

Fact Sheet

VLT® DriveMotor FCM 106



Easy to install and delivered with either permanent magnet or standard induction motor mounted.

With a wide range of standard, integrated pump and fan features, the VLT® DriveMotor FCM 106 is a highly dedicated, space saving motor and control solution in the 0.55-7.5 kW range.

The drive is delivered factory mounted on either a size-optimized IE4-rated permanent magnet (PM) motor or a standard IE2-rated induction motor (IM). This enables the FCM 106 to reduce both installation costs and complexity significantly. The compact design of the motor mounted drive solution also eliminates the need for cabinets.

IE4

efficiency class according to EN 60034-30-1 gives you the energy-saving requirements of tomorrow, today.

Due to the fact that the drive is mounted directly on the motor, long motor cables are eliminated, reducing costs further for both OEMs and end users. A plug connects the drive to the motor making assembly/disassembly fast and service friendly.

The VLT® DriveMotor is part of Danfoss EC+ concept, which maximizes the advantages and efficiency of permanent magnet motors, variable speed drives and plugfan technologies.

Service friendly

The VLT® Memory Module MCM 101 facilitates helpful implementation of factory settings for OEM and machine builders, fast installation of firmware

updates, and easy commissioning or exchange of drives in service situations. Simply use your PC to copy the drive settings from one Memory Module to another.

Enclosure rating

IP 55 (UL type 12).....0.55 – 7.5 kW

Product range

3 x 380 – 480 V.....0.55 – 7.5 kW
(with 110% overload torque)

3 x 380 – 480 V.....0.55 – 5.5 kW
(with 160% overload torque)

3 x 380 – 480 V..... 7.5 kW
(with 150% overload torque)

Feature	Benefit
Graphical display, 7 languages	Effective commissioning
External connection for display as standard	Fast connectivity
Motor data pre-programmed	No programming needed
IP 55/UL type 12	Reliable in wet and dirty environments
PCB protection class 3C3	Reliable in corrosive environments
Vibration fulfilling LVD requirements	Suitable for all motor-mounted challenges
110% overload (0.55 – 7.5 kW)	Optimised for fans and pumps
160% overload (0.55 – 5.5 kW)	High starting torque by one step up in power size
150% overload (7.5 kW)	High starting torque
Induction or permanent magnet motor	Free choice of motor technology
Sleep mode	Save energy and extend lifetime
Automatic Energy Optimizer function	Saves an additional 5 – 15% energy
AHU dedicated functions	Reduces cost and saves energy
Pump dedicated functions	Protects the pump and extends the lifetime
Built-in PI controller	No external PI controller required
Smart Logic Controller	Often makes PLC/ DDC unnecessary
Control signal for mechanical brake	Reduce effort in PLC
Embedded via RS485: FC Protocol, Modbus RTU, BACnet Optional: PROFIBUS DP V1	Flexible connectivity
Integrated DC link	Meets EN 61000-6-12, small power cable
Integrated EMC filters	Meets EN 61800-3 (C1 and C2) and EN 55011 Class B and A1

VLT® Memory Module MCM 101

Fast installation of firmware updates, and easy commissioning or exchange of drives.

Ordering number: 134B0791

Memory Module Programmer

Simply use your PC to copy the drive settings from one VLT® Memory Module to another.

Ordering number: 134B0792

PC software tool: VLT® Motion Control Tool MCT 10

Ideal for commissioning and servicing the drive with motor attached.

VLT® Control Panel LCP 102 (Graphical LCP only)

Ordering number: 130B1107

Remote Mounting Kit (LCP 102)

3 m cable, panel mounting bracket, gasket and fasteners

Ordering number: 134B0564

Local Operation Pad LOP

Panel for start/stop and setting the reference.

Ordering number: 175N0128

Potentiometer for cable gland

For setting the reference directly at the drive.

Ordering number: 177N0011

Specifications

Mains supply (L1, L2, L3)	
Supply voltage	380 – 480 V ±10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ)	Near unity (> 0.98)
Switching on input supply L1, L2, L3	1–2 times/min.
Output data (U, V, W)	
Output voltage	0 – 100% of supply voltage
Switching on output	Unlimited
Ramp times	0.05–3600 sec.
Output frequency	IM: 0 – 200 Hz / PM: 0 – 390 Hz
Digital inputs	
Programmable digital inputs	4
Logic	PNP or NPN
Voltage level	24 V
Analog input	
Analogue inputs	2
Modes	Voltage and current
Voltage level	0 – 10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Digital/Analog Output	
Programmable outputs	2
Analog output current level	0/4 to 20 mA (scaleable)
Relay output	
Programmable relay outputs	2 (resistive load 250 VAC, 3 A 30VDC, 2A)

IEC standard motor frame sizes

MH frame size	kW	PM 1500 rpm	PM 3000 rpm	IM 3000 rpm	IM 1500 rpm
MH1	0.55	71	NA	NA	NA
	0.75	71	71	71	80
	1.1	71	71	80	90
	1.5	71	71	80	90
MH2	2.2	90	71	90	100
	3	90	90	90	100
	4	90	90	100	112
MH3	5.5	112	90	112	112
	7.5	112	112	112	132



Choose the FCM 106 with a standard induction motor or permanent magnet motor.