aparian A-TSM Time Sync Module User Guide

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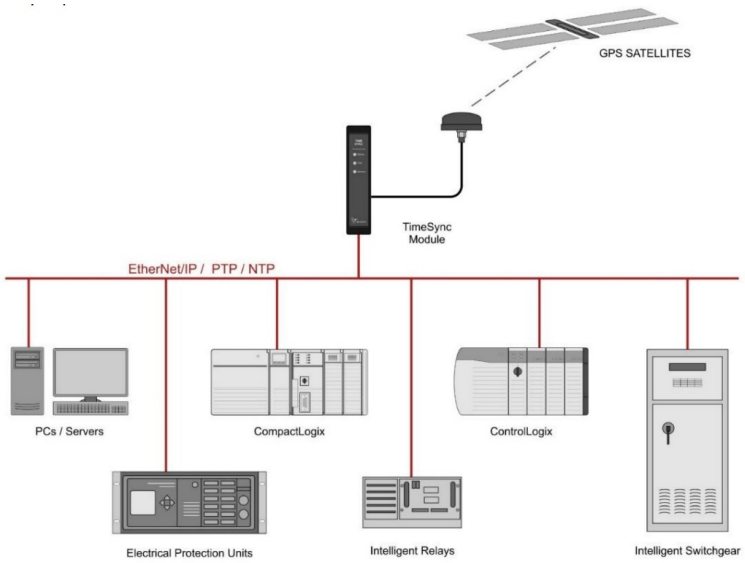
NOTE: Before installing, configuring, operating, or maintaining Aparian products, please review this information and the information located on www.aparian.com for the latest software, documentation, and installation files specific to your Aparian product

Contents

INTRODUCTION

This quick start guide provides an basic overview of the installation, operation, and diagnostics of the Aparian Time Sync module. The Time Sync module provides high accuracy time synchronization across traditional Ethernet networks using 1588 Precision Time Protocol (PTP) as well as Network Time Protocol (NTP). The module is also capable of writing time information directly to Allen-Bradley MicroLogix, SLC500 and PLC5 devices, as well as any Modbus-TCP slave device. The Time Sync module can also operate as a Modbus TCP slave where a Modbus TCP Master can read the relevant time data from the Time Sync module. The Time Sync module also provides GPS position and velocity data using the on-board GPS receiver. The Time Sync module is a stand-alone device allowing it to serve a wide variety of platforms.



REQUIRED SOFTWARE

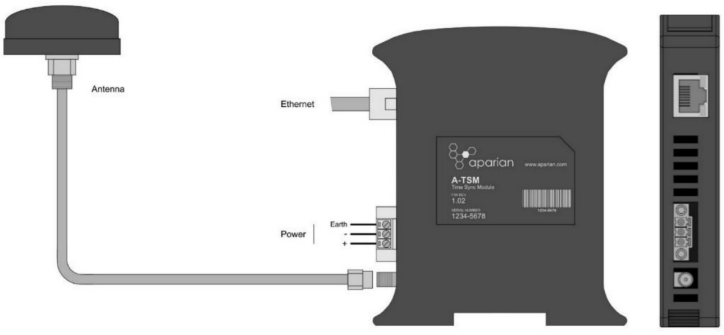
The Time Sync module requires Aparian Slate software to setup and configure. The software installation can be found at **www.aparian.com/software/slate**

MODULE INSTALLATION

The module has three ports at the bottom of the enclosure as shown in the figure below. The ports are used for Ethernet, GPS antenna and power. The power port uses a three way connector which is used for the DC power supply and the earth connection.

The GPS antenna connector provides connection to the provided GPS antenna.

NOTE: The module is supplied with a GPS antenna. Various other GPS antennas can be used Care must be taken to ensure they comply with the receiver antenna specifications.



LED	Description
Module	The module LED will provide information regarding the system-level operation of the module. Thus, 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 then the module has booted and is running correctly.
PPS	The PPS LED is the pulse per second provided by the GPS receiver. When the LED is green the module has obtained an Autonomous or Differential fix based on a sufficient number of satellites. When red, it indicates the module is still trying to obtain a GNSS fix.
Ethernet	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 was detected.

ELECTRICAL AND ENVIRONMENTAL

NETWORK SETUP

1. Launch the Aparian Slate Configuration Software. Select the DHCP Server under the Tools menu. DHCP is enabled as factory default.
2. Click the Assign button and set the IP Address. Row turns green if successful.
3. Additional configuration can be set using the Target Browser also under the Tools menu. Right click on the module in the Target Browser a select Port Configuration.

STUDIO 5000 CONFIGURATION

The module must be added to the Logix IO tree using the Generic Module profile.

NORTH AMERICAN HAZARDOUS LOCATION APPROVAL

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

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
Time Sync User Manual Time Sync Datasheet Example Code & UDTs	http://www.aparian.com/products/timesync
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
GPS information	https://www.ublox.com/images/stories/the_gps_dictionary.pdf
1588 Precision Time Protocol (PTP)	http://www.ieee1588.com/

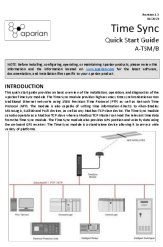
SUPPORT

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: https://www.prosofttechnology.com/ServicesSupport/Customer-Support
Support email: support@prosoft-technology.com

Documents / Resources

	aparian A-TSM Time Sync Module [pdf] User Guide A-TSM-B, A-TSM Time Sync Module, Time Sync Module, Sync Module

References

- technology.com
- Home

- Home
- 1588 PTP / NTP Time Sync Module with Modbus
- Slate Configuration Software
- ieee1588.com is for sale | HugeDomains
- p65warnings.ca.gov
- p65warnings.ca.gov/
- Regional Technical Support / Services & Support / Homepage - ProSoft Technology, Inc.