



**Where**

**Automation**

**Connects**

## Point-to-Point Wireless I/O



If you need to wire I/O from point A to point B and do not want to run long wires, our new Wireless I/O system is one of the easiest and most cost-effective ways to replace wire.

*Our Wireless I/O is a secure, reliable, point-to-point, bidirectional wireless system that can be deployed within a few hours rather than months.*

### Replace that wire with Wireless I/O

- No trenching
- No conduit
- No permits
- No programming

### Features

- No software configuration needed, making it fast and easy to deploy
- Single power termination per station saves wiring time
- Factory paired, secure radio system keeps network protected
- RF and I/O fail detection and reporting
- Conformal coating
- Response time down to 100 ms

For more information on how easy and cost-effective our new Wireless I/O system really is, watch our video at [psft.com/A4X](http://psft.com/A4X)

# Technical Specifications

## Hardware & System

<b>Unique System Features</b>	Bi-Directional Wireless Communication System; No Software or Programming Required
<b>Maximum Network Capacity<sup>1</sup></b>	Max Capacity Depends on I/O Combination; Use Power Budget Calculator psft.com/ <b>ASN</b>
<b>DIN Rail Mounting Compatibility</b>	35 mm x 7.5 mm DIN Rail
<b>DataRail™ (Included with Radio Kit)</b>	6.1" / 156 mm - Supports Up Five (5) I/O Modules; Other Lengths Also Available
<b>I/O Module Slave ID Selection</b>	16-Position Rotary Switch
<b>DataRail Mounting Hardware</b>	4-Claw Attachment to 35 mm DIN Rail w/ End Terminal Bracket
<b>Built-In Mounting Hardware</b>	Spring-Loaded Clip-On System
<b>Wire Gauge</b>	Solid / Stranded (AWG) 28-12 Gauge
<b>Wire Rating</b>	UL:300V RMS, 80° C and 300V, 105° C; CSA:300V RMS, 105° C
<b>Warranty</b>	2-Year Limited

<sup>1</sup>When using more than a 5-Module Combination per Radio, use the Power Budget Calculator to determine maximum I/O Module capacity.

## Radio Module 900 MHz or 2.4 GHz

<b>Frequency</b>	902-928 MHz or 2.4 GHz License-Free ISM Band
<b>Antenna Connector Type</b>	SMA (Female Connector)
<b>Default Transmit Speed/Update</b>	1 Second
<b>Turbo Tx Speed Based on Number of I/O Modules</b>	1=100 ms, 2-3=200 ms, 4=250 ms, 5-6=333 ms, 7-11=500 ms, 12-16=1 second
<b>Outdoor/Line of Sight Max Range (900MHz@250mW/2.4GHz@63mW)</b>	900 MHz: 4 Miles (6.4 Km) / 2.4 GHz: 5.7 Mile (9.2 Km) / 2.4 GHz @10mW: 2500 ft (750 m)
<b>Indoor/Urban Max Range (900MHz@250mW/2.4GHz@63mW)</b>	900 MHz: 1000 ft (305 m) / 2.4 GHz: 300 ft (90 m) / 2.4 GHz International: 200 ft (60 m)
<b>Maximum Transmit Power (Adjustable by Software)</b>	900 MHz: 24 dBm (250 mW) / 2.4 GHz: 18 dBm (63 mW) / 2.4 GHz International: 10 dBm (10 mW)
<b>Receiver Sensitivity</b>	900 MHz: -101 dBm / 2.4 GHz: -100 dBm
<b>Spread Spectrum</b>	900 MHz: FHSS / 2.4 GHz DSSS
<b>RF Security</b>	128-bit AES
<b>Controlled Local Shutdown (ESD)</b>	Yes, via Provided Dry Contact Input
<b>RF Link Alarm Digital Output</b>	10-Second RF Timeout Trigger (NPN)-User Selectable
<b>I/O Link Alarm Digital Output</b>	I/O Mismatch, Bus or Module Failure (NPN)
<b>RF Link Diagnostics (Left LED)</b>	Green = RF Traffic / Yellow = RF Link Fail
<b>I/O Link Diagnostics (Right LED)</b>	Green=I/O OK, Modules Detected/Red=I/O Link Fail
<b>Supply Voltage Range</b>	9 - 30 VDC (± 5 %)
<b>Reverse Polarity Protection</b>	Yes
<b>Advanced User Interface Features</b>	Test RSSI, Tx Power Adjustment, Force Local Output(s), Set FailSafe Parameters, and Additional Diagnostics
<b>Power Consumption</b>	35 mA @ 12V AVG (10% Duty Cycle)
<b>Kit Packaging Dimensions</b>	(WxHxD) 5.5 x 10.1 x 2.8-in / 140 x 257 x 72mm
<b>Net Dimensions</b>	0.7 x 3.9 x 4.5-in / 17.5 x 99 x 114mm
<b>Kit Packaging Weight</b>	1.3 lbs / 590 g
<b>Net Weight (Single Radio)</b>	0.3 lbs / 136 g

## Safety & Compliance

<b>Operational Temperature</b>	-40 °C to 85 °C / -40 °F to 185 °F
<b>Ambient Temperature</b>	-20 °C to 85 °C / -4 °F to 185 °F
<b>Humidity</b>	0 to 99 %, Non-condensing
<b>Degree of Protection/Housing Type</b>	IP20 / Plastic
<b>Hazardous Locations Classifications</b>	UL Class I; Division 2 (Zone 2), Pending
<b>RF Emissions</b>	FCC Part 15/IC

## Ordering Information

<b>Radio Kit</b>	US/N.Am: 900 MHz BM-0900-RM1K; Glob (ex. Eur): 2.4 GHz BM-2400-RM1K; Aus: 900 MHz BM-0915-RM1K; Eur: 2.4GHz BM-2410-RM1K; Eur: 868 MHz BM-0868-RM1K
<b>Radio Kit Content</b>	2x Radio Modules (Factory Paired); 2x DataRails, 4x End Terminal Brackets, 2x DataRail Covers, USB to Mini USB Cable, Quick Start Guide, Technician's Screwdriver
<b>Digital I/O</b>	1-Pack: BM-D100-144S; 2-Pack: BM-D100-144D
<b>4-20 mA I/O</b>	1-Pack: BM-A420-122S; 2-Pack: BM-A420-122D
<b>0-10 V I/O</b>	1-Pack: BM-A010-122S; 2-Pack: BM-A010-122D

## Analog 0-10 V Module

<b>Number of Inputs</b>	2 (24-bit Resolution)
<b>Number of Outputs</b>	2 (16-bit Resolution)
<b>Isolation Voltage</b>	2500 V r.m.s.
<b>Signal Range</b>	0 VDC to 10 VDC (10.5 V Max)
<b>Accuracy</b>	< 0.1 % of Full Scale
<b>FailSafe Modes v</b>	Last Known Value (Def.) or Any Value on Scale <sup>2</sup>
<b>AI Input Impedance (loop)</b>	40K Ohm
<b>AO Output Impedance</b>	10 Ohm
<b>Power Consumption</b>	Typical: 40 mA / Max: 45 mA @12 VDC
<b>Packaging Dimensions</b>	(WxHxD) 4.8 x 5.1 x 2.8-in / 123 x 129 x 72mm
<b>Net Dimensions</b>	0.7 x 3.9 x 4.5-in / 17.5 x 99 x 114mm
<b>Packaging Weight</b>	Single: 0.5 lbs / 227 g; Double: 0.8 lbs / 363 g

## Analog 4-20 mA Module

<b>Number of Inputs</b>	2 (24-bit Resolution)
<b>Number of Outputs</b>	2 (16-bit Resolution)
<b>Isolation Voltage</b>	2500 V r.m.s.
<b>Signal Range</b>	4 mA to 20 mA
<b>Accuracy</b>	< 0.28 % of Full Scale
<b>Internal Loop Power</b>	+13.5 VDC
<b>FailSafe Modes</b>	Last Known Value (Def.) or Any Value on Scale <sup>2</sup>
<b>AI Input Impedance (loop)</b>	128 Ohm
<b>AO Terminal Voltage Range</b>	10 VDC Min. / 31.5 VDC Max.
<b>Power Consumption</b>	Typical: 50 mA / Max: 75 mA @12 VDC
<b>Packaging Dimensions</b>	(WxHxD) 4.8 x 5.1 x 2.8-in/123 x 129 x 72mm
<b>Net Dimensions</b>	0.7 x 3.9 x 4.5-in / 17.5 x 99 x 114mm
<b>Packaging Weight</b>	Single: 0.5 lbs / 227g; Double: 0.8 lbs / 363g
<b>Net Weight (Single)</b>	0.3 lbs / 136 g

## Digital Module

<b>Number of Inputs</b>	4
<b>Number of Outputs</b>	4
<b>Isolation Voltage</b>	2500 V r.m.s.
<b>Input Voltage Range</b>	3-30 VDC
<b>Input Voltage Threshold</b>	1 Signal ("H"): > 2.3 VDC; 0 Signal ("L"): < 1.1 VDC
<b>Output Rating</b>	1 A Sink Current for Open-Drain Outputs/NPN
<b>FailSafe Modes</b>	On, Off, or Last Known Value (Default)
<b>Green LEDs</b>	Line-Driven Input Indicators
<b>Red LEDs</b>	Output Indicators
<b>Power Consumption</b>	Typical: 18 mA / Max: 26 mA @12 VDC
<b>Packaging Dimensions</b>	(WxHxD) 4.8 x 5.1 x 2.8-in/123 x 129 x 72mm
<b>Net Dimensions</b>	0.7 x 3.9 x 4.5-in / 17.5 x 99 x 114mm
<b>Packaging Weight</b>	Single: 0.5 lbs / 227 g; Double: 0.8 lbs / 363 g
<b>Net Weight (Single)</b>	0.3 lbs / 136 g

<sup>2</sup> Requires Advanced User Interface to set a specific value on Analog I/O Module.



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