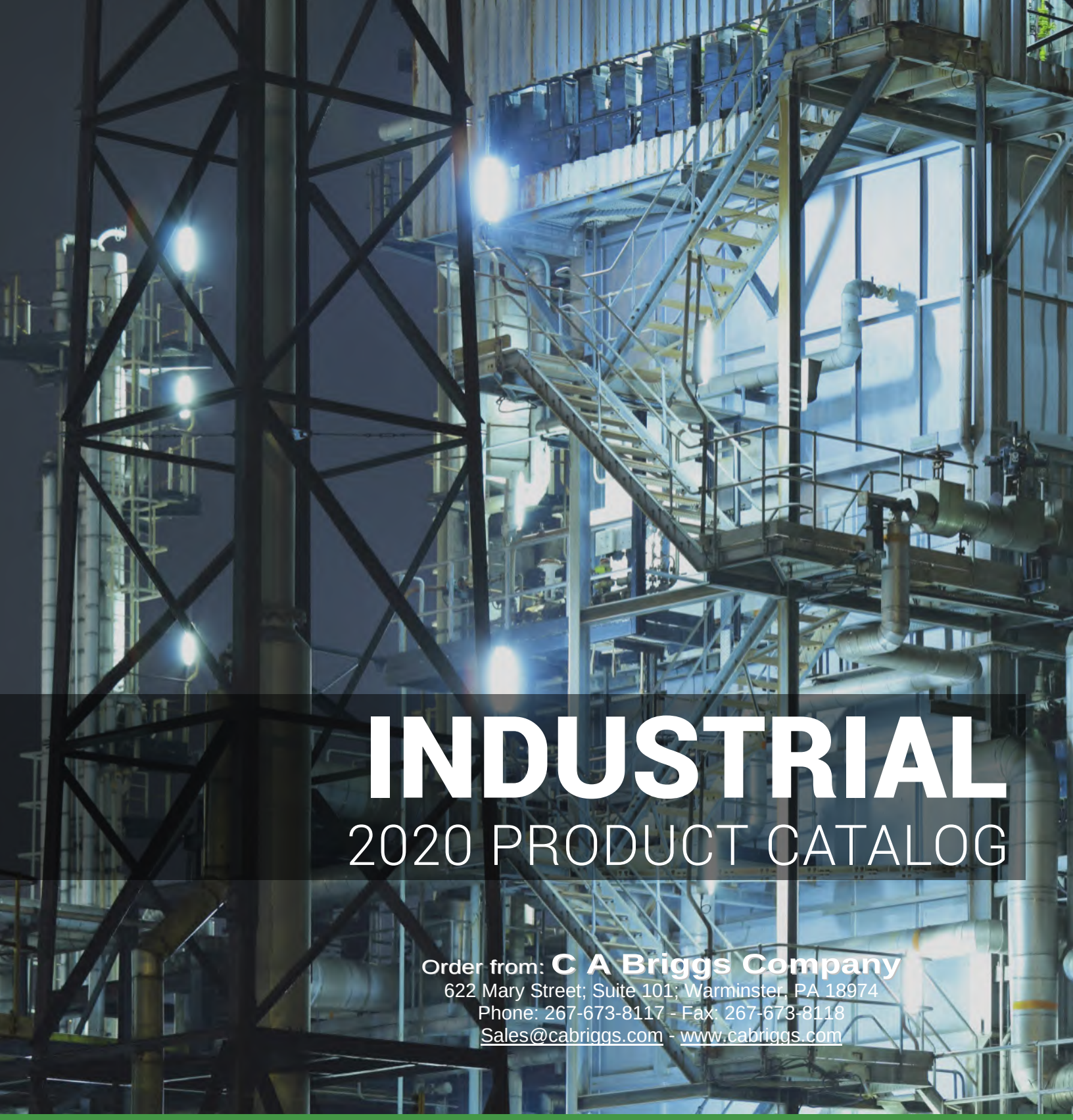

INDUSTRIAL
2020 PRODUCT CATALOG

Order from: **C A Briggs Company**
622 Mary Street; Suite 101; Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118
Sales@cabriggs.com - www.cabriggs.com

WE DESIGN AND DELIVER
PREMIUM SENSING SOLUTIONS
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CORPORATE HEADQUARTERS & U.S. PRODUCTION FACILITY

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INDUSTRIAL

2020 PRODUCT CATALOG

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WHO IS SETRA?

5-Sigma Quality • 95% On Time Delivery • 99.8% Quality Rating • 10+ Million Sensors Shipped • Made in the USA

Setra Systems, Inc. was founded in an age of transducer innovation. Our founders, Dr.Y.T. Li and Dr. S.Y. Lee were Professors of engineering at the Massachusetts Institute of Technology and co-developers of the Variable Capacitance Transduction Principle. Building on this heritage of innovation, Setra has designed and developed the most comprehensive product lines of pressure sensing transducers in the world. Setra has been innovating Test & Measurement sensor designs for over 50 years and has become a leader in the pressure transducer market.

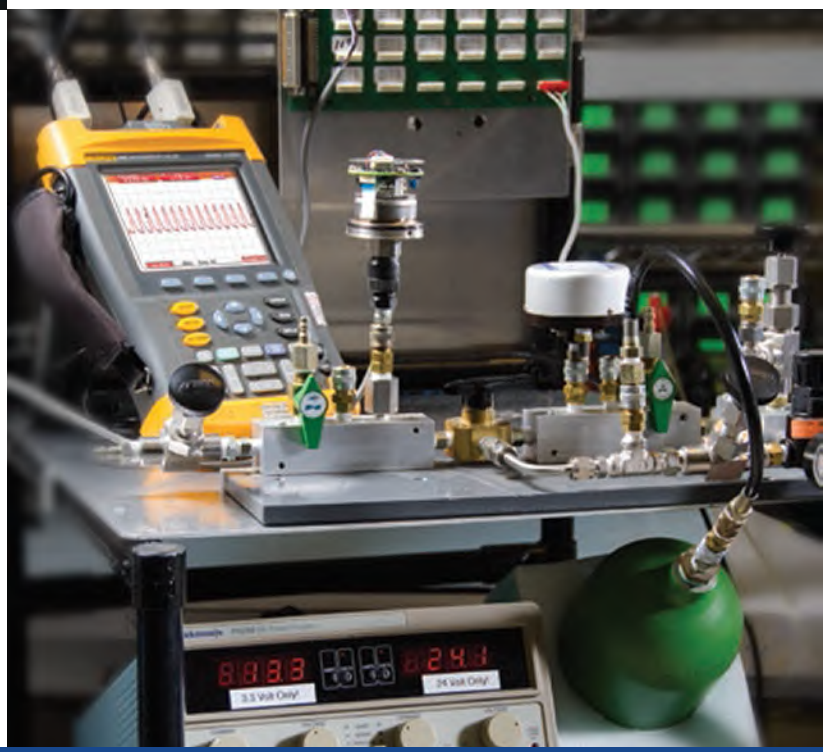
MANUFACTURING

Dedicated tools and processes eliminate product and process variation at every stage of manufacturing including:

- Design Failure Model Effect Analysis (DFMEA)
- Process Failure Model Effect Analysis (PFMEA)
- Process Capabilities Studies
- Design Verification and Validation
- Corrective and Preventative Action (CAPA)
- Lean Tools

RESEARCH & INNOVATION

Setra's multi-disciplinary engineering department has decades of experience in designing high precision pressure, humidity, and current sensing instruments. The design group includes senior electrical, mechanical, and software engineers in an organization that fosters creativity and innovation in design. Setra's engineers have a close working relationship with many customers. As a result, they have been able to apply Setra's advanced technologies to solving customer application challenges.



CUSTOMER SUPPORT

Setra provides customer support through its knowledgeable staff of customer service representatives and applications engineers. Our customer service representatives are available to process and assist with expediting and delivery of your order. Our staff of application engineers is ready to discuss your system requirements, provide solutions to your applications, answer technical questions, and assist with installation and wiring. A complete library of our products is maintained on our website, including product specifications, installation, operating instructions and direct ordering options.

Inside this catalog is a comprehensive selection of sensors and transducers designed for industrial OEM and test & measurement industries. If you don't see exactly what is needed for your specific application, give us a call.

Contact us today

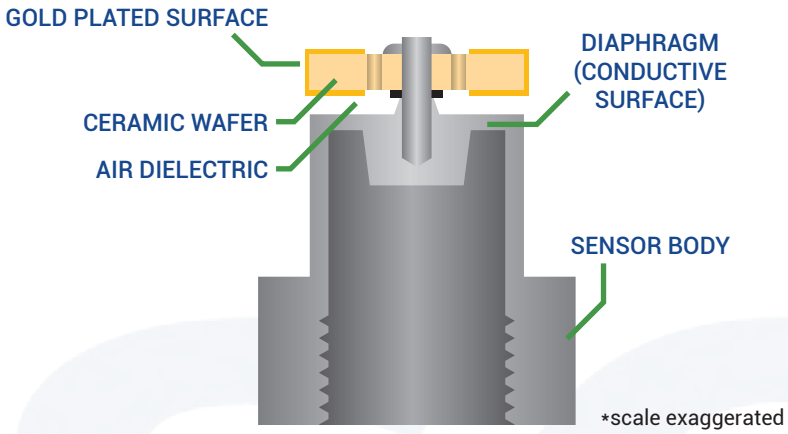
(267) 673-8117

www.CABriggs.com

Corporate Headquarters & Production Facility
Boxborough, Massachusetts

SETRA'S TECHNOLOGY

Since Setra was started in 1967, capacitance has been and will continue to be the core technology for our pressure transducers. Each of the capacitive sensors that we manufacture employs two closely spaced parallel plates, one of which is fixed while the other is a flexible diaphragm which allows for motion when pressure is applied. This straightforward concept combined with innovative design and world class manufacturing has enabled Setra to become a leading supplier to the pressure transducer market.



CAPACITIVE TRANSDUCERS

Setra's capacitive pressure transducers are expertly designed adaptations of a simple, durable and fundamentally stable device: the electrical capacitor. In a typical Setra configuration, a compact housing contains two closely spaced, parallel, electrically isolated metallic surfaces, one of which is essentially a diaphragm capable of slight flexing under pressure. The diaphragm is constructed of a low-hysteresis material such as 17-4 PH SS or a proprietary compound of fused glass and ceramic (Setraceram).

These firmly secured surfaces (or plates) are mounted so that a slight mechanical flexing of the assembly, caused by a minute change in applied pressure, alters the gap between them (creating, in effect, a variable capacitor). The resulting change in capacitance is detected by a sensitive linear comparator circuit (employing proprietary custom designed ASICs), which amplifies and outputs a proportional, high level signal.

ADVANTAGES OF CAPACITANCE SENSORS

HIGH ACCURACY

Performance in Test & Measurement applications is crucial. The data collected is used to ensure product quality, improve efficiency, and provide public safety. Setra's sensors have a long history of providing reliable test data with accuracies as high as 0.02% FS.

WE'VE GOT YOU COVERED

Setra provides solutions, not just sensors

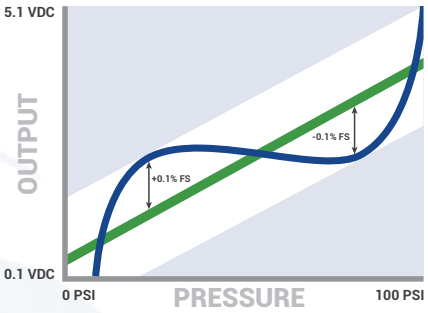
- Quality and reliability you can depend on
- Customizable platform products ideal for many applications
- Class leading overpressure capability
- High accuracy up to ±0.02% FS
- All sensor calibration are traceable to NIST

NON-LINEARITY

BEST FIT STRAIGHT LINE (BFSL) METHOD

Example: ±0.1% FS

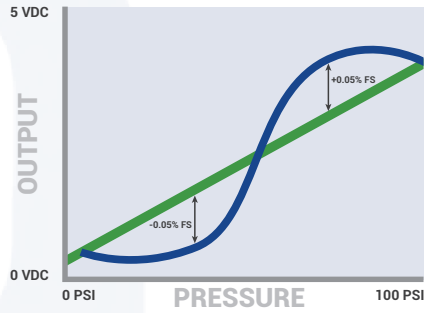
Relationship of a calibration curve to a specified straight line.



END POINT METHOD

Example: ±0.05% FS

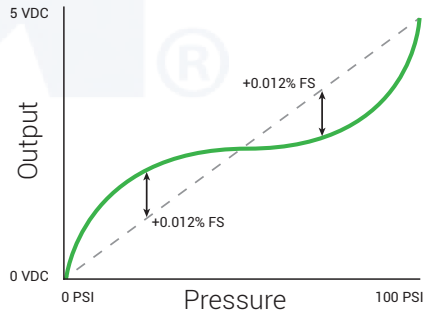
Relationship of a calibration curve to a specified straight line through its end points.



TERMINAL METHOD

Example: ±0.12% FS

Relationship of a calibration curve to a specified straight line with end points at zero and full scale.



RUGGED DESIGN

Applications in the Test & Measurement industry are among the most demanding; not only with performance but also with harsh operating environments. These applications have caustic chemicals and high pulsation during testing. Setra's rugged design prolongs the life of the sensor and keeps you up and running to get the job done.

HIGH STABILITY

The capacitance sensing element provides a high level of output that is not only accurate when first purchased, but will remain accurate over the long haul. The stable sensor will prevent the need for constant re-calibrations of the sensor.

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GENERAL PURPOSE OEM

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Model 206

INDUSTRIAL PRESSURE TRANSDUCER

- **High Accuracy Sensor**
- **Rugged Design Withstands High Shock & Vibration**
- **Configurable Design**
- User accessible zero/span
- Exceptional EMI/RFI
- Absolute pressure option
- Long-term stability: <0.5%/year
- Reverse wire protection
- Calibration NIST traceable
- Wide operating voltage 12 VDC to 28 VDC
- CE & RoHS compliant

Applications

Industrial OEM Equipment

Hydraulic systems

Compressor control

HVAC/R equipment

Industrial engines

Tank level

The Model 206 pressure sensor is designed for industrial and OEM customers who require high performance, reliability and versatility at a m affordable price. It offers exceptional ±0.13% FS accuracy for pressure ranges as low as 25 PSI up to 10,000 PSI to meet a multitude of demanding applications. The Model 206 features all stainless steel wetted materials and offers many pressure and electrical connections to satisfy challenging installation requirements. The Model 206 also features field accessible zero and span potentiometers allowing the unit to be calibrated in the field.

RUGGED STAINLESS STEEL DESIGN

The Model 206's rugged stainless steel design is built to withstand the rigors of the most difficult industrial applications. The unit is available with NEMA 4 and IP65 environmental ratings, preventing unwanted moisture ingress.

SAVE TIME AND MONEY ON INSTALLATION

The Model 206's capacitive sensor design offers Test & Measurement grade accuracy at a low price point. The sensor comes standard with ±0.13% FS accuracy in ranges from 25 PSI to 10,000 PSI, exceeding most competitive products.

REDUCE INVENTORY

The transducer's pressure and electrical fittings cover many installation configurations, allowing it to fit into most applications. The Model 206 is equipped with zero and span potentiometers, allowing the user to maintain the high performance over the life of the sensor.

Model 206

INDUSTRIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS[1] (at constant temp.)	±0.13 % FS
Non-Linearity, (BFSL) 25 PSIG range[2]	±0.1% FS ±0.2% FS
Hysterysis	±0.08% FS
Non-Repeatability	±0.02% FS
Response Time	5 milliseconds
Long-Term Stability	0.5% FS/YR
THERMAL EFFECTS	
Compensated Range	-4 to +176°F (-20 to +80°C)
Zero Shift	±1% FS/100°F (±0.9& FS/50°C)
Span Shift	±1.5% FS/100°F (±1.4% FS/50°C)
APPROVALS	
CE, RoHS	

PHYSICAL DESCRIPTION	
Pressure Fittings	See ordering information
Vent	Through electrical termination
Electrical Connection	See ordering information
Case	Stainless Steel
Zero/Span Adjustments	Top External Access
Weight (approx.)	6 oz
PRESSURE MEDIA	
Gases or liquids compatible with 17-4 PH stainless steel.[3]	
ENVIRONMENTAL DATA	
Operating Temperature[4]	-40 to +185°F (-40° to + 85°C)
Storage Temperature	-40 to +185°F (-40° to + 85°C)
Acceleration	10g Maximum[5]
Shock[6]	200g Operating
Vibration	20g 50-2000 Hz

ELECTRIC DATA (VOLTAGE)	
Excitation/Output	12 to 28 VDC Reverse Excitation Protected
Power Consumption	<0.15 watts (approx. 5mA @ 24 VDC)
Output[8]	See ordering information[9]
Output Impedance	100 ohms
Circuit	3-Wire (Exc, Out, Com)
Vibration	200g operating
ELECTRIC DATA (CURRENT)	
Circuit	2-Wire
Output[10]	4 to 20 mA[11]
External Load	See ordering information
Min. Supply Voltage (VDC)	9 +0.02 x (Resistance of receiver plus line)
Max. Supply Voltage (VDC)	30 +0.004 x (Resistance of receiver plus line)

[1]RSS of Non-Linearity, Non-Repeatability and Hysteresis
[2]25 PSIG range accuracy is ±0.22% of Full Scale output
[3]Hydrogen not recommended for use with 17-4 PH stainless steel.
[4]The high temperature limit of the cable is 200°F (95°C)
[5]Shift in output reading <0.05 psi/g typical; pressure port axis only
[6]Mil-Std. 202, Method 213B, Cond. C
[7]Mil-Std. 202, Method 204, Cond. C
[8]Calibrated into a 50K ohm load, operable into a 5K ohm load or greater
[9]Zero output factory set to w/in ±25mV. Span (FS) output factory set to w/in ±50mV.
[10]Calibrated at factory with a 24VDC loop supply voltage and 250ohm load.
[11]Zero output factory set to w/in ±0.08mA. Span (FS) output factory set to w/in ±0.16mA.

Specifications subject to change without notice.

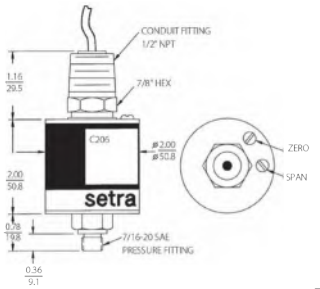
OVERPRESSURE CAPABILITY

PRESSURE RANGES (PSIG)		
Gauge	Proof	Burst
0-25	100	500
0-50	150	750
0-100	300	1,000
0-250	500	2,000
0-500	1,000	3,000
0-1,000	2,000	5,000
0-3,000	4,500	7,500
0-5,000	7,500	10,000
0-10,000	12,500	20,000

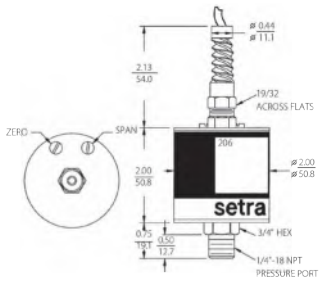
PRESSURE RANGES (BAR)		
Gauge	Proof	Burst
0-1.6	6	32
0-4.0	10	50
0-6.0	18	60
0-10	30	80
0-16	32	130
0-25	50	170
0-40	80	240
0-60	120	300
0-100	200	400
0-160	250	500
0-250	380	550
0-400	600	800
0-700	800	1,350

DIMENSIONS

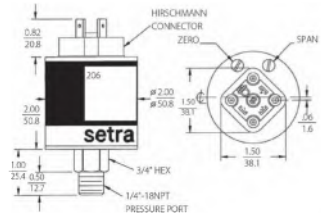
CONDUIT VERSIONS



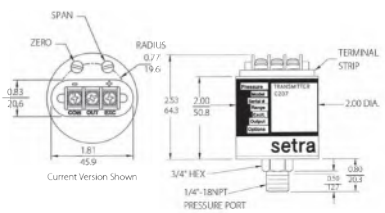
CABLE VERSIONS



HIRSCHMANN VERSION (H1)



TERMINAL STRIP VERSION (T1)



ORDERING INFORMATION

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MODEL	PRESSURE RANGE				PRESSURE TYPE		FITTING		OUTPUT		TERMINATION		ACCURACY		OPTIONS[2]	
2061= Model 206	*025P*	0 to 25 PSI	*1R6B*	0 to 1.6 Bar	*G*	Gauge	*2M*	1/4" NPT Ext.	*11*	4 to 20 mA	*02*	2 ft Cable	*8*	±0.13% FS	*NN*	None
	050P	0 to 50 PSI	*004B*	0 to 4 Bar	*C*	Compound	*1M*	1/8" NPT Ext.	*22*	0.1 - 5.1 VDC	*06*	6 ft Cable			*C*	11 Point Cal Cert
	100P	0 to 100 PSI	*006B*	0 to 6 Bar	*A*	Absolute	*J7*	7/16" SAE	*27*	1 to 5 VDC	*10*	10 ft Cable			*D*	Mate with Datum
	200P	0 to 200 PSI	*010B*	0 to 10 Bar			*2F*	1/4" NPT Int.	*28*	1 to 6 VDC	*25*	25 ft Cable			*G*	Mating Hirschmann Con.
	250P	0 to 250 PSI	*016B*	0 to 16 Bar					*2T*	0.1 to 10.1 VDC	*XX*	Special Cable Length (0-25')				
	500P	0 to 500 PSI	*025B*	0 to 25 Bar							*H1*	Hirschmann			*L*	Etched SS Tags
	10CP	0 to 1,000 PSI	*040B*	0 to 40 Bar							*A3*	1/2" Conduit w/ 2' Cable			*Y*	Clean For Oxygen
	30CP	0 to 3,000 PSI	*060B*	0 to 60 Bar							*AD*	1/2" Conduit w/ 6' Cable			*F*	NEMA[4]
	50CP	0 to 5,000 PSI	*100B*	0 to 100 Bar							*AE*	1/2" Conduit w/ 10' Cable				
	10KP[1]	0 to 10,000 PSI	*160B*	0 to 160 Bar							*AF*	1/2" Conduit w/ 20' Cable				
			250B	0 to 250 Bar							*AG*	1/2" Conduit w/ 25' Cable				
			400B	0 to 400 Bar							*T1*	Terminal Strip[3]				
			700B[1]	0 to 700 Bar												

[1] Units higher than 5k PSI are only available with a 1/4"NPT Ext. fitting
[2] Both boxes must be filled in alphabetical order:
- If no options: N=N
- If 1 option: option code + N
- If 2 options: option code + option code

[3] Formerly model 207
[4] Limited configurations for NEMA enclosure. Speak with customer service rep.

For NEMA 4X Enclosure Option, Please see Model 256 (pg. 22)

Ordering Example: 2061025PG2M11068CN = Model 206, 0 to 25 PSIG, Gauge pressure, 1/4" NPT Ext. fitting, 4 to 20 mA output, 6' Cable Length, ±0.13% FS Accuracy, 11 Point Cal Cert Option.

Model AXD

INDUSTRIAL PRESSURE TRANSDUCER

•High accuracy sensor
•High overpressure ratings
•IP67 rated design

- Non-oil filled design
- Wide temperature range -40°C to 125°C
- Long-term stability: <0.5%/Year
- Exceptional EMI/RFI
- Small footprint 1" diameter
- Rugged design withstands high shock & vibration
- NIST traceable calibration
- Wide operating voltage 9 VDC to 30 VDC
- Reverse Excitation Protection
- CE & RoHS compliant
- 17-4 or 316L stainless steel

Applications

Fuel cell OEMs

Industrial OEM equipment

CNG/LNG applications

Hydraulic systems

Compressor control

HVAC/R equipment

The Accusense Model AXD pressure sensor is designed for Industrial and OEM customers who require high performance, reliability and versatility at an affordable price. It offers exceptional ±0.25% FS accuracy for pressure ranges as low as 1 PSI up to 10,000 PSI to meet a multitude of demanding applications. The Model AXD features all stainless steel wetted materials 17-4PHSS when ordered as "AXD1" or 316LSS when ordered as "AXDH". AXD also offers many pressure and electrical connections to satisfy challenging installation requirements. The AXD features an optional patented overpressure stop to protect the transducer against unexpected spikes or in high pulsation applications.

TRUSTED RELIABILITY

The Model AXD is designed and built to withstand demanding applications. The industrial non-oil filled construction, with optional positive overpressure stop, enables sensor to recover from overpressure conditions up to 10X rated range with burst pressure ratings up to 100x. The AXD's capacitive technology offers worry free operation vs. oil-filled designs, which have a high cost of failure if oil leaks into the application and contaminates costly equipment.

HIGH PERFORMANCE AT AN AFFORDABLE PRICE

The Model AXD's capacitive sensor design offers test & measurement grade accuracy at a low price point. The sensor comes standard with ±0.25% FS accuracy in ranges from 1 PSI to 10,000 PSI, exceeding most competitive products. The unit offers expanded performance through thermal compensation, bringing the TEB to 1.5% FS.

FLEXIBILITY FOR MANY APPLICATIONS

The Model AXD offers many pressure and electrical fittings, covering many installation configurations. This minimizes additional engineering time to accommodate the sensor, allowing for earlier project completion and quicker time to market.

Model AXD

INDUSTRIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA		
Accuracy RSS[1]		±0.25% FS
Response time		5 millisecond
Long term stability		±0.5% FS/yr
THERMAL EFFECTS	**AXD1**	**AXDH**
Compensated Range	-4 to +176°F (-20 to +80°C)	-4 to +176°F (-20 to +80°C)
Zero Shift (code "F")	±2% FS/100°F (±1.8%FS/50°C)	±3%/100°F (±2.7%FS/ 50°C)
(code "Z")	±0.5% FS/100°F (±0.45%/50°C)	±0.75%/100°F (±0.67%FS/ 50°C)
Span Shift (Range >50 PSI)	±1% FS/100°F (±1.4% FS/50°C)	±2%FS/100°F (±1.8%FS/ 50°C)
(Range ≤50 PSI)	±1.5% FS/100°F (±2% FS/50°C)	±2%FS/100°F (±1.8%FS/ 50°C)

PRESSURE MEDIA
Gases or liquids compatible with 17-4 PH2 or 316L stainless steel.

PHYSICAL DESCRIPTION		
Pressure fittings		See ordering information
Vent (gauge units)		Through cable or termination
Electrical connection		See ordering information
Environmental rating Elec. Termination code	P1 (gauge) P1 (sealed)	IP66/NEMA4X "xx" cable, M4, A1 IP67/NEMA6
Case material		304 stainless steel
Wetted materials	AXD 1 AXD H	17-4PHSS, 17-7PHSS 316L stainless steel
Weight (approx.)		5 oz

ENVIRONMENTAL DATA	
Operating[3] Temperature	-40 to +257°F (-40 to +125°C)
Storage Temperature	-40 to +257°F (-40 to +125°C)
Acceleration	10g Maximum[4]
Shock[3]	200g Operating
Vibration[6]	20g 50-2000 Hz

ELECTRICAL DATA (VOLTAGE)		
Excitation	Code "24" Code "45" Code "2E"	9 to 30 VDC (5VDC) 4.8-8.1 VDC 13.5-30 VDC Reverse excitation protected
Power consumption		<0.15 watts (approx. 5mA @24VDC)
Output[7]		See ordering information[8]
Output impedance		100 ohms
Circuit		3-wire (Exc, Out, Com)

ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output[9]	4 to 20mA[9]
External Load	0 to 800 ohms
Minimum supply voltage (VDC)	9+ 0.02 x (Resistance of receiver plus line)
Max. supply voltage (VDC)	30 + 0.004 x (Resistance of receiver plus line)

[1]RSS of Non-Linearity (BFSL), Non-Repeatability and Hysteresis at 70°F
[2]Hydrogen not recommended for use with 17-4 PH stainless steel. Use 316L SS version.
[3]High temperature limit of the cable is 185°F (85°C)
[4]Shift in output reading <0.05 psi/g typical; pressure port axis only
[5]Mil-Std. 202, Method 213B, Cond. C
[6]Mil-Std. 202, Method 204, Cond. C
[7]Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater
[8]Zero output factory set to w/in ±25mV. Span (FS) output factory set to w/in ±50mV.
[9]Calibrated at factory with a 24VDC loop supply voltage and 250ohm load.
[10]Zero output factory set to w/in ±0.08mA. Span (FS) output factory set to w/in ±0.16mA.

Specifications subject to change without notice.

OVERPRESSURE CAPABILITY

	STANDARD				HIGH OVERPRESSURE OPTION			
	AXD1 (17-4SS)		AXDH (316LSS)		AXD1 (17-4SS)		AXDH (316LSS)	
Full Scale Range (PSI)	Proof Pressure (PSI)	Burst Pressure (PSI)	Proof Pressure (PSI)	Burst Pressure (PSI)	High Proof Pressure (PSI)	High Burst Pressure (PSI)	High Proof Pressure (PSI)	High Burst Pressure (PSI)
1	2	250	N/A	N/A	N/A	N/A	N/A	N/A
2	4	250	N/A	N/A	N/A	N/A	N/A	N/A
5	10	250	N/A	N/A	N/A	N/A	N/A	N/A
10	20	500	N/A	N/A	N/A	N/A	N/A	N/A
15	30	500	N/A	N/A	N/A	N/A	N/A	N/A
25	50	500	40	300	300	3,000	100	2,500
50	100	750	75	500	800	5,000	150	4,000
100	200	1,000	150	750	1,000	5,000	300	4,000
250	500	2,000	350	1,500	2,000	8,000	750	4,000
500	1,000	3,000	700	2,000	2,500	10,000	1,000	4,000
1,000	2,000	5,000	1,300	3,000	4,000	10,000	2,000	5,000
3,000	4.500	7,500	N/A	N/A	N/A	N/A	N/A	N/A
5,000	7,500	10,000	N/A	N/A	N/A	N/A	N/A	N/A
10,000	12,500	20,000	N/A	N/A	N/A	N/A	N/A	N/A
-14.7 (Vacuum)	15	500	10	N/A	N/A	N/A	N/A	N/A

Model 209

OEM PRESSURE TRANSDUCER

•Full Span Ranges Down to 1 PSI
•Highly Configurable Design
•Rugged for Demanding Applications

- Small Package Design for OEM Applications
- High Overpressure Option Available on Select Ranges
- Compatible w/ a Variety of Gases & Liquids
- Operates on Low Cost Unregulated DC Power
- Suitable For High Shock & Vibration Applications
- No Seals or O-Rings to Cause Leakage
- CE & RoHS Compliant

Applications

Industrial OEM Equipment

Hydraulic Systems

Compressor Control

HVAC/R Equipment

Industrial Engines

Tank Level

The Model 209 pressure transducer is designed for Industrial and OEM customers who require high performance, reliability and versatility at an affordable price. It offers exceptional ±0.25% FS accuracy with pressure ranges as low as 1 PSI up to 10,000 PSI to meet a multitude of demanding applications. The 209 features all stainless steel wetted materials and offers many pressure and electrical connections to satisfy challenging installation requirements. The 209 is available with a patented overpressure stop to protect the sensor against unexpected spikes or in high pulsation applications.

TRUE LOW RANGE SENSOR

The Model 209's capacitive transducer is designed for industrial applications with demanding price and performance requirements. The Model 209 offers exceptional reliability in typical industrial grade environments. The true low range sensor design offers high performance with no additional amplification required to meet range requirements down to 1 PSI.

FLEXIBILITY FOR MANY APPLICATIONS

The 209 transducer offers many pressure and electrical fittings covering many installation configurations. It minimizes additional engineering time to accommodate the sensor, allowing for earlier project completion and quicker time to market.

ROBUST DESIGN & CONSTRUCTION FOR RELIABLE SERVICE

The Model 209 is designed and built to withstand demanding applications. The industrial construction, with optional positive overpressure stop, enables the sensor to withstand overpressure conditions up to 16X the rated range.

Model 209

OEM PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS[1]	±0.25% FS
Non-Linearity, BFSL	±0.22% FS
Hysteresis	0.10% FS
Non-Repeatability	0.05% FS
THERMAL EFFECTS	
Compensated Range	-4 to +176°F (-20 to +80°C)
Zero Shift %FS/100°F (%FS/50°C)	±2.0 (±1.8)
Span Shift %FS/100°F (%FS/50°C)	±1.5 (±1.3)
Warm-up Shift	0.1% FS Total
Response Time	5 milliseconds
Long Term Stability	0.5% FS/YR
PRESSURE MEDIA	
Liquids and gases compatible with 17-4 PH Stainless Steel (<25 PSI) or 17-7 PH Stainless Steel (>25 PSI).[2]	

PHYSICAL DESCRIPTION	
Case	Stainless Steel & Valox
Wetted Material	17-4 PH Stainless Steel or 17-7 PH Stainless Steel
Electrical Connection	See ordering information
Pressure Fitting[4]	See ordering information
Vent	Through electrical termination
Weight (approx.)	2.3 ounces (65 grams)
ENVIRONMENTAL DATA	
Operating[3] Temperature	-40 to + 185°F (-40 to +85°C)
Storage Temperature	-40 to + 185°F (-40 to +85°C)
Shock[3]	200g operating
Acceleration	10g Maximum[5]
Vibration[4]	20g
Environmental Protection	Weather Resistant

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (COM, OUT, EXC)
Excitation	9 to 30 VDC
Output[6]	See ordering information[7]
Output Impedance	10 ohms
ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output[8]	4 to 20mA[9]
External Load	0 to 800 ohms
Minimum supply voltage (VDC)	9+ 0.02 x (Resistance of receiver plus line)
Maximum supply voltage (VDC)	30+ 0.004 x (Resistance of receiver plus line).

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel. See Setra Model 209H.
[3] Mil-Std. 202, Method 213B, Cond. C
[4] Mil-Std. 202, Method 204, Cond. C
[5] See ordering information for other fittings available (minimum quantities apply).
[6] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[7] Zero output factory set to within ±50mV. Span (Full Scale) output factory set to within ±50mV.
[8] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[9] Zero output factory set to within ±0.16mA. Span (Full Scale) output factory set to within ±0.16mA.

Specifications subject to change without notice.

OVERPRESSURE CAPABILITY

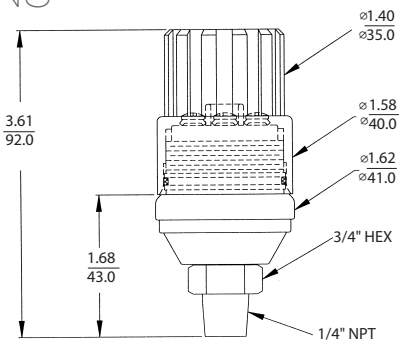
	STANDARD		OPTION	
Full Scale Range (PSI)	Proof Pressure (PSI)	Burst Pressure (PSI)	High Proof Pressure (PSI)	High Burst Pressure (PSI)
1	2	250	N/A	N/A
2	4	250	N/A	N/A
5	10	250	N/A	N/A
10	20	500	N/A	N/A
25	50	500	N/A	N/A
50	100	750	800	5,000
100	200	1,000	1,000	5,000
200	400	2,000	1,500	5,000
250	500	2,000	2,000	8,000
500	1,000	3,000	2,500	10,000
1,000	2,000	5,000	4,000	10,000
1,500	2,500	6,000	5,000	12,000
2,000	3,000	6,500	N/A	N/A
3,000	4,500	7,500	N/A	N/A
5,000	7,500	10,000	N/A	N/A
10,000	12,500	20,000	N/A	N/A
-14.7 (Vacuum)	10	15	N/A	N/A

Model 209

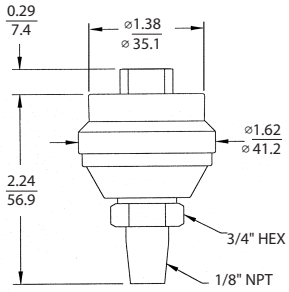
OEM PRESSURE TRANSDUCER

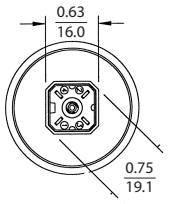
DIMENSIONS

CONDUIT VERSION



OPTIONAL HIRSCHMANN CONNECTOR
Type: G4A1M #931807-106

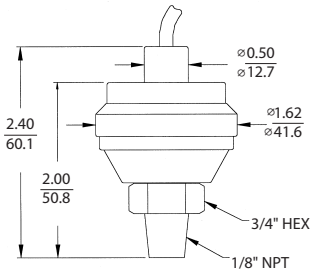




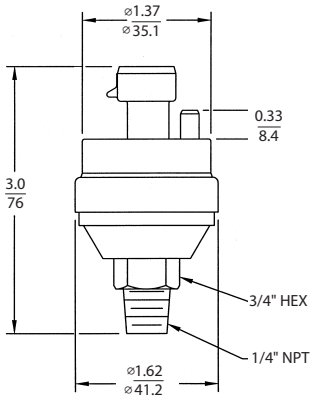
Top View

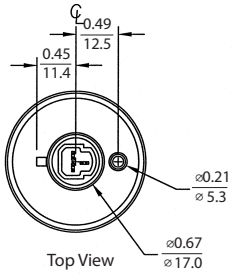
Mating Hirschmann Connector G4WIF available. See table below to order.

CABLE ANCHOR



OPTIONAL 3-Pin PACKARD CONNECTOR
Type: P2S Series 150





Top View

Mating Packard Connectors available. See table below to order.

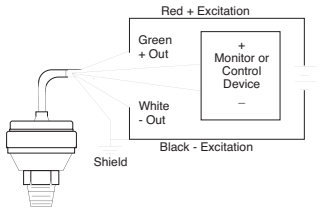
in.
mm

WIRING

CABLE ANCHOR

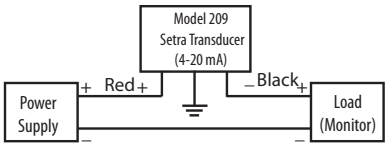
Voltage Output

The Model 209 voltage output is a 3-wire circuit. If the 209 is supplied with 2 feet of cable, the electrical connection is as follows:



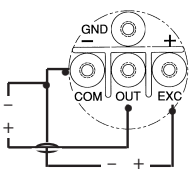
Current Output

The Model 209 True 2-wire device. If the 209 is supplied with 2 feet of cable, the electrical connection is as follows:

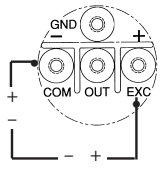


CONDUIT VERSION

Voltage

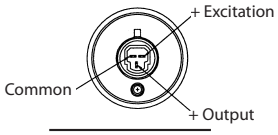


Current



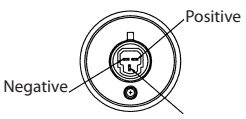
3-PIN PACKARD CONNECTOR

Voltage



Top View: 3-Pin Packard Connector
Type: P2S Series 150

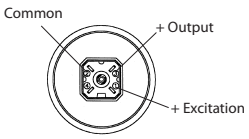
Current



Top View: 3-Pin Packard Connector
Type: P2S Series 150

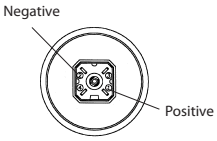
HIRSCHMANN CONNECTOR

Voltage



Top View: Hirschmann Connector
Type: G4A1M#931807-106

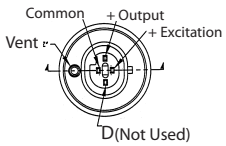
Current



Top View: Hirschmann Connector
Type: G4A1M#931807-106

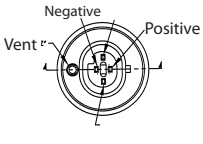
4-PIN PACKARD CONNECTOR

Voltage



Top View: 4-Pin Packard Connector
Type: Metri-Pack 150

Current



Top View: 4-Pin Packard Connector
Type: Metri-Pack 150

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

Model 209

OEM PRESSURE TRANSDUCER

ORDERING INFORMATION

2091 - ☐☐☐☐ - ☐ - ☐☐ - ☐☐ - ☐☐ - ☐

MODEL	RANGE CODE				PRESSURE TYPE		PRESSURE FITTING		OUTPUT[6]		ELEC. TERMINATION		OPTIONS	
2091 = Model 209	PSI				*G*	Gauge	*2M*	1/4" NPT Ext.	*11*	4-20 mA	*XX*	Cable length in feet		None
	001P	0 to 1	*500P*	0 to 500	*C*	Compound	*J7*	7/16" SAE Ext.	*24*	0.5 to 5.5 VDC	*P1*	Packard (3-Pin)[2]	*H*[8]	High Overpressure Capability (Only available on 25 PSI up to 1500 PSI Pressure Ranges)
	002P	0 to 2	*10CP*	0 to 1,000	*S*	Sealed[1]	*1M*	1/8" NPT Ext.	*27*	1 to 5 VDC	*P3*	Packard (4-Pin)[3]		
	005P	0 to 5	*15CP*	0 to 1,500	*V*[7]	Vacuum	*L4*	1/4 Int. SAE Internal 7/16-20 w/ Schrader Pin	*28*	1 to 6 VDC	*H2*	Hirschmann, ("Mini")[4]		
	010P	0 to 10	*20CP*	0 to 2,000			*G4*[5]	1/2" A Ext.	*45*	0.5 to 4.5 VDC (5 VDC Exc.)	*A1*	Terminal Block w/ Conduit Cover		
	025P	0 to25	*30CP*	0 to 3,000			*P1*	1/8" NPT Int. Bulkhead (Available on Ranges > 50 PSI)						
	050P	0 to 50	*50CP*	0 to 5,000										
	100P	0 to 100	*10KP*	0 to 10,000										
	200P	0 to 200	*Z01P*[7]	0 to -14.7 PSI										
	250P	0 to 250												

[1] Sealed version available on 200 PSI ranges and above.
[2] Order Setra Part #577 for Mating Connector.
[3] Order Setra Part #857 for Mating Connector.
[4] Order Setra Part #590 for Mating Connector.
[5] Only available for pressure ranges below 25 PSI.
[6] Consult factory for other output options.
[7] Range code "Z01P" can only be ordered with pressure type code "V".
[8] Refer to proof pressure table for more details.

Ordering Example: 2091001PG2M1102 = Model 209, 0 to1 PSI Range, Gauge Pressure, 1/4" NPT Male Int., 4 to 20 mA Output, 2 ft. Cable.

ACCESSORIES

577	3-Pin Mating Packard Kit
581	Cable Assembly - Packard, 3-pin (3 ft.)
582	Cable Assembly - Packard, 3-pin (6 ft.)
590	Mating Hirschmann Kit
857	4-Pin Mating Packard Kit

Model 209H

316L STAINLESS STEEL OEM PRESSURE TRANSDUCER

- **Rugged 316L Stainless Steel Construction**
- **Non-Oil Filled Design**
- **Ideal For Alternative Energy Market**
- High Over-Pressure Option Available on Select Ranges
- Operates Over a Wide Temperature Band
- Compatible with a Variety of Gases & Liquids
- Operates on Low Cost Unregulated DC Power
- Suitable For High Shock & Vibration Applications
- No Seals or O-Rings to Cause Leakage
- CSA certified as conforming to ANSI/ISA 12-12-01-2015 for Class 1, Groups A, B, C, D DIV2 locations.
- CE & RoHS Compliant

Applications

Fuel Cell OEMs

CNG & LNG Applications

Hydrogen Production Systems

Water & Wastewater

Natural Gas Distribution

The Model 209H pressure transducer is designed for customers who require high performance, reliability and versatility in harsh applications. The Model 209H features all 316L stainless steel wetted materials, ideal for the demanding requirements of the alternative energy and industrial market. The sensor offers many pressure and electrical connections to satisfy challenging installation requirements. The 209H is available with a patented overpressure stop to protect the transducer against unexpected spikes or in high pulsation applications.

316L SS DESIGN

The sensor and all wetted material of the 209H are manufactured using a 316L stainless steel, enabling the sensor to stand up in corrosive applications. The unit comes standard with an accuracy of ±0.25% FS across a wide pressure range offering, providing high performance at a low cost.

FLEXIBILITY FOR MANY APPLICATIONS

The 209H transducer offers many pressure and electrical fittings covering many installation configurations. It minimizes additional engineering time to accommodate the sensor, allowing for earlier project completion and quicker time to market.

TRUSTED RELIABILITY

The Model 209H is designed and built to withstand demanding applications. The industrial non-oil filled construction, designed with a positive over-pressure stop, enables the sensor to recover from overpressure conditions up to 4X the rated range. The 209H's capacitive technology offers worry free operation vs. oil-filled designs, which have a high cost of failure if oil leaks into the application and contaminates costly equipment.

Model 209H

316L STAINLESS STEEL OEM PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS[1] (at constant temp)	±0.25% FS
Non-Linearity, BFSL	±0.16% FS
Hysteresis	±0.19% FS
Non-Repeatability	±0.05% FS

THERMAL EFFECTS	
Compensated Range	-4 to +176°F (-20 to +80°C)
Zero Shift %FS/°F (%FS/°C)	±0.03 (±0.05)
Span Shift %FS/°F (%FS/°C)	±0.015 (±0.03)
Warm-up Shift	0.2% FS Total
Response Time	5 milliseconds
Long Term Stability	0.5% FS/1 YR

PRESSURE MEDIA

Liquids and gases compatible with 316L Stainless Steel.

PHYSICAL DESCRIPTION	
Case	Stainless Steel & Valox
Wetted Material	316L Stainless Steel
Pressure Fitting	See ordering information
Vent	Through electrical termination
Weight (approx.)	3.1 ounces (88 grams)

ENVIRONMENTAL DATA	
Operating Temperature[3]	-40 to + 185°F (-40 to +85°C)
Storage Temperature	-40 to + 185°F (-40 to +85°C)
Shock[2]	200g operating
Acceleration	10 g Maximum[2]
Vibration[3]	20g
Environmental Protection	Weather Resistant

APPROVALS

CE, RoHS, CSA

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (COM, OUT, EXC)
Excitation	9 to 30 VDC
Output	See ordering information[4,5]
Output Impedance	10 ohms

ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output	4 to 20mA[6,7]
External Load	0 to 800 ohms
Minimum supply voltage (VDC)	9+ 0.02 x (Resistance of receiver plus line)
Maximum supply voltage (VDC)	30+ 0.004 x (Resistance of receiver plus line).

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Mil-Std. 202, Method 213B, Cond. C
[3] Mil-Std. 202, Method 204, Cond. C
[4] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[5] Zero output factory set to within ±50mV. Span (Full Scale) output factory set to within ±50mV.
[6] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[7] Zero output factory set to within ±0.16mA. Span (Full Scale) output factory set to within ±0.16mA.

Specifications subject to change without notice.

OVERPRESSURE CAPABILITY

STANDARD			OPTION	
Full Scale Range (PSI)	Proof Pressure (PSI)	Burst Pressure (PSI)	High Proof Pressure (PSI)	High Burst Pressure (PSI)
15	25	200	60	2000
25	40	300	100	3000
50	75	500	150	4000
100	150	750	300	4000
250	350	1500	750	4000
500	700	2000	1000	4000
1000	1300	3000	2000	5000

Also available in Bar ranges. Consult Factory.

Sealed ranges available on 250 PSI and above.

Gauge Pressure: Measured relative to ambient atmospheric pressure. Referred to as pounds per square inch (gauge) or PSIG.

Proof Pressure: The maximum pressure that may be applied without changing performance beyond specifications (±1% FS zero shift).

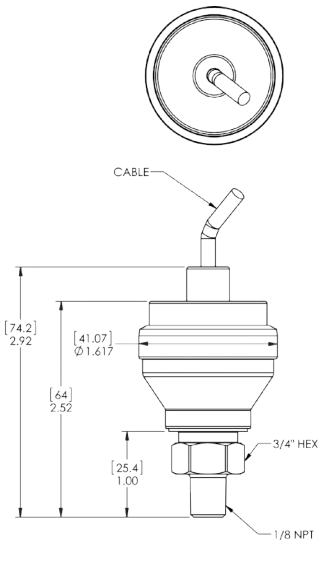
Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the sensing element.

(continue Model 209H on next page)

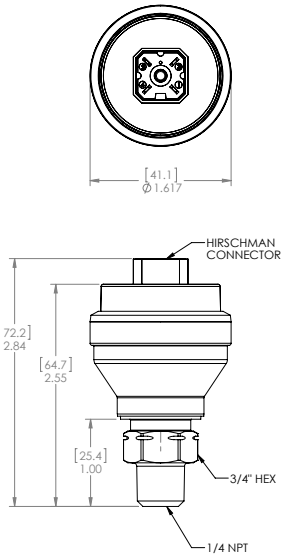
Model 209H

316L STAINLESS STEEL OEM PRESSURE TRANSDUCER

DIMENSIONS

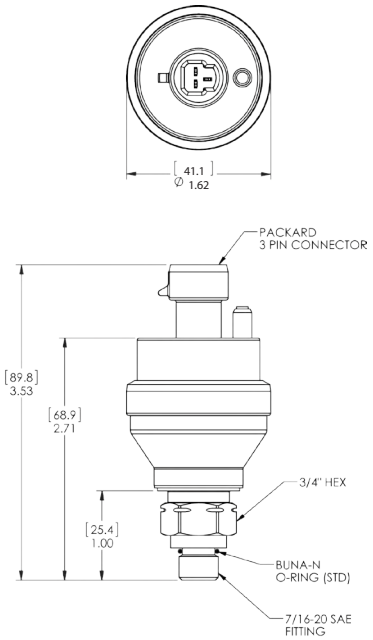


CABLE VERSION



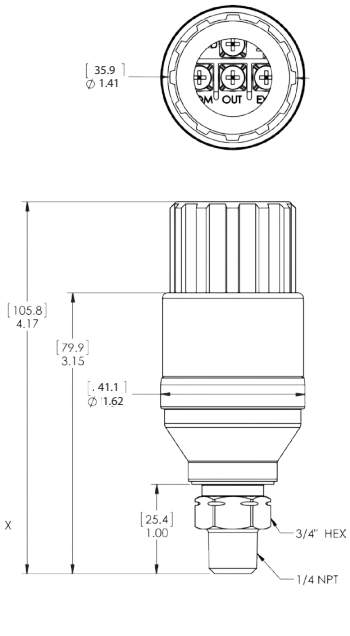
HIRSCHMANN CONNECTOR

Type G4AIM #931807-106



3-PIN PACKARD CONNECTOR

Type P2S Series 150



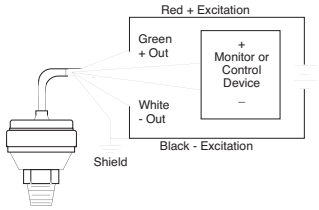
CONDUIT VERSION

WIRING

CABLE ANCHOR

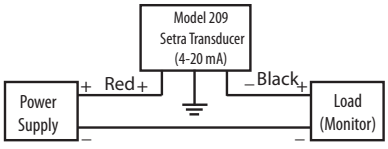
Voltage Output

The Model 209H voltage output is a 3-wire circuit. If the 209H is supplied with 2 feet of cable, the electrical connection is as follows:



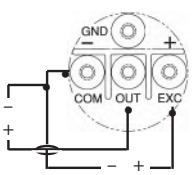
Current Output

The Model 209H True 2-wire device. If the 209 is supplied with 2 feet of cable, the electrical connection is as follows:

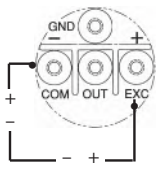


CONDUIT VERSION

Voltage

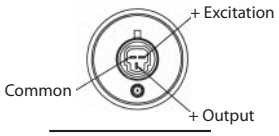


Current



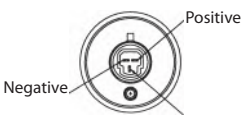
3-PIN PACKARD CONNECTOR

Voltage



Top View: 3-Pin Packard Connector
Type: P2S Series 150

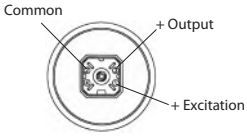
Current



Top View: 3-Pin Packard Connector
Type: P2S Series 150

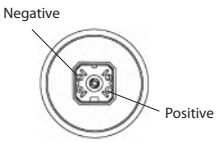
HIRSCHMANN CONNECTOR

Voltage



Top View: Hirschmann Connector
Type: G4A1M#931807-106

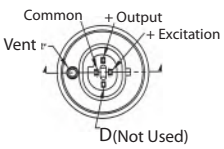
Current



Top View: Hirschmann Connector
Type: G4A1M#931807-106

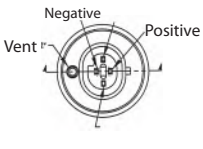
4-PIN PACKARD CONNECTOR

Voltage



Top View: 4-Pin Packard Connector
Type: Metri-Pack 150

Current



Top View: 4-Pin Packard Connector
Type: Metri-Pack 150

Model 209H

316L STAINLESS STEEL OEM PRESSURE TRANSDUCER

ORDERING INFORMATION

2 0 9 H – □ □ □ □ – □ – □ □ – □ □ – □ □ – □ □

MODEL	RANGE CODE		PRESSURE TYPE		PRESSURE FITTING		OUTPUT		ELEC. TERMINATION[1]		OPTIONS*	
209H = Model 209	PSI		***G***	Gauge	***2M***	1/4-18 NPT Ext.	***11***	4-20 mA	***02***	2 ft. Cable	***NN***	No Options
	015P	0 to 15	***C***	Compound	***J7***[6]	7/16-20 SAE Ext.	***24***	0.5 to 5.5 VDC	***05***	5 ft Cable	***H***	High Overpressure Capability
	025P	0 to 25	***S***	Sealed[5]	***1M***	1/8-27 NPT Ext.	***23***	0.2 to 5.2 VDC	***10***	10 ft Cable	***P***	Calibration Certificate
	050P	0 to 50					***N1***[7]	4-20 mA	***25***	25 ft Cable	***Y***	Clean for Oxygen Service
	100P	0 to 100					***N4***[7]	0.5-5.5 VDC	***P1***	Packard (3-Pin)[2]		
	250P	0 to 250					***N3***[7]	0.2-5.2 VDC	***P3***	Packard (4-Pin)[3]		
	500P	0 to 500							***H2***	Hirschmann ("Mini")[4]		
	10CP	0 to 1000							***A1***	Terminal Block w/ Conduit Cover		

[1] Other lengths available, consult factory.
[2] Order Setra Part #577 for Mating Connector
[3] Order Setra Part #857 for Mating Connector
[4] Order Setra Part #590 for Mating Connector
[5] Sealed type available on 250 PSI and above ranges
[6] BUNA-N O-RING STD.
[7] CSA certified as conforming to ANSI/ISA 12-12-01-2015 for Class 1, Groups A, B, C, D DIV2 locations.

*Both boxes must be filled in alphabetical order:
- If no options: N + N
- If 1 option: Option Code + N
- If 2 Options: Option Code + Option Code

Ordering Example: 209H100PG2M1102NN = Model 209, 0 to100 PSI Range, Gauge Pressure, 1/4" NPT Ext. Fitting, 4 to 20 mA Output, 2 ft. Cable, No Options

Specifications are subject to change without notice.
NOTE: Setra quality standards are based on ANSI-Z540-1.
The calibration of this product is NIST traceable.
US Patent NO 6718827

Model 210

CIRCUIT BOARD-MOUNTABLE PRESSURE TRANSDUCER

- **Fully Signal Conditioned**
- **High Level Output**
- **Excellent Long Term Stability**
- EMI/RFI Immunity
- Easily Customized Package
- Optional Excitations, Outputs and Accuracies
- Wide Operating Temperature Range
- High Signal to Noise Ration
- CE & RoHS Compliant

Applications

Analytical Measurement and Control

OEM Medical Systems

Setra Systems 210 is the ultimate in circuit board-mountable pressure transducers. In addition to the convenience of quick PCB installations, the 210 offers wide media compatibility with its stainless steel sensor construction. The calibrated high level output eliminates the need for additional circuit and calibration labor costs. Packaged in a compact plastic enclosure (1.25" diameter footprint), the Model 210 incorporates Setra's unique capacitance technology, known worldwide for its solid stability, accuracy, and thermal performance. With the customer ASIC circuit and capacitive sensor, the Model 210 performs with reliability and EMI/RFI immunity. The Model 210 can be customized to accommodate various package and performance requirements, and is designed for OEM applications.

Model 210

CIRCUIT BOARD-MOUNTABLE PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	STANDARD	OPTIONAL
Accuracy RSS	±1.0% FS	±0.5% FS ±0.25% FS
Non-Linearity, (BFSL)	±0.98% FS	±0.48% FS ±0.22% FS
Hysteresis	0.20% FS	0.10% FS
Non-Repeatability	0.05% FS	0.05% FS

THERMAL EFFECTS	
Zero Shift %FS/°F (%FS/°C)	<±2.0 (<±1.8)
Span Shift %FS/°F (%FS/°C)	<±1.5 (<±1.4)
Long Term Stability	0.5% FS/YR

PRESSURE MEDIA

Gases compatible with 304 SS, 17-7 PH Series Stainless Steel, Nylon, Polyester and Silicone.

PHYSICAL DESCRIPTION	
Case	Fire Retardant Glass-Filled Polyester
Sensor	17-7 Stainless Steel for Ranges ≥5 PSI. Other Ranges, 300 Series Stainless Steel
Pressure Fitting	3/16 O.D. Barbed Nylon Pressure Fitting for 1/8" I.D. Tubing
Electrical Connection	Solder Pins, 0.030" Roung on 0.2" Centers
Weight (approx)	0.5 ounces

ENVIRONMENTAL DATA	
Operating Temp.	-4 to +176°F (-20 to +80°C)
Storage Temp.	-40 to +185°F (-40 to +85°C)
Operating Humidity	0 to 95% RH Non-Condensing
Storage Humidity	0 to 98% RH Non-Condensing
Vibration	5g Operating
Shock	<100g

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (+In, +Out, Common)
Excitation	24 VDC (21.6 to 32) 12 VDC (10.8 to 18.4) 5 VDC (4.9 to 8.1)
Output*	1 to 6 VDC 0.5 to 4.5 VDC 0.5 to 5.5 VDC
Output Impedance	<100 Ohms
Response Time	10 Milliseconds

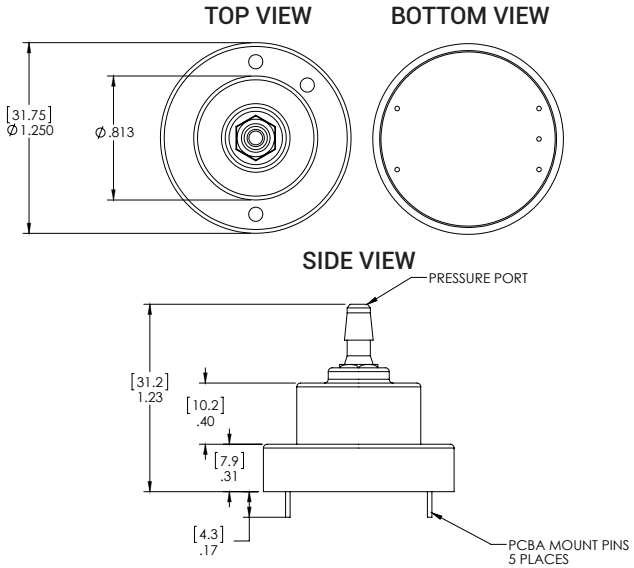
*Calibrated into a 50K ohm load or greater.
Zero output factory set to within ±25 mV.
Span (Full Scale) output factory set to within 50 mV.

NOTE: Our pressure sensor products are not necessarily designed or manufactured for use as a "critical component" in a "critical device", as those terms are defined in the Medical Devices Subchapter contained in the Food and Drug Administration Rules, 21CFR800.
NOTE: Setra adheres to strict quality standards including ISO 9001 and ANSI-Z540-1. The calibration of this product is NIST traceable. U.S. Patent Nos. 4054833, 5442962, 6205861 B1.

OVERPRESSURE CAPABILITY

0 PSIG to:	Proof Pressure (PSIG)	Burst Pressure (PSIG)
1	2	250
2	4	250
5	10	500
10	20	500
15	30	500
25	50	500
50	100	500
100	200	500

SPECIFICATIONS



ORDERING INFORMATION

2 1 0 1 - □□□□ - □ - □□ - □□ - □□ - □

MODEL	PRESSURE RANGE		PRESSURE TYPE		FITTING		OUTPUT		ELEC. TERMINATION		ACCURACY	
2101 = Model 210	*001P*	1 PSI	*G*	Gauge	*1B*	Straight Barbed	*24*	24 VDC/0.5-5.5 VDC	*C1*	PC Board Mountable Pins	STANDARD	
	002P	2 PSI			*1D*	Right Angle	*25*	24 VDC/0.5-4.5 VDC			*C*	±1.0% FS
	005P	5 PSI					*28*	24 VDC.1-6 VDC			OPTIONS (W CAL CERT)	
	010P	10 PSI					*35*	12 VDC/0.5-4.5 VDC			*H*	±0.5% FS
	015P	15 PSI					*38*	12 VDC/1-6 VDC			*F*	±0.25% FS
	025P	25 PSI					*45*	5 VDC/0.5-4.5 VDC				
	050P	50 PSI										
	100P	100 PSI										

Ordering Example: 2101025PG1B45C1C = Model 210, 0-25 PSI Pressure Range Gauge, Straight Barbed Fitting, 5 VDC/0.5-4.5 VDC Output, PC Board Mountable Pin Termination, Standard ±0.1% FS Accuracy.

Model 256

PRESSURE TRANSDUCER

- **NEMA4/IP65 Housing**
- **High Accuracy**
- **Wide Operating Temperature Range**
- Compatible with a Wide Range of Gases or Liquids
- Corrosive Resistant All Stainless Steel Wetted Parts
- CE & RoHS Compliant

Applications

Process Control

Chemical Processing

Agricultural Irrigation Systems

Natural Gas Pipeline Monitoring

Grain Processing

Industrial Pressure Monitoring

The Model 256 is one of the most rugged and reliable sensors available. Specifically designed for NEMA4/IP65 service the 256 is packaged in a die-cast aluminum enclosure and includes Setra's robust capacitive design, making it resistant to environmental effects such as shock, vibration, temperature and EMI/RFI. Available in a wide variety of gauge pressure ranges, the 256 features adjustable potentiometers for zero and span settings. Only 3.6" high x 4.0" wide, the Model 256 is designed for compact installations. The removable cover provides easy access to the internal terminal strip for wiring. Installation is quick and easy with 1/2 inch internal threaded conduit ports for electrical termination.

Model 256
PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	25 PSI & HIGHER	LESS THAN 25 PSI
Accuracy RSS[1] (at constant temp)[2]	±0.13% FS	±0.25% FS
Non-Linearity, BFSL	±0.10% FS	±0.22% FS
Hysteresis	±0.08% FS	±0.10% FS
Non-Repeatability	±0.02% FS	±0.05% FS
THERMAL EFFECTS		
Compensated Range	-4 to +176°F (-20 to +80°C)	-4 to +176°F (-20 to +80°C)
Zero Shift %FS/100°F	±1.0	±1.0
Zero Shift %FS/100°C	±0.9	±1.8
Span Shift %FS/100°F	±1.5	±1.5
Span Shift %FS/100°C	±1.4	±1.4
Long Term Stability	±0.5% FS/YR	±0.5% FS/YR
Warm-up Shift	±0.1% FS Total	±0.1% FS Total

ENVIRONMENTAL DATA	
Operating Temperature[3]	-40 to + 185°F (-40 to +85°C)
Storage Temperature	-40 to + 185°F (-40 to +85°C)
Shock[6]	200g
Vibration[7]	20g
Environmental Protection	NEMA 4/IP65
PHYSICAL DESCRIPTION	
Case	Die Cast Aluminum
Electrical Connections	Two 1/2" Internal Conduit Ports
Pressure Fittings	See ordering information
Weight (approx.)	13.4 Ounces
PRESSURE MEDIA	
Liquids and gases compatible with 17-4 PH Stainless Steel.[4]	

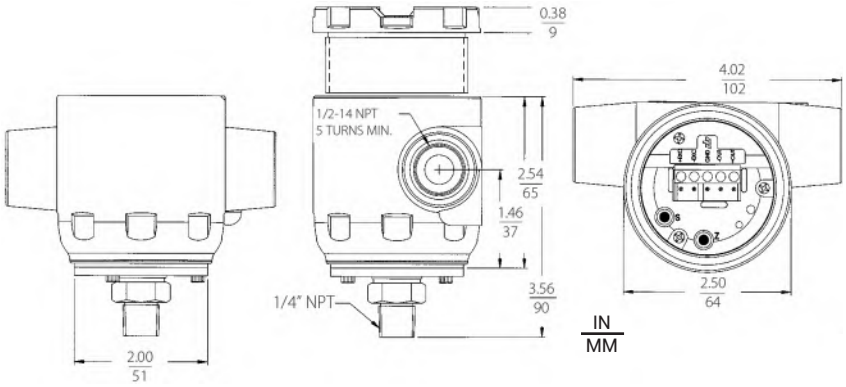
ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (Exc, Out, Com)
Excitation	9 to 30 VDC
Output[5]	0.1 to 5.1 VDC for Ranges ≥ 25 PSI[6]
Output Impedance	100 ohms
Power Consumption	<0.15 watts (approx. 5mA @ 24 VDC)
ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output[7]	4 to 20mA[8] for All Ranges
External Load	0 to 800 ohms
Minimum supply voltage (VDC)	9 + 0.02 x (Resistance of receiver plus line).
Maximum supply voltage (VDC)	30 + 0.004 x Resistance of receiver plus line).

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.
[3] Operating temperature limits of the electronics only. Pressure media temperature may be considerably higher or lower.
[4] Hydrogen not recommended for use with 17-4 PH Stainless Steel.
[5] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[6] Zero output factory set to within ±25 mV. Span (Full Scale) output factory set to within ±50 mV.
[7] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[8] Zero output factory set to within ±0.08 mA. Span output factory set to within ±16 mA.
Specifications subject to change without notice.

OVERPRESSURE CAPABILITY

Gauge (PSI)	Proof (PSI)	Burst (PSI)
0-1	2	250
0-2	4	250
0-5	10	250
0-10	20	500
0-25	100	500
0-50	150	750
0-100	300	1,000
0-250	500	2,000
0-500	1,000	3,000
0-1,000	2,000	5,000
0-3,000	4,500	7,500
0-5,000	7,500	10,000
0-10,000	12,500	20,000

DIMENSIONS

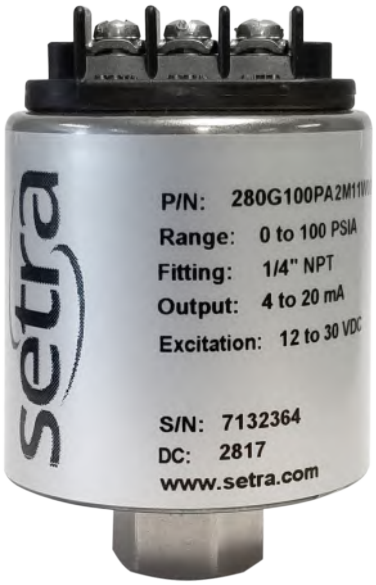


ORDERING INFORMATION

2 5 6 1 – [ ][ ][ ][ ] – [ ] – [ ][ ] – [ ][ ] – [ ]

MODEL	RANGE CODE				PRESSURE TYPE		PRESSURE FITTING		OUTPUT		OPTIONS	
2561 = 256	PSI		BAR		*G*	Gauge	RANGES <25 PSI		RANGES <25 PSI		*C*	Calibration Certificate
	001P	0 to 1	*1R6B*	0 to 1.6			*2M*	1/4" NPT Ext.	*11*	4-20 mA		
	002P	0 to 2	*004B*	0 to 4			*1M*	1/8" NPT Ext.	RANGES ≥25 PSI			
	005P	0 to 5	*006B*	0 to 6			RANGES ≥ 25 PSI		*11*	4-20 mA		
	010P	0 to 10	*010B*	0 to 8			*2M*	1/4" NPT Ext.	*22*	0.1 - 5.1 VDC		
	015P	0 to 15	*016B*	0 to 16			*4M*	1/2 " NPT Ext.				
	025P	0 to 25	*025B*	0 to 25			*2F*	1.4" NPT Int.				
	050P	0 to 50	*040B*	0 to 40								
	100P	0 to 100	*060B*	0 to 60								
	150P	0 to 150	*100B*	0 to 100								
	200P	0 to 200	*160B*	0 to 160								
	250P	0 to 250	*250B*	0 to 250								
	500P	0 to 500	*400B*	0 to 400								
	600P	0 to 600	*700B*	0 to 700								
	10CP	0 to 1,000										
	30CP	0 to 3,000										
	50CP	0 to 5,000										
	10KP	0 to 10,000										

Ordering Example: 2561001PG2M11C = Model 256, 0 to 1PSI , Gauge Pressure, 1/4" NPT Ext. Pressure Fitting, 4 to 20 MA Output, Calibration Certificate



Model 280G

GAUGE, COMPOUND & ABSOLUTE PRESSURE TRANSDUCER

•High Price-to-Performance Ratio
•Rugged Enough for Harsh Applications
•Stainless Steel Wetted Materials

- ±0.073% FS Accuracy
- High Level Output: 0-5 VDC or 4-20 mA
- Solid Stability For Confident Installations
- Exceptional EMI/RFI Performance Prevents False Shutdown
- User Accessible Zero and Span Adjustments
- CE & RoHS compliant

Applications

High Pressure

General Purpose

Test Stands

Hydraulics and Pneumatics

Setra's Model 280 is a high accuracy transducer for measuring gauge, absolute and compound pressure offering superior performance at an affordable price. Its highly-engineered range specific capacitance sensor enables accuracies up to ±0.073% FS giving the 280 superior linearity to competitive sensors. The 280's design offers customers a low-cost solution for measuring absolute pressure in Test and Measurement applications. The slim design and simple electrical interface allow users to install the unit in many difficult applications. The Model 280 has standard pressure ranges from 25 PSI to 10,000 PSI.

HIGH ACCURACY FOR DEMANDING APPLICATIONS

The Model 280 pressure transducer's variable capacitance design uses an all stainless steel sensor cap designed for a specific pressure range. The sensor is linearized and thermally compensated during manufacturing to optimize the sensor's linearity for maximum accuracy in demanding applications.

LOW COST ABSOLUTE SENSOR

The Model 280 is Setra's highest price to performance sensor for measuring absolute pressure. The simple configurable design enables the transducer to be configured for an absolute reference by adding a hermetically-sealed evacuated enclosure to the existing sensor design, allowing for an affordable price without sacrificing quality.

IMPROVED SERVICEABILITY

The transducer's pressure and electrical fittings cover many installation configurations, allowing it to fit into most applications. The Model 280G is equipped with zero and span potentiometers, allowing the user to maintain the high performance over the life of the sensor.

Model 280G

GAUGE, COMPOUND & ABSOLUTE PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS[1] (at constant temp.)	±0.10% FS
Non-Linearity, (BFSL)	±0.1% FS
25 PSIG range[2]	±0.2% FS
Hysteresis	±0.08% FS
Non-Repeatability	±0.02% FS
Response Time	10 milliseconds
Long-Term Stability	0.5% FS/YR

THERMAL EFFECTS	
Compensated Range	-4 to +176°F (-20 to +80°C)
Zero Shift	1.0 (0.9)
Span Shift	1.5 (1.4)

APPROVALS
CE, RoHS

PHYSICAL DESCRIPTION	
Pressure Fittings	See ordering information
Vent	Through electrical termination
Electrical Connection	3-Pos Terminal Strip ft.
Case	Stainless Steel
Zero/Span Adjustments	Top External Access
Weight (approx.)	6 oz

PRESSURE MEDIA
Gases or liquids compatible with 17-4 PH stainless steel.[3]

ENVIRONMENTAL DATA	
Operating Temperature[4]	-40 to +185°F (-40° to + 85°C)
Storage Temperature	-40 to +185°F (-40° to + 85°C)
Acceleration	10g Maximum[5]
Shock[6]	200g Operating
Vibration[7]	20g 50-2000 Hz

ELECTRIC DATA (VOLTAGE)	
Excitation/Output	12 to 28 VDC Reverse Excitation Protected
Power Consumption	<0.15 watts (approx. 5mA @ 24 VDC)
Output[8]	0 to 5 VDC[9]
Output Impedance	100 ohms
Circuit	3-Wire (Exc, Out, Com)
Output Noise	<0.001 VRMS, 0 to 10 kWh

ELECTRIC DATA (CURRENT)	
Circuit	2-Wire
Output[10]	4 to 20 mA[11]
External Load	0 to 800 ohms
Min. Supply Voltage (VDC)	9 +0.02 x (Resistance of receiver plus line)
Max. Supply Voltage (VDC)	30 +0.004 x (Resistance of receiver plus line)

[1]RSS of Non-Linearity, Non-Repeatability and Hysteresis
[2]25 PSIG range accuracy is ±0.22% of Full Scale output
[3]Hydrogen not recommended for use with 17-4 PH or 15-5 PH stainless steels.
[4]The high temperature limit of the cable is 200°F (95°C)
[5]Shift in output reading <0.05 psi/g typical; pressure port axis only
[6]Mil-Std. 202, Method 213B, Cond. C
[7]Mil-Std. 202, Method 204, Cond. C
[8]Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater
[9]Zero output factory set to 30mV nominal. Span (FS) output factory set to w/in ±50mV.
[10]Calibrated at factory with a 24VDC loop supply voltage and 250ohm load.
[11]Zero output factory set to w/in ±0.08mA. Span (FS) output factory set to w/in ±0.16mA.

Specifications subject to change without notice.

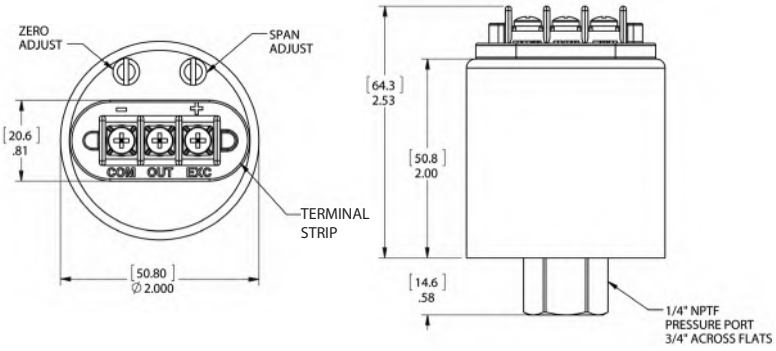
OVERPRESSURE CAPABILITY

PRESSURE RANGES (PSIG)		
Gauge	Proof	Burst
0-25	75	400
0-50	150	750
0-100	300	1,000
0-250	500	2,000
0-500	1,000	3,000
0-1,000	2,000	5,000
0-3,000	4,500	7,500
0-5,000	7,500	10,000
0-10,000	12,500	20,000
3-15	30	200

PRESSURE RANGES (BAR)		
Gauge	Proof	Burst
0-1.6	5	28
0-4.0	10	50
0-6.0	18	60
0-10	30	80
0-16	32	130
0-25	50	170
0-40	80	240
0-60	120	300
0-100	200	400
0-160	250	500
0-250	380	550
0-400	600	800
0-700	800	1,350

Note: Setra standards are based on ANSI-Z5 40-1. The calibration of this product is NIST traceable.

DIMENSIONS



ORDERING INFORMATION

2 8 0 G – [ ][ ][ ][ ] – [ ] – [ ][ ] – [ ][ ] – T 1 – [ ] – [ ][ ]

MODEL	PRESSURE RANGE				PRESSURE TYPE		FITTING		OUTPUT		TERMINATION		ACCURACY		OPTIONS[2]	
280G = Model 280G	*025P*	0 to 25 PSI	*1R6B*	0 to 1.6 Bar	*G*	Gauge	*2F*	1/4" NPT Int.	*11*	4 to 20 mA	*T1*	Terminal Strip	*W*	±0.11% FS	*NN*	None
	050P	0 to 50 PSI	*004B*	0 to 4 Bar	*C*	Compound			*2S*	0.08 to 5.08 VDC (24 VDC EXC)			9[1]	±0.073%	*C*	11 Point Cal Cert
	100P	0 to 100 PSI	*006B*	0 to 6 Bar	A	Absolute			*3S*	0.08 to 5.08 VDC (12 VDC EXC)					*Y*	Clean For Oxygen
	200P	0 to 200 PSI	*010B*	0 to 10 Bar											*D*	Mate Datum
	250P	0 to 250 PSI	*016B*	0 to 16 Bar											*L*	Etched Tags
	500P	0 to 500 PSI	*025B*	0 to 25 Bar												
	10CP	0 to 1,000 PSI	*040B*	0 to 40 Bar												
	30CP	0 to 3,000 PSI	*060B*	0 to 60 Bar												
	50CP	0 to 5,000 PSI	*100B*	0 to 100 Bar												
	10KP[1]	0 to 10,000 PSI	*160B*	0 to 160 Bar												
			250B	0 to 250 Bar												
			400B	0 to 400 Bar												
			700B[1]	0 to 700 Bar												

[1] Absolute pressure option not available in 10,000 PSI or 700 Bar ranges
[2] Both boxes must filled in alphabetical order:
- If No options: N + N
- If 1 option: Option Code + N
- If 2 options: Option Code + Option Code

Ordering Example: 280G025PG2F11T1WC - Model 280G, 0 to 25 PSIG, Gauge pressure, 1/4" NPT Female fitting, 4 to 20 mA output, Terminal Strip, ±0.11% FS Accuracy, 11 Point Cal Cert option

Model 526

SUBMERSIBLE PRESSURE TRANSDUCER

•Superior Stability Avoid Down Time

•±0.25% FS Accuracy, Optional ±0.15% FS

•High Shock and Vibration Resistance

- IP30, IP65, IP68 Rated
- Submersible Option
- Compatible With a Variety of Gases and Liquids
- Operates Over a Wide Temperature Band
- CE & RoHS Compatible

Applications

General Purpose

Off-Highway Vehicles

Natural Gas Equipment

Power Plants

HVAC Compressors

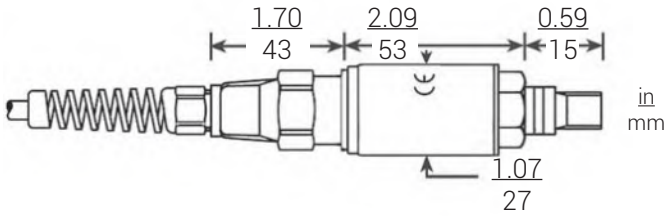
Refrigeration

Robotics

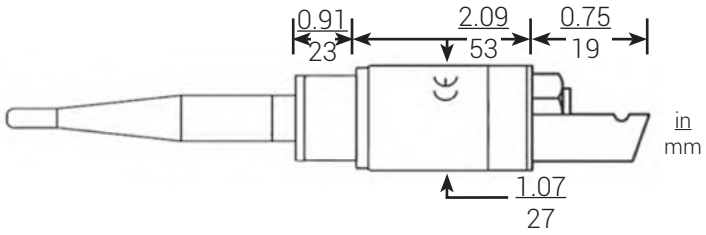
Setra's Model 526 pressure transducer is designed with a thicker diaphragm for robust industrial and submersible applications that require exceptional stability and high accuracy. Depending upon the electrical connection selected, when coupled with the Model 526 enclosure, which is fabricated in 316 SS/17-4 PH SS, this unit is rated for IP30, IP65, IP68 operation. The Model 526's modular design is offered in a wide choice of millivolt, voltage or current outputs over almost any pressure range, and a variety of pressure and electrical connections, enabling this unit to be custom configured for an OEM application.

DIMENSIONS

Shown with Conduit Connector with Cable & 1/8-27 NPT Pressure Fitting



Shown with Molded Immersible Cable & Plastic Nose Cone



Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

Model 526

SUBMERSIBLE PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS[1] (at constant temp)	±0.25% FS, ±0.15% FS Optional
Proof Pressure	2 x FS (<1.5 x FS for 400 BAR, >=5000 PSI)
Burst Pressure	>35 x FS<=100 PSI (6 BAR) >20 x FS<=1000 PSI (60 BAR) >5 x FS<=6000 PSI (400 BAR)
THERMAL EFFECT[2]	
Compensated Range	-5 to +180°F (-20 to + 80°C)
Accuracy ±0.25% FS Zero/Span Shift %FS/100°F (%FS/50°C)	±0.8 (1.5)
Accuracy ±0.15% FS Zero/Span Shift %FS/100°F (%FS/50°C)	±0.5 (1.0)
Response Time	0.5 milliseconds
Long Term Stability	±0.2% FS/year
PRESSURE MEDIA	
Liquids or gases compatible with 17-4 PH Stainless Steel[10]	

ENVIRONMENTAL DATA	
Operating and Storage Temperature[3]	
for Elec. Code B1/B3	-40 to +260°F (-40 to +125°C)
for Elec. Code A2/E2	-5 to +180°F (-20 to +80°C)
for Elec. Code UA	-5 to +125°F (-20 to +50°C)
Vibration	70g Peak to Peak Sinusoidal, 5 to 2000 Hz (Random)
Acceleration	100g Stead Acceleration in any direction 0.32% FS
Shock	20g, 11ms per MIL-STD-810E; Method 516.4 Procedure
PHYSICAL DESCRIPTION	
Case	316 Stainless Steel, 17-4 Stainless Steel
Ratings	IP65 for Elec Codes B3, B1, E2; IP68 for Elec Code UA (Max. Depth 200 Meters H_2O)
Wetted Parts	17-4 PH Stainless Steel
Weight	3.5 Oz (100g)

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (Exc, Out, Com)
Excitation	1.5 VDC Above Span to 35 VDC @ 6mA[4]
Output[5]	0 to 5 VDC, 0 to 10 VDC, 0.5 to 5.5 VDC, 1 to 5 VDC, 1 to 6 VDC, 1 to 11 VDC
Current Consumption[6]	Approx. 6 mA @ 7.5 VDC output
ELECTRICAL DATA (MILLIVOLT)	
Circuit	4-Wire (+Exc, -Out, +Out, -Exc)
Excitation	10 VDC (15 VDC Max) Regulated
Output[7]	100 mV (10mV/V)
Bridge Resistance	2600-6000 Ohms
ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output[8]	4 to 20 mA[9]
Loop Supply Voltage	24 VDC, (7-35 VDC)
Maximum Loop Resistance	(Vs-7) x 50 Ohms

[1] RSS of Non-Linearity, Non-Repeatability and Hysteresis.
[2] Units calibrated at nominal 70°F. Maximum thermal error is computed from this datum.
[3] Operating/Storage temperature limits of the connector only.
[4] Zero/Span output factory set to <1.0% Full Scale
[5] Temperatures >100°C/212°C is limited to 24 VDC.
[6] Minimum Load Resistance: (FS output/2)K ohms.
[7] Zero/Span output factory set to 1.0% Full Scale
[8] Zero/Span output factory set within ±0.16 mA
[9] Temperatures >100°C/212°C is limited to 24 VDC.
[10] Hydrogen not recommended for use with 17-4 PH Stainless Steel

ORDERING INFORMATION

5 2 6 1 – ☐☐☐☐ – ☐ – ☐☐ – ☐☐ – ☐☐ – ☐ – ☐

MODEL	RANGE				PRESSURE		PRESSURE FITTING		OUTPUT		ELEC. TERM.		ACCURACY		OPTIONS	
5261 = 526	*015P*	15 PSI	*001B*	1 BAR	*G*	Gauge	*1M*	1/8-27 NPT Ext.	*BP*	100 mV	*B3*	10-6 Bayonet Connector	*F*	±0.25% FS		None
	030P	30 PSI	*0R6B*	1.6 BAR	*C*	Compound[1]	*1F*	1/8-27 NPT Ext.	*11*	4-20 mA	*UA*	Molded Immersible Cable (1 meter). Consult factory for additional lengths.	*S*	±0.15% FS, Opt.	*B*	ATEX Intrinsic Safe
	060P	60 PSI	*2R5B*	2.5 BAR	*A*	Absolute[1]	*2M*	1/4-18 NPT Ext.	*28*	1-6 VDC						
	100P	100 PSI	*004B*	4 BAR			*J7*	7/16-20 UNF Ext. SAE#4 (J1926-2)	*2R*	1-11 VDC	*B1*	8-4 Bayonet Conn.				
	150P	150 PSI	*006B*	6 BAR			*G2*	G 1/4 Ext.	*27*	1-5 VDC	*A2*	1/2" Conduit Conn. w/ 1 Meter (3.28ft) flying leads				
	200P	200 PSI	*010B*	10 BAR			*G3*	G 1/4 Int.	*24*	0.5-5.5 VDC						
	300P	300 PSI	*016B*	16 BAR			SUBMERSIBLE UNITS		*2B*	0-5 VDC	*E2*	Large DIN 43650 Conn w. Mating Plug				
	500P	500 PSI	*025B*	25 BAR			*W1*	Plastic Nose Cone	*2C*	0-10 VDC						
	600P	600 PSI	*040B*	40 BAR			*W2*	Stainless Steel Sink Weight Nose Cone	*29*	0.2-10.2 VDC						
	10CP	1000 PSI	*060B*	60 BAR					*22*	0.1-5.1 VDC						
	15CP	1500 PSI	*100B*	100 BAR												
	15CP	1500 PSI	*100B*	100 BAR												
	20CP	2000 PSI	*160B*	160 BAR												
	30CP	3000 PSI	*250B*	250 BAR												
	40CP	4000 PSI	*400B*	400 BAR												
	50CP	5000 PSI	*600B*	600 BAR												
	60CP	6000 PSI	*135P*[2]	14.7 TO 135 PSI												
	000P[2]	14.7 TO 0 PSI	*185P*[2]	14.7 TO 185 PSI												
	045P[2]	14.7 TO 45 PSI	*285P*[2]	14.7 TO 285 PSI												

[1] Compound and absolute ranges are available through 300 PSI only.
[2] Compound Only

Ordering example: Part No. 5261030PG1M11E2F
Model 526 Pressure Transducer, 30 PSI, Gauge Pressure, 1/8-27 NPT Ext. Pressure Fitting, 4-20 mA Output, Large DIN Plug w/ Mate, 0.25% Accuracy.

Model 550

LOW PRESSURE TRANSDUCER

- **Superior Stability Avoids Down Time**
- **NEMA 4/IP65 and NEMA 6/IP68 Rated**
- **±0.25% FS High Accuracy**
- 3:1 Range Turndown
- Meets CE Conformance Standards

Applications

Tank Level

Reservoir Level

River Level

Hydro-Power

Open Channel Flow

Flood Warning

Waste Water

Setra's Model 550 low pressure transducer features 3:1 range turndown for field adjustment from 110% to 32% of the nominal range, making this unit well suited for applications that are subject to overpressure. Adjustment is made via the switch and potentiometer conveniently located on the top of the transducer housing. The Model 550 is packaged in a rugged 316 stainless steel housing for use in general purpose and submersible applications. A male or female threaded pressure fitting is offered for general purpose applications, and an open face style with a KF25 flange is offered for submersible applications. The Model 550 circuit is RFI/lightning protected, virtually eliminating costly field replacement.

Model 550

LOW PRESSURE TRANSDUCER

SPECIFICATIONS

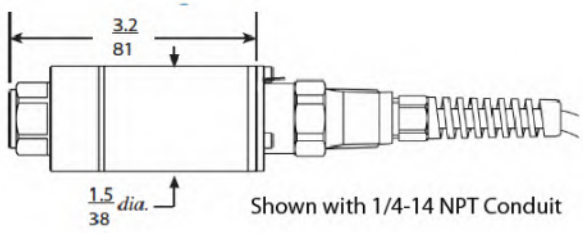
PERFORMANCE DATA	
Accuracy RSS[1] (at constant temp)	±0.25% F
THERMAL EFFECT[2]	
Compensated Range	-5 to +140°F (-20 to + 60°C)
Zero/Span Shift %FS/100°F (%FS/50°C)	±1.0 (2.0)
Zero/Span Adjustment	±10% (by Potentiometer)
Response Time	0.5 milliseconds
Long Term Stability	0.25% FS/1 year
PRESSURE MEDIA	
Water or Viscous Fluids Compatible with 316 SS, Ceramic and Nitrile	

ENVIRONMENTAL DATA	
Operating and Storage Temperature[3]	
for Elec. Code E2	+15 to +185°F (+25 to +85°C)
for Elec. Code UA	-5 to +120°F (-20 to +50°C)
w/ Process Media	-40 to +212°F (-40 to +100°C)
PHYSICAL DESCRIPTION	
Case Rating	IP65 for Elec Codes E2; IP68 for Elec Code UA (Max. Depth 200 Meters H_20)
Wetted Parts	Inconel, Ceramic & Nitrile
Weight	11.6 oz (330g)
Diameter	38.1 mm without K2 flange, 40.0 mm with K2 flange

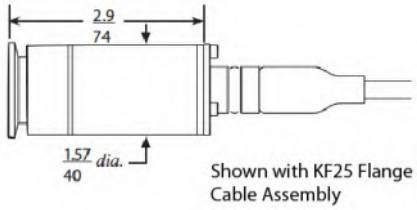
ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire
Excitation	7.5 to 35 VDC (8-35 VDC, 1-6 VDC output)
Output[4]	0.5 to 5.5 VDC, 1 to 6 VDC, 0 to 5 VDC, 0.1 to 5.1 VDC, 1 to 5 VDC
ELECTRICAL DATA (MILLIVOLT)	
Circuit	2-Wire
Excitation	9 to 35 VDC
Output[5]	4 to 20 mA
Maximum Loop Resistance	(Vs-9) x 50 Ohms

[1] RSS of Non-Linearity, Non-Repeatability and Hysteresis.
[2] Units calibrated at nominal 70°F. Maximum thermal error is computed from this datum.
[3] Operating/Storage temperature limits of the cable or process media.
[4] Zero/Span output factory set to <1.0% Full Scale
[5] Zero/Span output factory set within ±0.16 mA.

DIMENSIONS



Shown with 1/4-14 NPT Conduit



Shown with KF25 Flange and Submersible Cable Assembly

PROOF PRESSURE

Pressure Range	Proof Pressure	Burst Pressure
≤ 85 in. W.C.	803 in. W.C.	1,219 in. W.C.
86 in W.C. to 140 in. W.C.	1,607 in. W.C.	2,410 in. W.C.
141 in. W.C. to 400 in. W.C.	2,025 in. W.C.	4,017 in. W.C.
≤ 3 PSI	29 PSI	44 PSI
3.1 to 5 PSI	58 PSI	87 PSI
5.1 to 15 PSI	102 PSI	145 PSI

ACCESSORIES

GA9	Large Din, 4365-A, Strain Relief
GA10	Large Din, 4365-A, 1/2" Conduit
GA11	6-Pin Dendix to 125°C
GA25	Plastic Nose Cone w/ G 1/4 Port

ORDERING INFORMATION

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MODEL	RANGE				PRESSURE		PRESSURE FITTING		OUTPUT		ELEC. TERM.		ACCURACY		OPTIONS	
5501 = 550	***001P***	1 PSI	***010W***	10 in W.C.	***G***	Gauge	***G3***	G 1/4 Int.	***11***	4-20 mA, 2-Wire	***E2***	Large DIN 43650 Conn w. Mating Plug	***F***	0.25% FS	***B***	ATEX Intrinsic Safe
	002P	2 PSI	***015W***	15 in W.C.			***2M***	1/4-18 NPT Ext.	***28***	1-6 VDC, 3-Wire	***UA***	Molded Immersible Cable (up to 2000 meters (656 ft)	***S***	0.15% FS, Opt.		
	003P	3 PSI	***025W***	25 in W.C.			***4M***	1/2-14 NPT Ext.	***2B***	0-5VDC, 3-Wire						
	004P	4 PSI	***050W***	50 in W.C.			***G2***	G 1/4 Ext.	***24***	0.5-5.5 VDC, 3-Wire						
	005P	5 PSI	***100W***	100 in W.C.			***N2***	KF25 Flange	***27***	1-5 VDC, 3-Wire						
	007P	7 PSI	***150W***	150 in W.C.					***22***	0.1-5.1 VDC, 3-Wire						
	010P	10 PSI	***200W***	200 in W.C.												
	012P	12 PSI	***250W***	250 in W.C.												
	015P	15 PSI	***300W***	300 in W.C.												
			350W	350 in W.C.												
			400W	400 in W.C.												

Ordering example: Part No. 5501002PG211UAF
Model 550 Pressure Transducer, 2 PSI, G 1/4" Ext. Pressure Fitting, 4-20 mA Output, Molded Submersible Cable, and 0.25% Accuracy.

Model 3100

OEM INDUSTRIAL PRESSURE TRANSDUCER

•Premium Price-to-Performance
•High Quality: <0.1% Failure Rate
•Long-Term Stability (<0.2%FS/YR)

- ±0.25% FS Accuracy
- No Oil Fill - Prevents Thermal Instability & Leakage
- Wide Choice of Pressure Ranges: 75 PSI-32,000 PSI
- Accuracy Specified Over Full Temperature Range
- Small Footprint - Less than 1" Diameter
- Dual Temperature and Pressure Output
- Choice of Current, Voltage, or Ratiometric Outputs
- Reverse Wiring Protection
- All Welded Stainless Steel Construction
- CE & RoHS Compliant, UL Approved
- IP67 Rated

Applications

Power Generation

Hydraulic Systems

Booster Pump Systems

Irrigation Systems

Off Highway Vehicles

The Model 3100 sputtered thin film pressure sensor is designed for OEMs who require top of the line performance, reliability, and stability at an affordable price. The Model 3100 offers exceptional ±0.25% FS accuracy in pressure ranges from 75 PSI to 32,000 PSI; features an all welded stainless steel construction for a robust design and IP67 seal for moisture and humidity protection. The Model 3100 offers a variety of different outputs, pressure connectors, and electrical connectors to satisfy the most challenging application requirements. In addition, voltage units are available with a dual pressure/temperature output.

BEST IN CLASS PRICE-TO-PERFORMANCE

Strain Gauge technology provides a very linear and predictable output signal over a wide temperature range, which enables Setra to provide an inherently stable and accurate sensor element in high volumes and at low cost. The Model 3100 sensor is constructed using a highly sophisticated automation process, where the sensors are manufactured in a Class 100 clean room. To ensure best in class accuracy and long term stability, each sensing element is thermally compensated to an accuracy of less than 0.005%°C prior to leaving the clean room for final assembly. Thermally compensating the unit ensures improved accuracy and simplified conditioning of electronics, while eliminating the need for calibration over elevated temperatures as a transducer.

FLEXIBILITY FOR MANY APPLICATIONS

Setra understands the importance of quality in OEM applications, which is why we are always looking for ways to improve the quality rating of our products. Over the last two years, the Model 3100 failure rate is less than 0.1%, a quality rating unmatched by the competition. The worst thing that could happen to an engineer is to shut down their work because of quality issues. Setra takes this seriously, which is why we have worked hard to ensure that product quality issues will never be a concern for our customers.

TRUSTED RELIABILITY

The Model 3100's compact welded stainless steel design is constructed to protect the sensor in demanding industrial environments. The electrical connectors are tested to an environmental protection specification of IP67, and a robust internal design ensures that the transducers can survive high levels of vibration. A high level of EMC protection allows the transmitters to perform to the most stringent of industrial standards, and all devices are RoHS compliant.

Model 3100

OEM INDUSTRIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy[1]	±0.25% FS
THERMAL EFFECTS[2]	
Compensated Range	-40 to +257°F (-40 to +125°C)
Zero/Span Shift %FS/100°F (%FS/100°C)	±0.83 (1.5)
Zero/Span Tolerance	±0.5% of Span
Response Time	1 millisecond
Long Term Drift	±0.2% FS for <1000 PSI (60 BAR)
Proof/Burst Pressure	See Table
Fatigue Life	Designed for more than 100M cycles
Operating/Storage Temp[3,4,5]	-40 to +257°F (-40 to +125°C)
ELECTRICAL DATA (RATIOMETRIC)	
Output	0.5 to 4.5 VDC @ 4mA (6.5 mA on Dual Output Version)
Excitation	5 VDC ± 10%
OPTIONS	
Full miswire protection between all signal and power lines (any combination). Full short-circuit protection for Vout1 to 0V or Vout1 connected to supply, indefinitely. Ratiometric output not available. Supply Voltage must be 4V above the maximum Vout1 output. This also accounts for worse-case customer output leads.	
APPROVALS	
CE, RoHS, UL (E312651)	

PHYSICAL DESCRIPTION	
Pressure Port	See ordering information
Enclosure	IP67 (IP65 for Electrical Code A)
Elec. Connections	See Ordering Instructions
Wetted Parts	17-4PH SS (Diaphragm), 304 SS Fittings
Vibration	40G Peak to Peak Sinusoidal to 2000Hz (Random Vibration: 20 to 1000Hz @ approx. 40G Peak per MIL-STD-810E)
Shock	Withstand free fall to IEC 68-2-32 procedure 1
Weight	35 Grams
ELECTRICAL DATA (VOLTAGE)[6]	
Circuit	3-Wire (Exc, Out, Com)
Output	1 to 6 VDC, 1 to 5 VDC, 0.5 to 4.5 VDC, 0 to 5 VDC, 0 to 10 VDC[7]
Excitation	2 Volts above FS to max 30 Volts @ 4.5 mA (6.5mA Dual Output Version)
Source & Sinks	2mA
ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output	4 to 20mA
Excitation	8 to 30 VDC (24 VDC max. above 110°C applications)
Max. Loop Resistance	(Supply Voltage-8) x50 ohms

[1]RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2]Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.
[3]Temperature outputs are for voltage output pressure sensors only and limited to connections that have 4 pins (Electrical Codes -D, -E, -8).
[4]Requires additional 2 mA of power.
[5]For use with pull-down resistors, contact factory before ordering.
[6]Reverse Wiring Protected.
[7]Not available for pressure ranges lower than 100 PSI (7 BAR).

Specifications subject to change without notice.

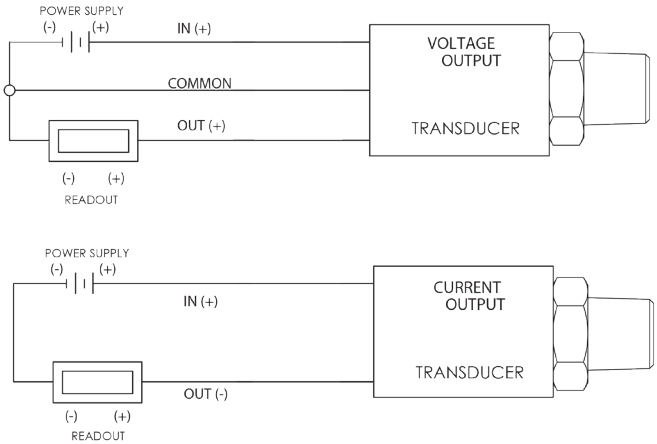
OVERPRESSURE CAPABILITY

Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)	Burst Pressure (x Full Scale)
75-300 (3.5-25)	3.00 x FS	40 x FS
500-1,500 (35-100)	2.00 x FS	20 x FS
2,000-6,000 (160-400)	2.00 x FS	10 x FS
7,500-9,000 (600)	2.00 x FS	4 x FS
10,000 (700)	2.00 x FS	<60,000 PSI
15,000 (1,000)	2.00 x FS	<60,000 PSI
25,000 (1,600)	1.40 x FS	<60,000 PSI
30,000 (2,200)	1.40 x FS	<60,000 PSI

The data in this table is "times rate ranges" (xRR)

Application pressure should be restricted to the rated-range of the transducer. The maximum overpressure is the pressure limit at which the transducer will not show significant offset shift. The minimum burst pressure is the test-rating for fluid containment.

WIRING

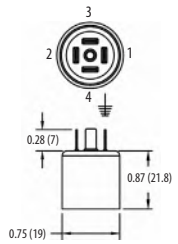
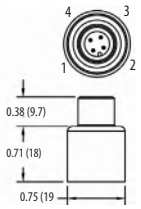
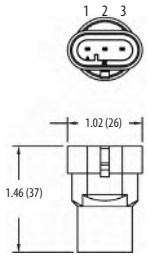
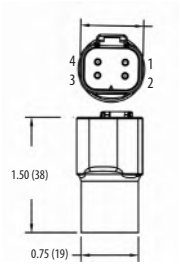
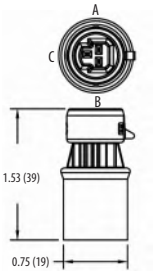
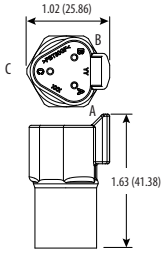


(continue Model 3100 on next page)

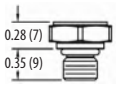
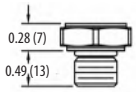
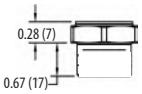
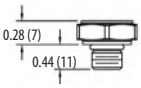
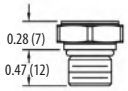
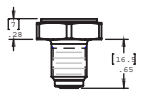
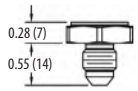
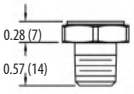
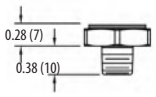
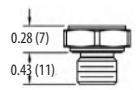
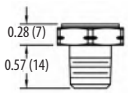
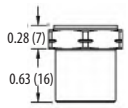
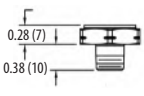
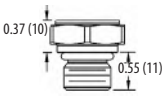
Model 3100

OEM INDUSTRIAL PRESSURE TRANSDUCER

ELECTRICAL FITTINGS

	Din 9.4 mm		M12 x 1P		Amp Superseal 1.5		Deutsch DT4-4P		Packard Metri Pack			3-Pin Deutsch		
														
	Code B		***Code E***		***Code 6***		***Code 8***		***Code 9***			***Code C***		
Pin #	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**		**Voltage Mode**	**Current Mode**	
1	$V_{out}1$ (pressure)	No Connect	V_{supply}	V_{supply}	$V_{out}1$ (pressure)	No Connect	Ground	Return	$V_{out}1$ (pressure)	No Connect	C	V_{supply}	V_{supply}	A
2	V_{supply}	V_{supply}	$V_{out}1$ (pressure)	No Connect	Ground	Return	V_{supply}	V_{supply}	Ground	Return	A	Ground	Return	B
3	$V_{out}2$ (temp)	No Connect	Ground	Return	V_{supply}	V_{supply}	$V_{out}2$ (temp)	No Connect	V_{supply}	V_{supply}	B	$V_{out}1$ (pressure)	No Connect	C
4	Ground	Return	$V_{out}2$ (temp)	No Connect	–	–	$V_{out}1$ (pressure)	No Connect	–	–		–	–	–

PRESSURE FITTINGS

SAE Dimensions in Inches					
Fitting Code	***OL*** = M12 x 1.5	***01*** = G1/4 Ext.	***1G*** = 1/4-SAE Female 7/16 UNF w/Schraeder	***1J*** = 7/16-20Ext.(SAE#4, J1926-2)w/O-Ring	***1P*** = SAE6 (9/16-18UNF 2A)
Torque	28-30 NM	30-35 NM	18-20 NM	18-20 NM	18-20 NM
					
Fitting Code	***2T*** = M12 x 1.5	***04*** = 7/16-20 Ext. (SAE #4, J514 w/37°Flare)	***4C*** = 1/4NPTF Dryseal EXT.	***4D*** = 1/8NPTF Dryseal EXT.	***05*** = G 1/4 Ext. Face Seal
Torque	30-35 NM	15-16 NM	2-3 TFFT*	2-3 TFFT*	Dimensions: in. (mm)
					
Fitting Code	***02*** = 1/4-18 PT Ext.	***OE*** = Female 1/4-18NPT	***08*** = 1/8-27 NPT Ext.	***OK*** = M14 x 1.5 Straight	
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	

*O-Rings are not supplied with pressure fittings.

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

Model 3100

OEM INDUSTRIAL PRESSURE TRANSDUCER

ORDERING INFORMATION

□□□□ - □ - □□□□ - □ - □□ - □

MODEL	OUTPUT		RANGE CODE	PRESSURE TYPE		PRESSURE FITTING	ELEC. CONNECTION
See Table 1	*B*	4-20 mA	See Table 2	*C*	Compound	See Table 3	See Table 4
	C	1-6 VDC		*G*	Gauge		
	H	1-5 VDC		*S*	Sealed Gauge[2]		
	N	0.5-4.5 VDC					
	R	0-5 VDC					
	S	0-10 VDC					
	T	0.5-4.5 Ratiometric					

TABLE 1: MODEL SPEC

CODE	DESCRIPTION
3100	Std. 3100
VOLTAGE UNITS W/TEMP. OUTPUT	
3101[1]	Temp. Output Range: -40°C to +125°C
3102[1]	Temp. Output Range: -0°C to +100°C
3103[1]	Temp. Output Range: -0°C to +80°C

TABLE 2: RANGE SPEC

RANGE CODE	PSI	RANGE CODE	BAR
075P[2]	75	*0005*[2]	5
100P[2]	100	*0007*[2]	7
150P[2]	150	*0010*[2]	10
230P[2]	230	*0016*[2]	16
250P	250	*0020*[2]	20
300P[2]	300	*0035*[2]	35
500P[2]	500	*0070*[2]	70
10CP[2]	1,000	*0100*[2]	100
15CP[2]	1,500	*0160*	160
23CP	2,300	*0250*	250
36CP	3,600	*0400*	400
60CP	6,000	*0700*	700
10KP	10,000	*1000*[3]	1,000
15KP[3]	15,000	*1800*[3]	1,800
25KP[3]	25,000	*1600*[3]	1,600
32KP[3,6]	32,000		

TABLE 3: FITTING SPEC

CODE	DESCRIPTION
08	1/8-27 NPT Ext.
02	1/4-18 NPT Ext.
4C	1/4 NPTF Dryseal Ext.
4D	1/8 NPTF Dryseal Ext.
04	7/16-20 Ext. (SAE #4, J514) w/37° Flare
1J	7/16-20 Ext.(SAE #4, J1926-2) w/O-Ring
1G[5]	1/4 -SAE Int. 7/16 UNF w/ Schraeder Deflater/European Threads
1P	SAE6 (9/16-18UNF 2A)
01	G 1/4 Ext.
05	G 1/4 Ext. Face Seal
0L	M12 x 1.5 (<1000 bar, <15,000 PSI)
2T[3]	M12 x 1.5 (6g) (≥1000 bar, ≥15,000 PSI)
0K	M14 x 1.5 Straight
0E[5]	Int. 1/4-18NPT

TABLE 4: ELEC. SPEC

CODE	DESCRIPTION
B	Industrial DIN
C	3-Pin Deutsch (Sealed Only)
E	M12xP, 4-Pin
6	AMP Superseal 1.5 Series
8	Deutsch DT04-4P
9	Packard Metri Pack

NOTES

[1] Temperature outputs are for voltage output pressure sensors only (applies temperature span. Requires additional 2mA of power.

[2] Sealed gauge not available on ranges ≤1500 PSI (≤100 bar).

[3] Ranges 1000 bar (15,000 PSI) and above available with 2T pressure port only. Ranges above 1,000 BAR are not UL Labeled.

[4] Pressure ports OE and 1G are NOT available with the Restrictor option.

[5] 0 to 50 PSI (4 bar) - Not available with 4 to 20 mA or 0 to 10 VDC outputs.

[6] Temperature outputs not available with Option 1 Miswire Protection PCB Ratiometric output not available

ACCESSORIES - MATING CONNECTORS

PART NO.	DESCRIPTION	CODE	PART NO.	DESCRIPTION	CODE
557230	Mini Din Connector, Strain Relief	*B*		Recommended Mating Parts (AMP p/n: Socket Conn. 1-967325-1,	*6*
557703-01M0	M12 Cord Set - 1 Meter (Red 1, Green 2, Blue 3, Yellow 4)	*E*		Consult AMP for Contacts, Wire Seal and Strain Relief options)	
557703-03M0	M12 Cord Set - 3 Meters (Red 1, Green 2, Blue 3, Yellow 4)	*E*	**210730**	AMP 12" Flying Leads Cord Set	*6*
557703-04M0	M12 Cord Set - 4 Meters (Red 1, Green 2, Blue 3, Yellow 4)	*E*		Recommended Mating Parts (Deutsch p/n: Housing	*8*
557703-05M0	M12 Cord Set - 5 Meters (Red 1, Green 2, Blue 3, Yellow 4)	*E*		Plug DT064S-P012; Wedge W4S-P012; Sockets 4X 0462-201-1631)	
			224153	Deutsch Cord Set 3' Long (18 AWG PVC Cable - Black 1, Red 2, Green 3, White, 4	*8*
	Recommended Mating Parts (AMP p/n: Housing 282087-1;	*6*		Recommended Mating Parts (Delphi Packard MetriPack p/n: Body 12065268; Seal	*9*
	Contacts 3X 183025-1; Seal 281934-1; Boot 880811-2)			12052893; Consult Delphi for Contacts)	
557701 210729	AMP Superseal Mate Kit	*6*	**577**	Packard Mate Kit	*9*
	AMP 3.5' Cable Cord Set - Clear Pos 1, Black Pos 2, Red Pos 3	*6*	**581**	Packard Cord Set 3' Long	*9*
			582	Packard Cord Set 6' Long	*9*

Model 3200

HEAVY DUTY OEM INDUSTRIAL PRESSURE TRANSDUCER

•>2.5 FS Proof Pressure
•High Quality: <0.1% Failure Rate
•Long-Term Stability (<0.2%FS/YR)

- ±0.5% FS Accuracy
- No Oil Fill - Prevents Thermal Instability & Leakage
- Wide Choice of Pressure Ranges: 75 PSI-25,000 PSI
- Accuracy Specified Over Full Temperature Range
- Small Footprint - Less than 1" Diameter
- Dual Temperature and Pressure Output
- Choice of Current, Voltage, or Ratiometric Outputs
- Reverse Wiring Protection
- All Welded Stainless Steel Construction
- CE & RoHS Compliant, UL Approved
- IP67 Rated

Applications

Power Generation

Hydraulic Systems

Booster Pump Systems

Irrigation Systems

Off Highway Vehicles

The Model 3200 sputtered thin film pressure sensor is designed for OEMs who require top of the line performance, reliability, stability and maximum durability at an affordable price. The Model 3200 is ideal for the most heavy duty industrial applications by providing the maximum performance to durability ratio available. The Model 3200 offers exceptional ±0.5% FS accuracy in pressure ranges from 75 PSI to 32,000 PSI; features an all welded stainless steel construction for a robust design, and IP67 seal for moisture and humidity protection. The Model 3200 offers a variety of different outputs, pressure connectors and electrical connectors, to satisfy the most challenging application requirements.

BUILT TO LAST

The Model 3200 is a heavy duty pressure device with long term stability, product reliability and accuracy built in. The compact welded stainless steel design is constructed to protect the sensor in the most demanding of industrial environments. The Model 3200 provides a 3x overpressure (0 to10k PSI) and a 2.5x overpressure (10k to 14.5 PSI) rating, ensuring that the sensor does not fail during unexpected pressure spikes. The electrical connectors are tested to an environmental protection specification of IP67, and a robust internal design ensures that the transducers can survive high levels of vibration.

FLEXIBILITY FOR MANY APPLICATIONS

Strain Gauge technology provides a very linear and predictable output signal over a wide temperature range, which enables Setra to provide an inherently stable and accurate sensor element in high volumes and at low cost. To ensure best in class accuracy and long term stability, each sensing element is thermally compensated to an accuracy of less than 0.005%°C prior to leaving the clean room for final assembly. Thermally compensating the unit ensures improved accuracy and simplified conditioning electronics, while eliminating the need for calibration over elevated temperatures as a transducer.

UNRIVALED QUALITY

Setra understands the importance of quality in OEM applications, which is why we are always looking for ways to improve the quality rating of our products. Over the last two years, the Model 3200 failure rate is less than 0.1%, a quality rating unmatched by the competition. The worst thing that could happen to an engineer is to shut down their work because of quality issues, Setra takes this seriously which is why we have worked hard to ensure that product quality issues will never be a concern for our customers.

Model 3200

HEAVY DUTY OEM INDUSTRIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy[1]	±0.5% FS
THERMAL EFFECTS[2]	
Compensated Range	-40 to +257°F (-40 to +125°C)
Zero/Span Shift %FS/100°F (%FS/100°C)	0.94 (2.0) for <1000 PSI (60 BAR)
Zero/Span Tolerance	1% FS for <1000 PSI (60 BAR)
Response Time	1 millisecond
Long Term Stability	±0.2% FS for <1000 PSI (60 BAR)
Proof/Burst Pressure	See overpressure capability
Fatigue Life	Designed for more than 100M cycles
Operating/Storage Temp[3,4,5]	-40 to +257°F (-40 to +125°C)
ELECTRICAL DATA (RATIOMETRIC)	
Output	0.5 to 4.5 VDC @ 4mA (6.5 mA on Dual Output Version)
Excitation	5 VDC ± 10%
OPTIONS	
Full miswire protection between all signal and power lines (any combination). Full short-circuit protection for Vout1 to 0V or Vout1 connected to supply, indefinitely. Ratiometric output not available Supply Voltage must be 4V above the maximum Vout1 output. This also accounts for worse-case customer output leads.	
APPROVALS	
CE, RoHS, UL (E312651)	

PHYSICAL DESCRIPTION	
Pressure Port	See ordering information
Enclosure	IP67 (IP65 for Electrical Code A)
Elec. Connections	See ordering information
Wetted Parts	17-4PH SS (Diaphragm), 304 SS Fittings
Vibration	40G Peak to Peak Sinusoidal to 2000Hz (Random Vibration: 20 to 1000Hz @ approx. 40G Peak per MIL-STD-810E)
Shock	Withstand free fall to IEC 68-2-32 procedure 1
Weight	35 Grams
ELECTRICAL DATA (VOLTAGE)[6]	
Circuit	3-Wire (Exc, Out, Com)
Output	1 to 6 VDC, 1 to 5 VDC, 0.5 to 4.5 VDC, 0 to 5 VDC, 0 to 10 VDC[7]
Excitation	2 Volts above FS to max 30 Volts @ 4.5 mA (6.5mA Dual Output Version)
Source & Sinks	2mA
ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output	4 to 20mA
Excitation	8 to 30 VDC (24 VDC max. above 110°C applications)
Max. Loop Resistance	(Supply Voltage-8) x50 ohms

[1]RSS of Non-Linearity, Hysteresis, and Non-Repeatability .
[2]Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.
[3]Temperature outputs are for voltage output pressure sensors only and limited to connections that have 4 pins (Electrical Codes -D, -E, -8).
[4]Requires additional 2 mA of power.
[5]For use with pull-down resistors, contact factory before ordering.
[6]Reverse Wiring Protected.
[7]Not available for pressure ranges lower than 100 PSI (7 BAR)

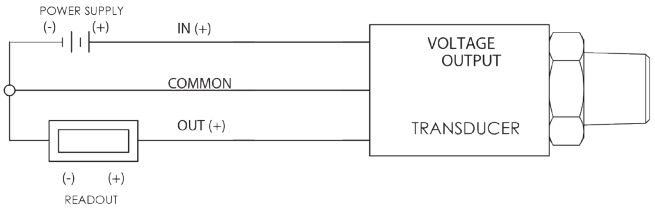
OVERPRESSURE CAPABILITY

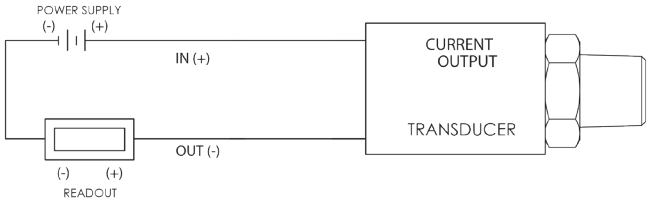
Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)	Burst Pressure (x Full Scale)
75-300 (3.5-25)	3.00 x FS	40 x FS
500-1,500 (35-100)	3.00 x FS	20 x FS
2,000-6,000 (160-400)	3.00 x FS	10 x FS
7,500-9,000 (600)	3.00 x FS	10 x FS
10,000 (700)	3.00 x FS	>60,000 PSI (4,000 BAR)
15,000 (1,000)	2.50 x FS	>60,000 PSI (4,000 BAR)
25,000 (1,600)	2.50 x FS	>60,000 PSI (4,000 BAR)

The data in this table is "times rate ranges" (xRR)

Application pressure should be restricted to the rated-range of the transducer. The maximum overpressure is the pressure limit at which the transducer will not show significant offset shift. The minimum burst pressure is the test-rating for fluid containment.

WIRING



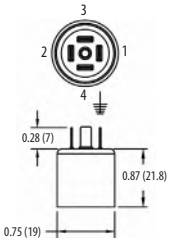
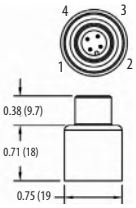
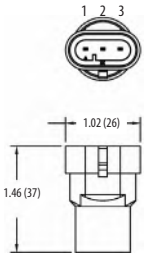
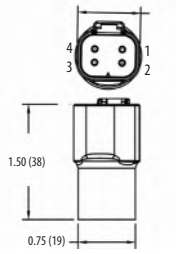
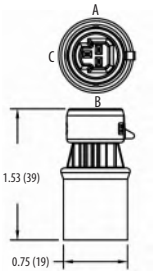
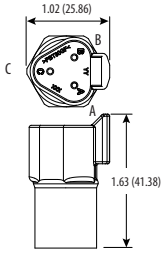


(continue Model 3200 on next page)

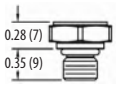
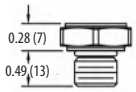
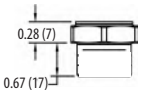
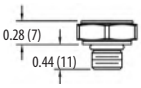
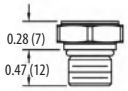
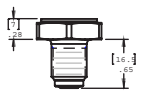
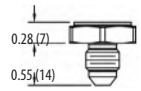
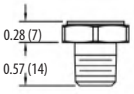
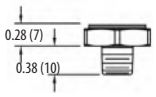
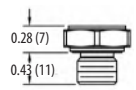
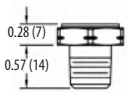
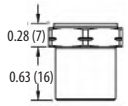
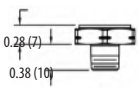
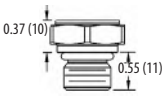
Model 3200

HEAVY DUTY OEM INDUSTRIAL PRESSURE TRANSDUCER

ELECTRICAL FITTINGS

	Din 9.4 mm		M12 x 1P		Amp Superseal 1.5		Deutsch DT4-4P		Packard Metri Pack			3-Pin Deutsch		
														
	Code B		***Code E***		***Code 6***		***Code 8***		***Code 9***			***Code C***		
Pin #	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**	**Voltage Mode**	**Current Mode**		**Voltage Mode**	**Current Mode**	
1	$V_{out}1$ (pressure)	No Connect	V_{supply}	V_{supply}	$V_{out}1$ (pressure)	No Connect	Ground	Return	$V_{out}1$ (pressure)	No Connect	C	V_{supply}	V_{supply}	A
2	V_{supply}	V_{supply}	$V_{out}1$ (pressure)	No Connect	Ground	Return	V_{supply}	V_{supply}	Ground	Return	A	Ground	Return	B
3	$V_{out}2$ (temp)	No Connect	Ground	Return	V_{supply}	V_{supply}	$V_{out}2$ (temp)	No Connect	V_{supply}	V_{supply}	B	$V_{out}1$ (pressure)	No Connect	C
4	Ground	Return	$V_{out}2$ (temp)	No Connect	–	–	$V_{out}1$ (pressure)	No Connect	–	–		–	–	–

PRESSURE FITTINGS

SAE Dimensions in Inches					
Fitting Code	***OL*** = M12 x 1.5	***01*** = G1/4 Ext.	***1G*** = 1/4-SAE Female 7/16 UNF w/Schraeder	***1J*** = 7/16-20Ext.(SAE#4, J1926-2)w/O-Ring	***1P*** = SAE6 (9/16-18UNF 2A)
Torque	28-30 NM	30-35 NM	18-20 NM	18-20 NM	18-20 NM
					
Fitting Code	***2T*** = M12 x 1.5	***04*** = 7/16-20 Ext. (SAE #4, J514 w/37°Flare)	***4C*** = 1/4NPTF Dryseal EXT.	***4D*** = 1/8NPTF Dryseal EXT.	***05*** = G 1/4 Ext. Face Seal
Torque	30-35 NM	15-16 NM	2-3 TFFT*	2-3 TFFT*	Dimensions: in. (mm)
					
Fitting Code	***02*** = 1/4-18 PT Ext.	***OE*** = Female 1/4-18NPT	***08*** = 1/8-27 NPT Ext.	***OK*** = M14 x 1.5 Straight	
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	

*O-Rings are not supplied with pressure fittings.

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

Model 3200

HEAVY DUTY OEM INDUSTRIAL PRESSURE TRANSDUCER

ORDERING INFORMATION

□□□□ - □ - □□□□ - □ - □□ - □ - O

MODEL	OUTPUT		RANGE CODE	PRESSURE TYPE		PRESSURE FITTING	ELEC. CONNECTION	RESTRICTOR	
See Table 1	*B*	4-20 mA	See Table 2	*C*	Compound	See Table 3	See Table 4	*O*	No Restrictor
	C	1-6 VDC		*G*	Gauge			*R*	Restrictor
	H	1-5 VDC		*S*	Sealed Gauge[2]				
	N	0.5-4.5 VDC							
	R	0-5 VDC							
	S	0-10 VDC							
	T	0.5-4.5 Ratiometric							

TABLE 1: MODEL SPEC

CODE	DESCRIPTION
3200	Std. 3200
VOLTAGE UNITS W/TEMP. OUTPUT	
3201[1]	Temp. Output Range: -40°C to +125°C
3202[1]	Temp. Output Range: -0°C to +100°C
32 03[1]	Temp. Output Range: -0°C to +80°C

TABLE 2: RANGE SPEC

RANGE CODE	PSI	RANGE CODE	BAR
050P[2,5]	50	*0004*[2,5]	4
075P[2]	75	*0005*[2]	5
100P[2]	100	*0007*[2]	7
150P[2]	150	*0010*[2]	10
230P[2]	230	*0016*[2]	16
250P	250	*0020*[2]	20
300P[2]	300	*0035*[2]	35
500P[2]	500	*0070*[2]	70
10CP[2]	1,000	*0100*[2]	100
15CP[2]	1,500	*0160*	160
23CP	2,300	*0250*	250
36CP	3,600	*0400*	400
60CP	6,000	*0700*	700
10KP	10,000	*1000*[3]	1,000
15KP[3]	15,000	*1800*[3]	1,800
25KP[3]	25,000	*1600*[3]	1,600

TABLE 3: FITTING SPEC

CODE	DESCRIPTION
08	1/8-27 NPT Ext.
02	1/4-18 NPT Ext.
4C	1/4 NPTF Dryseal Ext.
4D	1/8 NPTF Dryseal Ext.
04	7/16-20 Ext. (SAE #4, J514) w/37° Flare
1J	7/16-20 Ext.(SAE #4, J1926-2) w/O-Ring
1G[4]	1/4 -SAE Int. 7/16 UNF w/ Schraeder Deflater/European Threads
1P	SAE6 (9/16-18UNF 2A)
01	G 1/4 Ext.
05	G 1/4 Ext. Face Seal
0L	M12 x 1.5 (<1000 bar, <15,000 PSI)
2T[3]	M12 x 1.5 (6g) (≥1000 bar, ≥15,000 PSI)
0K	M14 x 1.5 Straight
0E[4]	Int. 1/4-18NPT

TABLE 4: ELEC. SPEC

CODE	DESCRIPTION
B	Industrial DIN
C	3-Pin Deutsch (Sealed Only)
E	M12xP, 4-Pin
6	AMP Superseal 1.5 Series
8	Deutsch DT04-4P
9	Packard Metri Pack

NOTES

[1] Temperature outputs are for voltage output pressure sensors only (applies temperature span. Requires additional 2mA of power.

[2] Sealed gauge not available on ranges ≤1500 PSI (≤100 bar).

[3] Ranges 1000 bar (15,000 PSI) and above available with 2T pressure port only. Ranges above 1,000 BAR are not UL Labeled.

[4] Pressure ports OE and 1G are NOT available with the Restrictor option.

[5] 0 to 50 PSI (4 bar) - Not available with 4 to 20 mA or 0 to 10 VDC outputs.

ACCESSORIES - MATING CONNECTORS

PART NO.	DESCRIPTION	CODE	PART NO.	DESCRIPTION	CODE
557230	Mini Din Connector, Strain Relief	*B*		Recommended Mating Parts (AMP p/n: Socket Conn. 1-967325-1,	*6*
557703-01M0	M12 Cord Set - 1 Meter (Red 1, Green 2, Blue 3, Yellow 4)	*E*		Consult AMP for Contacts, Wire Seal and Strain Relief options)	
557703-03M0	M12 Cord Set - 3 Meters (Red 1, Green 2, Blue 3, Yellow 4)	*E*	**210730**	AMP 12" Flying Leads Cord Set	*6*
557703-04M0	M12 Cord Set - 4 Meters (Red 1, Green 2, Blue 3, Yellow 4)	*E*		Recommended Mating Parts (Deutsch p/n: Housing	*8*
557703-05M0	M12 Cord Set - 5 Meters (Red 1, Green 2, Blue 3, Yellow 4)	*E*		Plug DT064S-P012; Wedge W4S-P012; Sockets 4X 0462-201-1631)	
			224153	Deutsch Cord Set 3' Long (18 AWG PVC Cable - Black 1, Red 2, Green 3, White, 4	*8*
	Recommended Mating Parts (AMP p/n: Housing 282087-1;	*6*		Recommended Mating Parts (Delphi Packard MetriPack p/n: Body 12065268; Seal	*9*
	Contacts 3X 183025-1; Seal 281934-1; Boot 880811-2)			12052893; Consult Delphi for Contacts)	
557701 210729	AMP Superseal Mate Kit	*6*	**577**	Packard Mate Kit	*9*
	AMP 3.5' Cable Cord Set - Clear Pos 1, Black Pos 2, Red Pos 3	*6*	**581**	Packard Cord Set 3' Long	*9*
			582	Packard Cord Set 6' Long	*9*

Model 31CS

INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

•Premium Price-to-Performance
•High Quality: <0.1% Failure Rate
•Long-Term Stability (<0.1%FS/YR)

- ±0.25% FS Accuracy
- No Oil Fill - Prevents Thermal Instability & Leakage
- Class I, Division 1, Groups C & D
- Class I, Zone 0 Ex ia IIB T4 Ga
- Class I, Zone 0 AEx ia IIB T4 Ga
- Wide Choice of Pressure Ranges: 75 PSI-32,000 PSI
- Dual Temperature and Pressure Output
- Small Footprint - Less than 1" Diameter
- Reverse Wiring Protection
- All Welded Stainless Steel Construction
- CE & UL Approved, RoHS Compliant
- IP67 Rated

Applications

Industrial Processes
Chemical
HVAC/R Equipment
Water Management

The Model 31CS is designed for hazardous locations requiring intrinsic safety, top of the line performance, reliability, and stability at an affordable price. The Model 31CS offers exceptional ±0.25% FS accuracy in pressure ranges from 75 PSI to 32,000 PSI and features an all welded stainless steel construction for a robust design and IP67 seal for moisture and humidity protection. The Model 31CS offers a variety of different outputs, pressure connectors, and electrical connectors to satisfy the most challenging application requirements. In addition, voltage units are available with a dual pressure/temperature output. For ATEX/IECEx intrinsically safe pressure transducers, refer to Setra's 31IS and 32IS.

BEST IN CLASS PRICE-TO-PERFORMANCE

Strain Gauge technology provides a very linear and predictable output signal over a wide temperature range, which enables Setra to provide an inherently stable and accurate sensor element in high volumes and at low cost. The Model 31CS sensor is constructed using a highly sophisticated automation process, where the sensors are manufactured in a Class 100 clean room. To ensure best in class accuracy and long term stability, each sensing element is thermally compensated to an accuracy of less than 0.005%°C prior to leaving the clean room for final assembly. Thermally compensating the unit ensures improved accuracy and simplified conditioning of electronics, while eliminating the need for calibration over elevated temperatures as a transducer.

UNRIVALED QUALITY

Setra understands the importance of quality in OEM applications, which is why we are always looking for ways to improve the quality rating of our products. Over the last two years, the Model 31CS failure rate is less than 0.1%, a quality rating unmatched by the competition. The worst thing that could happen to an engineer is to shut down their work because of quality issues. Setra takes this seriously, which is why we have worked hard to ensure that product quality issues will never be a concern for our customers.

RUGGED DESIGN

The Model 31CS's compact welded stainless steel design is constructed to protect the sensor in demanding industrial environments. The electrical connectors are tested to an environmental protection specification of IP67, and a robust internal design ensures that the transducers can survive high levels of vibration. A high level of EMC protection allows the transmitters to perform to the most stringent of industrial standards, and all devices are RoHS compliant.

Model 31CS

INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

SPECIFICATIONS

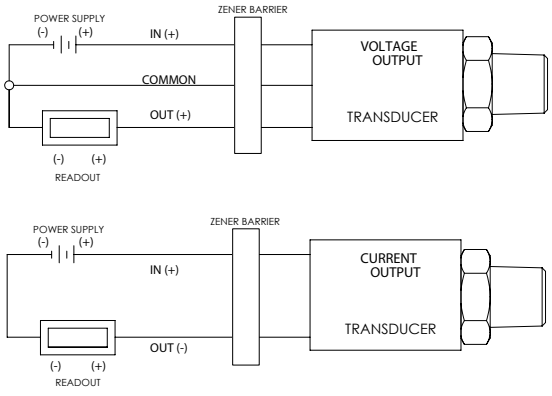
PERFORMANCE	
Accuracy[1] RSS	±0.25% FS
Long Term Drift	0.2% FS/YR (non-cumulative)
Thermal Error:	
31CS	±1.5% max, ±1% typical/212ºF (100ºC)
Compensated Range	-4 to +176ºF (-20 to +80ºC)
Operating Temp	-40 to +176ºF (-40 to +80ºC)
Zero Tolerance Max.	0.5% of Span
Span Tolerance Max.	0.5% of Span
Fatigue Life	Designed for more than 100M cycles
PHYSICAL DESCRIPTION	
Pressure Port	See Ordering Information
Wetted Parts[2]	17-4 PH Stainless Steel (Diaphragm)
Electrical Connection	See Ordering Information
Enclosure	IP67 (IP65 for Electrical Code A)
Vibration	BSEN 60068-2-6 (FC) Sine (20G) BSEN 60068-2-64 (FH) Random (14.1 Grms)
Shock	BSEN 60068-2-27 (Ea) (50G, 11ms)
Weight (Configuration dependant.)	1.8 to 5.3 oz (50-150 grams).
ZENER BARRIER & ENTITY PARAMETERS	
Zener Barrier Parameters	
Voltage	Ui = 30VDC
Current	Li = 100mA
Power	Pi = 0.7W
Entity Parameters	
Signal Current	In = 4 to 20mA
Effective Internal Capacitance	Ci = 323n
Effective Internal Inductance	Li = 9µh
Values to be added when supplied with integrated cable:	
Cable Capacitance	Ci = 300pF / m (max) Wire-to-Wire or Wire-to-Shield
Cable Capacitance	Li = 2µH / m (max) Wire-to-Wire

ELECTRICAL DATA		
Voltage[3]		
Output (3-Wire)		0V min to 10V max.
Supply Voltage		1 Volt above full scale with min supply of 8V; max 30V at 4.5mA
Source & Sinks		2 mA
Current[3]		
Output (2-Wire)		4-20 mA
Supply Voltage		8-24 Volts measured at the input to the transducer terminals
Max Loop Resistance		(Supply Voltage - 8) x 50 ohms. See Graph Below
Ratiometric Output		
Output		0.5 to 4.5V (Source & Sink 2 mA)
Supply Voltage		5 VDC ±10% at 4.5 mA
EMC SPECIFICATIONS		
Emission Tests:	EN61326-1:2006 and EN61326-2-3:2006	
EN55011:2007	Radiated Emissions	30-230MHz 30dB µV/M @10M 230-1000MHz 37dB µV/M @10M
Immunity Tests:	EN61326-1:2006 and EN61326-2-3:2006	
EN61000-4-2:2009	Electrostatic Discharge:	±4Kv contact ±8Kv air
EN61000-4-3:2006	Radiated Immunity:	10V/M 80-1000MHz 3V/M 1400-2000MHz 1V/M 2000-2700MHz
EN61000-4-4:2004	Fast Transients:	±0.25, 0.5, 1Kv
EN61000-4-6:2007	Conducted Immunity:	3V 0.15 to 80MHz 80% 1KHz modulation

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.
[3] Reverse Wiring Protected

Specifications subject to change without notice.

WIRING



OVERPRESSURE CAPABILITY

Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)	Burst Pressure (x Full Scale)
75-300 (4-20)	3.00 x FS	40 x FS
500-1,500 (40-100)	2.00 x FS	20 x FS
2,000-6,000 (140-400)	2.00 x FS	10 x FS
10,000 (700)	2.00 x FS	>60,000 PSI (4,000 Bar)
15,000 (1,000)	2.00 x FS	>60,000 PSI
25,000 (1,800)	1.40 x FS	>60,000 PSI
30,000 (2,200)	1.40 x FS	>60,000 PSI

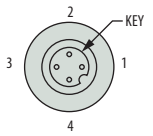
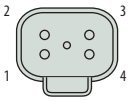
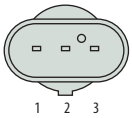
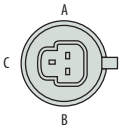
The data in this table is "times rated ranges" (xRR)

Application pressure should be restricted to the rated-range of the transducer. The maximum overpressure is the pressure limit at which the transducer will not show significant offset shift. The minimum burst pressure is the test-rating for fluid containment.

Model 31CS

INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

ELECTRICAL FITTINGS

M12			Deutsch DT01-4P		Industry Standard Form C		EN175301-803 (DIN 43650 A)		AMP Superseal 1,5 Series			METRIPACK T (150 SERIES)		
														
Code E			*Code 8*		*Code R*		*Code G*		*Code 6*			*Code 9*		
Pin #	**Voltage**	**Current**	**Voltage**	**Current**	**Voltage**	**Current**	**Voltage**	**Current**	**Pin #**	**Voltage**	**Current**	**Pin #**	**Voltage**	**Current**
1	+IN	+IN	0V	0V	+IN	+IN	+IN	+IN	1	+OP	DNC	A	0V	0V
2	+OP	DNC	+IN	+IN	0V	0V	0V	0V	2	0V	0V	B	+IN	+IN
3	0V	0V	NC	NC	+OP	DNC	+OP	DNC	3	+IN	+IN	C	+OP	DNC
4	NC	NC	+OP	DNC	NC	NC	NC	NC						
Recommended Mating Connector: To IEC 61076-2-101 Hirschmann, Brad Harrison, Lumberg			Recommended Mating Connector: DT064S-P012 as connector plug, W4S-P012 as wedge, 0462-201-1631 as gold socket (x4)		Recommended Mating Connector: Hirschmann GDS 307 Part Number 933 024-100 or equivalent		Recommended Mating Connector: Molex/Brad/mPm Series 121201 (C28300N0S) or equivalent		Recommended Mating Connector: 282087-1 as housing, 183025-1 as contact (x3), 281934-3 as wire seal (x3), 880811-2 as protective boot (strain relief)			Recommended Mating Connector: 12065286 as connector body. 12052893 as connector seal. Consult Delphi Packard for appropriate contacts and wire seals.		

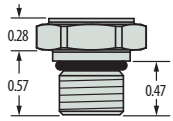
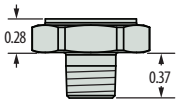
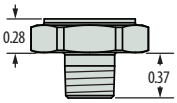
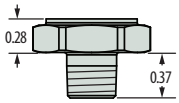
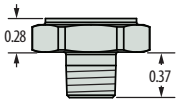
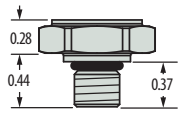
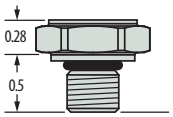
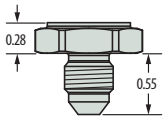
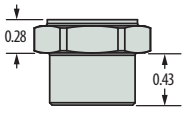
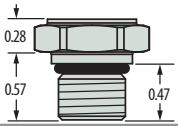
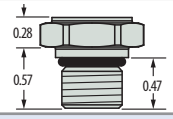
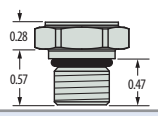
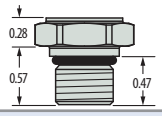
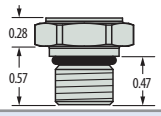
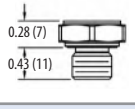
Integrated Cable		
Code F		
Color	**Voltage**	**Current**
Red	+IN	+IN
Black	0V	0V
White	+OP	

NOTES:
DNC: Do Not Connect (Leave Floating). NC: Not Connected at Transducer End
Alternative pin-outs are not available.

The integrated cable is shielded. For compliance with EN 61000-4-5, shielded cable should be used on all transducers.

WARNING: Substitution of Components May Impair Suitability For Intrinsic Safety

PRESSURE FITTINGS

SAE	1/8"- 27 NPT*	1/8"- 27 NPTF Dryseal	1/4" - 18 NPT	1/4" - 18 NPT Internal	1/4" - 18 NPTF Dryseal
Dimensions in Inches					
Fitting Code	***08***	***4D***	***02***	***0E***	***4C***
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*
	SAE J1926/2:3/8-24 w/o O-Ring*	**7/16" - 20 UNF w/ O-Ring***	**7/16"-20 UNF w/37° Flare**	**SAE 4 Female 7/16" Schraeder**	**9/16"-18 "Heavy Duty" w/ O-Ring**
Dimensions in Inches					
Fitting Code	***4N***	***1J***	***04***	***1G***	***1P***
Torque	18-20 NM	18-20 NM	15-16 NM	18-20 NM	18-20 NM
BSP & Metric	**G1/4" - 19 External w/ O-Ring***	**G1/4"-19 A Integral Face Seal***	**M12 x 1.5 w/ O-Ring***	**M12 x 1.5 HP Metal Washer Seal***	**G1/4" A Integral Face Seal**
Dimensions in Inches					
Fitting Code	***01***	***05***	***0L***	***2T***	***05***
Torque	30-35 NM	30-35 NM	28-30 NM	30-35 NM	

*O-Rings are not supplied with pressure fittings.
NOTE: Not all available pressure connectors are shown. Please consult the factory for additional configurations.

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

Model 31CS

INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

ORDERING INFORMATION

3 1 C S – ☐ – ☐☐☐☐☐ – ☐☐ – ☐ – ☐ – ☐☐

MODEL	OUTPUT	PRESSURE RANGE	PRESSURE PORT	CONNECTOR		PRESSURE RESTRICTOR		CABLE LENGTH	
31CS = Standard Duty	See Table 1	See Table 2	See Table 3	***6***	Amp Superseal 1/5 Series	***R***	Restrictor	***00***	Not Fitted
				8	Deutsch DT04-4P	***O***	No Restrictor	***01***	1 meter
				9	Metripack T (150 Series)			***02***	2 meter
				E	M12 x P, 4-Pin			***03***	3 meter
				G[5]	EN175301 (DIN43650 A)			***05***	5 meter
				R	Industry Standard Form C			***10***	10 meter
				F	Integrated Cable				

TABLE 1: OUTPUT

CODE	OUTPUT
B[1]	4-20 mA
C	1-6 V
F	0.1-5.1 V
G[1]	0.2-10.2V
H	1-5 V
N	0.5-4.5 V Non Ratio-metric
P[1]	1-10 V
R	0-5 V
S[1]	0-10 V
T	0.5-4.5 V Ratio-metric
V	0.5-4 V

TABLE 2: PRESSURE RANGE

CODE	BAR	CODE	PSI	CODE	BAR	CODE	PSI
GAUGE				SEALED			
0004G	4	***075PG***	75	***0100S***	100	***15CPS***	1,500
0006G	6	***100PG***	100	***0160S***	160	***20CPS***	2,000
0010G	10	***150PG***	150	***0250S***	250	***35CPS***	3,500
0016G	16	***200PG***	200	***0400S***	400	***50CPS***	5,000
0025G	25	***300PG***	300	***0600S***[3]	600	***10KPS***	10,000
0040G	40	***500PG***	500	***1000S***[3]	1,000	***15KPS***[3]	15,000
0060G	60	***10CPG***	1,000	***1600S***[3]	1,600	***20KPS***[3]	20,000
				2200S[2,3]	2,200	***25KPS***[3]	25,000
						30KPS[2,3]	30,000
						32KPS[2,3]	32,000

TABLE 3: PRESSURE PORT

CODE	DESCRIPTION	CODE	DESCRIPTION
0H	1/2" NPT	***1J***	7/16" - 20 UNF 2A SA1926/2 O'RING
02	1/4" - 18 NPT	***1P***	9/16" - 18UNF 22 A/F
0E[4]	1/4" - 18 NPT Int.	***4P***	G1/2" A 27A/F
4C	1/4" - 18 NPTF Dryseal	***05***	G1/4" A Integral Face Seal
0A	1/4" - 19 PT (JIS) or 1/4" - 19 BSPT	***01***	G1/4" A Stud (BS 5380 Port
4B	1/4" Female (7/16UN with Shraeder Deflator)	***0S***	G1/8" A Stud (BS 5380 Port)
08	1/8" - 27 NPT	***2T***	M12x1.5 (6g) High Pressure (Washer Seal)
4D	1/8" - 27 NPTF Dryseal	***0L***	M12x1.5P (6g) O'Ring to ISO 6149-2
4N	3/8" - 24 UNF Union	***1G***[4]	Schraeder 7-16" - 20 UN 2B Int.
04	7/16" 20 (37FLARE SAE J514 SIZE 4)		

[1]Output codes B, G, P, S not available below 100 PSI (7 BAR)
[2]Ranges above 25 KPS and 1600 BAR only available with 31CS
[3] Ranges 1000 Bar (15,000 PSI) and above in 31CS and 700 BAR (10,000 PSI) and above in 32CS available with 2T pressure port only
[4] Pressure ports 0E and 1G not available with restrictor option
[5] Vented only (no connector)

Model 32CS

HEAVY DUTY INTRINSICALLY SAFE
CSA RATED PRESSURE TRANSDUCER

•Premium Price-to-Performance
•High Quality: <0.1% Failure Rate
•Long-Term Stability (<0.1%FS/YR)

- ±0.25% FS Accuracy
- No Oil Fill - Prevents Thermal Instability & Leakage
- Class I, Division 1, Groups C & D
- Class I, Zone 0 Ex ia IIB T4 Ga
- Class I, Zone 0 AEx ia IIB T4 Ga
- Wide Choice of Pressure Ranges: 75 PSI-32,000 PSI
- Dual Temperature and Pressure Output
- Small Footprint - Less than 1" Diameter
- Reverse Wiring Protection
- All Welded Stainless Steel Construction
- CE & UL Approved, RoHS Compliant
- IP67 Rated

Applications

Natural Gas Test Equipment

Gas Bottle Filling Plants

Petroleum Processing

Oil and Gas Drilling

The Model 32CS is designed for heavy duty applications in hazardous locations requiring intrinsic safety, top of the line performance, reliability, and stability at an affordable price. The Model 32CS offers exceptional ±0.5% FS accuracy in pressure ranges from 75 PSI to 32,000 PSI; features an all welded stainless steel construction for a robust design and IP67 seal for moisture and humidity protection. The Model 32CS offers a variety of different outputs, pressure connectors, and electrical connectors to satisfy the most challenging application requirements. In addition, voltage units are available with a dual pressure/temperature output. For ATEX/IECEx intrinsically safe pressure transducers, refer to Setra's 31IS and 32IS.

BEST IN CLASS PRICE-TO-PERFORMANCE

Strain Gauge technology provides a very linear and predictable output signal over a wide temperature range, which enables Setra to provide an inherently stable and accurate sensor element in high volumes and at low cost. The Model 32CS sensor is constructed using a highly sophisticated automation process, where the sensors are manufactured in a Class 100 clean room. To ensure best in class accuracy and long term stability, each sensing element is thermally compensated to an accuracy of less than 0.005%°C prior to leaving the clean room for final assembly. Thermally compensating the unit ensures improved accuracy and simplified conditioning of electronics, while eliminating the need for calibration over elevated temperatures as a transducer.

UNRIVALED QUALITY

Setra understands the importance of quality in OEM applications, which is why we are always looking for ways to improve the quality rating of our products. Over the last two years, the Model 32CS failure rate is less than 0.1%, a quality rating unmatched by the competition. The worst thing that could happen to an engineer is to shut down their work because of quality issues. Setra takes this seriously, which is why we have worked hard to ensure that product quality issues will never be a concern for our customers.

BUILT TO LAST

The Model 32CS is a heavy duty pressure device with long term stability, product reliability and accuracy built in. The compact welded stainless steel design is constructed to protect the sensor in the most demanding of industrial environments. The Model 32CS provides a 3X overpressure (0 to10k PSI) and a 2.5x overpressure (10k to 14.5k PSI) rating, ensuring that the sensor does not fail during unexpected pressure spikes. The electrical connectors are tested to an environmental protection specification of IP67, and a robust internal design ensures that the transducers can survive high levels of vibration.

Model 32CS

HEAVY DUTY INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

SPECIFICATIONS

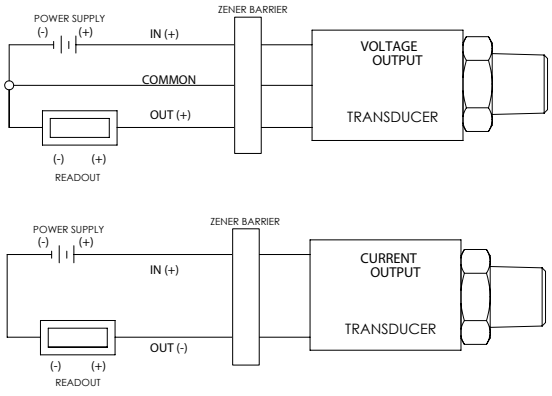
PERFORMANCE	
Accuracy[1] RSS	±0.5% FS
Long Term Drift	0.2% FS/YR (non-cumulative)
Thermal Error:	
32CS	±2% max
Compensated Range	-4 to +176ºF (-20 to +80ºC)
Operating Temp	-40 to +176ºF (-40 to +80ºC)
Zero Tolerance Max.	0.5% of Span
Span Tolerance Max.	0.5% of Span
Fatigue Life	Designed for more than 100M cycles
PHYSICAL DESCRIPTION	
Pressure Port	See Ordering Information
Wetted Parts[2]	17-4 PH Stainless Steel (Diaphragm)
Electrical Connection	See Ordering Information
Enclosure	IP67 (IP65 for Electrical Code A)
Vibration	BSEN 60068-2-6 (FC) Sine (20G) BSEN 60068-2-64 (FH) Random (14.1 Grms)
Shock	BSEN 60068-2-27 (Ea) (50G, 11ms)
Weight (Configuration dependant.)	1.8 to 5.3 oz (50-150 grams).
ZENER BARRIER & ENTITY PARAMETERS	
Zener Barrier Parameters	
Voltage	Ui = 30VDC
Current	Li = 100mA
Power	Pi = 0.7W
Entity Parameters	
Signal Current	In = 4 to 20mA
Effective Internal Capacitance	Ci = 323n
Effective Internal Inductance	Li = 9µh
Values to be added when supplied with integrated cable:	
Cable Capacitance	Ci = 300pF / m (max) Wire-to-Wire or Wire-to-Shield
Cable Capacitance	Li = 2µH / m (max) Wire-to-Wire

ELECTRICAL DATA		
Voltage[3]		
Output (3-Wire)		0V min to 10V max.
Supply Voltage		1 Volt above full scale with min supply of 8V; max 30V at 4.5mA
Source & Sinks		2 mA
Current[3]		
Output (2-Wire)		4-20 mA
Supply Voltage		8-24 Volts measured at the input to the transducer terminals
Max Loop Resistance		(Supply Voltage - 8) x 50 ohms. See Graph Below
Ratiometric Output		
Output		0.5 to 4.5V (Source & Sink 2 mA)
Supply Voltage		5 VDC ±10% at 4.5 mA
EMC SPECIFICATIONS		
Emission Tests:	EN61326-1:2006 and EN61326-2-3:2006	
EN55011:2007	Radiated Emissions	30-230MHz 30dB µV/M @10M 230-1000MHz 37dB µV/M @10M
Immunity Tests:	EN61326-1:2006 and EN61326-2-3:2006	
EN61000-4-2:2009	Electrostatic Discharge:	±4Kv contact ±8Kv air
EN61000-4-3:2006	Radiated Immunity:	10V/M 80-1000MHz 3V/M 1400-2000MHz 1V/M 2000-2700MHz
EN61000-4-4:2004	Fast Transients:	±0.25, 0.5, 1Kv
EN61000-4-6:2007	Conducted Immunity:	3V 0.15 to 80MHz 80% 1KHz modulation

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.
[3] Reverse Wiring Protected

Specifications subject to change without notice.

WIRING



OVERPRESSURE CAPABILITY

Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)	Burst Pressure (x Full Scale)
75-300 (4-20)	3.00 x FS	40 x FS
500-1,500 (40-100)	3.00 x FS	20 x FS
2,000-6,000 (140-400)	3.00 x FS	10 x FS
10,000 (700)	3.00 x FS	>60,000 PSI (4,000 Bar)
15,000 (1,000)	2.50 x FS	>60,000 PSI
25,000 (1,800)	2.50 x FS	>60,000 PSI

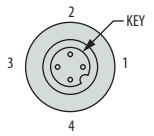
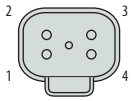
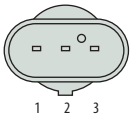
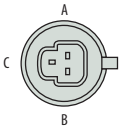
The data in this table is "times rated ranges" (xRR)

Application pressure should be restricted to the rated-range of the transducer. The maximum overpressure is the pressure limit at which the transducer will not show significant offset shift. The minimum burst pressure is the test-rating for fluid containment.

Model 32CS

HEAVY DUTY INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

ELECTRICAL FITTINGS

M12			Deutsch DT01-4P		Industry Standard Form C		EN175301-803 (DIN 43650 A)		AMP Superseal 1,5 Series			METRIPACK T (150 SERIES)		
														
Code E			*Code 8*		*Code R*		*Code G*		*Code 6*			*Code 9*		
Pin #	**Voltage**	**Current**	**Voltage**	**Current**	**Voltage**	**Current**	**Voltage**	**Current**	**Pin #**	**Voltage**	**Current**	**Pin #**	**Voltage**	**Current**
1	+IN	+IN	0V	0V	+IN	+IN	+IN	+IN	1	+OP	DNC	A	0V	0V
2	+OP	DNC	+IN	+IN	0V	0V	0V	0V	2	0V	0V	B	+IN	+IN
3	0V	0V	NC	NC	+OP	DNC	+OP	DNC	3	+IN	+IN	C	+OP	DNC
4	NC	NC	+OP	DNC	NC	NC	NC	NC						
Recommended Mating Connector: To IEC 61076-2-101 Hirschmann, Brad Harrison, Lumberg			Recommended Mating Connector: DT064S-P012 as connector plug, W4S-P012 as wedge, 0462-201-1631 as gold socket (x4)		Recommended Mating Connector: Hirschmann GDS 307 Part Number 933 024-100 or equivalent		Recommended Mating Connector: Molex/Brad/mPm Series 121201 (C28300N0S) or equivalent		Recommended Mating Connector: 282087-1 as housing, 183025-1 as contact (x3), 281934-3 as wire seal (x3), 880811-2 as protective boot (strain relief)			Recommended Mating Connector: 12065286 as connector body. 12052893 as connector seal. Consult Delphi Packard for appropriate contacts and wire seals.		

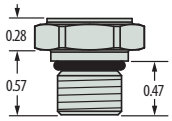
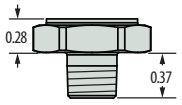
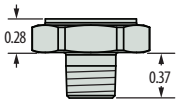
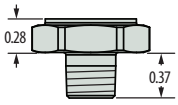
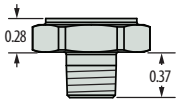
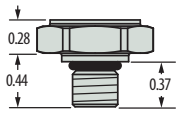
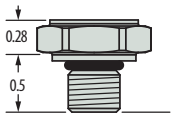
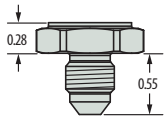
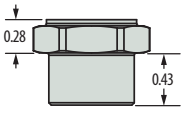
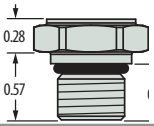
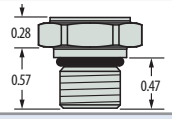
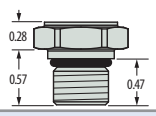
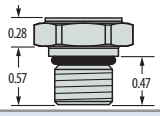
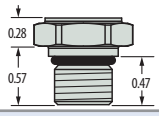
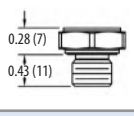
Integrated Cable		
Code F		
Color	**Voltage**	**Current**
Red	+IN	+IN
Black	0V	0V
White	+OP	

NOTES:
DNC: Do Not Connect (Leave Floating). NC: Not Connected at Transducer End
Alternative pin-outs are not available.

The integrated cable is shielded. For compliance with EN 61000-4-5, shielded cable should be used on all transducers.

WARNING: Substitution of Components May Impair Suitability For Intrinsic Safety

PRESSURE FITTINGS

SAE	1/8"- 27 NPT*	1/8"- 27 NPTF Dryseal	1/4" - 18 NPT	1/4" - 18 NPT Internal	1/4" - 18 NPTF Dryseal
Dimensions in Inches					
Fitting Code	***08***	***4D***	***02***	***0E***	***4C***
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*
	SAE J1926/2:3/8-24 w/o O-Ring*	**7/16" - 20 UNF w/ O-Ring***	**7/16"-20 UNF w/37° Flare**	**SAE 4 Female 7/16" Schraeder**	**9/16"-18 "Heavy Duty" w/ O-Ring**
Dimensions in Inches					
Fitting Code	***4N***	***1J***	***04***	***1G***	***1P***
Torque	18-20 NM	18-20 NM	15-16 NM	18-20 NM	18-20 NM
BSP & Metric	**G1/4" - 19 External w/ O-Ring***	**G1/4"-19 A Integral Face Seal***	**M12 x 1.5 w/ O-Ring***	**M12 x 1.5 HP Metal Washer Seal***	**G1/4" A Integral Face Seal**
Dimensions in Inches					
Fitting Code	***01***	***05***	***0L***	***2T***	***05***
Torque	30-35 NM	30-35 NM	28-30 NM	30-35 NM	

*O-Rings are not supplied with pressure fittings.
NOTE: Not all available pressure connectors are shown. Please consult the factory for additional configurations.

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
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Model 32CS

HEAVY DUTY INTRINSICALLY SAFE CSA RATED PRESSURE TRANSDUCER

ORDERING INFORMATION

3 2 C S – ☐ – ☐☐☐☐☐ – ☐☐ – ☐ – ☐ – ☐☐

MODEL	OUTPUT	PRESSURE RANGE	PRESSURE PORT	CONNECTOR		PRESSURE RESTRICTOR		CABLE LENGTH	
32CS = Heavy Duty	See Table 1	See Table 2	See Table 3	***6***	Amp Superseal 1/5 Series	***R***	Restrictor	***00***	Not Fitted
				8	Deutsch DT04-4P	***O***	No Restrictor	***01***	1 meter
				9	Metripack T (150 Series)			***02***	2 meter
				E	M12 x P, 4-Pin			***03***	3 meter
				G[5]	EN175301 (DIN43650 A)			***05***	5 meter
				R	Industry Standard Form C			***10***	10 meter
				F	Integrated Cable				

TABLE 1: OUTPUT

CODE	OUTPUT
B[1]	4-20 mA
C	1-6 V
F	0.1-5.1 V
G[1]	0.2-10.2V
H	1-5 V
N	0.5-4.5 V Non Ratio-metric
P[1]	1-10 V
R	0-5 V
S[1]	0-10 V
T	0.5-4.5 V Ratio-metric
V	0.5-4 V

TABLE 2: PRESSURE RANGE

CODE	BAR	CODE	PSI	CODE	BAR	CODE	PSI
GAUGE				SEALED			
0004G	4	***075PG***	75	***0100S***	100	***15CPS***	1,500
0006G	6	***100PG***	100	***0160S***	160	***20CPS***	2,000
0010G	10	***150PG***	150	***0250S***	250	***35CPS***	3,500
0016G	16	***200PG***	200	***0400S***	400	***50CPS***	5,000
0025G	25	***300PG***	300	***0600S***[3]	600	***10KPS***	10,000
0040G	40	***500PG***	500	***1000S***[3]	1,000	***15KPS***[3]	15,000
0060G	60	***10CPG***	1,000	***1600S***[3]	1,600	***20KPS***[3]	20,000
				2200S[2,3]	2,200	***25KPS***[3]	25,000
						30KPS[2,3]	30,000
						32KPS[2,3]	32,000

TABLE 3: PRESSURE PORT

CODE	DESCRIPTION	CODE	DESCRIPTION
0H	1/2" NPT	***1J***	7/16" - 20 UNF 2A SA1926/2 O'RING
02	1/4" - 18 NPT	***1P***	9/16" - 18UNF 22 A/F
0E[4]	1/4" - 18 NPT Int.	***4P***	G1/2" A 27A/F
4C	1/4" - 18 NPTF Dryseal	***05***	G1/4" A Integral Face Seal
0A	1/4" - 19 PT (JIS) or 1/4" - 19 BSPT	***01***	G1/4" A Stud (BS 5380 Port
4B	1/4" Female (7/16UN with Shraeder Deflator)	***0S***	G1/8" A Stud (BS 5380 Port)
08	1/8" - 27 NPT	***2T***	M12x1.5 (6g) High Pressure (Washer Seal)
4D	1/8" - 27 NPTF Dryseal	***0L***	M12x1.5P (6g) O'Ring to ISO 6149-2
4N	3/8" - 24 UNF Union	***1G***[4]	Schraeder 7-16" - 20 UN 2B Int.
04	7/16" 20 (37FLARE SAE J514 SIZE 4)		

[1]Output codes B, G, P, S not available below 100 PSI (7 BAR)
[2]Ranges above 25 KPS and 1600 BAR only available with 32CS
[3] Ranges 1000 Bar (15,000 PSI) and above in 32CS and 700 BAR (10,000 PSI) and above in 32CS available with 2T pressure port only
[4] Pressure ports 0E and 1G not available with restrictor option
[5] Vented only (no connector)

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

TEST & MEASUREMENT

Accusense™ Model ASL

HIGH ACCURACY LOW DIFFERENTIAL PRESSURE TRANSDUCER

•0.25% Typical Total Error Band
•High Accuracy: ±0.07% FS
•Low Thermal Error

- End Point Method Linearity
- High Overpressure Capability: >100X Range
- Excellent Stability: <0.15% FS/YR
- Calibrate Using SecureCal™ Calibration Key
- High Line Pressure Capability
- Unidirectional & Bidirectional Models Available
- Minimize Downtime
- Reduce Calibration Time

Applications

Filter Pressure
Leak Detection Systems
Exhaust Pressure
Medical Instrumentation
Part Integrity Testing
Test Stands
Wind Tunnels
Industrial High Accuracy

Setra's Model ASL is the highest accuracy transducer for measuring low differential pressure in the AccuSense™ product line. Its ±0.07% FS accuracy is calibrated using the "End Point Method" which improves linearity when compared to competitive transducers, which use the "Best Fit Straight Line Method" of calibration. The ASL's calibration is tamper proof by utilizing a SecureCal™ calibration key which eliminates inadvertent adjustments, while allowing authorized users to adjust the sensor's calibration coefficients for a true sensor calibration. The design of the ASL offers class leading overpressure capability and multiple pressure and electrical fittings to accommodate a wide range of applications.

HIGH ACCURACY FOR DEMANDING APPLICATIONS

The Model ASL differential pressure transducer uses a resonant variable capacitance sensor. This sensor is linearized and thermally compensated through a computerized curve fitting algorithm that optimizes the sensor's linearity for maximum accuracy in demanding applications.

ROBUST DESIGN & CONSTRUCTION FOR RELIABLE SERVICE

The Model ASL is designed and built to withstand demanding applications. The laser welded sensor construction, designed with positive and negative overpressure stops, enables the sensor to resist overpressure conditions up to100X in all pressure ranges.

SECURE AND FAST CALIBRATION & SERVICE

The Model ASL is ideal for the Test & Measurement industry because it adheres to the stringent accuracy requirements. In order to make adjustments, the ASL utilizes the SecureCal™ calibration key, providing secure calibration. The SecureCal™ provides the ability to calibrate zero and span coefficients through a simple push button and rotary adjustment dial. The SecureCal™ also offers the option to restore factory defaults for fail-safe sensor calibration.

Accusense™ Model ASL

HIGH ACCURACY LOW DIFFERENTIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Internal Volumes	Positive Port 0.03 cu. in. Reference Port 0.75 cu. in.
Operable Line Pressure	Vacuum to 250 PSI max
Maximum Volume Change at FS	0.002 cu. in.
Long-term Stability	<0.15% FS/Year, Typical
Response time to Pressure Input (From 100% to 10% of pressure range)	<10 ms for Voltage Output <100 ms for Current Output
Line Pressure Effect	2% FS/100 PSIG
Zero Offset Positive Effect	<0.1%/G
Unit factory calibrated in vertical position (pressure port downward)	

PHYSICAL DESCRIPTION	
Electrical Terminations	See ordering information
Dimensions	See below
Weight	13 oz. (360 g)
Moisture/Splash Resistance	NEMA 4 (IP65)
Pressure Fittings	See Ordering Information
Case Materials	Stainless Steel

ELECTRICAL DATA	
Excitation Range	9 to 30VDC (5VDC & 4-20 mA output) 15 to 30VDC (10 VDC output)
Current Consumption[2]	<23 mA
Miswiring	Reverse Excitation Protection
Warm-up, Environmental	Within ±0.02% FS after 15 min warm-up time
Signal Output Ranges	See ordering information

ACCURACY DATA	
Accuracy[1]	<±0.07% FS RSS[3]
Non-Linearity, End point	<±0.03% FS Typical
Hysteresis	<±0.03% FS Typical
Non-repeatability	<±0.02% FS Typical
Span Setting Tol.	<±0.1% FS
Zero Offset Tol.	<±0.1% FS Typical
Thermal Total Error Band	<±0.25% FS Typical <±0.5% max (-20°C to 60°C)

ENVIRONMENTAL DATA	
Temperature Compensated	-4 to +140°F (-20 to +60°C)
Operating Temp.[3]	-40 to +124°F (-40 to +85°C)
Storage Temp.	-40 to +185°F (-40 to +85°C)
Higher or lower limits available (consult factory)	

PRESSURE MEDIA
Clean, dry gases compatible with 300 series stainless steel and 17-4 pH stainless steel.

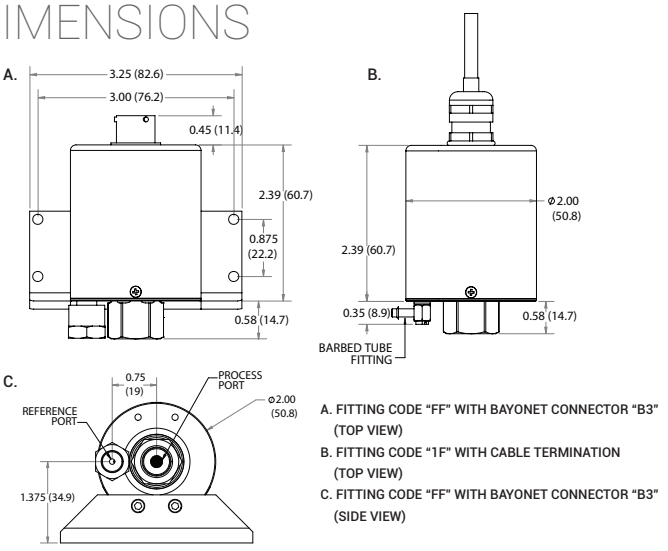
APPROVALS
CE, RoHS

[1]RSS: Root Sum Square of endpoint linearity, Hysteresis and Non-repeatability at constant temperature.
[2]Current consumption: ≥70mA of inrush current for approximately 5ms.
[3]Operating temperature limits of the electronics only.

Specifications subject to change without notice.

US Patent # 6,789,429

DIMENSIONS



A. FITTING CODE "FF" WITH BAYONET CONNECTOR "B3" (TOP VIEW)
B. FITTING CODE "1F" WITH CABLE TERMINATION (TOP VIEW)
C. FITTING CODE "FF" WITH BAYONET CONNECTOR "B3" (SIDE VIEW)

OVERPRESSURE CAPABILITY

Pressure Ranges	Burst Pressure[1]	Standard Proof Pressure[2] Option Code "00"	High Proof Pressure[2] Option Code "01"
0 to 2.5"W.C., 5 mBar	200 PSI, 15 Bar	±10 PSI, ±700 mBar	±75 PSI, ±5 Bar
0 to 5"W.C., 10 mBar	300 PSI, 20 Bar	±20 PSI, ±1 Bar	±100 PSI, ±7 Bar
0 to 10"W.C., 25 mBar	300 PSI, 20 Bar	±30 PSI, ±2 Bar	±150 PSI, ±10 Bar
0 to 30"W.C., 1 PSI, 100 mBar	300 PSI, 20 Bar	±50 PSI, ±4 Bar	±150 PSI, ±10 Bar

[1]Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the diaphragm or reference pressure containment.
[2]Proof Pressure: The maximum recoverable pressure that may be applied without charging performance beyond specification: ±0.5% Zero Shift, Typical.

ORDERING INFORMATION

A S L 1 – [ ][ ][ ][ ][ ] – [ ][ ] – [ ][ ] – [ ][ ] – [ ] – [ ][ ]

MODEL	PRESSURE RANGES[1]								PROCESS/ REFERENCE PORT		OUTPUT		ELEC. TERM.		ACCURACY		OPTION	
ASL1 = Model ASL	DIFFERENTIAL				BIDIRECTIONAL/DIFFERENTIAL				*1F*	1/8' NPT Int./Barb	*2B*	0 to 5 VDC	*03*	3 ft, 1m Std Cable	*A*	<±0.07% FS RSS	*00*	None, Standard
	002WD	0 to 2" W.C.	*001PD*	0 to 1 PSID	*001WB*	±1"W.C.	*005MB*	±5 mBar	*FF*	1/8" NPT Int./ 1/8" NPT Int.	*2C*	0 to 10 VDC	*B3*	Std 6-Pin Male Bayonet Connect, Std Wiring			*01*	High Overpressure (See table below)
	2R5WD	0 to 2.5" W.C.	*005MD*	0 to 5 mBar	*002WB*	±2"W.C.	*010MB*	±10 mBar	*1M*	1/8"NPT Ext./ Barb	*11*	4 to 20 mA						
	005WD	0 to 5" W.C.	*010MD*	0 to 10 mBar	*005WB*	±5"W.C.	*025MB*	±25 mBar	*J7*	7/16-20 SAE Ext./ Barb								
	010WD	0 to 10" W.C.	*025MD*	0 to 25 mBar	*015WB*	±15"W.C.	*050MB*	±50 mBar										
	030WD	0 to 30" W.C.	*050MD*	0 to 50 mBar	*001PB*	±1 PSID												
	040WD	0 to 40" W.C.	*100MD*	0 to 100 mBar														

[1]Other ranges and engineering units are available (ex: Pa, kPa)
Example: Part No. ASL1001WBFF2B03A00:
ASL Transducer, ±1" W.C. Pressure Range, 1/8" NPT Int. Process and Reference Port, 0 to 5 VDC Output, 3 Foot Cable, <±0.07% FS RSS Accuracy, No Option

Accusense™ Model ASM

HIGH ACCURACY PRESSURE TRANSDUCER

•0.25% Total Error Band

•High Accuracy: ±0.05% FS

•Low Thermal Error

- End Point Method Linearity
- Low Differential Pressure Ranges
- High Overpressure Capability: >10X Range
- Excellent Stability: <0.15% FS/YR
- Calibrate Using SecureCal™ Calibration Key
- High Line Pressure Capability
- Unidirectional & Bidirectional Models Available
- Minimize Downtime
- Reduce Calibration Time

Applications

Engine Test Stands

Particle Test & Analysis

Industrial (High Accuracy)

Manifold Pressure

Refrigeration Testing

Setra's Model ASM is the highest accuracy transducer for measuring gauge, absolute, compound and vacuum pressure in the AccuSense™ product line. Its ±0.05% FS accuracy is calibrated using the "End Point Method", which improves linearity when compared to competitive transducers which use the "Best Fit Straight Line Method" of calibration. The ASM's calibration is tamper proof by utilizing a SecureCal™ calibration key, which eliminates inadvertent adjustments, while allowing authorized users to adjust the sensor's calibration coefficients for a true sensor calibration. The design of the ASM offers class leading overpressure capability and multiple pressure and electrical fittings for a wide range of applications.

HIGH ACCURACY FOR DEMANDING APPLICATIONS

The Model ASM pressure transducer uses a resonant variable capacitance sensor. This sensor is linearized and thermally compensated through a computerized curve fitting algorithm that optimizes the sensor's linearity for maximum accuracy in demanding applications.

ROBUST DESIGN & CONSTRUCTION FOR RELIABLE SERVICE

The Model ASM is designed and built to withstand demanding applications. The laser welded sensor construction, designed with a positive overpressure stop, enables the sensor to resist overpressure conditions up to 10X in all pressure ranges.

SECURE AND FAST CALIBRATION & SERVICE

The Model ASM is ideal for the Test & Measurement industry because it adheres to the stringent accuracy requirements. In order to make adjustments, the ASM utilizes the SecureCal™ calibration key, providing secure calibration. The SecureCal™ provides the ability to calibrate zero and span coefficients through a simple push button and rotary adjustment dial. The SecureCal™ also offers the option to restore factory defaults for fail-safe sensor calibration.

Accusense™ Model ASM

HIGH ACCURACY PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Zero Offset Position Effect	<0.05%/G (Ranges ≥100 psi) <0.1%/G (Ranges ≤50 psi)
Long-term Stability	<0.10% FS/Year, Typical
Response Time to Pressure Input (From 100% to 10% of pressure range)	<10 ms for Voltage Output <80 ms for Current Output
Unit factory calibrated in vertical position (pressure port downward)	

ENVIRONMENTAL DATA	
Temperature Calibrated[1]	-4 to +140°F (-20 to +60°C)
Operating	-40 to +185°F (-40 to +85°C)
Storage	-40 to +185°F (-40 to +85°C)
Vibration	10g from 1 kHz to 2kHz
Higher or lower limits available (consult factory).	

PHYSICAL DESCRIPTION	
Electrical Terminations	See ordering information
Dimensions	See below
Moisture/Splash Resistance	NEMA 4 (IP65)
Weight	9 oz. (254 g)
Pressure Fittings	See ordering information
Case Materials	Stainless Steel

SENSOR DESCRIPTION	
Wetted Materials	17-4 PH Stainless Steel
Life Cycle Rating	>10^6 Pressure Cycles

PRESSURE MEDIA
Gases or liquids compatible with17-4 pH stainless steel.[3]

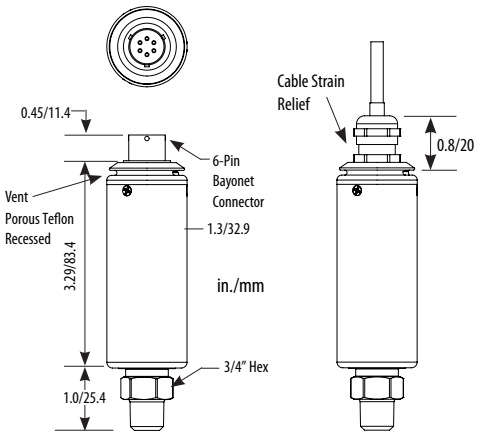
ELECTRICAL DATA	
Excitation Range	9 to 30VDC (5VDC & 4-20 mA output) 15 to 30VDC (10VDC output)
Current Consumption[2]	<23 mA
Warm-up, Environmental	Within ±0.02% FS after 15 min warm-up time
Miswiring	Reverse Excitation Protection
Signal Output Ranges	0 to 5 VDC, 0 to 10VDC (4-wire), 4-20mA (2-wire)
Regulatory Data	CE Compliant & RoHS Compliant

APPROVALS
CE, RoHS

[1] Operating temperature limits of the electronics only.
[2] Current consumption: ≥70mA of inrush current for approximately 5ms.
[3] Hydrogen not recommended for use with 17-4 PH stainless steel.

Specifications subject to change without notice.
US Patents # 6,532,834; 6,718,827

DIMENSIONS



BAYONET VERSION (03) CABLE VERSION (B3)

OVERPRESSURE CAPABILITY

Full Scale Range (PSI)	Burst Pressure[1] (PSI)	Std Proof Pressure[2] Option Code "00"	High Proof Pressure Option Code "01"
0 to 15	3,000	30 (2x)	150 (10x)
0 to 25	3,000	50 (2x)	250 (10x)
0 to 50	8,000	100 (2x)	500 (10x)
0 to 100	10,000	200 (2x)	1,000 (10x)
0 to 150	10,000	300 (2x)	1,200 (8x)
0 to 200	10,000	400 (2x)	1,200 (6x)
0 to 300	10,000	600 (2x)	1,500 (5x)
0 to 500	10,000	800 (1.5x)	2,000 (4x)
0 to 750	10,000	1,200 (1.5x)	2,250 (3x)
0 to 1000	10,000	1,500 (1.5x)	3,000 (3x)

[1] Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the sensing element.
[2] Proof Pressure: The maximum recoverable pressure that may be applied without changing performance beyond specification: ±0.5% Zero Shift, Typical.
[3] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[4] Units calibrated at nominal 70oF. Max thermal error computer from this datum.
[5] Percent of reading accuracy achieved down to 20% of pressure range when zero offset is removed. Below 20% of pressure range uncertainty is ±0.02% FS.

ACCURACY DATA

	A	B	C	D
Accuracy RSS[3,4]: End-Point Typ. (BFSL)	<±0.05% FS (<±0.04% FS)	<±0.1% Reading[5]	<±0.1% FS (<±0.07% FS)	<±0.1% FS (<±0.07% FS)
Non-Linearity: End-Point Typ. (BFSL)	<±0.025% FS (±0.015% FS)		<±0.05% FS (<±0.03% FS)	<±0.05% FS (<±0.03% FS)
Hysteresis	<0.03% FS Typ.		<±0.03% FS Typ.	<±0.03% FS Typ.
Non Repeatability	<±0.02% FS Typ.		<±0.02% FS Typ.	<±0.02% FS Typ.
Span Setting Tol.	<±0.05% FS		<±0.1% FS	<±0.1% FS
Zero Offset Tol.	<±0.05% FS Typ.	<±0.05% FS Typ.	<±0.1% FS	<±0.1% FS
Thermal Total Error Band (-20°C to 60°C)	<±0.25% FS Typ.	<±0.25% FS Typ.	<±0.5% FS	<±1.5% FS

ORDERING INFORMATION

A S M 1 - □□□□ - □ - □□ - □□ - □□ - □ - □□

MODEL	PRESSURE RANGES				TYPE		PRESSURE PORT		OUTPUT[2]		ELEC. TERMINATION		ACCURACY		OPTION	
ASM1 = Model ASM	PSI		BAR		*G*	Gauge	*1F*	1/8" NPT Int.	*2B*	0 to 5 VDC	*03*	3 ft, 1m Std Cable	*A*	<±0.05% FS RSS <0.25% TEB	*00*	None, Standard
	Z01P	0 to -14.7	*Z01B*	-1	*C*	Compound	*1M*	1/8" NPT Ext.	*2C*	0 to 10 VDC	*B3*	Std 6-Pin Ext. Bayonet Connector, Std Wiring	*B*	<±0.10% Reading <0.25% TEB	*01*	High Overpressure (See Table)
	015P	0 to 15	*001B*	1	*A*	Absolute	*2F*	1/4" NPT Int.	*11*	4 to 20 mA			*C*	<±0.1% FS RSS <0.5% TEB		
	025P	0 to 25	*002B*	2	*V*	Vacuum[1]	*2M*	1/4" NPT Ext.					*D*	<±0.1% FS RSS <1.5% TEB		
	050P	0 to 50	*005B*	5			*J7*	7/16-20 SAE Ext.								
	100P	0 to 100	*010B*	10												
	150P	0 to 150	*020B*	20												
	250P	0 to 250	*040B*	40												
	300P	0 to 300	*050B*	50												
	500P	0 to 500	*068B*	68												
	750P	0 to 750														
	10CP	0 to 1000														

[1] Z01 Range Only
[2] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater

ACCESSORIES:
See data sheet for more information on Setra's SecureCal™ Calibration Key.
6-Pin Bayonet Connector Assembly w/ Strain Relief. Order Separately: Part No. 600751

Example: Part No. ASM1015PG1F2B03A00= ASM Transducer, 0 to 15 PSI pressure range, Gauge, 1/8" NPT Int. Pressure Port, 0 to 5 VDC Output, 3ft Cable, ±0.05% FS accuracy, No options

Model 201

VERY LOW DIFFERENTIAL GAUGE PRESSURE

- **Low Full Scale Range**
- **All-Welded Construction**
- **No O-Rings**
- Wide Compensated Operating Temp.
- High Overpressure of 45 PSI
- Can Be Used For Gauge or Differential
- Pressure Measurements
- CE & RoHS Compliant

Applications

Vapor Recovery Systems

Exhaust Gas Control Systems

Industrial Scrubbers

Setra's Model 201 is an accurate, low cost pressure transducer for measuring very low differential of gauge pressure. The 201's all-welded no O-ring construction results in a leak-free design, idea for the most critical low range applications. The 201 process connection is designed to be used with pressure media compatible with stainless steel and 600 Series Inconel. Setra's patented variable capacitance sensor design combines the ultimate in simplicity, with high accuracy and superior thermal stability. It features an Inconel diaphragm and an insulated electrode. As pressure increases or decreases, the capacitance changes. This change in capacitance is detected and converted to a fully conditioned linear current output signal. It's rugged design, 45 PSI high overpressure capability, and wide operating temperature make the Model 201 ideal for the most demanding applications.

Model 201

VERY LOW DIFFERENTIAL GAUGE PRESSURE

SPECIFICATIONS

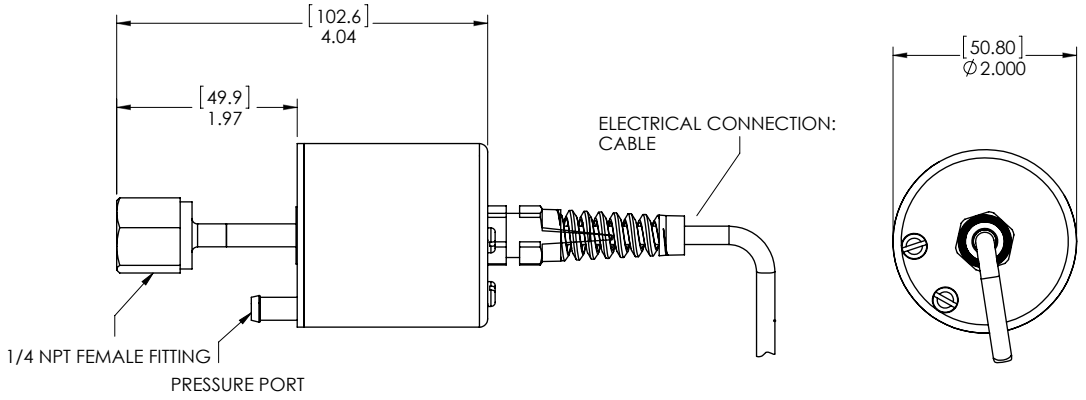
PERFORMANCE DATA	
Accuracy RSS [1] (at constant temperature)	±0.5% FS
Non-Linearity, (BFSL)	±0.45% FS
Hysteresis	0.025% FS
Non-Repeatability	0.025% FS
THERMAL EFFECTS[2]	
Compensated Range	-25 to +175°F (-33 to +80°C)
Zero Shift %FS/°F (%FS/°C)	2.0 (1.8)
Span Shift %FS/°F (%FS/°C)	1.5 (1.4)
Warm-Up Shift	0.1% FS/15 Minutes
Response Time	20 milliseconds
Gauge Pressure Ranges	See ordering information
Positive Port Overpressure	10 PSI (45 PSI for Range Code "020PD")
Reference Port Overpressure	3 X Full Scale (45 PSI for Range Code "020PD")

PHYSICAL DESCRIPTION	
Case [4]	Stainless Steel
Electrical Connection	2ft. Multiconductor Cable (Std), 3 Screw Terminal Block
Pressure Fitting	1/4" NPT Internal
Weight	6 ounces
Vent [5]	Through Cable
Zero/Span Adjustment	Top External Access
ENVIRONMENTAL DATA	
Operating Temperature[6]	-40 to +175°F (-40 to +80°C)
Storage Temperature	-40 to +185°F (-40 to +85°C)
Acceleration	10g Maximum
Shock [7]	50g Operating

ELECTRICAL DATA (VOLTAGE)	
Circuit	2-Wire
Output [8]	4 to 20 mA [9]
External Load	0 to 800 Ohms
Minimum Supply Voltage (VDC)	12 + 0.02 x (Resistance of receiver plus line)
Maximum Supply Voltage (VDC)	30 + 0.004 x (Resistance of receiver plus line)
PRESSURE MEDIA	
Positive Pressure Media	Liquids or Gases Compatible with Stainless Steel and Inconel
Reference Pressure Media	Clean Dry Air or Non-Corrosive G

[1] RSS of Non-Linearity, Hysteresis and Non-Repeatability.
[2] Units calibrated at nominal 70°F. Maximum thermal error is computed from this datum.
[3] Proof Pressure: The maximum pressure that may be applied without changing performance beyond specifications (±0.5% FS zero shift)
[4] NEMA 4 Rated when A1 electrical termination is ordered
[5] When T1 terminal strip is ordered, venting is through zero or span screw.
[6] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher or lower.
[7] Mil-Std. 202F, Method 213D, Cond. C
[8] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[9] Zero output factory set to within ±.08mA. Span (Full Scale) output factory set to within ±.08mA

DIMENSIONS



ORDERING INFORMATION

2 0 1 1 - ☐☐☐☐☐ - ☐☐ - 1 1 - ☐☐ - ☐

MODEL	GAUGE PRESSURE RANGE				FITTING		OUTPUT		TERMINATION		ACCURACY	
2011 = 201	*005WD*	5 in. W.C.	*001KD*	1 kPa	*2M*	1/4" 18 NPT Ext.	*11*	4 to 20 mA	*A1*	1/2" Ext. NPT Conduit w/ Cable	*H*	±0.5% FS
	010WD	10 in. W.C.	*002KD*	2 kPa	*2T*	1/4" Tube Stub			*B1*	4-Pin Bayonet Connector	*F*	±0.25% FS
	050WD	50 in. W.C.	*010KD*	10 kPa	*2F*	1/4" 18 NPT Int.			*H1*	Hirschmann w/ Large Male Fitting		
	2R5WB	±2.5 in. W.C.	*0R5KB*	±0.5 kPa	*J7*	7/16" SAE 37° Flare			*T1*	3-Screw Terminal Strip		
	005WB	±5 in. W.C.	*001KB*	±1 kPa					*02*	2 ft. Cable		
	025WB	±25 in. W.C.	*005KB*	±5 kPa					*06*	6 ft. Cable		
	002PD	2 PSI	*010MD*	10 Millibar					*10*	10 ft. Cable		
	020PD	20 PSI	*020MD*	20 Millibar					*25*	25 ft. Cable		
	001PB	±1 PSI	*100MD*	100 Millibar								
	002PB	±2 PSI	*005MB*	±5 Millibar								
			010MB	±10 Millibar								
			050MB	±50 Millibar								

Ordering Example: Part No. 2011005WG2M1102H is a Model 201, 0 to 5 in. W.C., 1/4 NPT Ext. Fitting, 4 to 20 mA Output, 2 ft. of Cable and 0.5% FS Accuracy.

Model 204

HIGH ACCURACY GAUGE AND ABSOLUTE PRESSURE TRANSDUCER

•Ideal for High Accuracy Application
•Excellent Thermal Effects
•Highly Configurable Design

- ±0.073% FS Accuracy Available
- Fast Response, Less than 1 ms
- Low Output Noise
- Solid One-Piece Stainless Steel Sensor
- CE & RoHS Compliant

Applications

High 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 a ±0.073% FS accuracy option 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.

Model 204

HIGH ACCURACY GAUGE AND ABSOLUTE PRESSURE TRANSDUCER

SPECIFICATIONS

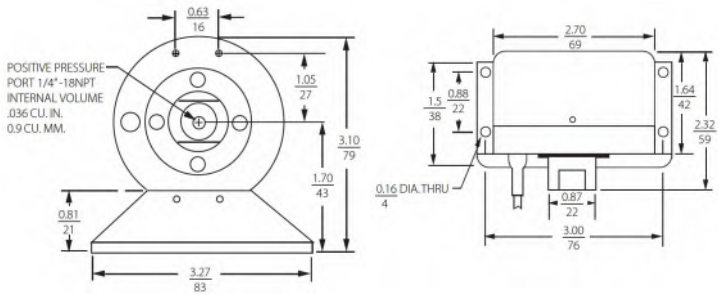
PERFORMANCE DATA	
Accuracy RSS[1] (at constant temperature)	±0.11% FS ±0.14% for 10,000 PSIG
Non-Linearity (BFSL)	±0.07% FS
Hysteresis	0.08% FS 0.1% for 10,000 PSIG
Non-Repeatability	0.02% FS
THERMAL EFFECTS[2]	
Zero Shift[3] %FS/100°F (%FS/50°C)	<±0.4 (<±0.36)
Span Shift %FS/100°F (%FS/50°C)	<±0.3(<±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)
ENVIRONMENTAL DATA	
Operating Temperature	0 to +175°F (-18 to +80°C)
Storage Temperature	-65 to +250°F (-55 to +120°C)
Vibration	2g from 5 Hz to 500 Hz
Shock	50g
Acceleration	10g Maximum

PHYSICAL DESCRIPTION	
Pressure Fitting	1/4" - 18 NPT Internal
Excitation	22 to 30 VDC, 24 VDC (Normal) Reverse Excitation Protected
Output[4]	0 to 5 VDC[5]
Power Consumption	10 mA (0.25 Watts)
Output Impedance	<10 Ohms
Output Noise	<100 Microvolts RMS (0 Hz to 10 KHz)
APPROVALS	
CE, RoHS	

[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.

DIMENSIONS



OVERPRESSURE CAPABILITY

Pressure Ranges	Proof Pressure (PSI)	Burst Pressure Rating (PSI)	Approx. Natural Frequency (KHz)
0 - 25	50	150	2.0
0 - 50	75	200	2.5
0 - 100	150	500	3.5
0 - 250	375	1,000	5.0
0 - 500	750	1,500	8.0
0 - 1,000	1,250	3,000	11.0
0 - 3,000	3,750	4,500	15.0
0 - 5,000	6,000	7,500	25.0
0 - 10,000 PSIG only	11,000	12,500	30.0
0 - 14.7 PSIV	50	150	2.0

ORDERING INFORMATION

2 0 4 1 - ☐☐☐☐☐ - 2 F - ☐☐ - ☐☐ - ☐ - ☐

MODEL	PRESSURE RANGES				PRESSURE FITTING		OUTPUT		ELECTRICAL TERMINATION		ACCURACY[1]		OPTIONS[2]	
2041=Model 204	GAUGE		ABSOLUTE		*2F*	1/4" NPT Int.	*2B*[2]	0-5 VDC	*02*	2' Cable	*W*	± 0.11% FS	*3*[3]	Compensated Temperature Range (-65 to 250°F)
	025PG	0-25 PSIG	*025PA*	0-25 PSIA			*2Y*	0-2.5 VDC	*10*	10' Cable	*9*	± 0.073% FS	*7*	Clean for Oxygen
	050PG	0-50 PSIG	*050PA*	0-50 PSIA			*27*	1-5 VDC	*25*	25' Cable			*D*	Mate with Datum
	100PG	0-100 PSIG	*100PA*	0-100 PSIA			*28*	1-6 VDC	*Y1*	2' Red Cable 9-Conductor 30 AWG			*E*	Special Excitation Voltage ± -24 VDC
	250PG	0-250 PSIG	*250PA*	0-250 PSIA			*2C*	0-10 VDC					*G*	Special Excitation Voltage ± -15 VDC
	500PG	0-500 PSIG	*500PA*	0-500 PSIA			*2U*	1-10 VDC					*L*	Etched SS Tags
	10CPG	0-1000 PSIG	*10CPA*	0-1000 PSIA									*M*[4]	Remote Full Scale Sensitivity
	30CPG	0-3000 PSIG	*30CPA*	0-3000 PSIA									*N*	None
	50CPG	0-5000 PSIG	*50CPA*	0-5000 PSIA									*R*[4]	Remote Calibration (Adjustable)
	10KPG	0-10000 PSIG											*S*[4]	Remote Calibration Adjustable (Fixed)
	Z01PV	0-14.7 PSI (VACUUM)												

[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.

Ordering Example: 2041025PG2F2B02WNN, Model 204, Ranges 0-25 PSIG, 1/4" NPT Int., 0-5 VDC, 2' Cable, ±0.14% FS Accuracy.

Model 239

HIGH ACCURACY LOW DIFFERENTIAL PRESSURE TRANSDUCER

•Industry Standard for High Accuracy
•Captures Dynamic Pressure Changes
•Small Footprint

- High Accuracy ±0.073% FS Option Available
- Fast Response Time: <10ms
- Fast Warm-Up: <0.1% over 5 min.
- Low Thermal Error
- CE & RoHS Compliant

Applications

Exhaust Pressure
Leak Detection Systems
Filter Pressure
Medical Instrumentation
Part Integrity Testing
Cleanrooms

Setra's Model 239 is the "standard" for measuring low differential pressure in the Test & Measurement industry. Decades worth of installations have helped the 239 build a reputation of reliability and remains the trusted choice for critical installations. The 239 delivers a high performance 0.073% FS accuracy option over a wide temperature range which outperforms competitive transducers in the low pressure market. The 239 offers multiple options to meet both simple and demanding application requirements that are not provided on competitive transducers.

LONG-TERM RELIABILITY

The Model 239 differential pressure transducer uses a simple and reliable variable capacitance sensor design. The 239 provides repeatable and dependable readings in rugged applications through its efficient sensor design.

CUSTOMIZATION IS STANDARD

Unlike many competitors, the 239 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.

ACCURACY & PERFORMANCE FOR LOW PRESSURE RANGES

The Model 239 is a Test & Measurement grade transducer for extremely low pressure ranges. The 239 covers a large selection of pressure ranges with optional ±0.073% FS accuracy over a wide temperature range. The Model 239 provides the fastest response time compared to its competitors.

Model 239

HIGH ACCURACY LOW DIFFERENTIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS[1] at constant temp	±0.14% FS ±0.073% FS
Non-Linearity (BFSL)	±0.10% FS
Hysteresis	0.10%FS
Non-Repeatability	0.02% FS
Warm-up Shift	<±0.1% FS residual shift after 5 minutes
Setting Time	<100 milliseconds
Acceleration Response	<0.0002 PSIG
Natural Frequency	2000 Hz nominal
Operable Line Pressure	Vacuum to Max 250 PSIG
Line Pressure Effect	2%/100 PSI
THERMAL EFFECTS[2]	
Compensated Range	+30 to +150°F (-1 to -65°C)
Zero/Span Shift %FS/100°F(50°C)	<+1 (<±0.9)/<+1(<±0.9)

EFFECT OF POWER SUPPLY	
Variations	<0.003 mA/Volt
Output Noise	<10 microamperes RMS (0 Hz to 10k Hz)
ELECTRICAL DATA (VOLTAGE)	
Circuit	4-Wire (+Exc, -Exc, +Out, -Opt)
Excitation[5]	22 to 30 VDC (reverse excitation protected)
Output Impedance	<10 ohms
Output Noise	<200 microvolts RMS (in band, 0 Hz to 10k Hz)
Output[6]	See ordering information (for unidirectional ranges) ±2.5 VDC (for bidirectional ranges)
ENVIRONMENTAL DATA	
Operating Temp.[3]	0 to +175°F (-18 to +80°C)
Storage Temp.	-65 to +250°F (-55 to +120°C)
PRESSURE MEDIA	
Positive Pressure Media: Gases compatible with stain-less steel, hard anodized 6061 aluminum (Buna-N O-ring)	
Reference Pressure Media: Clean dry air or other gases (non-corrosive, non-condensible)	
APPROVALS	
CE, RoHS	

PHYSICAL DESCRIPTION	
Pressure Fittings	1/8" -27 NPT Internal
Electrical Connection	2' Multiconductor cable
Weight (approx)	8 oz
Vibration	2g from 5 Hz to 500 Hz
Internal Volumes	Positive port 0.03 in³ Negative port 0.1 in³
Max Volume Change at FS	0.001 in³
Acceleration	10g Max
Shock	50g Operating

[1]RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2]Units calibrated at nominal 70°F. Max thermal error computer from this datum. x 2 for 0.5 and ±0.25 in W.C. changes.
[3]Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[4]Zero output factory set to within ±0.07 mA. Span (FS) output factory set to within ±0.07 mA.
[5]Internal regulation minimizes effect of excitation variation, with <±0.005% FS output change. Will operate on 28VDC aircraft power per MIL-STD-704A & not be damaged by emergency power conditions.
[6]Calibrated into 50K oh load. Operable into 5000 ohms or greater. Zero output factory set to within ±20mV.

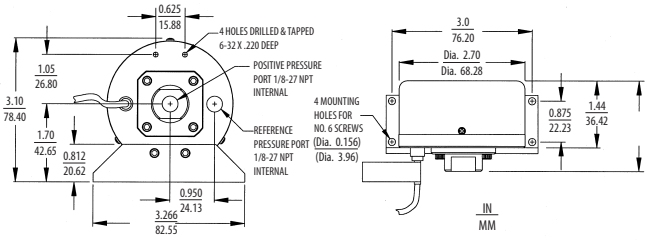
Specifications subject to change without notice.

OVERPRESSURE CAPABILITY

PRESSURE RANGE		PROOF PRESSURE	
Unidirectional	Bidirectional	Positive	Negative
0 to 0.5 in. W.C.	±0.25 in. W.C.	5 PSI	2.5 in. W.C.
0 to 1 in. W.C.	±0.5 in. W.C.	7 PSI	5 in. W.C.
0 to 2.5 in. W.C.	±1 in. W.C.	10 PSI	12.5 in. W.C.
0 to 5 in. W.C.	±2.5 in. W.C.	20 PSI	25 in. W.C.
0 to 15 in. W.C.	±5 in. W.C.	50 PSI	75 in. W.C.
0 to 30 in. W.C.	±15 in. W.C.	50 PSI	150 in. W.C.
0 to 5 PSID	±2.5 PSID	75 PSI	25 PSI
0 to 10 PSID	±5 PSID	100 PSI	50 PSI

PRESSURE RANGE		PROOF PRESSURE	
Unidirectional	Bidirectional	Positive	Negative
0 to 250 Pa	±125 Pa	0.5 BAR	1,250 Pa
0 to 500 Pa	±250 Pa	0.7 BAR	3,000 Pa
0 to 1,000 Pa	±500 Pa	1.25 BAR	6,250 Pa
0 to 2,000 Pa	±1,000 Pa	3.5 BAR	18,500 Pa
0 to 5,000 Pa	±2,500 Pa	3.5 BAR	37,000 Pa
0 to 15 kPa	±7,500 Pa	3.5 BAR	37,000 Pa
0 to 35 kPa	±17,500 Pa	5 BAR	1.75 BAR
0 to 70 kPa	±35 kPa	7 BAR	3.5 BAR

DIMENSIONS



ORDERING INFORMATION

2 3 9 1 - □□□□□ - 1F - □□ - □□ - □ - □□

MODEL	PRESSURE RANGES				PRESSURE FITTING		OUTPUT		TERMINATION		ACCURACY		OPTIONS[4]	
2391 = Model 239	UNIDIRECTIONAL		BIDIRECTIONAL		*1F*	1/8" NPT Int.	*2S*	±2.5 VDC[1]	*02*	2' Cable 22 GA	*W*	±0.14% FS	*N*	None
	0R5WD	0 to 0.5 in. W.C.	*R25WB*	±0.25 in. W.C.			*2B*	0 to 5 VDC[2]	*10*	10' Cable 22 GA	*9*	±0.073% FS	*1*	303SS Housing Positive Port
	001WD	0 to 1 in. W.C.	*0R5WB*	±0.5 in. W.C.			*2T*	1 to 5 VDC	*25*	25' Cable 22 GA			*3*	Compensated Temp. Range (-65 to 250°F)[6]
	2R5WD	0 to 2.5 in. W.C.	*001WB*	±1 in. W.C.			*28*	1 to 6 VDC	*Y1*	2' 30 GA 9-Conductor [3]			*4*	Viton O-Ring
	005WD	0 to 5 in. W.C.	*2R5WB*	±2.5 in. W.C.			*2C*	0 to 10 VDC	*Y3*	5' 30 GA 9-Conductor [3]			*D*	Mate with Datum
	015WD	0 to 15 in. W.C.	*005WB*	±5 in. W.C.			*2T*	0 TO 5 VDC[1]	*Y4*	10' 30 GA 9-Conductor [3]			*E*	Special Excitation Voltage ±24 VDC
	030WD	0 to 30 in. W.C.	*7R5WB*	±7.5 in. W.C.					*Y6*	25' 30 GA 9-Conductor [3]			*G*	Special Excitation Voltage ±15VDC
	005PD	0 to 5 PSID	*015WB*	±15 in. W.C.									*L*	Etched SS Tags
	010PD	0 to 10 PSID	*2R5PB*	±2.5 PSID									*M*	Remote Full Scale Sensitivity[5]
	250LD	0 to 250 Pa	*005PB*	±5 PSID									*R*	Remote Calibration (Adjustable)[5]
	500LD	0 to 500 Pa	*125LB*	±125 Pa									*S*	Remote Calibration Adjustment (Fixed)[5]
	10CLD	0 to 1000 Pa	*250LB*	±250 Pa									*Y*	Clean for Oxygen
	20CLD	0 to 2000 Pa	*500LB*	±500 Pa										
	50CLD	0 to 5000 Pa	*10CLB*	±1000 Pa										
	010KD	0 to 10 kPa	*25CLB*	±2500 Pa										
	015KD	0 to 15 kPa	*50CLB*	±5000 Pa										
	035KD	0 to 35 kPa	*75CLB*	±7500 Pa										
	070KD	0 to 70 kPa	*035KB*	±35 kPa										

[1] 2S and 2T are for Bidirectional Pressure Ranges Only
[2] 2B is for Unidirectional Pressure Ranges Only
[3] Y1-Y6 = Red Jacket Cable
(Previously the standard for voltage outputs.)
[4] Both boxes must filled in alphanumeric order:
- If No options: N + N
- If 1 option: Option Code + N
- If 2 options: Option Code + Option Code

[5] Options M, R & S are for voltage units and Y1-Y6 Termination Codes
[6] 2x Thermal Effects Specification

Specifications subject to change without notice.

Example: Part No. 2391001WD1F2S02WLN = Model 239, 0 to 1 in. W.C. pressure range, 1/8" NPT Int. fitting, ±2.5 VDC, 2' Cable Length, ±0.14% FS Accuracy, Etched SS Tags Option

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

SANITARY PRESSURE

Model 290	62

Model 290

SANITARY PRESSURE TRANSDUCER

•Eliminates Process Contamination Risk

•316L SS For Harsh Environments

•Meets 3A Sanitary Standards

- High Accuracy: ±0.2% FS
- Robust Non-Liquid Filled Capacitive Sensor
- Negligible Clamping Effect for Easy Installation
- Designed for Clean-In-Place (CIP) and Sterilize-In-Place (SIP) Installations
- 1.5" and 2" Tri-Clover Fittings
- High Overpressure Protection
- Not Sensitive to Thermal Shock

Applications

Food Processing

Dairy and Beverage Processing

Pharmaceutical Processing

Liquid Level Control

Sanitary Pipelines

The Model 290 is Setra's highest accuracy solution for measuring gauge and compound pressure ranges in sanitary processing applications. Unlike competitive transducers which use an oil filled design, the 316L stainless steel sensor is designed to operate without the need for an intermediary liquid within the sensor. The design of the 290 negates clamp effect making installation and service faster and easier than the competition. Its small footprint and accuracy (±0.2% FS) covers a wide range of pressure ranges that meet both 3A certification and withstand CIP/SIP environmental conditions, making it ideal for a variety of applications.

ROBUST NON-LIQUID FILLED SENSOR

The Model 290 sanitary pressure transducer uses an air variable capacitance sensor. This sensor design eliminates chance of "product" contamination, position effect and thermal transients when compared to liquid filled sensors. The diaphragm is able to withstand pressure down to full vacuum for worry free operation during tank and piping evacuation cycles.

NEGLIGIBLE CLAMPING EFFECT

The process interface of the 290 negates the effect of clamping pressure on the output signal of the sensor. This design allows the sensor to be delivered in a small footprint with the diaphragm closely mounted to the process media which ensures the most accurate measurements.

FLEXIBILITY IN APPLICATION

The Model 290 is the most versatile sanitary pressure transducer on the market. Its design allows full scale tank level measurements as low as 27.7" WC with an accuracy of 0.027" and up to 1000 PSI for process lines. The 316L wetted components meet 3A requirements for food and beverage industry applications; its optional 20Ra finish make it the ideal solution for use in Biotech applications.

Model 290

SANITARY PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	2" TRI-CLOVER SANITARY FITTING	1.5" TRI-CLOVER SANITARY FITTING
Accuracy RSS[1] (at constant temp)	±0.20% FS	±0.20% FS
Non-Linearity (BFSL)	±0.17% FS	±015% FS
Hysteresis	0.10% FS	0.12% FS
Non-Repeatability	0.025% FS	0.10% FS
THERMAL EFFECT[2]		
Compensated Range	+20 to +180°F (-7 to +82°C)	+20 to +180°F (-7 to +82°C)
Zero/Span Shift %FS/100°F (%FS/50°C)	2.0 (1.8)	2.0 (1.8)
Response Time	10 milliseconds	10 milliseconds
EMI/RFI Effect	< 1.0% output shift; 10V/M, 10-300 MHz	< 1.0% output shift; 10V/M, 10-300 MHz
Clamping Effect, Zero/ Span Shift	±0.15% FS	±0.25% FS
Maximum Vacuum (without affecting specifications)	Half on ranges ≤15 PSI	Full on ranges ≥ 30 PSI

ELECTRICAL DATA	
Circuit	2-Wire
Output[3]	4 to 20 mA[4]
Zero/Span, Adjustment	± 0.5 mA
External Load	0 to 800 ohms
Min. Supply Voltage (VDC)	12 + 0.02 x resistance of receiver plus line
Max. Supply Voltage (VDC)	30 + .004 x resistance of receiver plus line
ENVIRONMENTAL DATA	
Operating Temperature[5]	-40 to +260°F (-40 to +125°C)
Storage Temperature	-65 to +260°F (-55 to +125°C)
Vibration	10g, 50-1000Hz
Acceleration[6]	10g maximum
Shock	50g operating
Thermal Shock°F (°C)	0 to +257 (0 to +125) negligible shift
APPROVALS	
CE, RoHS	

PHYSICAL DESCRIPTION	
Zero/Span Adjustments	Top Access Through Seal Screws
Case	Stainless Steel
Electrical Connection	1/2 NPT" Conduit Fitting & Strain Relief w/ 15' Shielded Cable
Pressure Fitting	2" or 1 1/2" Tri-Clover Sanitary Fitting
Sanitary	Meets 3-A Sanitary Standard (74-02)
Vent	Through Cable
Weight (Approx.)	8 Ounces

Note: Setra quality standards are based on ANSI-Z540-1.
The calibration of this product is NIST traceable.

[1] RSS of Non-Linearity, Non-Repeatability and Hysteresis.
[2] Units calibrated at nominal 70°F. Maximum thermal error is computed from this datum. Variations in the power supply voltage cause less than 0.005 mA change in the transmitter's current output, per volt change in the power supply. Reverse excitation will not damage circuit.
[3] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[4] Zero output factory set to within ±0.08mA.
[4] Span (Full Scale) output factory set to within ±0.16mA.
[5] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher or lower.
[6] shift in output reading at <0.05% FS/g; pressure port axis only.

OVERPRESSURE CAPABILITY

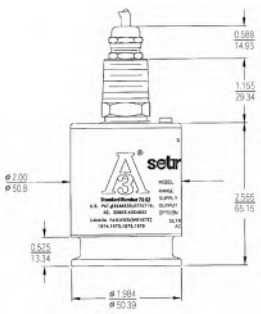
Pressure Ranges 2" Tri-Clover				
RANGE PSIG	RANGE mb	RANGE IN. H_2O	PROOF PSIG	BURST PSIG
0 - 1	0 - 100	0 - 27.7	50	100
0 - 2	0 - 160	0 - 55.4	100	150
0 - 5	0 - 400	0 - 138.4	150	200
0 - 10	0 - 600	0 - 276.8	150	200
0 - 15	0 - 1,000	0 - 415.2	150	200
0 - 30		0 - 830.4	150	300
0 - 60		0 - 1,660.8	180	400
0 - 100		0 - 2,768	200	400
0 - 150		0 - 4,152	225	400
-14.7 to 15		-407 to 415	150	300

Pressure Ranges 1 1/2" Tri-Clover		
RANGE PSIG	PROOF PSIG	BURST PSIG
0 - 30	1,000	1,200
0 - 60	1,000	1,200
0 - 100	1,000	1,200
0 - 150	1,000	1,200
0 - 300	1,000	1,200
0 - 500	1,000	1,500
0 - 1000	1,250	2,400
-14.7 to 15	1,000	1,200
-14.7 to 45	1,000	1,200

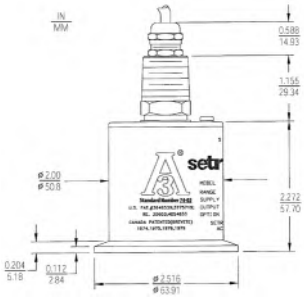
Proof Pressure: The maximum pressure that may be applied without changing performance beyond specifications (<±0.5% FS zero shift).
Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the sensing element.

DIMENSIONS

1 1/2" Tri-Clover Sanitary Fitting
Diaphragm Material: 316SS



2" Tri-Clover Sanitary Fitting
Diaphragm Material: 316LSS



ORDERING INFORMATION

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MODEL	RANGE				UNITS		PRESSURE TYPE		FITTING		OUTPUT		TERMINATION		ACCURACY		OPTIONS[2]	
2901 = 290	2" TRI-CLOVER (PSI)		1 1/2" TRI-CLOVER (PSI)		***P***	PSI	***G***	Gauge	***T6***	1 1/2" Tri-Clover	***11***	4-20 mA	***15***	15' Cable	***3***	± 0.2% FS	***N***	None
	001	0-1	***030***	0-30	***M***	mBAR	***C[1]***	Compound	***T8***	2" Tri-Clover			***25***	25' Cable	***T***	± 0.1% FS	***L***	Etched SS Tags
	002	0-2	***045[3]***	0-45									***30***	30' Cable			***R***	20 Ra Sensor Finish
	005	0-5	***060***	0-60														
	010	0-10	***100***	0-100														
	015	0-15	***150***	0-150														
	030	0-30	***300***	0-300														
	060	0-60	***500***	0-500														
	100	0-100	***10C***	0-1000														
	150	0-150																

[1] -14.7 to X PSI, -1000 to XmBAR
[2] Both boxes must be filled in alphabetical order:
- If No options: N + N
- If 1 option: Option Code + N
- If 2 options: Option Code + Option Code
[3] Compound Only

Example: Part No. 2901001PGT811153NN = Model 290, 2" Tri-Clover 0 to 1 PSI, Gauge Pressure, 2" Tri-Clover Fitting, 4 to 20 mA Output, 15' Cable Termination, ± 0.2% FS Accuracy, No Options

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

ACCELEROMETER

Model 141	66

Model 141

HIGH OUTPUT LINEAR ACCELEROMETER

•Excellent Static and Dynamic Response

•Temperature-Insensitive Gas Damping (0.7 Critical)

•High Output Signal

- High Overload Capability, 2000g static
- Low Transverse Sensitivity (0.012 g/g)
- Wide-Range Rcal Type Calibration
- Easy-to-Replace Cable Attachment
- Compact and Lightweight
- Optional EMI Filter Upgrade

The Model 141 is a linear accelerometer that produces high level instantaneous DC output signal proportional to sensed accelerations (ranging from static acceleration up to 3000 Hz as indicated below). Setra accelerometers are unique in their ability to withstand exceedingly high g overload without damage. The Model 141 incorporates the super-rugged Setra capacitance-type sensor and a miniaturized electronic circuit. Its excellent dynamic response is maintained by air damping, which varies with temperature approximately one-tenth as much as the best fluid damping. The electrical characteristics are compatible with conventional strain-gauge type signal conditioning, including the use of shunt R_{cal} over any selected range up to 100% full scale. The stainless steel case is O-Ring sealed, has a well-defined base plane and is quite insensitive to mounting strain. Cross axis interface is exceedingly low. The external easy-to-replace cable attachment facilitates installation and service.

Model 141

HIGH OUTPUT LINEAR ACCELEROMETER

SPECIFICATIONS

PERFORMANCE DATA	
Non-Linearity (Best Fit Straight Line)	±1.0% FS
Hysteresis	0.10%
Non-Repeatability	0.05%
Transverse Acceleration Response	<±.012 g/g
Damping	Approx. second order system with 0.7 critical damping (Gas Squeeze-Film 0.7 ±0.2 of critical at 77°F [25°C]). Damping ratio increases approx. 0.15%/°F.
Frequency Band	Flat from static to approx. 60% of natural frequency (all ranges)
Resolution	Infinite, limited only by output noise level
Calibration Data	Each unit is supplied with a computer generated plot of output vs. acceleration (centrifuge) at the specified excitation voltage.
Sensitivity	Reported at Nominal Range
Excitation Voltage	Model 141 calibrated at 10 VDC 0r 24 VDC

THERMAL EFFECTS	
Operating Temperature	-10 to +150°F (-23 to +65°C)
Zero Shift	<±0.02% Nominal Range/°F (<±0.36%/°C)
Sensitivity Shift	<±0.02% Nominal Range/°F (<±0.36%/°C) Slightly higher thermal effects when 141A is operated at excitation voltage below 10 VDC
Zero G Output	<±25 mV (factory calibrated at 10 VDC or 24 VDC excitation)
FS G Output	<±25% of Nominal Output
Noise Level	<±0.01% Nominal Range (RMS, in-band)
PHYSICAL DESCRIPTION	
Electrical Connection	2 foot multiconductor cable
Weight	30 grams (not including cable)
Case	Stainless Steel, O-Ring

ELECTRICAL DATA		
Electrical Circuit[1]	3-Wire (Com, -Exc, -Out)	
Isolation	100 M ohms	
Internal Frequency	20 MHz approx.	
Calibration Signal (R_{cal})	Available up to 100% Nominal Range by shunting external calibration resistor from calibration lead to -signal lead.	
Excitation/Output[2] Code	BT	2S
Excitation Range	5-15 VDC	10-28 VDC[3]
Calibrated Excitation Voltage	10 VDC	24 VDC
Excitation Current	5 mA	10 mA
Nominal Output (open circuit)	±500 mV @ 10 VDC	±1000 mV @ 24 VDC

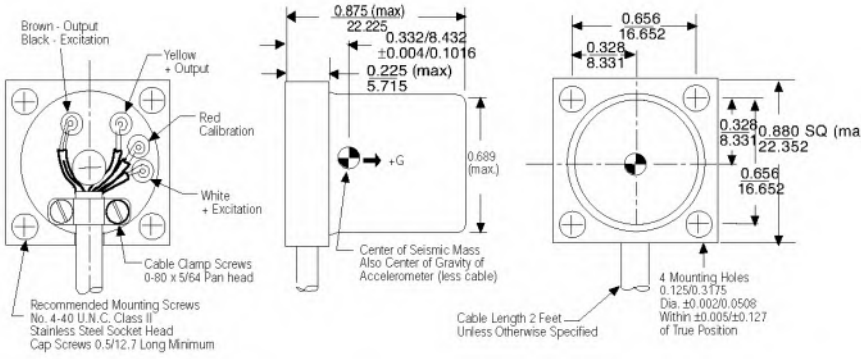
[1] Circuit is capacitively isolated from case. Power applied to output, or shorted output, will not damage unit. No reverse excitation protection.
[2] Typical performance for nominal g range: Output is proportional to excitation voltage. Output impedance 9k ohms (nominal).
[3] Operable on 28 VDC aircraft power. (Recommend high voltage transient protection to prevent damage by emergency power conditions as defined in MIL-STD-704A, and voltage regulation to attain highest accuracy.)

FULL SCALE RANGES

Nominal Range	Non-Linearity ±1%	Natural Frequency (Nominal)	Flat Response (±3 db) 0 Hz to:
±2g	±2g	300Hz	200Hz
±4g	±4g	440Hz	260Hz
±8g	±8g	570Hz	300Hz
±15g	±15g	840Hz	400Hz
±30g	±30g	1,200Hz	700Hz
±60g	±60	1,560Hz	1,000Hz
±150g	±150g	2,600Hz	1,600Hz
±600g	±600g	5,000Hz	3,000Hz

For each of the available g ranges, the linearity is characterized by this range chart: (Non-linearity is % full range, best fit straight line)
NOTE: Setra adheres to strict quality standards including ISO 9001 and ANSI-Z540. The calibration of this product is NIST traceable.

DIMENSIONS



ORDERING INFORMATION

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MODEL	RANGE		UNITS		TYPE		OUTPUT		TERMINATION		ACCURACY		OPTIONS	
1411 = 141	*002*	±2g	*A*	G Force	*B*	Bi-Direction	*BT*	±500 mV (10VDC EXC)	*02*	2' Cable	*G*	± 1.0% FS	*NN*	None
	004	±4g					*2S*	±1000 mV (24VDC EXC)	*10*	10' Cable			*6*	Calibration Special EXC
	007	±8g							*25*	25' Cable			*7*	EMI/RFI Filter
	015	±15g							*XX*	Consult factory for other lengths			*3*	Wide Oper. Temp. -65 to 220°F
	030	±30g												
	060	±60g												
	150	±150g												
	600	±600g												

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

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

BAROMETRIC PRESSURE

Model 270	70
Model 276	72
Model 278	74
Model 370	76
Model 470	78

Model 270

SETRACERAM™ FOR BAROMETRIC, GAUGE, OR ABSOLUTE PRESSURE

•Highest Accuracy Analog Sensor

•Captures Dynamic Pressure Changes

•Robust for Severe Weather Detection

- High Optional Accuracy: ±0.03% FS
- Stable Ceramic Sensor
- Repeatability Within 0.01% FS
- Excellent Long-Term Stability: 0.1% FS/YR
- Low Power Consumption
- Instant Warm-Up
- Fast Response Time
- CE & RoHS Compliant

Applications

High Accuracy Barometric Pressure Measurement

Weather and Environmental Data

Data Buoys

Remote Weather Stations

Engine Test Cells

The Model 270 is Setra's highest performing analog sensor for barometric, absolute and gauge pressure measurements. Its decades worth of installations have built a reputation of reliability and remains the trusted choice for critical installations. The ceramic sensor on the 270 delivers high performance; its optional ±0.03% FS accuracy over a wide temperature range outperforms competitive transducers in the environmental sensing market. The 270 offers multiple options to fit the needs of difficult applications, making it easier to install and gather higher quality data for your project.

HIGH ACCURACY FOR DEMANDING APPLICATIONS

The Model 270 pressure transducer is the most accurate analog sensor Setra manufactures. The available 0.03% FS accuracy is perfect for vital installations where precise measurements determine success or failure of the application.

IMPROVED PERFORMANCE WITH CERAMIC SENSOR

The 270 utilizes a variable capacitance sensor that is made using ceramic material fused together with glass and gold to form the SETRACERAM™ pressure element. This stable material and design offers class leading thermal performance and low hysteresis, allowing integration into demanding installations. The ceramic sensor enables improved performance compared to other stainless steel sensors, enabling the 270 to give accurate measurements and better test results.

FLEXIBILITY IN INSTALLATION

The 270 offers mechanical and electrical options that can be installed into existing applications. These options reduce engineering design time, allowing for earlier project completion.

Model 270

SETRACERAM™ FOR BAROMETRIC, GAUGE, OR ABSOLUTE PRESSURE

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS [1] (at constant temp)	±0.03% FS ±0.05% FS
Non-Linearity	
End Point	±0.05% FS
Best Fit Straight Line	±0.03% FS
Hysteresis	<0.01% FS (TYP.)
Resolution	Infinite, limited only by output noise level (0.005% FS)
ENVIRONMENTAL DATA	
Operating Temperature	0 to +175°F (-18 to +80°C)
Storage Temperature	-65 to +250°F (-54 to +120°C)
Vibration	2g from 5Hz to 500 Hz
Acceleration	10g
Shock	50g Operating, 1/2 sine 10ms
Pressure Fitting	1/8"-27 NPT Internal
Electrical Connection	2' Multiconductor Cable
Weight (approx.)	9 ounces (0.25 Kgm)

ELECTRICAL DATA	
Electrical Circuit[3]	4-Wire (+Exc, -Exc, _Out, -Out)
Excitation[4]	24 VDC (22-32 VDC) 12VDC (11-15 VDC) Reverse Wiring Protection
Output[5]	0 to 5 VDC[6]
Isolation	The insulation resistance between all signals leads tied together and case ground is 100 ohms minimum at 25 VDC
Output Impedance	<5 ohms
Output Noise	<200 microvolts RMS (0 Hz to 100 Hz)
Current Consumption	8 mA (0.2 Watts)
PRESSURE MEDIA	
Non-condensing air or gas compatible with hard anodized aluminum, alumina ceramics, gold, fluorocarbon elastomer sealant & Buna-N O-Ring.	
APPROVALS	
CE, RoHS	

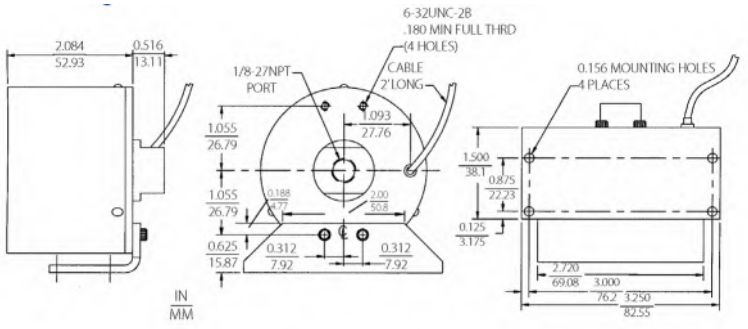
THERMAL EFFECTS[2]	
Compensated Range	+30 to +120°F (-1 to +49°C)
Thermal Zero Shift %FS/°100F (%FS/50°C)	
Barometric	±0.2 (±0.18)
Other Ranges	±0.1 (±0.09)
Thermal Coefficient Sensitivity	±0.1 (±0.09)
Long Term Stability	< ±0.1% FS/YR
Warm-Up	< ±0.04% FS shift after 20 minutes at constant temp.
Time Constant	<10 milliseconds to reach 90% final output with step function pressure input

[1]RSS of Non-Linearity, Hysteresis, and Non-Repeatability. Higher accuracy units available on special order.
[2]Units calibrated at nominal 70°F. Max thermal error computed from this datum.
[3]For best performance, either negative excitation or negative output should be connected to case (ground). Both leads cannot be connected to case (ground). Units calibrated at the factory with negative excitation connected to case.
[4]Internal regulation minimizes effect of excitation variation, with <±0.005% FS output change. Will operate on 28 VDC aircraft power per MIL-STD-70A and not be damaged by emergency power conditions.
[5]Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[6]Zero output factory set to within ±5mV. Span (Full Scale) output factory set to within ±5mV.

OVERPRESSURE CAPABILITY

Type of Pressure	Pressure Range	Maximum Pressure
Barometric	600 to 1100 hPa/mb 800 to 1100 hPa/mb	20 PSIA
Absolute	0 to 10, 20, 50, 100 PSIA	1.5 x rated
Gauge	0 to 5, 10, 20, 50, 100 PSIG	1.5 x rated

DIMENSIONS



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MODEL	PRESSURE RANGE		UNITS		PRESSURE TYPE		FITTING		OUTPUT		TERMINATION		ACCURACY		OPTIONS	
2701 = 270	*600*	600-1100	*M*	mb/hPa	*A*	Absolute	*1F*	1/8" NPT Int.	*2B*	0 to 5 VDC (24 VDC EXC)	*02*	2' Cable	*N*	±0.05% FS	*NN*	None
	800	800-1100	*M*	mb/hPa	*G*	Gauge (PSI units only)			*3B*	0 to 5 VDC (12 VDC EXC)	*10*	10' Cable	*Y*	±0.03%[2] FS	*C*	11 PT Cal. Certificate
	005[1]	0-5	*P*	PSI							*25*	25' Cable			*D*	Mate with Datum
	010	0-10	*P*	PSI							*XX*	Consult factory for other cable lengths			*F*	NEMA 4 Enclosure
	020	0-20	*P*	PSI											*L*	Etched SS Tag
	050	0-50	*P*	PSI											*2*	-13 to 150° F Compensated Range[2]
	100	0-100	*P*	PSI												

[1]Available in Gauge Pressure Type Only
[2]Accuracy "Y" and Option "2" cannot be combined

Example: Part No. 2701800MA1F2B02YNN = Model 270, 800-1100 mb/hPa pressure range, Absolute,1/8" NPT Int. fitting, 0 to 5 VDC Output, 2' Cable Length, ±0.03% FS Accuracy.

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

Model 276

LOW COST BAROMETRIC PRESSURE TRANSDUCER

•Reduce System Enclosure Size
•Multiple Power Options
•Low Power Consumption

- High Accuracy: ±0.25% FS
- Stable Ceramic Sensor
- Environmentally Rugged
- Compact Size: 2" dia. x 1" wide
- Excellent Long-Term Stability: 0.25% FS/6 mo.
- Fast Response Time
- CE & RoHS Compliant

Applications

Environmental Monitoring Systems

Wind Measurement Systems

Weather & Environmental Data Logging

Cleanroom Barometric Pressure Compensation

Automotive Emissions Test Equipment

The Model 276 barometric and absolute transducer is designed specifically for OEM applications and system integrators. The 276 brings value to the end customer through its small footprint and stable SETRACERAM™ ceramic sensor. These features enable the 276 to outperform the competition in the price sensitive OEM market. The 276 offers flexibility for designers with multiple electrical and mechanical options, helping reduce costs and deliver projects on time.

FLEXIBLE DESIGN FOR OEM APPLICATIONS

The Model 276 pressure transducer is ideal for OEMs and system integrators in the environmental pressure measurement market. The 276 offers multiple options to customize which allows designers to seamlessly integrate the 276 into new or existing hardware and software interfaces.

IMPROVED PERFORMANCE WITH CERAMIC SENSOR

The 276 utilizes a variable capacitance sensor that is made using ceramic material fused together with glass and gold to form the SETRACERAM™ pressure element. This stable material and design offers class leading thermal performance and low hysteresis, allowing it to be integrated into demanding installations. The ceramic sensor enables improved performance compared to other stainless steel sensors, enabling the 276 to give accurate measurements and better test results.

Model 276

LOW COST BAROMETRIC PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy RSS [1] (at constant temp)	±0.25% FS [2]
Non-Linearity (BSFL)	±0.22% FS
Hysteresis	.05% FS
Non-Repeatability	.05% FS
Resolution	Infinite, limited only by output noise level (0.005% FS)
THERMAL EFFECTS[3]	
Compensated Range	+30 to +130°F (0 to +55°C)
Zero/Span Shift %FS/°F (%FS/°C)	1% FS
Resolution	Infinite, limited only by output noise level (0.0005% FS)
Time Constant	10 milliseconds to reach 90% final output with step function pressure input
Long Term Stability	0.25% FS/6 months
PRESSURE MEDIA	
Non-condensing air or gas compatible with stainless steel, alumina ceramics, gold and elastomer.	
PHYSICAL DESCRIPTION	
Case	Stainless Steel
Electrical Connection	2 ft. Multiconductor Cable
Pressure Fitting	1/8" Tube Fitting
APPROVALS	
CE, RoHS	

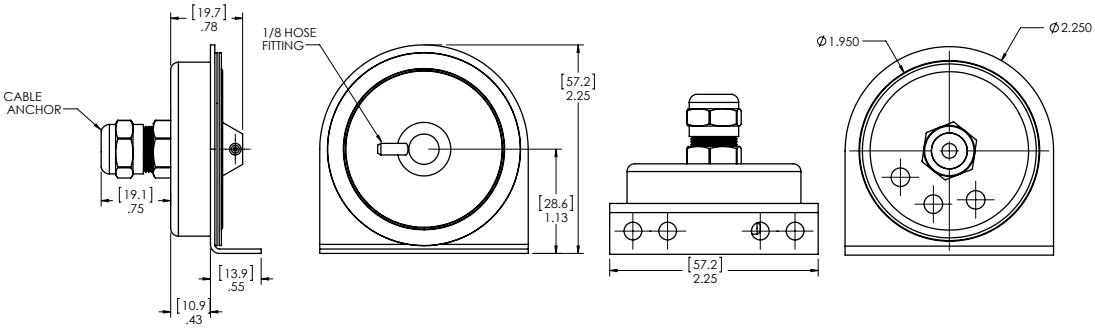
ENVIRONMENTAL DATA	
Operating [4] Temp.	0 to +175°F (-18 to +79°C)
Storage Temp.	-65 to +250°F (-55 to +121°C)
Vibration	2g from 5Hz to 500 Hz
Acceleration	10g
Shock	50g Operating, 1/2 since 10ms
ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire [5] (Exc, Out, Com)
Power Consumption	0.2 Watts (24 VDC)
Output Impedance	5 ohms
Output Noise	<200 microvolts RMS (0 Hz to 100 Hz)

[1] RSS of Non-Linearity, Hysteresis and Non-Repeatability. Higher accuracy units available on special order.
[2] FS=300mb for 800-1100 range; FS=500mb for 600-1100 mb range; and FS=20 PSI for 0 to 20 PSIA.
[3] Units calibrated at a nominal 70° F. Maximum thermal error computed from this datum.
[4] Operating temperature limits of the electronics only. Pressure media temperatures may be considerable higher or lower.
[5] The separate leads for +EXC, -EXC, +Out, -Out are commoned internally. The shield is connected to the case. For best performance, either the -Exc or -Out should be connected to the case. Unit is calibrated at the factory with -Exc connected to the case. The insulation resistance between all signal leads are tied together and case ground is 100 ohms minimum at 25 VDC.

OVERPRESSURE CAPABILITY

Type of Pressure	Pressure Range	Maximum Pressure
Barometric	600 to 1100 mb/hPa 800 to 1100 mb/hPa	20 PSIA 20 PSIA
Absolute	0-20 PSIA	30 PSIA

DIMENSIONS



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MODEL	PRESSURE RANGE		UNITS		PRESSURE TYPE		FITTING		OUTPUT[1]		TERMINATION		ACCURACY		OPTIONS[2]	
2761 = 276	*600*	600-1100	*M*	mb/hPa	*A*	Absolute	*1B*	1/8" Push Tube Fitting	*22*	0.1 to 5.1 VDC (24 VDC EXC)	*02*	2' Cable	*F*	±0.25% FS	*NN*	None
	800	800-1100	*M*	mb/hPa			*1M*	1/8" NPT External	*32*	0.1 to 5.1 VDC (12 VDC EXC)	*10*	10' Cable	*T*	±0.1% FS	*C*	11 PT Cal. Certificate
	020	20	*P*	PSI					*45*	0.5 to 4.5 VDC (5 VDC EXC)	*25*	25' Cable			*D*	Mate with Datum
											XX	Consult factory for other cable lengths			*L*	Etched SS Tag

[1] Zero and Full Scale Outputs are factory set to within ±0.25% Full Scale.
[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

Example: Part No. 2761600MA1B2202FNN = Model 276, 600 to 1100 mb/hPa, Absolute Pressure, 1/8" Push Tube Fitting, 0.1 to 5.1 VDC Output, 2' Cable Termination, ±0.25% FS Accuracy. No Options

Model 278

BAROMETRIC PRESSURE TRANSDUCER

•Ideal For Automated Weather Stations

•Low Power Consumption

•Relied On For Severe Weather Detection

- Long-Term Stability: 0.1 hPa/mB Per Year
- Sleep Mode for Instant Startup
- Removable Terminal Strip Module for Easy Wiring
- Footprint Configured for Easy Drop-In Replacement
- Calibration NIST Traceable
- Wide Operating Voltage 9.5 to 28 VDC
- CE & RoHS Compliant

Applications

Automated Weather Stations (AWS)

Data Buoys and Ships

Agriculture Metrology System

AWOS/ASOS Systems

High Accuracy Barometric Pressure Measurement

Setra's Model 278 is the ideal solution for measuring barometric pressure for remote environmental applications. The 278 is designed using the SETRACERAM™ ceramic sensor, enabling it to meet stringent accuracy requirements over wide operating temperatures in remote applications. The small footprint and removable terminal block on the 278 makes installation fast and easy. The 278 is ideal for solar powered applications because of its low power consumption and sleep mode feature. Under normal operation, this feature minimizes current draw when readings are not being taken.

DESIGNED FOR REMOTE SENSING APPLICATIONS

The Model 278 pressure transducer is designed to be used in remote applications that require low power consumption. Its sleep mode feature allows for instant startup and fast readings.

IMPROVED PERFORMANCE WITH CERAMIC SENSOR

The 278 utilizes a variable capacitance sensor that is made using ceramic material fused together with glass and gold to form the SETRACERAM™ pressure element. This stable material and design offers class leading thermal performance and low hysteresis, allowing it to be integrated into demanding installations. The ceramic sensor enables improved performance compared to other stainless steel sensors, enabling the 278 to give accurate measurements and better test results.

FLEXIBILITY IN APPLICATION

The Model 278 is designed with a compact footprint for quick installation. The removable terminal block provides easy wiring. Its mounting holes are designed to fit industry standard grid systems to maximize the use of panel space while minimizing your time at the job site.

Model 278

BAROMETRIC PRESSURE TRANSDUCER

SPECIFICATIONS

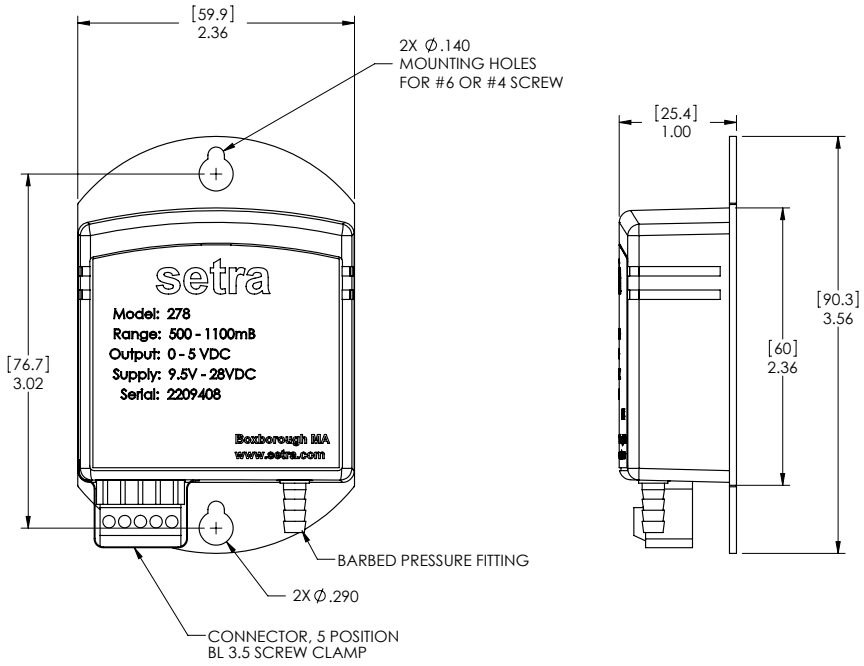
PERFORMANCE DATA			
Pressure Range hPa/mb	**500**	**600**	**800**
Temperature at:	Accuracy (hpa/mb)		
20°C (+68°F)	±0.6	±0.5	±0.3
0 to 40°C (+32° to +104°F)	±1.2	±1.0	±0.6
20 to 50°C (-4° to +122°F)	±2.0	±1.5	±1
-40 to 60°C (-40° to +140°F)	±2.5	±2.0	±1.5
Non-Linearity	±0.5	±0.4	±0.25
Hysteresis	±0.06	±0.05	±0.03
Non-Repeatability	±0.04	±0.03	±0.02

PERFORMANCE DATA (CONTINUED)	
Resolution	0.01 mB
Long Term Stability	0.1 mB/yr
Warm-Up Downshift	<1 Sec. from Shut-Mode (Warm-Up <0.1 mb Max.
Response Time	<100 mSec
Proof Pressure	1500 hPa
Burst Pressure	2000 hPa
PRESSURE MEDIA	
Non Condensing Air or Gas.	
APPROVALS	
CE, RoHS	
ENVIRONMENTAL DATA	
Operating Temperature	-40 to +140°F (-40 to +60°C)
Storage Temperature	-60 to +248°F (-76 to +120°C)

PHYSICAL DESCRIPTION	
Case	Stainless Steel and Polyester
Pressure Fitting	1/8" (ID dia.) Barbed Fitting
Electrical Connection	5-Pin Terminal Block
Dimensions	3.6" x 2.4" x 1.0"
Weight	4.8 ox (135g)
ELECTRICAL DATA	
Circuit	3 or 4-Wire
Output[1]	0.2.5 VDC; 0.5 VDC
Excitation[2]	9.5 to 28 VDC
Output Impedance	<10 Ohms
Output Noise	<50 Microvolts
Current Consumption	3mA Nominal (Operating Mode) 1uA (Sleep Mode)

[1] Zero output saturates at about 20 mV.
[2] Internal regulation minimizes effect of excitation variation, with <0.02 mb output change of 9.5 VDC to 28 VDC range.

DIMENSIONS



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MODEL	PRESSURE RANGE		PRESSURE TYPE		PRESSURE CONN.		OUTPUT/EXC.		ELECTRICAL CONN.	
2781=278	***500M***	500 to 1100 hPa/mb	***A***	Absolute	***1B***	1/8" Barbed Fitting	***2Y***	0 to 2.5VDC/9.5 to 28 VDC	***T1***	5-Pin Terminal Block
	600M	600 to 1100 hPa/mb					***2B***	0 to 5 VDC/9.5 to 28 VDC		
	800M	800 to 1100 hPa/mb								

Example: Part No. 2781600MA1B2BT1 for a 278 Pressure Transducer 600 to 1100 hPa, mb, Absolute Pressure, 1/8" Barbed Fitting, 0 to 5 VDC Output, 5-Pin Terminal Block.

Model 370

DIGITAL PRESSURE GAUGE

•±0.02% Full Scale Accuracy
•6 Digit LCD Display
•Bidirectional RS-232 Digital Communications I/O Port

- Engineering Unit Conversions for Pressure and Altitude
- Digital Altimeter Setting Indicator (DASI) and Corrected Altimeter Mode
- Programmable Non-Linear Functions

Applications

Automatic Weather Reporting Systems

Pressure Transfer Standard

Altimeter Calibration Recertification

Lab or Production Process Monitoring

Altitude Chambers

Setra Systems Model 370 offers extremely high accuracy and unmatched stability in a digital output configuration. Environmental monitoring and test & measurement systems around the world rely on Setra's experience in barometric pressure measurement instrumentation, as well as high accuracy measurements of higher pressures. The 370 utilizes Setra's unique SETRACERAM™ sensor, which is combined with advanced microprocessor based circuitry and sophisticated firmware to provide system accuracy to better than ±0.02% FS. The Model 370 Digital Pressure Gauge is an extremely versatile instrument. Pressure and altitude data is displayed on a 6 digit LCD and is also accessible through a bidirectional RS-232 port. A numeric keypad is provided for easy access to engineering unit conversions, min/max tracking, entry of Hi/Lo alarm set points and calibration procedures. The 370 is also available with an optional rechargeable battery pack to bring lab accuracy to the field.

Model 370

DIGITAL PRESSURE GAUGE

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy[1]	±0.02% FS[2] at 70° F(21°C)
Non-Linearity	±0.012% FS (End Point)
Hysteresis	0.010% FS
Non-Repeatability	0.010% FS
THERMAL EFFECTS[3]	
Compensated Range	+32 to +110°F (0 to +45°C)
Zero Shift %FS/°F (%FS/°C)	0.002 (0.004)
Span Shift %FS/°F (%FS/°C)	0.001 (0.002)
Altitude Resolution	1 ft. (4 ft. for 100 PSIA range)
Stability	0.005% FS, 24 hours 0.02% FS, 30 days 0.05% FS, 1 year
PRESSURE MEDIA	
Clean dry air or other gases (non-condensable)	

PHYSICAL DESCRIPTION	
Pressure Fitting	1/8" - 27 NPT Internal
Power Cord	5 Ft. Length, 3-Prong
Weight	12 lbs. (with Battery Pack)
Display	6 digit Liquid Crystal Display (LCD) with annunciators for pressure/altitude engineering units (PSI, mbar, hPa, mmHg, in.Hg, mmH2O, in.H2O, ft, m, units), HI/LO ALARM, pressure signal stability (O.K.) and barometric pressure corrected to sea level (SEA LEVEL).
Digital Output	Bidirectional RS-232 interface. All display data can be transmitted on the interface and all keyboard functions and commands can be duplicated using a remote terminal or keyboard.
Operating Power	110/220 VAC (-10% to +20%), 50/60 Hz., optional 12 VDC internal rechargeable battery pack (approx. 8 hours between charges). Approximately 4 watts power consumption.
Digital Interface	Bidirectional RS-232 interface. Access data, functions and commands via an RS-232 compatible remote terminal, data acquisition system or data storage device. 300, 600, 1200, 2400, 4800, 9600 Baud Rate, adjustable.

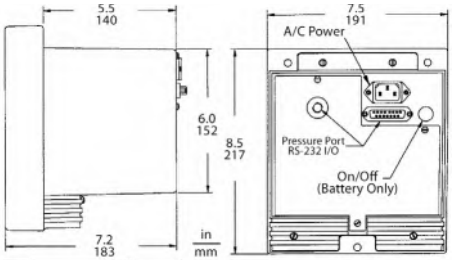
[1] RSS of Non-Linearity, Non-Repeatability and Hysteresis
[2] FS = 300 hPa/mb for 800-1100 hPa/mb range; FS=500 hPa/mb for 600-1100 hPa/mb range
[3] Unit calibrated at 70°F. Maximum thermal error is computed from this datum.

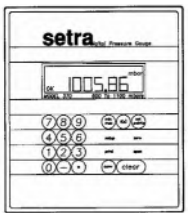
PRESSURE RANGES

Type of Pressure	Pressure Range	Readout or Report	Altitude Range[1]
Barometric	600 to 1100 mb/hPa 800 to 1100 mb/hPa	600.00 to 1100.00 800.00 to 1100.00	-1000 to 13,800 ft. -1000 to 6,400 ft.
Absolute	0 to 10 PSIA 0 to 20 PSIA 0 to 50 PSIA 0 to 100 PSIA	10.0000 20.0000 50.0000 100.000	10,300 to 100,000 ft. -1000 to 100,000 ft. -1000 to 100,000 ft. -1000 to 100,000 ft.

[1] Altitude is calculated using a pol Smithsonian Meteorological Tables, Vol. 114"
Ranges greater than 20 PSIA not recommended for altimeter recertification.
Proof Pressure: 150% of full scale pressure range.

DIMENSIONS





ORDERING INFORMATION

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MODEL	PRESSURE RANGE		PRESSURE TYPE		FITTING		OUTPUT		ACCURACY		OPTIONS	
3701 = Model 370	***600M***	600-1100 mb/hPa	***A***	Absolute	***1F***	1/8" NPT Int.	***VT***	RS-232/6 Digit LCD/120 VAC	***Y***	±0.02% FS	***NN***	None
	800M	800-1100 mb/hPa									***L***	Etched SS Tag
	010P	0-10 PSI									***5***	Installed Battery Pack
	020P	0-20 PSI										
	050P	0-50 PSI										
	100P	0-100 PSI										

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

Ordering Example: Part No. 3701020PA1FVTYNN = Model 370, 0-20 PSI Pressure Range, Absolute, 1/8" NPT Int. pressure fitting, RS-232/6 Digit LCD/120 VAC Output, ±0.02% FS Accuracy, No Options.

Model 470

DIGITAL PRESSURE TRANSDUCER

•±0.02% Full Scale Accuracy

•Bidirectional RS-232 Digital Communications I/O Port

- Engineering Unit Conversions for Pressure and Altitude
- Digital Altimeter Setting Indicator (DASI) and Corrected Altimeter Mode
- Programmable Non-Linear Functions

Applications

Automatic Weather Reporting Systems

Pressure Transfer Standard

Altimeter Calibration Recertification

Lab or Production Process Monitoring

Altitude Chambers

Setra Systems Model 470 offers extremely high accuracy and unmatched stability in a digital output configuration. Environmental monitoring and test & measurement systems around the world rely on Setra's experience in barometric pressure measurement instrumentation, as well as high accuracy measurements of higher pressures. The 470 utilizes Setra's unique SETRACERAM™ sensor, which is combined with advanced microprocessor based circuitry and sophisticated firmware to provide system accuracy to better than ±0.02% FS. The Model 470 is intended for applications which do not require local display of pressure or key pay access to commands. The 470's solid stability, reliability and versatility make it the first choice for weather observation systems worldwide. It is programmable for continuous, interval or on-demand printing at an adjustable (300-9600) Baud rate.

Model 470

DIGITAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
Accuracy[1]	±0.02% FS[2] at 70° F(21°C)
Non-Linearity	±0.012% FS (End Point)
Hysteresis	0.010% FS
Non-Repeatability	0.010% FS
THERMAL EFFECTS[3]	
Compensated Range °F(°C)	+32 to +110 (0 to +45)
Zero Shift %FS/°F (%FS/°C)	0.002 (0.004)
Span Shift %FS/°F (%FS/°C)	0.001 (0.002)
Altitude Resolution	1 ft. (4 ft. for 100 PSIA range)
Stability	0.005% FS, 24 hours 0.02% FS, 30 days 0.05% FS, 1 year
PRESSURE MEDIA	
Clean dry air or other gases (non-condensable)	

PHYSICAL DESCRIPTION	
Pressure Fitting	Barbed Fitting for 1/8" I.D. Tubing
Pressure Connection	10-32 Internal Thread
Excitation	DB-9S, (9 Pin D-Sub Female) Pin: 3 GRD, 9 + 5 VDC
Communications	DB-9S, (9 Pin D-Sub Male) Pin: 2 TXD, 3 RXD, 5 GRD
Weight	Apprx. 2.4 lbs.
Digital Output	Pressure data is accessible through the Bidirectional RS-232 I/O port, which is user programmable for continuous, interval or on-demand printing at an adjustable (300-9600) baud rate. The data is reported in a simple string of ASCII characters in response to a command consisting of an ASCII character, for example, P (for PRINT) instructs the device to report a pressure reading.
Operating Power	5 VDC ±1%, 70 mA max.
Digital Interface	Bidirectional RS-232 interface. Access data, functions and commands via an RS-232 compatible remote terminal, data acquisition system or data storage device. 300, 600, 1200, 2400, 4800, 9600 Baud Rate, adjustable.

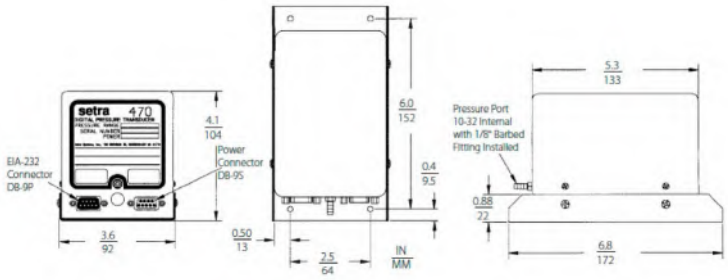
[1] RSS of Non-Linearity, Non-Repeatability and Hysteresis
[2] FS = 300 hPa/mb for 800-1100 hPa/mb range; FS=500 hPa/mb for 600-1100 hPa/mb range
[3] Unit calibrated at 70°F. Maximum thermal error is computed from this datum.

OVERPRESSURE CAPABILITY

Type of Pressure	Pressure Range	Readout or Report	Altitude Range[1]
Barometric	600 to 1100mb/ hPa 800 to 1100 mn/hPa	600.00 to 1100.00 800.00 to 1100.00	-1000 to 13,800 ft. -1000 to 6,400 ft.
Absolute	0 to 10 PSIA 0 to 20 PSIA 0 to 50 PSIA 0 to 100 PSIA	10.0000 20.0000 50.0000 100.000	10,300 to 100,000 ft. -1000 to 100,000 ft. -1000 to 100,000 ft. -1000 to 100,000 ft.

[1] Altitude is calculated using a pol Smithsonian Meteorological Tables, Vol. 114"
Ranges greater than 20 PSIA not recommended for altimeter recertification.
Proof Pressure: 150% of full scale pressure range.

DIMENSIONS



ORDERING INFORMATION

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MODEL	PRESSURE RANGE		PRESSURE TYPE		FITTING		OUTPUT		ACCURACY		OPTIONS	
4701 = 470	***600P***	600-1100 mb/hPa	***A***	Absolute	***1B***	1/8" Barbed Fitting	***4T***	RS-232/5 VDC	***Y***	±0.02% FS	***NN***	None
	800P	800-1100 mb/hPa									***L***	Etched SS Tag
	010P	0-10 PSI										
	020P	0-20 PSI										
	050P	0-50 PSI										
	100P	0-100 PSI										

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

Ordering Example: Part No. 4701020PA1B4TYNN = Model 470, 0-20 PSI Pressure Range, Absolute, 1/8" barbed fitting, RS-232/5 VDC Output, ±0.02% FS Accuracy, No Options.

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

LOW DIFFERENTIAL PRESSURE

Model MRG

MULTI-RANGE GENERAL PRESSURE TRANSDUCER

•Universal Design
•IP67 Rated Housing
•Field Selectable

- Field Configurable Duct Probe Optional
- External Mounting Tabs & Optional DIN Rail
- IP67 Rated Housing
- 4 Digit LCD
- Field Selectable Range
- Field Selectable Output
- Simple 5-Step Setup
- Field Accessible Push-Button Zero & Span
- Unregulated AC/DC Operation

Target Uses

Hospitals

Isolation Rooms

Vivariums

Sub-Contractors, Quick Installation

Flexible for Building Specification Changes

Service/Retrofit Friendly

Quick & Accurate Reconfiguration

Setra's Model MRG multi-range low differential pressure transducer uses a dead-ended capacitive sensing element that requires minimal amplification and delivers excellent accuracy and longterm stability. It is the ideal solution for any contractor, combining flexibility of a multi-range transducer with the performance of a single range transducer. The MRG has 8 field selectable ranges and 3 field selectable outputs which makes it easily adjustable on the job with a flip of a switch or jumper. The MRG is offered with 3 different housing configuration options: Wall Mount, Duct Probe or DINrail Mount as well as a universal design that incorporates all 3 configurations in one to address any installation changes on the job site.

8 FIELD SELECTABLE RANGES

The MRG provides 8 field selectable ranges (0.5", 1.0", 2.5" and 5.0"W.C.). These ranges can be selected on site by flipping to the desired range.

ROBUST ENCLOSURE FOR HARSH ENVIRONMENTS

The MRG housing is a robust IP67 rated design and is sealed with a gasket to make it wash down capable for difficult applications. The MRG also has a conduit fitting that make installation and wiring easier.

UNIVERSAL DESIGN

The MRG utilizes a universal design that gives the user total flexibility to make changes on the job site. The user has the option to choose field selectable ranges, output, mounting setup and engineering unit. The flexibility means a contractor can feel comfortable stocking one product for all of their needs.

THE SETRA SENSOR

The core technology of the MRG is the all stainless steel capacitive sensing element. Setra designs and manufactures all of their sensing elements resulting in full control over the process and quality of every single sensor. The welded dead-ended capacitive sensors requires minimal amplification and delivers excellent accuracy and longterm stability. Setra's technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.

Model MRG

MULTI-RANGE CRITICAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	
	Standard
Accuracy RSS[1] (at constant temp)	±1.0% FS
Compensated Range °F (°C)	32 to 122°F (0 to 50°C)
Thermal Effects[2] %FS/°F(°C)	0.03 (0.054)
Maximum Line Pressure	10 PSI
Overpressure	Up to 10 PSI[9]
Long Term Stability (max.)	1.0% FS/YR
ENVIRONMENTAL DATA	
Operating Temperature[3]	32 to 122°F (0 to 50°C)
PRESSURE MEDIA	
Clean air or similar non-conducting gases.	

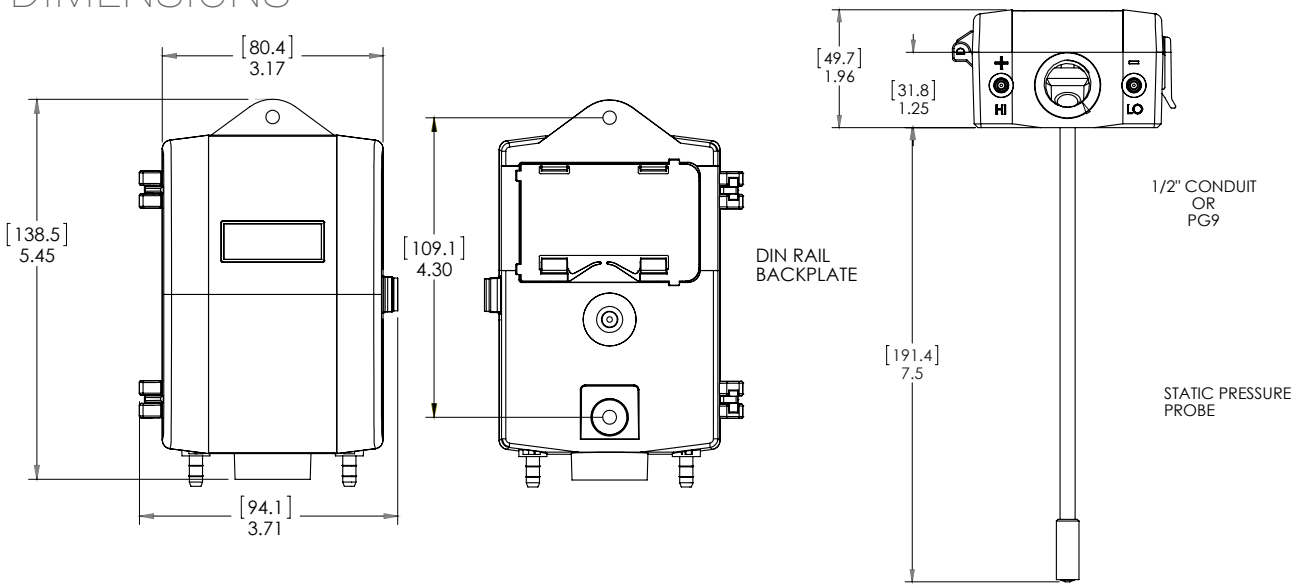
PHYSICAL DESCRIPTION	
Case	Fire-Retardant Poly-carbonate (UL 94 V-0 Approved), Hinged Lid
Mounting	Two Screw Holes Vertical Position
Electrical Connection Block	Removable Screw Terminal
Pressure Fitting	3/16" O.D. Barbed Brass
Zero	Push Button
Span	Push Button
Weight (approx.)	8 Ounces
POSITION EFFECT	
Zero Offset %FS/G[8]	0.5%

ELECTRICAL DATA	
Excitation Range	13 to 30 VDC/18 to 24 VAC (Voltage Output) 13 to 30 VDC (4 to 20mA output at terminals)
Current Consumption	30mA (max)
Mis-Wiring	Reverse Excitation Protection
Field Selectable Output[4]	0 to 5 V, 0 to 10V (3-wire), 4 to 20mA (2-wire)
Output Resistance (Voltage Output)	10 Ohms (max)
Load Resistance (Voltage Output)	10 K-Ohms (min)
Loop Resistance (4-20mA)	0 to 800 Ohms
Approval	CE & RoHS Compliant

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Units calibrated at nominal 70˚F. Maximum thermal error computed from this datum.
[3] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.
[4] Calibrated into a 50K ohm load, operable into a 10K ohm load or greater.
[5] Span (Full Scale) output factory set to within 1%.
[6] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[7] Span (Full Scale) output factory set to within ±0.16mA.
[8] Unit is factory calibrated at 0g effect in the vertical position.
[9] Range dependent

Specifications subject to change without notice.

DIMENSIONS



ORDERING INFORMATION

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MODEL	FIELD SELECTABLE RANGES				CONFIGURATION		ELECTRICAL FITTING	
MRG	UNIDIRECTIONAL PRESSURE RANGES		BIDIRECTIONAL PRESSURE RANGES		*S*	Standard (Base Mount)	*A*	1/2" Conduit
	0.5"W.C.	100 Pa	±0.5"W.C.	±100 Pa	*U*	Universal[1]	*P*	PG9
	1.0"W.C.	250 Pa	±1.0"W.C.	±250 Pa	*D*	DIN Rail	*C*	1/2" Conduit w/ Cal Certification[2]
	2.5"W.C.	500 Pa	±2.5"W.C.	±500 Pa	*P*	Duct Probe	*D*	PG9 w/ Cal Certification[2]
	5.0"W.C.	1,000 Pa	±5.0"W.C.	±1,000 Pa				

[1]Universal unit includes Duct Probe and I
[2]Calibration is performed at highest rang

Ordering Example: MRGUA= Model MRG, Universal Configuration, with 1/2" Conduit.

Model 264

VERY LOW DIFFERENTIAL PRESSURE TRANSDUCER

•Industry Standard

•3 Year Unconditional Warranty

•±0.25%, ±0.4 %, ±1 FS Accuracy

- Installation Time Minimized w/ Mounting Options
- Reverse Wiring Protection
- Internal Regulation Permits Use with Unregulated DC Power Supplies
- Fire Retardant Case (UL 94 V-0 Approved)
- CE & RoHS Compliant

Applications

HVAC Systems

Energy Management Systems

Variable Air Volume and Fan Control (VAV)

Environmental Pollution Control

Lab & Fume Hood Control

With millions of sensors installed world wide, Setra's 264 is the standard for low differential pressure measurement in HVAC building automation. The 264 very low differential pressure transducer uses a dead-ended stainless steel welded capacitive sensing element that requires minimal amplification and delivers excellent accuracy and longterm stability in critical installations. The 264 has a 3 year, unconditional warranty, giving the end-user peace of mind well beyond the initial commissioning phase and guarantees performance well after the BAS warranty. The 264 utilizes a robust design that offers brass barbed fittings, and an optional conduit cover for easy and consistent installation.

THE INDUSTRY STANDARD PRESSURE TRANSDUCER

The 264 has been a consistent and trusted HVAC sensor for over two decades. The reputation of reliability and quality with exceptional delivery time has helped the 264 remain the trusted choice for any low differential pressure applications.

CONVENIENT INSTALLATION

The 264 is available in both a wall and conduit versions providing the installer with flexible mounting options. The base mount allows the sensor to be installed anywhere, allowing for a simple installation.

THE SETRA SENSOR

The core technology of the 264 is the all stainless steel capacitive sensing element. Setra designs and manufactures all of their sensing elements resulting in full control over the process and quality of every single sensor. The welded dead-ended capacitive sensors requires minimal amplification and delivers excellent accuracy and longterm stability. Setra's technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.

Model 264

VERY LOW DIFFERENTIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	STANDARD	OPTIONAL
Accuracy RSS[1] (at constant temp)	±1.0% FS	±0.4% FS ±0.25% FS
Non-Linearity, BFSL	±0.96% FS	±0.38% FS ±0.22% FS
Hysteresis	0.10% FS	0.10% FS

THERMAL EFFECTS	
Compensated Range	0 to +150°F (-18 to +65°C)
Zero/ Span Shift %FS/100°F(50°C)	±0.033 (±0.06)
Maximum Line Pressure	10 PSI
Overpressure	Up to 10 PSI (Range Dependent)
Long Term Stability	0.5% FS/1 YR

ENVIRONMENTAL DATA	
Operating Temperature[3]	0 to +175°F (-18 to +79°C)
Storage Temperature	-65 to +250°F (-54 to +121°C)

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (Com, Out, Exc)
Excitation/ Output[4]	9 to 30 VDC / 0 to 5 VDC[5,6]
Output Impedance	100 ohms
Bidirectional output at zero pressure	2.5 VDC[5,6]

ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output[2]	4 to 20 mA[8,9]
External Load	0 to 800 ohms
Minimum Supply Voltage (VDC)	9 + 0.02 x (resistance of receiver plus line)
Maximum Supply Voltage (VDC)	30 + 0.004 x (resistance of receiver plus line)
Bidirectional output at zero pressure	12 mA[8,9]

PHYSICAL DESCRIPTION	
Case	Fire-Retardant Glass Filled Polyester (UL 94 V-O Approved)
Electrical Connection	Screw Terminal Strip
Mounting	4 screw holes on removable zinc plated steel base (designed for 2.75" snap track)
Pressure Fittings	3/16" O.D. barbed brass for 1/4" push on tubing
Zero and Span Adjustments	Accessible on top of case
Weight (approx.)	10 Ounces

PRESSURE MEDIA
Clean air or similar non-conducting gases.

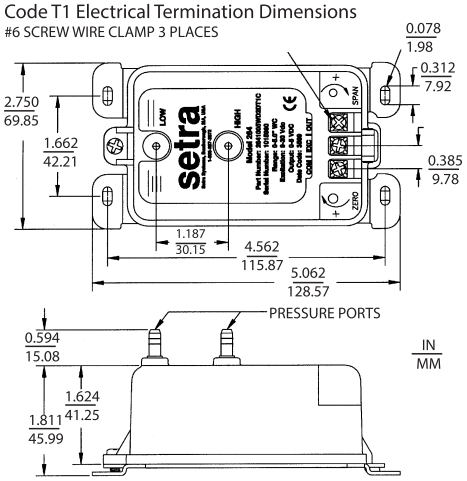
POSITION EFFECT[10]	
RANGE	%FS/G
0.1 in. WC	2.3
0.25in. WC	1
0.5 in. WC	0.5
1.0 in. WC	0.3
2.5 in. WC	0.2
10 in. WC	0.15

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Units calibrated at nominal 70˚F. Maximum thermal error computed from this datum.
[3] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.
[4] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[5] Zero output factory set to within ±50mV (±25 mV for optional accuracies).
[6] Span (Full Scale) output factory set to within ±50mV. (±25 mV for optional accuracies).
[7] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[8] Zero output factory set to within ±0.16mA (±0.08 mA for optional accuracies).
[9] Span (Full Scale) output factory set to within ±0.16mA (±0.08 mA for optional accuracies).
[10] Unit is factory calibrated at 0g effect in the vertical position

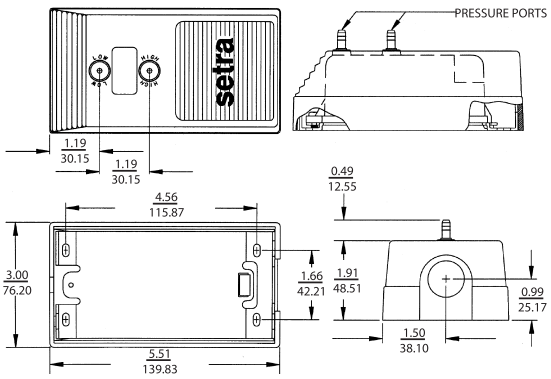
Specifications subject to change without notice.

DIMENSIONS

Code T1 Electrical Termination Dimensions
#6 SCREW WIRE CLAMP 3 PLACES



Optional 1/2" Conduit Electrical Enclosure Dimensions



ORDERING INFORMATION

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MODEL	RANGE CODE				OUTPUT		ELECTRICAL TERMINATION		ACCURACY[1]	
2641 = Model 264	UNIDIRECTIONAL		BIDIRECTIONAL		*11*	4-20 mA	*T1*	Terminal Strip	*C*	±1% FS
	0R1WD	0 to 0.1"W.C.	*R05WB*	±0.05"W.C.	*2D*	0-5 VDC	*A1*	1/2 in. Conduit Enclosure	*E*	±0.4% FS
	R25WD	0 to 0.25"W.C.	*0R1WB*	±0.1"W.C.					*F*	±0.25% FS
	0R5WD	0 to 0.5"W.C.	*R25WB*	±0.25"W.C.					*G*	±1% FS
	001WD	0 to 1.0"W.C.	*0R5WB*	±0.5"W.C.						
	1R5WD	0 to 1.5"W.C.	*001WB*	±1"W.C.						
	2R5WD	0 to 2.5"W.C.	*1R5WB*	±1.5"W.C.						
	003WD	0 to 3.0"W.C.	*2R5WB*	±2.5"W.C.						
	005WD	0 to 5.0"W.C.	*005WB*	±5.0"W.C.						
	010WD	0 to 10.0"W.C.	*7R5WB*	±7.5"W.C.						
	015WD	0 to 15.0"W.C.	*010WB*	±10.0"W.C.						
	025WD	0 to 25.0"W.C.	*025WB*	±25.0"W.C.						
	050WD	0 to 50.0"W.C.	*050WB*	±50.0"W.C.						
	100WD	0 to 100.0"W.C.								

1. Optional Accuracies E, F, G include Calibration Certificate

Ordering Example: 26412R5WD11T1C= Model 264, 0 to 2.5 in. W.C. Range, 4 to 20 mA Output, Terminal Strip Electrical Connection, and ±1% Accuracy

Model 265

VERY LOW DIFFERENTIAL PRESSURE TRANSDUCER

- **Excellent Price to Performance Ratio**
- **Reduce Installation Costs**
- **±0.25%, ±0.4%, ±1 FS Accuracy**
- 24 VDC or 24 VAC Excitation
- Voltage or Analog Outputs
- Reverse Wiring Protection
- Internal Regulation
- Fire Retardant Case (UL 94 V-0 Approved)
- CE & RoHS Compliant

Applications

Heating, Ventilation, and Air Conditioning

Energy Management Systems

Variable Air Volume and Fan Control (VAV)

Environmental Pollution Control

Static Duct and Cleanroom Pressures

Setra's Model 265 is a lower price solution that offers an excellent price to performance ratio and meets the requirements in all typical HVAC applications. The 265 is a low differential pressure transducer that uses a dead-ended capacitive sensing element that requires minimal amplification and delivers excellent accuracy and longterm stability. It delivers ±1% FS accuracy with ±0.25% and ±0.4% FS options and pressure ranges from 0.25″ W.C. up to 100″ W.C. The 265 has a small footprint, an AC power option and an optional conduit cover that allows for simple, secure installation for any applications.

THE BEST PRICE TO PERFORMANCE IN THE INDUSTRY

The 265 delivers exceptional features at a low price, perfect for any OEM looking for quality and performance at an affordable price.

QUICK & EASY INSTALLATION

The 265 is designed to reduce installation costs while increasing overall operating efficiency. Installation is easy with integral mounting tabs, pressure connections located on the face of the unit, and a screw terminal strip for electrical termination.

THE SETRA SENSOR

The core technology of the 265 is the all stainless steel capacitive sensing element. Setra designs and manufactures all of their sensing elements resulting in full control over the process and quality of every single sensor. The welded dead-ended capacitive sensors requires minimal amplification and delivers excellent accuracy and longterm stability. Setra's technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.

Model 265

VERY LOW DIFFERENTIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	STANDARD	OPTIONAL
Accuracy RSS[1] (at constant temp)	±1.0% FS	±0.4% FS ±0.25% FS
Non-Linearity, BFSL	±0.98% FS	±0.38% FS ±0.22% FS
Hysteresis	0.10% FS	0.10% FS
Non-Repeatability	0.05% FS	0.05% FS

THERMAL EFFECTS[2]	
Compensated Range	0 to +150°F (-18 to +65°C)
Zero Shift %FS/100°F(50°C)	±0.033 (±0.06)
Span Shift %FS/100°F(50°C)	±0.033 (±0.06)
Max. Line Pressure	10 PSI
Overpressure	Up to 10 PSI (range dependent)
Long Term Stability	0.5% FS/YR
Warm-Up Shift	±0.1% FS Total

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (Com, Out, Exc)
Excitation/Output[5]	9 to 30 VDC / 0 to 5 VDC6 9 to 30 VAC / 0 to 5 VDC 12 to 30 VAC / 0 to 10 VDC6
Output Impedance	<100 ohms
Bidirectional output at zero pressure	2.5 VDC (±50 mV)

ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire
Output[7]	4 to 20 mA[3]
External Load	0 to 800 ohms
Min. Loop Supply Voltage (VDC)	9 + 0.02 x (resistance of receiver plus line)
Max. Loop Supply Voltage (VDC)	30 + 0.004 x (resistance of receiver plus line)
Bidirectional output at zero pressure	12 mA

PHYSICAL DESCRIPTION	
Pressure Fittings	1/4" Fitting
Case	Fire Retardant Glass Filled Polyester (UL 94-V Approved)
Weight	3 oz
Elec. Connection	Screw Terminal Strip

POSITION EFFECT[4]	
RANGE	ZERO OFFSET (%FS/G)
To 0.5" W.C.	0.60
To 1.0"W.C.	0.50
To 2.5"W.C.	0.22
To 5.0"W.C.	0.14

PRESSURE MEDIA
Clean air or similar non-conducting gases.

ENVIRONMENTAL DATA	
Temperature	
Operating °F (°C)[3]	0 to +150 (-18 to +65)
Storage °F (°C)	-40 to +185 (-40 to +85)

[1] RSS of Non-Linearity, Non-Repeatability and Hysteresis
[2] Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.
[3] Operating temperature of the electronics only. Pressure media temperatures may be considerably higher or lower.
[4] Unit is factory calibrated at 0g effect of vertical position.
[5] Calibrated into 50K ohm load. Operable into 5000 ohms or greater.
[6] Zero & Span (FS) output factory set to within ±50mV (±25 mV for optional accuracies).
[7] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.
[8] Zero & Span (FS) output factory set to within ±0.16 mA (±0.08 mA for optional accuracies.).

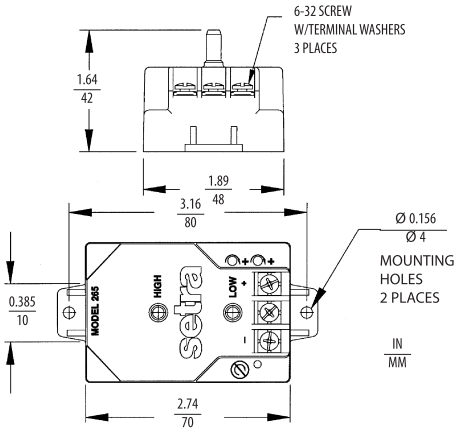
NOTE: Setra quality standards are based on ANSI-Z540-1. The calibration of this product is NIST traceable.

U.S. Patent Nos. 5442962, 6019002, 6014800 and other Patents Pending.

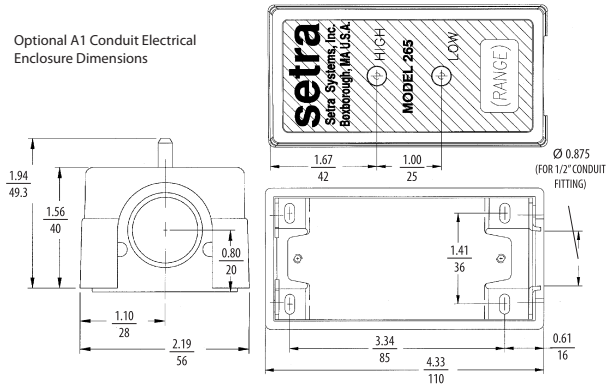
Specifications subject to change without notice.

DIMENSIONS

Code T1 Electrical Termination Dimensions



Optional A1 Conduit Electrical Enclosure Dimensions



ORDERING INFORMATION

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MODEL	RANGE CODE				EXCITATION/OUTPUT		ELECTRICAL TERMINATION		ACCURACY[1]	
	UNIDIRECTIONAL		BIDIRECTIONAL							
2651 = Model 265	*R25WD*	0 to 0.25"W.C.	*0R1WB*	±0.1"W.C.	*11*	24VDC/ 4-20 mA	*T1*	Terminal Strip	*C*	±1% FS
	0R5WD	0 to 0.5"W.C.	*R25WB*	±0.25"W.C.	*2B*	24VDC/ 0-5 VDC	*A1*	1/2" Conduit Enc.	*E*	±0.4% FS
	001WD	0 to 1"W.C.	*0R5WB*	±0.5"W.C.	*AB*	24VAC/ 0-5 VDC			*F*	±0.25% FS
	2R5WD	0 to 2.5"W.C.	*001WB*	±1"W.C.	*AC*	24VAC/ 0-10 VDC			*G*	±1% FS
	005WD	0 to 5"W.C.	*2R5WB*	±2.5"W.C.						
	010WD	0 to 10"W.C.	*005WB*	±5"W.C.						
	025WD	0 to 25"W.C.	*010WB*	±10"W.C.						
	050WD	0 to 50"W.C.	*025WB*	±25"W.C.						
	100WD	0 to 100"W.C.	*050WB*	±50"W.C.						

Please contact factory for versions not shown.

1. Optional Ranges E, F with Calibration Certificate. G with Calibration Certificate.

Ordering Example: 26512R5WD11T1C = Model 265, 0 to 25 in. WC Range, 4 to 20 mA Output, Terminal Strip Electrical Connection, ±1% Accuracy.

Model 267

VERY LOW DIFFERENTIAL PRESSURE TRANSDUCER

•Suitable for Harsh Environments

•Optional LCD Display

•±0.25%, ±0.4%, ±0.5%, ±1 FS Accuracies

- Optional 3.5 Digit LCD Display w/ 0.5% FS Accuracy
- NEMA 4 Rated Housing
- Optional Static Pressure Probe
- PG-9, PG-13 or Conduit Electrical Termination
- 24 VAC or 24 VDC Excitation
- CE & RoHS Compliant

Applications

HVAC Systems

Energy Management Systems

Static Duct Pressure

Cleanroom Pressure

Oven Pressurization Controls

Furnace Draft Controls

Setra's Model 267 is the most rugged high accuracy, low differential pressure transducer on the market. It delivers accuracies of ±1% FS (without display), ±0.5% FS (with display), optional ±0.25% FS and ±0.4% FS accuracies, and pressure ranges from 0.1" W.C. up to 100" W.C. The 267 is housed in a robust, NEMA 4 rated enclosure and has an optional static pressure probe reducing installation and material costs. The 267 is offered with an optional LCD display and a standard accuracy of ±0.5% making it ideal for high accuracy Pharmaceutical applications.

CUSTOMIZATION IS STANDARD

The 267, unlike most competitors, offers many mechanical and electrical options that can be integrated into existing designs. The optional 0.25" diameter pressure probe is made of sturdy extruded aluminum and is designed with baffles to prevent velocity pressure errors which saves money and reduces time on the job site.

ROBUST ENCLOSURE FOR DIFFICULT APPLICATIONS

The 267 is housed in a NEMA 4 rated housing and is built to withstand harsh environments. The 267 is available in both wall and duct mount providing the installer with flexible mounting options. The wall mount allows the sensor to be installed anywhere, whereas the duct probe configuration is designed to maximize space efficiency in difficult applications.

THE SETRA SENSOR

The core technology of the 267 is the all stainless steel capacitive sensing element. Setra designs and manufactures all of their sensing elements resulting in full control over the process and quality of every single sensor. The welded dead-ended capacitive sensors requires minimal amplification and delivers excellent accuracy and longterm stability. Setra's technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.

Model 267

VERY LOW DIFFERENTIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	STANDARD	OPTIONAL
Accuracy RSS[1] (at constant temp)	±1.0% FS	±0.4% FS ±0.25% FS
Non-Linearity, BFSL	±0.98% FS	±0.38% FS ±0.22% FS
Hysteresis	±0.10% FS	±0.10% FS
Non-Repeatability	±0.05% FS	±0.05% FS
Position Effect	Consult factory	

THERMAL EFFECTS[2,3]	
Compensated Range	+40 to +150°F (+5 to +65°C)
Zero/Span Shift %FS/°F (°C)	±0.033 (±0.06)
Maximum Line Pressure	10 PSI
Overpressure	Up to 10 PSI (Range Dependent)
Long-Term Stability	0.1% FS Total

ENVIRONMENTAL DATA	
Operating[6] Temperature	0 to +150°F (-18 to +65°C)
Storage Temperature	-65 to +180°F (-54 to +82°C)

PRESSURE MEDIA
Clean air or similar non-conducting gases.

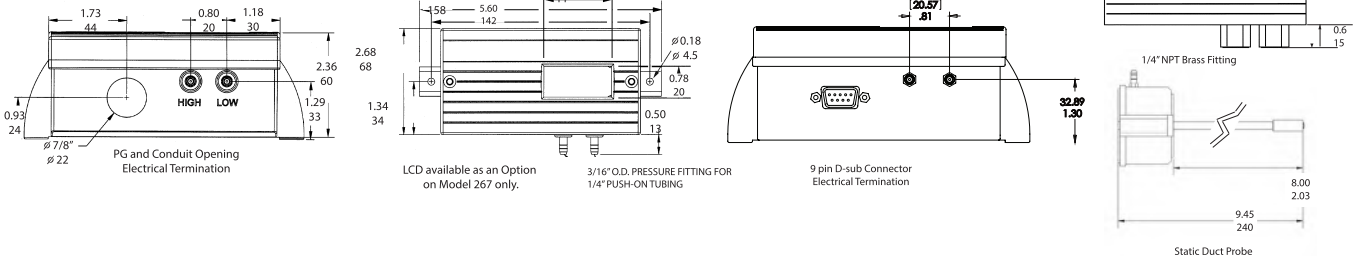
PHYSICAL DESCRIPTION	
Case	IP65/NEMA 4 Plastic Glass-Filled Polycarbonate UL94V-O Case
Electrical Connection	Screw Terminal Strip Inside of Case
Electrical Terminations	PG-9/PG13.5 Strain Relief, 1/2" Conduit Opening, or 9 Pin D-Sub Connector*
Zero and Span Adjustments	Accessible Inside of Case
Weight (approx.)	9.0 Ounces (255 grams) 9.5 Ounces (Duct Probe Assembly)

ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire, Protected from Miswiring
Output[7]	4 to 20 mA[4]
Bidirectional Output at Zero	12 mA
Min. Loop Supply Voltage (VDC)	9 + 0.02 x (Resistance of Receiver plus line)
Max. Loop Supply Voltage (VDC)	30 + 0.004 x (Resistance of Receiver plus line)

ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (Exc, Gnd, Sig), Protected from Miswiring
Excitation (for 0-5 VDC Output)	9 to 30 VAC /12 to 40 VDC
Excitation (for 0-10 VDC Output)	11 to 30 VAC /13 to 40 VDC
Output[3]	0 to 5 VDC[5] / 0 to 10 VDC[5]

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Units calibrated at nominal 70˚F. Maximum thermal error computed from this datum.
[3] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[4] Zero output factory set to within ±0.16 mA (±0.08 mA for optional accuracies). Span (Full Scale) output factory set to within ±0.16 mA (±0.08mA for optional accuracy).
[5] Zero output factory set to within ±50mV (±25 mV for optional accuracies).
Span (Full Scale) output factory set to within ±50mV (±25 mV for optional accuracies)
[6] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.
[7] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.

DIMENSIONS



ORDERING INFORMATION

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MODEL	RANGE								OUTPUT		PRESSURE FITTING/ELEC. TERMINATION		ACCURACY (FULL SCALE)	
2671 = 267	UNIDIRECTIONAL		BIDIRECTIONAL		UNIDIRECTIONAL		BIDIRECTIONAL		11	4-20 mA	3/16" Barbed Brass Fitting		CN	±1% FS with no LCD Display
	OR1WD	0 to 0.1 "W.C.	OR1WB	±0.1"W.C.	025LD	0 to 25 Pa	025LB	±25 Pa	2D	0-5 VDC	G1	PG-13.5 Strain Relief	EN	±0.4% FS* with no LCD Display
	R25WD	0 to 0.25"W.C.	R25WB	±0.25"W.C.	050LD	0 to 50 Pa	050LB	±50 Pa	2E	0-10 VDC	G2	PG9 Strain Relief	FN	±0.25% FS* with no LCD Display
	0R5WD	0 to 0.5"W.C.	0R5WB	±0.5"W.C.	100LD	0 to 100 Pa	100LB	±100 Pa			D9[1]	9 pin D-Sub Conn.	GN	±1% FS* with no LCD Display
	001WD	0 to 1"W.C.	001WB	±1.0"W.C.	250LD	0 to 250 Pa	250LB	±250 Pa			A1	1/2" Conduit Opening	HD	±0.5% FS* with LDC Display
	1RSWD	0 to 1.5"W.C.	1RSWB	±1.5"W.C.	500LD	0 to 500 Pa	500LB	±500 Pa			1/4"NPTF BRASS FITTING		ED	±0.4% FS* with LDC Display
	2R5WD	0 to 2.5"W.C.	2R5WB	±2.5"W.C.	10CLD	0 to 1000 Pa	10CLB	±1000 Pa			1K	PG-9 Strain Relief	FD	±0.25% FS* with LDC Display
	005WD	0 to 5.0"W.C.	005WB	±5.0"W.C.	25CLD	0 to 2500 Pa	25CLB	±2500 Pa			2K	PG-13.5 Strain Relief	*includes Cal Cert.	
	010WD	0 to 10"W.C.	010WB	±10"W.C.	40CLD	0 to 4000 Pa	40CLB	±4000 Pa			9K	9 Pin D-Sub Conn.		
	025WD	0 to 25"W.C.	025WB	±25"W.C.	70CLD	0 to 7000 Pa	70CLB	±7000 Pa			AK	1/2" Conduit Opening		
	050WD	0 to 50"W.C	050WB	±50"W.C.							STATIC DUCT PROBE			
	100WD	0 to 100"W.C.	100WB	±100"W.C.							1P	PG-9 Strain Relief		
											2P	PG-13.5 Strain Relief		
											9P	9 Pin D-Sub Conn..		
											AP	1/2" Conduit Opening		

Ordering Example: Part No. 2671R25WD11G2CN for a 0 to .25 in. WC Unidirectional Range, 4-20 mA Output, 3/16" Barbed Brass Fitting, PG-9 Electrical Termination, 1% Accuracy with LCD Display

Model 267MR

MULTI-RANGE LOW DIFFERENTIAL PRESSURE TRANSDUCER

•Suitable for Harsh Environments
•Multi-Range Capability
•Optional Static Pressure Probe

- 6 Field Selectable Ranges
- 2 Field Selectable Outputs
- NEMA 4 Rated Housing
- PG-9, PG-13 or Conduit Electrical Termination
- Optional Static Pressure Probe
- 24 VAC or 24 VDC Excitation
- CE & RoHS Compliant

Applications

HVAC Systems

Energy Management Systems

Static Duct Pressure

Cleanroom Pressure

Setra's Model 267MR is a highly configurable multi-range low differential pressure transducer. It offers multi-range capability with 6 field selectable ranges and 2 field selectable outputs that are easily configured by flipping a Dip Switch. The 267MR is housed in a NEMA 4 rated enclosure with an optional static pressure probe reducing installation and material costs. It delivers ±1% FS accuracy with pressure ranges from 0.1″ W.C. up to 100″ W.C.

ALL INCLUSIVE FIELD SELECTABLE DESIGN

The 267MR is the ideal product for any contractor to stock in their truck; combining the flexibility of a multi-range with the performance of a single-range transducer to ensure the installer has the right solution for any job.

ROBUST ENCLOSURE FOR DIFFICULT APPLICATIONS

The 267MR is housed in a NEMA 4 rated housing and is built to withstand harsh environments. The 267MR is available in both wall and duct mount providing the installer with flexible mounting options. The wall mount allows the sensor to be installed anywhere, whereas the duct probe configuration is designed to maximize space efficiency in difficult applications.

THE SETRA SENSOR

The core technology of the 267MR is the all stainless steel capacitive sensing element. Setra designs and manufactures all of their sensing elements resulting in full control over the process and quality of every single sensor. The welded dead-ended capacitive sensors requires minimal amplification and delivers excellent accuracy and longterm stability. Setra's technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.

Model 267MR

MULTI-RANGE LOW DIFFERENTIAL PRESSURE TRANSDUCER

SPECIFICATIONS

PERFORMANCE DATA	STANDARD	OPTIONAL
Accuracy RSS[1] (at constant temp)	±1.0% FS	
Non-Linearity, BFSL	±0.98% FS	±0.38% FS ±0.22% FS
Hysteresis	±0.10% FS	±0.10% FS
Non-Repeatability	±0.05% FS	±0.05% FS
Position Effect	Consult factory	

THERMAL EFFECTS[2,3]	
Compensated Range	+40 to +150°F (+5 to +65°C)
Zero/Span Shift %FS/°F (°C)	±0.033 (±0.06)
Maximum Line Pressure	10 PSI
Overpressure	Up to 10 PSI (Range Dependent)
Long-Term Stability	0.1% FS Total

ENVIRONMENTAL DATA	
Operating[6] Temperature	0 to +150°F (-18 to +65°C)
Storage Temperature	-65 to +180°F (-54 to +82°C)

PRESSURE MEDIA
Clean air or similar non-conducting gases.

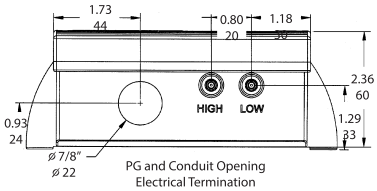
PHYSICAL DESCRIPTION	
Case	IP65/NEMA 4 Plastic Glass-Filled Polycarbonate UL94V-O Case
Electrical Connection	Screw Terminal Strip Inside of Case
Electrical Terminations	PG-9/PG13.5 Strain Relief, 1/2" Conduit Opening, or 9 Pin D-Sub Connector*
Zero and Span Adjustments	Accessible Inside of Case
Weight (approx.)	9.0 Ounces (255 grams) 9.5 Ounces (Duct Probe Assembly)

ELECTRICAL DATA (CURRENT)	
Circuit	2-Wire, Protected from Miswiring
Output[4]	4 to 20 mA[5]
Bidirectional Output at Zero	12 mA
Min. Loop Supply Voltage (VDC)	9 + 0.02 x (Resistance of Receiver plus line)
Max. Loop Supply Voltage (VDC)	30 + 0.004 x (Resistance of Receiver plus line)

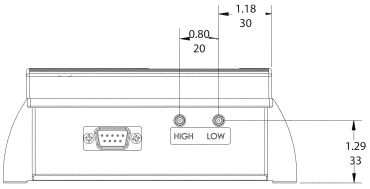
ELECTRICAL DATA (VOLTAGE)	
Circuit	3-Wire (Exc, Gnd, Sig), Protected from Miswiring
Excitation (for 0-5 VDC Output)	9 to 30 VAC /12 to 40 VDC
Excitation (for 0-10 VDC Output)	11 to 30 VAC /13 to 40 VDC
Output (Field Selectable)	0 to 10 VDC[7]
Bidirectional Output at Zero	Mid-Range of Specified
Output Impedance	Ohms
Re-Ranging	5 Position Dip Switches (Located Inside Case)

[1] RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
[2] Units calibrated at nominal 70˚F. Maximum thermal error computed from this datum.
[3] Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.
[4] Zero output factory set to within ±0.16 mA (±0.08 mA for optional accuracies). Span (Full Scale) output factory set to within ±0.16 mA (±0.08mA for optional accuracy).
[5] Zero output factory set to within ±50mV (±25 mV for optional accuracies).
Span (Full Scale) output factory set to within ±50mV (±25 mV for optional accuracies
[6] Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.
[7] Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.

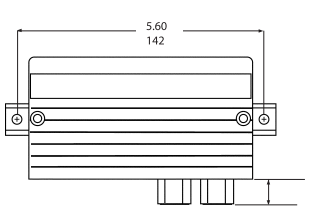
DIMENSIONS



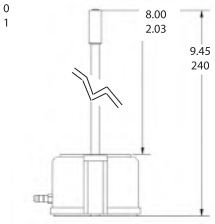
PG and Conduit Opening
Electrical Termination



9 pin D-sub Connector
Electrical Termination



1/4" NPT Brass Fitting



Static Duct Probe

ORDERING INFORMATION

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MODEL	RANGE						OUTPUT		PRESSURE FITTING/ ELEC. TERMINATION		ACCURACY		DISPLAY	
2671 = 267MR		UNIDIRECTIONAL	BIDIRECTIONAL		UNIDIRECTIONAL	BIDIRECTIONAL	*11*	4-20 mA	3/16" Barbed Brass Fitting		*C*	±1% FS	*N*	None
	MR1WD	0 to 0.1 "W.C.	±0.05"W.C.	*MR5LD*	0 to 25 Pa	±12.5 Pa	*2D*	0-5 VDC	*G1*	PG-13.5 Strain Relief	*G*	±1% FS W/ Cal Cert		
	MR2WD	0 to 0.25"W.C.	±0.125"W.C.	*MR6LD*	0 to 50 Pa	±25 Pa	*2E*	0-10 VDC	*G2*	PG9 Strain Relief				
		0 to 0.5"W.C.	±0.25"W.C.		0 to 100 Pa	±50 Pa			*D9*[1]	9 pin D-Sub Conn.				
		0 to 1"W.C.	±0.5"W.C.		0 to 200 Pa	±100 Pa			*A1*	1/2" Conduit Opening				
	MR3WD	0 to 1.25"W.C.	±0.625"W.C.	*MR7LD*	0 to 250 Pa	±125 Pa			1/4"NPTF Brass Fitting					
		0 to 2.5"W.C.	±1.25"W.C.		0 to 500 Pa	±250 Pa			*1K*	PG-9 Strain Relief				
		0 to 5.0"W.C.	±2.5"W.C.		0 to 1000 Pa	±500 Pa			*2K*	PG-13.5 Strain Relief				
	MR4WD	. 0 to 7.5"W.C.	±3.75"W.C.	*MR8LD*	0 to 625 Pa	±312 Pa			*9K*	9 Pin D-Sub Conn.				
		0 to 15"W.C.	±7.5"W.C.		0 to 1250 Pa	±625 Pa			*AK*	1/2" Conduit Opening				
		0 to 30"W.C	±15"W.C.		0 to 2500 Pa	±1250 Pa			Static Duct Probe					
				MR9LD	0 to 1875 Pa	±937 Pa			*1P*	PG-9 Strain Relief				
					0 to 3750 Pa	±1875 Pa			*2P*	PG-13.5 Strain Relief				
					0 to 7000 Pa	±3750 Pa			*9P*	9 Pin D-Sub Conn..				
									AP	1/2" Conduit Opening				

Ordering Example: Part No. 2671MR1WD11G1CN = 267MR Transducer, 0.01, ±0.05 in. WC, Differential, 4-20 mA Output, 3/16" Barbed Brass Fitting, PG-13.5 Strain Relief Electrical Termination, 1% Accuracy with No Display

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

POWER MONITORING

Setra Power Meter

NETWORKED MULTI-LOAD POWER METER

- **Monitor 3, 12, or 48 loads on any combination of single and/or three phase systems**
- **Monitor voltage, current, power, energy, and many other parameters**
- **Rotatable display to simplify installation**
- Line-powered, 80-600V phase-to-phase power supply with 200kAIC internal fuse
- ANSI C12.20-2015 Class 0.2 revenue-grade metering
- UL 94-V0 rated enclosure
- Can be used on both BACnet and Modbus protocols and features 2 pulse inputs, one pulse output ports, plus serial and Ethernet
- Use both conventional and Rogowski coil CTs interchangeably
- 4-line display shows real-time information about meter configuration & data
- CT polarity correction ensures proper CT installation
- UL listed
- CE & RoHS compliant
- Floating point, IEEE-754 data format for bidirectional monitoring

Applications

Data centers

Tenant submetering

Bi-directional metering

Real-time power metering in commercial, retail, and industrial

The Power Meter from Setra is a networked revenue grade power meter built on a versatile and powerful platform designed to meet the high demands for any submetering application. Available in a 3, 12 or 48 load configurations, the meter enclosure & intuitive web portal interface significantly reduce installation time and cost per metering point. The Power Meter 12 & 48 load meters come standard with dual voltage inputs, and all versions are field configurable for use of standard or Rogowski style current transformers, enabling safe and accurate measurement of both low and high amperage services.

EASY INSTALLATION AND CONFIGURATION

Every Power Meter was painstakingly designed to simplify the installation process on the job site or at the office. The enclosure of the power meter is its own NEMA 1 rated electrical enclosure, eliminating the need to purchase an electrical panel for the job, saving both time and money. The field rotatable display allows the installer to put the conduit holes exactly where they need to be for any mounting configuration, even in the tightest locations in the electrical room. Setra's on-board web portal interface allows for safe pre-configuration of all parameters before, during, or after the meter has been installed. The web portal not only gives the user the ability to pre-configure the meter, but also offers the ability to access powerful analytics and installation tools directly through the USB or communication connection.

FIELD SELECTABLE COMMUNICATION (5 IN1)

Each Power Meter comes standard with field selectable BACnet and Modbus communication protocols. The communications interface is through either an EIA-485 serial connection (BACnet MS/TP or Modbus RTU) or over Ethernet (BACnet/IP or Modbus TCP). Along with these advanced network communication protocols, the Power Meter offers one configurable pulse output and two configurable pulse inputs, enabling more data collection at the meter.

MULTI-LOAD MONITORING & DATA LOGGING

Multi-load monitoring provides the granularity needed to drive energy savings and manage usage at a load level. Leveraging the dual-voltage inputs on the 12 & 48 models the user can measure any combination of single, dual or three phase service up to the amount of CT inputs on the meter. Every version of the Power Meter comes standard with data logging capabilities, allowing the user to gain access to the data for up to 62 days, using the web portal software.

SAFE ACCESS WITHOUT PPE

All aspects of the Power Meter enclosure and interface were designed to protect the user from harm. Setra's NFPA70E compliant USB interface allows the user to safely make configuration changes or access data without having to wear PPE or shut down the service to panel. All Power Meters come standard with a 200 KAIC fuse, making it one of the highest rated devices on an electrical system and exceeding most requirements to make it the safest meter on the market.

Setra Power Meter

NETWORKED MULTI-LOAD POWER METER

SPECIFICATIONS

GENERAL	
Service Type	Single Phase, Split Phase, Three Phase-Four Wire (WYE), Three Phase-Three Wire (Delta)
Power	From L1 Phase to L2 Phase, 90-600 VAC RMS CAT III 50/60Hz, 500mA AC Max
AC Protection	0.5A Fuse 200kA interrupt capacity
Voltage Inputs	80-347 VAC line-to-neutral, 80-600 VAC line-to-line, CAT III Power Meter 12 & 48 have two sets voltage inputs
Current Inputs	3, 12, or 48 CT inputs Split/ solid core CT: Configurable up to 2 volts Rogowski coil: Patrol Flex
Maximum current input	150% of CT rating (mV CTs) to maintain accuracy. Measure up to 6,000 A with Patrol Flex Rogowski coils
Measurement type	True RMS up to 50th Harmonic 60Hz One to three phase AC system
Line frequency	50/60 Hz Measurement taken L1-N.
Waveform Sampling	12 kS/s
Parameter Update Rate	1 second
Measurements	Volts, Amps, kW, kVAR, kVA, aPF, dPF, kW peak demand, Import (Received) kWh, Export (Delivered) kWh, Net kWh, Import (Received) kVAh, Export (Delivered)kVAh, Net kVAh, Import (Received) kVARh, Export (Delivered) kVARh, Net kVARh, THD, Phase angle, Frequency. All parameters for each phase and element load total
Accuracy	0.2% ANSI C12.20-2015 Class 0.2
Resolution	5 year (by user replaceable coin battery)
Display	4-line 20 characters backlit LCD One green/red status LED
Alarm replay output	User configurable SPDT relay (30VDC/VAC,2Arms)
Pulse inputs/outputs	Two isolated 30Vdc input max. One isolated output with open collector 30Vdc max. Max pulse rate 20 Hz Min pulse width 20 ms.
WEB PORTAL	
Web browser	Support all major browsers
Communications	10/100 Mbps Ethernet, or Ethernet over USB. Ethernet over USB requires one USB 2.0 port and Ethernet over USB drivers.
Security	PIN protection

COMMUNICATIONS	
Hardware	Isolated EIA-485, Ethernet, and USB
Supported Protocols	Modbus RTU, BACnet MS/TP, Modbus TCP or BACnet/IP
Max. communication length	1,000m for EIA-485, 100m for Ethernet
Communication rate (baud)	9600, 19200, 38400 (default), 57600, 76800
Modbus RTU data bits	8
Modbus RTU parity	None
Modbus RTU stop bits	1
MECHANICAL	
Wire Connections	12-28 AWG 600 VAC voltage input screw terminals, 12-24 AWG 600 VAC CT input screw terminals, 14-20 AWG 300V I/O screw terminals, voltage connection must be #14 AWG or larger wires & 600 VAC rated to meet safety requirement
Mounting	DIN rail or 4-point screw mount for 3/12 channel. 48 channel uses 5 point mounting holes only.
Temperature	Operating -4° to 140°F (-20° to 60°C) Storage -22° to 176°F(-30° to 80°C)
Humidity	5% to 95% non-condensing
Enclosure	ABS/Polycarbonate, 94-V0 flammability rating Connections: 3/4" threaded EMT conduit ports for power. 3/4" EMT knock-outs for load lines (3/12 load) 1.0" knock-outs for load lines (48 load)
Main enclosure IP20	High voltage area IP40
Enclosure dimensions	(3 & 12 Load) (L) 7" x (W) 6.8" x (H) 3.8" (48 Load) (L) 17.2" x (W) 10.8" x (H) 4.4"
CERTIFICATIONS	
UL listed	Applies to indoor enclosure, Conforms to UL Std 61010-1 3rd Edition, Certified to CSA Std C22.2 No. 61010-1 3rd Edition
CE	LVD (EN61010-1), EMCD (EN61326-1), RoHS
FCC	FCC Part 15 class B
BACnet	Device profile B-ASC Protocol-Rev 14
	NIST traceable calibration

Specifications subject to change without notice.

ORDERING INFORMATION

S P M - ☐☐ - ☐ - ☐ - ☐

MODEL	LOADS		COMMUNICATION		DISPLAY		OPTION	
SPS48 = Setra Power Battalion 48	***03***	3 loads	***E***	Display	***D***	Onboard display	***N***	None
	12	12 loads						
	48	48 loads						

Example: Part No. SPM12EDN = Power Meter, 12 loads, Ethernet & serial communication ports, with onboard display and no option

Patrol Flex

ROGOWSKI COIL

- **Revenue Grade High Accuracy: ±0.5% FS**
- **Best in Class Linearity**
- **No External Power Required**
- Lightweight: <0.5 lb
- Best in Class Position Sensitivity
- Extend up to 300 ft with only 0.08% error
- Minimal Linearity Effect ±0.2%

Applications

Measurement & Verification

Demand Response

Energy Cost Allocation

Equipment Efficiency Tracking

Preventative Maintenance

Tenant Submetering

Net Metering

Offered in 12", 24" and 36" lengths, the Patrol Flex is the most accurate Rogowski coil in submetering. Rogowski coils offer significant installation advantages over split-core CTs because of their light weight, wide current range (5-5,000 Amps), mechanical flexibility for mounting in tight quarters and easy placement around cable bundles or large busbars. The Patrol Flex leads can be extended up to 300 feet with only 0.08% error.

0.5% FS REVENUE GRADE ACCURACY

Setra partnered with Fluke to deliver the Patrol Flex CT; the highest performance Rogowski coil in submetering. The Patrol Flex Rogowski Coil is calibrated to better than ±0.5% FS accuracy for use in revenue grade (tenant billing) applications.

SAVE MONEY ON INSTALLATION

Installers can save significant time and labor using the Patrol Flex due to its flexibility and ease of surrounding conductors of all sizes. Selecting a Rogowski coil instead of a conventional split-core CT can save the installer over two hours per meter point in a challenging installation, which could be the difference between making and losing money on a job.

REDUCED SHIPPING COSTS

A typical 100A CT weighs 2 lbs, however as the current range expands to 3,000A the average weight can increase from 2lbs to 20 lbs. Considering three CTs are required to monitor a 3-phase motor, certain applications could require up to 65lbs of shipping weight per meter point; a serious waste of shipping dollars. The Patrol Flex Rogowski Coil has a current range of 5-5,000 A and up, yet weighs less than 1/2 lb, drastically reducing freight costs.

BEST IN CLASS LINEARITY

Conventional CTs are wound over a magnetic iron core, which makes them more susceptible to saturation leading to linearity error. Engineers and contractors must adjust the phase shift of the meter to compensate in order to achieve an accurate reading. Rogowski coils are wound over a non-magnetic core, giving them perfect linearity and improved accuracy over wide current ranges.

Patrol Flex

ROGOWSKI COIL

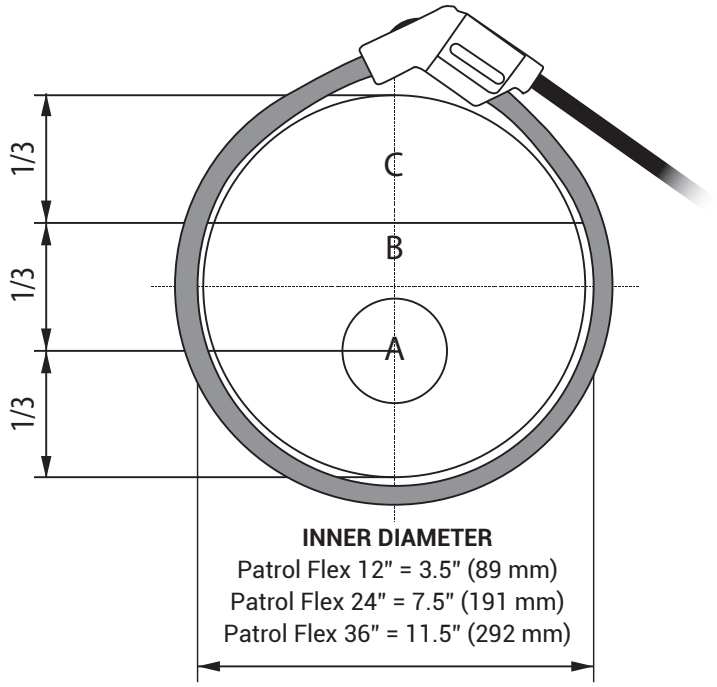
SPECIFICATIONS

GENERAL SPECIFICATIONS	
Probe and Cable Material	TPE rubber, reinforced insulation UL94 V-0, Color: RED Munsell 7.5 R 1/14
Couplings Material	Polypropylene, UL94 V-0
Probe Cable Length	610 mm
Probe Cable Diameter	12.4 mm
Probe Cable Bend Radius	40 mm
Output Cable Length	2 meters shielded 2-wire cable
Output Connector	Unterminated
Operating Range	-20° to +70° C
Storage Temperature	-40° to +80° C
Operating Humidity	15% to 85% (non condensing)
Degree of Protection (Probe)	IP40

SPECIFICATIONS	
Voltage Output (@1000 ARMS, 60 Hz)	108 mV
Current Range[1]	5-5,000 A AC RMS
Accuracy	± 0.5% of reading (@ 25°C, 60 Hz)
Linearity (10% to 100% of range)	± 0.2% of reading
Working Voltage (see Safety Standards section)	1000 V AC RMS or DC (head) 30 V max. (output)
SAFETY SPECIFICATIONS	
Safety Standards	-BS EN 61010-1 2001 -BS EN 61010-2-032 2002 -BS EN 61010-031 2002, 1000 VRMS, Category III, Pollution Degree 2 -Use of the probe on uninsulated conductors is limited to 1000 V ACRMS or DC and frequencies below 1 kHz.

[1]When used with Setra Power Patrol (Ranges vary when used with other meters)

DIMENSIONS



INNER DIAMETER

Patrol Flex 12" = 3.5" (89 mm)

Patrol Flex 24" = 7.5" (191 mm)

Patrol Flex 36" = 11.5" (292 mm)

ACCURACY

Patrol Flex 12", 24, 36	
Probe Window A	± (0.5% of reading + 0.02% of range)
Probe Window B	± (0.75% of reading + 0.02% of range)
Probe Window C	± (1.25% of reading + 0.02% of range)

ORDERING INFORMATION

C T – P F – ☐☐

MODEL	PROBE LENGTH	
PF = Patrol Flex	***12***	12" (≈3.5" inner diameter)
	24	24" (≈ 7.5" inner diameter)
	36	36" (≈ 11.5" inner diameter)

Example: Part No. CT-PF-12 = Model Patrol Flex, 12" Probe Length.

Split-Core CT

CURRENT TRANSFORMER

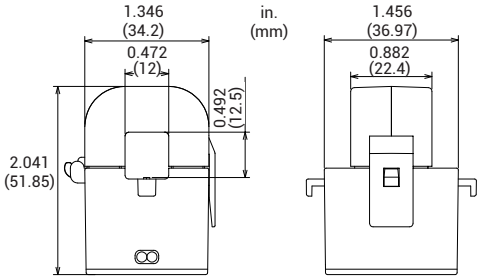
Setra's Split-Core current transformers provide a high accuracy current measurement over a wide dynamic sensing range for power metering applications. Unlike the competition, Setra offers "Safe CTs", which provide a 333 millivolt output directly proportional to the input current. These current transformers are safely and easily installed on existing power lines without disconnecting the lines and interrupting service. The standard 15 foot lead wire also fits the vast majority of all installations, eliminating excess material and time spent extending wire-length during installation.

SPECIFICATIONS

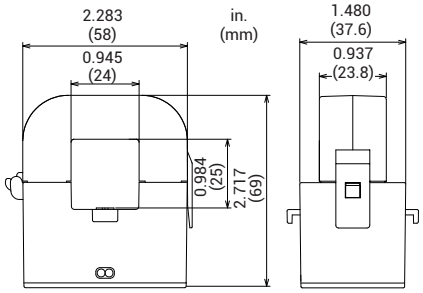
GENERAL					
RATED CURRENT	**20A**	**50A**	**100A**	**200A**	**400A**
Aperture Size	0.472" (12 mm)		0.944" (24 mm)		
Current Range	0.1-80A	0.1-100A	1-200A	1-250A	5-500A
Output	333 mV at rated current				
Ratio Error	<0.5% from 0.1 to 80A	<0.5% from 0.1 to 100A	<0.5% from 1 to 200A	<0.5% from 1 to 250A	<1% from 5 to 500A
Phase Error	<1° from 1A to 80A <1.5° from 0.1A to 1A	<1.5° from 1A to 40A AC <2° from 0.25 to 1A AC	<1° from 1A to 200A	<0.75° from 1A to 250A	<0.5° from 5A to 500A
Accuracy	0.5%	0.5%	0.5%	0.5%	1%
MECHANICAL/ENVIRONMENTAL					
Case material	UL recognized plastic, 130°C, UL94 V0				
Lead wires	15 ft (4.5 meter), Black/white twisted pair, 18 AWG (UL1015 600V 105 °C)				
Operating temp.	5 to 158 °F (-15 to 70 °C)				
Operating humidity	Non-condensing, 0 to 95% RH				
Conditions	Indoor use, Pollution Degree 2, Altitude up to 2000 m				
ELECTRICAL					
Wire polarity	White = Hi, positive (+) Black = Low, negative (-)				
Phase orientation	Arrow on case points toward load (downstream) side				
Frequency range	50-60 Hz				
SAFETY/COMPLIANCE					
Working Voltage	600 VAC, Category III (insulated wire application only)		600 VAC, Category III		
Dielectric Strength	3510 VAC for 1 minute		5200 VAC for 1 minute		
CE mark	EMCD, LVD, ROHS				
Certifications	UL Listed (UL2808, XOBA, XOBA7)				
	UL 61010-1, CAN/CSA STD C22.2 NO. 61010-1				

DIMENSIONS

20A, 50A



100A, 200A, 400A



ORDERING INFORMATION

C T S – _ _ _

MODEL		AMPS	
CTS	Split-core CT	***020***	20 Amps
		050	50 Amps
		100	100 Amps
		200	200 Amps
		400	400 Amps

Order from: **C A Briggs Company;** 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

Glossary of Terms

Absolute Pressure — Pressure measured relative to full vacuum. Referred to as pounds per square inch absolute (PSIA).

Atmospheric Pressure — Pressure of the atmosphere at the earth's surface NIST standard atmospheric pressure = 1.01325 bar.

BAR — Unit of pressure (or stress). 1 bar = 750.07 mm of mercury at 0°C, at 45°.

Barometric Pressure — Atmospheric pressure, often measured in millibars, in Hg (inches of mercury), or hectopascals.

Burst Pressure — The maximum pressure that may be applied to the positive pressure port without rupturing the sensing element.

Capacitive Sensing — Detection and measurement of pressure through the change in voltage across a capacitor, one plate of which is a diaphragm which deflects slightly with changes in applied pressure.

Compound Pressure — Pressure measured from full vacuum (-14.7 PSIV) to gauge pressure, referencing atmosphere.

Differential Pressure — Pressure measured relative to a reference pressure. Referred to as pounds per square inch differential (PSID).

FS (Full Span or Full Scale) — The range of measured values over which a transducer is intended to measure, specified by the upper and lower limits. EX: 0 to 100 PSIG, FS is 100 PSIG/0 to 5 VDC, FS is 5 VDC, 800-100 MB FS is 300 MB.

Gauge Pressure — Pressure measured relative to ambient atmospheric pressure. Quantified in pounds per square inch gauge (PSIG).

Manometer — An early instrument for measuring pressure; originally, a U-shaped tube containing liquid (water, oil, or mercury), one limb opening to the gas volume to be measured, the other closed or connected to a registering or recording instrument. Modern versions utilize diaphragms, bellows or other devices for sensing relative pressures.

Millibar (mbar) — Unit of pressure generally used in barometric measurements: 1 mbar ± 100 N/m^2, or 10 = dyn/cm^2.

Newton (N) — The unit of force in the International System of Units (SI); the force required to impart an acceleration of $1m/sec^2$ to a mass of 1 kg.

Pascal (Pa) — The standard unit of pressure (or stress) in the SI system; equal to 1 newton per square meter (1 N/m^2)

P/I — Term common to process industries meaning pressure-in/current-out. (3-15 PSIG Input to 4 to 20 mA DC Output).

Pressure Transducer — An electromechanical device for translating fluid pressure values into voltages across a high-impedance (5k ohms or greater) load.

Pressure Transmitter — An electromechanical device for translating fluid pressure values into currents (generally 4 to 20 mA) into a low-impedance load.

Proof Pressure — The maximum pressure that may be applied without changing performance beyond specifications (typically, 0.5% FS zero shift).

PSIA — Pounds per square inch absolute.

PSIV — Pounds per square inch vacuum.

Range — The spread between the maximum and minimum pressures between which the transducer has been designed to operate.

Span — The algebraic difference between the limits of the range. Ex: 0.1 to 5.1 Volts DC; span is 5 VDC. Sometimes used to designate full scale output; i.e. 5 VDC.

Vacuum — Generally refers to pressures between 0 and atmospheric; often measured in 0-30 in Hg Vacuum. Referred to as pounds per square inch vacuum (PSIV).

Relative Humidity — Relative humidity is a measurement of water in the air at a given temperature.

Relative Humidity Accuracy — RH accuracy is the error between the actual RH and the RH indicated by the humidity sensor,

Relative Humidity Repeatability — Repeatability is the ability of the sensor to reproduce the output when moving in one direction, either from low to high RH or high to low.

RH Sensor Interchangeability — Interchangeability is the %RH error introduced when replacing a sensor tip with a new sensor tip.

RH Long-Term Stability — Long-term stability is the %RH error of the sensor over time.

RH Sensor Recovery from Condensation — Recovery after exposure to condensing conditions. Sensor should self-recover after the moisture on the surface evaporates.

RH Sensor Recovery from Chemical and Physical Contaminants — Sensing surface coated with a micro-pourous metal electrode, allowing the polymer to absorb moisture while protecting it from contamination and exposure to condensation

Current Sensor — A Current Sensor is a device that detects electrical current (AC or DC) in a wire, and generates a signal proportional to it.

INDUSTRIAL
2017 PRODUCT CATALOG

OVER 50 YEARS

Founded in 1967, Setra Systems, Inc. is a leading designer and manufacturer of pressure, acceleration, and weight sensing devices. Setra's founders, Dr. Y.T. Li and Dr. S.Y. Lee, were co–developers of the variable capacitance transduction principle, the innovative force sensing technology which is the heart of Setra's products.

MADE IN THE USA

Since our founding, we have been proudly producing all of our transducers for sale in the United States at our 100,000 sq. ft. Boxborough, MA facility.

SOLUTIONS YOU CAN TRUST

Setra is an ISO 9001-2008 certified manufacturer with robust and mature processes at work to continually optimize team performance. From ideation and design, to validation and test, to volume production, quality is built in.

At each stage in Setra's production process there are built-in verifications to ensure that the products being supplied to our customers are of the highest quality. The Setra team has created numerous innovative manufacturing techniques and tools to catch, track and prevent future failures from occurring. Any newly discovered issues learned from the field, engineering labs, validation testing and even from the production line are reviewed on a regular basis and corrective actions are implemented quickly and efficiently to exceed our customers' expectations.

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