

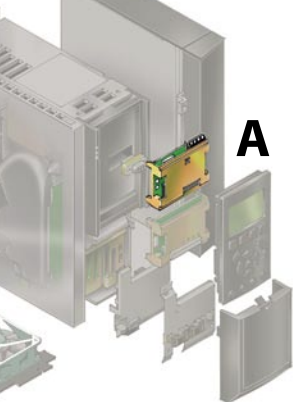


VLT® AutomationDrive

Option Overview

MOTION CONTROLS

A



MCA 101 PROFIBUS

Supported by all major PLC vendors, PROFIBUS DP V1 gives you a high level of availability and compatibility with future versions.

- Fast and efficient communication, transparent installation, advanced diagnosis and autoconfiguration of process data via GSD files
- Acyclic parameterization using PROFIBUS DP V1, PROFIdrive or Danfoss FC profi e state machines, PROFIBUS DP V1, Master Class 1 and 2



MCA 104 DeviceNet

Based on Producer/ Consumer technology, DeviceNet offers robust, efficient data handling.

- Allows the user to select the nature and timing of reported information
- ODVA's strong conformance testing policies ensure that products are interoperable



MCA 105 Can Open

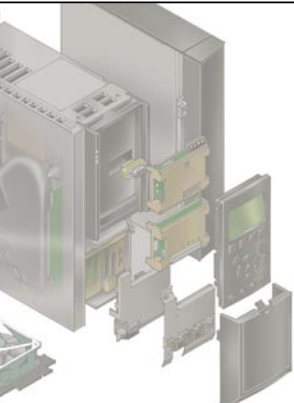
The Can Open fieldbus interface incorporates the CAN fieldbus system and DeviceNet.

- CAN Open Application layer according to DS301
- Support of Device Profile DSP402 for Drives and Motion Control
- Baud rate of 10 – 1000 Kbaud
- Addressing range of 0 – 127 set via LCP or PC Tool



VLT® 3000 Converter

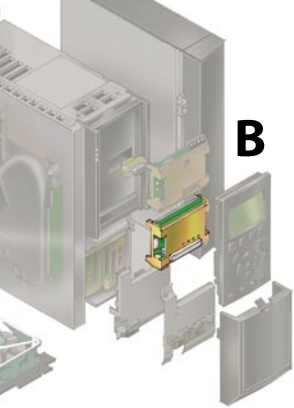
Emulates VLT® 3000 commands in the AutomationDrive, allowing the continued use of an existing PLC program.



Ethernet Master

An external, DIN-rail mountable device that provides an interface between Ethernet networks and the Danfoss FC-bus.

- Compatible with Danfoss legacy drives VLT 2800, VLT 5000 (Process and FLUX), FCM/FCD 300, as well as the VLT® AutomationDrive FC 300 Series
- Requires 24V DC for supply voltage.
- Controls up to 16 drives.
- Built-in Web server that can be accessed from any standard browser on the ethernet network
- Auto-detects all connected drives and all settings on the FC-bus



Application Options



MCB 101 General purpose I/O

Offers an extended number of control inputs and outputs:

- 3 digital inputs 0 – 24 V: Logic '0' < 5 V; Logic '1' > 10V
- 2 analog inputs 0 – 10 V: Resolution 10 bit plus sign
- 2 digital outputs NPN/PNP push pull
- 1 analog output 0/4 – 20 mA
- Spring loaded connection
- Separate parameter settings



MCB 102 Encoder

For connection of encoder feedback from either a motor or a process. Feedback for asynchronous or brushless servo (Permanent Magnet) motors.

- Incremental encoders
- SinCos encoders with Hyperface®
- Power supply for encoders
- RS422 interface
- Connects to all standard 5V incremental encoders
- Spring loaded connection



MCB 103 Resolver

Supports resolver feedback from brushless servo motors and feedback for flux vector controlled asynchronous motors in a rough environment.

- Primary Voltage: 4 – 8 Vrms
- Primary Frequency: 2.5 kHz – 15 kHz
- Primary current max: 50 mA rms
- Secondary input voltage: 4 Vrms
- Resolution: 10 bit @ 4 Vrms input amplitude
- Spring loaded connection
- Separate parameter settings



MCB 105 Relay

Extend the relay functions of the FC300 Series Drive with 3 extra relay outputs.

Max. terminal load:

- AC-1 Resistive load 240V AC: 2A
- AC-15 Inductive @ $\cos \phi$ 0.4: 0.2A
- DC-1 Resistive load 240V AC: 1A
- DC-13 Inductive @ $\cos \phi$ 0.4: 0.1A

Min. terminal load:

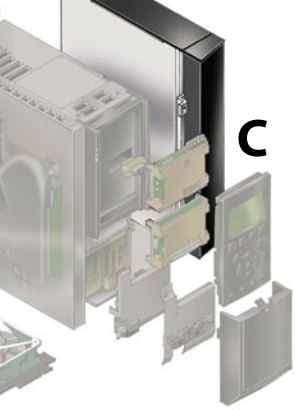
- DC 5 V: 10 mA
- Max. switch rate at rated load/min. load: $6 \text{ min}^{-1}/20 \text{ sec}^{-1}$
- Protected control cable connection
- Spring loaded connection of control wires
- Selection of relay functions in parameter settings



MCB 108 Safe PLC Interface

A cost-effective method of ensuring safety, the Safe PLC interface enables the connection of a dual wire safety link between a Safe PLC and a single pole 24 V DC input on the drive.

The Safe PLC Interface allows the Safe PLC to interrupt operation on the plus or minus link without interfering with the sense signal of the Safe PLC.



C

Motion Control Options



MCO 305 Programmable Motion Controller

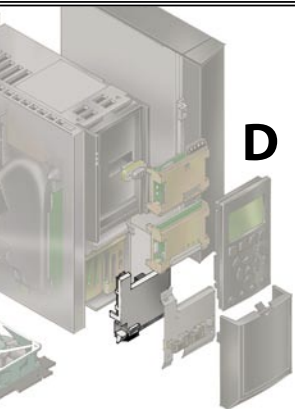
Optimized for all types of positioning and synchronizing applications.

- Basic features: Synchronisation (electronic shaft), Positioning and electronic Cam control
- 2 inputs supporting both incremental and absolute encoders
- 1 encoder output (virtual master function)
- 10 digital inputs
- 8 digital outputs
- Sending and receiving data via fieldbus interface (requires fieldbus option)
- PC software tools for programming and commissioning

Profisafe

Allows the user to build a network that handles both standard control signals and safety, greatly reducing engineering time and costs.

- Onboard safety inputs and outputs.
- Suitable for Category 4 safety (EN954) applications



D

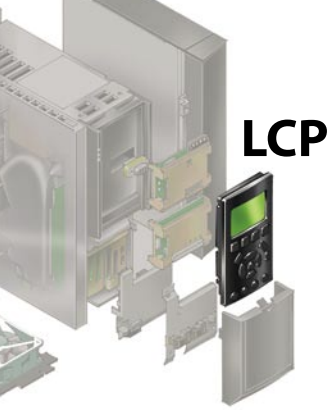
DC Input Option



MCB 107 24 V DC Supply option

Enables connection of external DC supply to keep the control section and any option installed active through interruption of mains power.

- Input voltage range: 24 V DC +/- 15% (max. 37 V in 10 sec.)
- Max. input current: 2.2 A
- Max. cable length: 75 m
- Input capacitance load: < 10 uF
- Power-up delay: < 0.6 s



LCP

Interface Options



LCP 102 Graphical Local Control Panel

- Multi language display
- FC 300 status messages
- Quick menu for easy commissioning
- Parameter setting and explanation of parameter function
- Full parameter backup and copy function
- Alarm logging
- Info button explains the function of the selected item on display
- Hand operated start-stop or selection of Automatic mode
- Reset function
- Trend graphing



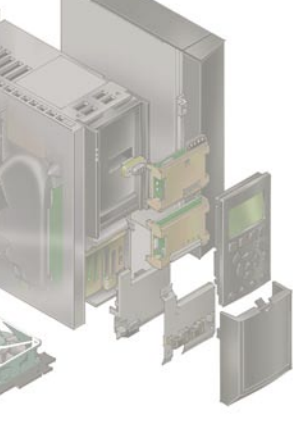
LCP 101 Numerical Local Control Panel

- Status messages
- Quick menu for easy commissioning
- Parameter setting and adjusting
- Hand operated start-stop function or selection of Automatic mode
- Reset function



LCP Panel Mounting Kit

- Enclosure IP65 front
- 3m cable
- Gasket for sealing
- Finger screws for easy fitting
- Supports LCP101 and LCP 102



Replacement fan

The fan can be removed for easy cleaning and service.



Profibus adaptor Sub-D9 connector

Uses a Phoenix type connector to connect to the Profibus Fieldbus Option (MCA 101) and provides a Sub D plug-in connection in place of screw type termination.



Decoupling plate for fieldbus cables

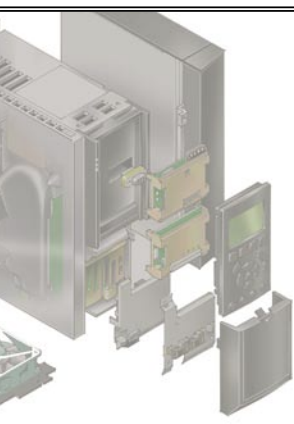
Makes fieldbus mounting robust.



IP21/Type12 (NEMA1) kit

Used for installations in dry environments.

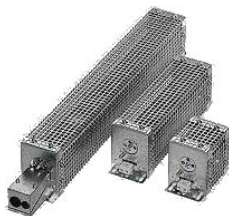
- Available for frame sizes A2 and A3 (0.25 – 7.5 kW)
- Can be used with or without mounted option modules
- IP 41 on top side
- PG 16 and PG 21 holes for glands



VLT® Harmonic Filter AHF 005/010

Simple and effective harmonic distortion reduction.

- AHF 005 reduces total harmonic current distortion to 5%
- AHF 010 reduces total harmonic current distortion to 10%
- Small compact housing that fits into a panel
- Easy to use in retrofit applications
- User-friendly startup — no adjustment necessary
- No routine maintenance required



Brake resistors

Dissipate energy generated during braking.

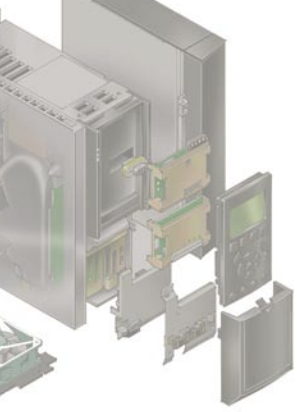
- Quick braking of heavy load
- Braking energy is only absorbed into the brake resistor
- External mounting makes it possible to use the developed heat



LC Filter Options

Reduces line-to-line voltage spikes as well as the rate of voltage rise.

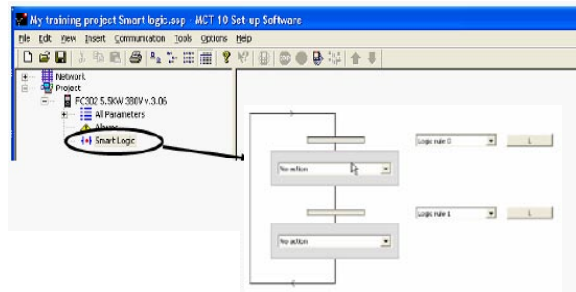
Power Options



MCT 10 (Motion Control Tools)

Offering advanced programming functionality for all Danfoss drive products, MCT 10 greatly reduces programming and commissioning times. Drives are managed in a standard folder-based user interface that's familiar and easy to understand. Parameter settings for each drive are contained in a single file, simplifying setup and the duplication of parameter sets between drives.

- SyncPos programming
- On-line and off-line commissioning
- On-board help files for each drive parameter
- Logging of alarms and warnings for improved system performance and documentation
- MCT-10 Conversion Wizards simplify drive conversion projects
- Real-time data collection using the MCT-10 Scope function
- Configuration and Access to the VLT® AutomationDrive's internal data buffer, providing up to four channels of high speed (down to 1 millisc) data collection
- Simplified programming of the FC300's Smart Logic Controller using graphical programming tools
- Drive upgrade tools



MCT-10 Basic version is available free of charge from the Danfoss web site. The Advanced edition, which offers a higher level of functionality, is also available from your Danfoss sales partner.

