

# dsPICDEM™ MC1 Motor Control Development System

## Summary

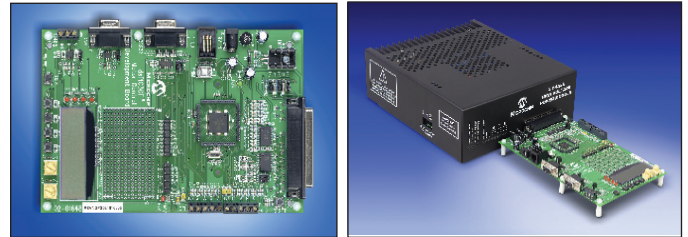
The Motor Control Development System provides the application developer with three main components for quick prototyping and validation of BLDC, PMAC and ACIM applications. The three main components are: dsPICDEM MC1 Motor Control Development Board, dsPICDEM MC1L 3-Phase Low Voltage Power Module and dsPICDEM MC1H 3-Phase High Voltage Power Module.

The dsPICDEM MC1 Motor Control Development Board contains the dsPIC30F6010 but supports all dsPIC® MCU motor control variances, various peripheral interfaces and a custom interface header system, which allows different motor power modules to be connected to the PCB. The control board also has connectors for mechanical position sensors, such as incremental rotary encoders and hall effect sensors, and a breadboard area for custom circuits. The main control board receives its power from a standard plug-in transformer.

The dsPICDEM MC1L 3-Phase Low Voltage Power Module is optimized for 3-phase motor applications that require a DC bus voltage less than 50 volts and can deliver up to 400W power output. The 3-phase low voltage power module is intended to power BLDC and PMAC motors.

The dsPICDEM MC1H 3-Phase High Voltage Power Module is optimized for 3-phase motor applications that require DC bus voltages up to 400 volts and can deliver up to 1 kW power output. The high voltage module has an active power factor correction circuit that is controlled by the dsPIC30F device. This power module is intended for AC induction motor and power inverter applications that operate directly from the AC line voltage.

Two motors are available that are compatible with the development system.



## Features

A feature of the dsPICDEM MC1 Motor Control Development Board is:

- dsPIC30F6010 Motor Control MCU Based Board

The optional power modules provide:

- Heatsink for Ambient Cooling of Power Sections
- Full Automatic Protection of Power Circuits
- Electrical Isolation from Power Circuits
- Many Options for Motor Feedback Signals

## Package Contents

### (Motor Control Development Board)

- dsPICDEM MC1 Motor Control Development Board with Pre-programmed dsPIC30F Device
- RS-232 Cable
- Power Supply
- Example Software and Documentation on CD

### Package Contents (Power Modules)

- High Voltage or Low Voltage Power Module
- Example Software and Documentation on CD

## Host System Requirements

- PC-compatible system with an Intel Pentium® class or higher processor, or equivalent
- A minimum of 16 MB RAM
- A minimum of 40 MB available hard drive space
- CD ROM drive
- Microsoft Windows® 98, Windows NT® 4.0, Windows 2000 or Windows XP



**MICROCHIP**

Development Systems

**Microchip Technology Incorporated**

## Part Numbers and Ordering Information:

dsPICDEM™ MC1 Motor Control Development System		
Part Number	Description	Availability
DM300020	dsPICDEM MC1 Motor Control Development Board (Supports dsPIC30F6010)	Now
DM300021	dsPICDEM MC1H 3-Phase High Voltage Power Module	Now
DM300022	dsPICDEM MC1L 3-Phase Low Voltage Power Module	Now
AC300020	3-Phase BLDC Low Voltage Motor (24V)	Now
AC300021	3-Phase ACIM High Voltage Motor (208/460V)	Now

Development Tools from Microchip		
MPLAB® IDE	Integrated Development Environment (IDE)	
MPASM™ Assembler	Universal PICmicro macro-assembler	
MPLINK™ Linker/MPLIB™ Librarian	Linker/Librarian	
MPLAB C17	C compiler for PIC17CXXX MCUs	
MPLAB C18	C compiler for PIC18CXXX MCUs	
MPLAB SIM Simulator	Software Simulator	
MPLAB ICD 2	In-Circuit Debugger	
MPLAB ICE 2000	Full-featured modular in-circuit emulator	
PICSTART® Plus Programmer	Entry-level development kit with programmer	
PRO MATE® II Device Programmer	Full-featured, modular device programmer	
KEELOQ® Evaluation Kit	Encoder/Decoder evaluator	
KEELOQ Transponder Evaluation Kit	Transmitter/Transponder evaluator	
microID™ Developer's Kit	125 kHz and 13.56 MHz RFID development tools	
MCP2510 CAN Developer's Kit	MCP2510 CAN evaluation/development tool	

Americas		Asia/Pacific		Europe	
Atlanta	(770) 640-0034	Australia	61-2-9868-6733	Austria	43-7242-2244-399
Boston	(978) 692-3848	China – Beijing	86-10-85282100	Denmark	45-4420-9895
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Microchip Technology Inc. • 2355 W. Chandler Blvd. • Chandler, AZ 85224-6199 USA • (480) 792-7200 • FAX (480) 792-7277

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