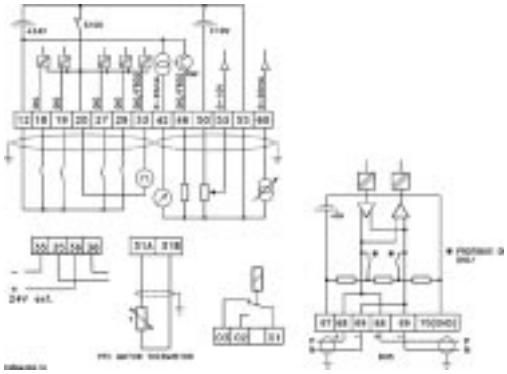
VLT® Decentral FCD 300



The FCD 300 is a complete frequency converter designed for decentral mounting. The FCD 300 can be mounted on the wall close to the motor, or directly on the motor.

A true decentral solution

The FCD 300 comes in a high enclosure class, IP66, to withstand normal cleaning methods. The design offers a smooth cleaning friendly surface without any difficult to clean spots. The FCD 300 comes in a robust painted surface. The twin part design makes commissioning and service very easy, since all installations are completed in the bottom part.

Status messages can be read without opening the device, this makes troubleshooting in decentral installations easier.

With a 'D' for 'Decentralized' the FCD 300 has been designed as a truly all-round, flexible and user-friendly frequency converter that fits into a host of applications and is compatible with virtually all standard AC motors. Among its primary benefits can be mentioned easy and flexible installation:

- The device can be mounted on the motor or a wall/rail. The mounting direction is optional.
- No cabinet or technician room is required. Only the PLC is left – an ideal basis for bus communication.
- Wiring is minimized, saving not only costs for expensive screened cables, but also hours of costly installation work.
- A maximum number of cable entries of different sizes, accessible from two sides of the device, facilitate the necessary wiring.
- All functions can be grouped in one module of a plant. thus reducing not only installation time, but planning and commissioning as well. This benefit is particularly interesting to OEM's striving for modularisation.
- Commisisoning and service exchange is easily handled since the FCD 300 is composed of two parts, which are electrically connected. All external wiring is done in the installation part and all electronics are confined to the other part.

Power

Compatible with standard network configurations: TN, TT, IT, and delta grounded networks. Power looping possible.

Motor control

Automatic motor tuning, dynamic braking, AC braking, and mechanical brake control with integrated brake supply.

Torque characteristics:	CT (160 % current for 60 s, 180 % for 0.5 s) or VT
U/f function:	Programmable, load and slip compensated
Switch pattern:	Voltage vector control (full motor voltage, mains like operation)
Switch frequency:	3 - 14 kHz (4.5 kHz factory setting), temperature depending switch frequency

Drives Solutions

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Control

Special control features are among others: Closed loop controller, precise stop, speed compensated stop, counter stop, and flying start,

Fieldbus control is possible via either Profibus DP or AS-i bus.

Protection

Full protection is issued. For drive as well as motor: PELV, High/low intermediate voltage, earth fault, over current, over heating, missing mains or motor phase, over temperature, short circuit of motor terminals, electronic thermal relay and motor thermistor.

Approvals:

CE, also IEC 61000-3-2, UL, and C-tick.

Input/output

Analogue input signal :	1 voltage: +/- 10 V_{DC} and 1 current: 0 (4) - 20 mA
Analogue output signal :	4 to 20 mA programmable
Digital input:	5 off: Fully programmable
Digital/frequency output:	Programmable (150 to 10 kHz)
Relay output:	Programmable (240 V/ 2 A)

No.	Function
01-03	Relay outputs 01-03 can be used for indicating status and alarms/warnings.
12	24 V DC voltage supply
18-33	Digital inputs
20,55	Common ground for input and output terminals
31a, 31b	Motor thermistor
35	Common (-) for external 24 V control back up supply. Optional.
36	External +24 V control back up supply. Optional.
42	Analogue output for displaying frequency reference, current or torque.
46	Digital output for displaying status, warnings or alarms, as well as frequency output.
50	+10 V DC supply voltage for potentiometer or termi stor
53	Analogue voltage input +/-10 V DC.
60	Analogue current input 0/4 - 20 mA
67	+ 5 V DC supply voltage to Profibus.
68,69	RS 485, Serial communication.
70	Ground for terminals 67, 68 and 69. Normally this terminal is not to be used.

Technical data

	Type	303	305	307	311	315	322*	330*
Output current (3 x 380-480 V)	I_N [A] I_{MAX} (60 s) [A]	1,4 2,2	1,8 2,9	2,2 3,5	3,0 4,8	3,7 5,9	5,2 8,3	7,0 11,2
Typical shaft output	$P_{M,N}$ [kW]	0,37	0,55	0,75	1,1	1,5	2,2	3,0
Typical shaft output	$P_{M,N}$ [PS]	0,5	0,75	1,0	1,5	2,0	3,0	4,0
Input current (3 x 380-480 V)	$I_{L,N}$ [A] $I_{L,MAX}$ (60 s) [A]	1,2 1,9	1,6 2,6	1,9 3,0	2,6 4,2	3,2 5,1	4,7 7,5	6,1 9,8
Enclosure	Type	IP 66/NEMA 4x (indoor)						
Dimension	H x L x B (mm)	140 x 240 x 180						

* Contact Danfoss for details

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