Quick Start Guide
MESR 9xx Modbus Gateway

1 Check for All Required Hardware

- ❑ Vlinx MESR9xx module
- ❑ This Quick Start Guide
- ❑ CD with Modbus Gateway Manager s/w and manuals
- ❑ Network Cable(s) (not included)
- ❑ Serial Cable(s) (not included)
- ❑ Power Supply (not included)

2 Install the Hardware

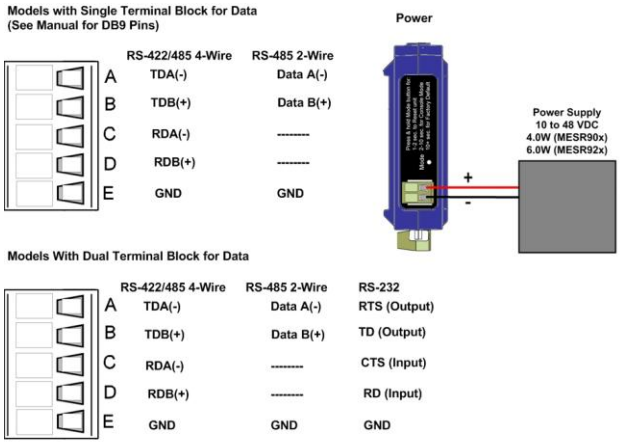
- ❑ Connect a 10 to 48 VDC (58 VDC Max) power supply (Sold separately). 4W for MESR90x, 6W for MESR92x
- ❑ Connect the top RJ45 connector to a network drop using a standard network cable (lower RJ45 is pass-through Ethernet on the model shown below).
- ❑ Connect the serial device(s):
  - RS-232 with DB9: straight-through for DCE device, null modem for DTE device.
  - RS-232/422/485 with terminal blocks: see Appendix D for pin outs.

UL Installation Information

- One Conductor Per Terminal
- Use Copper Wire Only
- Wire Size: 28 to 16 AWG
- Tightening Torque: 5 KG-CM
- Wire Temperature Rating: 105 C Minimum (Sized for 60 C Ampacity)
- 80 C Maximum Surrounding Ambient Air Temperature

SUITABLE FOR USE IN CLASS 1, DIVISION 2 GROUPS A, B, C, AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.

WARNING – EXPLOSION HAZARD – SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2.



3 LED Status

LED	STATUS
Ready	Blinks if system is operating correctly, once per second normally or three times per second for configuration mode or when reset to factory defaults.
Port 1/ Port 2	On indicates serial port open, blinks when data present (Port 2 present on 2 serial port units only).
E1/E2	On indicates Ethernet has a link, blinks with data traffic (E2 present on 2 Ethernet port units only).

4 Mode Switch

Hold in Mode switch for…	Result
0 to 2 seconds	Initiates a Hardware Reset
2 to 10 seconds	Enters Console Mode
Over 10 seconds	Reset to Factory Defaults

5 Install Modbus Gateway Software

- ❑ Insert the included CD and it should auto start.
- ❑ Follow the prompts to install the Modbus Gateway software.

Note: Be sure you have administrative rights & disable firewalls.

6 Setup the Modbus Gateway Software

- ❑ Open Vlinx Manager: click Start→Programs→B&B Electronics→Vlinx→Modbus Gateway Manager→Configuration Manager.
- ❑ The Device Discovery page opens.
- ❑ **NOTE:** If the device does not connect, cycle (unplug-replug) the power, then try again to connect.
- ❑ To configure via the network, select Network.
- ❑ If you know the IP address, select "*The device is at this address*," and type in the IP address.
- ❑ If not, select *I don't know the IP address of the device*.
- ❑ Click Connect.

OR…Setup the Web Interface

- ❑ Open a browser and type the IP address of the Modbus Gateway in the Address Bar.
- ❑ When the Modbus Gateway is found, the Login window appears.

7 Login

- ❑ Click Login. Password is blank from factory, no password is necessary to operate the MESR unit.
- ❑ The Configuration/General page appears.

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8 Setup Network

- ❑ **I want DHCP** is preselected to set up the network using dynamic IP addressing. The Modbus Gateway is set up at the factory to receive an IP assignment from a DHCP Server. If a DHCP Server is not available on your network, it will default to **169.254.102.39**.
- ❑ If a DHCP server is not available and the default address does not work on your PC, change your PC network settings to IP Address: 169.254.102.1, Subnet Mask: 255.255.0.0, Default Gateway: 169.254.102.100. If you are not able to use these settings in your installation, refer to page 17 of the user's manual for directions to change the Modbus Gateway's TCP/IP settings.

9 Setup Modbus TCP

Modbus TCP Settings:

- ❑ **Connect to Port** identifies TCP port used in TCP client mode. Valid range is 1 to 65535.
- ❑ **Response timeout** is the maximum response time. Valid range is from 1 to 65535.

TCP Server Settings:

- ❑ **Listen on port** identifies TCP port in TCP server mode. Valid range is from 1 to 65535.
- ❑ **Limit the number of connections**…Controls the number of simultaneous TCP clients that can be connected.
- ❑ **"…allow everyone**," "…**allow specific IP address**" & "**allow a range of IP addresses**" are *Connection Filter Mode* options, controlling which TCP clients can connect.

10 Setup Port 1 Serial

- ❑ Change the **Description** of the serial port if needed.
- ❑ Set the **Mode** to RS-232, RS 422 (4 wire), RS 485 (2 wire) or RS 485 (4 wire).
- ❑ Set the **Baud Rate** to control the speed of the port. Valid speeds range between 75 and 230,400 bits per second.
- ❑ Set **Data Bits** to control the number of bits in each character. Only 8 bits is valid when the protocol of the device connected to the port is RTU.
- ❑ **Stop Bits** controls the number of bits for end of character.
- ❑ **Parity** controls the error checking mode, with options of No Parity, Odd, Even, Mark and Space.

11 Setup Port 1 Modbus

- ❑ Select the **Attached** as **Master** or **Slave**.
- ❑ Select the **Modbus** protocol to be used, either **RTU** or **ASCII**.
- ❑ As needed, check option boxes for "**Enable Modbus broadcast**, "**Enable OBh Exception**" and "**Enable serial message buffering.**"
- ❑ Select from 0 to 5 **Modbus Serial Retries**.
- ❑ Enter **Milliseconds Modbus Message Timeout**, from 1 to 65535.
- ❑ Enter **Milliseconds TX Delay**, from 1 to 65535.
- ❑ Set up "Port 2 Modbus" the same, only if it has a Port 2.

12 Setup Port 1 ID Remap

- ❑ Only use this screen if **Modbus Slave IDs** are to be remapped.
- ❑ On each line select a range of serial ports to remap. In the 1st box enter the first serial port of the range to remap **From**. Valid port IDs range from 1 to 255.
- ❑ 2nd box - enter the last serial port of the range to remap.
- ❑ 3rd box - enter starting ID of the range to remap **To**.
- ❑ The 4th box auto fills based on ranges entered in the first three columns.
- ❑ Set up "Port 2 Remap" the same, only if it has a Port 2.

13 Setup Modbus ID Routing

- ❑ Only use this screen if **Modbus Slave IDs** are to be re-routed.
- ❑ On each line select the range of **IDs** to re-route. In the 1st box enter the starting ID. Valid IDs range from 1 to 255.
- ❑ 2nd box – enter the last **ID** of the range to re-route.
- ❑ 3rd box - enter the **IP Address** or **Port** that has slave devices attached.
- ❑ The 4th box shows the IP address of the slave device, if an IP address is chosen in the third box.

14 Setup Modbus Priority

- ❑ Only use this screen if **Modbus Priority** is to be set.
- ❑ Enter up to five different priorities, based on **Originating IP Address**, **Modbus ID**, **Modbus Function Code**, or a combination of these.
- ❑ **IP Address** sets a static IP address for the Modbus gateway.
- ❑ **Modbus ID** has a valid range from 1 to 255.
- ❑ **Function Code** has a valid range from 1 to 99.

15 Save and Logout

- ❑ If you have completed the configuration, click Save to save the configuration to the serial server.
- ❑ To Logout, click the Logout button.

16 To Test and Verify Operation

- ❑ The primary check for correct operation is the device LEDs. See Section 3 this document for more information.
- ❑ For advanced information, see the **Modbus Configuration Manager** menu, at the top of Vlinx Manager screen.
- ❑ Select **Diagnostic** for a check of communications status with attached MESR9xx device, and then select the device for which the communications check is desired.
- ❑ A report of reply times and ping statistics is generated and can be saved.
- ❑ Select **Monitor** to review activity logs of attached MESR9xx devices, then select the device for which logged information is needed
- ❑ Logged information includes **Time**, **Source & Destination**, Type **of event, Subscriber ID**, **Data** collected, and **Information** the Vlinx Manager program has gathered since current login of the affected device.

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