

BB-ESR901 BB-ESR902 BB-ESR904

Industrial Ethernet Serial Servers



Features

- Ethernet enable 1, 2 or 4 serial ports
- Data rate: 110 to 230.4 kbps
- Wide operating temperature range: -10 to +80 °C
- IP30 DIN rail mount case
- RS-232/422/485 full-duplex and half-duplex
- Auto detects 10/100 Mbps Ethernet
- External power source required (not included, sold separately)

Introduction

Industrial and commercial measurement and control systems often have stand-alone devices with unused serial ports. Advantech BB-ESRx Serial Servers allow you to connect those ports to your existing LAN or WAN, giving you access to more information and the ability to configure, manage and troubleshoot those devices from a control room, office or distant location via a WAN. Save the cost, time and trouble of carrying a laptop out to devices located in distant, dirty or uncomfortable environments.

BB-ESRx Serial Servers are built for industrial environments, featuring an IP30, slim line, DIN rail mountable case. They operate from a range of voltages using AC or DC power, feature terminal block power connectors and even support redundant DC power. An external power source is required (not included, sold separately).

Connect a serial device to the BB-ESRx serial port and connect the BB-ESRx to your LAN. Your networked computer 'sees' the device over the network as a virtual serial connection. BB-ESRx serial servers support TCP or UDP protocols and allow Transmit-to and Receive-from multiple IP addresses. There are four methods of configuration: Viinx Management Software, Web Server, Telnet, or a direct RS-232 console connection using a terminal program.

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

Viinx™ Manager software allows easy access to the serial server to configure the server and its ports, upgrade firmware and monitor port status and activity. When the Viinx Manager opens, it searches for and displays all serial servers on the network. The Monitor Port feature allows you to use any PC on the LAN/WAN to actively view and troubleshoot 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, as well as the status of the hardware handshaking lines.

BB-ESRx serial servers can be accessed and configured from any web browser (ie, Internet Explorer) on the LAN/WAN allowing you to remotely manage the software and your serial device and do off-site troubleshooting.

Viinx 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 until communication is re-established. Without this feature, a device that loses a connection and stops communicating would not be able to reconnect without a person physically attending to the problem. The Heartbeat feature works with virtual COM and TCP direct IP connections.

Ordering Information

Model No.	Serial Ports	Serial Connector	Ethernet Port	Ethernet Connector
BB-ESR901	1	DB9 or Terminal Block	(1) Copper	RJ45
BB-ESR902	2	DB9	(1) Copper	RJ45
BB-ESR904	4	DB9	(1) Copper	RJ45

Accessories – Sold Separately

BB-MDR-40-12 – Power Supply, 12 Vdc, 40 W, 3.33 A, DIN rail mount, plastic

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)
Serial Connectors	BB-ESR901: TB and DB9 M (selectable) BB-ESR902: 2x DB9 M BB-ESR904: 4x DB9 M
Baud Rate	110 to 230.4 Kbps
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	TCP, IP, ARP, DHCP, Telnet, HTTP, UDP, ICMP
Configuration	
Console	RS-232 w/ VT100 Emulation
Telnet	HyperTerminal w/VT100 Emulation
Vlinx™ Manager	Windows 7, 10
HTTP	Embedded web page
Power	
Source	External power supply (not included, sold separately)
Voltage	9 to 48 Vdc, or 8 to 24 Vac
Consumption	BB-ESR901: 320 mA @ 12 Vdc BB-ESR902: 340 mA @ 12 Vdc BB-ESR904: 326 mA @ 12 Vdc
Connector	Removeable terminal block (12 to 28 AWG)
Environmental	
Operating Temperature	-10 to +80 °C
Storage Temperature	-20 to +85 °C
Operating Humidity	5 to 95%, non-condensing
Mechanical	
Enclosure	IP30
Dimensions	BB-ESR901/902: 4.46 x 15.52 x 10.46 cm BB-ESR904: 4.46 x 18.03 x 10.46 cm
Meantime Between Failures (MTBF)	
MTBF	BB-ESR904 = 96827.27 hours
Calculation Method	MIL217F Parts Count Reliability Prediction
Regulatory – Approvals / Standards / Directives	
FCC	
EU Declaration of Conformity - Directives	2014/30/EU Electromagnetic Compatibility Directive 2011/65/EU amended by (EU) 2015/863 Reduction of Hazardous Substances Directive (RoHS-10) 2012/19/EU Waste Electrical and Electronic Equipment (WEEE)
EU Declaration of Conformity - Standards	EMC: EN 55032:2015 Class B Electromagnetic compatibility of multimedia equipment – Emission requirements EN 55024:2010 Information Technology Equipment – Immunity Characteristics – Limits and methods of measurement