

VLT® Decentral FCD 300



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

The VLT® Decentral FCD 300 comes in a high enclosure class, with a robust painted surface to withstand normal cleaning methods. The design offers a smooth cleaning-friendly surface without any difficult to clean spots.

The decentral design reduces the need for central control panels and space-consuming motor control cabinets are eliminated. In addition, the need for wiring long screened motor cables is reduced.

The perfect solution for:

- Installations in wash-down areas
- Material handling
- Widely distributed applications
- Application modules often applied to different set-ups

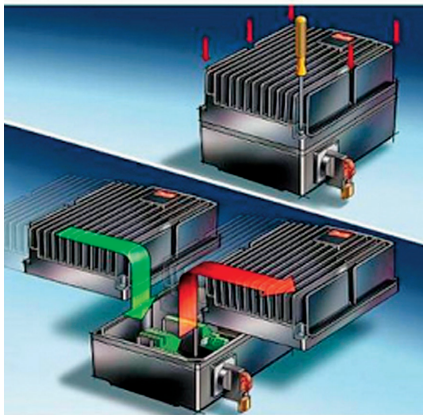
Power range

0.37 – 3.3 kW, 3 x 380 – 480 V

Enclosure

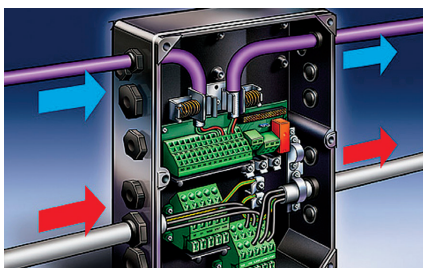
IP66

| Features | Benefits |
|---|--|
| <p>User-friendly</p> <ul style="list-style-type: none"> • Adapts to any brand of motor and geared motor • Designed for power and fieldbus looping • Visible LEDs • Set-up and controlled through a remote control panel or fieldbus communication and dedicated MCT 10 set-up software | <p>– Save commissioning and operating cost</p> <ul style="list-style-type: none"> • Easy and flexible installation • Cable savings • Easy status check • Easy commissioning |
| <p>Reliable</p> <ul style="list-style-type: none"> • Special surface treatment as protection against aggressive environments • Twin part design (installation box and electronic part) • Integrated lockable service switch available • Full protection is offered | <p>– Maximum up-time</p> <ul style="list-style-type: none"> • Easy cleaning; no dirt trap • Easy and fast service • Local disconnecting possible • Protects the motor and drive |



Plug-and-drive

The bottom section contains maintenance-free Cage Clamp connectors and looping facilities for power and fieldbus cables well protected against dust, hosing and cleaning agents. Once installed, commissioning and upgrading can be performed in no time by plugging in another control lid.



Flexible installation

The FCD 300 series facilitates internal power line and fieldbus looping. Terminals for 4 mm² power cables inside the enclosure allows connection of up to 10+ units.

Available options

- Service switch
- M12 connectors for sensor input
- Harting 10E motor plug
- Dynamic braking
- 24 V back up of control and communication

Specifications

| Mains supply (L1, L2, L3) | |
|---|--|
| Supply voltage | 3 x 380/400/415/440/480V ± 10% |
| Supply frequency | 50/60 Hz |
| Max. imbalance on supply voltage | ± 2.0% of rated supply voltage |
| Switching on input supply | 2 times/min. |
| Power Factor (cos φ) | 0.9 / 1.0 at rated load |
| Output data (U, V, W) | |
| Output voltage | 0–100% of supply |
| Overload torque | 160% for 60 sec. |
| Switching on output | Unlimited |
| Ramp times | 0.02 - 3600 sec. |
| Output frequency | 0.2 - 132 Hz, 1 - 1000 Hz |
| Digital inputs | |
| Programmable digital inputs | 5 |
| Voltage level | 0–24 V DC (PNP positive logic) |
| Analog inputs | |
| Analog inputs | 2 (1 voltage, 1 current) |
| Voltage level/Current level | 0– ± 10 V DC / 0/4–20 mA (scaleables) |
| Pulse inputs | |
| Programmable pulse inputs | 2 (24 V DC) |
| Max. frequency | 110 kHz (push-pull) / 5 kHz (open collector) |
| Analog output | |
| Programmable analog output | 1 |
| Current range | 0/4–20 mA |
| Digital output | |
| Programmable digital/frequency output | 1 |
| Voltage/frequency level | 24 V DC / 10 kHz (max.) |
| Relay output | |
| Programmable relay output | 1 |
| Max. terminal load | 250 V AC, 2 A, 500 VA |
| Fieldbus communication | |
| FC Protocol, Modbus RTU, Metasys N2 | Built-in |
| Profibus DP, DeviceNet, AS-interface | Optional (integrated) |
| Externals | |
| Vibration test | 1.0 g (IEC 60068) |
| Max. relative humidity | 95 % (IEC 60068-2-3) |
| Ambient temperature | Max. 40°C (24 hour average max. 35°C) |
| Min. ambient temperature in full operation | 0°C |
| Min. ambient temperature at reduced performance | -10°C |
| Approvals | CE, UL, C-tick, ATEX* |

* Contact Danfoss for details

Technical data

| VLT® Decentral FCD | | 303 | 305 | 307 | 311 | 315 | 322 | 330 | 335* | |
|--------------------------------------|----------------------------|-----------------|------|------|-----|-----|-----------------|------|------|--|
| Output current (3 x 380–480 V) | I _{INV (60s)} [A] | 1.4 | 1.8 | 2.2 | 3.0 | 3.7 | 5.2 | 7.0 | 7.6 | |
| | I _{MAX (60s)} [A] | 2.2 | 2.9 | 3.5 | 4.8 | 5.9 | 8.3 | 11.2 | 11.4 | |
| Output power (400 V) | S _{INV} [KVA] | 1.0 | 1.2 | 1.5 | 2.0 | 2.6 | 3.6 | 4.8 | 5.3 | |
| Typical shaft output | P _{M,N} [kW] | 0.37 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 3.0 | 3.3 | |
| | P _{M,N} [HP] | 0.5 | 0.75 | 1.0 | 1.5 | 2.0 | 3.0 | 4.0 | 5.0 | |
| Mechanical dimensions H x W x D (mm) | Motor mounting | 244 x 192 x 142 | | | | | 300 x 258 x 151 | | | |
| | Stand alone | 300 x 192 x 145 | | | | | 367 x 258 x 154 | | | |

* t_{amb} max. 35°C