



# In-line Piezoresistive Sensor Signal Converter

Powered by ICP® Sensor Signal Conditioners

## Highlights

- Compatible with Bridge and MEMS Sensors
- Provides Regulated 5 VDC Excitation
- Operates from Any ICP® Sensor Signal Conditioner
- Fixed Gain
- DC Coupled Output

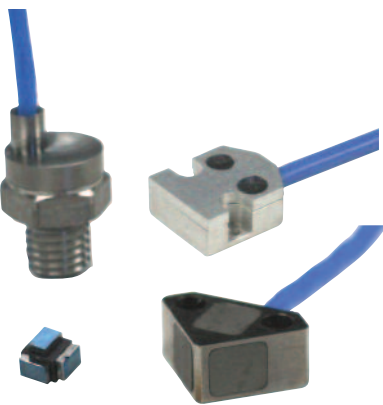


The 427A Series of in-line signal converters represent a revolutionary advancement in sensor signal conditioning. A patent is pending on the circuit, which bridges the simplicity of the two-wire interface used by ICP® sensor signal conditioners with the versatility of the DC coupled output from piezoresistive sensors.

The 427A Series takes the conventional current supply of any ICP® sensor signal conditioner and provides a highly regulated 5V excitation to any Wheatstone bridge transducer. It then amplifies the differential output of the bridge with wide-band frequency response and adds that DC coupled output to the ICP output bias voltage. For the first time with ICP circuitry, it is possible to make truly static measurements.

Each model in this series has a different gain and is also available in a version with TEDS capability. Optional, filtering can also be added to any of the models in this series.

As with all PCB® instrumentation, this model is complemented with toll-free application assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.



Samples of Compatible MEMS Sensors



CE



**In-line ICP-Powered Bridge Signal Converters [1]**

Model Number	427A01	427A02	427A03	427A04	427A05
Gain	200 V/V	100 V/V	50 V/V	20 V/V	10 V/V
Input Range	+/-25 mV	+/-50 mV	+/-100 mV	+/-250 mV	+/-500 mV
Output Voltage Range	+/-5.0 V	+/-5.0 V	+/-5.0 V	+/-5.0 V	+/-5.0 V
Frequency Response (+/-5%)	DC to 2.5k Hz	DC to 5k Hz	DC to 10k Hz	DC to 25k Hz	DC to 50k Hz
Temperature Range (Operating)	-65 to +250 °F -54 to +121 °C	-65 to +250 °F -54 to +121 °C	-65 to +250 °F -54 to +121 °C	-65 to +250 °F -54 to +121 °C	-65 to +250 °F -54 to +121 °C
Excitation to Sensor	+5 VDC	+5 VDC	+5 VDC	+5 VDC	+5 VDC
Input Impedance (minimum) [3]	300 Ohms	300 Ohms	300 Ohms	300 Ohms	300 Ohms
Constant Current Excitation	2.2 to 20 mA	2.2 to 20 mA	2.2 to 20 mA	2.2 to 20 mA	2.2 to 20 mA
Excitation Voltage	20 to 28 VDC	20 to 28 VDC	20 to 28 VDC	20 to 28 VDC	20 to 28 VDC
Input Connector	4-pin jack	4-pin jack	4-pin jack	4-pin jack	4-pin jack
Output Connector	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack
Size (Length x Diameter)	3.5 in x 0.52 in 88.9 mm x 13.2 mm	3.5 in x 0.52 in 88.9 mm x 13.2 mm	3.5 in x 0.52 in 88.9 mm x 13.2 mm	3.5 in x 0.52 in 88.9 mm x 13.2 mm	3.5 in x 0.52 in 88.9 mm x 13.2 mm
Weight	1.0 oz 28.3 gm	1.0 oz 28.3 gm	1.0 oz 28.3 gm	1.0 oz 28.3 gm	1.0 oz 28.3 gm
<b>Additional Accessories</b>					
Input Mating Connector(s)	AY	AY	AY	AY	AY
<b>Additional Versions [2]</b>					
TEDS addressable	T427A01	T427A02	T427A03	T427A04	T427A05
<b>Notes</b>					
[1] Patent Pending. [2] Filtered or AC-coupled versions are also available, contact factory. [3] For ICP® current = 20 mA, see manual.					



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AS9100 CERTIFIED ■ ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

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TM-ELE-427A-0210

Printed in U.S.A.

**PCB® Piezotronics Test & Measurement** Electronics product offering includes signal conditioners and cabling for ICP® and charge output piezoelectric, MEMS-based, and full-bridge strain gage sensors. Battery-powered and line-powered signal conditioners are available, with a wide range of options, including gain, filtering, TEDS and integration functions. Stock cables for quick delivery and custom cables to meet any connection requirement are also available. Additional Test & Measurement products include sensors for acoustics, force, load, strain, torque, pressure, acceleration, shock, and vibration. PCB® products are backed by our **Total Customer Satisfaction** policy, which guarantees your satisfaction or your money refunded.

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