# BB-ESP901
# BB-ESP902
# BB-ESP904

## Ethernet Serial Servers



**BB-ESP901 / BB-ESP902**  ◢   **BB-ESP904** ◢

## Features

- Ethernet enable 1, 2 or 4 serial ports
- Data rate: 110 to 230.4 kbps
- Wide operating temperature range: -20 to +85 °C
- IP30 DIN rail mount metal case
- RS-232/422/485 full-duplex and half-duplex
- 10/100 Mbps Ethernet, auto-detect
- External power source required (included)

## Introduction

Ethernet enable any serial device using Advantech Vlinx™ Serial Server technology and put your serial ports to work for you with the ability to communicate with every piece of equipment from any networked PC. Eliminate site visits just to make a minor configuration change. Reduce service calls and increase productivity by knowing what your equipment is doing before you get a trouble report. Spend more time doing relevqnt tasks instead of chasing down nuisance problems with remotely located equipment.

Much of today's high-tech equipment ships with a serial port for programming, monitoring or diagnostics. 80% of these serial ports are left unconnected, often because a person travels to the port to make the connection or a permanent PC is not desirable. With Advantech Vlinx Serial Servers, you can put all of those ports to work.

Simply connect the Vlinx Serial Server to the equipment's serial port and connect the Vlinx Ethernet port to your LAN. Your equipment is now online and appears as a local COM port on any networked PC running Advantech Virtual Serial Port software. No software customization required – just run the appropriate software for your equipment.

The BB-ESP90x family integrates the benefits of Ethernet communications with existing serial devices by offering the combination of three serial interfaces:RS-232, RS-422, and RS-485. The Ethernet connection will auto select 10BaseT or 100BaseTX.

These serial servers provide Windows host control over serial devices located virtually anywhere on a TCP/IP or UDP/IP Ethernet connection giving authorized users control over the connected serial device and server configuration from anywhere outside the LAN.

## Operation *(For more information, see user manual on CD.)*

Vlinx Manager allows easy access to the serial server to configure the server and ports, upgrade firmware and monitor port status and activity. When ESP Manager opens, it searches and displays all BB-ESP90x serial servers on the network. The Monitor Port feature allows you to use any PC on the LAN/WAN to actively view and troubleshoot the communications status. It shows when there is a client connection to the server and the client IP address. It displays the number of bytes Transmitted and Received and the status of the hardware handshaking lines.

BB-ESP90x serial servers can be accessed and configured from any web browser on the LAN/WAN allowing you to remotely manage and troubleshoot serial devices and software.

BB-ESP90x serial servers provide automatic resumption of the TCP data connection in case of a power failure or loss of an Ethernet connection on either the client or server. Once the "Heartbeat Connection" is established, the server sends a signal to the client every five seconds. If the signal is not received, the serial server will attempt to reconnect the TCP data connection every five seconds until communication is re-established.

## Ordering Information

| Model No. | Description | Serial Connector | Ethernet Port | Ethernet Connector |
|---|---|---|---|---|
| BB-ESP901 | (1) RS-232/422/485 | DB9 | (1) Copper | RJ45 |
| BB-ESP902 | (1) RS-232/422/485 (1) RS-232 | DB9 | (1) Copper | RJ45 |
| BB-ESP904 | (4) RS-232/422/485 | DB9 | (1) Copper | RJ45 |

### Accessories – Sold Separately

- **BB-DRAD-35 – 35mm DIN rail mounting kit**

# Specifications

| Serial Technology | |
|---|---|
| Note: refer to user manual for detailed information on pin-outs and signals. | |
| Serial Interfaces | RS-232 (DTE), RS-422, RS-485 (2-wire / 4-wire) DIP switch selectable |
| Serial Connectors | BB-ESP901: 1 x DB9 male<br>BB-ESP902: 2 x DB9 male, as follows:<br>(1) RS-232/422/485 and (1) RS-232<br>BB-ESP904: 4 x DB9 male |
| Baud Rate | 110 to 230.4 Kbps (5787 bps) |
| Data Bits | 5, 6, 7, 8 |
| Stop Bits | 1, 1.5, 2 |
| Serial Buffer | 8 Kb per port |
| **Ethernet Technology** | |
| Connector | RJ45 F |
| Data Rate | 10/100 Mbps auto-detecting 10BaseT or 1000BaseTx |
| Protocols | 12 TCP, IP, ARP, DHCP, Telnet, HTTP, UDP, ICMP |
| **Configuration** | |
| Console | RS-232 w/ VT100 Emulation |
| Telnet | HyperTerminal w/VT100 Emulation |
| Vlinx™ Manager | Windows (32/64-bit):<br>2000, XP, Server 2003, Vista, Server 2008, 7 |
| HTTP | Embedded web page |
| **Power (included)** | |
| Source | External power supply, included |
| Voltage | 12 VDC |
| Consumption | BB-ESP901: 200 mA @ 12 $V_{DC}$<br>BB-ESP902: 300 mA @ 12 $V_{DC}$<br>BB-ESP904: 500 mA @ 12 $V_{DC}$ |
| Connector | 2.5mm jack, positive tip |
| **Environmental** | |
| Operating Temperature | -10 to +80 °C |
| Storage Temperature | -20 to +85 °C |
| Operating Humidity | 5 to 95%, non-condensing |
| **Mechanical** | |
| Enclosure | IP30, metal |
| Dimensions | BB-ESP901 & BB-ESP902:<br>8.53W (10.77W w/mounting ears) x 12.0H x 2.34D cm<br>BB-ESP904: 18.5W x 11.4H x 2.9D cm |
| **Regulatory – Approvals / Standards / Directives** | |
| FCC, CE | |