MESR424

4-Port Industrial Modbus Gateway

- ✓ **Ethernet-Enable Modbus RS-232/422/485**
- ✓ **MODBUS TCP, ASCII & RTU**
- ✓ **Modbus Flexibility – Serial & Ethernet, Masters & Slaves**
- ✓ **Modbus Messaging Priority Control**
- ✓ **View Messaging Status in Real Time**
- ✓ **Ethernet Fiber Options**
- ✓ **Easy Configuration Software**
- ✓ **Complies with NEMA TS1 & TS2 Environmental requirements for Traffic Control Equipment**

MESR MODBUS Gateways bridge devices on MODBUS serial networks (RS-232, RS-422 or RS-485) with those on MODBUS TCP networks, allowing seamless integration. The serial ports can be accessed over a LAN or WAN using Direct IP Mode connections. Supporting up to 16 masters and 32 slaves, the gateways feature autodetecting10/100 copper and fiber optic options. The easy to use software is designed for Win XP, Vista, Win 7 and Windows 2003/2008 Server, features Modbus messaging priority control and allows management through multiple TCP/IP client sessions. Serial data rates up to 230 kbps ensure maximum network flexibility. MESR gateways are built for use in industrial environments, featuring a slim IP30 DIN rail mountable case. They operate from a range of DC power supply voltages and have pluggable terminal block connectors.

MESR424 series gateways can be powered via a barrel connector or a terminal block. (An external power supply is required; sold separately.) The MESR424 has an additional Ethernet port which 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.

Specifications

Power	
Source	External
Input Voltage	10 to 48 VDC (58 VDC max)
Connector	Removable Terminal Block (12 – 28 AWG) and barrel connector
Power Consumption	6 W
Mechanical	
LED Indicators	Serial Port, Ethernet Link, Speed
Switches	Reset Button
Dimensions	1.8 x 4.4 x 6.75 in (4.57 x 12.2 x 17.1 cm)
Enclosure	35mm DIN mount, Metal, IP 30
Environmental	
Operating Temperature	-40 to 80°C (-40 to 176° F)
Operating Humidity	10 to 95% Non-condensing
Storage Temperature	-40 to 85°C
MTBF	70,273 hours
MTBF Calc Method	Parts Count Reliability Prediction
NEMA TS1 & TS2	Complies with NEMA TS1 & TS2 Environmental requirements for Traffic Control Equipment
Network	
Serial Memory	8 KB per port
Network Memory	8 KB
IP Port Addresses	Setting in TCP Mode 8899 – MESR424 Update
LAN	10/100 Mbps Auto-detecting , 10BaseT or 100BaseTX
Ethernet	IEEE 802.3 auto detecting & auto MDI/MDX, 10/100
Ordering Information	
See chart below for available models	
Accessories	
MDR-40-24	Din Rail Mount, 24VDC, 40 W
PS12VLB-INT-MED	12 VDC, Locking Barrel
232NM9	Null Modem Crossover Cable
C5UMB7FBG	Ethernet Cable

B&B ELECTRONICS

www.bb-elec.com orders@bb-elec.com support@bb-elec.com
International Office: 707 Dayton Road PO Box 1040 Ottawa, IL, 61350, USA 815-433-5100 Fax 433-5104
European Office: Westlink Commercial Park, Oranmore Co., Galway, Ireland +353 91 792444 Fax +353 91 792445

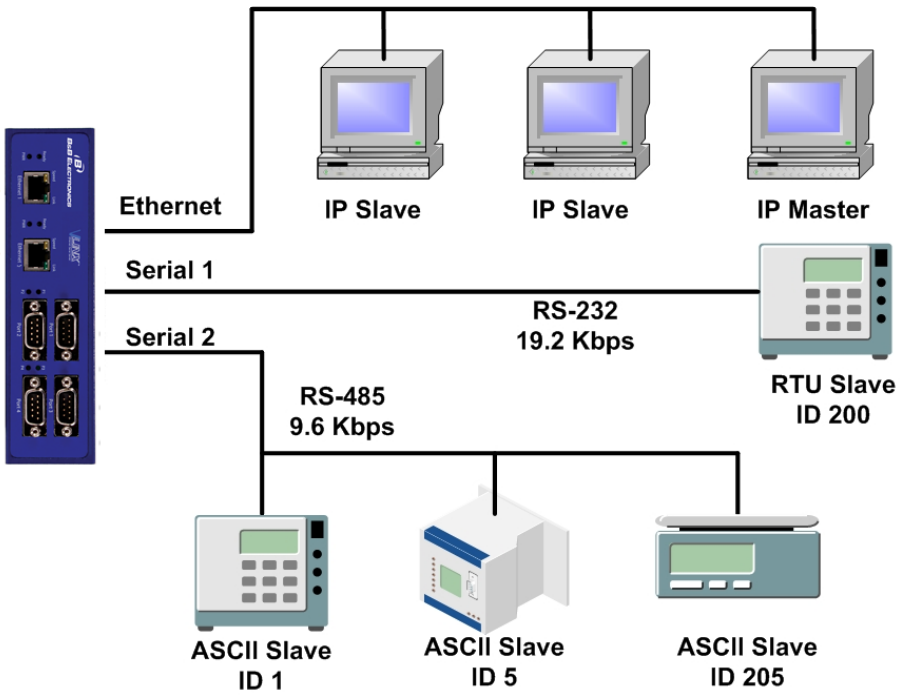
Specifications		
Serial Technology		
RS-232 (DB9) RS-232 (terminal block) RS-485 2-Wire RS-422/485 4-Wire Serial Connector Data Rate	TD, RD, DTR, DSR, RTS, CTS, DCD plus Signal Ground TD, RD, RTS, CTS plus Signal Ground Data A(-), Data B(+), GND TDA(-), TDB(+), RDA(-), RDB(+), GND DB9M or removable terminal blocks Up to 230.4 Kbps	
Fiber Optic Technology		
Type / Wavelength Output Power Receive Sensitivity Cable Connector Range	Multi-mode / 1310 nm (-)19 to (-) 14 dBm ≤ (-) 32 dBm 62.5 / 125 µm SC or ST 1.2 miles (2 km)	Single-mode / 1310 nm (-) 15 to (-) 8 dBm ≤(-) 32 dBm 9 / 125 µm SC or ST 12.4 miles (20 km)
Protocols		
Protocols IP Mode TCP	TCP, IPv4, UDP, ARP, HTTP 1.0, HTTP 1.1, ICMP/PING, DHCP/BOOTP Static, DHCP User definable	
Other		
Connection Mode Search Diagnostics Firmware Upgrade	MODBUS RTU Master / Slave, MODBUS ASCII Master/Slave Serial direct COM and Ethernet Auto Search or specific IP Display PC IP, ping, save test config (text readable) Web GUI through Ethernet	
Software		
OS Compatibility	Windows XP (32/64 bit), 2003 Server (32/64 bit), Vista (32/64 bit), 2008 Server (32/64 bit), Win 7 (32/64 bit), Windows 2008 Server	
Ethernet Pass-through Port		
Standards Processing Type Flow Control	IEEE 802.3, 802.3u, 802.3x Store and Forward with 802.3x full duplex, non blocking flow control IEEE 802.3x flow control, back pressure flow control	

Approvals / Certifications	
Emissions	FCC Part 15 Class A
	CE
	NEMA TS2
Shock	IEC60068-2-27
Vibration	IEC60068-2-6

Model Number	Ethernet Port 1	Ethernet Port 2	Serial Ports
MESR424D	10/100 RJ45	10/100 RJ45	RS-232/422/485 (DB9 male)
MESR424D-MT	10/100 RJ45	Multi-mode (ST)	RS-232/422/485 (DB9 male)
MESR424D-SC	10/100 RJ45	Single-mode (SC)	RS-232/422/485 (DB9 male)
MESR424T	10/100 RJ45	10/100 RJ45	RS-232/422/485 (Terminal Block)
MESR424T-MT	10/100 RJ45	Multi-mode (ST)	RS-232/422/485 (Terminal Block)
MESR424T-SC	10/100 RJ45	Single-mode (SC)	RS-232/422/485 (Terminal Block)

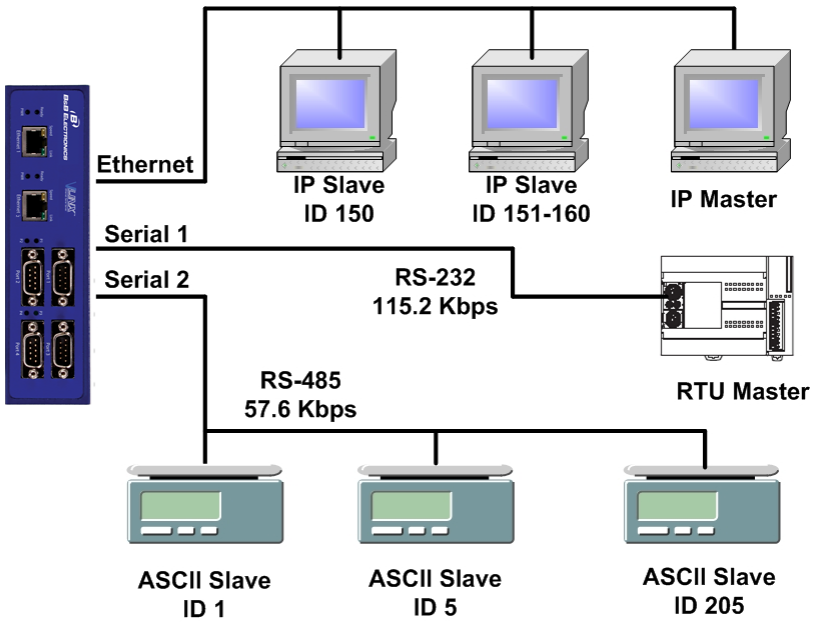
Ethernet Master and Serial Slaves

Your Modbus gateway can be used to integrate serial slave devices on a Modbus TCP network. This allows TCP Masters to control serial slave devices. The example below is using a gateway with two serial ports.

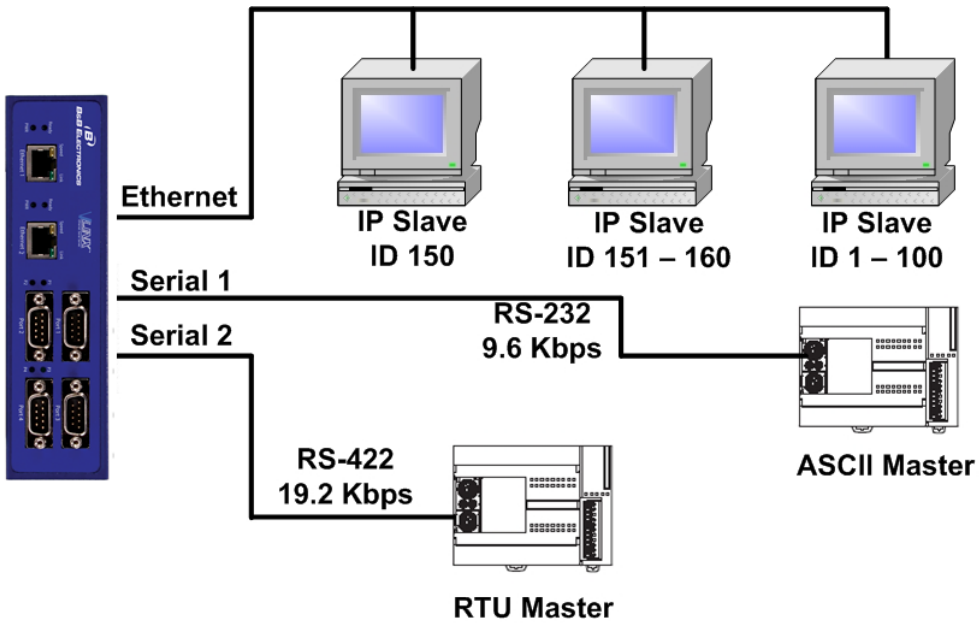


Serial & Ethernet Masters, Serial & Ethernet Slaves

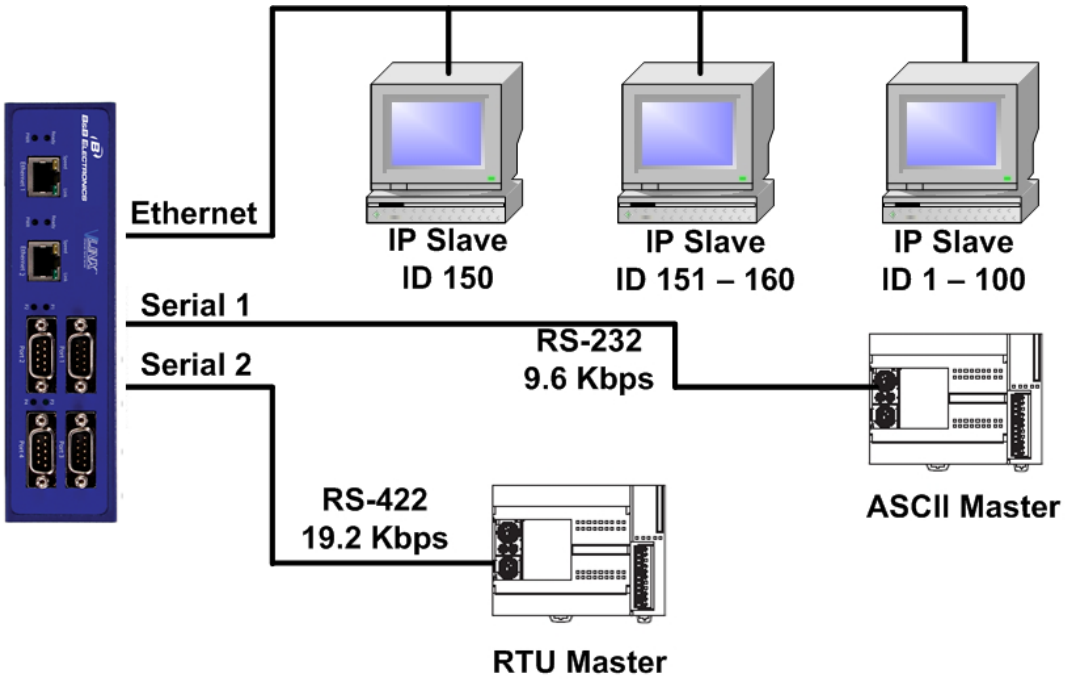
Your Modbus Gateway can also integrate multiple master devices onto serial and Ethernet Networks.



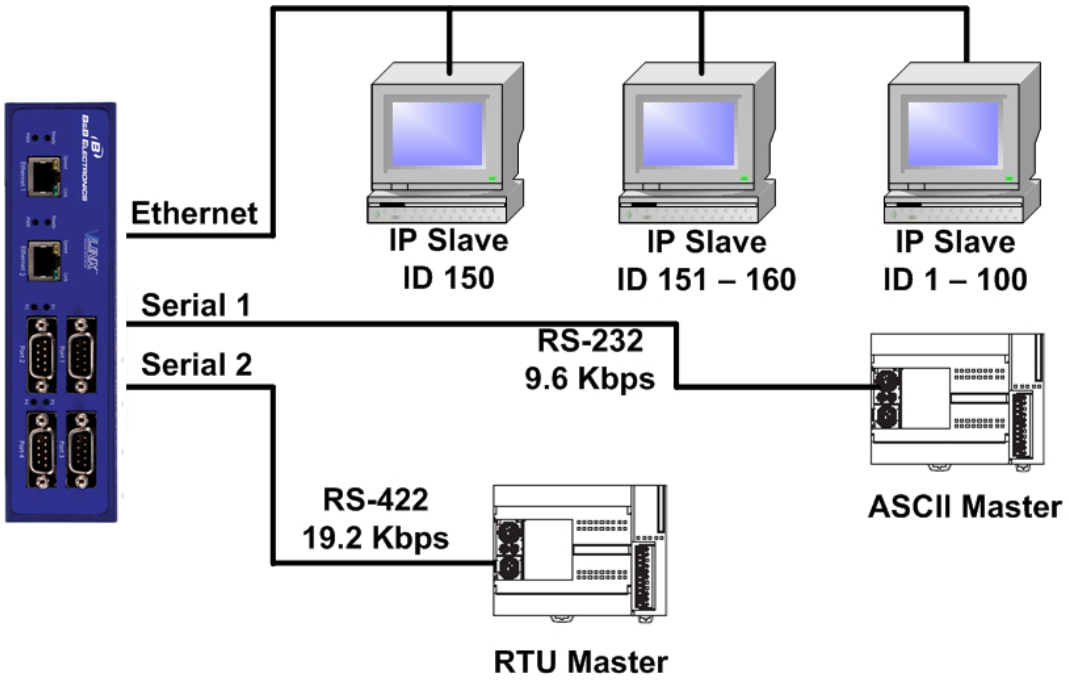
Serial Masters, IP Slaves



Serial Masters, IP Slaves, Hard Coded Slaves



Serial Masters, IP Slaves, Identical Production Lines



Dimensional Diagram