RAD-IO2-AIN Analog Input Module

8 Isolated Banks of High-Performance Analog Inputs

**Rugged, Isolated, and Programmable**

The RAD-IO2 Analog Input (AIN) module is a ruggedized, high-performance solution for data acquisition, designed for seamless integration with your bench or your data logging fleet. The RAD-IO2 family provides an isolated analog interface via USB port or CAN network, ensuring signal integrity in demanding environments.

The RAD-IO2 AIN simplifies complex testing with 8 isolated banks in one compact, rugged module capable of operating from -40°C to 85°C. It offers 2.5 kV isolation for PC protection and high-speed sampling for precision data acquisition.

You can enjoy flexible control with programmable I/O and the power to drive loads directly with high-current output of up to 6A per channel. Additionally, it supports cross-platform development with open-source APIs for Python, C and C++.

Key Features

- **Isolated Banks:** Includes 8 isolated banks with 2.5 kV channel-to-channel and channel-to-USB isolation.
- **Dual-Range Inputs:** Each bank features two sets of inputs—low voltage and high voltage. One set can be accessed at a time as a channel.
- **Precision Measurement:**
    - **Low Range:** ±5V, ±4V, ±2V, ±1V, ±500mV, and ±250mV.
    - **High Range:** ±45V, ±36V, ±18V, ±9V, ±4.5V, and ±2.2V.
- **High Impedance:** >800k Input impedance for minimal signal loading.
- **Superior Noise Rejection:** 50Hz/60Hz common mode rejection > 105dB.
- **Integrated Filtering:** Built-in second-order 150Hz filter for stable data acquisition.
- **Daisy-Chaining:** Connect multiple units to a PC or RAD-IO2-CANHUB to scale channel counts.
- **Intrepid Device Pairing:** Easily paired with Intrepid devices with USB Host support.
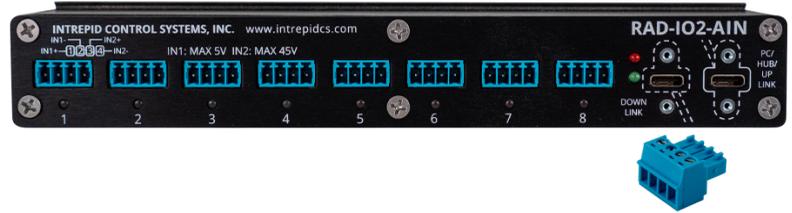
- **Standardized Connectivity:** Utilizes TBP03P3-350-04E 4-pin plug-in terminal blocks for secure and easy wiring.

The RAD-IO2 Ecosystem: Modular Pairing

The RAD-IO2-AIN is part of a larger family of modules designed to be daisy-chained to meet your specific requirements. You can pair this device with:

- **RAD-IO2-TC:** 8 isolated channels for K-type thermocouples.
- **RAD-IO2-DIO:** 12 digital/analog inputs and 8 digital outputs.
- **RAD-IO2-AOUT:** 8 isolated banks for analog output/sensor simulation.
- **RAD-IO2-PWRRLY:** 8 isolated SPDT electro-mechanical relays (5A @ 250VAC).
- **RAD-IO2-CANFD-HUB:** Powers the modules and connects any RAD-IO2 device to any CAN/FD network.

Product Specifications:

- **Inputs:** 8 Isolated Banks (Dual-range High/Low voltage)
- **Input Ranges (Low):** ±250mV to ±5V
- **Input Ranges (High):** ±2.2V to ±45V
- **Isolation**: 2.5 kV channel-to-channel and channel-to-USB
- **Input Impedance:** >800k Ohms
- **Operating Temperature:** -40°C to 85°C
- **Dimensions (L x W x H)**: 208.8 mm x 80.0 mm x 31.9 mm (8.22″ x 3.15″ x 1.26″)
- **Open Source APIs:** Python, C and C++
- **OS Support:** Windows, Linux and MacOS

Note: You can easily pair these modules with other Intrepid products that include a USB Host port.
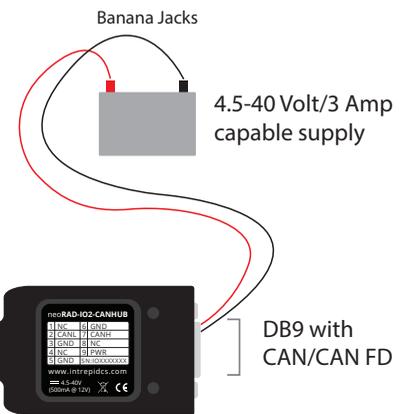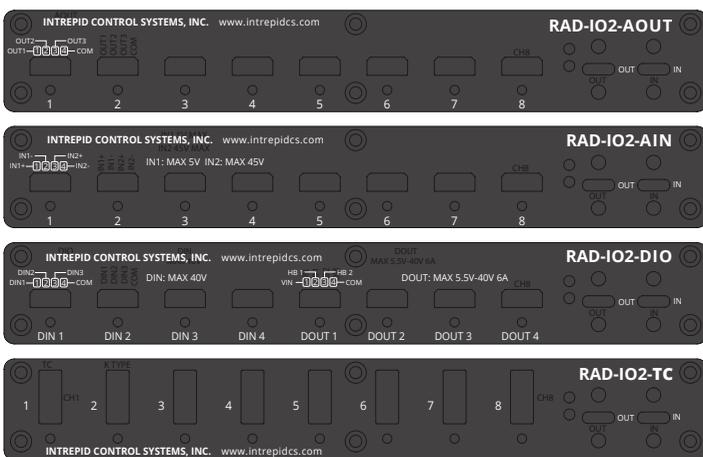
Possible Configurations:

Single RAD-IO2 unit to PC:

Multiple RAD-IO2 units to PC:
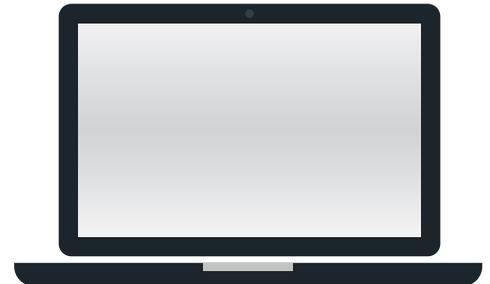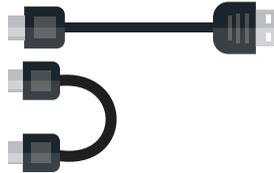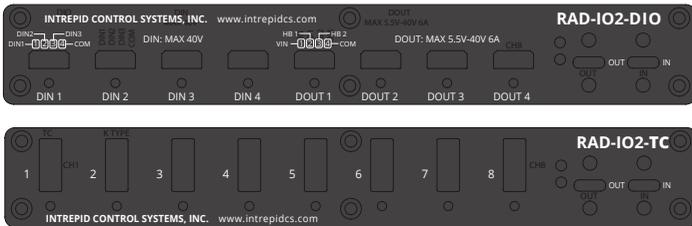
Single or multiple RAD-IO2 units to RAD-IO2-CANFD-HUB:

Banana Jacks

4.5-40 Volt/3 Amp capable supply

DB9 with CAN/CAN FD

RAD-IO2-CANFD-HUB
2A Max, up to 4 RAD-IO2

Note: When daisy chaining RAD-IO2 devices connected, a powered USB hub is required, or the RAD-IO2-CANFD-HUB.
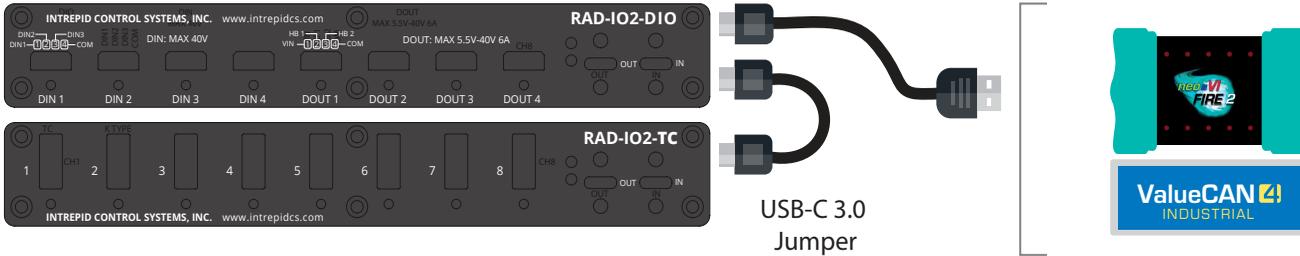
INTREPID
CONTROL SYSTEMS
www.intrepidcs.com

RAD-IO2-AIN - Analog Input Module

Single or multiple RAD-IO2 units to Intrepid Devices:

USB-C 3.0
Jumper

Select Intrepid devices with
USB Host Port feature

Ordering Information

Part Number	Description
RAD-IO2-AIN	8 Isolated Banks of High-Performance Analog Inputs

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