Industrial Modbus Ethernet to Serial Gateways

Fiber Models BB-MESR921-MT, BB-MESR922T-SC

ADVANTECH

BB-MESR921-MT

FEATURES

- Bridge Modbus TCP Ethernet and RS-232/422/485 networks
- Modbus TCP, ASCII, RTU (up to 16 masters & 32 slaves)
- Data rate: up to 230.4 kbps
- -40 to +80 °C wide operating temperature range
- DIN rail mount, IP30 case
- 10-48 VDC input required (power supply not included, sold separately)
- Easy to use configuration software
- UL Class 1/Division 2

BB-MESR92x Modbus Gateways bridge devices on Modbus serial networks (RS-232, RS-422 or RS-485) with those on Modbus TCP networks, allowing seamless integration. Serial ports can be accessed over a LAN or WAN using Direct IP Mode connections. Supporting up to 16 masters and 32 slaves, these gateways feature auto-detecting 10/100 copper and fiber optic options. Easy-to-use software is designed for Windows 2000, 2003 Server, XP, Vista, 2008 Server, 7, 8, 10. Serial data rates up to 230 kbps ensure maximum network flexibility.

BB-MESR92x gateways are built for use in industrial environments, featuring a slim IP30 DIN rail mount case. They operate from a range of DC power supply voltages and have pluggable terminal block connectors. An external power supply is required (not included, sold separately).

The units have an additional Ethernet port that functions much like an Ethernet switch, allowing pass-through connectivity for other Ethernet devices. This port can also be used to "daisy chain" multiple gateways. Includes easy configuration software.

ORDERING INFORMATION

MODEL NUMBER	SERIAL PORTS	SERIAL CONNECTOR+	ETHERNET PORTS	ETHERNET CONNECTOR
BB-MESR921-MT	1	DB9 or Terminal Block	Multi-mode Fiber, Copper	(1) ST, (1) RJ45
BB-MESR922T-SC	2	Terminal Block	Single-mode Fiber, Copper	(1) SC, (1) RJ45

+ All serial ports are software configurable for RS-232, RS-422, or RS-485.

Copper port options available. Contact B+B SmartWorx.

ACCESSORIES – sold separately

BB-MDR-20-24 - 24VDC, 1.0 A output power, DIN rail mount power supply

BB-MDR-40-24 - 24VDC, 1.7 A output power, DIN rail mount power supply

BB-DRPM25 - 35mm DIN Rail to Panel Mount Bracket, 25mm wide

BB-TBKT1 - Replacement Terminal Block - 2-position, 5.08mm, 8A, 30

BB-TBKT2 - Replacement Terminal Block - 5-position, 5.08mm, 8A, 30

ADVANTECH

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Industrial Modbus
Ethernet to Serial Gateways
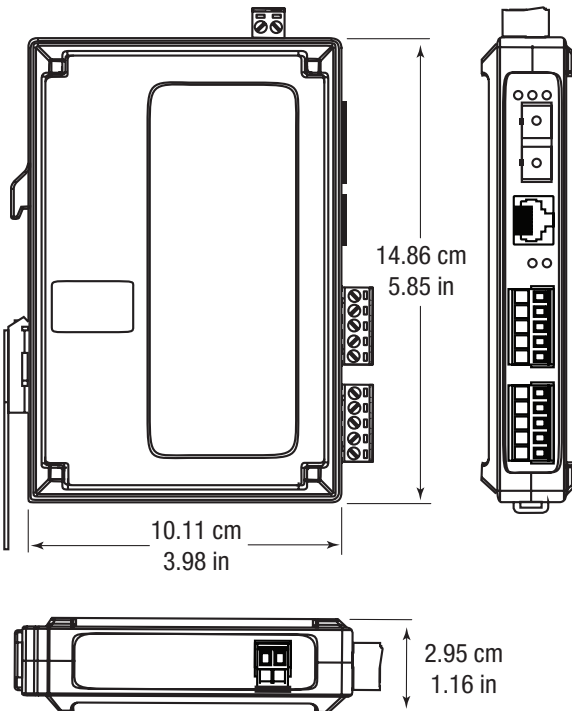### Fiber Models BB-MESR921-MT, BB-MESR922T-SC

BB-MESR922-SC

SPECIFICATIONS

SERIAL TECHNOLOGY	
RS-232	TD, RD, RTS, CTS, DTR, DSR, DTD, GND
RS-485 2-Wire	Data A(-), Data B(+), GND
RS-422/485 4-Wire	TDA(-), TDB(+), RDA(-), RDB(+), GND
Serial Connector	DB9M or Removable Terminal Blocks, 12 to 28 AWG
Data Rate	Up to 230.4 Kbps

FIBER OPTIC TECHNOLOGY		
	BB-MESR921-MT	**BB-MESR922T-SC**
Type / Wavelength	Multi-mode / 1310 nm	Single-mode / 1310 nm
Output Power	(-) 19 to (-) 14 dBm	(-) 15 to (-) 8 dBm
Receive Sensitivity	~ (-) 32 dBm	~ (-) 32 dBm
Cable	62.5 / 125 µm	9 / 125 µm
Connector	ST	SC
Range	2 km (1.2 mi)	15 km (9.3 mi)

POWER	
Source	External, required (not included, sold separately)
Input Voltage	10 to 48 VDC (58 VDC, maximum)
Connector	Removable Terminal Block (12 to 28 AWG)

POWER CONSUMPTION	
BB-MESR92x	6.0 Watts

MECHANICAL	
LED Indicators	Serial Port, Ethernet Link, Ready
Switches	Reset Button
Dimensions	14.86 x 10.11 x 2.96 cm (5.85 x 3.98 x 1.16 in)
Enclosure	35mm DIN mount, Plastic, IP30
Weight	201.4g (0.45 lb)
eDrawing	Available on website

ENVIRONMENTAL	
Operating Temperature	-40 to +80° C (-40 to +176 °F)
Operating Humidity	0 to 95% non-condensing

MEANTIME BETWEEN FAILURES (MTBF)	
MTBF BB-MESR92x	102593 hours
MTBF Calculation Method	217F Parts Count Reliability Prediction

NETWORK	
Serial Memory	8 KB per port
Network Memory	4 KB
IP Port Addresses	5300 – Heartbeat and Configuration. Setting in TCP Mode (paired mode). 8899 – MESR9xx Update.
LAN	10/100 Mbps auto-detecting
Ethernet	IEEE 802.3 auto-detecting & auto MDI/MDX 10/100

PROTOCOLS	
TCP, IPv4, ARP, HTTP 1.0, ICMP/PING, DHCP/BOOTP	
IP Mode	Static, DHCP
TCP	User definable

OTHER	
Mode	Modbus RTU Master / Slave Modbus ASCII Master / Slave
Search	Serial direct COM and Ethernet. Auto search or specific IP.
Diagnostics	Display PC IP, ping, save test config. (text readable)
Firmware Upgrade	via Vlinx Manager

ETHERNET PASS-THROUGH PORT (BB-MESR92X)	
Standards	IEEE 802.3, 802.3u, 802.3x
Processing Type	Store & Forward with 802.3x full-duplex, non-blocking flow control
Flow Control	IEEE 802.3x flow control, back pressure flow control
MAC Address Table	2K

CONFIGURATION SOFTWARE	
Vlinx Manager - Windows O/S	2000, XP, 2003 Server, Vista, 2008 Server, 7, 8, 10 (32/64 bit)

REGULATORY/APPROVALS / DIRECTIVES/ STANDARDS	
Compliance	FCC, CE
UL	UL Listed UL Class 1 Division 2 Groups A, B, C, D (HAZLOC)
CE - Directives	2014/30/EU - Electromagnetic Compatibility (EMC) 2011/65/EU - Reduction of Hazardous Substances (RoHS) 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE)
CE - Standards	EN 55032 Class B - Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements EN 55024 - Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurement (ITE) EN 61000-6-1 - Generic Immunity Standard for Residential, Commercial and Light-industrial Environments

MECHANICAL DIAGRAM

14.86 cm
5.85 in

10.11 cm
3.98 in

2.95 cm
1.16 in