Model 204

High Accuracy Gauge & Absolute Pressure Transducer

Features

- ±0.073% FS accuracy
- 0-5 VDC
- Fast response, less than 1 ms
- Low output noise
- Solid one-piece stainless steel sensor
- Meets CE conformance standards
- Ideal for high accuracy applications
- Excellent thermal effects
- Highly configurable design

Applications

- Hight accuracy general purpose
- R&D test and measurement
- Vacuum systems
- Dynamometers
- Engine test cells

Setra's Model 204 is the "standard" for the measuring gauge and absolute pressure in the test and measurement industry. Decades worth of installations have helped the 204 build a reputation of reliability and remains the trusted choice for critical installations. The 204 delivers a high performance ±0.073% FS accuracy over a wide temperature range which outperforms competitive transducers in the mid to high pressure market. The 204 offers multiple options to meet both simple and demanding application requirements that are not provided on competitive transducers.

Long-term reliability

The Model 204 pressure transducer uses a simple and reliable variable capacitance sensor design. The 204 provides repeatable and dependable readings in rugged applications through its efficient sensor design.

Accuracy & performance

The Model 204 is a test and measurement grade transducer for mid to high pressure ranges. The 204 covers a large selection of pressure ranges with ±0.073% FS accuracy over a wide temperature range. The Model 204 provides response time of <1 ms, exceeding the performance of many competitors.

Customization is standard

Unlike many competitors, the 204 offers many mechanical and electrical options that can be integrated into existing system designs. These options reduce engineering design time, allowing for earlier project completion and quicker time to market.

1 YEAR WARRANTY

USA Made

RoHS

CE

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Specifications

Performance data

Accuracy RSS[1] (at constant temp)	±0.11% FS ±0.14% for 10,000 PSIG
Non-linearity (BFSL)	±0.07% FS
Hysteresis	0.08% FS 0.1% for 10,000 PSIG
Non-repeatability	0.02% FS

Physical description

Pressure fittings	1/4" -18 NPT internal
Excitation	22 to 30 VDC, 24 VDC (normal) Reverse excitation protected
Output	0 to 5 VDC[5]
Power consumption	10 mA (0.25 Watts)
Output impedance	<10 Ohms
Output noise	<100 Microvolts RMS (0 Hz to KHz)

Environmental data

Operating temperature[3] °F(°C)	0 to +175 (-18 to +80)
Storage temperature °F(°C)	-65 to +250 (-55 to +120)
Vibration	2g from 5 Hz to 500 Hz
Shock	50g
Acceleration	10g maximum

Thermal effects[2]

Zero/ span shift %FS/100°F (%FS/50°C)	<±0.4 (<±0.36)
Span shift %FS/100°F (%FS/50°C)	<±0.3 (<±0.27)
Static acceleration effect	<0.05 PSI/G (Typ.) (Pressure port axis)
Volume increase due to FS pressure	5 x 10-5 cu. in.
Warm-up shift	+0.5% total (±0.1% residual shift after 5 minutes)

[1]RSS of Non-Linearity, Hysteresis and Non-Repeatability
[2]Units calibrated at nominal 70°F
[3]Approximately 50% higher for 0-14.7 psiv range
[4]Calibrated into 50K ohm load. Operable into 5000 ohms or greater.
[5]Zero output factory set to within ±10mV. Span (Full Span) output factory set to within ±10mV.
Note: *Both output leads are normally 1.6 VDC above the negative excitation lead at zero pressure. Either negative excitation or negative output should be connected to case (ground). But both leads cannot be connected to case (ground). Unit is calibrated at the factory with the negative excitation connected to case (ground.)*
[6]Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.

Specifications subject to change without notice.

Proof pressure

Pressure ranges 0 PSIA or 0 PSIG to:	Proof pressure (PSI)	Burst pressure rating (PSI)	Approx. natural frequency (KHz)
25	50	150	2.0
50	75	200	2.5
100	150	500	3.5
250	375	1000	5.0
500	750	1500	8.0
1000	1250	3000	11.0
3000	3750	4500	15.0
5000	6000	7500	25.0
10,000 PSIG only	11,000	12,500	30.0
0-14.7 PSIV	50	150	2.0

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Ordering information

Example part number: 2391005PB1F2S02WNN

Model 239, ±5 PSID pressure range, 1/8" NPT Int. fitting, ±2.5 VDC, 2' Cable Length, ±0.14% FS Accuracy, No Options.

2	0	4	1	☐	☐	☐	☐	☐	2	F	☐	☐	☐	☐	☐	☐	☐
[1]				[2]					[3]		[4]		[5]		[6]	[7]	

[1]

Model	
2041	Model 204

[2]

Pressure range					
Gauge pressure		**Absolute pressure**		**Differential pressure**	
025PG	0-25 PSIG	***025PA***	0-25 PSIA	***025PD***	0-25 PSID
050PG	0-50 PSIG	***050PA***	0-50 PSIA	***050PD***	0-50 PSID
100PG	0-100 PSIG	***100PA***	0-100 PSIA	***100PD***	0-100 PSID
250PG	0-250 PSIG	***250PA***	0-250 PSIA	***250PD***	0-250 PSID
500PG	0-500 PSIG	***500PA***	0-500 PSIA	***500PD***	0-500 PSID
10CPG	0-1000 PSIG	***10CPA***	0-1000 PSIA	***10CPD***	0-1000 PSID
30CPG	0-3000 PSIG	***30CPA***	0-3000 PSIA	***30CPD***	0-3000 PSID
50CPG	0-5000 PSIG	***50CPA***	0-5000 PSIA	***50CPD***	0-5000 PSID
10kPG	0-10000 PSIG				
Z01PV	0-14.7 PSI (Vacuum)				

[3]

Pressure fitting	
2F	1/4" NPT Int.

[4]

Output	
2B[2]	0-5 VDC
2Y	0-2.5 VDC
27	1-5 VDC
28	1-6 VDC
2C	0-10 VDC
2U	1-10 VDC

[5]

Termination	
02	2' Cable
10	10' Cable
25	25' Cable
Y1	2' Red cable 9-conductor 30 AWG

[6]

Accuracy	
W	±0.11% FS
9	±0.073% FS

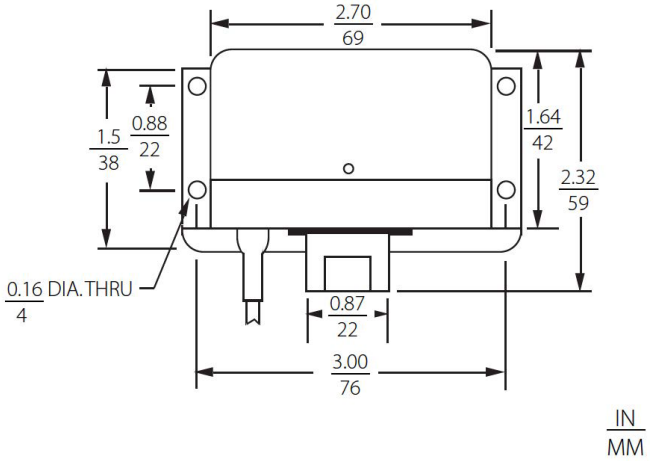
[7]

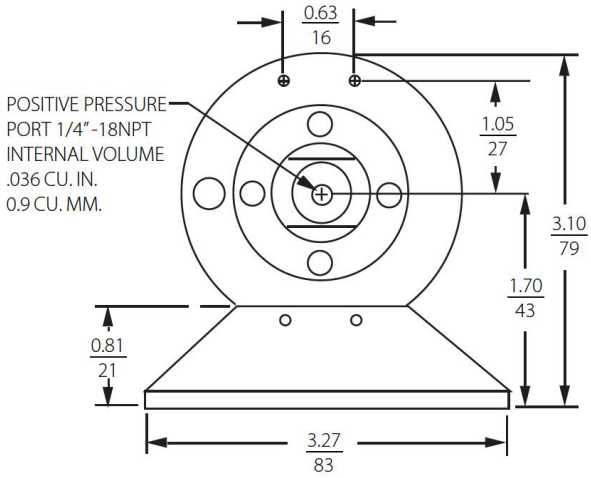
Options[2]	
3[3]	Compensated temperature range (-65 to 250°F)
7	Clean for oxygen
D	Mate with Datum
E	Special excitation voltage ±-24 VDC
F	NEMA4 enclosure
G	Special excitation voltage
L	Special excitation voltage ±-15 VDC
M[4]	Etched SS tags
N	None
R[4]	Remote calibration (adjustable)
S[4]	Remote calibration adjustable (fixed)

[1]Units with pressure range > 5,000 PSI have accuracy of ±0.14% FS only.
[2] Both boxes must be filled in alphanumeric order:
-If No options: N + N
-If 1 option: Option Code + N
-If 2 options: Option Code + Option Code
[3]2x Thermal Effects Specification
[4]Options M, R and S will have Y1 Cable as STD.
Note: Setra adheres to strict quality standards including
ISO 9001 and ANSI-Z540-1. The calibration of this product is NIST traceable.

Specifications subject to change without notice.

Dimensions





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Setra Systems, Inc.
159 Swanson Road
Boxborough, MA 01719

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www.setra.com

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