



# DeviceMaster® PNIO-2304

Part Number: 99613-2



DEVICE SERVER

## KEY FEATURES AND BENEFITS

- Support for PROFINET IO
- DIN rail mounting
- Low profile, compact housing facilitates easy installation and mounting
- Wide DC input voltage range (5-30 volts)
- Redundant power input for fail-safe power
- Wide operating temperature range (-40° to 75°C)
- RS-232/422/485 software selectable interfaces
- Software selectable termination resistors for RS-232/422/485
- DB9 Male serial connectors
- Dual 10/100 Ethernet Ports
- Screw terminal power connector
- 25KV surge protection for serial ports
- Web-based configuration makes setup and management changes quick and easy
- PortVision® DX for quick setup and remote management
- Security via SSL & SSH connections, SSL serial data stream encryption
- NEMA TS2 Certified

## PRODUCT DESCRIPTION

The DeviceMaster PNIO-2304 is the newest model in Control's popular line of DeviceMaster serial device servers. This product can be used to network-enable two serial devices on any Ethernet network and are ideal for PROFINET IO applications in:

- Traffic and Transportation
- Power Utility
- Industrial Automation
- Material Handling
- Any project that requires PROFINET IO serial-to-Ethernet communication with DIN rail-based equipment installations

power connections for convenient installation. It offers both wide DC input voltage range (5-30 volts) and wide operating temperature range (-40° to 75°C), so it operates reliably in a variety of challenging physical environments. It provides redundant DC power input for fail-safe power.

The DeviceMaster PNIO is National Electrical Manufacturers Association (NEMA) TS2 compliant. With two Ethernet ports, you can daisy-chain or cascade devices together for a cleaner layout, a faster installation and a more cost-effective solution (no need for multiple Ethernet switches or star topology layouts).

The DeviceMaster PNIO supports software selectable RS-232, RS-422 and RS-485 serial communications at standard baud rates from 300bps to 230Kbps. Software selectable termination resistors also provided to enable easy and reliable installations.

The DeviceMaster PNIO includes DIN-rail mounting and screw terminal



connect. communicate. control.

# DEVICEMASTER SPECIFICATIONS

## HARDWARE

### Bus Interface Specification

10/100 BASE-T Ethernet

### Memory

32MB SDRAM, 8MB Flash

### Enclosure

UL94-V0 Plastic

### Installation Method

DIN rail (35mm)

### LED Indicators

Status, Ethernet Port Link/Activity

### Dimensions

4.52" x 3.9" x 1.8"  
116.8 mm x 99.1 mm x 45.7 mm

### Product Weight

0.45lbs  
204.12g

## ELECTRICAL SPECIFICATIONS

### Input Voltage Requirements

5-30VDC

### Power Consumption (Max.)

3.0 Watts

### Power Input Redundancy

Dual Redundant Power Input

### ESD Surge Protection

Provides minimum of 25KV protection on all serial lines. All Ethernet components are rated to 1.5KV magnetic surge protection.

## ENVIRONMENTAL SPECIFICATIONS

### Air Temperature

System On -40° to 75°C  
System Off -40° to 85°C

### Operating Humidity

0% to 95%

### Altitude

0 to 10,000 Ft  
0 to 3,048 m

### Mean time between failures

42.3 Years

## SERIAL COMMUNICATIONS

### Connector Type

DB9M

### Number of Ports

4

### Software Interfaces

RS-232  
RS-422  
RS-485  
RS-485 2-Wire  
RS-485 4-Wire Master  
RS-485 4-Wire Slave

### Termination Resistor for RS422/485

Software controllable 120Ω termination resistors available for each transmit and receive differential pair on every port. The 120Ω termination resistors can be enabled between TX+ and TX- OR RX+ and RX- or both on every port

### Baud Rates

300 to 230 Kbps  
Receive Buffer 4.5KB  
Transmit Buffer 4.5KB

### Serial Data Control

Data Bits 5, 6, 7 or 8  
Parity Odd, Even, Mark, Space or None  
Stop Bits \* 1, 1.5 (with 5 data bits), or 2

### Flow Control

None, RTS/CTS, Xon/Xoff, Half-Duplex

\* Stop bit 1.5: Supported only when used with 5 data bits

## ETHERNET SPECIFICATIONS

### Number of Ports

2

### Speed

10/100Mbps

### Connector Type

RJ45F Auto MDI/MDI-X

### LED

Ethernet Link (Green)  
Ethernet Activity (Amber)

### Ethernet specific features

Ethernet packet switching, Auto Negotiation, Link/Activity Status LED

### Network Protocols

ARP, BOOTP, DHCP/RARP, HTTP, HTTPS, SSH, SSL/TLS, ICMP, RFC 1006 (ISO over TCP), SNMP (MIB-II), TCP/IP & UDP socket services, Telnet, and TFTP, and supports IP multicast data transmission

## PROFINET IO FEATURES

### Supported PLCs

Included but not limited to:  
Siemens SIMATIC S7-300, S7-400, S7-1200, S7-1500, and ET 200 CPUs that support the extended PROFINET diagnostics (listed here)

### Key Features

- Connectivity – connect serial and Ethernet TCP/IP devices to PROFINET IO controllers and TCP/IP applications
- 8ms to 512ms IO cycle update time – supports high-speed devices and also ensures PLC can process each received data packet
- Intelligent packet identification – start and end of transmission character detection/removing/appending
- Received packet size control – truncate, drop, or save oversized packets as record data
- Large received packet support – up to 1518 bytes serial and 2048 bytes Ethernet TCP/IP
- Shared Device function – different ports can be shared between two PLCs

### Diagnostics

Yes

### GSDML file

Yes

## FEATURES

### SNMP Support

Monitoring Only

### Other

PortVision DX remote management

### Manufacturer's Warranty

5 Years

## EXPORT INFORMATION

### Packaged Shipping Weight

0.85lbs  
386g

### Package Shipping Dimensions

5-11/16" x 5-11/16" x 3-3/8"  
144.46 x 144.46 x 85.73mm

### UPC Code

7-56727-99613-2

### Country of Origin

USA

### ECCN

5A992

### Schedule B Number

8471.80.1000

## REGULATORY STANDARDS

### Emissions

FCC Part 15 Subpart B  
Class A limit  
Canadian EMC Requirements  
ICES-003

European Standard EN61000-6-4

European Standard EN55022

AS/NZS CISPR 22

### Immunity

European Standard EN61000-6-2

European Standard EN55024:

IEC1000-4-2/EN61000-4-2: ESD

IEC1000-4-3/EN61000-4-3: RF

IEC1000-4-4/EN61000-4-4: Fast Transient/ Burst

IEC1000-4-5/EN61000-4-5: Surge

IEC1000-4-6/EN61000-4-6: Conducted Disturbance

IEC1000-4-8/EN61000-4-8: Magnetic Field

IEC1000-4-11/EN61000-4-11: Voltage Dips and Voltage

Variations

### Safety

UL 61010-1, UL 61010-2-201

CSA C22.2 No. 61010-1-12

CSA C22.2 No. 61010-2-201:14

### Other

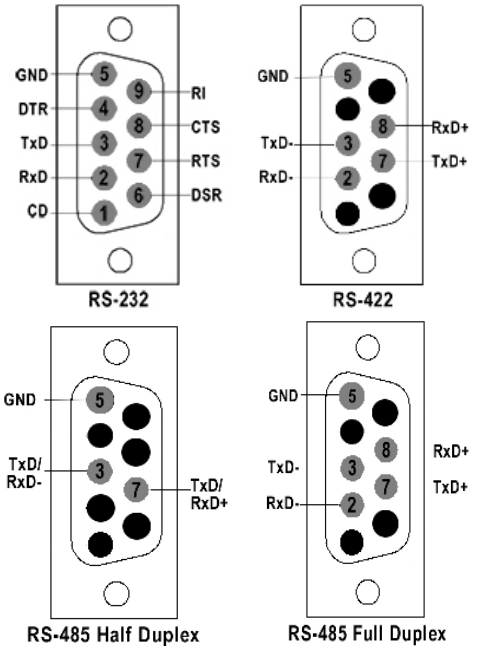
NEMA TS2 Compliant

RoHS2 compliant under CE

## REGULATORY APPROVALS



## PINOUT DIAGRAMS



## Warranty Information

Control offers a 30-day satisfaction guarantee and 5-year limited warranty.

## Sales Support

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## Technical Support

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