



Where Automation Connects.



## Wireless I/O System

May 6, 2016

**QUICK START GUIDE**

## **Your Feedback Please**

We always want you to feel that you made the right decision to use our products. If you have suggestions, comments, compliments or complaints about our products, documentation, or support, please write or call us.

## **How to Contact Us**

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# 1 Overview

This guide provides basic information to assist you in quickly getting started. Go to <http://www.prosoft-technology.com/> to download the full User Guide for detailed installation and other helpful information. Advanced User Interface software is also available at the site for download.

**Warning 1:** Ensure installation of the system meets applicable state and national electrical code requirements. The installation of the system should only be performed by a qualified installer or a factory representative.

**Warning 2:** To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

**Caution:** The system must be installed within an enclosure that requires a tool to access. This is to prevent inadvertent disconnection of any of the power wiring, signal wiring or communication cables.

**Caution:** EXPLOSION HAZARD. Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

**Caution:** EXPLOSION HAZARD. Do not remove or replace fuse when energized.

**Note:** This equipment is designed for use in Class I, Division 2 (Zone 2) or non-hazardous locations only.



## 2 Basic Setup

1. Attach DataRail™ and End Terminal Bracket to 35 mm x 7.5 mm DIN Rail. (Attach components from left to right without a gap)



2. Attach Radio module and connect antenna. (Lightning arrestor is optional)



3. Attach I/O module(s) and set slave IDs. When using more than a 5-module combination per radio, use the Power Budget Calculator to determine maximum I/O module capacity. <http://psft.com/A5D>



4. Cover unused DataRail slots.

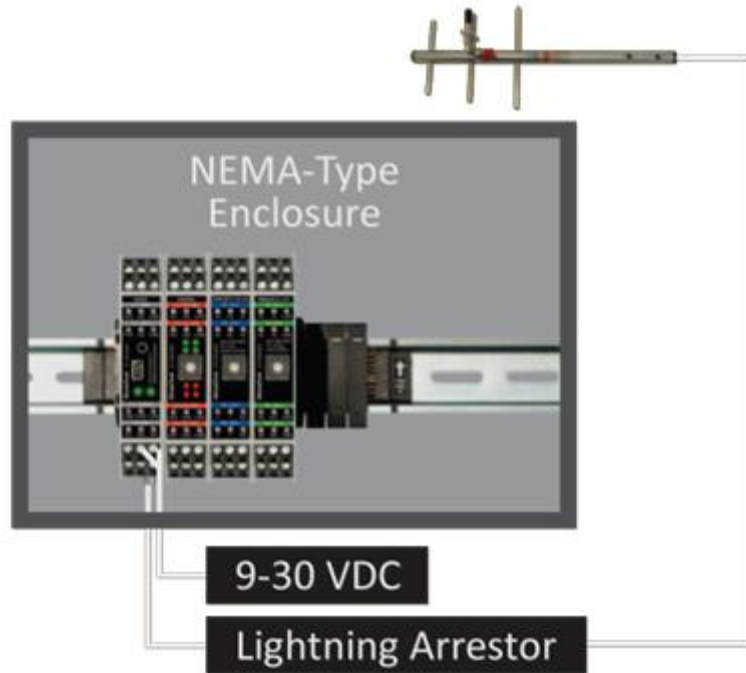


5. Terminate I/O and power supply as required. Use solid or stranded wire (AWG) 28-12. Always disconnect power when attaching or detaching I/O module(s) to or from DataRail to avoid damage.

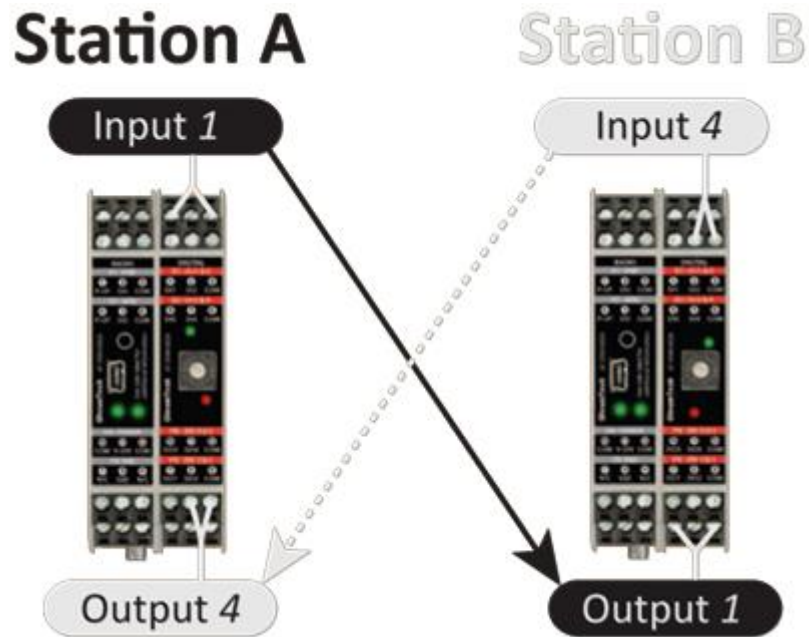
**Note:** The power leads to the 9-30 VDC power terminals should be kept to a maximum of 1 meter in length.



## 2.1 Typical Installation



## 2.2 I/O Chain Diagram

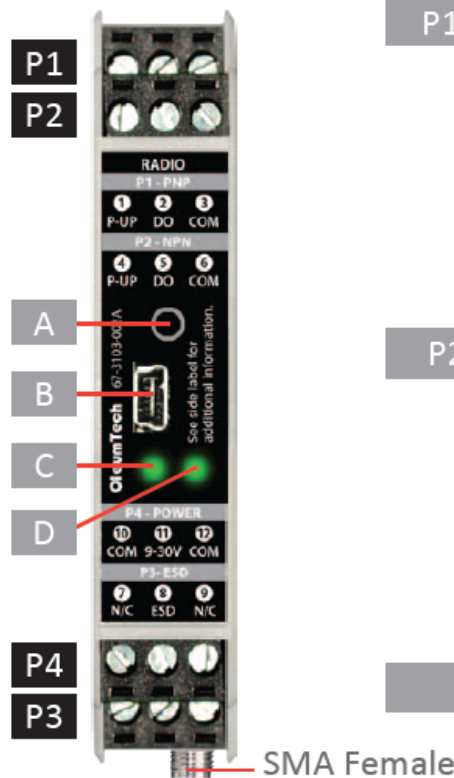


## 2.3 Power

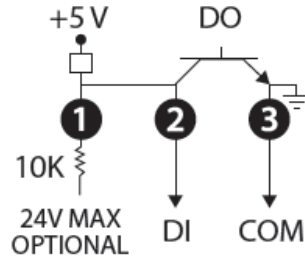
TYPE	POWER CONSUMPTION
RADIO	35 mA @ 12 VDC AVG (10% Duty Cycle)
DIGITAL	26 mA @ 12 VDC MAX
4-20 mA	83 mA @ 12 VDC MAX
0-10 V	58 mA @ 12 VDC MAX

### 3 Specifications

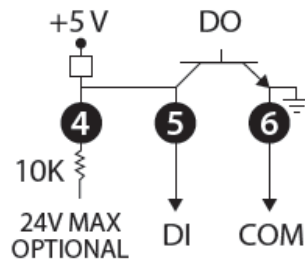
#### 3.1 Radio



#### P1 - I/O LINK ALARM - NPN



#### P2 - RF LINK ALARM - NPN

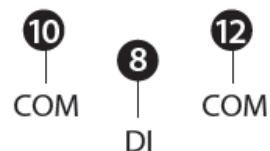


#### P4 - POWER



Reverse Polarity Protected

#### P3 - ESD - DRY CONTACT INPUT



Allows Manual FailSafe Override of Local Outputs

#### A - Tx Button (1 Sec / Turbo)

Press and hold for 1 second to switch between modes

#### B - Mini USB



Avoid ESD Damage  
Connect USB to PC Before Connecting Mini-USB

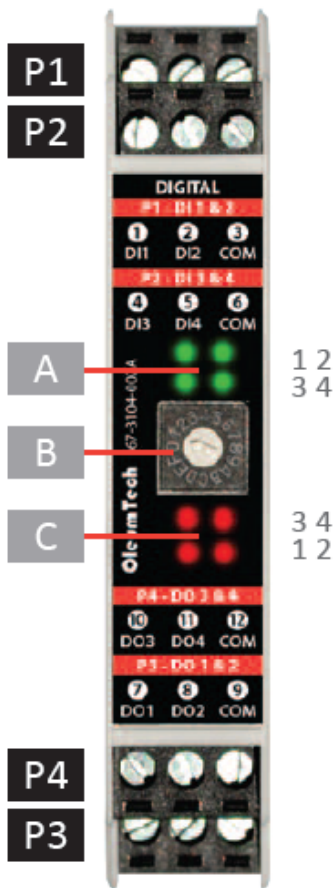
#### C - RF LED

Green - RF Traffic  
Yellow Flashing - RF Failure  
Yellow Solid - ESD Active


#### D - I/O LED

Green - Modules Detected  
Red - I/O Link Failure

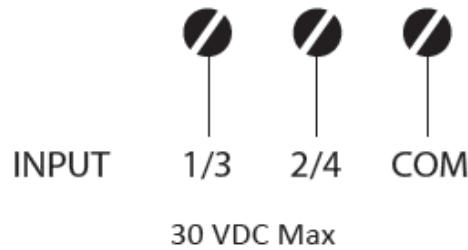
### 3.2 Digital



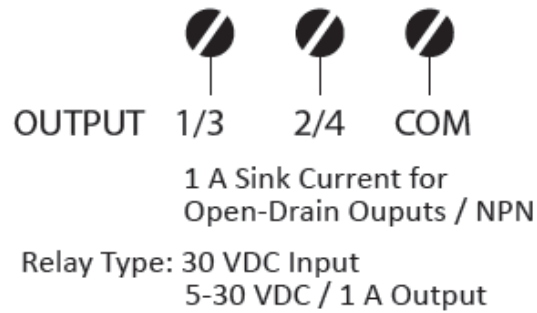
- A - Input LEDs  
Illuminated When Active
- B - 16-Position ID Switch  
For Matching Module ID
- C - Output LEDs  
Illuminated When Active

 All inputs and outputs on I/O Modules provide field isolation. Please wire accordingly.

#### P1/P2 - INPUTS

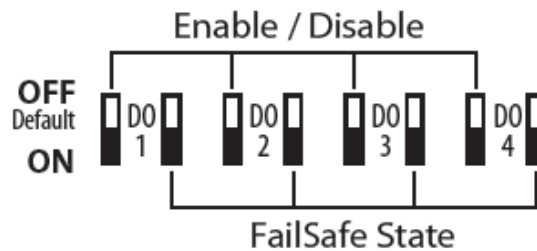


#### P3/P4 - OUTPUTS



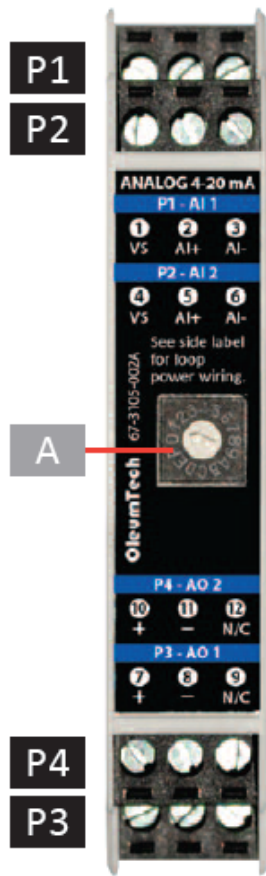
#### FAILSAFE OPERATION

##### DIP SWITCHES



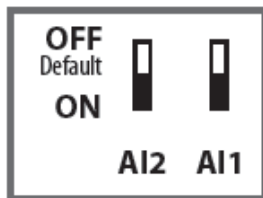
- When Enabled:**  
FailSafe Mode selected for Output. Select On or Off.
- When Disabled:**  
Normal Mode selected for Output. Outputs last received value.
- FailSafe State:**  
Turns output to on or off when FailSafe enabled.

### 3.3 Analog 4-20 mA

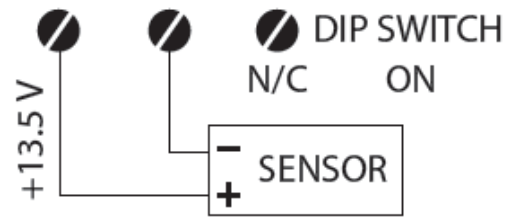


A - 16-Position ID Switch  
For Matching Module ID

B - Dip Switches  
Internal/External Loop Power

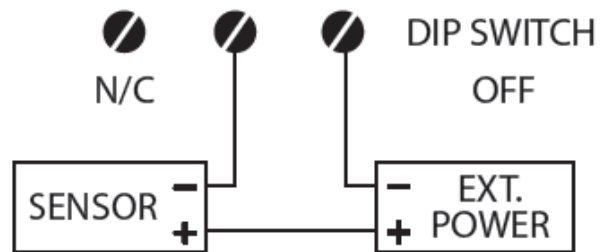


#### P1/P2 - INT. LOOP POWER

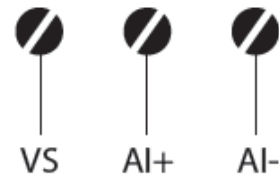


5 Modules max per Radio when using Internal Loop Power

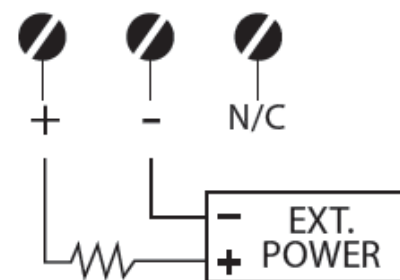
#### P1/P2 - EXT. LOOP POWER



#### P1/P2 - INPUTS



#### P3/P4 - OUTPUTS



$$VS/External\ Power\ (min) = 10 + Max\ Current\ (Amp) * R_{loop}$$

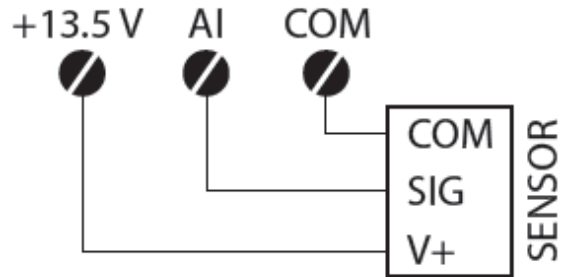
$$R_{loop} = Total\ Loop\ Impedance$$

### 3.4 Analog 0-10 V

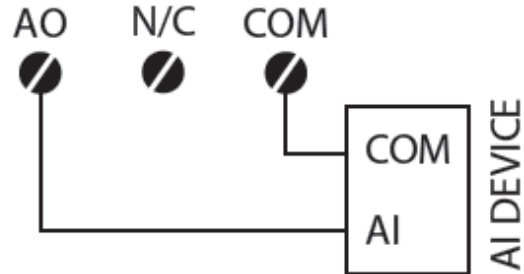


A - 16-Position ID Switch  
For Matching Module ID

#### P1/P2 - INPUTS



#### P3/P4 - OUTPUTS



#### WARNING

Always disconnect power when attaching or detaching I/O Module(s) to or from DataRail to avoid damage.