FF Link/B

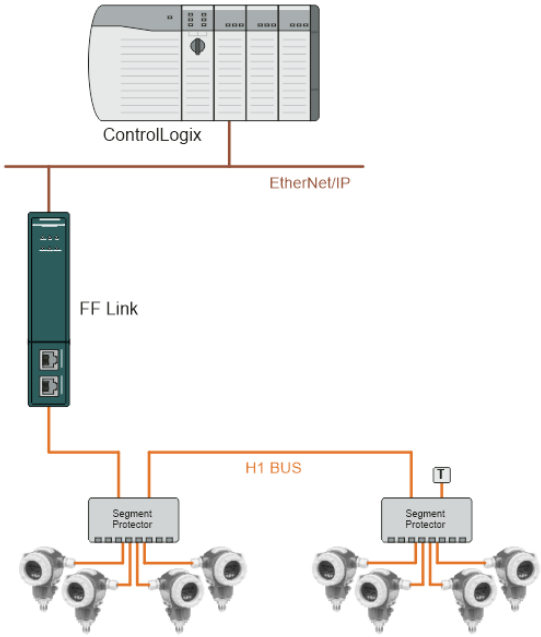
Quick Start Guide

A-FFL/B

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 FF Link operates as an FF H1 master allowing EtherNet/IP devices (e.g. Rockwell Automation Logix platform) or Modbus devices to exchange process, alarming, and diagnostic data with H1 devices as well as provide parameterization and asset management of H1 devices using either the Slate software or Device Type Managers (DTMs).



The FF Link module can connect up to 32 H1 slave devices.

REQUIRED SOFTWARE

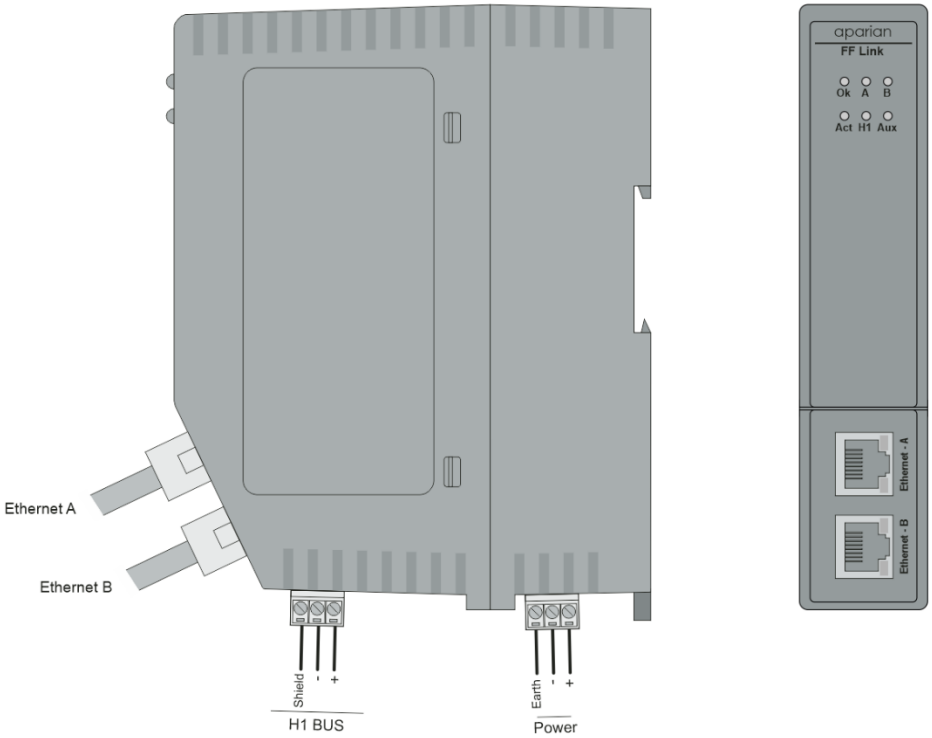
The FF Link/B module requires Aparian Slate software to setup and configure. The software installation can be found at www.aparian.com/software/slate.

MODULE INSTALLATION

The module has two Ethernet ports located at the lower front of the module.

There are also two ports at the bottom of the module for power and Foundation Fieldbus H1.
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 H1 port uses a three-way connector for H1 bus positive, negative and shield.



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 was detected. This module has two Ethernet ports A and B. Each LEDs represents each specific port.
Act	This LED will indicate the H1 **LAS** status Solid Red – A duplicate H1 node was detected. Solid Green – The local FF Link is the active LAS. Off - The local FF Link is the standby LAS.
H1	This LED indicates the **activity** of the H1 network Solid Red – There H1 Bus has been shorted when the FF Link is supplying power. Flashing Red – A corrupted or incorrect H1 packet was received. Flashing Green – A valid H1 packet was received. Off – No H1 packets are being received.
Aux	The activity LED is used for the activity on the Primary Interface (e.g. EtherNet/IP or Modbus TCP). Every time a valid packet is received from the Primary Interface the LED will toggle green. The LED will toggle red if an incorrect or corrupted packet is received.

INTERNAL POWER CONDITIONER

The module supports an internal H1 Power Conditioner capable of delivering 420 mA. It can be enabled / disabled in the software configuration.

INTERNAL H1 TERMINATION

All H1 networks require suitable AC 100 Ω terminators at the extremities (start and end point) of the communication conductor. The internal H1 terminator can be enabled / disabled in the software configuration.

ELECTRICAL AND ENVIRONMENTAL

Specification	Rating
Power requirements	Input: 22 – 26 V DC,
Power consumption	Maximum : 135 mA @ 24V => 3.3 W (No Bus Load) Maximum : 580 mA @ 24V => 14.0 W (Full Bus Load – 420 mA)
H1 Power Conditioner	Maximum: 23.0 V DC Minimum: 19.0 V DC
Temperature	-20 – 70 °C (Power Conditioner Load <= 220 mA) -20 – 60 °C (Power Conditioner Load <= 320 mA) -20 – 50 °C (Power Conditioner Load <= 420 mA)

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
FF Link User Manual FF Link Datasheet	http://www.aparian.com/products/ff-link-b
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