

PCI-DIO24 and PCI-DIO24H

24-Bit Digital I/O Board for PCI Bus

Basic Unit



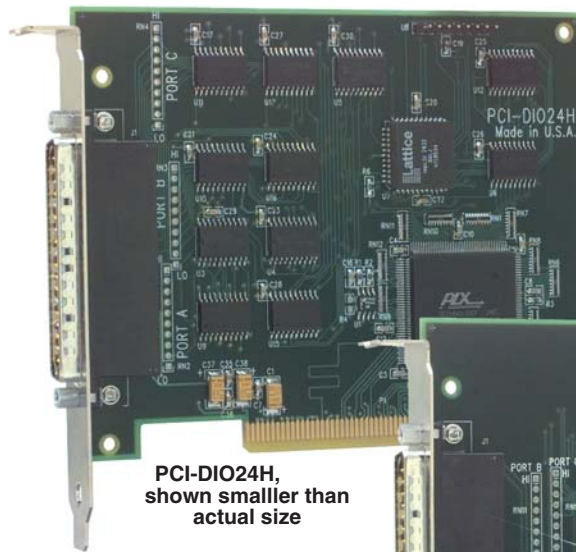
- ✓ 24 Digital I/O Bits
- ✓ High Current Output for PCI-DIO24H
- ✓ Connector and Software Compatible with CIO-DIO24
- ✓ Fully Plug-and-Play

The PCI-DIO24 and PCI-DIO24H are low cost, 24-bit, logic level digital I/O boards for the PCI bus for IBM or compatible PC's. The PCI-DIO24 is based on the industry standard 82C55 chip, and the 82C55 I/O pins are brought directly to the board's I/O connector.

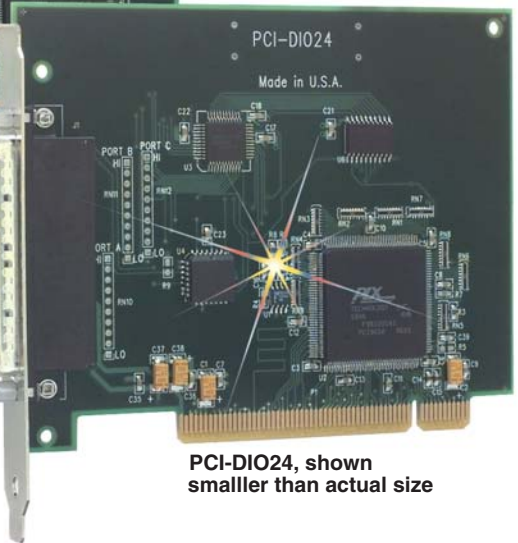
The 82C55 is a powerful 24-bit chip which functions as two 8-bit ports (Ports A and B) and a third 8-bit port (Port C) that may be further divided into two 4-bit ports (Ports C-HI and C-LO). The CMOS outputs of the 82C55 are suitable for driving a wide array of logic devices, although the chip's ± 2.5 mA drive capability may not be enough for some applications.

The PCI-DIO24H board provides a discrete logic emulation of the 82C55 mode 0, but offers significantly higher output drive capability (64 mA sink, 15 mA source). This mode 0 emulation is fully compatible with the 82C55, and all codes written for 82C55-mode based boards will function perfectly on the PCI-DIO24H.

The PCI-DIO24 series boards are connector and software compatible with OMEGA's highly popular ISA based CIO-DIO24 board, as well as with a host of 82C55-based boards from other vendors.



PCI-DIO24H, shown smaller than actual size



PCI-DIO24, shown smaller than actual size

The boards are also supported by the same wide variety of external relay and solid state I/O module racks as are the CIO-DIO24 boards.

The PCI-DIO24 is completely plug-and-play. There are no switches or jumpers on the board. All board addresses, interrupt channels, etc., are set by your computer's plug-and-play software.

Connectors and Cables

All I/O signals are brought through a 37-pin male "D" connector. The (optional) C37FF-XX series cable brings all of the pins out and is suitable for use with all compatible screw terminal and signal conditioning accessory boards.

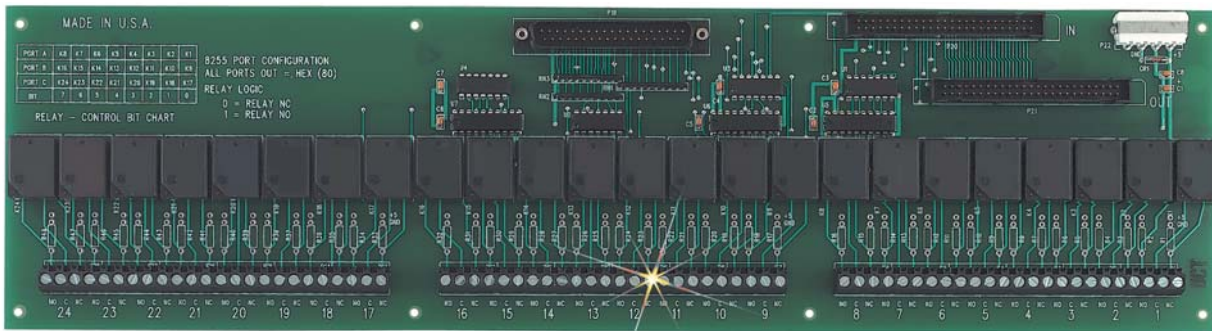
The PCI-DIO24 and PCI-DIO24H connector pin-out is identical to the standard ISA bus CIO-DIO24 boards and is fully compatible with the same wide assortment of signal conditioning accessory boards.

Software Support

The PCI-DIO24 series is supplied with InstaCal software for configuration and testing. In addition, it is also supported by the optional Universal Library. The Universal Library is a set of I/O libraries and drivers for users creating their own custom programs.

The Universal Library is compatible with most Windows (32-bit) based languages and supports the PCI-DIO, PCI-DAS and CIO families of boards.

The Library includes an extensive set of programming examples written in Visual Basic, C and Pascal for Windows 95 and Windows NT. An optional driver for LabVIEW is also available.



The optional CIO-ERB24, relay rack, shown smaller than actual size, (see Section H for details)

Specifications

PCI-DIO24

Number of Channels: 24 I/O
Configuration: 2 banks of 8, 2 banks of 4, programmable by bank as input or output

I/O Device Type: 82C55

Output High: 3.7 volts min @ -2.5 mA

Output Low: 0.4 volts max @ 2.5 mA

Input High: 2.2 volts min, VCC +0.3 volts absolute max

Input Low: 0.8 volts max, -0.3 volts absolute min

Power-Up/Reset State: Input mode (high impedance)

Interrupts: INTA# - mapped to IRQn via PCI BIOS at boot-time

Interrupt Enable: External (IR ENABLE, active low, programmable through PCI9050-1; 0 = disabled, 1 = enabled (default))

Interrupt Sources: External source (IR INPUT), polarity programmable through PCI9050-1; 1 = active high, 0 = active low (default)

Power Consumption:

+5 V Operating: 240mA typical, 350mA max

+12, -12: not used, but supplied to I/O connector

ENVIRONMENTAL

Operating Temperature: 0 to 50°C (32 to 122°F)

Storage Temperature: -20 to 70°C (-4 to 158°F)

Humidity: 0 to 90% non-condensing

PCI-DIO24H

Number of Channels: 24 I/O

Configuration: 2 banks of 8, 2 banks of 4, programmable by bank as input or output

I/O Device Type : TTL based 82C55 mode 0 emulation

Output: 74S244

Input: 74LS373

Output High: 2.4 volts min @ -15 mA

Output Low: 0.5 volts max @ 64 mA

Input High: 2.0 volts min, 7 volts absolute max

Input Low: 0.8 volts max, -0.5 volts absolute min

Power-Up/Reset State: Input mode (high impedance)

Interrupts: INTA# - mapped to IRQn via PCI BIOS at boot-time

Interrupt Enable: External (IR ENABLE, active low, programmable through PCI9050-1; 0 = disabled,

1 = enabled (default))

Interrupt Sources: External source (IR INPUT), polarity

programmable through PCI9050-1; 1 = active high, 0 = active low (default)

POWER CONSUMPTION

+5 V Operating: 625 mA typical, 960 mA max

+12, -12: not used, but supplied to I/O connector

ENVIRONMENTAL

Operating Temperature: 0 to 50°C (32 to 122°F)

Storage Temperature: -20 to 70°C (-4 to 158°F)

Humidity: 0 to 90% non-condensing

AVAILABLE FOR FAST DELIVERY!

To Order (Specify Model Number)	
Model No.	Description
PCI-DIO24	24-bit, logic level digital I/O board for PCI bus
PCI-DIO24H	24-bit, high current, logic level digital I/O board for PCI bus
CIO-ERB24	24-channel relay rack with 6 Amp, Form C relays (see Section H for details)
CIO-MINI37	Screw terminal panel, 4" x 4" (102 x 102 mm) (requires cable)
ENC-MINI37	Plastic enclosure for the CIO-MINI37
C37FF-2	2-foot, 37-pin ribbon cable
C37FFS-5	5-foot shielded cable, molded female connectors, 37-pin
C37FFS-10	10-foot shielded cable, molded female connectors, 37-pin
UNIV-DRVR	Universal Software Library (DOS, Windows 3.1, Windows 95, Windows 98 and Windows NT)
CIO-LABVIEW-DRVR	LabVIEW driver

The PCI-DIO24 series comes with InstaCal testing software and complete operator's manual.

Note: The SSR-RACK24 solid state switch I/O card, CIO-ERB08 or any compatible relay accessory card can be used instead of the CIO-ERB24.

OMEGACARESM extended warranty is available for models shown on this page. Ask your sales representative for full details when placing order.

Ordering example: PCI-DIO24H digital I/O card, C37FF-2 cable, CIO-MINI37 terminal panel, ENC-MINI37 enclosure, OMEGACARESM 1-year extended warranty for PCI-DIO24H (adds 1 year to 3-year standard warranty) and UNIV-DRVR Universal Software Library,



UNITED STATES

www.omega.com
1-800-TC-OMEGA
Stamford, CT.

CANADA

www.omega.ca
Laval(Quebec)
1-800-TC-OMEGA

GERMANY

www.omega.de
Deckenpfronn, Germany
0800-8266342

UNITED KINGDOM

www.omega.co.uk
Manchester, England
0800-488-488

FRANCE

www.omega.fr
Guyancourt, France
088-466-342

CZECH REPUBLIC

www.omegaeng.cz
Karviná, Czech Republic
596-311-899

BENELUX

www.omega.nl
Amstelveen, NL
0800-099-33-44



More than 100,000 Products Available!

• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters