

DeviceMaster® MOD-2304

Part Number: 99612-5



KEY FEATURES AND BENEFITS

- 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
- 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 MOD-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 applications in:

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

The DeviceMaster MOD-2304 includes DIN-rail mounting and screw

terminal 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 MOD-2304 is National Electrical Manufacturers Association (NEMA) TS2 compliant. And with 2 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 MOD 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.

HARDWARE

Bus Interface Specification	10/100 BASE-T
Memory	
SDRAM	32 MB
Flash	8 MB
Enclosure	UL94-V0 Plastic
Installation Method	DIN rail (35mm)
Network Protocols Available	
Modbus Router (default)	
Modbus Server	
Modbus/TCP	
LED Indicators	
Status, Ethernet Port Link and Activity	
Enclosure Dimensions	
4.6" x 3.9" x 1.8"	
116.8 x 99.1 x 45.7 mm	
Product Weight	
0.45 lbs	
204.1g	

ELECTRICAL SPECIFICATIONS

DC Input Voltage	5-30 V
Power Consumption (max)	3.0 W
Power Input Redundancy	
Dual Redundant Power Input	
ESD Surge Protection	
Provided 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	
Non-condensing	0% to 95%
Altitude	
0 to 10000 Feet	
3,048 m	
Mean time between failures	42.3 Years

SERIAL COMMUNICATIONS

Connector Type	DB9M
Number of Ports	4
Serial Interfaces	
RS-232, RS-422, RS-485 2-Wire, RS-485 4-Wire (Master/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 230.4Kbps	
Receive Buffer	4.5KB
Transmit Buffer	4.5KB
Serial Port Control	
Data Bits	5, 6, 7 or 8
Parity	odd, even mark, space or none
Stop Bits*	1, 1.5, or 2
Flow Control	Hardware, Software or None

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

ETHERNET SPECIFICATIONS

Number of Ports	2
Speed	10/100Mbps
Connector Types	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, SNMP (MIB-II), Telnet, and TFTP, and supports IP multicast data transmission	



MODBUS ROUTER FEATURES

- Description**
- Pure Modbus, multiple Modbus master and slave types, remote, local, and private devices
- Supported Interfaces**
- PLCs, SCADA systems, HMIs, OPC servers and applications
- Web Page Configuration**
- Master-to-master connectivity via the Shared Memory sub-system
 - Private Modbus serial bus support designed to restrict access to private Modbus devices
 - Connectivity from serial Modbus masters to Modbus/TCP networks
 - The ability to connect multiple types of Modbus masters to Modbus slave device(s)
 - Convert from one form of Modbus, such as Modbus/TCP, to Modbus/RTU or Modbus/ASCII
 - Provide connectivity from a serial Modbus master to a remote Modbus slave device
 - Eliminate Modbus device ID conflicts and solve device ID configuration problems
 - Enable Modbus security by blocking write messages in Read-Only Mode
 - Device ID to Modbus/TCP slave via configurable IP address and TCP/IP port
 - Modbus Network Bridging support

Diagnostics

Local and remote slave device and port specific diagnostic web pages that display status, message response timing, timeout and other error counts, and overall message statistics. A serial log is also included to provide message level diagnosis.

MODBUS SERVER FEATURES (DOWNLOADABLE)

- Description**
- Modbus/RTU over Ethernet master(s) to serial slave(s)
- Supported Interfaces**
- OPC Servers and Applications that require Modbus/RTU communication over Com ports or Ethernet TCP/IP connections
- Web Page Configuration**
- Supports Modbus/RTU over Ethernet TCP/IP connections to the corresponding serial port via intelligent Modbus message handling and routing.
 - Supports only Modbus/RTU over Ethernet TCP/IP connections to a serial port. For Modbus/TCP functionality, please see the DeviceMaster UP.
 - Supports up to six Ethernet TCP/IP connections to each serial port.
 - Supports up to 255 Modbus devices per port. Both valid, (1-247), and reserved, (248-255), device ids are supported
 - Modbus/RTU specific message handling: CRC verification of all messages received on the TCP/IP and serial interfaces
 - Timing out of responses from slave Modbus/RTU devices
 - Broadcast message handling on connected port only
 - System monitoring to ensure gateway operation:
 - Gateway busy
 - Application message timeouts
 - Combined with a serial port redirector, such as the Control Secure Port Redirector, can support up to six COM port connections to each serial port

Diagnostics

- Modbus device specific statistics, response timing, and status. Up to 255 devices per serial port can be monitored simultaneously.
- Serial port specific statistics and status
- Serial port message logging

MODBUS/TCP FEATURES (DOWNLOADABLE)

- Supported Interfaces**
- PLC, SCADA system, HMI, or OPC Server
- Supported Controllers**
- Modbus/TCP masters and slaves
 - Modbus/RTU and Modbus/ASCII serial masters and slaves
 - Applications over Ethernet TCP/IP connections (raw/ASCII only)
- Supported Devices**
- Raw/ASCII devices, both serial and Ethernet TCP/IP, such as barcode scanners, vision systems, RFID readers, weigh scales, encoders and printers
 - Modbus/RTU and Modbus/ASCII serial slaves
- Recommended Installations**
- Connectivity to serial and/or Ethernet TCP/IP raw/ASCII devices

- Connectivity to Modbus/RTU and/or Modbus/ASCII serial devices
- Connecting single or multiple Modbus masters and/or applications to the devices
- Automatic Modbus protocol translations (if needed)

Web Page Configuration

- Highly flexible, with an emphasis on Raw/ASCII devices
- Also supports Modbus RTU/ASCII slave devices
- Connect Raw/ASCII devices to Modbus/TCP and Modbus RTU/ASCII serial controllers
- Automatic protocol conversions and routing
- Connect Modbus/TCP and Modbus RTU/ASCII serial masters to Modbus RTU/ASCII serial slaves
- Many unique Raw/ASCII handling features
- Simultaneously connect multiple Modbus masters to individual devices
- Modbus message Alias Device ID conversions

Diagnostics	Yes
Sample PLC Programs	Yes

FEATURES

SNMP Support	Monitoring Only
Other Software Features	
PortVision DX remote management	
Manufacturer's Warranty	5 Years

EXPORT INFORMATION

Packaged Shipping Weight	
0.85 lbs	
386g	
Package Dimensions	
6 3/4" x 5 7/8" x 3 1/2"	
171.45 x 149.225 x 88.9 mm	
UPC Code	7-56727-99612-5
Country of Origin	USA
ECCN	5A992
Schedule B Number	8471.80.1000

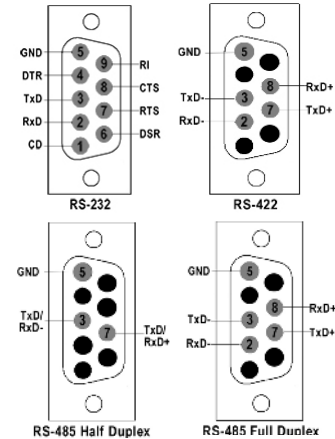
REGULATORY STANDARDS

- Emission**
- 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
 - IEC 1000-4-2/EN61000-4-2: ESD
 - IEC 1000-4-3/EN61000-4-3: RF
 - IEC 1000-4-4/EN61000-4-4: Fast Transient/Burst
 - IEC 1000-4-5/EN61000-4-5: Surge
 - IEC 1000-4-6/EN61000-4-6: Conducted Disturbance
 - IEC 1000-4-8/EN61000-4-8: Magnetic Field
 - IEC 1000-4-11/EN61000-4-11: 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

REGULATORY APPROVAL MARKS



PIN ASSIGNMENTS



Warranty Information
Comtrol offers a 30-day satisfaction guarantee and 5-year limited warranty.

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