



Industrial Pressure Transducer Low Power Option P100 Series



FEATURES:

- Amazing: 4-28 VDC Input; 0-5 VDC Output; regulated
- Reliable bonded foil strain gage technology
- Gage, sealed gage, absolute, vacuum or compound pressure
- Wide variety of pressure connection options
- Rugged stainless steel construction
- 0-50 thru 0-10,000 psi pressure range
- 3 wire amplified voltage output
- Reverse polarity protection
- EMI / RFI filter protection
- Field-adjustable span and zero
- CE mark

DESCRIPTION:

Applications

The Trans Metrics' P100 series pressure transducer with low power option is designed for applications which require a high output signal combined with high reliability, durability and accuracy.

The L circuit option can work from an amazingly low 4 VDC input and still supply a 0-5 VDC regulated output. Ideal for applications requiring low power consumption and current draw such as computer I/O, solar power and battery power applications.

Applications can be static or dynamic.

Design

P100 models incorporate three major design elements that allow them to measure pressure accurately and reliably: bonded foil strain gages configured in a Wheatstone bridge (for temperature stability), precision integral electronics (for bridge excitation and signal amplification), and stainless steel construction (for durability and corrosion resistance).

Pressure References

P100 models are available in three pressure references: *gage* (referenced to local atmospheric pressure), *sealed gage* (referenced to standard atmospheric pressure at sea level) and *absolute* (referenced to a vacuum).

All P100's, regardless of reference type, can have a vacuum applied to the pressure port resulting in a negative (-) output.

Accuracy Classes

Three accuracy classes are offered (see 'SPECIFICATION' section for detailed information on models P115, P125 and P150). Other specifications are available upon request.

Calibration and Compensation

Trans Metrics Inc. individually calibrates and temperature compensates each pressure transducer. Transducers are calibrated against standards traceable to the National Institute of Standards and Technology. A certificate of calibration is supplied with each unit.

Options/Modifications*

Numerous options and modifications are available and are designated by an option number (xxx) after the model number. Selected options appear in the 'OPTION / PRICING' Guide. If a desired option is not listed, or if multiple options are required, please call the factory to discuss your requirements.

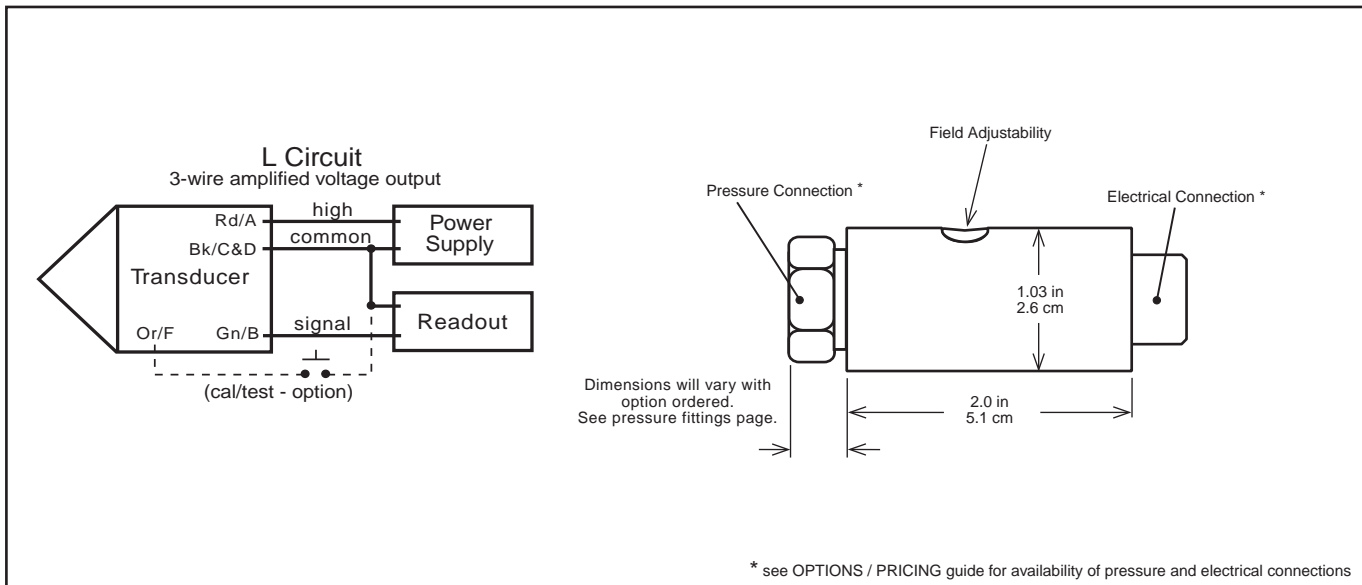
Ordering

Specify series & accuracy (P115, P125, P150 - see back), circuit type (L), pressure connection (A, B, etc...), electrical connection (A, B, etc...), options (xxx), pressure range (xxxxx psi - can be units other than psi) pressure reference (g - gage, s - sealed gage, a - absolute).

Example: P115LGA005 3000 psia

See the P100 'OPTION / PRICING' Guide for detailed information.

* Some options or combination of options may alter transducer performance and/or mechanical characteristics.



SPECIFICATIONS:

Model:	P115 P125 P150	Electrical Protection:	Reverse Polarity on Input Overvoltage Protection Clamping Diodes on Signal
Pressure Range:	0-50 psi thru 0-10,000 psi 0-3 bar thru 0-700 bar	Excitation:	4 to 28 VDC (L)
Output Range:	0-5 VDC $\pm 0.5\%$ * (L)	Current Consumption: (Typical)	2 mA (L)
Zero Balance: (Field-Adjustable $\pm 5\%$ typical)	$\pm 0.5\%$ (P115) $\pm 1.0\%$ (P125, P150)	Resolution:	Continuous
Static Error Band: (BSL - Nonlinearity, Hysteresis, and Nonrepeatability combined)	$\pm 0.15\%$ FSO (P115) $\pm 0.25\%$ FSO (P125) $\pm 0.50\%$ FSO (P150)	Natural Frequency:	Approximately 6 KHz for 50 psi range rising to approx. 230 KHz for 10,000 psi range
Nonrepeatability:	$\pm 0.1\%$ FSO (P115, P125) $\pm 0.2\%$ FSO (P150)	Rise Time: (10-90%)	Less than 1 ms typical
Thermal Zero Shift:	$\pm 0.005\%$ FS0/ $^{\circ}$ F (P115) $\pm 0.009\%$ FSO/ $^{\circ}$ C $\pm 0.01\%$ FS0/ $^{\circ}$ F (P125) $\pm 0.018\%$ FSO/ $^{\circ}$ C $\pm 0.02\%$ FS0/ $^{\circ}$ F (P150) $\pm 0.036\%$ / $^{\circ}$ C	Proof Pressure:	3 times rated pressure or 20,000 psi, whichever is less
Thermal Sensitivity Shift:	$\pm 0.005\%$ / $^{\circ}$ F (P115) $\pm 0.009\%$ / $^{\circ}$ C $\pm 0.01\%$ / $^{\circ}$ F (P125) $\pm 0.018\%$ / $^{\circ}$ C $\pm 0.02\%$ / $^{\circ}$ F (P150) $\pm 0.036\%$ / $^{\circ}$ C	Burst Pressure:	5 times rated pressure or 25,000 psi, whichever is less
Operating Temperature Range:	-40 $^{\circ}$ F to 185 $^{\circ}$ F -40 $^{\circ}$ C to 85 $^{\circ}$ C	Material: sensor / housing	15-5 PH S.S. / 300 series S.S.
Compensated Temperature Range:	0 $^{\circ}$ F to 160 $^{\circ}$ F -20 $^{\circ}$ C to 70 $^{\circ}$ C	Weight:	Approximately 3.5 oz. or 100 g
Max. Safe Exposure Temp.:	+250 $^{\circ}$ F, +125 $^{\circ}$ C	Identification:	Model, range, serial #, connections, manufacturer & country of origin are inscribed on the case.
EMI Filters: (Min. Insertion Loss)	10 MHz 5dB 10 GHz 70dB		

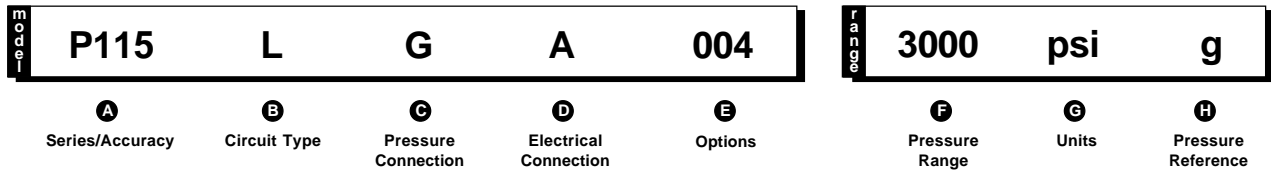
Specifications are subject to change without notice

Trans Metrics' P100 series model numbers are constructed as a series of numbers and letters that identify the accuracy, electrical circuit, pressure connection, electrical connection, and any options or features which may be unique to a particular pressure transducer.

The model number below features **A** a P100 series pressure transducer with P115 specifications, **B** 0-5 VDC output, **C** 7/16-20 female thread and **D** a PTIH-10-6P electrical connection. Any other options selected **E** would be assigned a three (3) digit number which would be added to the end of the model number.

Pressure selections should be specified including the **F** pressure range, **G** units and **H** pressure reference.

example:



The chart below will assist you in selecting a transducer configuration and obtaining pricing information.

Model Selections	
A	Series / Accuracy
	P115 P100 Series with ±0.15% SEB BSL
	P125 P100 Series with ±0.25% SEB BSL
	P150 P100 Series with ±0.50% SEB BSL
B	Circuit Type
	L 0-5 VDC Signal Output (Low Current)
C	Pressure Connection
	B 7/16-20 37° male (for ¼" tube)
	C 7/16-20 fem. MS33649-4 (for ¼" tube)
	G 7/16-20 SAE female (for ¼" tube)
	H 1/4-18 NPT female
	I 1/4-18 NPT male
	J 1/8-27 NPT male
	K 1/2-20 UNF male
	P 1/2-18 NPT male
	T 1/4-28 Flow-Thru
	V 1/4 in. VCR fitting (female)
	W 1/4 in. VCR fitting (male)
D	Electrical Connection
	A PTIH-10-6P (mate #80002, sold separately \$29)
	B PCIH-10-6P (mate #80001, sold separately \$48)
	C Cable 1 meter 28 AWG PVC
	D Cable 1 meter 24 AWG Teflon®
	F Flying Leads 1 meter 24 AWG Teflon®
	I Mini-Hirschmann (DIN 43650-C, included)
E	Common Options / Modifications
	004 Shunt Calibration (N/A on T Circuit)
	005 Shunt Calibration (80% ±1%) (N/A on T Circuit)
	071 Integral snubber (male threads only)
	### Additional cable lengths / types
	### Special wiring (specify)

Pressure Selections	
F	Pressure Range*
	min. 0 - 50 psi (0 - 3 bar)
	< > we accommodate any range in between
	max. varies with fitting
	compound and vacuum available
G	Units [Available Pressure Range]
	psi 50 psi thru 10,000psi
	bar 3 bar thru 700 bar
	kg/cm² 3 kg/cm² thru 700 kg/cm²
	KPa 300 KPa thru 70,000 KPa
	in Hg 100 in Hg thru 20,000 in Hg
	other consult factory
H	Pressure Reference
	gage Reference to local atmospheric pressure
	absolute * Reference to a vacuum
	sealed * Reference to standard atmospheric pressure at sea level

* Add \$25 for ranges 500 psi and below
 * Ranges above 10,000 psi - SEE P100 with high pressure option specification sheet
 SEB: Static Error Band
 BSL: Best Straight Line

Continued >>

If you need an option not listed above, please consult factory for availability.