

Modbus ASCII/RTU Serial Servers (RS-232 or RS-485)

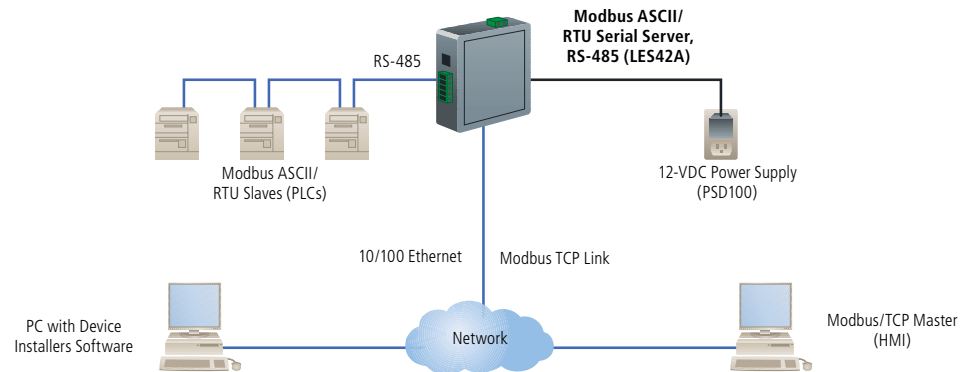
Connect legacy Modbus devices more easily to your Ethernet network.



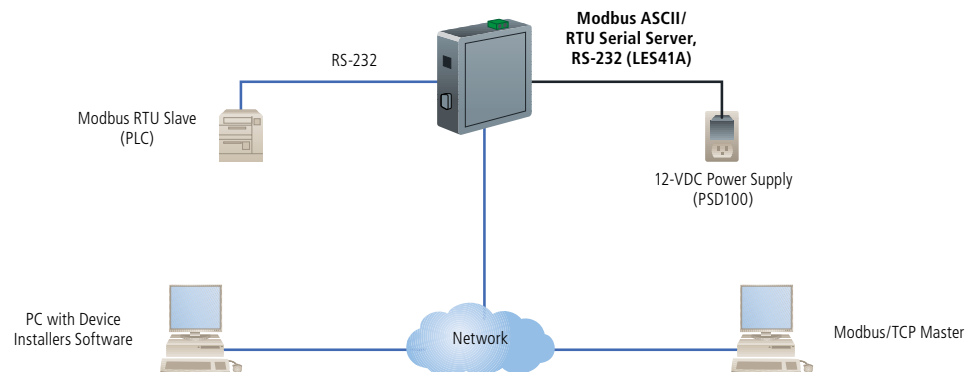
FEATURES

- » Provide a gateway between Modbus®/TCP and Modbus ASCII and RTU devices.
- » Enable older PLCs and similar devices to talk to newer sensors, meters, scales, and other monitoring instruments.
- » Handle most Modbus network configurations.
- » Support links to 10- and 100-Mbps networks and detects speeds automatically.
- » Serial data rates up to 115.2 kbps.
- » RS-485 model supports connections up to 32 serial Modbus devices.
- » Compact with clips for mounting on a DIN rail or on a panel.
- » Operate in harsh environments.

Typical application, Modbus ASCII/RTU Serial Server, RS-485 (LES42A)



Typical application, Modbus ASCII/RTU Serial Server, RS-232 (LES41A)



OVERVIEW

Migrating to an Ethernet-based system in your industrial application? Well don't replace the older Modbus equipment you've already invested in. Just use one of these easy-to-integrate boxes to translate the signals between older and newer protocols.

Intelligent protocol translation.

The BLACK BOX® [Modbus RS-232 or RS-485 ASCII/RTU Serial Servers](#) give you a convenient and highly affordable way to link your Ethernet TCP/IP networks to any Modbus ASCII or RTU serial device in your factory or industrial application.

The serial servers translate between Modbus ASCII/RTU protocols and Modbus TCP protocols, formatting communications so the binary coding and CRC error-checking in the RTU transmission and the characters in the ASCII format can be effectively carried across a TCP/IP network. PLCs can then talk to sensors, meters, scales, and other industrial monitoring and automation instruments.

Flexible Modbus integration.

Two versions of the [Modbus ASCII/RTU Serial Servers](#) are available. The LES41A connects to a Modbus device with an RS-232 interface, and supports TD, RD, and GND RS-232 lines. The LES42A works with a Modbus device with a four-wire RS-422 interface, or a two- or four-wire RS-485 interface, and supports TDA(-), TDB(+), RDA(-), and RDB(+)-RS-422/485 lines.

What's more, they work in most Modbus setups. Over a TCP/IP network, they enable:

Modbus ASCII/RTU slave devices to communicate with Modbus TCP/IP master units.

Modbus ASCII/RTU master devices to communicate with Modbus ASCII/RTU master devices.

Modbus ASCII/RTU slave devices to communicate with other Modbus ASCII/RTU devices.



Left: LES42A;
right: LES41A

Flexible network installation.

These serial servers are also very easy to install. You typically connect the serial server to your 10-/100-Mbps network via a hub switch or router using standard straight-through CAT5 cable. But you can also connect it directly to your Ethernet network with a crossover cable. The [Modbus RS-232 or RS-485 ASCII/RTU Serial Servers](#) autodetect and adapt to speed of connected devices or your network.

The included device installer software enables you to use a Telnet™ connection to discover the [Modbus RS-232 or RS-485 ASCII/RTU Serial Server](#) on the network and assign it an IP address. You use the same utility to easily configure master/slave, serial interface, and advanced Modbus settings, as well as monitor the serial server and verify its status. For at-a-glance monitoring, LEDs on the units indicate link integrity and data transfer activity.

TECH SPECS

IP Address Assignment — Static IP or DHCP
Operating Systems Supported — Windows® 98/2000/ME, Windows XP®, Windows NT® 4.0
Parity — None, Even, Odd
Protocols Supported — TCP, UDP, DHCP, SNMP, Telnet, ICMP, ARP, TFTP, Modbus ASCII, Modbus RTU, Modbus/TCP
Serial Data Bits — 7 or 8
Serial Data Rates — 300, 600, 1200, 2400, 3600, 4800, 9600 bps; 19.2, 38.4, 57.6, 115 kbps
Serial Protection — LES41A: 12 V TVS; LES42A: 5 V TVS
Serial Stop Bits — 1, 2
CE Approval — Yes
Connectors — Network: (1) RJ-45; Serial: LES41A: (1) DB9 M (RS-232); LES42A: (1) 5-screw terminal block (RS-485); Power: (1) 2-screw terminal block
Indicators — LEDs: Link Integrity, Activity, Power
Operating Environment — Temperature: -4 to +176° F (-40 to 85° C); Humidity: 10 to 90%, noncondensing
Power — Input: 10–30 VDC (PSD100 power supply not included)
Size — 1.25"H x 4.5"W x 4.75"D (3.2 x 11.4 x 12.1 cm)

Technically Speaking

DIN rail usage.

DIN rail is an industry-standard metal rail, usually installed inside an electrical enclosure, which serves as a mount for small electrical devices specially designed for use with DIN rails. These devices snap right onto the rails, sometimes requiring a set screw, and are then wired together.

Many different devices are available for mounting on DIN rails: terminal blocks, interface converters, media converter switches, repeaters, surge protectors, PLCs, fuses, or power supplies, just to name a few.

DIN rails are a space-saving way to accommodate components. And because DIN rail devices are so easy to install, replace, maintain, and inspect, this is an exceptionally convenient system that has become very popular.

A standard DIN rail is 35 mm wide with raised-lip edges, its dimensions outlined by the Deutsche Institut für Normung, a German standardization body. Rails are generally available in aluminum or steel and may be cut for installation. Depending on the requirements of the mounted components, the rail may need to be grounded.

Item	Code
Modbus ASCII/RTU Serial Servers	
RS-232	LES41A
RS-485	LES42A
You might also need...	
12-VDC DIN Rail Power Supply	PSD100