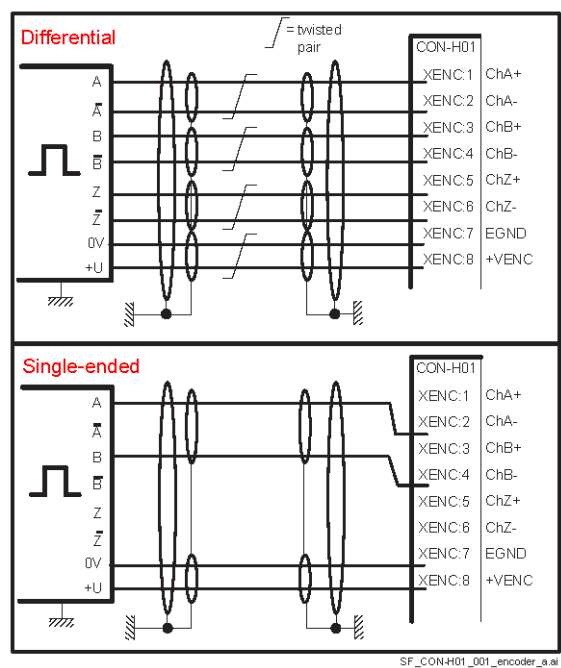
Pulse encoder connection

OnBoard encoder interface (XENC on SDCS-CON-H01)

On the SDCS-CON-H01 it is possible to select the supply voltage using jumper J4D.

	Hardware configuration	
Encoder supply	SDCS-CON-H01	J4D
5 V, default (TTL level)	no sense	
24 V (HTL level)	no sense	

The wiring is shown in the figure below

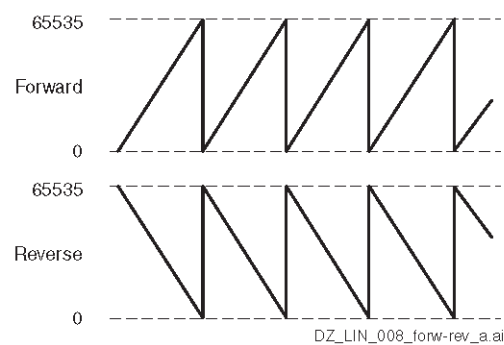


Commissioning hint:

If the drive’s measured direction of rotation is wrong or does not correspond to the measured EMF speed, fault 7301 Motor speed feedback may appear during start-up. If necessary correct it by exchanging the field connections F1 and F2 or exchange tracks A+ and A-.

For single-ended encoders tracks A- and B- must be exchanged.

94.16 OnBoard encoder position should look like this:

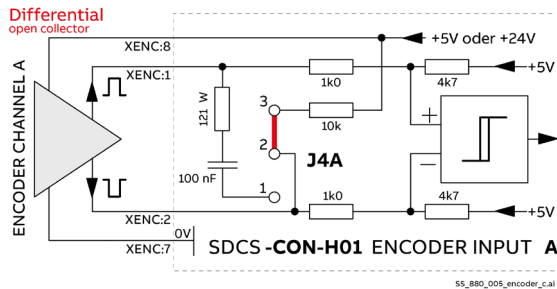


Pulse encoder connection principles

Two different encoder connections are available.

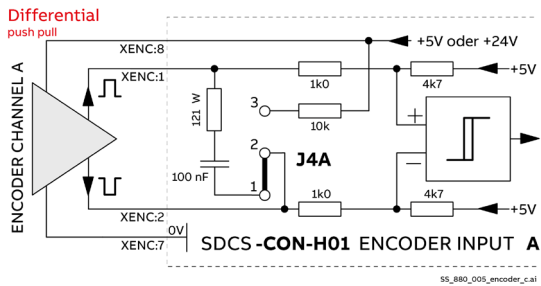
1. Differential connection; only pulse encoders generating voltage signals can be used.
2. Single-ended (push pull) connection; only pulse encoders generating voltage signals can be used.

Differential connection:



Jumper settings for differential (open collector) encoders connected to a SDCS-CON-H01

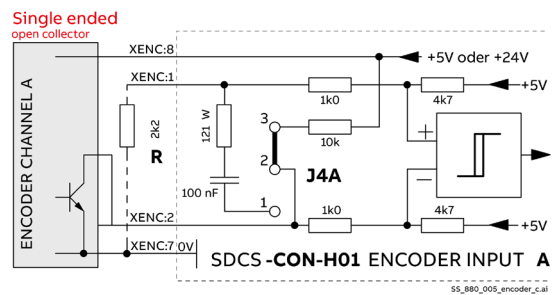
Jumper	SDCS-CON-H01				
J4A	2 - 3		2 - 3		Differential
J4B	5 - 6		5 - 6		
J4C	8 - 9		8 - 9		
J4D	5 V: 10 – 11 (TTL level)		24 V: 11 – 12 (HTL level)		Voltage source



Jumper settings for differential (push pull) encoders connected to a SDCS-CON-H01

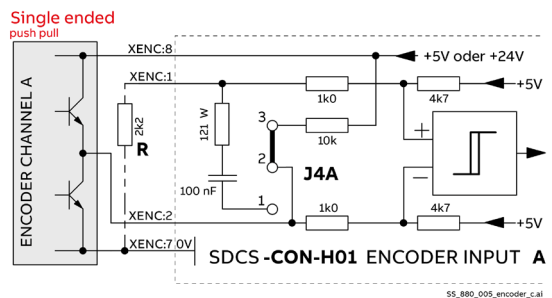
Jumper	SDCS-CON-H01				
J4A	1 - 2		1 - 2		Differential
J4B	4 - 5		4 - 5		
J4C	7 - 8		7 - 8		
J4D	5 V: 10 – 11 (TTL level)		24 V: 11 – 12 (HTL level)	 	Voltage source

Single-ended connection:



Jumper settings for single-ended (open collector) encoders connected to a SDCS-CON-H01

Jumper	SDCS-CON-H01				
J4A	2 - 3		2 - 3		Single ended
J4B	5 - 6		5 - 6		
J4C	8 - 9		8 - 9		
J4D	5 V: 10 – 11 (TTL level)		24 V: 11 – 12 (HTL level)		Voltage source



Jumper settings for single-ended (push pull) encoders connected to a SDCS-CON-H01

Jumper	SDCS-CON-H01				
J4A	2 - 3		2 - 3		Single ended
J4B	5 - 6		5 - 6		
J4C	8 - 9		8 - 9		
J4D	5 V: 10 – 11 (TTL level)		24 V: 11 – 12 (HTL level)		Voltage source

To get a threshold lower than 5 V each terminal XENC:1, 3 and 5 must be connected via a resistor R to GND.

Cable length:

The maximum distance between pulse encoder and SDCS-CON-H01 depends on the voltage drop of the connecting lines and on the output and input configuration of the used components. Use cables according to the table below. Use twisted pair cables with pair shielding plus overall shielding.

Cable length	Parallel wires for power source & GND	Cable used
0 ... 50 m	1 x 0.25 mm ²	12 x 0.25 mm ²
50 ... 100 m	2 x 0.25 mm ²	12 x 0.25 mm ²
100 ... 150 m	3 x 0.25 mm ²	14 x 0.25 mm ²

Cable length	Parallel wires for power source & GND	Cable used
0 ... 164 ft	1 x 24 AWG	12 x 24 AWG
164 ... 328 ft	2 x 24 AWG	12 x 24 AWG
328 ... 492 ft	3 x 24 AWG	14 x 24 AWG

Internal 24 V_{DC} used

DCS880

XAI Reference voltage and analog inputs

1	+VREF	+10 V _{DC}
2	-VREF	-10 V _{DC}
3	AGND	Common ground (connected to frame)
4	AI1+	±10 V or 0 (4) ... 20 mA depending on J1
5	AI1-	
6	AI2+	±10 V or 0 (4) ... 20 mA depending on J2
7	AI2-	
8	AI3+	±10 V
9	AI3-	
J1	J1	AI1 current / voltage selection jumper
J2	J2	AI2 current / voltage selection jumper

XAO Analog outputs

1	AO1	±10 V or 0 (4) ... 20 mA depending on J5
2	AGND	Common ground (connected to frame)
3	AO2	±10 V
4	AGND	Common ground (connected to frame)
5	IAC	Connection point for a scope (H1 ... H6 only) ①
J5	J5	AO1 current / voltage selection switch

XD2D Drive-to-drive link

1	B	Drive-to-drive link (master-follower or embedded fieldbus)
2	A	
3	BGND	Isolated ground 2
J3	J3	Drive-to-drive link termination switch

XRO1, XRO2, XRO3 Relay outputs

11	NC	
12	COM	250 V _{AC} / 30 V _{DC}
13	NO	2 A
21	NC	
22	COM	250 V _{AC} / 30 V _{DC}
23	NO	2 A
31	NC	
32	COM	250 V _{AC} / 30 V _{DC}
33	NO	2 A

XD24 Digital interlock

1	DIL	Digital interlock, ground: DICOM
2	+24VD	+24 V _{DC} , 200 mA, ground: DIOGND
3	DICOM	Isolated digital input ground for DI1 ... DI5 and DIL
4	+24VD	+24 V _{DC} , 200 mA, ground: DIOGND
5	DIOGND	Isolated digital input / output ground for DI6, DIO1, DIO2
J6	J6	Digital ground selection switch (DIOGND and DICOM)

XDIO Digital inputs / outputs

1	DIO1	
2	DIO2	

XDI Digital inputs

1	DI1	DI1 ... DI5 and DIL max. +24 V _{DC}
2	DI2	
3	DI3	
4	DI4	
5	DI5	
6	DI6	DI6 max. +24 V _{DC}

XENC Encoder

1	A+	Channel A+ function depending on J4A
2	A-	Channel A- function depending on J4A
3	B+	Channel B+ function depending on J4B
4	B-	Channel B- function depending on J4B
5	Z+	Channel Z+ function depending on J4C
6	Z-	Channel Z- function depending on J4C
7	EGND	Common ground (connected to frame)
8	+VENC	Encoder supply 5 V _{DC} or 24 V _{DC} depending on J4D, 250 mA
J4A	J4A	Differential or single ended (10 k pull up) selection jumpers
J4B	J4B	
J4C	J4C	
J4D	J4D	Encoder supply 5 V _{DC} or 24 V _{DC} selection jumper
J7A	J7A	Not in use for DCS880
J7B	J7B	

XTAC Analog tachometer

1	AI TACH+	±8 ... 270 V _{DC}
2	AI TACH-	

XSMC Mains contactor

1	MCCOM	250 V _{AC} / 30 V _{DC} Fixed output for the mains contactor
2	MCNO	2 A
3	STOCOM	250 V _{AC} / 30 V _{DC} Fixed output for safe torque off (STO) zero current monitor
4	STONO	2 A

XSTO Safe torque off (STO)

1	OUT1	24 V _{DC} for STO circuit
2	SGND	Common ground (connected to frame)
3	IN1	Both circuits must be closed for drive to start
4	IN2	Open circuits block the firing pulses

X12 Safety functions module connection

X13 Control panel connection

X205 Memory unit connection

① For H7 and H8 see SDCS-OPL-H01.

External 24 V_{DC} used

XD24 Digital interlock

1	DIL	
2	+24VD	
3	DICOM	
4	+24VD	
5	DIOGND	
J6	J6	

XDIO Digital input / outputs

1	DIO1	
2	DIO2	

XDI Digital inputs

1	DI1	
2	DI2	
3	DI3	
4	DI4	
5	DI5	
6	DI6	

XENC Encoder

J4 A	J4 B	J4 C	10 kΩ	J4 D	Encoder supply
1	4	7	Differential (open collector)	10	24 V
3	6	9	Single ended (open collector, push pull)	12	HTL (level)
			120 Ω		5 V
			Differential (push pull)		TTL (level)
			Default		Default

OnBoard Encoder Feedback 24 V_{DC} / 5 V

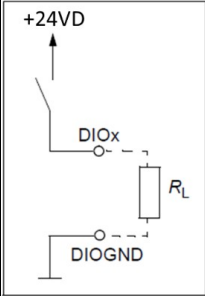
XENC

1 2 3 4 5 6 7 8

EGND

SA_880_005_DCS_d.ai

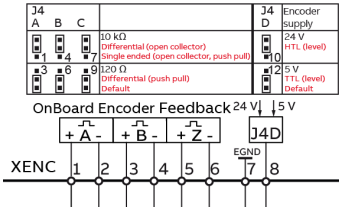
XDIO: Digital inputs / outputs

DIO1	Maximum wire size 2.5 mm ²
DIO2	As input: +24 V _{DC} logic levels: low < 5 V _{DC} , high > 15 V _{DC} $R_{in} = 2\text{ k}\Omega$ Filter: 0.25 ms As output: Total output current from +24VD is limited to 200 mA  Filter: 0.04 ms Related ground is DIOGND
	Parameter settings see DCS880 Firmware manual Group 11 Standard DIO, FI, FO

XDI: Digital inputs

DI1	Maximum wire size 2.5 mm ²
DI2	+24 V _{DC} logic levels: low < 5 V _{DC} , high > 15 V _{DC}
DI3	$R_{in} = 2\text{ k}\Omega$
DI4	Hardware filter: 0.04 ms
DI5	Digital filter up to 8 ms
DI6	DI1 ... DI5: Related ground is DICOM
	DI6: Related ground is DIOGND
	Parameter settings see DCS880 Firmware manual Group 10 Standard DI, RO

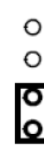
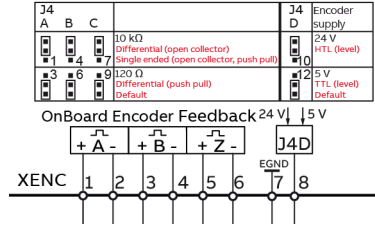
XENC: Encoder

A+	OnBoard encoder interface supply voltage 5 V or 24 V (non isolated) depending on J4D, 250 mA
A-	OnBoard encoder interface type differential or single ended depending on J4A ... J4C
B+	Maximum wire size 2.5 mm ²
B-	
Z+	
Z-	
EGND	
+VENC	
	Parameter settings see DCS880 Firmware manual Group 94 OnBoard speed feedback configuration

XTAC: Analog tacho

AITACH+	OnBoard tacho interface
AITACH-	Maximum wire size 2.5 mm ² Differential input max. voltage 8 ... 270 V
	Parameter settings see DCS880 Firmware manual Group 94 OnBoard speed feedback configuration

Jumpers and switches

Jumper / Switch	Description	Positions
J1 (AI1)	Determines whether analog input AI1 is used as a current or voltage input.	 Current (I)
		 Voltage (U), default.
J2 (AI2)	Determines whether analog input AI2 is used as a current or voltage input.	 Current (I)
		 Voltage (U), default.
J3 (D2D)	Drive-to-drive link termination. Must be set to terminated position when the thyristor power controller is the last unit on the link.	 Bus is not terminated, default.  Bus is terminated.
J4A ... J4D (encoder)	OnBoard encoder interface.	
J5 (AO1)	Determines whether analog output AO1 is used as a current or voltage output.	 Voltage (U), default.
		 Current (I)
J6 (grounding)	Digital ground selection switch. Determines whether DICOM is separated from DIOGND (e.g. the common reference for digital inputs floats). See Ground isolation diagram . The insulation voltage between them is 50 V.	 DIOGND and DICOM separated.  DIOGND and DICOM connected, default.
J7A, J7B	OnBoard encoder interface.	 Encoder, default.
		 Not in use for DCS880.

Size H6 (classic fan box)

DCS880-S0b-0900-0dX0

DCS880-S0b-1200-0dX0

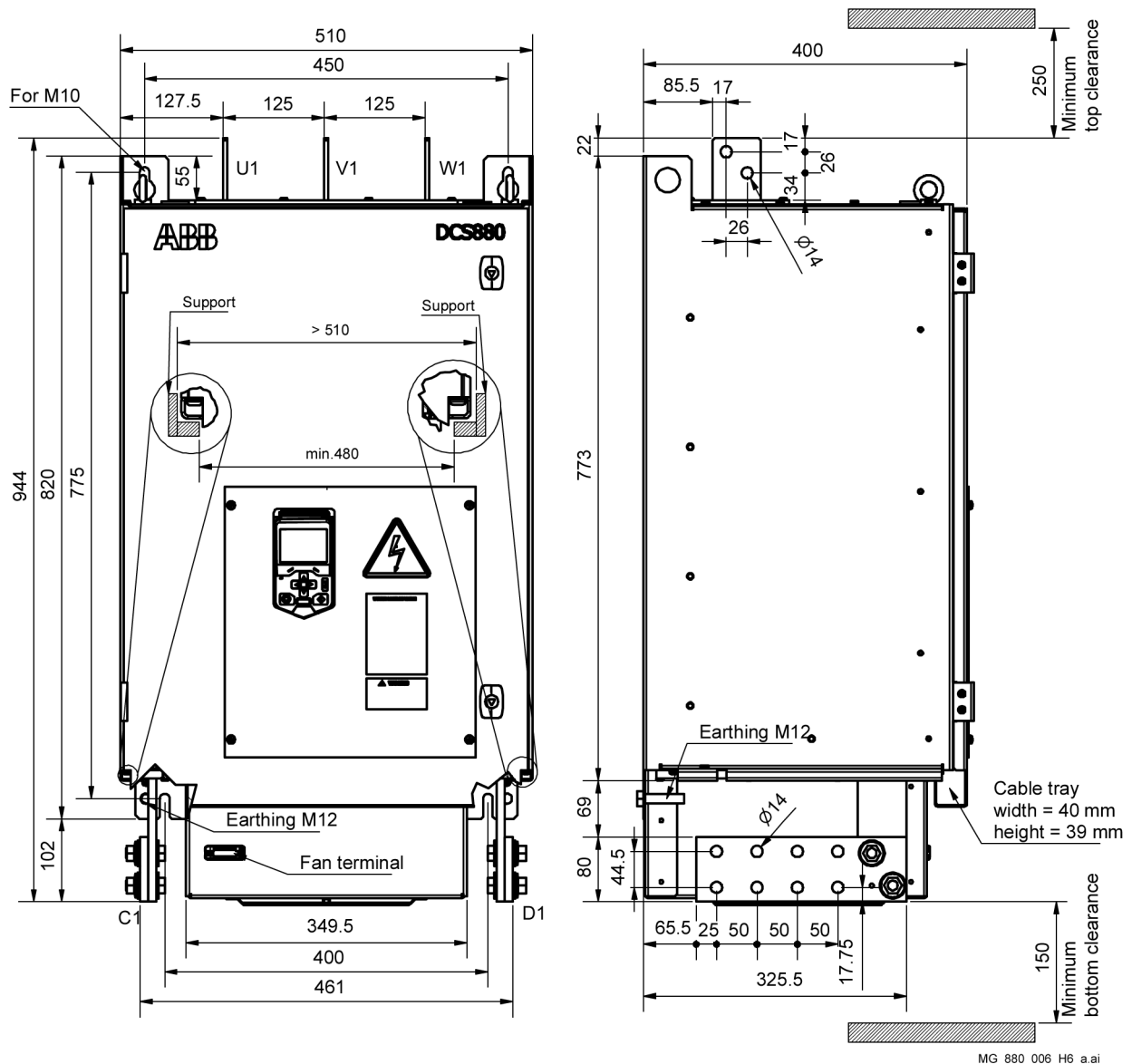
DCS880-S0b-1500-0dX0

DCS880-S0b-2000-0dX0

Busbars in mm:

DC: 80 x 10

AC: 60 x 5



Mounting the module size H6 inside a cabinet

Two supports should be mounted inside the cabinet in such a way, that they can carry the module's weight. The minimum distance between the supports should not be less than 480 mm because of electrical clearance (DC busbars).

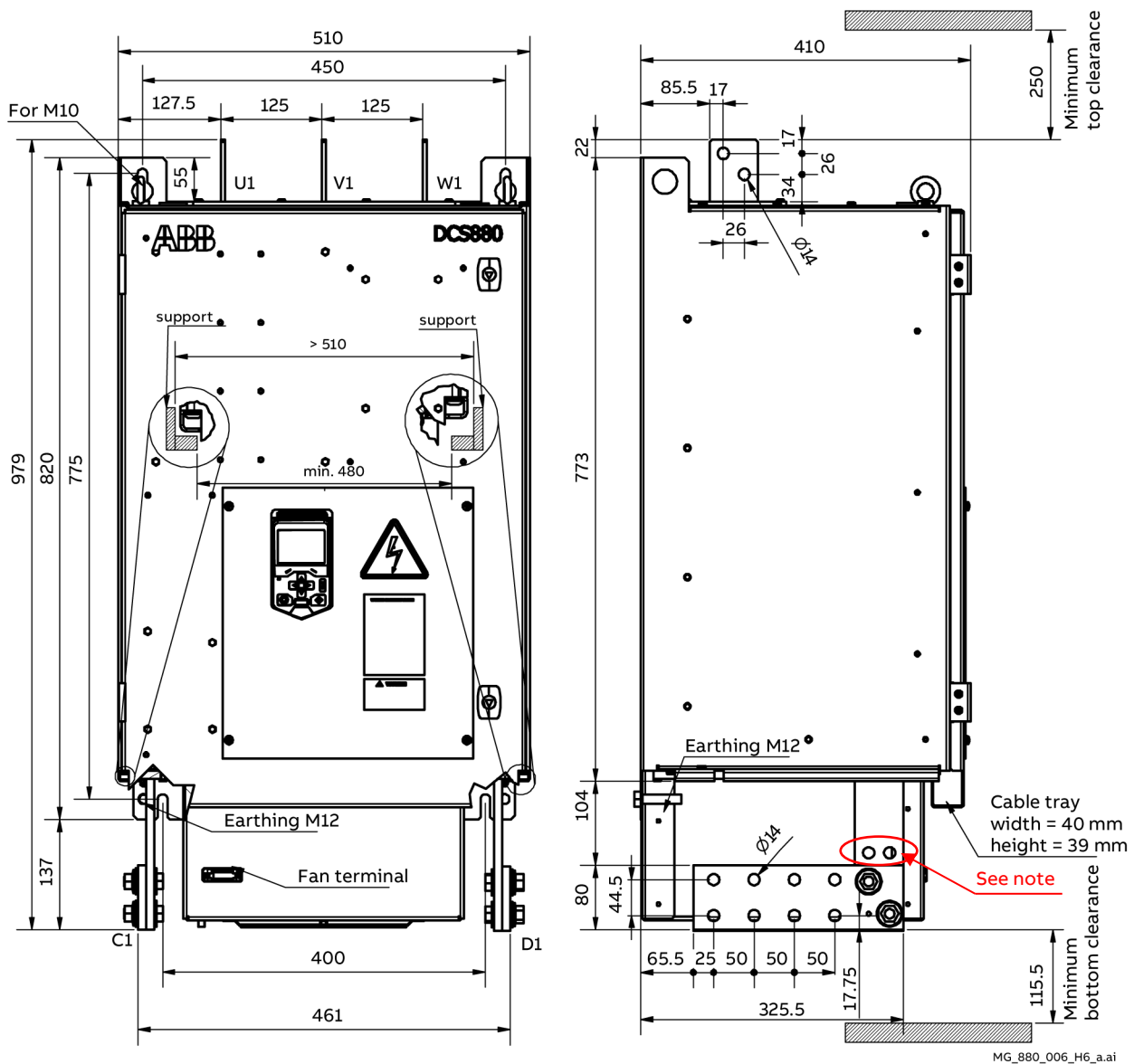
An L-shape support as indicated will allow to place the converter temporarily close to the front end of the support (weight still taken by a lifting device) and then push it back to the back plate of the cabinet. The upper and lower holes in the back plate of the converter should be used to fix the converter in that position.

between page 124 and 125

Size H6 (ErP fan box)

DCS880-S0b-0900-0dXB
DCS880-S0b-1200-0dXB
DCS880-S0b-1500-0dXB
DCS880-S0b-2000-0dXB

Busbars in mm:
DC: 80 x 10
AC: 60 x 5



Mounting the module size H6 inside a cabinet

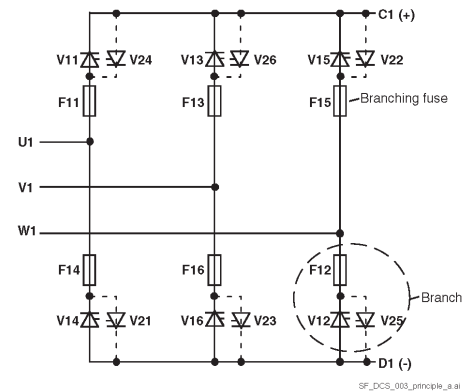
Two supports should be mounted inside the cabinet in such a way, that they can carry the module's weight. The minimum distance between the supports should not be less than 480 mm because of electrical clearance (DC busbars).

A L-shape support as indicated will allow to place the converter temporarily close to the front end of the support (weight still taken by a lifting device) and then push it back to the back plate of the cabinet. The upper and lower holes in the back plate of the converter should be used to fix the converter in that position.

Note: Since the ErP compliant unit is higher it is possible to adjust the armature circuit busbars to the previous height.

Branch fuses installed inside converters **size H5 ... H8, with classic H7**

Size	Converter type	Fuse type	Fuse Size
	400 V / 500 V (IEC) / 525 V (UL)		
H5	DCS880-S0b-1190-04/05X0	UR 900 A / 690 V	2
H6	DCS880-S0b-1200-04/05X0	UR 800 A / 660 V	5
H6	DCS880-S0b-1500-04/05X0	UR 1250 A / 660 V	5
H6	DCS880-S0b-2000-04/05X0	UR 1600 A / 660 V	5
H7	DCS880-S0b-2050-05X0	UR 1500 A / 660 V	5
H7	DCS880-S0b-2500-04/05X0	UR 900 A / 660 V ①	5
H7	DCS880-S0b-3000-04/05X0	UR 1250 A / 660 V ①	5
H8	DCS880-S0b-3300-04/05e0	UR 2500 A / 660 V	7
H8	DCS880-S0b-4000-04/05e0	UR 3000 A / 660 V	7
H8	DCS880-S0b-5200-04/05e0	UR 3500 A / 690 V	7
	600 V / 690 V		
H6	DCS880-S0b-0900-06/07X0	UR 630 A / 1250 V	6
H6	DCS880-S0b-1500-06/07X0	UR 1100 A / 1250 V	6
H6	DCS880-S01-2000-06/07X0	UR 1400 A / 1100 V	6
H7	DCS880-S0b-2050-06/07X0	UR 700 A / 1250 V ①	6
H7	DCS880-S0b-2500-06/07X0	UR 1000 A / 1250 V ①	6
H7	DCS880-S0b-3000-06/07X0	UR 1100 A / 1250 V ①	6
H8	DCS880-S0b-3300-06/07e0	UR 2500 A / 1000 V	8
H8	DCS880-S0b-4000-06/07e0	UR 3000 A / 1000 V	8
H8	DCS880-S0b-4800-06/07e0	UR 3000 A / 1000 V	8
	800 V		
H7	DCS880-S0b-1900-08X0	UR 630 A / 1250 V ①	6
H7	DCS880-S0b-2500-08X0	UR 1000 A / 1250 V ①	6
H7	DCS880-S0b-3000-08X0	UR 1100 A / 1250 V ①	6
H8	DCS880-S0b-3300-08e0	UR 2500 A / 1000 V	8
H8	DCS880-S0b-4000-08e0	UR 3000 A / 1000 V	8
H8	DCS880-S0b-4800-08e0	UR 3000 A / 1000 V	8
	1000 V		
H8	DCS880-S0b-2050-10e0	UR 1800 A / 1250 V	9
H8	DCS880-S0b-2600-10e0	UR 1800 A / 1250 V	9
H8	DCS880-S0b-3300-10e0	UR 2500 A / 1250 V	9
H8	DCS880-S0b-4000-10e0	UR 2500 A / 1250 V	9
	1200 V		
H8	Data on request	-	-

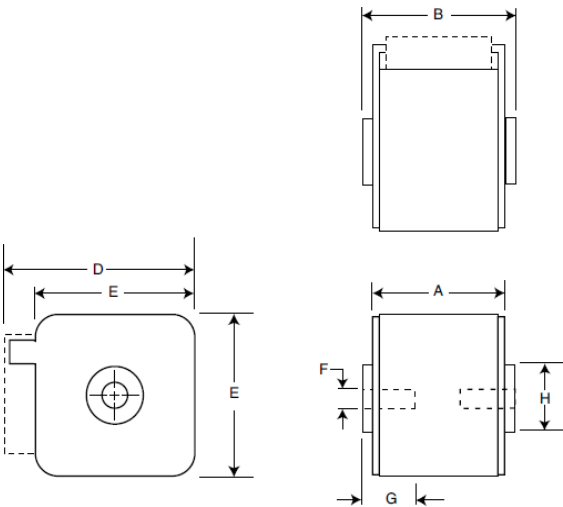


Branch fuses installed inside converters **size H7 (adapted fusing)**

Size	Converter type	Fuse type	Fuse size
	400 V / 500 V (IEC) / 525 V (UL)		
H7	DCS880-S0b-2500-04/05XA	UR 2240 A / 690 V ①	10
H7	DCS880-S0b-3000-04/05XA	UR 2240 A / 690 V ①	10
	600 V / 690 V		
H7	DCS880-S0b-2050-06/07XA	UR 1250 A / 1250 V ①	11
H7	DCS880-S0b-2500-06/07XA	UR 2240 A / 1250 V ①	11
H7	DCS880-S0b-3000-06/07XA	UR 2240 A / 1250 V ①	11
	800 V		
H7	DCS880-S0b-1900-08XA	UR 1250 A / 1250 V ①	11
H7	DCS880-S0b-2500-08XA	UR 2240 A / 1250 V ①	11
H7	DCS880-S0b-3000-08XA	UR 2240 A / 1250 V ①	11

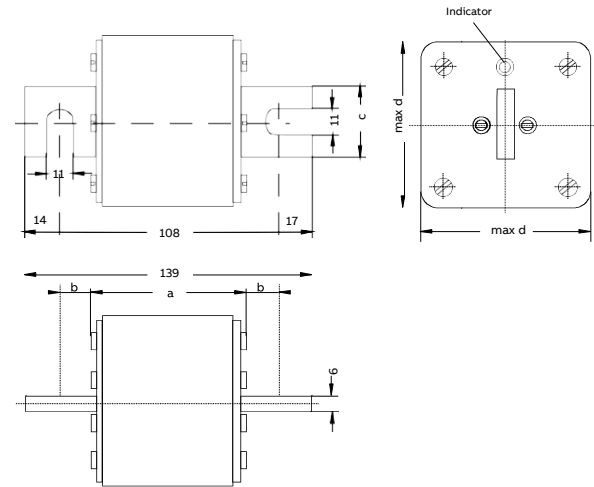
① Double fuse. 2 fuses mechanically connected

Size 2



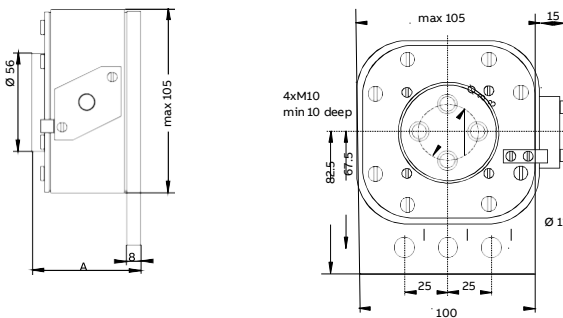
Size	A [mm]	B [mm]	D [mm]	E [mm]	F	G [mm]	H
2	50	51	77	61	M10	10	M24

Size 5, 6



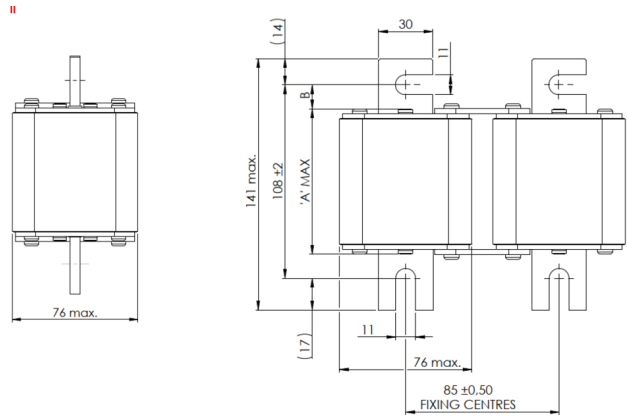
Size	a [mm]	b [mm]	c [mm]	d [mm]
5	50	29	30	76
6	80	14	30	76

Size 7 ... 9



Size	A [mm]
7	62
8	90
9	105

Size 10, 11



Size	A MAX [mm]	B [mm]	C
10	52	29 ±2	53
11	82.5	14 ±2	51, 52

Note:
The given dimensions may be exceeded in some cases. Please take them only for information

Fuses and fuse holders IEC

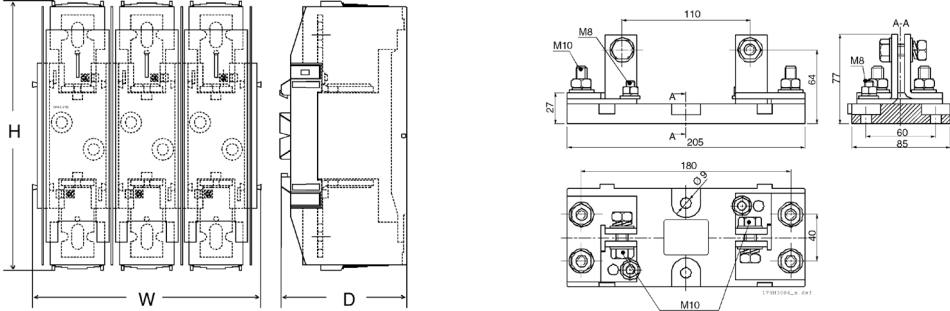
Semiconductor fuses and fuse holders for AC and DC power lines

The DCS880 size H1 ... H4 requires external mains fuses. For regenerative drives, DC fuses are recommended. The 4th column of the table below assigns the AC fuse to the unit. In case the unit should be equipped with DC fuses, use the same type of fuse as used on the AC side.

Size	Converter type (2-Q)	Converter type (4-Q)	Fuse type	Fuse size	Resistance [mW]	Fuse holder		
-	-	-	10A 660V UR	0	30	OFAZ 00 S3L		
-	-	-	25A 660V UR		15	OFAZ 00 S3L		
H1	DCS880-S01-0020-04/05	DCS880-S02-0025-04/05	50A 660V UR		6	OFAZ 00 S3L		
	DCS880-S01-0045-04/05	DCS880-S02-0050-04/05	80A 660V UR		3	OFAZ 00 S3L		
	DCS880-S01-0065-04/05	DCS880-S02-0075-04/05	125A 660V UR		1.8	OFAZ 00 S3L		
	DCS880-S01-0090-04/05	DCS880-S02-0100-04/05		OFAZ 00 S3L				
H2	DCS880-S01-0135-04/05	DCS880-S02-0150-04/05	200A 660V UR	1	0.87	OFAZ 1 S3		
	DCS880-S01-0180-04/05	DCS880-S02-0200-04/05	250A 600V UR		0.59	OFAZ 1 S3		
	DCS880-S01-0225-04/05	DCS880-S02-0250-04/05	315A 660V UR	2	0.47	OFAZ 2 S3		
	DCS880-S01-0270-04/05	DCS880-S02-0300-04/05	500A 660V UR	3	0.30	OFAZ 3 S3		
H3	DCS880-S01-0290-06	DCS880-S02-0320-06	700A 660V UR			OFAZ 3 S3		
	DCS880-S01-0315-04/05	DCS880-S02-0350-04/05				OFAZ 3 S3		
	DCS880-S01-0405-04/05	DCS880-S02-0450-04/05	0.22		OFAZ 3 S3			
	DCS880-S01-0470-04/05	DCS880-S02-0520-04/05			OFAZ 3 S3			
H4	DCS880-S01-0590-06	DCS880-S02-0650-06	900A 660V UR	4	0.15	3 x 170H 3006		
	DCS880-S01-0610-04/05	DCS880-S02-0680-04/05	3 x 170H 3006					
	DCS880-S01-0740-04/05	DCS880-S02-0820-04/05	3 x 170H 3006					
	DCS880-S01-0900-04/05	DCS880-S02-1000-04/05	1250A 660V UR		0.09	3 x 170H 3006		

Dimensions of fuse holders

OFAZ xx xxx170H 3006 (IP00)



Fuse holder	H x W x D [mm]	Protection
OFAZ 00 S3L	148 x 112 x 111	IP20
OFAZ 1 S3	250 x 174 x 123	IP20
OFAZ 2 S3	250 x 214 x 133	IP20
OFAZ 3 S3	265 x 246 x 160	IP20

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



DCS880 modules For safe productivity

20 ... 5,200 A_{DC}
0 ... 1,600 V_{DC}
230 ... 1,000 V_{AC}
IP00

- Safe torque off (STO) built in as standard
- Compact and robust
- Single drives, 20 A to 5,200 A, up to 1,600 V_{DC}
- IEC 61131 programmable
- Intuitive control panel and PC tool with USB connection and start up assistant
- Wide range of options to serve any DC motor application



DCS880-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



DCT880 modules Thyristor power controller

20 ... 4,200 A_{AC}
110 ... 990 V_{AC}
IP00

- Precise power control in industrial heating applications
- Two or three phase devices
- Power optimizer for peak load reduction
- Built on ABB's all-compatible drives architecture
- Intuitive control panel and PC tool with USB connection and start up assistant
- Application control programs and drive application programming with IEC 61131 programming



ABB Automation Products
Wallstadter-Straße 59
68526 Ladenburg • Germany
Tel: +49 (0) 6203-71-0
Fax: +49 (0) 6203-71-76 09
www.abb.com/dc-drives



462Z0301A1300000