I90 Scanner

Quick Start Guide

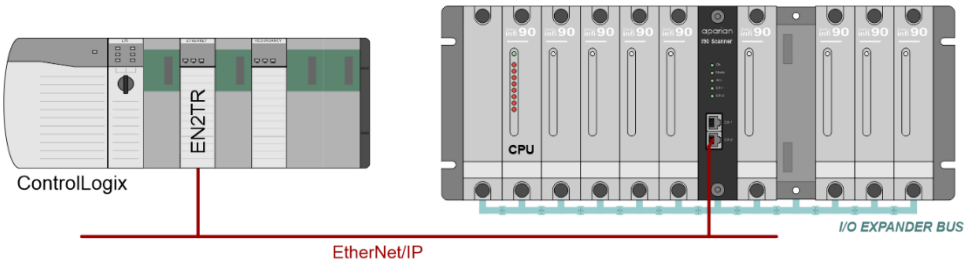
A-i90S

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 i90 Scanner allows interfacing between a Rockwell Automation Logix system and Bailey INFI 90® IO. (INFI 90® is a registered trademark of ABB Automation Inc.)

The i90 Scanner connects to a Rockwell Automation Logix Controller (e.g. ControlLogix or CompactLogix) via EtherNet/IP and plugs directly into the i90 IO rack (MMU). This allows the i90 Scanner to connect to, and control, the IO in the i90 rack(s).



REQUIRED SOFTWARE

The i90 Scanner requires Aparian Slate software to setup and configure. The software installation can be found at www.aparian.com/software/slate.

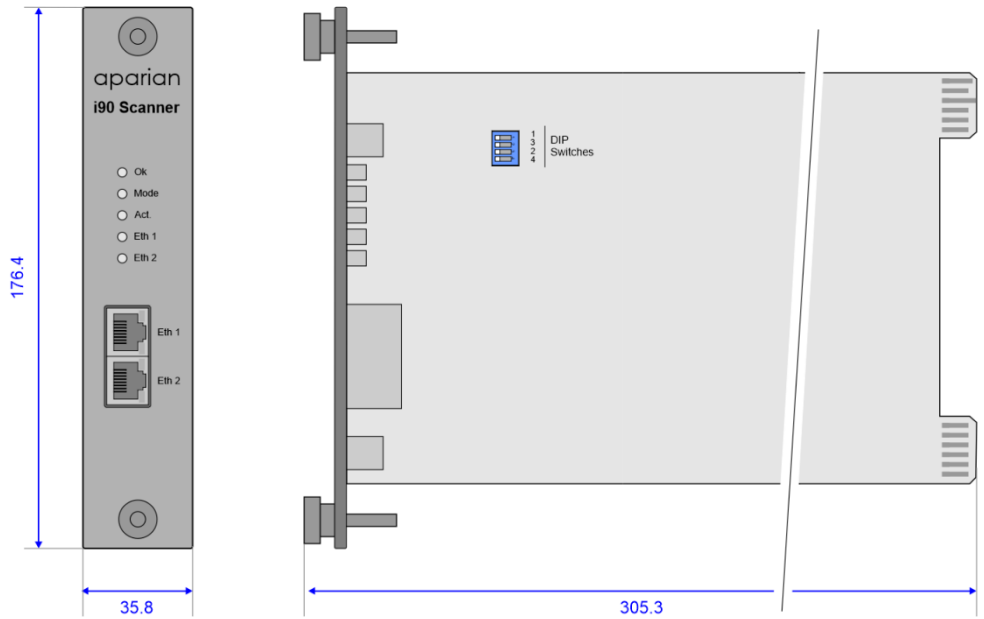
MODULE INSTALLATION

The i90 Scanner slots directly into a Bailey i90 MMU (rack). There are two Ethernet RJ45 connectors on the front of the module which are used for the Ethernet connections (linear or ring topology).

The module provides five diagnostic LEDs on the front of the module. These LEDs are used to provide information regarding the module system operation, the Ethernet interfaces, and i90 Scanner redundancy status.

The module provides four DIP switches at the top of the enclosure as shown in the Top View figure above.

DIP Switch	Description
DIP Switch 1	Used to force the module into “Safe Mode”. When in “Safe Mode” the module will not load the application firmware, but rather wait for new firmware to be downloaded. This should only be used in the rare occasion when a previous firmware update was interrupted at a critical stage.
DIP Switch 2	This will force the module into DHCP mode which is useful when the user has forgotten the IP address of the module. **NOTE:** When the i90 Scanner module is booted with this DIP Switch set, then the DHCP will also be updated in the module’s Non-Volatile (NV) memory. Thus, once the module is rebooted (without DIP2 set) it will still be in DHCP mode.
DIP Switch 3	This DIP Switch is used to lock the configuration from being overwritten by the Slate Configuration Utility. When set the Slate Configuration Utility will not be able to download to the i90 Scanner.
DIP Switch 4	When this DIP Switch is set at bootup it will force the module Ethernet IP address to 192.168.1.100 and network mask 255.255.255.0. The user can then switch the DIP switch off and assign the module a static IP address if needed. **NOTE:** When the i90 Scanner module is booted with this DIP Switch set, then the fixed IP address (192.168.1.100) will also be updated in the module’s Non-Volatile (NV) memory. Thus, once the module is rebooted (without DIP4 set) it will still have the IP address 192.168.1.100.



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.
Mode	Mode LED will provide an indication of the status of the connection to the redundant i90 Scanner partner. **Flashing Green** – The i90 Scanner is in Standby or has been disabled by the Logix output assembly. **Solid Green** – The i90 Scanner is Active and is the current i90 IO Bus master.
Act	The Activity (Act) LED will provide an indication of the IO Bus activity. **Flashing Red** – The i90 Scanner has received an invalid response from an IO module. **Flashing Green** – The i90 Scanner has received a valid response from an IO module.
Eth 1 Eth 2	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.

ELECTRICAL AND ENVIRONMENTAL

Specification	Rating
Power requirements	5V DC, 540 mA (derived from INFI 90® MMU)
Power consumption	2.7 W
Temperature	-20 – 70 °C

STUDIO 5000 CONFIGURATION

NOTE: The minimum Studio 5000 version that can be used is v21. The i90 Scanner uses an EDS AOP to support multiple Class 1 connections.

NOTE: The i90 Scanner requires **seven** Class 1 connections to the Logix controller to operate. The user will need to set this up by changing the module definition in the EDS AOP .

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.

The A-i90S is intended for installation in a Rockwell Automation Logix System.

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
I90 Scanner User Manual I90 Scanner Datasheet Example Code & UDTs	http://www.aparian.com/products/i90scanner
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

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