

PMIO Scanner

Datasheet

1756-A-PMIO

Document No. D137-009

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Revision 1.3

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1. PREFACE

1.1. ABOUT THIS DOCUMENT

This document contains the technical data for the PMIO Scanner.

The PMIO Scanner provides interfacing between a Rockwell Automation ControlLogix system and Honeywell's TDC 3000 PM/HPM/APM Input/Output Processors (IOPs).



NOTE: The Honeywell's TDC 3000 PM/HPM/APM is used to describe the Honeywell Process Manager or Honeywell Controller. Hereafter this will be referred to as the **HPM**.

The PMIO Scanner plugs directly into a ControlLogix chassis and connects directly into the TDC 3000 redundant I/O Link.

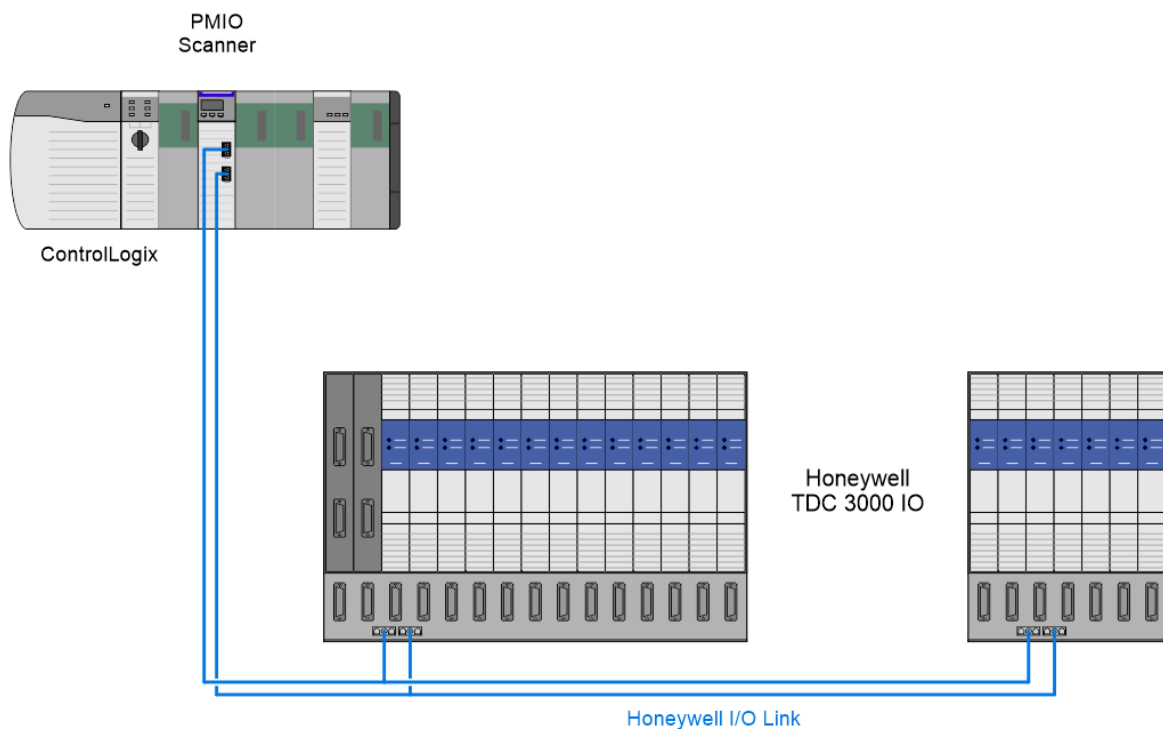


Figure 1.1 – Typical Setup



NOTE: *TDC 3000* and *Process Manager* are registered trademarks of Honeywell Inc.

1.2. FEATURES

The PMIO Scanner provides an interface between Honeywell TDC 3000 IOPs and a ControlLogix system. Up to 28 IOPs can be added per PMIO Scanner. In cases where there are more than 28 IOPs per controller, a second PMIO Scanner can be added to handle the additional IOPs.

Communication across the ControlLogix backplane utilizes six Class 1 CIP connections. Adding the PMIO Scanner in Studio 5000 is simplified by the custom AOP (Add-On-Profile).

The PMIO Scanner is configured using the Aparian Slate application which can be downloaded from www.aparian.com free of charge.

Within the Slate environment each IOP can be configured to match the application. The following IOPs are supported:

- **HLAI6** – High Level Analog Input Processor (16 channel)
- **AO16** – Analog Output Processor (16 channel)
- **DI** – Digital Input Processor (32 channels)
- **DO16** – Digital Output Processor (16 channel)
- **DO32** – Output Processor (32 channel)
- **AO8** – Analog Output Processor (8 channel)

The configuration of the IOPs and their respective IO points (channels) can be configured manually, imported from Honeywell EB (Exception Build) files, or scanned from an online Honeywell system.

To aid in migration, the PMIO Scanner provides a number of Operational Modes, including a **Shadow** mode where the PMIO Scanner can run in parallel with the HPM. In this mode the HPM is controlling the IOPs and the PMIO is listening-in and providing the input data to the ControlLogix.

1.3. ARCHITECTURE

The PMIO Scanner can be used in either a standalone or redundant ControlLogix architecture. In a standalone architecture, the PMIO Scanner can be placed in any slot in the local or remote chassis.

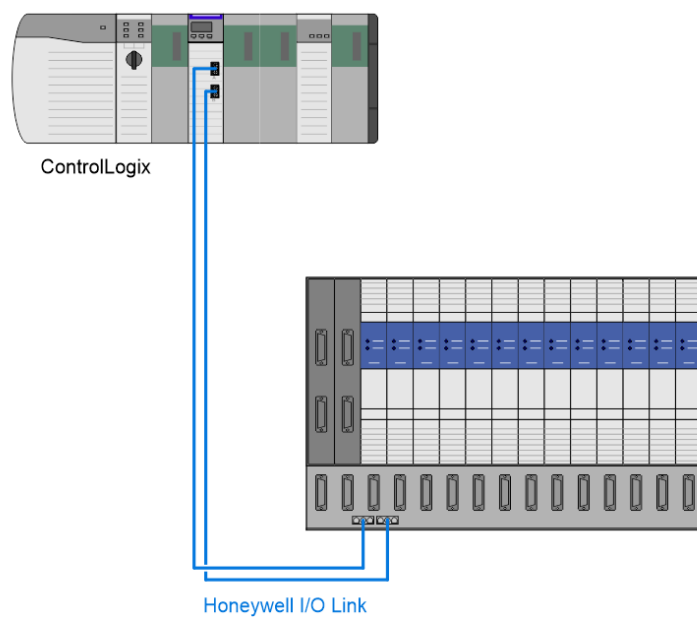


Figure 1.2 – Standalone ControlLogix Setup

In a redundant ControlLogix architecture, the PMIO Scanner must be placed in a remote chassis, that is, not in the local chassis where the Controllers reside.

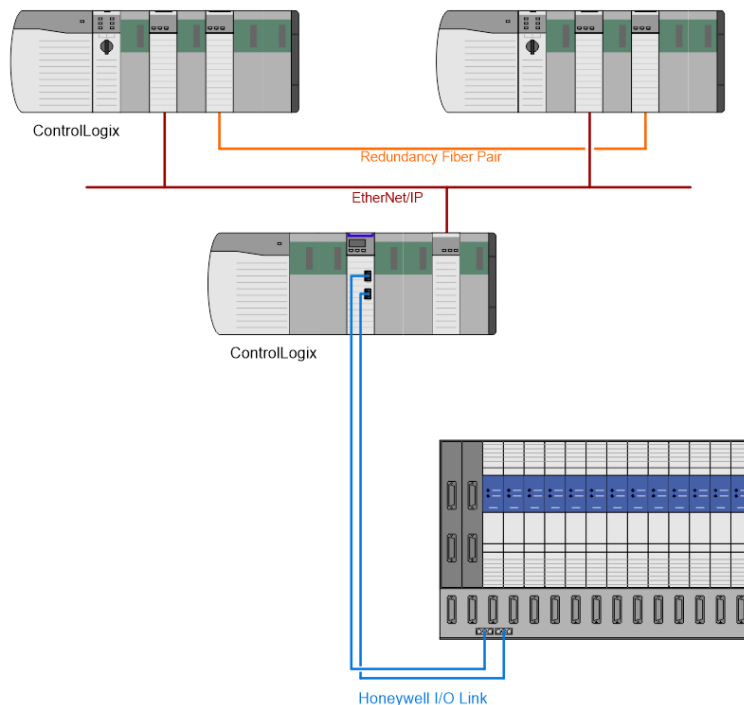


Figure 1.3 – ControlLogix Redundancy Setup

The HPM can control up to 40 Input Output Processor modules (IOPs). Since the PMIO Scanner can support up to 28 IOPs, there may be applications where the I/O Link network needs to be split and connected to two PMIO Scanners.

EXAMPLE 1 – 2 X 15-SLOT RACKS

In this example 2 x 15-slot racks are connected to a single PMIO Scanner.

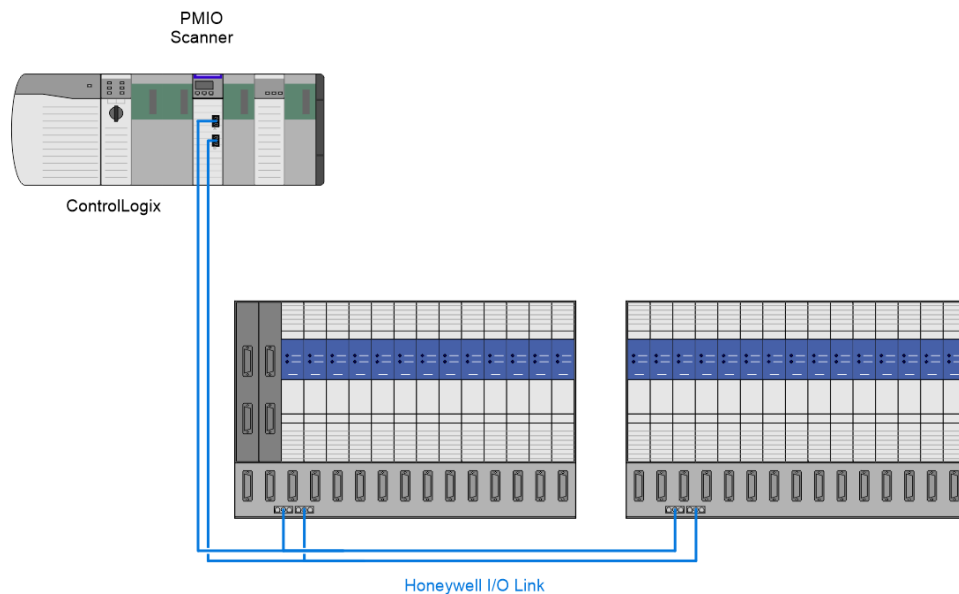


Figure 1.4. – Architecture Example 1

EXAMPLE 2 – 4 X 7-SLOT RACKS

In this example 4 x 7-slot racks are connected to a single PMIO Scanner.

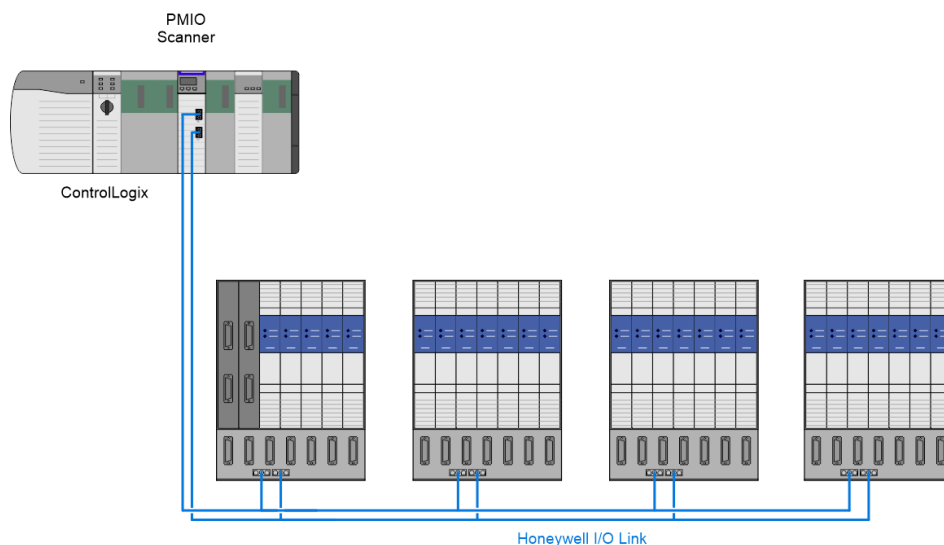


Figure 1.5. - Architecture Example 2

EXAMPLE 3 – 2 x 15-SLOT RACKS AND 1 x 7-SLOT RACK

In this example there are 2 x 15-slot racks and 1 x 7-slot rack. Since the total number of IOPs (35) exceeds the maximum PMIO Scanner limit of 28, the I/O Link needs to be segmented.

One solution is to connect the first 15-slot rack and 7-slot rack to the first PMIO Scanner, and the remaining 15-slot rack to a second PMIO Scanner.

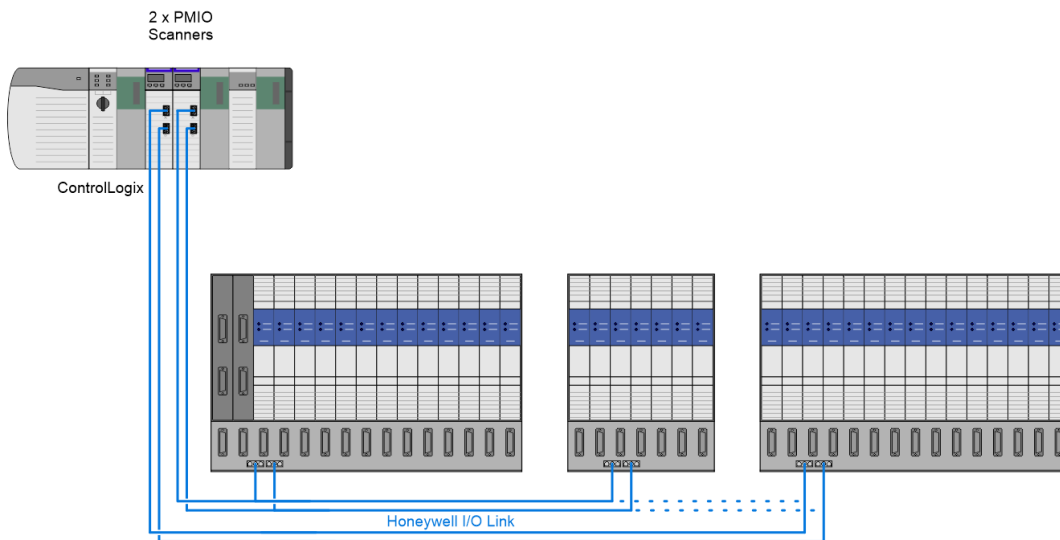


Figure 1.6. - Architecture Example 3

1.4. MIGRATION

A migration from an existing Honeywell TDC 3000 system to a hybrid ControlLogix PMIO Scanner solution is illustrated below.

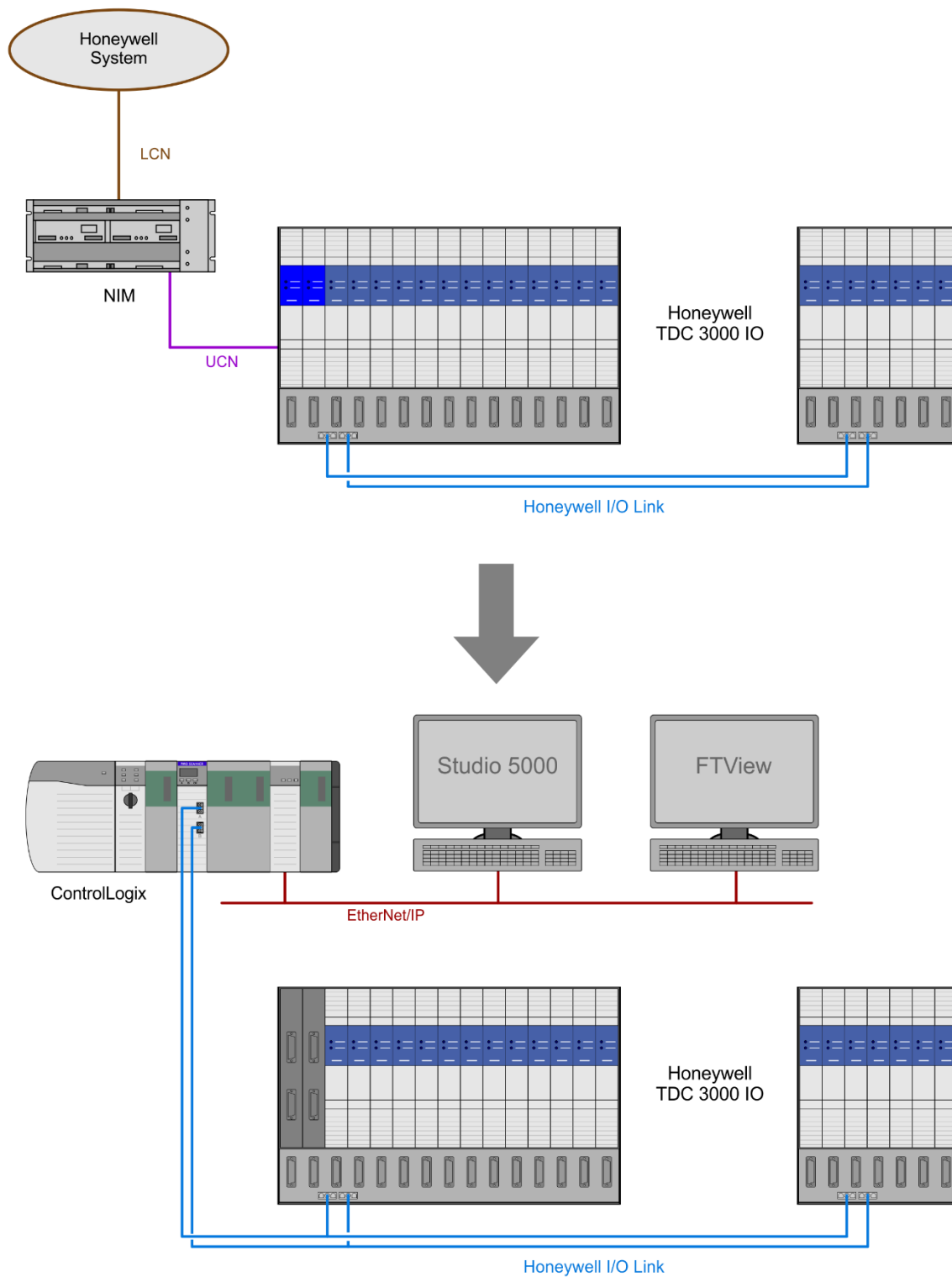


Figure 1.7. –Migration Example

The IOP configuration required by the PMIO Scanner can be composed in one of three ways (using Slate):

- Manually configured
- EB File Import
- Learn Mode (Scan Configuration)

1.5. ADDITIONAL CONSIDERATIONS

TERMS

Honeywell and Rockwell Automation (Allen-Bradley) use different terms and nomenclatures which can complicate the migration process.

NUMBERING

Honeywell numbering typically starts at 1. For example, the first IO point on an IOP will be 1. Rockwell numbering typically starts at 0. Care must be taken to adjust for this offset when viewing Honeywell IO in a Logix system.

1.6. ADDITIONAL INFORMATION

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

Resource	Link
Slate Installation	http://www.aparian.com/software/slate
Add-On Profile Installation	http://www.aparian.com/software/aop
ControlLogix Installation	https://literature.rockwellautomation.com/idc/groups/literature/documents/in/1756-in621_-en-p.pdf

Table 1.1. - Additional Information

1.7. SUPPORT

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

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

Table 1.2. – Support Details

2. TECHNICAL SPECIFICATIONS

2.1. ELECTRICAL

Specification	Rating
Backplane Current Load	450 mA @ 5 VDC 2 mA @ 24 VDC
Enclosure rating	IP20, NEMA/UL Open Type
Temperature	-20 – 70 °C
Earth connection	Yes, terminal based
Emissions	IEC61000-6-4
ESD Immunity	EN 61000-4-2
Radiated RF Immunity	IEC 61000-4-3
EFT/B Immunity	EFT: IEC 61000-4-4
Surge Immunity	Surge: IEC 61000-4-5
Conducted RF Immunity	IEC 61000-4-6

Table 2.1 - Electrical specification

2.2. I/O LINK

Specification	Rating
Connector	2 x 3-way terminals
Conductor	24 – 18 AWG
Termination	124 Ω (Can be enabled/disabled)
Redundant I/O Link	Yes

Table 2.2 – I/O Link specification

2.3. CERTIFICATIONS

Certification	Mark
CE Mark	
RoHS2 Compliant	RoHS2
UL Mark File: E494895	 CLASS 1, DIV 2, GROUPS A, B, C, D
ATEX	 II 3 G Ex nA IIC T5 X Gc -20°C ≤ Ta ≤ 70 °C
UKCA	UK CA

Table 2.3 – Certifications