motionCODEC™

MC4 Multi-Axis Integrated Drive

Features

- Integrated 4-axis motion control + servo drives

- AC servo / Brushless DC servo motors up to 100W per axis

- Small form factor: 4.5"x1.6"x3.25" (HxWxD), < 24 in^3

- Software compatible with PMD Corp products including Pro-Motion® and C-Motion® software (Magellan® MC58420 based)

- On-board 400MHz FP DSP enables complex coordinated multi-axis motion control

- Advanced torque/current control

- Ethernet and Serial communication

- No external heat sink or fan cooling required for 55° C operation

- Supports incremental A/B/I and absolute SSI encoders, and Hall sensors

- 48V DC motor bus voltage

- 24V DC logic voltage

- CE marked

The motionCODEC™ MC4 integrated drive packs 4-axis motion control and drive electronics into a trend-setting small footprint form factor measuring just 4.5" x 1.6 x 3.25". The compact size provides system designers greater flexibility in drive location within OEM equipment, minimizing cabling and EMC issues.

The MC4 is designed to work with AC servo / brushless DC motors rated up to 100W of mechanical power per axis. Operating voltage is 18-55VDC. Continuous power output is 150W per axis, with a combined (4-axis) unit power rating of 480W.

Host interfaces include 10/100Mbps Ethernet and Serial. An on-board 400MHz Floating Point DSP provides complex multi-axis motion control. The MC4 is software compatible with the Performance Motion Devices Magellan® product line, including the Pro-Motion® GUI and C-Motion® software.

MC4 Multi-Axis Integrated Drive

Specifications

General Features	Description
Axes	4
Motor type	AC servo/Brushless DC
Continuous current output	5A dc/phase or 3.5A rms
Peak current output	10A dc/phase or 7A rms (2 sec)
Continuous power/axis	150W per axis
Combined unit power rating	480W
Operating voltage	18 – 55VDC
PWM frequency	20KHz SVPWM
Encoder rate	10 M counts/sec (max)
Encoder & I/O power	5V @ 200mA per axis (Short circuit protected)
Commutation & current loop	20KHz
Position loop & trajectory generation	3.91KHz (all 4 axis enabled)

Signals	Description
Incremental Encoder (per axis)	A, /A, B, /B, I, /I
Hall Signals (per axis)	A, B, C
Absolute encoder option (SSI)	SSI serial
Digital inputs (per axis)	Limit+, Limit-, Home
Digital outputs (per axis)	3 outputs

Communication	Description
Communication options	Ethernet Serial RS232C
Connectors	RJ45 (Ethernet), RJ11 (Serial)

Connectors	Description
Input Power	4-pin Wago 721-464
Motor (per axis)	4-pin Molex Mini-Fit Jr
Motor feedback signal	3M MDR 50 pin with b/o cable
I/O	3M MDR 36 pin

Safety	Description
Short circuit protection	Line-to-line, line-to-power supply, and line-to-case
Interlocks	Enable input, fault output, over/under voltage, and over temperature shutdown

Environment	Description
Operating temperature	0° – 55°C
Storage temperature	-20° – 85°C
Humidity	0 to 95% RH (non-condensing)
Altitude	Up to 2,000 meters without derating
Contamination	Pollution Degree 2

Dimensions