

Products / MultiFlex PCI Series – Customization

www.pmccorp.com/products/mfxpci_custom.php

At the heart of all MultiFlex PCI motion controllers is a powerful and flexible 64-bit floating-point CPU and high capacity FPGA which can be quickly adapted to a multitude of applications.

Not only can users re-assign the default functions of all I/O channels using our software-based I/O Configuration Utility, but the generous processing capacity, memory and I/O available on-board also allows PMC to add significant new features and performance enhancements to meet the unique needs of specialized OEM applications and deliver highly optimised solutions at a fraction of the cost of competing controllers.

New features can often be implemented in a matter of days at no extra cost to the customer. Some firmware-level feature and performance enhancements PMC has provided to OEM customers include:

- Addition of extra PWM/servo and pulse/stepper axes
- 2x faster servo loop rates for high-end pick & place and PCB drilling machinery
- 4x faster trajectory calculation update rates for high-speed chip testers
- 18 programmable pulse channels for 18 axis stepper applications in the printing industry
- >1MHz Encoder Compare pulse rates for high-resolution optical scanners
- 10x point memory expansion for high-resolution data capture
- On-board G/M-Code translator for precision CNC machining



A Family of Flexible and Powerful Motion Control Platforms

The successful implementation of significant new features such as these requires not only ample processing power but also a wide variety of I/O signals that can be readily reprogrammed to perform the required functions. MultiFlex controllers have the following hardware resources available for this purpose:

- Advanced 64-bit floating-point RISC CPU
- High-capacity customizable FPGA
- 32 MB DRAM memory on-board
- 4 analog output channels (16 bit) (1440 models only)
- 8 buffered differential encoder receiver channels with hardware failure detection circuitry
- 20 high-current open-collector output channels (4-24 Volts)
- 16 bi-directional opto-isolated digital input channels (4-24 Volts)
- 16 digital TTL inputs
- 16 digital TTL outputs
- 8 analog input channels (14 bit) (optional)
- 28 Ground lines (analog and digital)
- 8 12V supply lines
- 40 5V supply lines
- Jumperless configuration of all I/O
- A total of 264 I/O signals - all conveniently available on high-density connectors
- PCI-bus expansion connector for custom daughtercards (optional)
- Custom interconnection boards with additional optional circuitry (Ethernet controllers only)

This rich combination of I/O together with a 64-bit RISC processor and high-capacity FPGA has allowed us to provide customers with highly optimized solutions that offer unbeatable value. For example, the following matrix summarizes the possible 8-axis combinations that this platform can support - **at a fraction of the cost of ordinary 8-axis controllers**:

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Multiflex PCI Hardware - 8 Axis Model Matrix			
Model	Analog Servo Control Channels	PWM Servo Control Channels	Pulse/Direction CW/CCW Servo or Stepper Control Channels
MFX-PCI-1440	4	0	4
Custom*	4	1	3
Custom*	4	2	2
Custom*	4	3	1
Custom*	4	4	0
Custom*	3	0	5
MFX-PCI-1440	3	1	4
Custom*	3	2	3
Custom*	3	3	2
Custom*	3	4	1
MFX-PCI-1802	3	5	0
MFX-PCI-1262	2	0	6
Custom*	2	1	5
MFX-PCI-1440	2	2	4
Custom*	2	3	3
Custom*	2	4	2
Custom*	2	5	1
MFX-PCI-1802	2	6	0
Custom*	1	0	7
Custom*	1	1	6
Custom*	1	2	5
MFX-PCI-1440	1	3	4
Custom*	1	4	3
Custom*	1	5	2
Custom*	1	6	1
MFX-PCI-1802	1	7	0
Custom*	0	0	8
Custom*	0	1	7
Custom*	0	2	6
Custom*	0	3	5
MFX-PCI-1440	0	4	4
Custom*	0	5	3
Custom*	0	6	2
Custom*	0	7	1
MFX-PCI-1802	0	8	0

* Custom model configurations are available with a 1-2 week initial lead-time to qualified OEM's.



Intelligent Motion Control
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