

Overview

The IA-BPFO2 amplifier is a two-channel fiber-optic pressure amplifier designed for use with Opsens pressure catheters and compatible iWorx data acquisition systems with BNC inputs, including:

IX-404: Standalone 4-channel data recorder (4 BNC inputs)

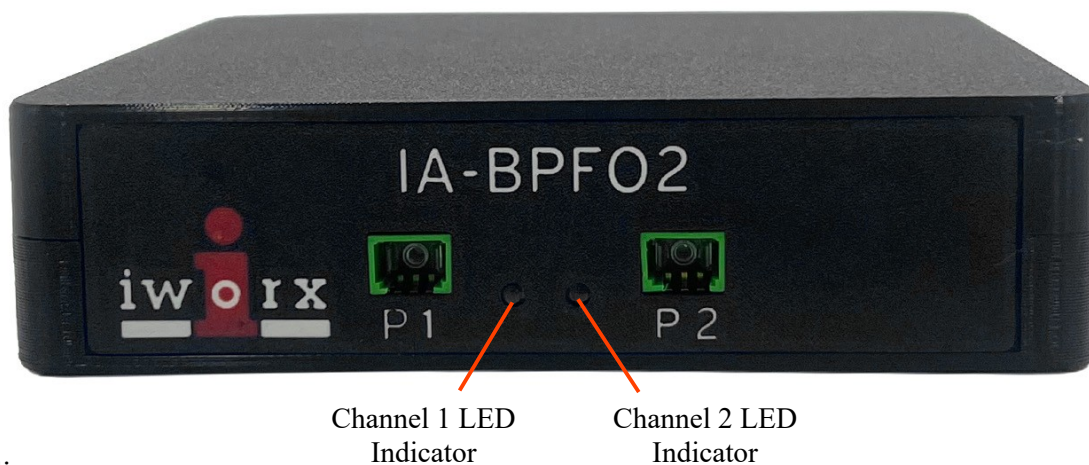
RA-834: Multi-channel, expandable system supporting additional measurements such as ECG, EMG, flow, temperature, etc.

The IA-BPFO2 conditions and converts catheter output into analog voltage signals that can be recorded and analyzed using LabScribe software. The sensor outputs approximately 1V per 100 mmHg.

Hardware

Power the IA-BPFO2 using a USB-C cable.

Front Panel: Channel 1 input (P1) and Channel 2 input (P2)



LED Indicators

No LED	No power
Slow pulsing (every 2-3 seconds) yellow	No sensor connected
Fast pulsing yellow	Sensor is connected but no optic or signal is lost
Solid yellow	Sensor is connected but no zero performed
Steady green	Sensor is ready, zero performed
Alternating flashing yellow and green	System ping to identify the system

Note: A zero has already been performed on the amplifier prior to shipment. A solid yellow light indicates the zero may not have been performed correctly.

Back Panel: USB-C Power Input, Channel 1 BNC Analog Output (OUT1), Channel 2 BNC Analog Output (OUT2), Optional Ground Port



Connecting to an iWorx Recorder

Using the IX-404

Use a BNC to BNC cable (C-BNC) to connect the OUT1 to BNC Input 1 on the IX-404.

Use a second BNC to BNC cable to connect OUT2 to Input 2 on the IX-404, if using two sensors.

Using the RA-834

Use a BNC-BNC cable (C-BNC) to connect the OUT1 to a BNC input on the RA-834 (A1).

Use a second BNC-BNC cable (C-BNC) to connect the OUT1 to a BNC input on the RA-834 (A2), if using two sensors.

Connecting Opsens Catheters

1. Remove dust caps from the fiber-optic catheter ports.
2. Carefully insert the catheter into the input port.
3. Verify the IA-BPFO2 LEDs indicate active signal detection. The LED should indicate steady green.

Software Configuration (LabScribe)

1. Open LabScribe
2. Click Settings – Load Group
3. Click on the Research Settings folder.
4. Load the Research Settings group that corresponds to your recorder.
5. Click Settings – select the IA-BPFO2 settings.

Catheter Calibration

Use the BP-Calkit to perform a two point calibration on each channel.

Instructions can be found here: [Catheter Calibration](#)

Video: <https://youtu.be/6kIBLKmijwE>

Specifications

Electrical	Supply voltage USB 2.0 powered, 5 V Current rating 500 mA
Dimensions & Weight	Size (L × W × H) 123 mm × 91 mm × 54 mm Weight < 300g
Input Specification	Power & communication USB-C, 5 V, 500 mA Optical input 2 × SC-APC connectors for OpSens sensors
Output Specification	Analog output 2 × 0–5 V analog outputs
Environmental Conditions	Intended environment: Indoor use only
Altitude	Storage & transport 50–114 kPa, up to 3000 m Operation 70–114 kPa, up to 3000 m
Temperature	Storage & transport -25°C to 60°C (OEM-DCP) and -18°C to 60°C (OEM-DCT) Operation 15°C to 30°C
Relative Humidity	Storage & transport 10–85% non-condensing Operation 30–75% RH
Pollution Degree of Intended Environment	Pollution degree 2