Modbus Router/B

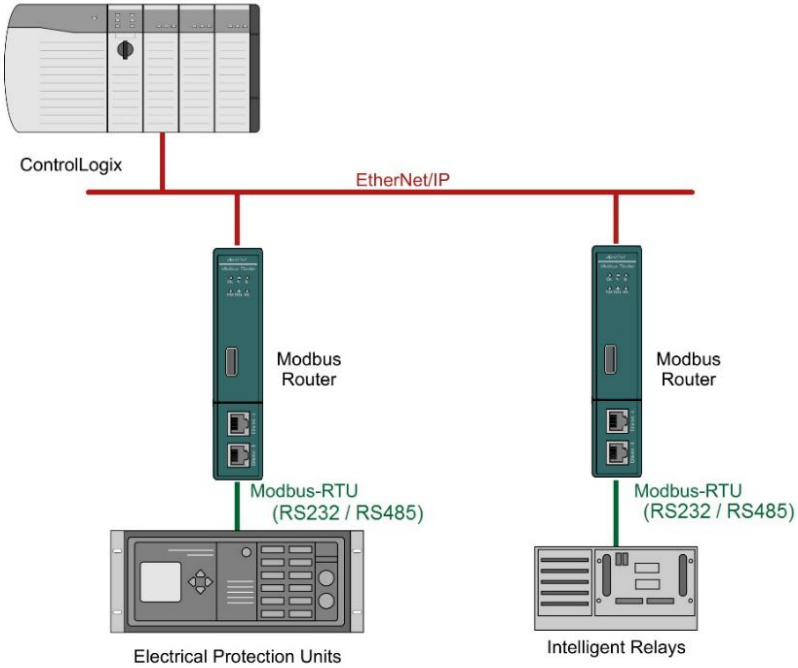
Quick Start Guide

A-MBRB

NOTE: Before installing, configuring, operating, or maintaining Aparian products, please review this information and the information located on www.aparian.com for the latest software, documentation, and installation files specific to your Aparian product.

INTRODUCTION

The Modbus Router provides intelligent data routing between EtherNet/IP and Modbus (serial Modbus-RTU232, Modbus-RTU485, or Ethernet Modbus-TCP). The Modbus Router allows the user to integrate Modbus devices into a Rockwell Logix platform (ControlLogix or CompactLogix) or PLC (SLC or MicroLogix) with minimal effort. Connection to the controller can be via EtherNet/IP or CIP USB.



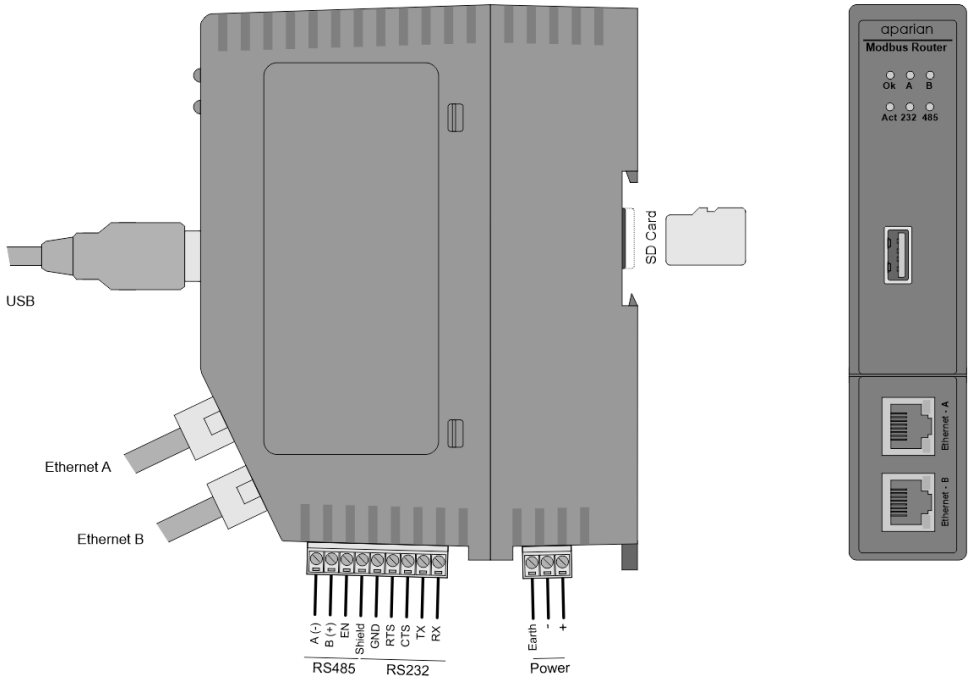
REQUIRED SOFTWARE

The Modbus Router/B requires Aparian Slate software to setup and configure. The software installation can be found at www.aparian.com/software/slate.

MODULE INSTALLATION

The module has two Ethernet ports located at the lower front of the module. There are also two ports at the bottom of the module for RS232/RS485 serial and power. The power port uses a three-way connector which is used for the DC power supply positive and negative (or ground) voltage as well as the earth connection.

The nine-way connector is used to connect the RS232 and RS485 conductors for serial communication. The shield terminal can be used for shielded cable in high noise environments.



LED	Description
Ok	The module LED will provide information regarding the system-level operation of the module. If the LED is **red**, then the module is not operating correctly. For example, if the module application firmware has been corrupted or there is a hardware fault the module will have a red Module LED. If the LED is **green (flashing)**, then the module has booted and is running correctly **without** any application configuration loaded.

	If the LED is **green (solid)**, then the module has booted and is running correctly **with** application configuration loaded.
A / B	The Ethernet LED will light up when an Ethernet link has been detected (by plugging in a connected Ethernet cable). The LED will flash every time traffic is detected. This module has two Ethernet ports A and B. Each LEDs represents each specific port.
Act	The activity LED is used for the Modbus Routing. Every time there is a successful Modbus routing transaction the LED will flash green. The LED will flash red if the routing was unsuccessful (e.g. Logix Tag does not exist).
232	The 232 LED is used for the RS232 port. Every time there is a successful Modbus packet on RS232 the LED will flash green. The LED will flash red if the Modbus packet failed (e.g. checksum failure).
485	The 485 LED is used for the RS485 port. Every time there is a successful Modbus packet on RS485 the LED will flash green. The LED will flash red if the Modbus packet failed (e.g. checksum failure).

USB PORT

The module supports USB2.0 on its USB port and will operate as a USB Host device. The user will require a USB Type-A connector on the Modbus Router side and generally a USB Type-B connector on the device side (i.e. Logix Controller).

RS485 TERMINATION

All RS485 networks need to be terminated at the extremities (start and end point) of the communication conductor. The termination for the RS485 network can be enabled/disabled via the module configuration. Enabling the termination will connect an internal 150 Ohm resistor across the positive (+) and negative (-) conductors of the RS485 network.

ELECTRICAL AND ENVIRONMENTAL

Specification	Rating
Power requirements	Input: 10 – 32V DC, (121 mA @ 24 VDC)
Power consumption	3.1 W (Including full load on USB of 200mA) 300 mA maximum
USB Power	5V, maximum load of 200 mA (1W).
Temperature	-20 – 70 °C

STUDIO 5000 CONFIGURATION

For Logix versions 20 and beyond, the modules can be added using the EDS Add-On-Profile (AOP). For older versions (19 and below), the module must be added using a Generic Module Profile.

NORTH AMERICAN HAZARDOUS LOCATION APPROVAL

The following information applies when operating the product in hazardous locations:

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

-20°C to +70°C, T5A
Class 1, Div 2 Gps A, B, C, D

THIS EQUIPMENT IS OPEN-TYPE DEVICE AND IS MEANT TO BE INSTALLED IN AN ENCLOSURE SUITABLE FOR THE ENVIRONMENT SUCH THAT THE EQUIPMENT IS ONLY ACCESSIBLE WITH THE USE OF A TOOL.

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOW TO BE FREE OF IGNITABLE CONCENTRATIONS.

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



For professional users in the European Union

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.



WARNING – Cancer and reproductive harm – www.p65warnings.ca.gov

ADDITIONAL INFORMATION

The following resources contain additional information that can assist the user with the module installation and operation.

Resource	Link
Slate Installation	http://www.aparian.com/software/slate
Modbus Router User Manual Modbus Router Datasheet Example Code & UDTs	http://www.aparian.com/products/modbusrouterb
Ethernet wiring standard	www.cisco.com/c/en/us/td/docs/video/cds/cde/cde205_220_420/installation/guide/cde205_220_420_hig/Connectors.html
CIP Routing	The CIP Networks Library, Volume 1, Appendix C:Data Management
Modbus	http://www.modbus.org

SUPPORT

Technical support will be provided via the Web (in the form of user manuals, FAQ, datasheets etc.) to assist with installation, operation, and diagnostics.

For additional support the user can use either of the following:

Contact Us web link	www.aparian.com/contact-us
Support email	support@aparian.com