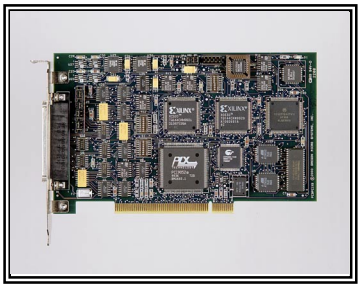
Oregon Micro Systems, Inc.™
A Pro-Dex Company
"The Company in Motion"™

PCIx



Intelligent Motion Controller for PCI

FEATURES

- **Controller capabilities**
  - → Two or Four axes of Servo, Stepper or Servo and Stepper control
  - → Conforms to PCI Specification Rev 2.2
  - → Employs differential receivers and opto-isolators on control signals
- **Communications**
  - → PCI bus
  - → Interrupt or Polling communication
  - → 4 I/O registers for control & status
- **Sophisticated Control Functionality**
  - → 16 bit DAC analog resolution
  - → Independent and coordinated motion of all axes at the same time
  - → Slip & Stall detection with encoder feedback
  - → Crystal controlled step pulse from 0 to 1,044,000 steps per second
  - → Configurable PID filter with feedforward coefficients
  - → Circular Interpolation
  - → Constant velocity linear interpolation (all axes)
  - → Electronic Gearing
- **32 bit processor for extensive co-processing**
  - → Does not burden the host with overhead
  - → Custom, Parabolic, "S"-curve & Linear trajectory profiles
  - → Patented technology to minimize torque ripple and velocity modulation
  - → Internal Watchdog timer for safety
- **Control signals**
  - → Single high density shielded SCSI connector
  - → 8 general purpose I/O (user configurable)
  - → Up to 12 "user definable" I/O (8 of these are user configurable)
  - → Output is Servo (+/-10V or 0-10V), or Step & Direction
  - → Opto-isolated, independent home inputs
  - → Opto-isolated, independent plus/minus over-travel inputs
- **Software programming**
  - → High level programming expertise not required
  - → Over 150 commands, backwards compatible from all OMS controllers
  - → Commands are ASCII characters
  - → Automatic conversion to "user" defined units i.e. inches / revolutions
  - → Software for WinNT or Win95
  - → Software supplied at no additional cost
- **Flash Memory**
  - → Field upgradable firmware
  - → Non-volatile program storage up to 20 macros
- **Flexible and Expandable**
  - → Conforms 100% to the PCI specification
  - → Customizable solutions available for your requirements
- **Factory Direct Technical Support**
  - → Person to person toll-free tech support, call 800-707-8111
  - → Example programs and application code provided
  - → Firmware upgrades and enhancements can be implemented in the field
  - → All OMS controls are 100% burned-in, tested and quality inspected

ISO 9001
CERTIFIED

SPECIFICATIONS

Velocity
0 to 1,044,000 counts per second simultaneous on each axis

Acceleration
0 to 8,000,000 counts per second per second

Position range
67,000,000 counts (±33,500,000)

Accuracy
Position accuracy and repeatability ±0 counts for point to point moves
Velocity accuracy ±0.01% for step pulse output

Environmental
Operating temperature range: 0 to 50 degrees centigrade
Storage temperature range: -20 to 85 degrees centigrade
Humidity: 0 to 90% non-condensing

Power
+5VDC at 1 amp typical
+12VDC at 0.1 amp typical
-12VDC at 0.1 amp typical

Dimensions
6.875" X 4.200" X 0.500"

Communication
Meets all signal specifications for PCI bus specifications Rev 2.2

Limit switch inputs
Opto-Isolated TTL input levels, requires TTL level input signals (Opto, max 50mA). Input sense (low or high true) selectable by command input for each axis

Encoder Feedback
Maximum 4 MHz after 4x quadrature detection.
Differential TTL level signal

OMS PCIx(PCI) Intelligent Motion Controls				
MODEL	SERVO AXES	STEPPER AXES		USER I/O
		Closed Loop (Encoder)	Open loop	
PCIx-002			2	10
PCIx-020		2		10
PCIx-202	2		2	12
PCIx-200	2			10
PCIx-004			4	12
PCIx-040		4		12
PCIx-400	4			12

ACCESSORIES	
MODEL	DESCRIPTION
(ON REQUEST)	DLLs or drivers for Windows NT, 95, 98 and 2000
USER'S MANUAL	1 Manual & corresponding disk per shipment provided, unless requested

Home switch inputs
Opto-isolated TTL input levels, requires TTL level input signals (opto, max 50mA). Input sense (low or high true) selectable by command input for each axis.

User definable I/O
8 bits of general purpose I/O. The bit direction is user configurable. The factory default setting is 4 inputs and 4 outputs. In addition there is one auxiliary output per axis which is fixed as an output.
Opto-isolated TTL input levels, requires TTL level input signals (optos, max 50mA).
Outputs are opto-isolated TTL signal levels (Opto, max 50mA). There are 2.2kΩ pull-up resistors on board for these signals.
The auxiliary outputs are opto-isolated TTL level signals (optos, max 50mA), with 2.2kΩ pull-up resistors on board.

Analog outputs
+/-10V and 0 to +10V (max 18mA)

Step pulse output
Pulse width 50% duty cycle. Open collector TTL level signals (7406, max 48mA).

Direction output
Open collector TTL level signal (7406, max 48mA).

PCI board selection switch
Up to 4 OMS PCI boards can be installed in one system. Use the jumper at JP6 to identify the board's number (i.e. 1, 3, etc.)

PCI system resources
The host system allots the system's resources that the PCIx will use on power up. These resources are not selectable by the user.

Interested in the PCIx (PCI) product? ***Please FAX this sheet back to us!***

Name: _____
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E-mail: _____
Your application is _____

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