Modbus Router/B

Release Notes

A-MBR/B

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Firmware Revision 2.001.022

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1. PREFACE

1.1. COMPATIBILITY

Firmware revision 2.001.022 of the Modbus Router will require the following compatible versions:

Software	Version
Slate	1.096 and later

1.2. NOTES

The following should be noted:

- Firmware upgrades will be done using Aparian's Slate software.
- Aparian flash files have an *.afb* extension.
- Slate can also be used to set the initial network parameters using its DHCP server.
- Should any interruptions cause the module to not complete the firmware upgrade the module will return to Safe Mode. The user can then re-flash the module with the application firmware. See the user manual for more information regarding Safe Mode.

1.3. 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

1.4. 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

2. IMPROVEMENTS

The following updates are included in this firmware revision.

Revision	Improvement	Description
2.001.022	PCCC Emulation	Add support for PCCC emulation allowing legacy controllers to communicate with newer Logix controller that does not support PCCC.
	Modbus Aux Map	Increase Modbus Auxiliary mapping to 300.
	Modbus Client Parallel Request	Support Parallel requests which will allow each interface to send Modbus requests simultaneously when the module is operating in Modbus Client mode. It will also send parallel requests to Modbus TCP Servers simultaneously.
2.001.021	None	-
2.001.020	Modbus TCP Client	Increased the Modbus TCP Client timeout from 10 to 20 seconds.
2.001.019	EIP Originator Transfer Format	Added the COS transfer format to EIP Originator connection options.
	Webserver	Removed the Webserver from the module due to security concerns that it could be an attack vector.
	Security	Allow Engineer profile to also write to the SD Card for module backup.
	Security	Improved speed with user authentication.
2.001.018	Security	Improved Key Generation and Security.
	RS232 and RS485 Statistics	Create separate serial statistics for RS232 and RS485.
	SD Card	Add support for back SD Card for disaster recovery.
	Masked Write	Add support for Modbus Masked Write when operating in Enhanced Mode as a Modbus Server.
	Modbus Client Triggers	Add triggers for write map items in the Modbus Auxiliary mapping to allow the module to not always send a write.
2.001.017	None	-
2.001.016	Modbus Comms	Added option to suspend Modbus Comms (in enhanced mode) when EIP communication fails (EIP Target or EIP Originator).

2.001.015	None	-
2.001.012	DHCP Address Assign	Updated method to assign a Static IP Address using the DHCP Server Tool in Slate.
	LED Flash Discovery	Ability to discover the module by using the LED Flash function.
	Ethernet Split Port	Added Ethernet split port option to the configuration that will block routing between the two Ethernet ports. This mode will also support dual IP addresses specific to each Ethernet port.
	Modbus TCP Default Gateway	Added off-subnet communication for Modbus TCP when operating as a Client.
2.001.010	New Modes	Added Enhanced, Bridge, and Concentrator modes.
	Security	Added module security with encryption and authentication.
	EIP Originator	Added support for operating as an EtherNet/IP originator.
	All ports	Support Modbus communication on all ports simultaneously.
	EIP Target	Support up to 5 x Class 1 EtherNet/IP connections when operating as an EtherNet/IP Target.
2.001.009	General	Non-application specific update.
2.001.008	CPU Support	Minor enhancements for series B of the CPU.
2.001.007	CPU Support	Added support for series B of the CPU currently being used.
2.001.006	Ground Connection	Add parameter to config allowing the user to connect the ground when required for DH485 networks.
2.001.005	ODVA	Updates for required for ODVA certification
	USB	Updates to allow USB to pass through CIP messages
2.001.002	Modbus TCP	When in scheduled mode, faster recovery of Modbus Slave when connection was lost.

3. ANOMALIES FIXED

The following anomalies have been fixed in this firmware revision.

Revision	Anomaly	Description
2.001.022	None	-
2.001.021	Internal Mapping	Fixed anomaly with bit to byte copy.
	Ethernet TCP	Update the processing and sending FIN ACK messages when connection is closed.
2.001.020	Modbus TCP Client	Fixed issue where the module would not send out a TCP FIN ACK when the module closes the Modbus TCP Client connection.
2.001.019	Modbus TCP Client Limitation	Fixed issue where, under certain circumstances, the module would mismatch the incoming TCP port after sending the TCP SYN packet, causing the module to not reply with the ACK and open the port.
	Ethernet Stack	Improved robustness after resolving two issues found during Penetration tests.

	Module Time	Fix anomaly where the date time would overrun in the year 2038.
	Security	Fixed minor anomalies.
2.001.018	Modbus RTU	Fixed issue where incorrect LED flashes Red when there was a checksum error.
	Reactive Mode RTU	When the module is in Reactive Mode with RTU232 or RTU485 selected, do not respond to Modbus TCP connection establishments.
2.001.017	Default Gateway	Fixed anomaly that, when the module is operating as a Modbus Client, would fail Modbus communication when there are multiple Modbus devices on different subnets that require a Default Gateway.
2.001.016	None	-
2.001.015	EIP Originator Class 1 Connection Instance	Fixed issue which would not allow connections with 16-bit connection instances.
2.001.014	Mapping	Fixed issue which could cause a faulty startup when EIP Originator or Modbus Client has been configured without any mapping items.
2.001.013	Modbus TCP	Fixed anomaly that would delay Modbus TCP Client communication startup.
2.001.011	USB Startup	Fixed anomaly where USB communication would not start if the module was powered up with USB communication configured.
2.001.002	Modbus TCP Map Item Count	Increased the Modbus TCP client count to 100 from 40.

4. KNOWN ANOMALIES

The following known anomalies exist in this firmware revision.

Revision	Anomaly	Description
2.001.022	None	-