![COMTROL Pepperl+Fuchs logo]

DeviceMaster® MOD-2101

Part Number: 99602-6

KEY FEATURES AND BENEFITS

- DIN-rail mounting and screw terminal connections
- Wide operating temperature ranges (-40° C to 75° C)
- Surge protection for serial ports
- Variable power input
- Support for Modbus/TCP, and TCP/IP(sockets)
- Dual Ethernet ports for daisy chaining network connections between multiple units
- Two serial ports with secure screw terminal connectors
- DualConnectPlus™ technology
- SSL & SSH management, SSL serial data stream encryption

NEMA TS2 | EXTENDED TEMPERATURE RATINGS | PORTVISION DX MANAGEMENT SOFTWARE | MADE IN USA

PRODUCT DESCRIPTION

The DeviceMaster MOD-2101 1-Port DB9 1E is the newest models in Comtrol's popular line of DeviceMaster serial device servers. These products 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-2101 DB9 1-Port includes DIN-rail mounting and screw terminal power connections for convenient installation. It offers both wide DC input voltage range (6-30 volts) and wide operating temperature range (-37° to 74°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-2101 DB9 1-Port is National Electrical Manufacturers Association (NEMA) TS2 compliant.

The DeviceMaster MOD-2101 supports RS-232, RS-422 and RS-485 serial communications at standard baud rates from 300bps to 230Kbps. The DeviceMaster RTS 1-Port 1E offers one DB9 serial connections with a 10/100 Ethernet connection to the network, while the 1-Port 1E includes a network switch to provide two 10/100 Ethernet connections.

Your automation, our passion.

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 0.9"
	114.81 x 99.1 x 22.86 mm
Product Weight	0.25lbs or 113.4g

ELECTRICAL SPECIFICATIONS

Input Voltage Requirements	5-30VDC
Power Consumption (Max.)	1.5 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	61.4 Years

SERIAL COMMUNICATIONS

Connector Type	DB9M
Number of Ports	1
Software Interfaces	
RS-232, RS-422, RS-485, 4-wire, Master, RS-485, 4-wire, Slave, RS-485, 2-wire	
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
Device Driver Data 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	

* Data bits 5, 6: Supported only in RFC2217 and socket mode
* Mark, Space parity: Supported only in RFC2217 and socket mode
* Stop bit 1.5: Supported only when used with 5 data bits

ETHERNET SPECIFICATIONS

Number of Ports	1
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

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 Interfacess
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 Comtrol 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 Devics
- 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	
Lowest Latency	
NS-Link COM/TTY port redirector	
TCP/IP & UDP Socket Services	
Telnet/RFC2217 COM Port control	
PortVision DX remote management	
Manufacturer's Warranty	5 Years

EXPORT INFORMATION

Packaged Shipping Weight	0.55lbs or 249g
Package Shipping Dimensions	
5-11/16" x 5-11/16" x 3-3/8"	
144.46 x 144.46 x 85.73mm	
UPC Code	7-56727-99602-6
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
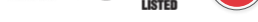UL 61010-1, UL 61010-2-201
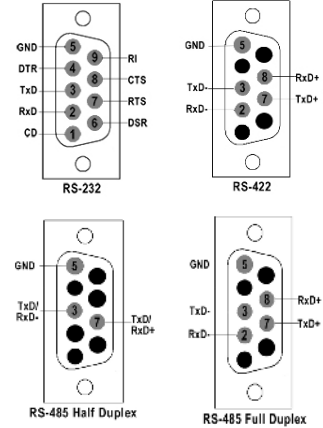CSA C22.2 No. 61010-1-12
CSA C22.2 No. 61010-2-201:14

Other
  NEMA TS2 Compliant
  RoHS2 compliant under CE

REGULATORY APPROVALS

CE FC c(UL)us LISTED NEMA TS2

PINOUT DIAGRAMS

RS-232
GND | DTR | TxD | RxD | CD | RI | CTS | RTS | DSR

RS-422
GND | TxD- | RxD- | RxD+ | TxD+

RS-485 Half Duplex
GND | TxD/RxD- | TxD/RxD+

RS-485 Full Duplex
GND | TxD- | RxD- | RxD+ | TxD+