



DeviceMaster® MOD-2304

Part Number: 99612-5



DEVICE SERVER

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
- Application compatibility supports native COM, TTY, or TCP/IP socket communication modes
- Web-based or Windows configuration makes setup and management changes quick and easy
- Real-time e-mail event notification alerts administrator of potential connection and security issues
- 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 UP 4-Port DB9 2E Modbus 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 UP 4-Port DB9 2E Modbus 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 UP 4-Port DB9 2E Modbus 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 UP 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.



connect. communicate. control.

DEVICEMASTER SPECIFICATIONS

HARDWARE

Interface Specification	10/100BASE-T Ethernet
Memory	
SDRAM	32 MB
Flash	8 MB
Enclosure	UL94-V0 Plastic
Installation Method	DIN Rail (35mm)
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 cm	
Product Weight	0.45 lbsx or 204.12 g

ELECTRICAL SPECIFICATIONS

DC Input Voltage	5-30 VDC
Power Consumption (max)	3.0W
Power Input Redundancy	
Dual Redundant Power Input	

ESD Surge Protection

Provides minimum of 25KV protection for 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	
0 to 3,048 m	

Mean time between failures

42.3 Years

SERIAL COMMUNICATIONS

Connector Type	DB9 Male
Number of Ports	4
Interface Standard	RS-232, RS-422, RS-485, 4-wire, Master, RS-485, 4-wire, Slave, RS-485, 2-wire

Termination Resistor

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 bps to 230Kbps

Transmit Buffer 4.5KB

Receive Buffer 4.5KB

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, None

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

ETHERNET SPECIFICATIONS

Number of Ports	2
Speed	10/100Mbps
Connector Type	(1) 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 (DEFAULT)

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 Configurations

- 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 Configurations

- 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 Configurations

- 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	Port/Vision DX remote management
Manufacturer's Warranty	5 Years

EXPORT INFORMATION

Packaged Shipping Weight	0.85 lbs or 386 g
Package Dimensions	5-11/16" x 5-11/16" x 3-3/8" 144.46 x 144.46 x 85.73mm
UPC Code	7-56727-99612-5
Country of Origin	USA
ECCN	5A992
Schedule B Number	8471.80.1000

DEVICE DRIVERS

Linux
Microsoft® Windows® XP through Windows 10

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

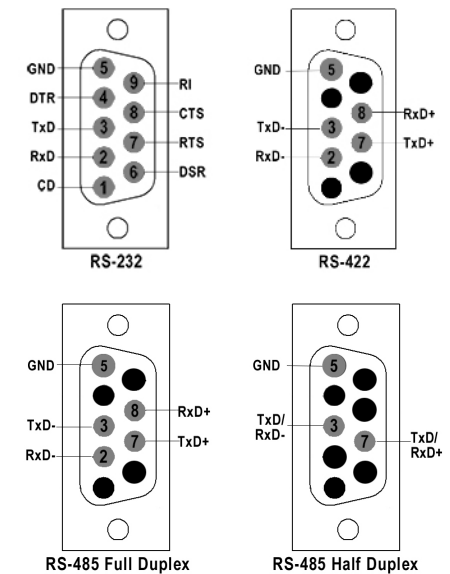
Other

European Standard RoHS2 Certified
NEMA TS2

REGULATORY APPROVALS



PINOUT DIAGRAMS



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

Sales Support
+1.763.957.6000
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