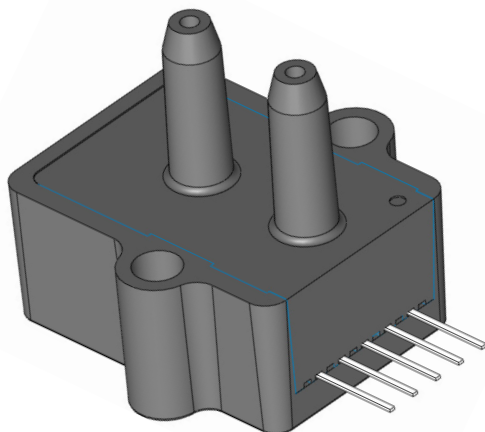


## TLAX - 4 to 20 mA Low Pressure Transmitter Series



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### Introduction

The TLAX Series 4 to 20 mA Output Transmitter is based on All Sensors' CoBeam<sup>2</sup>™ Technology. This reduces package stress susceptibility, resulting in improved overall long term stability. The superior dual-die technology also vastly improves position sensitivity compared to single die devices. This technology breakthrough advances the state of the art for piezoresistive pressure sensors beyond what has been achieved for low pressure sensing using silicon based strain technology.

The TLAX series is fully digitally compensated for the effects of pressure and temperature change. It can be used as a gauge pressure transmitter if the low-side is left open to the atmosphere.

<https://www.allsensors.com/products/tlax-series>



# TLAX SERIES 4-20mA LOW PRESSURE TRANSMITTER

## Features

- Pressure Ranges from 0.5 inH<sub>2</sub>O to 150 PSI
- 4-20mA, 2-Wire Current Loop Output
- Temperature Ranges: 0° to 50°C
- Calibrated Zero, Span and Thermal Effect
- 12 to 32 V<sub>DC</sub> Supply Voltage
- Reverse Polarity Protection

## Applications

- HVAC
- Industrial Controls
- Environmental Controls
- Air Sampling Equipment
- Portable / Handheld Equipment

## Wetted Media

- Silicon
- RTV
- Gold
- Ceramic
- Epoxy
- Nylon Plastic
- Aluminum

Pressure Sensor Ratings		Environmental Specifications	
Supply Voltage VS	+12 to +32 V <sub>DC</sub>	Temperature Ranges	
		Operating	0° C to 50° C
		Storage	-20 to 70° C
Lead Temperature, max (soldering 2-4 sec.)	270°C	Humidity Limits (non condensing)	0 to 95% RH
		Wetted Media:	Dry air or inert non-conductive gases



## TLAX Series Pressure Ranges

Pressure Range <sup>1</sup>					Proof Pressure <sup>2</sup>		Burst Pressure <sup>3</sup>		Common Mode Pressure <sup>4</sup>	
CODE	Pmin inH2O	Pmax	Pressure Mode	kPa	inH2O	kPa	inH2O	kPa	inH2O	kPa
F50D	-0.5	0.5	Differential	0.1	270	67	415	103	416	104
L01D	-1	1	Differential	0.2	270	67	415	103	416	104
L02D	-2	2	Differential	0.5	270	67	415	103	416	104
L04D	-4	4	Differential	1.0	300	75	500	124	416	104
L05D	-5	5	Differential	1.2	300	75	550	137	416	104
L10D	-10	10	Differential	2.5	350	87	550	137	416	104
L20D	-20	20	Differential	5.0	350	87	550	137	416	104
L30D	-30	30	Differential	7.5	350	87	550	137	416	104
L01G	0	1	Gage	0.2	270	67	415	103	-	-
L02G	0	2	Gage	0.5	270	67	415	103	-	-
L04G	0	4	Gage	1.0	300	75	500	124	-	-
L05G	0	5	Gage	1.2	300	75	550	137	-	-
L10G	0	10	Gage	2.5	350	87	550	137	-	-
L20G	0	20	Gage	5.0	350	87	550	137	-	-
L30G	0	30	Gage	7.5	350	87	550	137	-	-
CODE	Pmin PSI	Pmax	Pressure Mode	kPa	psi	kPa	psi	kPa	psi	kPa
001D	-1	1	Differential	7	10	69	15	103	15	104
005D	-5	5	Differential	34	10	69	15	103	15	104
015D	-15	15	Differential	103	45	310	75	517	45	310
030D	-30	30	Differential	207	90	621	150	1,034	75	517
060D	-60	60	Differential	414	120	827	200	1,379	100	689
001G	0	1	Gage	7	10	69	15	103	-	-
005G	0	5	Gage	34	10	69	15	103	-	-
015G	0	15	Gage	103	45	310	75	517	-	-
030G	0	30	Gage	207	90	621	150	1,034	-	-
060G	0	60	Gage	414	120	827	200	1,379	-	-
100G	0	100	Gage	690	200	1,379	250	1,724	-	-
150G	0	150	Gage	1034	200	1,379	250	1,724	-	-

**Note 1:** Pressure ranges in Pa and kPa are expressed as an approximate value.

**Note 2:** Differential Proof Pressure: The maximum pressure which may safely be applied to one port of the product for it to remain in specification once pressure is returned to the operating pressure range. Exposure to higher pressures may cause permanent damage to the product.

**Note 3:** Differential Burst Pressure: The maximum pressure that may be applied to one port of the product without causing escape of pressure media. Product should not be expected to function after exposure to any pressure beyond the burst pressure.

**Note 4:** Common Mode Pressure: The maximum pressure that can be applied simultaneously to both ports of a differential pressure sensor without causing escape of pressure media. Product should not be expected to function after exposure to any pressure beyond the this maximum pressure.

## Performance Characteristics for TLAX series 4-20mA Low Pressure Transmitter

Pressure measurements are with positive pressure applied to PORT B

Parameters	Min	Typ	Max	Units	Notes
Full Scale Span (FSS)	-	16	-	mA	1
Full Scale Output (FSO)	-	20	-	mA	1
Offset	-	4	-	mA	1
Accuracy	-	±0.5	-	%FSS	2
Total Error Band (TEB)					3
@25°C	-	-	±1.0	%FSS	
0°C to 50°C	-	-	±2.0	%FSS	
Offset Long Term Drift (1 year)	-	±1.0	-	%FSS	-
Current Consumption	-	-	22	mA	-
Reverse Polarity Protection	-	YES	-		-
Response Time (0-100 %FSO)	-	10	-	sec	-

### Specification Notes

NOTE 1: Performance Parameters are measured with 24V<sub>DC</sub> and R<sub>LOAD</sub> of 250Ω.

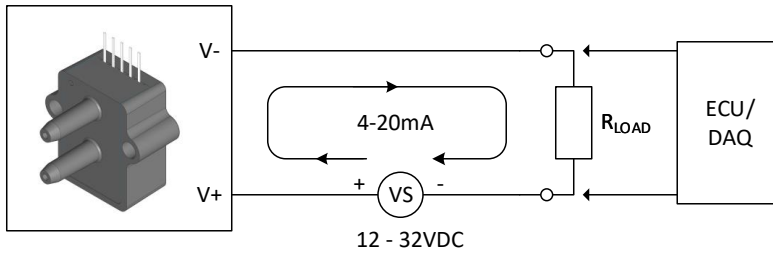
NOTE 2: Accuracy includes linearity (BFSL), hysteresis & repeatability at 25°C

NOTE 3: Total accuracy is the combined error from offset and span calibration, non-linearity, pressure hysteresis, and temperature effects. Calibration errors include the deviation of offset and full scale from nominal values.



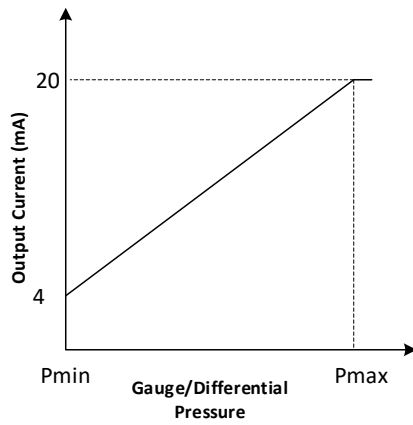
## Application Circuit

### WIRING



$$MAX R_{LOAD} = \frac{VS - 12V}{20mA}$$

### TRANSFER FUNCTION GRAPH



How to Order

For example, **TLAX-L01D-A5AAF-C-NC** defines an All Sensors' TLAX Series 4-20 mA transmitter, 1 inH<sub>2</sub>O differential pressure range, A5AAF package, compensated temperature range from 0°C to 50°C, no parylene coating, 4-20 mA 2-wire current loop output.

Product Series

TLAX 4-20mA Transmitter

Pressure Ranges

Differential		Gage	
F50D	± 0.5 inH2O	L01G	0 to 1 inH2O
L01D	± 1 inH2O	L02G	0 to 2 inH2O
L02D	± 2 inH2O	L04G	0 to 4 inH2O
L04D	± 4 inH2O	L05G	0 to 5 inH2O
L05D	± 5 inH2O	L10G	0 to 10 inH2O
L10D	± 10 inH2O	L20G	0 to 20 inH2O
L20D	± 20 inH2O	L30G	0 to 30 inH2O
L30D	± 30 inH2O	001G	0 to 1 psi
001D	± 1 psi	005G	0 to 5 psi
005D	± 5 psi	015G	0 to 15 psi
015D	± 15 psi	030G	0 to 30 psi
030D	± 30 psi	060G	0 to 60 psi
060D	± 60 psi	100G	0 to 100 psi
		150G	0 to 150 psi

Package Selection

A Package

A5AAF

Coating

N	No Parylene
P	Parylene

Compensated Temperature Range

C	0°C to 50°C
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Output Interface

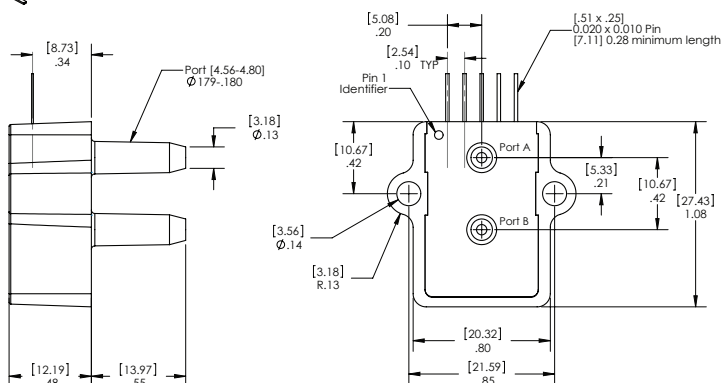
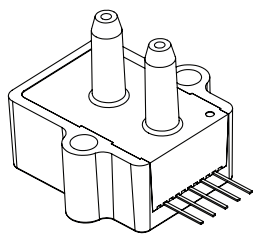
C	2-wire 4-20mA
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TLAX - L01D - A5AAF - C - N C



## Package Drawing

### A5 Package



Pin	Definition
1	V+ (Vs)
2	Do Not Connect
3	Do Not Connect
4	Do Not Connect
5	V- (Gnd)

#### NOTES

1) Dimensions are in inches [mm].

## ALL SENSORS

TITLE: A-Series Package

SIZE FILE NAME  
**A** A5AAF Package

## Product Labeling



Company

Part Number

Lot Number

Example Device Label

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TLAX SERIES 4-20MA LOW PRESSURE TRANSMITTERS