

Product Data Sheet

Modbus Hardened Serial Server



LES431A details

Part Number	LES431A
Serial Ports	1
Serial Connectors	(1) DB9M and (1) 5-pin terminal block <i>NOTE: Use either the DB9 or the terminal block connector, but not both at the same time.</i>
Ethernet Media	RJ-45
Ethernet Connector	RJ-45
Power	(1) 3-wire terminal block

Overview

The 1-Port Modbus Hardened Serial Server connects Modbus networks (RS-232, RS-422, or RS-485) to Ethernet networks, allowing the Modbus network to become a node on the network. The serial port can be accessed over a LAN/WAN using Direct IP Mode connections. Modbus Hardened Serial Servers use 10BASE-T or 100BASE-TX copper network media. The servers are built for use in industrial environments and feature an IP30 approved slim-line DIN-rail-mountable case. The product operates from a range of DC power supply voltages and features pluggable terminal block power connectors. The Modbus Hardened Serial Server has one Ethernet port.

Basic Features

- Single Ethernet connector.
- Multi-interface serial port (RS-232, RS-422, RS-485).
- DB9M and pluggable terminal block serial port connector options.
- All serial ports are software selectable for RS-232, RS-422, or RS-485 2- and 4-wire communication.
- Configuration can be done via network or direct serial connection.
- Slim-line DIN rail or panel mountable.
- Accepts DC power over a wide voltage range.
- Supports 10-/100-Mbps Ethernet with auto-selection and auto MDI/MDI-X.
- LAN and WAN communications.
- Configurable for TCP Client or Server operation.
- Upload firmware over the Ethernet port for future revisions/upgrades.
- Supports Windows® XP (32/64 bit), 2003 Server (32/64 bit), Vista (32/64 bit), 2008 Server (32/64 bit), Windows 7 (32/64 bit).
- Configure Ethernet and serial port settings using Modbus Hardened Serial Server Software.

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General Specifications

Approvals	FCC Part 15, Class A, CE, NEMA TS2, UL® Class 1, Division 2, Groups A, B, C, and D
Compatible Operating Systems	Windows® XP (32/64 bit), 2003 Server (32/64 bit), Windows Vista® (32/64 bit), 2008 Server (32/64 bit), Windows 7 (32/64 bit)
Configuration Options	Via serial port using Modbus Hardened Serial Server Software, via network using Modbus Hardened Serial Server Software with an Ethernet connection or a standard Web browser such as Internet Explorer® 7, 8, or 9, or Firefox® 3 or 4
Enclosure	Rating: IP30; Mounting: DIN rail mount (35 mm)
User Controls	(1) Reset button
Connectors	(1) DB9 M, (1) 5-pin terminal block, (1) RJ-45, (1) 2-position pluggable terminal block for power
Indicators	(3) LEDs: (1) Ready, (1) Serial, (1) Ethernet Link
Temperature Tolerance	Operating: -40 to +176° F (-40 to +80° C); Storage: -40 to +185° F (-40 to +85° C); Maximum Ambient Surrounding Air Temperature: 176° F (80° C)
Operating Humidity	10 to 95%, noncondensing
Power	Voltage requirements: 10 to 48 VDC (58 VDC max.) external power supply; Consumption: 4.0 watts maximum; Terminal blocks: Wire size: 28 to 16 AWG; Wire Type: Copper wire only; Tightening Torque: 5 kg-cm <i>NOTE: One conductor per terminal.</i>
Dimensions	4.7"H x 3.3"W x 1.2"D (17.1 x 12.2 x 4.6 cm)

Serial Interface Specifications

Baud Rates	75, 150, 300, 600, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 28800, 38400, 57600, 115200, 230400
Data Bits	5, 6, 7, 8
Flow Control	None, RTS/CTS, X-ON/X-OFF
Mode Selection	RS-232/422/485 software-selectable
Parity	None, even, odd, mark, space
RS-232 Lines	TXD, RXD, RTS, CTS, DTR, DSR, DCD, GND
RS-422 Lines	TXDA(-), TXDB(+), RXDA(-), RXDB (+), GND
RS-485 (2-Wire)	Data(-), Data(+), GND
RS-485 (4-Wire)	TXDA(-), TXDB(+), RXDA(-), RXDB (+), GND
RS-422/485 Biasing	Auto 4.7 K-ohm pullups and pulldowns
RS-422/485 Termination	Auto termination with through-hole (user supplied)
RS-485 Data Control	Auto control via MCU
Stop Bits	1, 1.5, 2

Network Specifications

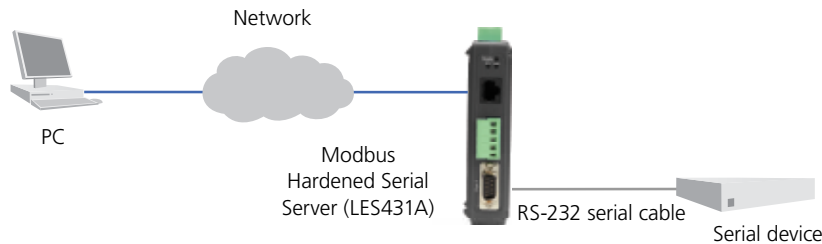
Character Count	0 to 65535
Connection Modes	Server, Client
Memory	Serial: 8 KB per port; Network memory: 4 KB
Firmware Upgrade	Via serial, Ethernet, or auto Web search
IP Port Addresses	5300: heartbeat and configuration setting in TCP mode; 8888: LES431A update
Network Communications	LAN: 10-/100-Mbps auto-detecting 10BASE-T and 100BASE-TX
Network Physical Layer Standards	Ethernet: IEEE 802.3 autodetecting and auto MDI/MDI-X 10BASE-T and 100BASE-TX
Protocols Supported	TCP, IPv4, UDP, ARP, HTTP 1.0, ICMP/PING, DHCP/BOOTP; IP mode: Static, DHCP, or Auto IP; TCP: User-definable
Search	Serial direct COM and Ethernet autosearch or specific IP
Timeouts	Character: 0 to 65535 ms. default set at 10 ms; Modbus Message: 0 to 65535 ms, default set at 1000 ms; Serial: 0 to 65535 sec.

Dimensional diagram of the Modbus Hardened Serial Server.



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A typical application of the Modbus Hardened Serial Server is shown below.



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