

High Speed Ruggedized Ethernet-to-RS485/422/232 Interface Converter

The Model 4163/4164 is a **RoHS compliant** high speed ruggedized Ethernet to RS485/422/232 interface converter from Electro Standards Laboratories. This unit converts Ethernet 10/100 Mbps IEEE 802.3 compliant data from a standard LAN/WAN connection to a serial asynchronous data interface over RS232, or RS485/422 networks with a user selectable baud rate of up to 921,600 bps. When operating in RS485/422 mode, the converter can be configured for 2-wire half duplex or 4-wire full duplex operation. This converter provides an industrial solution for remote monitoring and control of various devices from virtually anywhere over a LAN/WAN or Internet connection. Typical devices include PLC, motor controls, power monitoring, multi-drop data collection devices such as POS, barcode readers, time clocks, scales, data entry terminals, ATMs and other remote serial communications devices. Typical applications include building automation, industrial manufacturing, utilities, transportation and retail POS.

The Model 4163/4164 is designed to operate from -40°C to +85°C and is a member of Electro Standards Laboratories rugged community media converter family. The unit features ESD protection circuitry on all receivers and transmitters for both RS232 and RS485/422 interfaces. The unit's power input is protected from transients and features 1kVDC isolation to prevent system ground loops. It can be powered from a wide input range of 10VDC-36VDC, with models also available for other voltage ranges such as 4.5VDC-9VDC and 19VDC-72VDC. Other features include dual DB9 power connectors (board only) for convenience in bused power applications, Ethernet Link Speed and Activity LEDs, TX, RX and Power indicator LEDs.

Three configurations are available:

- Model 4163** Desktop Unit, for applications requiring an enclosure.
- Model 4163-DIN** Unit for applications requiring mounting on a DIN rail.
- Model 4164** Board Unit, for embedded applications.



Specifications:

Ethernet Network Interface:

Connectors: RJ45
Link Speed Ethernet 10Base-T or 100Base-T (Auto Sensing)

Ethernet Network Options:

Network Protocols: ARP, UDP/IP, ICMP, Telnet, TFTP, SNMP, Auto IP, DHCP, and HTTP
Serial Port Protocols: TCP, UDP, and Telnet
Network Management: Internal Web Server, SNMP, Serial or Telnet Login
Network Security: Password Protection and Locking Features (Optional Rijndael 128, 192 or 256-bit Encryption)

Serial Bit Rate Options (user selectable):

Format: Asynchronous
Data Bits: 7 or 8
Stop Bits 1 or 2
Parity: Odd, Even, None
Flow Control: Software (XON/XOFF), None
Data Speed: Normal Mode- 300 to 230,400 bps @ -40°C to +85°C (-40°F to 185°F)
High Performance Mode - 300 to 921,600 bps @ -40°C to +75°C (-40°F to 167°F)

RS232 Serial Monitor Port:

Full Duplex RS232 Monitor Capability
Connector: 5-pin Single Row Header (Board Only)
Connector: Optional RJ45 or Customer Specified (Desktop)

Serial Copper Interface:

Connectors: DB9, Female
RS232: (DTE/DCE-Default) Jumper Selectable
Compatible with MIL-STD 188C.
RS485/422: (2-wire/4-wire Default) Jumper Selectable
Termination: RS485 120 Ohm Jumper Selectable

Serial Network Configurations:

RS232: Point-to-Point
RS485/422: Point-to-Point/Multi-Point
Multi-Point Options:
Ethernet Control - TX Disable Time depends upon Serial Bit Rate
(9.6Kbps ~ 120uSec, 230.4Kbps ~ 12uSec, 921.6Kbps ~ 5uSec)
Timer Control - Default RX Disable Time ~280uSec, (User Configurable TX Disable Time via a single thru-hole resistor)

Indicators:

Power Indicator LED
Serial DB9: TXD and RXD LEDs
Ethernet RJ45: Link Speed and Activity LEDs

Power:

Input Power: 10VDC-36VDC Standard
4.5VDC-9VDC, 19VDC-72VDC, Others at 2W.
Connectors: DC Power Jack (Desktop Unit)
Dual DB9F for Power Daisy Chaining (Board Only)
Isolation: 1kVDC for power input, 3750 Vrms between data interface.

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Specifications: (continued)

Model 4163 Mechanical (Desktop Unit):

Model / Cat No: 4163 / 304163
Size: 5" x 4.25" x 1.4"
(12.7 x 10.8 x 3.6 cm)
Weight: 10.1 oz (286g)
Mounting: Desktop Standard, DIN Rail (Optional)

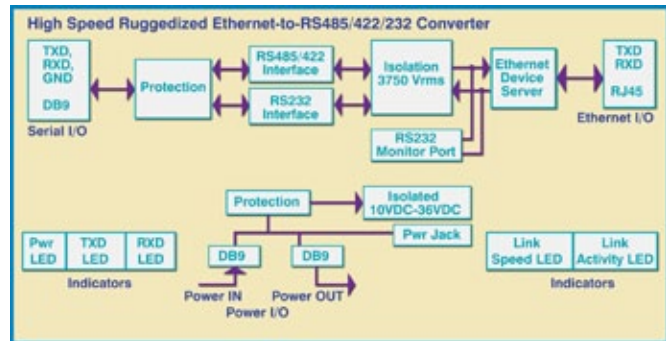
Model 4163-DIN Mechanical (DIN Rail Mounted Unit):

Model / Cat No: 4163-DIN / 304163-DIN
Size: 5" x 4.25" x 1.4"
(12.7 x 10.8 x 3.6 cm)
Weight: 10.1 oz (286g)
Mounting: 2 Threaded Holes Standard, DIN Rail
DIN Rail Bracket Size: 2.84" x 1.24" x 0.16"
(7.2 x 3.4 x 0.4 cm)
DIN Rail Bracket Weight: 0.9 oz (25.5g)

Model 4164 Mechanical (Board Only):

Model / Cat No: 4164 / 304164
Size: 4.8" x 3.9" x 0.63"
(12.2 x 9.9 x 1.6 cm)
Weight: 3.5 oz (99g)
Mounting: Mounting Holes, Rt Angle Brackets

Board Unit
Model 4164
(Cat No. 304164)



Model 4163/4163-DIN/4164 Application

