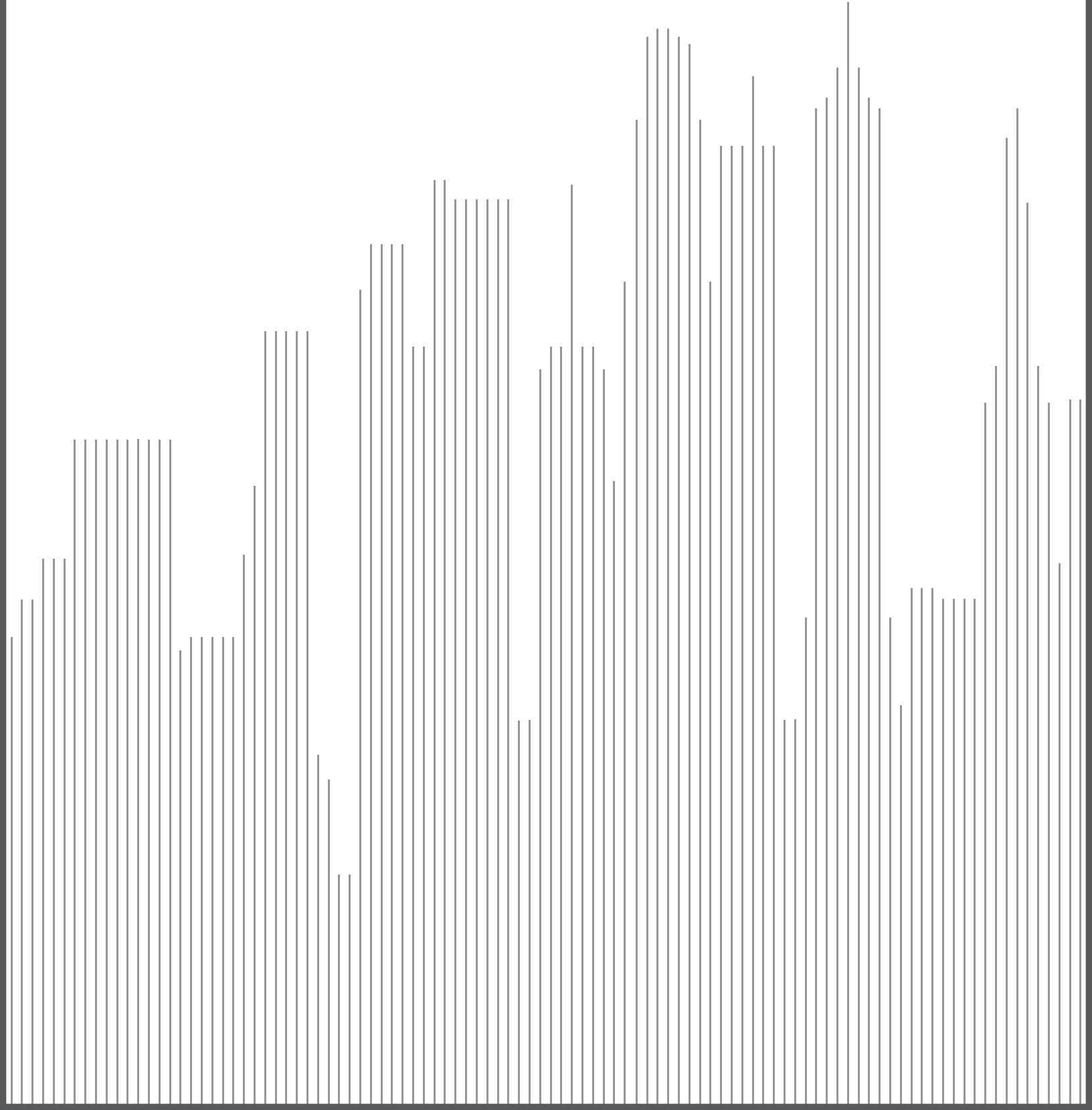


setra[®]

HVAC

PRODUCT CATALOG

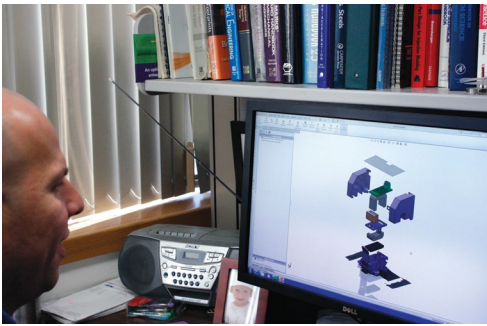




Setra is a leading manufacturer of a broad portfolio of pressure transducers, humidity transmitters, current switches and current transducers.

The company was founded in 1967 by Dr. S.Y. Lee and Dr. Y.T. Li, former Professors of Engineering at the Massachusetts Institute of Technology. Their philosophy, which is still carried on today and expressed in our mission statement, is that whether you require low price, ruggedness and accuracy for OEM use; or the highest possible accuracy for critical test, quality control or manufacturing applications, Setra's products should offer you significant improvement in measurement accuracy.

Research and Innovation



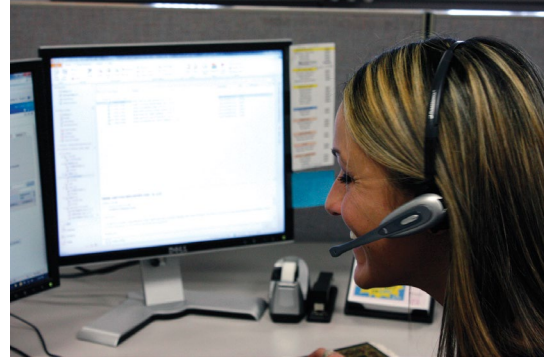
Setra's multi-disciplinary engineering department has decades of experience in designing high precision pressure, humidity, and current sensing instruments. The design group includes senior electrical, mechanical, and software engineers in an organization that fosters creativity and innovation in design.

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.

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



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 are 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 and operating instructions as well as our newest feature — online ordering.

Visit our Website at www.setra.com

Inside this catalog is a comprehensive selection of sensors and transducers designed for the HVAC/Building Automation industry. If you don't see exactly what is needed for your specific application give us a call.

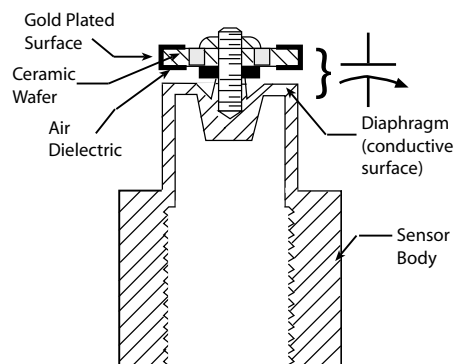
Call us today — 800-257-3872

Mission Statement

Setra will partner with its customers to deliver premium sensing solutions that enhance building efficiency, maximize HVAC installer productivity and enable Industrial equipment design engineers to solve their most demanding application problems.

Capacitive Transducers

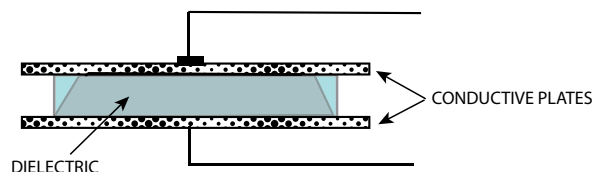
Setra's capacitive pressure transducers are expertly designed adaptations of a simple, durable and fundamentally stable device...the electrical capacitor. In a typical Setra configuration, a compact housing contains two closely spaced, parallel, electrically isolated metallic surfaces, one of which is 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.



Typical capacitive pressure sensor, showing rugged construction. Materials are carefully selected for compatibility to minimize environmental effects. (Capacitance gap is accentuated for illustration.)

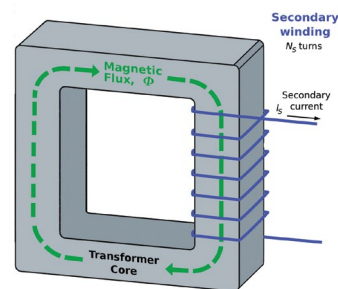
Capacitive RH Sensors

Setra's Capacitive RH sensors consist of a ceramic substrate on which a thin film of polymer is deposited between two conductive electrodes. The sensing surface is coated with a micro-porous metal electrode, allowing the polymer to absorb moisture while protecting it from contamination and exposure to condensation. As the polymer absorbs water, the dielectric constant changes incrementally and is nearly directly proportional to the relative humidity of the surrounding environment. Thus, by monitoring the change in capacitance, relative humidity can be derived. Setra's patented charge balance ASIC measures the capacitance change and uses digital potentiometers to precisely calibrate the replaceable sensor tip.



Inductive Current Sensors

Setra Current Switch and Transducers use inductive current transformers (CTs) to sense an AC current in a primary conductor. The CT generates a low level AC current which is proportional to the current flowing in the primary conductor. The resulting low level AC current is rectified and compared to either a factory set or field adjustable set point value. When the sensed current exceeds the set point value, the internal circuitry triggers the output switch to change state from open to short in a current switch. The current transducers provide a DC output with is linearly proportional to the sensed current.



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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 \pm 100 N/m² or 10 = dyn/cm².

Newton (N) — The unit of force in the International System of Units (SI); the force required to impart an acceleration of 1 m/sec² 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/m²)

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-porous 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.

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DIFFERENTIAL PRESSURE TRANSDUCERS

PRODUCT SECTION 1.1

setra[®]

Model MRC

Multi-Range Critical Pressure Transducer

Designed for Critical Environments, The Setra Model MRC is Setra's newest differential pressure transducer. This is the first multi-range transducer designed for stringent requirements of difficult applications. The MRC offers class leading $\pm 0.5\%$ FS accuracy in selectable ranges down to 0.1"W.C., which is required for critical applications. Setra's MRC comes with 3 different housing configurations; duct probe, DIN Rail mount and a universal model to cover any installation changes on the job site.

$\pm 0.5\%$ FS Accuracy

The Setra MRC is the first multi-range transducer designed for use in Critical Environments. No other multi-range transducer product offers better than $\pm 1\%$ FS accuracy; a requirement in most critical applications. The Setra MRC is available down to 0.1"W.C. with $\pm 0.5\%$ FS accuracy.

Field Selectable Universal Design

The Setra MRC has 4 selectable ranges and 3 selectable outputs, giving the flexibility to make changes on the job site. The MRC is field configurable for range, mounting (DIN Rail, wall mount and duct mount), output (mA or voltage) and engineering units (W.C. or Pascals). This flexibility means that the contractor can use the MRC for all of their critical needs.

IP67 Rated Housing

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

Capacitive Sensing Technology

Only Setra can claim ownership to the stainless steel capacitive design used in all of our HVAC/R sensors. Our advanced capacitive element provides excellent stability and linearity, while standing above the competitors in our ability to measure low pressure (<0.0001"W.C.) at high accuracy. Our technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.



- **Ideal For Critical Environments**
- **$\pm 0.5\%$ FS Accuracy**
- **Universal Design**

Model MRC Features:

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

Target Uses:

- Service/Retrofit Friendly
- Sub-Contractors- Quick Installation
- Flexible for Building Specification Changes
- Service Technicians- Quick & Accurate Reconfiguration
- Hospitals
- Isolation Rooms
- Vivariums

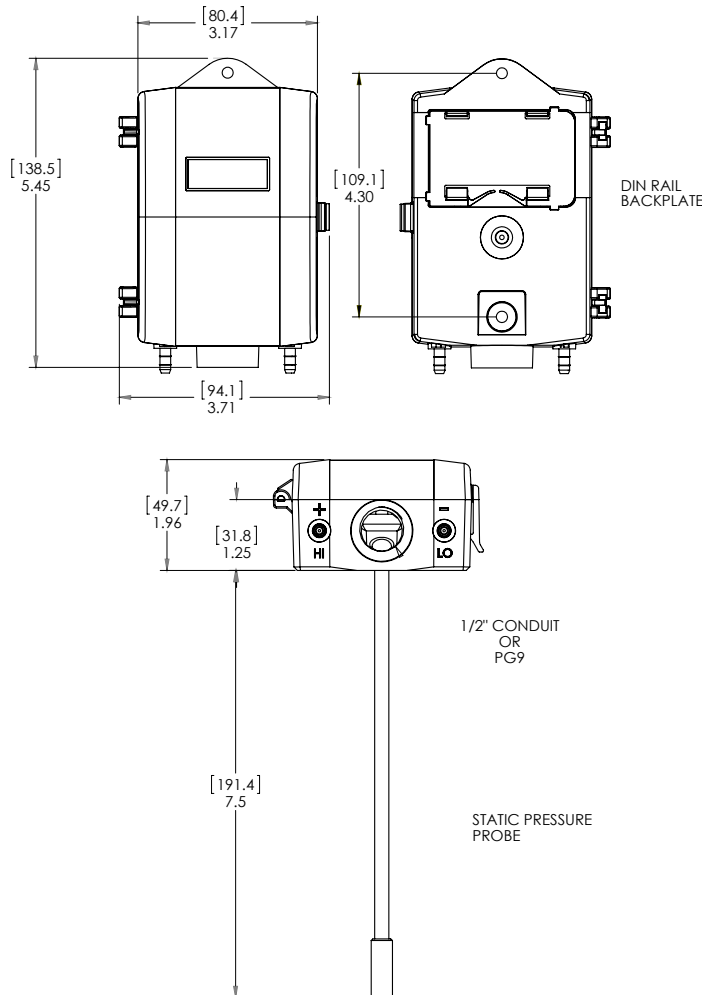
ORDERING INFORMATION

M	R	-	C	-	-	-		
Model	Field Selectable Ranges				Configuration	Electrical Fittings		
MRC	Unidirectional Pressure Ranges		Bidirectional Pressure Ranges		S	Standard (Base Mount)	C	1/2" Conduit w/ Cal Certification ²
	0.1"W.C.	25 Pa	±0.1"W.C.	±25 Pa	U	Universal ¹	D	PG9 w/ Cal Certification ²
	0.25"W.C.	50 Pa	±0.25"W.C.	±50 Pa	D	DIN Rail		
					P	Duct Probe		

¹Universal unit includes Duct Probe and DIN Rail options.

²Calibration certificate is standard and is provided for highest range ±0.25"W.C. on ±50 Pa.

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data		Environmental Data	
	Standard	Operating Temperature ³	32 to 122°F (0 to 50°C)
Accuracy RSS ¹ (at constant temp)	±0.5% FS	Electrical Data	
Compensated Range °F (°C)	32 to 122°F (0 to 50°C)	Excitation Range	13 to 30 VDC/18 to 24 VAC (Voltage Output) 13 to 30 VDC (4 to 20mA output at terminals)
Thermal Effects ² %FS/°F(°C)	0.03 (0.054)	Current Consumption	30mA (max)
Maximum Line Pressure	10 PSI	Mis-Wiring	Reverse Excitation Protection
Overpressure	1 PSI	Field Selectable Output ⁴	0 to 5 V, 0 to 10V (3-wire), 4 to 20mA (2-wire)
Long Term Stability (max.)	1.0% FS/YR	Output Resistance (Voltage Output)	10 Ohms (max)
Position Effect		Load Resistance (Voltage Output)	10 K-Ohms (min)
Zero Offset %FS/G	0.5%	Loop Resistance (4-20mA)	0 to 800 Ohms
(Unit is factory calibrated at 0g effect in the vertical position)		Approval	CE & RoHS Compliant
Physical Description		Pressure Media	
Case	Fire-Retardant Polycarbonate (UL 94 V-0 Approved), Hinged Lid	Typically air or similar non-conducting gases.	
Mounting	Two Screw Holes Vertical Position	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. Specifications subject to change without notice.	
Electrical Connection Block	Removable Screw Terminal		
Pressure Fitting	3/16" O.D. Barbed Brass		
Zero	Push Button		
Span	Push Button		
Weight (approx.)	8 Ounces		

Model MRG

Multi-Range General Pressure Transducer

The Setra Model MRG is Setra's newest differential pressure transducer. The Setra MRG is the ideal product for any contractor, combining the flexibility of a multi-range with the performance of a single range transducer. The MRG has 8 selectable ranges and 3 selectable outputs, easily adjustable on the job with a flip of a switch or jumper. The MRG uses an IP67 rated housing and has a conduit fitting for easy wiring, making the MRG an ideal solution for any general HVAC application.

Universal Design

The Setra 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 the field configurable range, mounting (DIN Rail, wall mount and duct mount), output (mA or Volt) and engineering unit (W.C. or Pascals). This flexibility means that the contractor can use the MRG for all of their needs.

8 Field Selectable Ranges

The Setra 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.

IP67 Rated Housing

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.

Capacitive Sensing Technology

Only Setra can claim ownership to the stainless steel capacitive design used in all of our HVAC/R sensors. Our advanced capacitive element provides excellent stability and linearity, while standing above the competitors in our ability to measure low pressure (<0.001"W.C.) at high accuracy. Our technology has been used in over 8 million installations and has the highest field acceptance rate in the industry.



- Universal Design
- IP67 Rated Housing
- Field Selectable

Model MRG Features:

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

Target Uses:

- Sub-Contractors- Quick Installation
- Flexible for Building Specification Changes
- Service/Retrofit Friendly
- Service Technicians- Quick & Accurate Reconfiguration

ORDERING INFORMATION

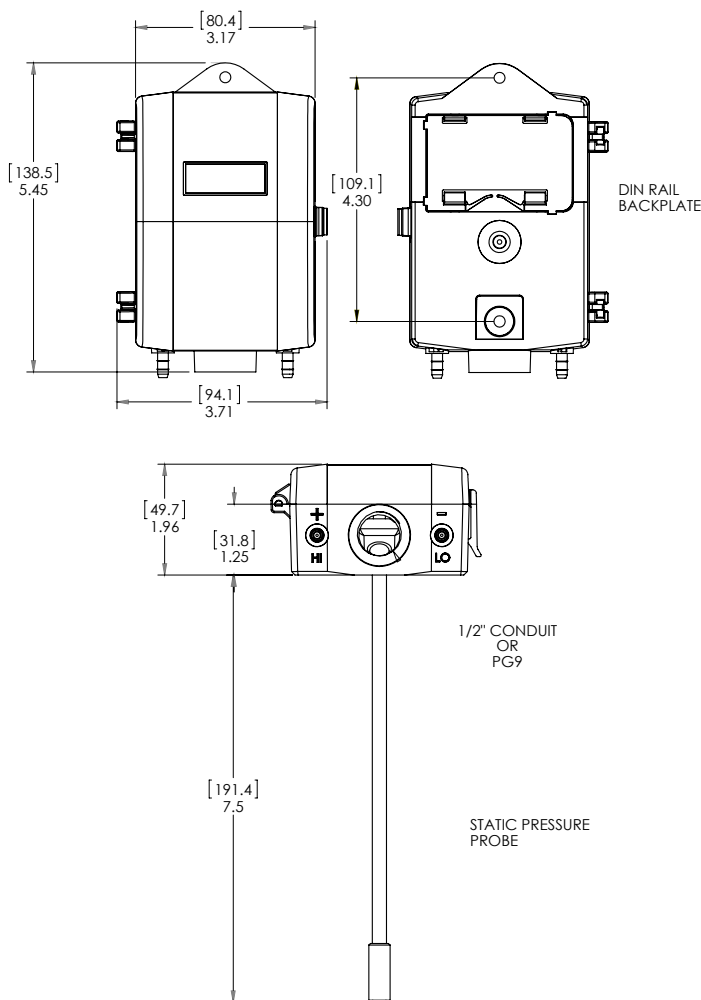
M	R	-	G	-		-		
Model	Field Selectable Ranges				Configuration		Electrical Fittings	
MRG	Unidirectional Pressure Ranges		Bidirectional Pressure Ranges		S	Standard (Base Mount)	A	1/2" Conduit
	0.5"W.C.	100 Pa	±0.5"W.C.	±100Pa	U	Universal ¹	P	PG9
	1.0"W.C.	250 Pa	±1.0"W.C.	±250 Pa	D	DIN Rail	C	1/2" Conduit W/ Cal Certification ²
	2.5"W.C.	500 Pa	±2.5"W.C.	±500Pa	P	Duct Probe	D	PG9 W/ Cal Certification ²
	5.0"W.C.	1,000 Pa	±5.0"W.C.	±1,000Pa				

¹Code U, Universal unit includes Duct Probe and DIN Rail options.

²Calibration is performed at highest range.

Ordering Example: MRGSA = Model MRG, Standard Configuration, with 1/2" Conduit.

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data		Environmental Data	
	Standard	Operating Temperature ³	32 to 122°F (0 to 50°C)
Accuracy RSS ¹ (at constant temp)	±1.0% FS	Electrical Data	
Compensated Range °F (°C)	32 to 122°F (0 to 50°C)	Excitation Range	13 to 30 VDC/18 to 24 VAC (Voltage Output) 13 to 30 VDC (4 to 20mA output at terminals)
Thermal Effects ² %FS/°F(°C)	0.03 (0.054)	Current Consumption	30mA (max)
Maximum Line Pressure	10 PSI	Mis-Wiring	Reverse Excitation Protection
Overpressure	Up to 10 PSI (range dependent)	Field Selectable Output ⁴	0 to 5 V, 0 to 10V (3-wire), 4 to 20mA (2-wire)
Long Term Stability (max.)	2.0% FS/YR	Output Resistance (Voltage Output)	10 Ohms (max)
Position Effect		Load Resistance (Voltage Output)	10 K-Ohms (min)
Zero Offset %FS/G	0.5%	Loop Resistance (4-20mA)	0 to 800 Ohms
(Unit is factory calibrated at 0g effect in the vertical position)		Approval	CE & RoHS Compliant
Physical Description		Pressure Media	
Case	Fire-Retardant Polycarbonate (UL 94 V-0 Approved), Hinged Lid	Typically air or similar non-conducting gases.	
Mounting	Two Screw Holes Vertical Position	¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability.	
Electrical Connection Block	Removable Screw Terminal	² Units calibrated at nominal 70° F. Maximum thermal error computed from this datum.	
Pressure Fitting	3/16" O.D. Barbed Brass	³ Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.	
Zero	Push Button	⁴ Calibrated into a 50K ohm load, operable into a 10K ohm load or greater.	
Span	Push Button	⁵ Span (Full Scale) output factory set to within 1%.	
Weight (approx.)	8 Ounces	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.	
Specifications subject to change without notice.			

Model 230

Wet-to-Wet Pressure Transducer



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

DESCRIPTION

The Mode 230 is a high output low differential pressure transducer designed for wet-to-wet differential pressure measurements of liquids or gases. A fast-response capacitance sensor and signal conditioned electronic circuitry provide a highly accurate, linear analog output proportional to pressure. Both unidirectional and bidirectional ranges are available for applications with line pressure up to 350 PSIG.

Optional 3-valve or 5-valve manifold assemblies are available for ease of installation and maintenance. The manifolds are machined brass bodies requiring no internal pipe connections, thereby eliminating the risk of internal leaks. If the 230 is ordered with the manifold, the system is shipped completely assembled.

FEATURES

- Ideal for Applications with Line Pressure up to 350 PSIG
- NEMA 4/IP65 Rating
- No Liquid Fill Diaphragm
- Available with 3-Valve or 5-Valve Manifold Assembly Option
- Low Line Pressure Effect
- Fast Response
- Gas and Liquid Compatible
- Low Differential Ranges
- Meets CE Conformance Standards

APPLICATIONS

- Energy Management Systems
- Process Control Systems
- Flow Measurement of Various Gases or Liquids
- Liquid Level Measurement of Pressurized Vessels
- Pressure Drop Across Filters

PRESSURE RANGES

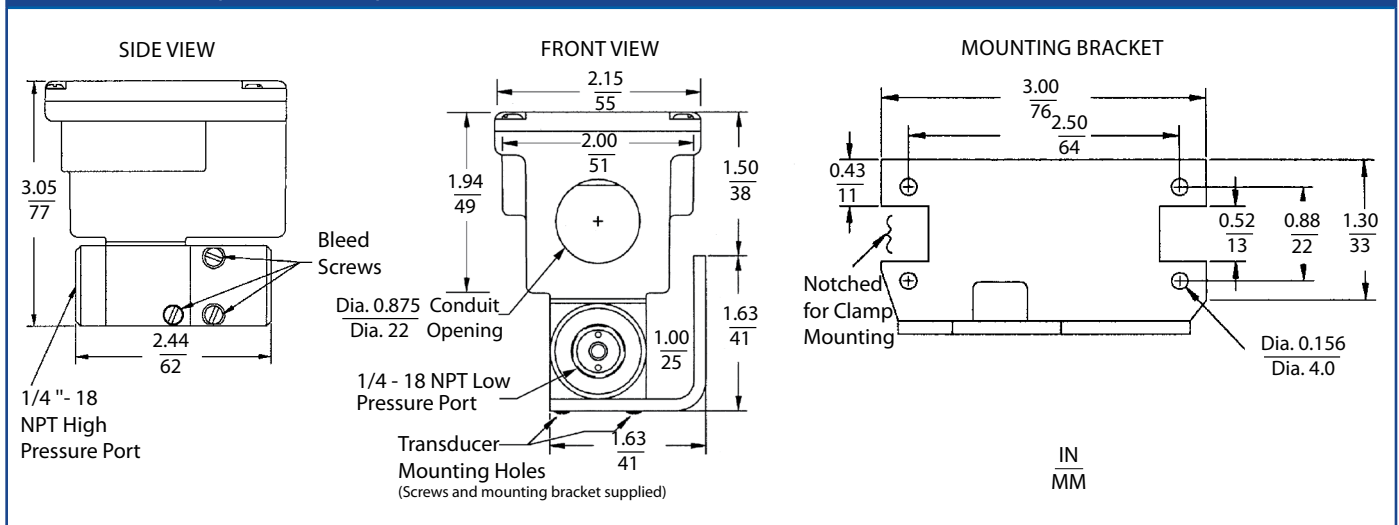
UNIDIRECTIONAL		
Pressure Range PSID	Proof Pressure High Side* PSI	Proof Pressure Low Side* PSI
0 to 1.0	20	2.5
0 to 2.0	40	5
0 to 5.0	100	12.5
0 to 10.0	100	25
0 to 25.0	250	62.5
0 to 30.0	250	75
0 to 50.0	250	125
0 to 100.0	250	250

BIDIRECTIONAL		
Pressure Range PSID	Proof Pressure High Side* PSI	Proof Pressure Low Side* PSI
0 to ±0.5	20	1.25
0 to ±1.0	40	2.5
0 to ±2.5	100	6.35
0 to ±5.0	100	12.5
0 to ±10.0	200	25
0 to ±25.0	250	62.5
0 to ±50.0	250	125

*The zero will shift slightly when high differential overpressure is applied. The shift may be as much as ±10% FS with overpressure applied to the low pressure port. Other parameters (sensitivity, linearity, etc) will not shift. If the overpressure is normally only in one direction, the user may apply this overpressure to preset the sensor. Subsequent overload of less magnitude will not cause additional shift. The unit is pre-zeroed at the factory after application of maximum overload pressure to the high pressure port.

SPECIFICATIONS					
Performance Data		Physical Description (Model 230)		Electrical Data (Voltage)	
Accuracy RSS ¹ (at constant temp)	±0.25% FS	Case	Stainless Steel/Aluminum	Circuit	3-Wire (Exc, Out, Com)
Non-Linearity, BFSL	±0.20% FS	Electrical Connection	Barrier strip terminal block with conduit enclosure & 0.875 DIA conduit opening.	Excitation	9 to 30 VDC for 0-5 VDC Output 13 to 30 VDC for 0-10 VDC Output
Hysteresis	0.10% FS	Pressure Fittings	1/4"-18 NPT internal	Output ⁷	0 to 5 VDC ⁸ , 0 to 10 VDC ⁹
Non-Repeatability	0.05% FS	Weight (approx.)	14.4 oz	Output Impedance	100 ohms
Thermal Effects²		Sensor Cavity Volume	0.27 in ³ Positive Port, 0.08 in ³ Negative Port	Electrical Data (Current)	
Compensated Range °F(°C)	+30 to +150 (-1 to +65)	(With 1/4"NPT external fittings installed-does not include cavity volume of 1/4"NPT external fittings.)		Circuit	2-Wire
Zero Shift %FS/100°F(%FS/50°C)	2.0 (1.8)	Physical Description (3-Valve Manifold Assembly)⁴		Output ⁹	4 to 20mA ¹⁰
Span Shift %FS/100°F(%FS/50°C)	2.0 (1.8)	Manifold Block	Brass	External Load	0 to 1000 ohms
Line Pressure Effect	Zero shift ±0.004% FS/psig line pressure	Valves (3) ⁵	V1 for Connection to + port V2 for Connection to - port V3 for Equalizing Pressure	Minimum supply voltage (VDC)	9+ 0.02 x (Resistance of receiver plus line).
Resolution	Infinite, limited only by output noise level (0.02%FS)	Valve Type	90° On/Off	Maximum supply voltage (VDC)	30+ 0.004 x (Resistance of receiver plus line).
Static Acceleration Effect	2%FS/g (most sensitive axis)	Process Connections	1/4"-18 NPT Internal Thread	Pressure Media	
Natural Frequency	500 Hz (gaseous media)	Dimensions	7.05"W x 6.25"H x 2.16"D	Model 230	
Warm-up Shift	±0.1% FS total	Weight	<2.5 lbs.	Gases or liquids compatible with 17-4 PH Stainless Steel, 300 Series Stainless Steel, Viton and Silicone O-Rings. Note: Hydrogen not recommended for use with 17-4 PH stainless steel. Optional Buna-N O'rings are recommended for hydrocarbon applications.	
Response Time	30 to 50 milliseconds	Physical Description (5-Valve Manifold Assembly)⁶		3 & 5 Valve Manifold	
Long Term Stability	0.5%FS/1 YR	Manifold Block	Brass	Gases or liquids compatible with 360 brass, Copper 122, Acetal plug valves and Nitrile O-rings.	
Maximum Line Pressure	350 psig	Valve (5) ⁵	V1 for Connection to ± Port V2 for Connection to - Port V3 for Equalizing Pressure V4 & V5 for Connection to External Gauge or Alternate Plumbing Configuration		
Environmental Data		Process Connection	1/4"-18 NPT Internal Thread	⁵ Refer to drawings on page 16 and 17.	
Operating ³ Temperature °F (°C)	0 to +175 (-18 to +80)	Dimensions	7.05"W x 6.25"H x 2.16"D	⁶ Order assembled with the Model 230 (Code 5V)	
Storage Temperature °F (°C)	-65 to +250 (-54 to +121)	Weight	<3.8 lbs.	⁷ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.	
Vibration	5 g from 5 Hz to 500 Hz			⁸ Zero output factory set to within ±25mV (for 5 VDC output) or ±50mV (for 10 VDC output)	
Acceleration	10 g			Span (Full Scale) output factory set to ±25 mV (for 5 VDC output) or ± 50 mV (for 10 VDC output)	
Shock	50 g			⁹ Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load.	
				¹⁰ Zero output factory set to within ±0.16mA. Span factory set tp within ±-.16 mA	
				Specifications subject to change without notice.	

DIMENSIONS (Model 230)



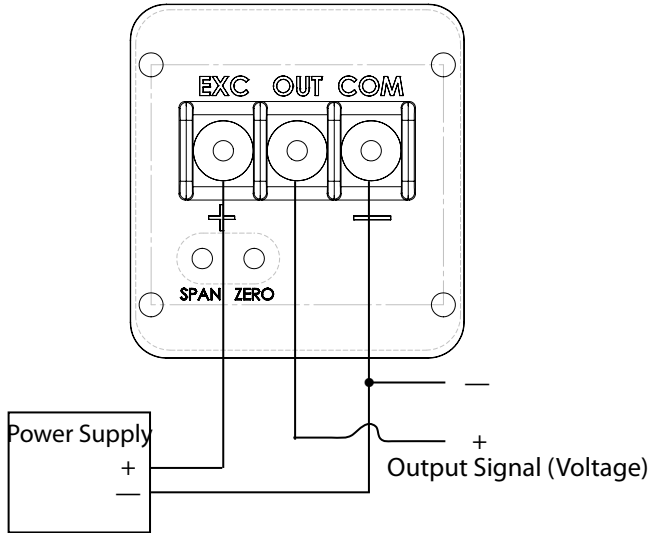
Model 230

Wet-to-Wet Pressure Transducer

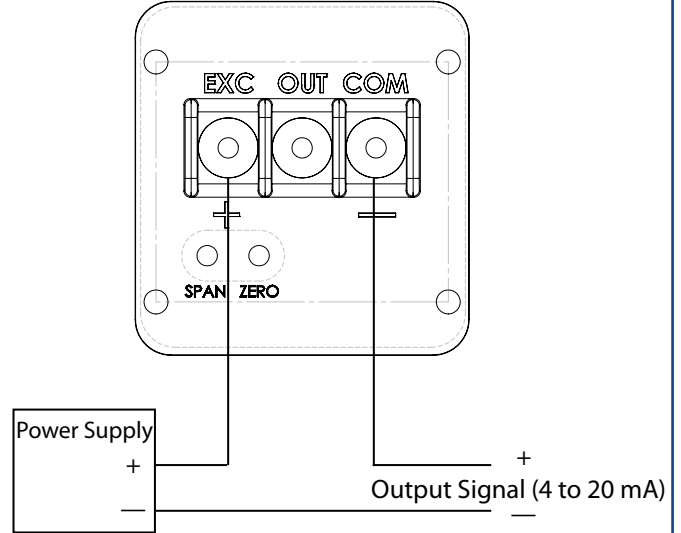


WIRING

Voltage Transducer



Current Transmitter

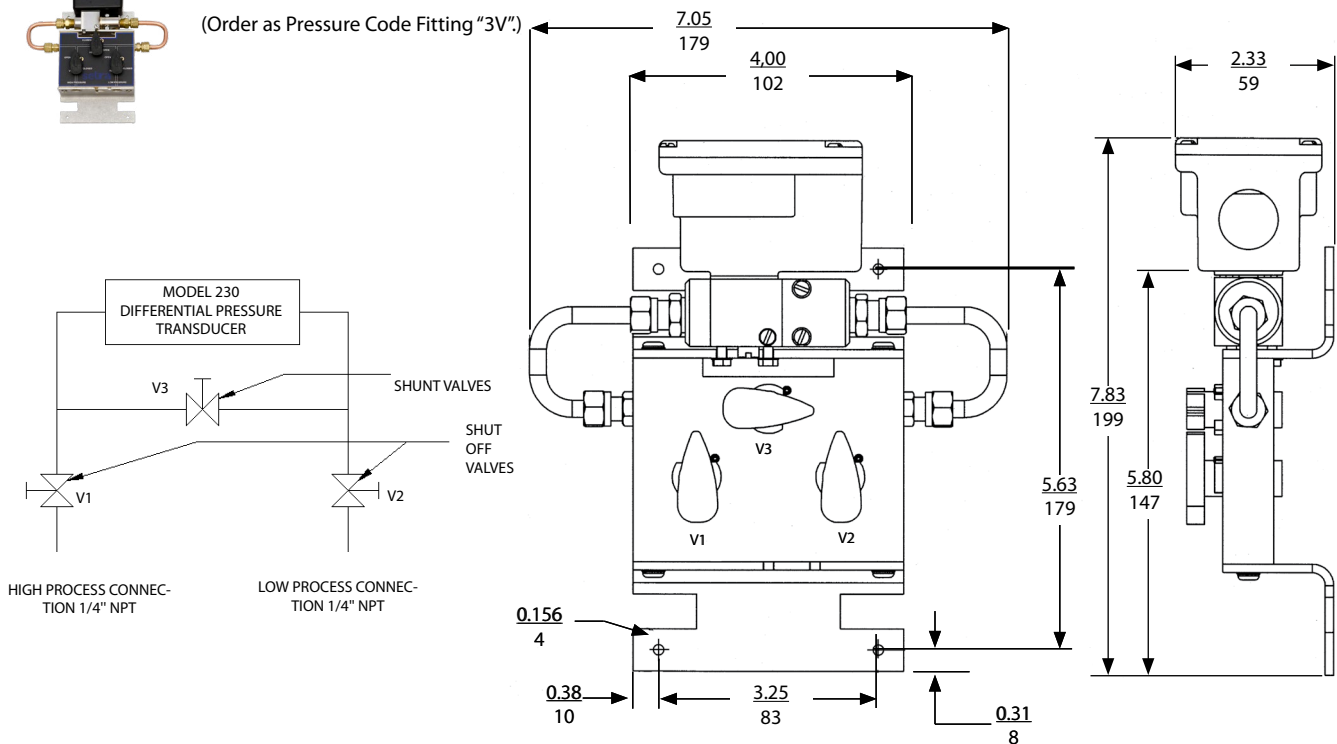


DIMENSIONS (3-Valve Manifold Assembly)



3-Valve Manifold Assembly Description

(Order as Pressure Code Fitting "3V")



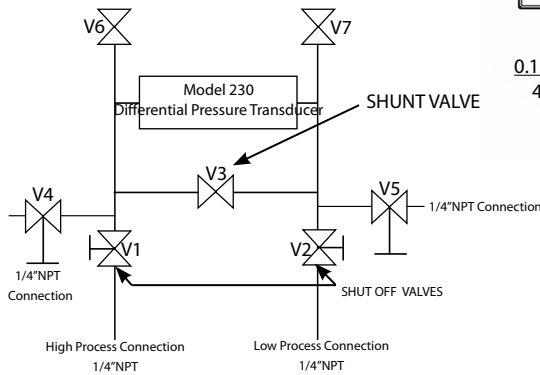
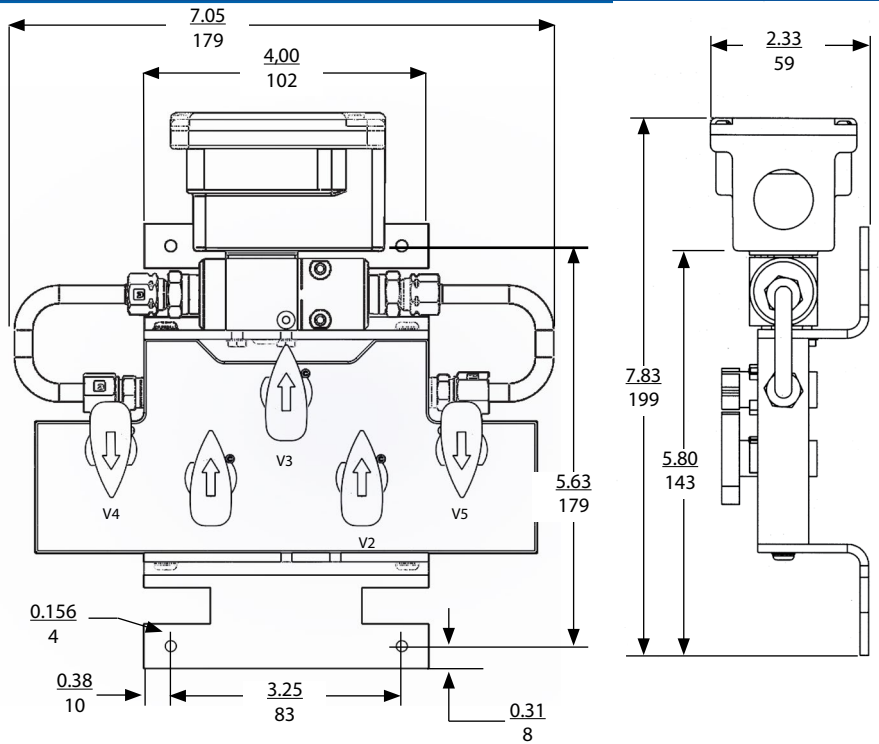
For differential pressure measurements at high line pressure (350 psig max), it is recommended that the pressure sensor be installed with a valve in each line, plus a shunt valve across the high and low (reference) pressure ports as shown.

DIMENSIONS (5-Valve Manifold Assembly)



5-Valve Manifold Assembly Description

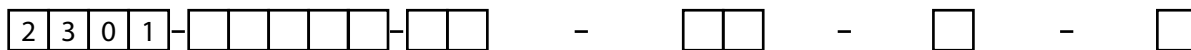
(Order as Pressure Code Fitting "5V")



For differential pressure measurements at high line pressure (350 psig max), it is recommended that the pressure sensor be installed with a valve in each line, plus a shunt valve across the high and low (reference) pressure ports as shown.

Note: V6 and V7 bleed valves are not required when used with a Setra Model 230. Use the bleed screws on Model 230 to bleed the lines of air.

ORDERING INFORMATION



Model	Range Code	Pressure Fitting	Output	Bleed Screw Seals	Optional
2301 = 230	See Table 1 Below	2F 1/4" NPT (F)	11 4-20 mA	Std. B Viton/Silicone	C Calibration Certificate
		3V 3-Valve Manifold*	2D 0-5 VDC	Opt. A Buna-N	
		5V 5-Valve Manifold*	2E 0-10VDC		

*Order assembled with the Model 230 (Code 3V or 5V) or separately as 2303V or 2305V. (Manifold can only be mated with Setra's Model 230.)

Please contact factory for versions not shown.

Table 1. Range Specification

RANGE CODE	UNIDIRECTIONAL	RANGE CODE	BIDIRECTIONAL
	PSID		PSID
001PD	0 to 1.0	0R5PB	±0.5
002PD	0 to 2.0	001PB	±1.0
005PD	0 to 5.0	2R5PB	±2.5
010PD	0 to 10.0	005PB	±5.0
025PD	0 to 25.0	010PB	±10.0
030PD	0 to 30.0	025PB	±25.0
050PD	0 to 50.0	050PB	±50.0
100PD	0 to 100.0		

Ordering Example: 2301005PD2F11B = Model 230 0 to 5 PSID unidirectional, 1/4-18 NPT Male fitting, 4 to 20 mA Output, and Viton/Silicone Seals.
 2301005PD3V11B = Model 230, 0 to 5 PSID unidirectional, 3-Valve Manifold, 4 to 20 mA, Output, and Viton/Silicone Seals (Assembled w/3- Valve Manifold).

Multi-Sense® Model 231

Wet-to-Wet, Differential, Multi-Configurable Pressure Transducer



NOTE: Setra quality standards are based on ANSI-Z540-1.
The calibration of this product is NIST traceable.
U.S. Patent nos. 6019002; 6014800

DESCRIPTION

Setra's Model 231 Multi-Sense Wet-to-Wet differential pressure transducer all-inclusive design provides users with field accessible ranging, choice of output and field zeroing.

Choose from three configurable pressure transducers: 5 up to 50 psid, 10 up to 100 psid, or 25 up to 250 PSID. Each Model 231 has 4 unidirectional and 4 bidirectional switch selectable pressure ranges and can be reconfigured in the field for 0-5 VDC, 1-5 VDC, -0-10 VDC, or 4 to 20 mA output. The Model 231 jumper selectable port swap feature eliminates costly re-plumbing if the pressure transducer is improperly installed or replaced. An optional LCD display is available for on-site indication of line and differential pressure.

FEATURES

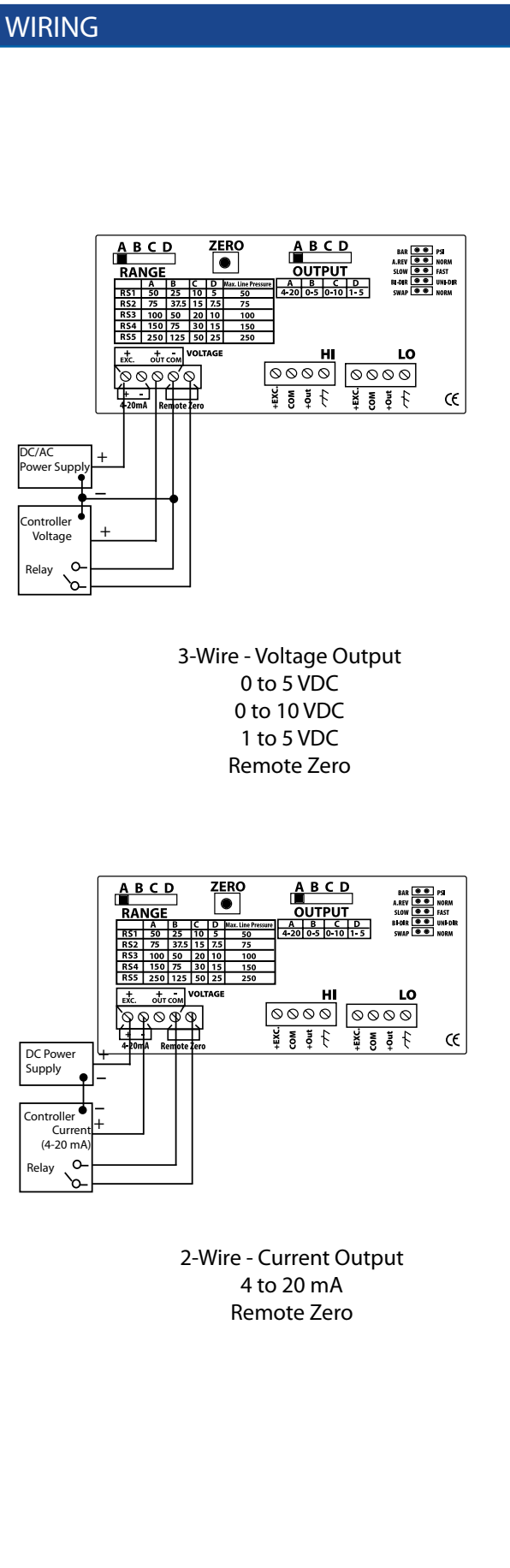
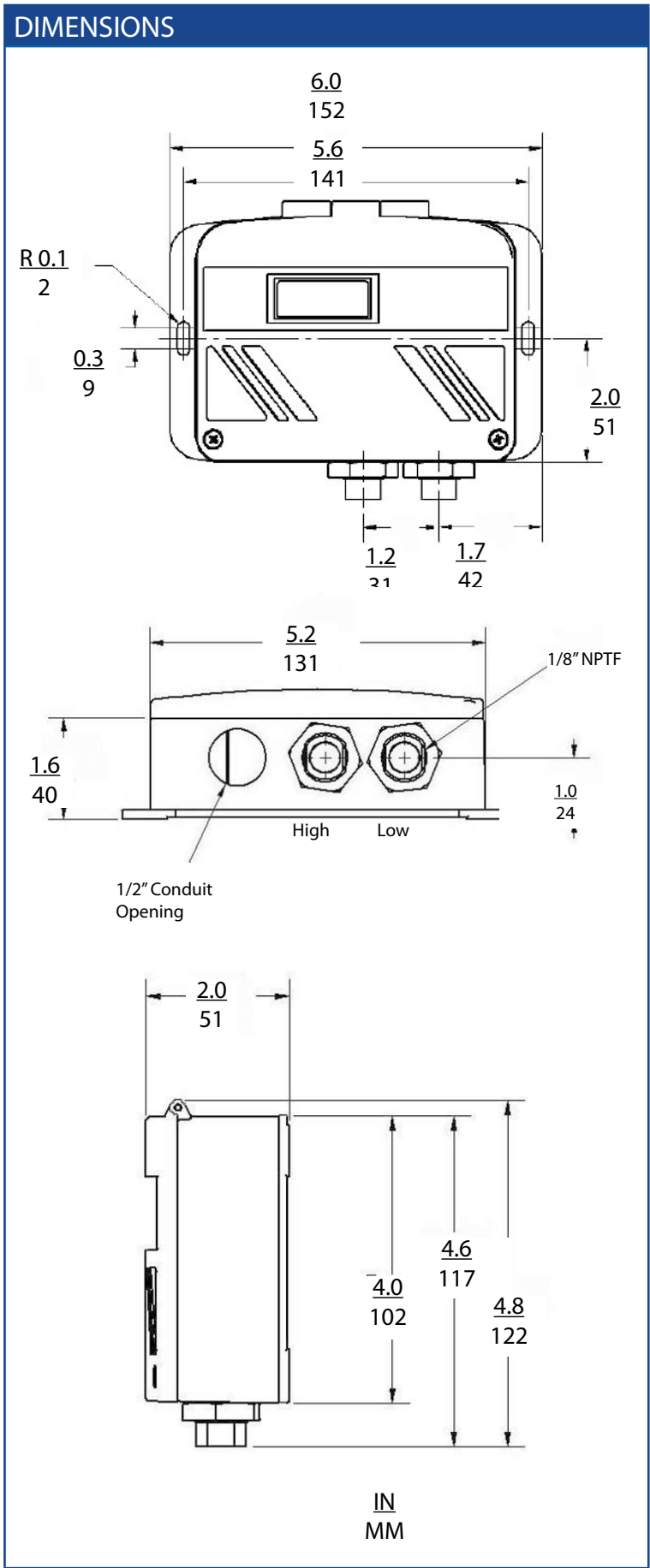
- Field Selectable Output - True 4 to 20 mA, 0 to 5, 1 to 5, and 0 to 10 VDC
- Field Selectable Pressure Ranges
- Field Accessible Push-Button Zero and Remote Zero
- Dual Sensors
- Optional 3- or 5-Valve Manifold
- Hinged Cover
- Field Selectable Port Swap
- Optional LCD Display
- All Cast Aluminum, NEMA 4 Rated Housing
- CE and RoHS Compliant

APPLICATIONS

- Energy Management Systems
- Process Control Systems
- Flow Measurement of Various Gases or Liquids
- Liquid Level Measurement of Pressurized Vessels
- Pressure Drop Across Filters

SPECIFICATIONS

Electrical Data (Voltage)		Performance Data						Environmental Data				
Circuit	3-Wire	Accuracy RSS ¹ (at constant temp.)						Operating Temperature °F (°C)	-4 to +185 (-20 to -85)			
Excitation	15 to 30 VDC/18 to 30 VAC (Reverse Excitation Protected)	Pressure Ranges A, B, C		±1.0% FS				Storage Temperature °F (°C)	-4 to +185 (-20 to +85)			
Output ⁴	0 to 5 VDC, 0 to 10 VDC, 1 to 5 VDC	Pressure Ranges D		±2.0% FS				Vibration	10g from 50Hz to 2000 Hz			
Output Impedance	30 Ohms	Pressure Ranges						Shock	200g			
Circuit Consumption	8 mA (typ.) at 5 VDC, 8 mA (typ.) at 10 VDC/40 mA (typ.) at 18-30 VAC		A	B	C	D	Max. Line Pressure	Physical Description				
		MS1	50	25	10	5	50	Case	Die Cast Aluminum, Powder Coated			
		MS2	100	50	20	10	100	Pressure Fittings	1/8-18 NPT Internal			
Electrical Data (Current)		MS3	250	125	50	25	250	Electrical Connection	1/2 in. Conduit			
Circuit	2-wire (Reverse Excitation Protected)	Pressure Media						Size	4.0 x 6 x 2 in. (102 x 152 x 51 mm)			
Output ⁵	4 to 20 mA	Liquids or Gases Compatible with 17-4 PH Stainless Steel Note: Hydrogen not recommended for use with 17-4 PH stainless steel						Weight	1.5 lb			
External Load	0 to 250 Ohms	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 or lower. ⁴ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater. ⁵ Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. Specifications subject to change without notice.						Sensor Vacuity Volume	0.2 cc			
Min. Supply Voltage (VDC)	15 + 0.02 x (Resistance of receiver plus line).							Thermal Effects²		Compensated Range °F (°C)	+32 to +130 (0 to +54)	
Max. Supply Voltage (VDC)	30 + 0.004(Resistance of receiver plus line).							Zero/Span Shift %FS/100°F (50°C)	2.0 (1.8)		Warm-up Shift	<0.12% FS
								Response Time	1 to 5 sec. (selectable)		Proof Pressure	2 x Full Scale
		Burst Pressure	15 x Full Scale (50 psi), 10 x Full Scale (75 x 150 psi), 8 x Full Scale (250 psi)									



Multi-Sense® Model 231



Wet-to-Wet, Differential, Multi-Configurable Pressure Transducer

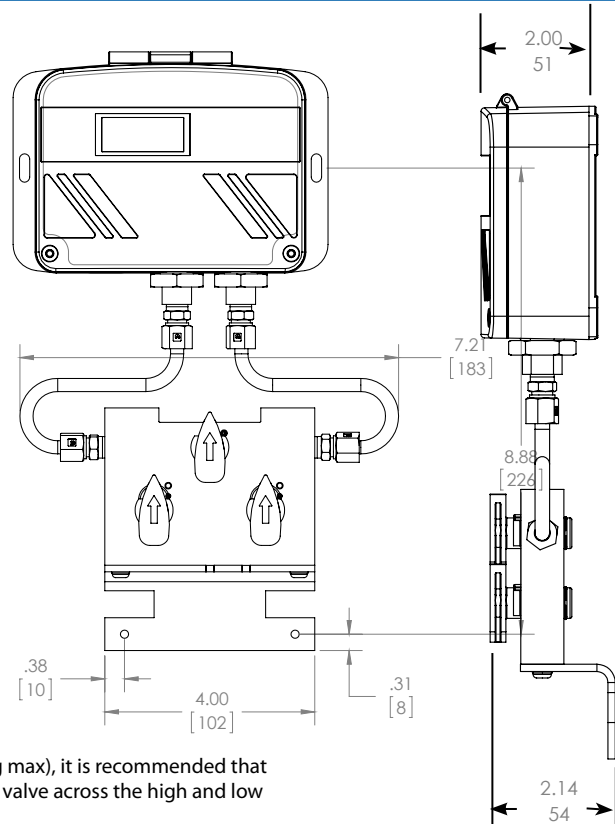
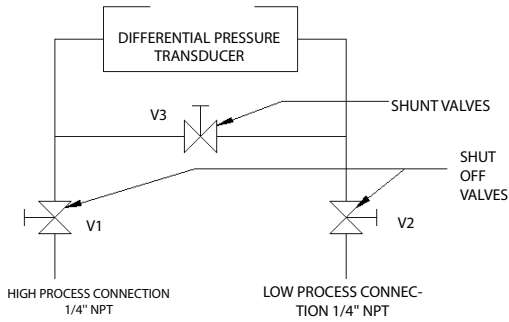
DIMENSIONS (3-Valve Manifold Assembly)



3-Valve Manifold Assembly Description

(Order as Pressure Code Fitting "3V")

Manifold Block Brass
 Valves (3) V1 for connection to +port
 V2 for connection to -port
 V3 for equalizing pressure
 Valve type 90 Degree On/Off
 Process Connections 1/4" -18 NPT Internal Thread



For differential pressure measurements at high line pressure (250 psig max), it is recommended that the pressure sensor be installed with a valve in each line, plus a shunt valve across the high and low (reference) pressure ports as shown.

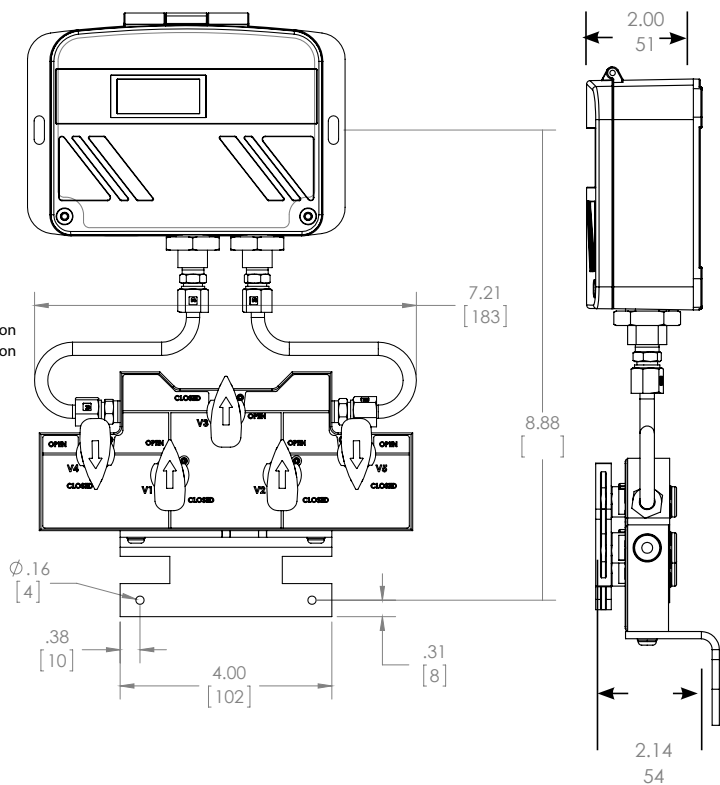
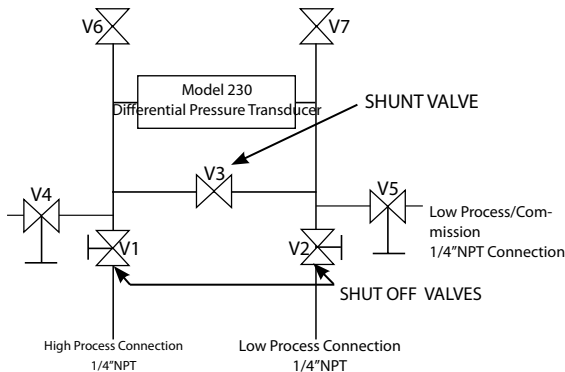
DIMENSIONS (5-Valve Manifold Assembly)



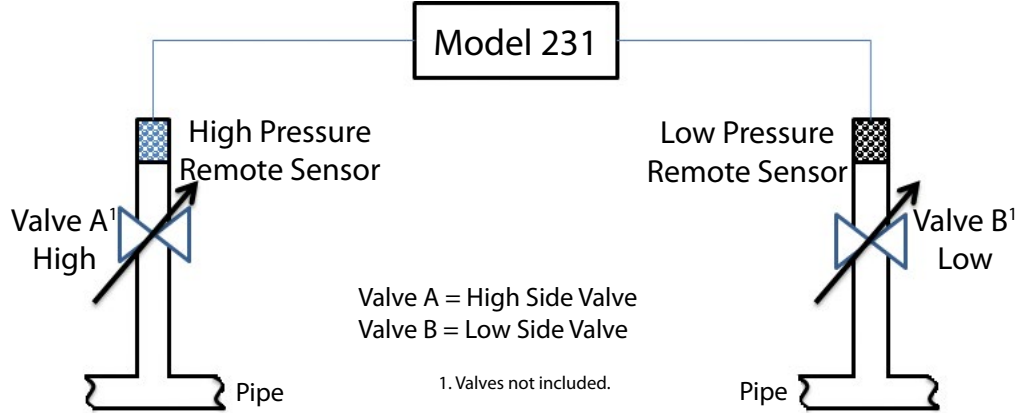
5-Valve Manifold Assembly Description

(Order as Pressure Code Fitting "5V")

Manifold Block Brass
 Valves (5) V1 for connection to ±port
 V2 for connection to -port
 V3 for equalizing pressure
 V4 for connection to external gauge or alternate plumbing configuration
 V5 for connection to external gauge or alternate plumbing configuration
 Valve Type 90 Degree On/Off
 Process Connection 1/4" -18 NPT Internal Thread



INSTALLATION



PRESSURE RANGE CODE SELECTOR (IMPORTANT: READ BEFORE ORDERING)

Examine the pressure application and determine what is the Highest System Line Pressure. Determine what is the Differential Pressure being measured. Find the MAX. Line Pressure in the table on the right that is \geq to your Highest System Line Pressure. Verify that your DP falls within the selectable ranges in that row. Follow that row to the left and select that range code.

Range Code	A	B	C	D	Max. Line Pressure
MS1	50	25	10	5	50
MS2	100	50	20	10	100
MS3	250	125	50	25	250

Example:

Highest System Line Pressure: 125 psig
 Differential Pressure Measured: 50 psid
 "Max Line Pressure" \geq to System Line Pressure: 250 psid (50 psid DP falls within ranges in this row)
 Select Range Code: MS3

ORDERING INFORMATION

2 3 1 G - [] [] [] - [] [] - []

Model	Range Code	Pressure Connection			Display		
231G = 231G	See Table 1 Below	Std.	2F	1/8-18 NPT female (Standard) Sensor (Conduit Version)	Std.	N	No Display
		Opt.	3V	3-V Manifold assembled w/ Model 231	Opt.	D	LCD Display
		Opt.	5V	5-V Manifold assembled w/ Model 231			

Table 1. Range Specification*

RANGE CODE	UNIDIRECTIONAL PRESSURE RANGES	BIDIRECTIONAL PRESSURE RANGES
MS1	5, 10, 25, 50 PSID	$\pm 5, \pm 10, \pm 25, \pm 50$ PSID
MS2	10, 20, 50, 100 PSID	$\pm 10, \pm 20, \pm 50, \pm 100$ PSID
MS3	25, 50, 125, 250 PSID	$\pm 25, \pm 50, \pm 125, \pm 250$ PSID

*Note: Maximum line pressure is maximum range of pressure ordered.

Ordering Example: 231GMS12FD = Model 231, 5 PSID up to 50 PSID, 1/8" NPT Female Fitting, and LCD Display 31GMS13VN = Model 231, 0 to 5 PSID up to 50 PSI, 3-Valve Manifold, and No LCD Display

Multi-Sense® Model 231RS



Wet-to-Wet, Differential, Multi-Configurable Pressure Transducer



DESCRIPTION

The Model 231RS with remote sensors reduces labor, materials, and time. The sensors are installed directly into the pipe and electrical connection is made between the remote sensors and the Model 231RS via cables or conduit, reducing labor cost by one-third and the cost of copper to connect the pressure transducer to the pipe. Startup time is reduced since purging air out of the lines is not necessary.

The Multi-Sense® Model 231 Wet-to-Wet differential pressure transducer's all inclusive design provides users with field accessible ranging, choice of output and field zeroing.

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

FEATURES

- Wet-to-Wet Transducer w/ Remote Sensors
- Conduit and Cable Versions
- Field Selectable Output - True 4 to 20 mA, 0 to 5, 1 to 5, and 0 to 10 VDC
- Each Unit Provides 4 Unidirectional and 4 Bi-directional Switch Selectable Pressure Ranges
- Field Accessible Push-Button Zero and Remote Zero
- Jumper Selectable Port Swap
- Optional LCD
- All Cast Aluminum, NEMA 4 Rated Housing
- CE and RoHS Compliant

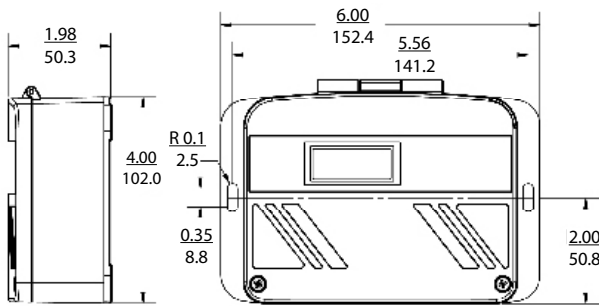
APPLICATIONS

- Energy Management Systems
- Process Control Systems
- Flow Measurement of Various Gases or Liquids
- Liquid Level Measurement of Pressurized Vessels
- Pressure Drop Across Filters

SPECIFICATIONS

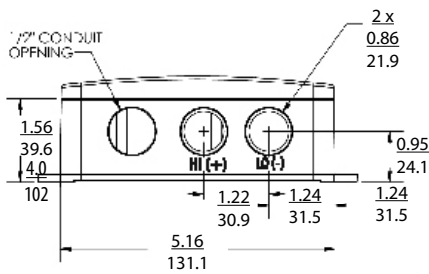
Electrical Data (Voltage)		Performance Data						Environmental Data	
Circuit	3-Wire	Accuracy RSS ¹ (at constant temp.)						Operating ² Temperature °F (°C)	-4 to +185 (-20 to -85)
Excitation	15 to 30 VDC/18 to 30 VAC (Reverse Excitation Protected)	Pressure Ranges A, B, C			±1.0% FS			Storage Temperature °F (°C)	-4 to +185 (-20 to +85)
Output ⁴	0 to 5 VDC, 0 to 10 VDC, 1 to 5 VDC	Pressure Ranges D			±2.0% FS			Vibration	10g from 50Hz to 2000 Hz
Output Impedance	30 Ohms	Pressure Ranges (Selection Example, Pg 4.)						Shock	200g
Circuit Consumption	8 mA (typ.) at 5 VDC, 8 mA (typ) at 10 VDC, 40 mA (typ.) at 18-30 VAC	Range Code	A	B	C	D	Max. Line Pressure	Physical Description	
		RS1	50	25	10	5	50	Case	Die Cast Aluminum, Powder Coated
Electrical Data (Current)		RS2	75	37.5	15	7.5	75	Pressure Fittings	1/4-18 NPT Male
Circuit	2-wire (Reverse Excitation Protected)	RS3	100	50	20	10	100	Electrical Connection	1/2 in. Conduit
Output ⁵	4 to 20 mA	RS4	150	75	30	15	150	Size	4.0 x 6 x 2 in. (102 x 152 x 51 mm)
External Load	0 to 250 Ohms	RS5	250	125	50	25	250	Weight	1.3 lb
Min. Supply Voltage (VDC)	15 + 0.02 x Resistance of receiver plus line)	Pressure Media						Thermal Effects²	
Max. Supply Voltage (VDC)	30 + 0.004 x Resistance of receiver plus line)	Liquids or Gases Compatible with 17-4 PH Stainless Steel Note: Hydrogen not recommended for use with 17-4 PH stainless steel						Compensated Range °F (°C)	+32 to +130 (0 to +54)
		¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability.						Zero/Span Shift %FS/100°F (50°C)	2.0 (1.8)
		² Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.						Warm-up Shift	<0.12% FS
		³ Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher or lower.						Response Time	1 to 5 sec. (selectable)
		⁴ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.						Proof Pressure	2 x Full Scale
		⁵ Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. Specifications subject to change without notice.						Burst Pressure	15 x Full Scale (50 PSI), 10 x Full Scale (75 x 150 PSI), 8 x Full Scale (250 PSI)

DIMENSIONS



Side View

Front View

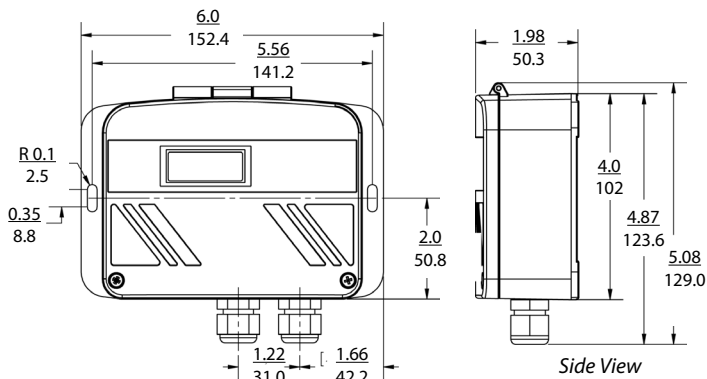


Bottom View

Conduit Version

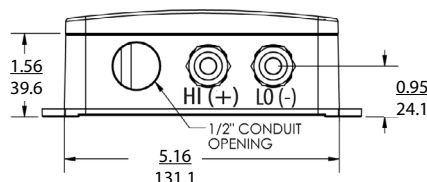
IN
MM

IN
MM



Front View

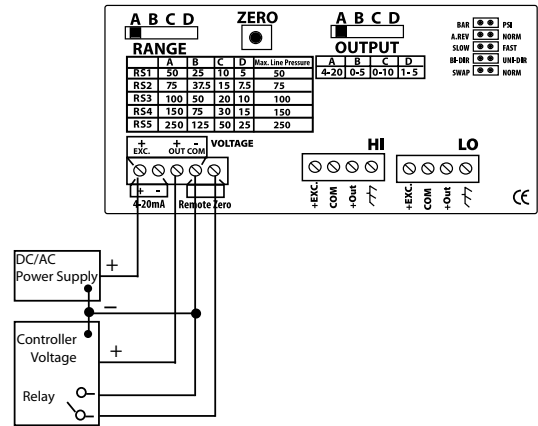
Side View



Bottom View

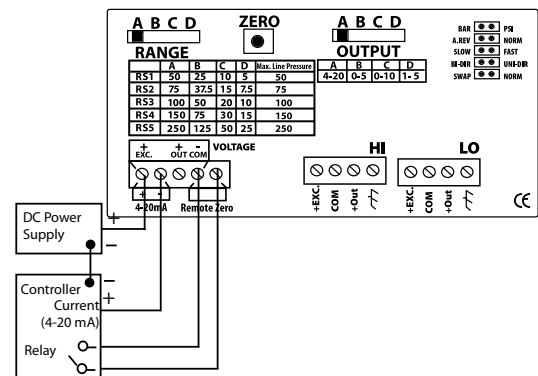
Cable Version

WIRING



3-Wire - Voltage Output

0 to 5 VDC
0 to 10 VDC
1 to 5 VDC
Remote Zero



2-Wire - Current Output

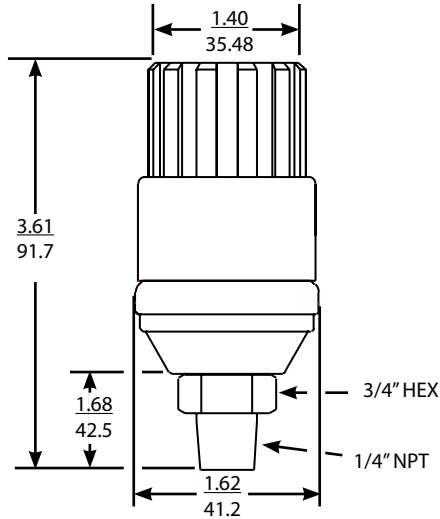
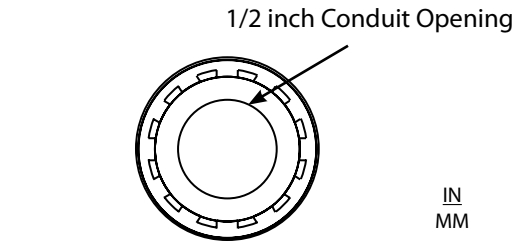
4 to 20 mA
Remote Zero

Multi-Sense® Model 231RS

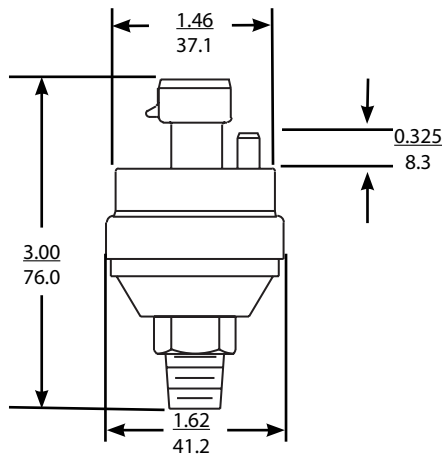
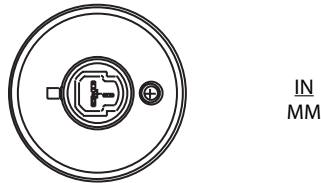


Wet-to-Wet, Differential, Multi-Configurable Pressure Transducer

DIMENSIONS



Transducer w/Conduit



Transducer w/Packard Connector

WIRING

Terminal Block		(CN8 & CN11)	
4	⊥	(Shield)	
3		+OUT	
2		COM	
1		+EXC	

Conduit Adapter

Transducer w/Conduit

Terminal Block		(CN8 & CN11)	
4	⊥	(Shield)	
3		+OUT (White)	C
2		COM (Black)	A
1		+EXC (Red)	B

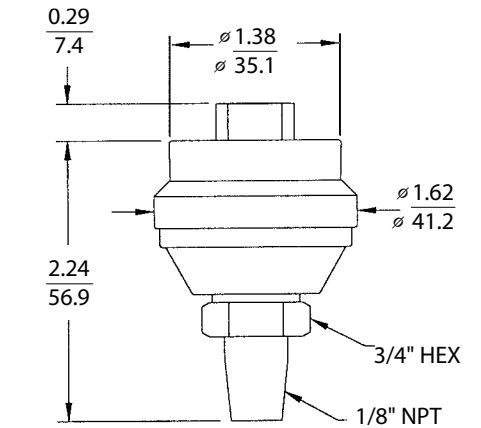
3-Pin Packard Connector

Transducer w/Packard Connector

Terminal Block		(CN8 & CN11)	
4	⊥	(Shield)	
3		+OUT (Green)	3
2		COM (Black)	2
1		+EXC (Red)	1

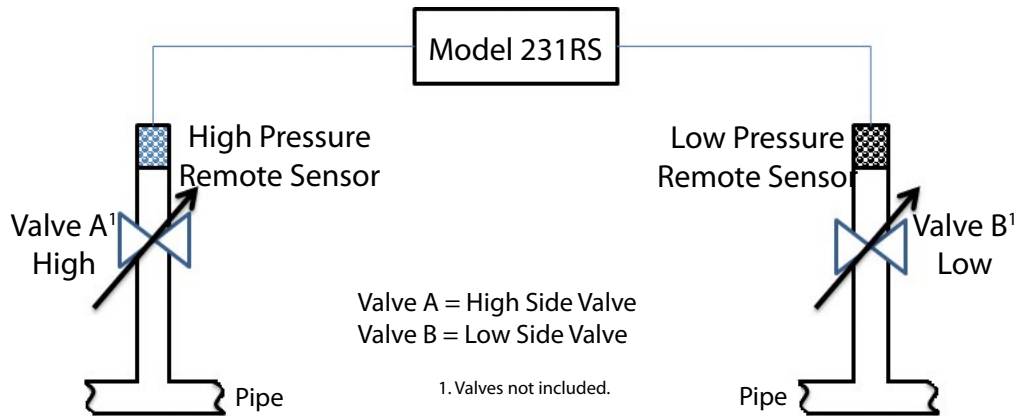
Hirschmann Connector

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



Transducer w/Hirschmann Connector (AJ)

INSTALLATION



PRESSURE RANGE CODE SELECTOR (IMPORTANT: READ BEFORE ORDERING)

Examine the pressure application and determine what is the Highest System Line Pressure.
 Determine what is the Differential Pressure being measured.
 Find the MAX. Line Pressure in the table on the right that is \geq to your Highest System Line Pressure.
 Verify that your DP falls within the selectable ranges in that row.
 Follow that row to the left and select that range code.

Range Code	A	B	C	D	Max. Line Pressure
RS1	50	25	10	5	50
RS2	75	37.5	15	7.5	75
RS3	100	50	20	10	100
RS4	150	75	30	15	150
RS5	250	125	50	25	250

Example:

Highest System Line Pressure: 125 PSIG
 Differential Pressure Measured: 75 PSID
 "Max Line Pressure" \geq to System Line Pressure: 150 PSID (75 PSID DP falls within ranges in this row)
 Select Range Code: RS4

ORDERING INFORMATION

2 3 1 G - - - - - - - - - -

Model	Range Code	Pressure Connection	Display	Cable ¹
231G = 231RS	See Table 1 Below	3M 1/4-18 NPT Male Remote Sensor (Conduit Version)	Std. N No Display	Std. 10 10ft
		4M 1/4-18 NPT Male Remote Sensor (Cable Version)	Opt. D LCD Display	Opt. 20 20ft
		AJ 1/4-18 NPT Male Remote Sensors (Armored Jacket Version)		Opt. 30 30ft
				Opt. 40 40ft
			Opt. 50 50ft	

Ordering Example: 231GRS44MN10 = Model 231RS w/Range Code RS4, 1/4-18 NPT Male Remote Sensor (Cable Version), No Display, 10ft. Cable

RANGE CODE ²	UNIDIRECTIONAL PRESSURE RANGES	BIDIRECTIONAL PRESSURE RANGES
RS1	5, 10, 25, 50 PSID	$\pm 5, \pm 10, \pm 25, \pm 50$ PSID
RS2	7.5, 15, 37.5, 75 PSID	$\pm 7.5, \pm 15, \pm 37.5, \pm 75$ PSID
RS3	10, 20, 50, 100 PSID	$\pm 10, \pm 20, \pm 50, \pm 100$ PSID
RS4	15, 30, 75, 150 PSID	$\pm 15, \pm 30, \pm 75, \pm 150$ PSID
RS5	25, 50, 125, 250 PSID	$\pm 25, \pm 50, \pm 125, \pm 250$ PSID

1. Cable lengths only available with Pressure Connection Code 4M. 2. For higher ranges contact factory.

Model 239

High Accuracy Low Differential Pressure Transducer

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 $\pm 0.073\%$ FS accuracy 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.

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 $\pm 0.073\%$ FS accuracy over a wide temperature range. The Model 239 provides the fastest response time compared to its competitors.

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.



- Industry Standard For Accuracy
- Captures Dynamic Pressure Changes
- Small Footprint

Model 239 Features:

- High Accuracy: $\pm 0.073\%$ FS
- Fast Response Time: <10ms
- Fast Warm-Up: <0.1% over 5 Min.
- Low Thermal Error
- Meets CE Conformance Standards

Applications

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

ORDERING INFORMATION

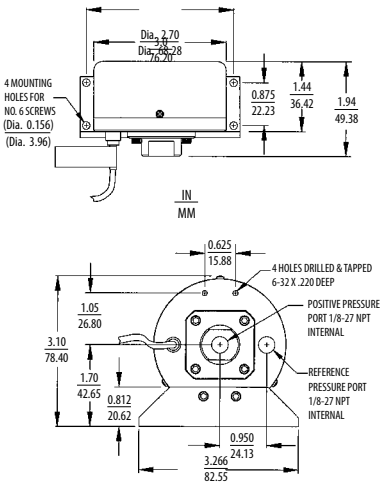
2 3 9 1 - [] [] [] [] - 1 F - [] [] - [] [] - [] [] - [] []

Model	Pressure Ranges		Pressure Fitting		Output		Termination		Accuracy		Options ⁴		
	Unidirectional	Bidirectional	1F	1/8" NPT Female	11	4 to 20 mA	02	2' Cable 22 GA	W	±0.14% FS	N	None	
2391=239													
	0R5WD	0 to 0.5"W.C.	R25WB	±0.25"W.C.		25	±2.5 VDC ¹	10	10' Cable 22 GA	9	±0.073% FS	1	303SS Housing Positive Port <small>¹ Y1-Y6 = Red Jacket Cable (Previously the standard for voltage outputs.)</small>
	001WD	0 to 1"W.C.	0R5WB	±0.5"W.C.		2B	0 to 5 VDC ²	25	25' Cable 22 GA			3	Compensated Temp. Range (-65 to 250°F) ⁶ <small>⁶ Both boxes must be filled in alphanumeric order:</small>
	2R5WD	0 to 2.5"W.C.	001WB	±1"W.C.		27	1 to 5 VDC	Y1	2'30 GA 9-Conductor ³			4	Viton O-Ring
	005WD	0 to 5"W.C.	2R5WB	±2.5"W.C.		28	1 to 6 VDC	Y3	5'30 GA 9-Conductor ³			D	Mate with Datum
	015WD	0 to 15"W.C.	005WB	±5"W.C.		2C	0 to 10 VDC	Y4	10'30 GA 9-Conductor ³			E	Special Excitation Voltage ±24 VDC
	030WD	0 to 30"W.C.	7R5WB	±7.5"W.C.		2T	0 TO 5 VDC ¹	Y6	25'30 GA 9-Conductor ³			G	Special Excitation Voltage ±15 VDC
	005PD	0 to 5 PSID	015WB	±15"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 be 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
⁶ Termination Codes
⁷ 2x Thermal Effects Specification

Example: Part No. 2391001WD1F1102WLN = Model 239, 0 to 1"W.C. pressure range, 1/8" NPT female fitting, 4 to 20 mA Output, 2' Cable Length, ±0.14% FS Accuracy, Etched SS Tags Option

DIMENSIONS



PROOF PRESSURE

Pressure Range		Proof Pressure	
Unidirectional	Bidirectional	Positive	Negative
0 to 0.5"W.C.	±0.25"W.C.	5 PSI	2.5"W.C.
0 to 1"W.C.	±0.5"W.C.	7 PSI	5"W.C.
0 to 2.5"W.C.	±1"W.C.	10 PSI	12.5"W.C.
0 to 5"W.C.	±2.5"W.C.	20 PSI	25"W.C.
0 to 15"W.C.	±5"W.C.	50 PSI	75"W.C.
0 to 30"W.C.	0 to ±15"W.C.	50 PSI	150"W.C.
0 to 5 PSID	0 to ±2.5 PSID	75 PSI	25 PSI
0 to 10 PSID	0 to ±5 PSID	100 PSI	50 PSI

Pressure Range		Proof Pressure	
Unidirectional	Bidirectional	Positive	Negative
0 to 250 Pa	±125 Pa	0.5 BAR	1250 Pa
0 to 500 Pa	±250 Pa	0.7 BAR	3000 Pa
0 to 1000 Pa	±500 Pa	1.25 BAR	6250 Pa
0 to 2000 Pa	±1000 Pa	3.5 BAR	18500 Pa
0 to 5000 Pa	±2500 Pa	3.5 BAR	37000 Pa
0 to 15 kPa	±7500 Pa	3.5 BAR	37000 Pa
0 to 35 kPa		5 BAR	1.75 BAR
0 to 70 kPa	±35 kPa	7 BAR	3.5 BAR

GENERAL SPECIFICATIONS

Performance Data		Physical Description	
Accuracy RS ⁵ at constant temp	±0.14% FS	Pressure Fittings	1/8" -27NPT internal
Non-Linearity (BFSL)	±0.10% FS	Electrical Connection	2' Multiconductor cable
Hysteresis	0.10%FS	Weight (approx)	8 oz
Non-Repeatability	0.02% FS	Vibration	2g from 5 Hz to 500 Hz
Warm-up Shift	<±0.1% FS residual shift after 5 minutes	Internal Volumes	Positive port 0.03 in ³ Negative port 0.1 in ³
Setting Time	<100ms	Max Volume Change at FS	0.001 in ³
Acceleration Response	<0.0002 PSI/G	Acceleration	10g Max
Natural Frequency	2000 Hz nominal	Shock	50g Operating
Operable Line Pressure	Vacuum to Max 250 PSIG	Electrical Data (Current)	
Line Pressure Effect	2%/100 PSI	Circuit	2-Wire
Thermal Effects ²		Output ³	0 to 20 mA ⁴
Compensated Range °F(°C)	+30 to +150 (-1 to -65)	External Load	0 to 1000 ohms
Zero/Span Shift %FS/100°F(50°C)	<+1 (<±0.9)/<+1 (<±0.9)	Min. Supply Voltage (VDC)	17 + 0.02 x (resistance of receiver plus line)
		Max. Supply Voltage (VDC)	42 + 0.004 x (resistance of receiver plus line)
Environmental Data		Electrical Data (Voltage)	
Operating Temp. ³ °F (°C)	0 to +175 (0-18 to +80)	Effect of Power Supply	
Storage Temp. °F (°C)	-65 to +250 (-55 to +120)	Variations	<0.003 mA/Volt
Pressure Media		Output Noise	<10 microamperes RMS (0Hz to 10kHz)
Positive Pressure Media: Gases compatible with stainless steel, hard anodized 6061 aluminum (Buna-N O-ring)		Power Consumption	10W max, 3W typ.
Reference Pressure Media: Clean dry air or other gases (non-corrosive, non-condensable)		Excitation	18-32 VAC, 50-60 Hz
Approvals		Electrical Data (Voltage)	
CE, RoHS		Circuit	4-Wire (+Exc, -Exc, +Out, -Opt)
<small>¹RS of Non-Linearity, Hysteresis, and Non-Repeatability. ²Units calibrated at nominal 70°F. Max thermal error computer from this datum. x 2 for 0.5 and ±0.25 in W.C. changes. ³Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. ⁴Zero output factory set to within ±0.07 mA. Span (FS) output factory set to within ±0.07 mA. ⁵Internal 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. ⁶Calibrated into 50K oh load. Operable into 5000 ohms or greater. Zero output factory set to within ±20mV.</small>		Excitation ⁵	22 to 30 VDC (reverse excitation protected)
		Output Impedance	<10 ohms
		Output Noise	<200 microvolts RMS (in band, 0Hz to 10kHz)
		Output ⁶	See ordering information (for unidirectional ranges) ±2.5 VDC (for bidirectional ranges)

Model 264

Very Low Differential Pressure Transducer



Model 264
w/ Conduit Cover Option



NOTE: Setra quality standards are based on ANSI-Z540-1. The calibration of this product is NIST traceable.
U.S. Patent nos. 6019002; 6014800

FEATURES

- Up to 10 PSI Overpressure (Range Dependent)
- Installation Time Minimized with Snap Track Mounting and Easy-To-Access Pressure Ports and Electrical Connections
- 0 to 5 VDC or 2-wire 4 to 20 mA Analog Outputs Are Compatible with Energy Management Systems
- Reverse Wiring Protection
- Internal Regulation Permits Use with Unregulated DC Power Supplies
- Fire Retardant Case (UL 94 V-0 Approved)
- Meets CE Conformance Standards

APPLICATIONS

- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Lab and Fume Hood Control
- Oven Pressurization and Furnace Draft Controls

DESCRIPTION

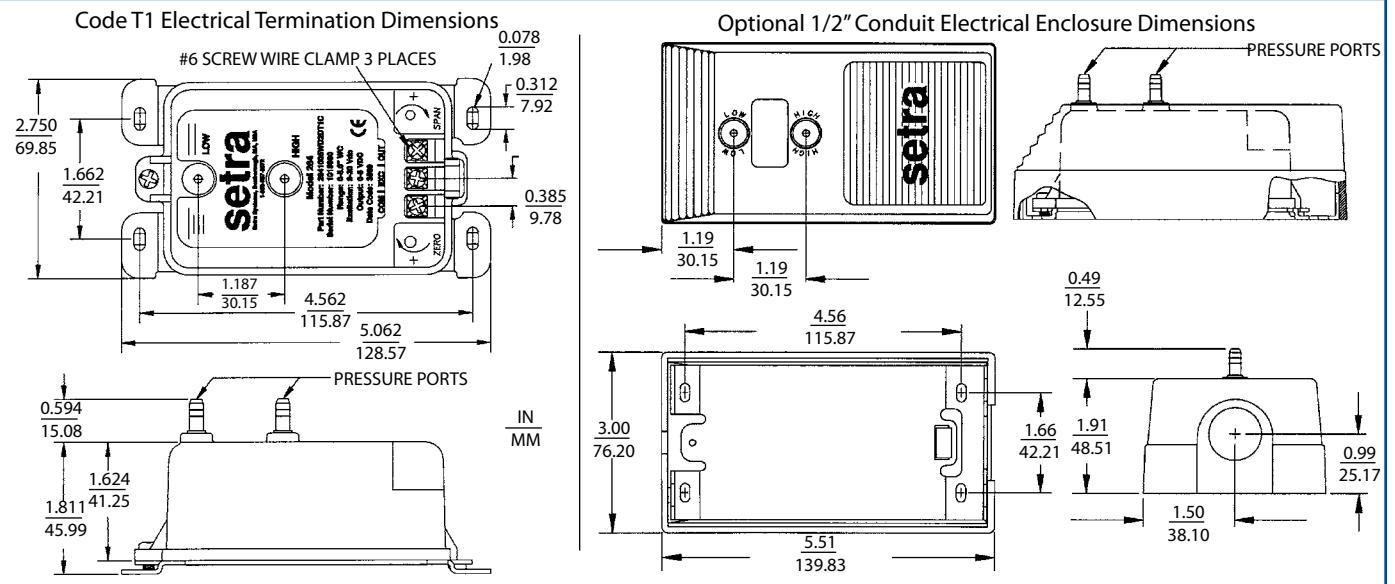
Used in Building Energy Management Systems, the Model 264 measures pressures and flows with the accuracy necessary for proper management of building pressurization and air flow control.

The 264 is available in air pressure ranges as low as 0.1"W.C. full scale to 100"W.C. FS. Static standard accuracy is $\pm 1.0\%$ FS in normal ambient temperature environments. The units are temperature compensated to 0.033% FS/°F thermal error over the temperature range of 0°F to +150°F

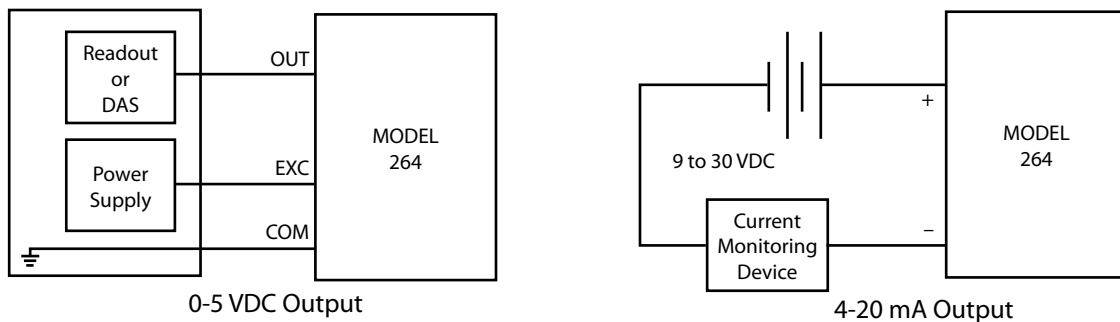
SPECIFICATIONS

Performance Data			Environmental Data		Electrical Data (Voltage)	
	Standard	Optional	Operating Temperature ³ °F (°C)	0 to +175 (-18 to +79)	Circuit	3-Wire (Com, Out, Exc)
Accuracy RSS ¹ (at constant temp)	$\pm 1.0\%$ FS	$\pm 0.4\%$ FS $\pm 0.25\%$ FS	Storage Temperature °F (°C)	-65 to +250 (-54 to +121)	Excitation/ Output ⁴	9 to 30 VDC / 0 to 5 VDC ^{5,6}
Non-Linearity, BFSL	$\pm 0.96\%$ FS	$\pm 0.38\%$ FS $\pm 0.22\%$ FS	Physical Description		Output Impedance	100 ohms
Hysteresis	0.10% FS	0.10% FS 0.10% FS	Case	Fire-Retardant Glass Filled Polyester (UL 94 V-0 Approved)	Bidirectional output at zero pressure	2.5 VDC ^{5,6}
Physical Description			Electrical Connection	Screw Terminal Strip	Electrical Data (Current)	
Compensated Range °F (°C)	0 to +150 (-18 to +65)		Mounting	4 screw holes on removable zinc plated steel base (designed for 2.75" snap track)	Circuit	2-Wire
Zero/ Span Shift %FS/100°F(50°C)	± 0.033 (± 0.06)		Pressure Fittings	3/16" O.D. barbed brass for 1/4" push on tubing	Output ²	4 to 20 mA ^{8,9}
Maximum Line Pressure	10 PSI		Zero and Span Adjustments	Accessible on top of case	External Load	0 to 800 ohms
Overpressure	Up to 10 PSI (Range Development)		Weight (approx.)	10 Ounces	Minimum Supply Voltage (VDC)	9 + 0.02 x (resistance of receiver plus line)
Long Term Stability	0.5% FS/1 YR		Pressure Media		Maximum Supply Voltage (VDC)	30 + 0.004 x (resistance of receiver plus line)
			Typically air or similar non-conducting gases.		Bidirectional output at zero pressure	12 mA ^{8,9}
Position Effect	Range	%FS/G	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 ± 50 mV (± 25 mV for optional accuracies). ⁶ Span (Full Scale) output factory set to within ± 50 mV. (± 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 ± 0.16 mA (± 0.08 mA for optional accuracies). ⁹ Span (Full Scale) output factory set to within ± 0.16 mA (± 0.08 mA for optional accuracies). Specifications subject to change without notice.			
Unit is factory calibrated at 0g effect in the vertical position	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				

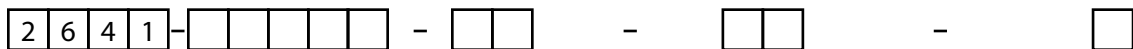
DIMENSIONS



WIRING



ORDERING INFORMATION



Model	Range Code	Output	Elec. Termination		Accuracy ¹		
2641 = 264	See Table 1 Below	11 4-20 mA	Std.	T1 Terminal Strip	Std.	C	±1% FS
		2D 0-5 VDC	Opt.	A1 1/2 in. Conduit Enc.	Opt.	E	±0.4% FS

RANGE CODE	UNIDIRECTIONAL	RANGE CODE	BIDIRECTIONAL
	"W.C.		"W.C.
0R1WD	0 to 0.1	R05WB	±0.05
R25WD	0 to 0.25	0R1WB	±0.1
0R5WD	0 to 0.5	R25WB	±0.25
001WD	0 to 1	0R5WB	±0.5
1R5WD	0 to 1.5	001WB	±1
2R5WD	0 to 2.5	1R5WB	±1.5
003WD	0 to 3	2R5WB	±2.5
005WD	0 to 5	005WB	±5
010WD	0 to 10	7R5WB	±7.5
015WD	0 to 15	010WB	±10
025WD	0 to 25	025WB	±25
050WD	0 to 50	050WB	±50
100WD	0 to 100		

1. Optional Accuracies include Calibration Certificate

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

Model 265

Very Low Differential Pressure Transducer



Model 265 with Conduit Cover Option

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.

FEATURES

- Up to 10 PSI Overpressure (Range Dependent)
- 24 VDC or 24 VAC Excitation
- High Level 0 to 5 VDC, 0 to 10 VDC or 2-wire 4 to 20 mA Analog Outputs Are Compatible with All Energy Management Systems
- Full Protected Against Reverse Wiring
- 1% Accuracy Improves VAV Performance
- Optional Accuracies up to $\pm 0.25\%$ FS
- Internal Regulation Permits Use with Unregulated DC Power Supplies
- Fire Retardant Case (UL 94 V-0 Approved)
- Meets CE Conformance Standards

APPLICATIONS

- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Static Duct and Clean Room Pressures
- Oven Pressurization and Furnace Draft Controls

DESCRIPTION

The Model 265 is designed to reduce installation costs while increasing overall operating efficiency. At $\pm 1\%$ FS accuracy (optional $\pm 0.5\%$, $\pm 0.4\%$ and $\pm 0.25\%$), the Model 265 provides superior positive and negative pressure sensing required for high efficiency air control systems.

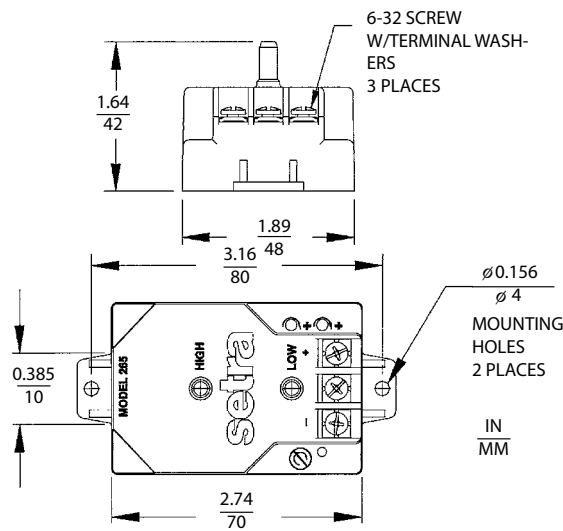
Its small footprint (1.89"W x 2.74"L x 1.64"H) is an ideal fit for the tightest matrix. Installation is easy with an integral mounting bracket, 1/4" O.D. tube pressure connections conveniently located on the face of the unit, and a screw terminal strip for electrical termination.

SPECIFICATIONS

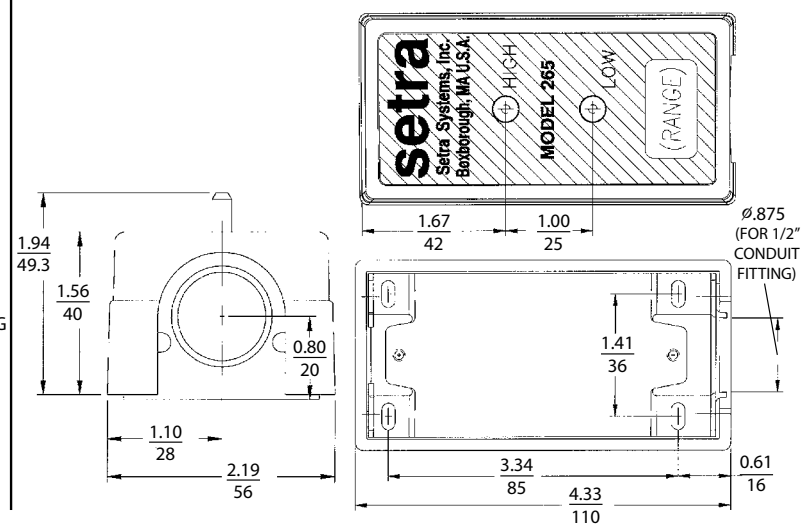
Performance Data			Physical Description		Electrical Data (Voltage)		
	Standard	Optional	Pressure Fittings	1/4" Fitting	Circuit	3-Wire (Com, Out, Exc)	
Accuracy RSS ¹ (at constant temp)	$\pm 1.0\%$ FS	$\pm 0.4\%$ FS $\pm 0.22\%$ FS	Case	Fire Retardant Glass Filled Polyester (UL 94-V Approved)	Excitation/Output ⁴	9 to 30 VDC / 0 to 5 VDC ⁵ 9 to 30 VAC / 0 to 5 VDC 12 to 30 VAC / 0 to 10 VDC ⁵	
Non-Linearity, BFSL	$\pm 0.98\%$ FS	$\pm 0.38\%$ FS $\pm 0.22\%$ FS	Weight	3 oz	Output Impedance	<100 ohms	
Hysteresis	0.10% FS	0.10% FS 0.10% FS	Elec. Connection	Screw Terminal Strip	Bidirectional output at zero pressure	2.5 VDC (± 50 mV)	
Non-Repeatability	0.05% FS	0.05% FS 0.05% FS				⁴ Calibrated into 50K ohm load. Operable into 5000 ohms or greater. ⁵ Zero & Span (FS) output factory set to within ± 50 mV (± 25 mV for optional accuracies).	
Thermal Effects ²			Position Effect ³		Electrical Data (Current)		
Compensated Range °F (°C)	0 to +150 (-18 to +65)		Range	Zero Offset (%FS/G)	Circuit	2-Wire	
Zero Shift %FS/100°F(50°C)	± 0.033 (± 0.06)		To 0.5 in. W.C.	0.60	Output ⁶	4 to 20 mA ⁷	
Span Shift %FS/100°F(50°C)	± 0.033 (± 0.06)		To 1.0 in. W.C.	0.50	External Load	0 to 800 ohms	
Max. Line Pressure	10 PSI		To 2.5 in. W.C.	0.22	Min. Loop Supply Voltage (VDC)	9 + 0.02 x (resistance of receiver plus line)	
Overpressure	Up to 10 PSI (range dependent)		To 5.0 in. W.C.	0.14	Max. Loop Supply Voltage (VDC)	30 + 0.004 x (resistance of receiver plus line)	
Long Term Stability	0.5% FS/YR		³ Unit is factory calibrated at 0g effect of vertical position.			Bidirectional output at zero pressure	12 mA
Warm-Up Shift	$\pm 0.1\%$ FS Total					⁶ Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. ⁷ Zero & Span (FS) output factory set to within ± 0.16 mA (± 0.08 mA for optional accuracies).	
¹ RSS of Non-Linearity, Non-Repeatability and Hysteresis ² Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.			Pressure Media		Environmental Data		
NOTE: Setra quality standards are based on ANSI-Z540-1. The calibration of this product is NIST traceable.			Typically air or similar non-conducting gases.		Temperature		
			U.S. Patent Nos. 5442962, 6019002, 6014800 and other Patents Pending.		Operating °F (°C) ⁸	0 to +150 (-18 to +65)	
					Storage °F (°C)	-40 to +185 (-40 to +85)	
Specifications subject to change without notice					⁸ Operating temperature of the electronics only. Pressure media temperatures may be considerably higher or lower.		

DIMENSIONS

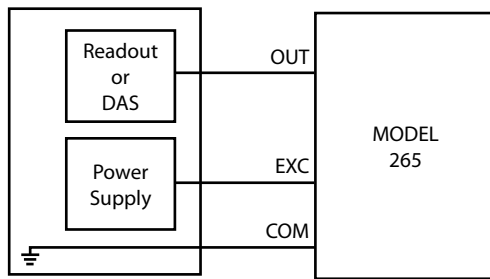
Code T1 Electrical Termination Dimensions



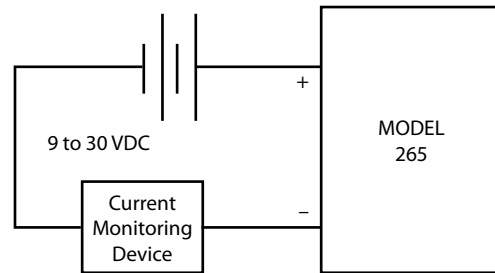
Optional A1 Conduit Electrical Enclosure Dimensions



WIRING



4-20 mA Output



0-5 VDC Output

ORDERING INFORMATION

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Model	Range Code	Excitation/Output	Elec. Termination			Accuracy		
			Std.	T1	Terminal Strip	Std.	C	±1% FS
2651 = 265	See Table 1 Below	11 24VDC/ 4-20 mA	Std.	T1	Terminal Strip	Std.	C	±1% FS
		2B 24VDC/ 0-5 VDC	Opt.	A1	1/2" Conduit Enc.	Opt.	E	±0.4% FS
		AB 24VAC/ 0-5 VDC				Opt.	F	±0.25% FS
		AC 24VAC/ 0-10 VDC				Opt.	G	±1% FS

RANGE CODE	UNIDIRECTIONAL	RANGE CODE	BIDIRECTIONAL
	"W.C."		"W.C."
R25WD	0 to 0.25	0R1WB	±0.1
0R5WD	0 to 0.5	R25WB	±0.25
001WD	0 to 1	0R5WB	±0.5
2R5WD	0 to 2.5	001WB	±1
005WD	0 to 5	2R5WB	±2.5
010WD	0 to 10	005WB	±5
025WD	0 to 25	010WB	±10
050WD	0 to 50	025WB	±25
100WD	0 to 100	050WB	±50

Please contact factory for versions not shown.

Ordering Example: 26512R5WD11T1C = 265 Transducer, 0 to 25" W.C. Range 4 to 20 mA Output, Terminal Strip Electrical Connection, and ±1% FS Accuracy

Model 267/267MR

Very Low Differential Pressure Transducer



Model 267MR - Multi-Range



Model 267 w/ Display Option

DESCRIPTION

Setra's Model 267 and 267MR pressure transducers sense gauge (static) or differential pressure in air pressure ranges as low as 0.1"W.C. FS up to 100"W.C.

The Model 267 gauge pressure transducer is offered in a high level voltage or 4 to 20 mA output and is available with a static pressure probe for installation directly onto the duct. The 0.25" diameter pressure probe is made of sturdy extruded aluminum and is designed with baffles to prevent velocity pressure errors. This unit is also available with an LCD display.

The 267MR multi-range transducer offers 6 field selectable pressure ranges (bidirectional and unidirectional), and field configurable outputs of 0 to 5 VDC, 0 to 10 VDC, and 4 to 20 mA. With the flip of a switch the user can field calibrate the unit and be assured of optimum performance.

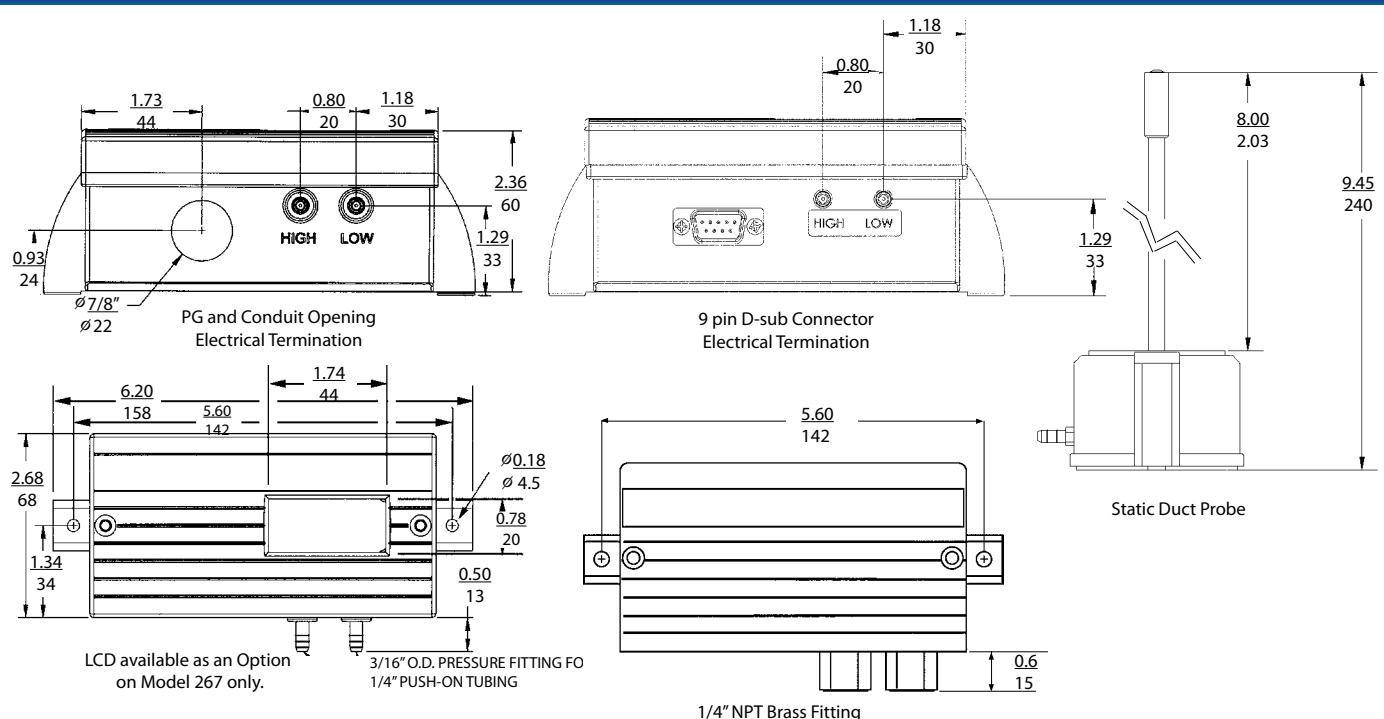
FEATURES

- Model 267MR Offers Multi-Range Capability, 6 Field Selectable Ranges via Dip Switches, and Field Selectable 0-5 or 0-10 VDC Output
- Model 267 Offers an Optional 3 1/2 Digit LCD Display with a $\pm 0.5\%$ FS Standard Accuracy
- NEMA 4/IP65 Rated Housing
- Optional Accuracies as High as $\pm 0.25\%$ FS
- 24 VAC or 24 VDC Excitation
- PG-9, PG13.5 or Conduit Electrical Termination
- Integral Static Pressure Probe
- Ranges as low as 0.1"W.C. (25 Pa)
- Meets CE Conformance Standards

APPLICATIONS

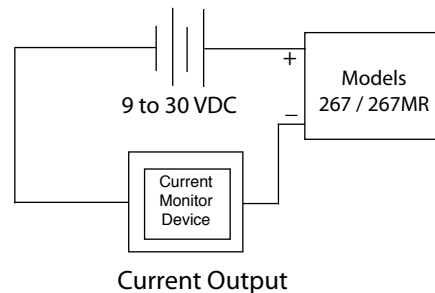
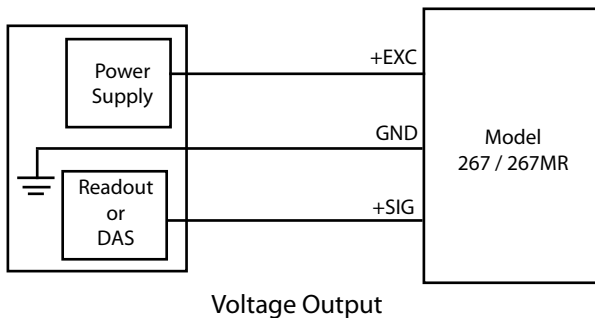
- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Static Duct Pressure
- Clean Room Pressure
- Oven Pressurization and Furnace Draft Controls

DIMENSIONS



SPECIFICATIONS								
Performance Data			Environmental Data		Electrical Data (Voltage)			
	Standard	Optional		Operating ¹ Temperature °F (°C)	0 to +150 (-18 to +65)	Circuit	3-Wire (Exc, Gnd, Sig), Protected from Miswiring	
Accuracy RSS ¹ (at constant temp)	±1.0% FS	±0.4% FS	±0.25% FS	Storage Temperature °F (°C)	-65 to +180 (-54 to +82)	Excitation (for 0-5 VDC Output)	9 to 30 VAC /12 to 40 VDC	
Non-Linearity, BFSL	±0.98% FS	±0.38% FS	±0.22% FS	Physical Description		Excitation (for 0-10 VDC Output)	11 to 30 VAC /13 to 40 VDC	
Hysteresis	±0.10% FS	±0.10% FS	±0.10% FS	Case	IP65/NEMA 4 Plastic Glass-Filled Polycarbonate UL94V-0 Case	Model 267		
Non-Repeatability	±0.5% FS	±0.5% FS	±0.5% FS	Electrical Connection	Screw Terminal Strip Inside of Case	Output ³	0 to 5 VDC ⁴ / 0 to 10 VDC ⁴	
Position Effect				Electrical Terminations	PG-9/PG13.5 Strain Relief, 1/2" Conduit Opening, or 9 Pin D-Sub Connector*	Model 267MR		
Unit if factory calibrated at 0g effect in the vertical position	Range	Zero Offset (%FS/G)		*9 Pin D-Sub Connector is not suitable for NEMA4/IP-65 Environments		Output (Field Selectable)	0 to 10 VDC ⁴	
	0.1 "W.C.	2.3		Zero and Span Adjustments	Accessible Inside of Case	Bidirectional Output at Zero	Mid-Range of Specified	
	0.25 "W.C.	1		Display (Optional on 267 only)	Accessible Inside of Case Display (1/74"W x 0.78"H)	Output Impedance	Ohms	
	0.5 "W.C.	0.5		Pressure Fittings	3/16" O.D. Barbed Brass for 1/4" Push-On Tubing (Standard) Static Pressure Probe (Optional 1/4" NPTF Brass (Optional))	Re-Ranging (267MR Only)	5 Position Dip Switches (Located Inside Case)	
	1.0 "W.C.	0.3				Electrical Data (Current)		
	2.5 "W.C.	0.2				Circuit	2-Wire, Protected from Miswiring	
	10 "W.C.	0.15		Mounting	2 Mounting Tabs with 0.18" Holes Pressure Probe Assembly is Supplied with a 6061 Aluminum Alloy Probe and a Gasket Against the Duct 7.8" to Seal	Output ⁵	4 to 20 mA ⁶	
Pressure Media				Weight (approx.)	9.0 Ounces (255 grams) 9.5 Ounces (Duct Probe Assembly)	Bidirectional Output at Zero	12 mA	
Typically air or similar non-conducting gases.						Max. Loop Supply Voltage (VDC)	30 + 0.004 x (Resistance of Receiver plus line)	
Thermal Effects^{2,3}						Re-Ranging (267MR only)	4 Position Dip Switches (located inside case)	
Compensated Range °F (°C)	+40 to +150 (+5 to +65)		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 ±50mV (±25 mV for optional accuracies). Span (Full Scale) output factory set to within ±50mV (±25 mV for optional accuracies) ⁵ Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. ⁶ 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 Accuracies). ⁷ Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher.					
Zero/Span Shift %FS/°F (°C)	±0.033 (±0.06)		NOTE: Setra quality standards are based on ANSI-Z540-1. The calibration of this product is NIST traceable.					
Maximum Line Pressure	10 PSI		U.S. Patent nos. 6019002; 6014800					
Overpressure	Up to 10 PSI (Range Dependant)							
Long Term Stability	0.1% FS Total							

WIRING

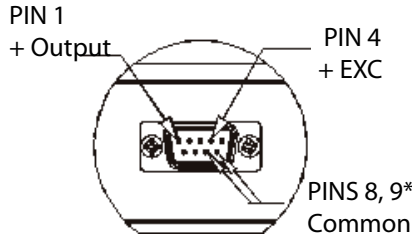


Model 267/267MR

Very Low Differential Pressure Transducer

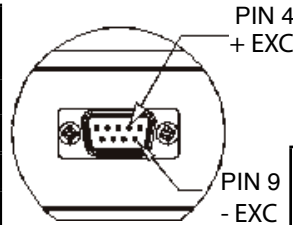


D-SUB ELECTRICAL TERMINATION



CONNECTION	9 PIN D-SUB CONNECTOR
+ Excitation	4
+ Output	1
Common	8, 9
Excitation 9 to 30 VAC/ 11.5 to 42 VDC 12 to 30 VAC/ 13 to 42 VDC	Output 0 to 5 VDC 0 to 10 VDC

Voltage Output



CONNECTION	9 PIN D-SUB CONNECTOR
+ Excitation	4
- Excitation	9

Current Output

ORDERING INFORMATION (Model 267)

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Model	Range Code	Output		Pressure Fitting/Elec. Termination			Accuracy			Display		
		Code	Range	Std.	Code	Termination	Std.	Code	Accuracy	Code	Display	
2671 = 267	See Table 1 Below	11	4-20 mA	Std.	G1	3/16" Barbed Brass Fitting	Std.	C	±1%FS ³	D	LCD ⁴	
		2D	0-5 VDC	Std.	G1	PG-13.5 Strain Relief	Opt. ¹	E	±0.4% FS	N	None	
		2E	0-10 VDC	Std.	G2	PG-9 Strain Relief	Opt. ¹	F	±0.25% FS			
				Std.	D9	9 pin D-Sub Conn.	Opt. ¹	G	±1% FS			
				Std.	A1	1/2" Conduit Opening	Opt. ^{1,2}	H	±0.5% FS			
						1/4"NPTF Brass Fitting				1. Optional accuracies include Calibration Certificate		
				Opt.	1K	PG-9 Strain Relief				2. ±0.5% FS (Code H) accuracy is standard when ordered with the LCD Display (Code D).		
				Opt.	2K	PG-13.5 Strain Relief				3. Not available with LCD Display (Code D)		
				Opt.	9K	9 Pin D-Sub Conn.				4. ±0.5% FS (Code H) Accuracy is standard when ordered with LCD Display (Code D)		
				Opt.	AK	1/2" Conduit Opening						
						Static Duct Probe						
				Opt.	1P	PG-9 Strain Relief						
				Opt.	2P	PG-13.5 Strain Relief						
		Opt.	9P	9 Pin D-Sub Conn..								
		Opt.	Ap	1/2" Conduit Opening								

Table 1. Range Specification

RANGE CODE	UNIDIRECTIONAL	RANGE CODE	BIDIRECTIONAL	RANGE CODE	UNIDIRECTIONAL	RANGE CODE	BIDIRECTIONAL
	"W.C.		"W.C.		PASCALS		PASCALS
0R1WD	0 to 0.1	0R1WB	±0.1	025LD	0 to 25	025LD	±25
R25WD	0 to 0.25	R25WB	±0.25	050LD	0 to 50	050LD	±50
0R5WD	0 to 0.5	0R5WB	±0.5	100LD	0 to 100	100LD	±100
001WD	0 to 1	001WB	±1	250LD	0 to 250	250LD	±250
1RSWD	0 to 1.5	1RSWB	±1.5	500LD	0 to 500	500LD	±500
2R5WD	0 to 2.5	2R5WB	±2.5	10CLD	0 to 1000	10CLD	±1000
005WD	0 to 5	005WB	±5	25CLD	0 to 2500	25CLD	±2500
010WD	0 to 10	010WB	±10	40CLD	0 to 4000	40CLD	
025WD	0 to 25	025WB	±25	70CLD	0 to 7000	70CLD	
050WD	0 to 50	050WB	±50				
100WD	0 to 100	100WB					

Ordering Example: Part No. 2671R25WD11G2CD 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

ORDERING INFORMATION (Model 267MR)

2 6 7 1 - [] [] [] [] [] - [] [] - [] [] - [] [] [] []

Model	Range Code	Output	Pressure Fitting/Elec. Termination	Accuracy (Full Scale)	Display
2671 = 267	See Table 1 Below	11 4-20 mA	3/16" Barbed Brass Fitting	Std. C ±1%	N None
		2D 0-5 VDC	Std. G1 PG-13.5 Strain Relief	Opt. ¹ G ±1%	
		2E 0-10 VDC	Std. G2 PG-9 Strain Relief		
			Std. D9 9 pin D-Sub Conn.		
			Std. A1 1/2" Conduit Opening		
			1/4"NPTF Brass Fitting		
			Opt. 1K PG-9 Strain Relief		
			Opt. 2K PG-13.5 Strain Relief		
			Opt. 9K 9 Pin D-Sub Conn.		
			Opt. AK 1/2" Conduit Opening		
			Static Duct Probe		
			Opt. 1P PG-9 Strain Relief		
			Opt. 2P PG-13.5 Strain Relief		
			Opt. 9P 9 Pin D-Sub Conn..		
			Opt. Ap 1/2" Conduit Opening		

1. Order Opt G for ±1% Acc. to include Calibration Certificate

Note: Optional higher accuracies are not available on the 267MR.

Ranges are factory set for the highest range

Table 1. Range Specification

RANGE CODE	DIFFERENTIAL		RANGE CODE	DIFFERENTIAL	
	"W.C.			PASCALS	
MR1WD	0 to 0.1	±0.05	MR5LD	0 to 25	±12.5
MR2WD	0 to 0.25	±0.125	MR6LD	0 to 50	±25
	0 to 0.5	±0.25		0 to 100	±50
	0 to 1	±0.5		0 to 200	±100
MR3WD	0 to 1.25	±0.625	MR7LD	0 to 250	±125
	0 to 2.5	±1.25		0 to 500	±250
	0 to 5.0	±2.5		0 to 1000	±500
MR4WD	0 to 7.5	±3.75	MR8LD	0 to 625	±312
	0 to 15	±7.5		0 to 1250	±625
	0 to 30	±15		0 to 2500	±1250
			MR9LD	0 to 1875	±937
				0 to 3750	±1875
				0 to 7000	±3750

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

Model 269

Low Differential Pressure Transducer

Setra's Model 269 transducer is the highest accuracy solution for monitoring differential pressure in critical environments. Its $\pm 0.25\%$ 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". The 269's calibration is tamper proof by utilizing a removable process head that eliminated inadvertent adjustments while allowing in-situ calibrations without removing the process tubing. Calibrations can be performed automatically when performed with Setra's MicroCal™ outfitted with an expert system. The 269 offers multiple mounting configurations, including DINrail, for quicker and easier installation.

High Accuracy for Demanding Pharmaceutical Applications

The Model 269 differential pressure transducer uses a dead-ended capacitive differential sensing element with superior linearity and enhanced thermal performance to ensure the highest accuracy and reliability in your most critical and demanding applications.

Secure and Fast Calibration & Service

The Model 269 is designed specifically for the pharmaceutical industry's stringent calibration guidelines in mind. The 269 has a removable process head to allow technicians to perform calibrations without cutting pneumatic tubes during each calibration cycle. The 269 also provides secure calibration; in order to make sensor adjustments, the unit requires a calibration key to prevent unauthorized personnel from making unwanted changes.

Flexibility in Installation

The Model 269 is available in both a base and DINrail providing the installer with flexible mounting options. The base mount allows the sensor to be installed anywhere, whereas the DINrail configuration is designed to maximize space efficiency in a pharmaceutical panel.



- Highest Accuracy HVAC/R Transducer
- Quick & Easy Installation
- Reduce Calibration Time

Model 269 Features:

- End Point $\pm 0.25\%$ FS Accuracy - Improved Linearity
- Secure Calibration Key for Zero/Span Adjustments
- 2:1 Turndown Ratio Available
- Fire Retardant Case (UL 94 V-0 Approved)
- Enhanced Thermal Performance

Where We're Installed:

- Abbott Laboratories
- Genzyme
- Merck
- Sanofi Pasteur
- Thermo Systems

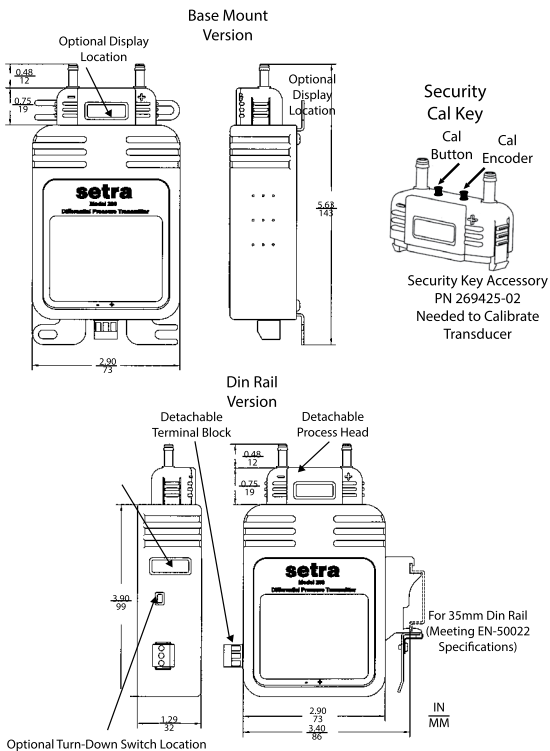
ORDERING INFORMATION

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Model	Range Code - Unidirectional				Range Code - Bidirectional				Output		Mounting		Display		Accuracy		Turndown	
2691 = Model 269	RANGE CODE	"W.C.	RANGE CODE	PASCALS	RANGE CODE	"W.C.	RANGE CODE	PASCALS	11	4-20 mA	B	Base Mount	D	w/ Display	V	±0.25% FS	A	2:1
	OR1WD	0 to 0.1	025LD	0 to 25	R05WB	±0.05	015LB	±15			D	DIN Rail	N	No Display	E	±0.50% FS	N	None
	R25WD	0 to 0.25	050LD	0 to 50	OR1WB	±0.1	025LB	±25							G	±1.0% FS		
	OR5WD	0 to 0.5	100LD	0 to 100	R25WB	±0.25	050LB	±50										
	001WD	0 to 1	250LD	0 to 250	OR5WB	±0.5	100LB	±100										
	2R5WD	0 to 2.5	500LD	0 to 500	001WB	±1	250LB	±250										
	003WD	0 to 3	001KD	0 to 1kPa	1R5WB	±1.5	500LB	±500										
	005WD	0 to 5	2R5KD	0 to 2.5kPa	2R5WB	±2.5	001KB	±1 kPa										
	010WD	0 to 10			005WB	±5												

Ordering Example: Part No. SRCMR05WBA1HNS for A SRCM, ±0.05"WC Range, 24VAC/4-20 mA, ±0.5% FS Accuracy, No Pressure Snubber
 * For other pressure fitting configurations, please contact factory.

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data				Physical Description	
	Code V	Code E	Code G	Case	Fire Retardant ABS
Accuracy Class (FS)	±0.25%	±0.50%	±1.00%	Mounting	Base Mount or 35mm DIN Rail
Non-Linearity (Endpoint)	±0.15%	±0.35%	±0.75%	Electrical Connection	Detachable Screw Terminal Strip
Non-Linearity (BFSL)	±0.10%	±0.25%	±0.55%	Pressure Fittings	3/16" O.D Barbed Brass Fittings on Removable Process Head
Hysteresis	±0.05%	±0.05%	±0.10%	Zero/Span Adjustments	External Security Key (269425-02)
Non-Repeatability	±0.05%	±0.05%	±0.05%	Electrical Data (Current)	
Zero/Span Setting Tol.	16±.04mA	16±.08mA	16±.12mA	Circuit	2-Wire
Thermal Effects ¹				Output ²	4 to 20mA
Compensated Range °F	20 to +140			Bidirectional output at zero pressure	12mA
Zero/Span Shift %FS/°F	0.01%	0.02%	0.02%	External Load	0 to 800 ohms
Maximum Line Pressure	10 PSI			Minimum Supply Voltage (VDC)	13.5 + 0.02 x (Resistance of receiver plus line)
Overpressure	Up to 2 PSI (Range Dependent)			Maximum Supply Voltage (VDC)	30 + 0.004 x (Resistance of receiver plus line)
Long Term Stability	0.5% FS/1 YR			Pressure Media	
Environmental Data				Typically air or similar non-conducting gases.	
Operating Temp. °F (°C)	-20 to +160			¹ Units calibrated at nominal 70°F. Max thermal error computer from this datum.	
Storage Temp. °F (°C)	-40 to +185			² Calibrated at factory with a 24VDC loop supply voltage and a 250 ohm load. Specifications subject to change without notice.	

MRMS

SRCM

SRIM1

SRIM2

SRMD

SRPM

ROOM PRESSURE MONITORS

PRODUCT SECTION 2.1

setra

Model MRMS

Multi-Room Monitoring Station

The Setra MRMS provides a central location to view critical room conditions for up to eight rooms with configurable audible/visual alarms. The MRMS' 4.3" color LCD touchscreen is easy to navigate and ideal for any healthcare facility that needs to monitor critical room status from a central nurses location. The MRMS significantly reduces installation setup through its Auto-Discover feature, which automatically finds and connects to other Setra BACnet products and imports all MAC addresses, BACnet objects, naming conventions and other setup parameters.



Display Real-Time Feedback for up to 8 Rooms

Modern healthcare requires nursing and facilities professionals to monitor just about everything from the patient status to the condition of patient rooms. People can't be in two places at once, which is why Setra designed the MRMS, providing a central location to monitor the environmental condition for up to 8-rooms from a single device. The MRMS displays real-time data and provides an audible and visual alarm for the people who need it most: nurses and maintenance staff.

No Set-Up Required - Auto Discover Your Rooms Through BACnet

The MRMS has a unique "Auto-Discover" feature that allows the installer to quickly locate any of Setra's SRCM or SRPM series room pressure monitors with a click of a button. This feature uses the BACnet MS/TP protocol to discover any Setra unit and retrieves the data automatically. The auto-discover feature saves time and headaches when trying to ensure each unit is properly installed.

Easy-to-Use Touchscreen

The MRMS has a 4.3" touchscreen user interface that makes setup and looking up the important information quick and easy. The user can see the present room condition at a glance and with one touch can access the other parameters that are displayed at the room.

- Maximize Patient Safety
- Save on Installation Costs
- Reduce Burden on Nursing Staff

Model MRMS Features:

- Monitor 8 Rooms from 1 Device thru BACnet MSTP
- 4.3" Color Touch Screen for Easy Room Navigation
- Auto-Discover Feature Reduces Installation Time
- Configurable Audible/Visual Alarms
- IP-54 Wipe-Down Flush Mount Design

Where We're Installed:

- Jewish General Hospital
- Mayo Clinic
- Naval Hospital Camp Pendleton
- St. Judes Childrens Hospital
- Veterans Affairs (VA) Medical Center

ORDERING INFORMATION

M R M S -

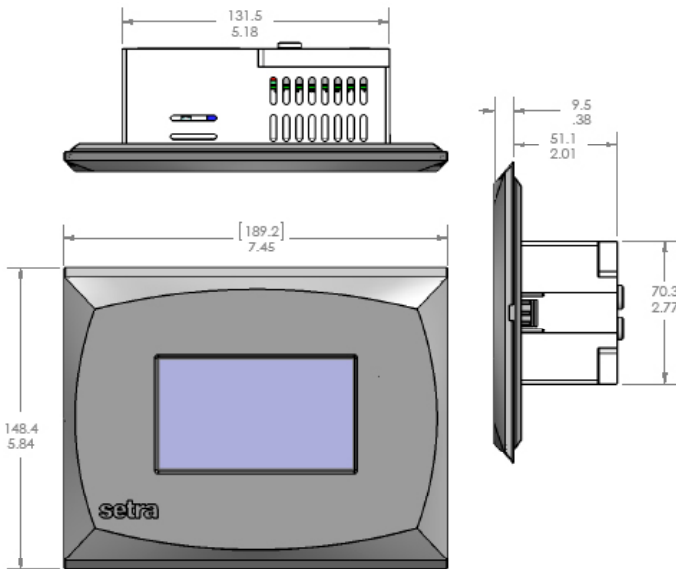
Model	Face Plate Logo		
MRMS = Model MRMS	Std.	S	Setra
	Opt.	B	Blank/No Logo



"BACnet" is a registered trademark of ASHRAE"

Ordering Example: MRMS = Model MRMS with Setra logo on Face Plate.

DIMENSIONS



GENERAL SPECIFICATIONS

Physical Description		Environmental Data	
Case	Fire Retardant Plastic UL94V-0	Operating Temp. °F (°C)	32 to +120 (0 to +50)
Dimensions	5.84"H x 7.45"W x 0.38"D	Storage Temp. °F (°C)	-20 to +160 (-30 to +170)
Mounting	Standard Triple Gang Double-Deep-Electrical Box	Operating Humidity	5 to 95% RH (Non-Condensing)
Weight	1 lb 2 oz (482 grams)	Electrical Data (Voltage)	
Display	Touchscreen LCD 4.3" TFT, 480 x 272	Power Input	18-32 VAC, 50-60Hz
Communications		Power Consumption	10W
BACnet®	MS/TP ASC	Circuit	2-Wire (Exc, Com)
Certifications		<small>Specifications subject to change.</small>	
CE	Conforms to European Pressure Directive		
CSA	CAN/CSA - C22.2 No. 61010-1-04 ANSI/UL 61010-1, 3rd Edition		

Model SRCM

Room Condition Monitor

The SRCM is the highest performance BACnet capable product for measuring low differential pressure in critical applications. Unlike the SRPM, the SRCM can monitor and alarm two rooms through one device, as well as display 3 additional parameters such as temperature, humidity & CO². The SRCM builds upon the SRPM's feature set by adding cloning functionality via a USB port, which ensures time and money savings on installation in applications where multiple monitors are required. The SRCM also has a 4.3" color LCD touch screen for easy menu navigation as well as a flush mount design. The SRCM provides the ability for custom naming for all rooms and conditions while including two-level password protection.

Monitor & Alarm Multiple Rooms

The SRCM is designed to give the user flexibility and dependability in the most critical applications. The SRCM has an expanded feature set that includes 2 analog inputs to allow the user to monitor temperature and humidity, as well as a user defined parameter. The SRCM also has a digital input to be used for a door alarm, ensuring that there are no breaches in the critical environment.

On-Board Dead-Ended Pressure Sensor

Protection and isolation rooms are designed to adhere to strict standards in order to provide a proper barrier between the room and reference space. Unlike a flow-through design, the SRCM utilizes an on-board dead-ended low differential pressure sensor. This technology provides the user with a trusted solution & peace of mind that the sensor will prevent contaminated air from passing through it.

Save Time and Money on Installation & Calibration

The SRCM is designed with both the installer and end user in mind. The BACnet enabled unit can be installed in an off-the-shelf electrical box, improving the ease of installation instead of having to use a custom electrical box that is not typically available at the rough stage of the project. The SRCM offers push button zero and span calibration that is easily performed by any low differential pressure calibrator and can be calibrated in minutes.



- Maximize Patient Safety
- Save on Installation Costs
- Monitor Two Rooms with One Device

Model SRCM Features:

- On-board Sensor - Industry Best Accuracy
- 4.3" Color Touch Screen for Easy Setup and Room Display
- Monitor up to 4 Parameters - Pressure, Temp, RH, User-Defined (ex. CO², LUX)
- Wipe-down Capable IP-54 Flush Mount Design
- Configurable Audible & Visual Alarms to Avoid Nuisance
- Easy Mounting into off-the-shelf Electrical Gang Box
- Reduce Installation Time with Unit Clone Feature
- Full Banner Feature - Customize Display Text

Where We're Installed:

- Harvard Medical School
- Memorial Sloan Kettering Cancer Center
- St. Judes Medical Center
- UC San Francisco Medical Center
- Veterans Affairs (VA) Hospital

ORDERING INFORMATION

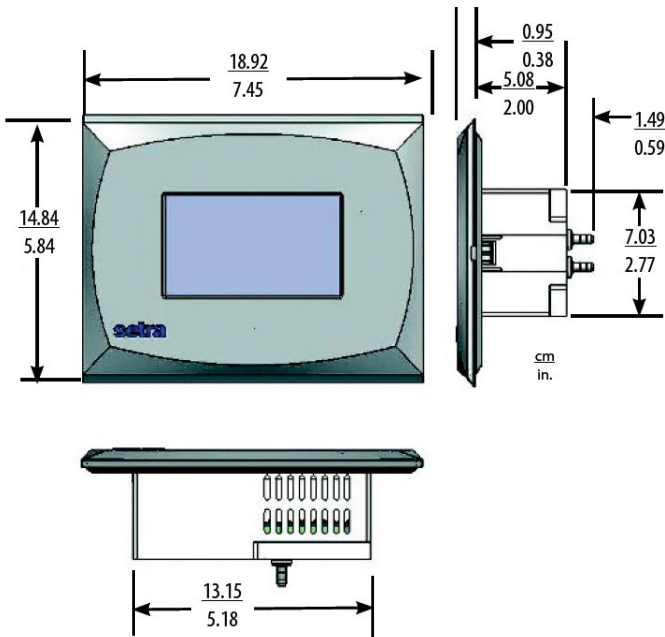
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Model	Range Code				Excitation/Output		Accuracy		Pressure Snubber*		Faceplate	
SRCM = Model SRCM	RANGE CODE	"W.C.	RANGE CODE	PASCALS	A1	24 VAC/4-20 mA, 0-5 VDC & 0-10 VDC	H	±0.5% FS	N	Quantity 0	S	Setra Logo
	R05WB	±0.05	Z02LB	±12.5	A2	24 VAC/4-20 mA, 0-5 VDC, 0-10 VDC w/BACnet®	F	±0.25% FS	1	Quantity 1	B	Blank
	OR1WB	±0.10	O25LB	±25					2	Quantity 2		
	R25WB	±0.25	O50LB	±50								
	OR5WB	±0.50	100LB	±100								
	O01WB	±1.00	250LB	±250								
	2R5WB	±2.50	500LB	±500								



Ordering Example: Part No. SRCMROS5WBA1HNS for A SRCM, ±0.05"W.C. Range, 24VAC/4-20 mA, ±0.5% Full Scale Accuracy, No Pressure Snubber
 * For other pressure fitting configurations, please contact factory.

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data			Environmental Data	
	Code F	Code H	Operating Temp. ⁴ °F (°C)	32 to +120 (0 to +50)
Accuracy RSS ¹	±0.25%	±0.5%	Storage Temp. °F (°C)	-20 to +160 (-30 to +70)
Non-Linearity (BFSL)	±0.24%	±0.49%	Operating Humidity	5 to 95% RH (Non-Condensing)
Hysteresis	±0.05%	±0.05%	Electrical Data (Current)	
Non-Repeatability	±0.05%	±0.05%	Circuit	2-Wire
Span Setting Tol. ²	±0.5% Rdg	±0.5% Rdg	Output	4 to 20 mA
Thermal Effects ³			External Load	0 to 510 ohms
Compensated Range °F (°C)	40 to 120 (4.5 to 50)		Excitation	18-32 VAC
Zero/Span Shift %FS	±0.03% FSI (±0.05% FS)		Electrical Data (Voltage)	
Overpressure	±1 PSI (15"W.C. for ≤ 0.10" W.C. F.S.)		Circuit	3-Wire (Exc, Out, Com)
Pressure Media			Output ⁵	0 to 5 VDC, 0 to 10 VDC
Air or Non-Conductive, Non-Explosive Gases.			Alarm Output	SPDT Relay: 0.6A @ 120 VDC, 2A @ 30 VDC
Physical Description			Power Consumption	10 W max., 3 W typ.
Case	Fire Retardant Plastic UL94 V-0		Excitation	18-32 VAC, 50-60 HZ
Dimensions	5.84"H x 7.45"W x 0.38"D (14.84 x 18.92 x 0.95 cm)			
Electrical Connection	Removable Terminal Block			
Pressure Fittings	Barbed Fittings for 1/4" O.D. Tubing			
Weight (approx.)	1 lb. 3.2 ounces (554 g)			
Mounting	Mounts to a triple gang double-deep electrical box			
LCD Display	4.3" TFT, 480x272, Dimmable			

¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
² Zero setting tol. negated by zero push button.
³ Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.
⁴ Operating Temperature limits of the electronics only.
⁵ Calibrated into a 50k ohm load, operable into a 5000 ohm load or greater. Specifications subject to change.

Model SRIM1

Room Isolation Monitor

The SRIM1 is Setra's standard non-BACnet product measuring low differential pressure in critical applications. The SRIM1 is an ideal solution for anyone who requires cost-effective local monitoring and alarming of a single pressure relationship, but does not require BACnet protocol. The SRIM1 has a two-line LCD display with easy menu navigation and configurable visual/audible alarm setup. The SRIM1 has field selectable output and uses a unique removable faceplate design, allowing the user to fully calibrate the unit without the hassle of removing plumbing or wiring.



Why Use Anything But the Best?

In the most critical of environments where contamination can result in financial loss and even the loss of life, it is no secret why Setra differential pressure sensors are the most trusted in the industry. Setra's capacitive stainless steel design offers the most stable very low differential pressure sensor for building automation systems.

Premium Performance at Affordable Price

The SRIM1 is designed for the facility that needs local alarming on pressure, without paying a premium for the bells and whistles of high priced devices. The SRIM1 has a configurable audible/visual alarm for pressure, which is easily configured through the 2-line LCD display.

Save Time and Money on Calibration

With requirements in place to calibrate pressure sensors anywhere from 1-3 times annually, the Setra SRIM1 offers a solution to help you save on calibration time. The SRIM1 allows the end user to remove the sensor without detaching any wiring or plumbing, attach to the Setra calibration fixture and complete the calibration in minutes.

- Maximize Patient Safety
- Save on Calibration & Installation
- Low-Cost Reliable Solution

Model SRIM1 Features:

- On-board Sensor - Industry Best Accuracy
- 2-Line LCD Display for Easy Setup and Room Display
- Configurable Audible & Visual Alarm to Avoid Nuisance
- Flush Mount (43mm) and Surface Mount Available
- Configurable Output (0-5VDC, 0-10VDC, 4-20mA)
- Removable Faceplate for No Hassle Calibration
- True 2-Wire 4-20ma Option Available

Where We're Installed:

- Battelle Laboratories
- Bella Vista Hospital
- Fort Lauderdale Hospital
- Harvard Medical School
- Russell Medical Center

ORDERING INFORMATION

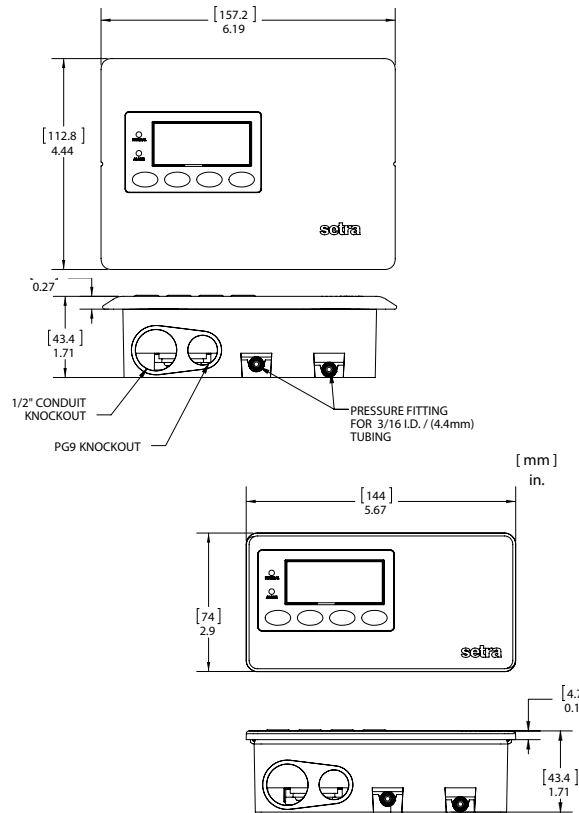


Model	Pressure Ranges						Type ¹		Output ¹		Mounting/Logo		Accuracy		Pressure Snubber	
	("W.C.)			(Pascals)			Differential		11	4 to 20mA	WL	Wall Mount w/ Logo	C	±1.0% FS	N	Quantity 0
SRIM1 = Model SRIM1	R05W	0 to 0.05	±0.05	Z02L	0 to 12.5	±12.5	D	Unidirectional	2B	0 to 5 VDC	DL	Duct Mount w/ Logo	F	±0.25% FS w/ cal. cert	1	Quantity 1
	OR1W	0 to 0.1	±0.1	O25L	0 to 25	±25	B	Bidirectional	2C	0 to 10 VDC	WN	Wall Mount, No Logo	H	±0.5% FS w/ cal. cert	2	Quantity 2
	R25W	0 to 0.25	±0.25	O50L	0 to 50	±50					DN	Duct Mount, No Logo	G	±1.0% FS w/ cal. cert		
	OR5W	0 to 0.5	±0.5	10L	0 to 100	±100										
	001W	0 to 1.0	±1.0	250L	0 to 250	±250										
	2R5W	0 to 2.5	±2.5	500L	0 to 500	±500										
	005W	0 to 5.0	±5.0	10CL	0 to 1,000	±1,000										
	010W	0 to 10	±10.0	25CL	0 to 2,500	±2,500										

¹Field Configurable but can be factory configured for cal certs.

Example: Part No. SRIM2R05WD11WLC1 = Model SRIM2, 0 to 0.05 in. W.C. Pressure Range, Unidirectional, 4 to 10 mA Output, Wall Mount with Logo, ±1.0% FS Accuracy, 1 Snubber

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data			Environmental Data			
	Code F	Code H	Code C/G	Operating Temp. °F (°C)	22 to +140 (-6 to +60)	
Accuracy RSS*	±0.25% FS	±0.5% FS	±1.0% FS	Operating Humidity	5 to 95% RH (Non-Condensing)	
Non-Linearity (BFSL)	±0.22% FS	±0.49% FS	±0.98% FS	Electrical Data		
Hysteresis	±0.1% FS	±0.1% FS	±0.1% FS	Circuit	3-Wire (Exc, Out, Com) 2-Wire (+Exc, Com)	
Non-Repeatability	±0.05% FS	±0.05% FS	±0.05% FS	Output	0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA	
Zero/Span Setting Tol.	±0.5% FS	±0.5% FS	±1.0% FS	Excitation	18 to 32 VDC	
Thermal Effects			Current Consumption			5 mA (voltage output mode)
Compensated Range °F (°C)	40 to 120 (4.5 to 50)		Physical Description			
Zero/Span Shift %FS	±0.02% FS/C Typ		Electrical Connection	Screw Terminal		
Overpressure	Up to 10 PSI		Weight	8.9 oz (Duct) 9.8 oz (Wall)		
Pressure Media			Display	Custom 2-Line Character LCD		
Air or non-conductive, non-explosive gases.			Pressure Fittings	Barbed Fittings for 1/4" Tubing		
Certifications			Case	Fire Retardant Plastic UL94V-0		
CE	EN61326-1 & EN61326-2-3 BASIC Immunity & Class B Emission		*RSS of Non-Linearity, Non-Repeatability & Hysteresis at constant temp. **Units calibrated at nominal 21°C. Max thermal error computed from this datum.			
RoHS						

Model SRIM2

Room Isolation Monitor

The SRIM2 is Setra's highest performance non-BACnet product measuring low differential pressure in critical applications. The SRIM2, built on the foundation of the SRIM1, is an ideal solution for anyone who requires cost-effective local monitoring and alarming of multiple parameters, but does not require BACnet protocol. The SRIM2 has a 3-color backlit display, for easy menu navigation and visual/audible alarm setup for pressure, temperature, humidity and door input.

Why Use Anything But the Best?

In the most critical of environments where contamination can result in financial loss and even the loss of life, it is no secret why Setra differential pressure sensors are the most trusted in the industry. Setra's capacitive stainless steel design offers the most stable very low differential pressure sensor for building automation systems.

Alarm Everything That You Monitor

The SRIM2 provides audible and visual alarming for pressure, temperature and humidity to give you piece of mind in your critical environment. High and low alarm set-points for each parameter are easily configurable through a four-button membrane keypad. A digital input is also provided to show door status.

Three Color Easy-to-See Status Screen

The SRIM2's three-color backlit screen allows the end user to easily view the status of the monitored space with green (normal), yellow (warning) and red (alarm) status screens. Alarms can be configured to be delayed to ensure that each SRIM2 is configured to the specific needs of the end user.

Save Time and Money on Calibration

With requirements in place to calibrate pressure sensors anywhere from 1-3 times annually, the Setra SRIM2 offers a solution to help you save on calibration time. The SRIM2 allows the end user to remove the sensor without detaching any wiring or plumbing, attach to the Setra calibration fixture and complete the calibration in minutes.



- Maximize Patient Safety
- Alarm on 4 Parameters
- Save on Calibration & Installation

Model SRIM2 Features:

- On-board Sensor - Industry Best Accuracy
- 2-Color LCD Display for Easy Setup and Room Display
- Monitor & Alarm Pressure, Temp, RH and Door (Digital)
- Configurable Audible & Visual Alarms to Avoid Nuisance
- Flush Mount (51mm) and Surface Mount Available
- Removable Faceplate for No Hassle Calibration

ORDERING INFORMATION

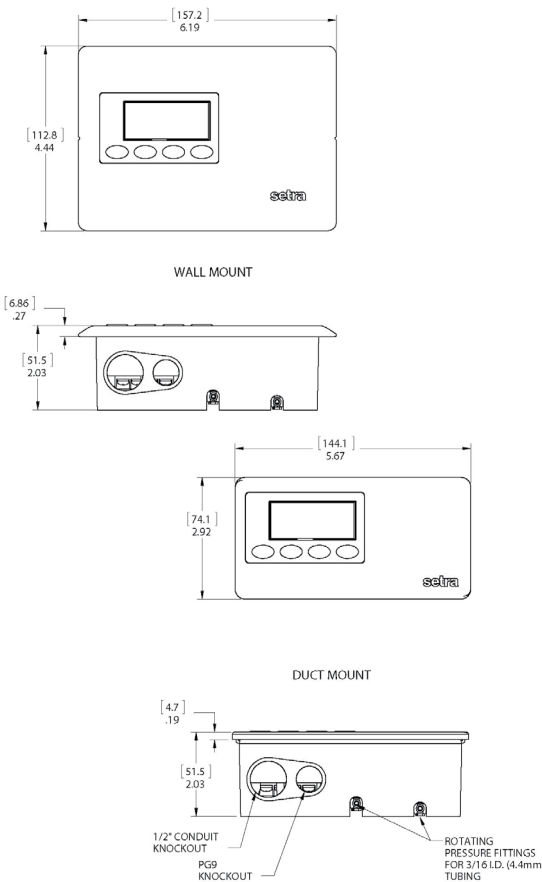


Model	Pressure Ranges				Type ¹		Output ¹		Mounting/Logo		Accuracy		Pressure Snubber			
	("W.C.)		(Pascals)		D	Unidirectional	11	4 to 20mA	WL	Wall Mount w/ Logo	C	±1.0% FS	N	Quantity 0		
SRIM2 = Model SRIM2	R05W	0 to 0.05	±0.05	Z02L	0 to 12.5	±12.5	B	Bidirectional	2B	0 to 5 VDC	DL	Duct Mount w/ Logo	F	±0.25% FS w/ cal. cert	1	Quantity 1
	OR1W	0 to 0.1	±0.1	O25L	0 to 25	±25			2C	0 to 10 VDC	WN	Wall Mount, No Logo	H	±0.5% FS w/ cal. cert	2	Quantity 2
	R25W	0 to 0.25	±0.25	O50L	0 to 50	±50					DN	Duct Mount, No Logo	G	±1.0% FS w/ cal. cert		
	OR5W	0 to 0.5	±0.5	100L	0 to 100	±100										
	O01W	0 to 1.0	±1.0	250L	0 to 250	±250										
	2R5W	0 to 2.5	±2.5	500L	0 to 500	±500										
	O05W	0 to 5.0	±5.0	10CL	0 to 1,000	±1,000										
	O10W	0 to 10	±10.0	25CL	0 to 2,500	±2,500										

¹Field Configurable but can be factory configured for cal certs.

Example: Part No. SRIM2R05WD11WLC1 = Model SRIM2, 0 to 0.05 "W.C. Pressure Range, Unidirectional, 4 to 10 mA Output, Wall Mount with Logo, ±1.0% FS Accuracy, 1 Snubber

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data				Environmental Data	
	Code F	Code H	Code C/G	Operating Temp. ³ °F (°C)	22 to +140 (-6 to +60)
Accuracy RSS*	±0.25% FS	±0.5% FS	±1.0% FS	Electrical Data	
Non-Linearity (BFSL)	±0.22% FS	±0.49% FS	±0.98% FS	Circuit	3-Wire (Exc, Out, Com)
Hysteresis	±0.1% FS	±0.1% FS	±0.1% FS	Output	0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA
Non-Repeatability	±0.05% FS	±0.05% FS	±0.05% FS	Power	18 to 30 VDC on 24 VAC ±10%
Zero/Span Setting Tol.	±0.5% FS	±0.5% FS	±1.0% FS	Power Consumption	4 W. MAX (24 VDC) 8 W. MAX (25 VAC)
Thermal Effects				Physical Description	
Compensated Range °F (°C)	40 to 120 (4.5 to 50)			Electrical Connection	Screw Terminal
Zero/Span Shift %FS	±0.02% FS/C Typ			Dimensions	See reverse side
Overpressure	Up to 10 PSI			Weight	10.7 oz.
Pressure Media				Display	Custom 2-Line Character LCD
Air or non-conductive, non-explosive gases.				Pressure Fittings	Barbed Fittings for 1/4" Tubing
Certifications				Case	Fire Retardant Plastic UL94V-0
CE	EN61326-1 & EN61326-2-3 BASIC Immunity & Class B Emission			<small>³RSS of Non-Linearity, Hysteresis, and Non-Repeatability. Specifications subject to change.</small>	
RoHS					

Model SRMD

Room Monitoring Display

The SRMD is designed to provide a prominent display in critical environments. The SRMD takes inputs from critical sensors, and display the parameters in 1" illuminated LCD characters. The SRMD is sensor agnostic and accepts 0-5VDC or 0-10VDC inputs. However, it is also available to order calibrated with Setra humidity/temperature sensors, ensuring that it is ready to install out of the box, providing quick installation. The SRMD is available in single or dual configuration with a white or nickey bezel, and the LCD characters are available in three colors; red, green, and blue.



Highly Visible LCD Display

Real-time environmental monitoring is essential in critical spaces such as operating rooms, laboratories or medical manufacturing clean rooms. The SRMD is a display panel which takes sensor information and displays with 1" LCD characters. The SRMD is offered in either a single or dual display configuration with 3 color choices (red, green, blue) so that the end user can clearly see the critical parameters from up to 30' away.

Installation Without Customization

The SRMD is designed to make things easy for both the installer and the end user. The unit mounts in an off-the-shelf electrical box making the installation simple once the rough-in phase of the job is complete. The SRMD accepts either a 0-5 or 0-10 VDC input, can be calibrated for any parameter, and is powered by either 24 volts DC or AC.

Let Setra Perform the Calibration

The installer has enough to think about on the job site, so let Setra take some of the burden. When paired with Setra's SRH relative humidity sensors, the SRMD comes pre-configured and ready for installation out of the box. This drastically reduces the installation time needed for the application.

- Easy Out-of-the-Box Installation
- Comes Calibrated with Sensors
- Easy to See from Up to 30'

Model SRMD Features:

- Single or Dual Display with Silver or White Bezel
- 1" Illuminated LCD Characters - Red, Green, or Blue
- IP-54 Wipe Down Design for Critical Applications
- Fits into Off-the-Shelf Electrical Gang Box
- Compatible with Any Analog 0-5VDC or 0-10VDC Output

Where We're Installed:

- Cleveland Hospitals
- IBA Molecular
- Marymount Hospital
- Med Central Heath System
- Pittsburgh VA Hospital

ORDERING INFORMATION

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Model (Single)	Display Bezel Color	Display Color	Measurement Parameter	Sensor Option
SRMD=Model SRMD	SW White Bezel	R Red	N None	N None
	SM Metallic Bezel	G Green	T Temp. (14 to 140°F)	W SRH Wall Mount SRH12PW2CT5N
		B Blue	H Humidity (0.0 to 100.0% RH)	D SRH Duct Mount SRH12PD2CT5N
			A Temp. (-58 to 140°F)	A SRH Duct SRH12PD2T3N

Example: SRMDSWRTWNN = SRMD single display, white bezel, red display, temperature, with SRH wall mount sensor.

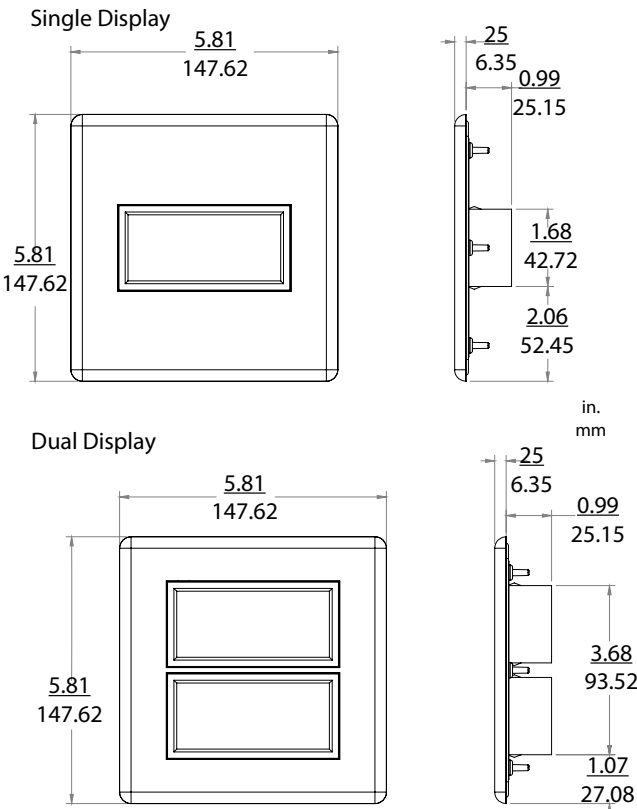
- The SRH Wall Mount (W), Duct Mount (D&A) relative humidity sensors are available as an option when selecting either option A or T (Temperature) or H (Humidity).
Note: Setra's SRH relative humidity sensors contain a humidity and temperature output.
- Dual display units configured with a SRH humidity / temperature sensor cannot be ordered with temperature on top and bottom (Code TT, TA, or AT) or with humidity on top and bottom (Code HH).

S R M D - [] [] - [] - [] - [] - [] - [] - []

Model (Dual)	Display Bezel Color	Display Color (Top)	Measurement Parameter (Top Display)	Sensor Option	Display Color (Bottom)	Measurement Parameter (Bottom Display)
SRMD= Model SRMD	DW White Bezel	R Red	N None	N None	R Red	N None
	DM Metallic Bezel	G Green	T Temp. (14 to 140°F)	W SRH Wall Mount SRH12PW2CT5N	G Green	T Temp. (14 to 140°F)
		B Blue	H Humidity (0.0 to 100.0% RH)	D SRH Duct Mount SRH12PD2CT5N	B Blue	H Humidity (0.0 to 100.0%RH)
			A Temp. (-58 to 140°F)	A SRH Duct SRH12PD2T3N	A	A Temp. (-58 to 140°F)

Example: SRMDDWRTWGH = SRMD dual display, white bezel, red display w/ temperature on top, SRH Wall Mount Sensor green display w/ humidity on bottom

DIMENSIONS

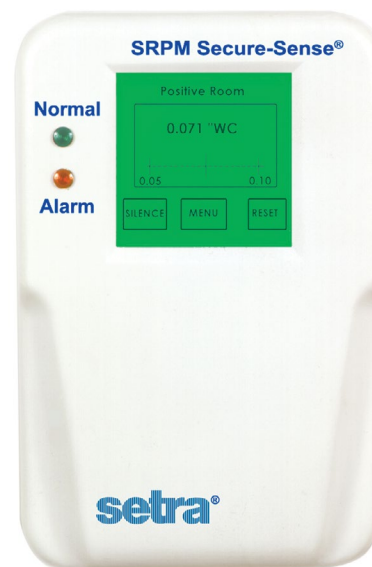


GENERAL SPECIFICATIONS

Physical Description		Environmental Data	
Flush Mount Bezel	Fire Retardant UL94V-0	Operating Temp. °F (°C)	14 to +122 (-10 to +50)
Bezel Dimensions	Single Display Model - 5.9"H x 5.9"W Dual Display Model - 5.9"H x 5.9"W	Storage Temp. °F (°C)	-40 to +167 (-40 to +75)
LCD Assembly Dimension	1.89"H x 3.78"W x 1.5"D	Operating Humidity	5 to 95% RH (Non-Condensing)
Weight (approx.)	Single Display Model - 10oz (554g) Dual Display Model - 13 oz (369g)	Ingress Protection	IP54 Rated
Mounting	Standard 4-11/16 Double Gang Electrical Box	Electrical Data (Voltage)	
Display		Power Input	15-32 VDC or 24 VAC
LCD	Available in Red, Green or Blue Backlit 1" high 3.5 digit (±1999 counts)	Current Consumption	150mA max (per display)
Engineering Unit Labels	Jumper Selectable °F °C % PSI, PPM, "WC	Analog Signal Input	Jumper Selectable 0-5 VDC or 0-10 VDC
Decimal Point	Jumper Selectable	Adjustments	Wide Adjustable Zero & Span by 25 Turn Pots
		Accuracy	±1%FS ± 2 Counts
		Input Impedance	Greater than 300K ohms
		Sampling Rate	3 Readings per Second
		Connection	Screw Terminals

Model SRPM

Room Pressure Monitor



The SRPM is Setra's standard single room BACnet capable room pressure monitor for measuring low differential pressure in critical applications. The SRPM's backlit touchscreen LCD provides an intuitive graphic user interface for ease of setup. The SRPM has a built-in calibration feature and only requires zeroing when installed, significantly reducing the cost of ownership. The SRPM monitors and alarms while providing a digital input for a door alarm. The SRPM is a simple, cost-effective solution which combines state-of-the-art electronics with Setra's superior true differential pressure sensing technology to ensure safety in critical environments. The SRPM also incorporates two-level password protection.

Monitor & Alarm Critical Rooms

The SRPM is most user friendly room pressure monitor on the market today. It has an intuitive touchscreen interface that allows the user to easily configure alarm set points, passwords and audible alarming conditions. With its bi-directional sensor, the unit can switch between protection and isolation room modes, or be put into standby mode when the room is not in use.

On-Board Dead-Ended Pressure Sensor

Protection and isolation rooms are designed to adhere to strict standards in order to provide a proper barrier between the room and reference space. Unlike a flow-through design, the SRPM utilizes an on-board dead-ended low differential pressure sensor. This technology provides the user with a trusted solution & peace of mind that the sensor will prevent contaminated air from passing through it.

Save Time and Money on Installation & Calibration

The SRPM is designed with both the installer and end user in mind. The BACnet enabled unit can be installed in an off-the-shelf electrical box, improving the ease of installation instead of having to use a custom electrical box that is not typically available at the rough stage of the project. The SRPM offers push button zero and span calibration that is easily performed by any low differential pressure calibrator and can be calibrated in minutes.

- Maximize Patient Safety
- Save on Installation Costs
- Low-Cost BACnet Solution

Model SRPM Features:

- On-board Sensor - Industry Best Accuracy
- LCD Touch Screen for Easy Setup and Room Display
- Monitor Single Pressure Relationship and Door Status
- Configurable Audible & Visual Alarms to Avoid Nuisance
- Easy Surface Mounting - Wall Thickness is Irrelevant
- Increased Safety with 2 Layer Password Protection
- Calibration: Only Requires Zeroing Once Installed

Where We're Installed:

- Brigham and Women's Hospital
- Emory University Medical Center
- Memorial Sloan Kettering Cancer Center
- Stanford University Medical Center
- Veterans Affairs (VA) Medical Center

ORDERING INFORMATION

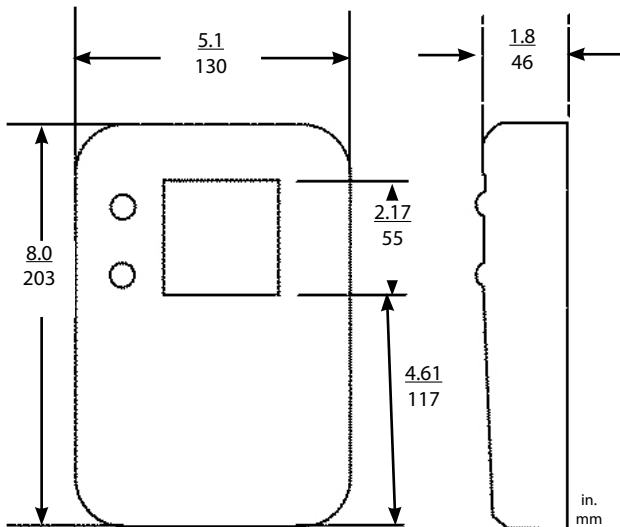
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Model	Range Code		Excitation/Output		Accuracy	
SRPM = Model SRPM	RANGE CODE	"W.C.	A1	24 VAC/4-20 mA or 0-5 and 0-10 VDC	E	±0.5% FS
	005WB	±5	V1	120/240 VAC/4-20 mA or 0-5 and 0-10 VDC	V	±0.25% FS
	2R5WB	±2.5	A2	24 VAC w/ BACnet®		
	001WB	±1.0	V2	120/240VAC BACnet®		
	0R5WB	±0.50				
	R25WB	±0.25				
	0R1WB	±0.1				



Ordering Example: Part No. SRPM005WBA1E for a SRPM, ±5 in. W.C. Range, 24 VAC EXC. with 4 to 20 mA output, and ±0.5% FS Accuracy.*
Please contact factory for versions not shown..

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data			Environmental Data	
	Standard	Optional	Operating Temp. ³ °F (°C)	32 to +120 (0 to +50)
Accuracy RSS ¹	±0.5% FS	±0.25% FS	Storage Temp. °F (°C)	-20 to +160 (-30 to +170)
Non-Linearity (BFSL)	±0.49%	±0.24%	Operating Humidity	5 to 95% RH (Non-Condensing)
Hysteresis	±0.05%	±0.05%	Electrical Data (Voltage)	
Non-Repeatability	±0.05%	±0.05%	Circuit	3-Wire (Exc, Out, Com)
Span Setting Tol. ⁵	±0.5% Rdg.	±0.5% Rdg.	Output ⁴	0 to 5 VDC, 0 to 10 VDC
Thermal Effects ²			Alarm Output	SPDT Relay: 1A @ 24 VDC, 1A @ 120 VDC
Compensated Range (°F/°C)	40 to 120 (4.5 to 50)		Power Consumption	5W
Zero/Span Shift %FS	±0.03% FS (±0.05%FS)		Excitation: Code V1 Code A1 Code V2 Code A2	85-265 VAC, 50-60 Hz
Overpressure	±15"W.C.			18-32 VAC, 50-60 Hz
Physical Description				85-265 VAC, BACnet®
				18-32 VAC, BACnet®
Case	Fire-Retardant Plastic (NEMA1, IP20 Rated for Indoor Applications)		Electrical Data (Current)	
Dimensions	8"H x 5.1"W x 1.8"D (203 x 130 x 46 mm)		Circuit	2-Wire
Electrical Connection	Removable Terminal Block		Output	4 to 20 mA
Pressure Fittings	Barbed Fittings 1/4" O.D. Tubing		External Load	0 to 510 ohms
Weight (approx.)	1.5lbs (680g)		Excitation: Code Vi: Code A1	85-265 VAC, 50-60 Hz
				8-32 VAC, 50-60 Hz

¹RSS of Non-Linearity, Hysteresis, and Non-Repeatability.
²Units calibrated at nominal 70°F. Max thermal error computer from this datum.
³Operating temperature limits of the electronics only.
⁴Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater
⁵Zero setting tol. negated by zero push button
Specifications subject to change.

Patrol Flex

Power Patrol

Power Squad
24

Split-Core
Performance
CT

Split-Core
Standard CT

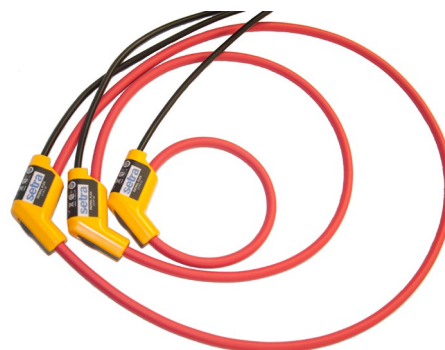
POWER MONITORING

PRODUCT SECTION 3.1

setra

Patrol Flex

Rogowski Coil



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 CT's because of their light weight, wide current range (10-4000+ 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 without degrading the accuracy of the unit.

±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.

Wide Current Range = 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 CT's 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 5-4,000A and up, yet weighs less than 1/2 lb, drastically reducing freight costs.

Best in Class Linearity

Conventional CT's 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.

- Revenue Grade Accuracy ±0.5% FS
- Best In Class Linearity
- No External Power Required

Patrol Flex Features:

- High Accuracy: ±0.5% FS
- Lightweight: <0.5 lb
- Best in Class Position Sensitivity
- Extend up to 300 ft With No Impact to Accuracy
- Minimal Linearity Effect ±0.2%

Applications

- Measurement & Verification
- Demand Response
- Energy Cost Allocation
- Equipment Efficiency Tracking
- Preventative Maintenance
- Tenant Submetering
- Net Metering

ORDERING INFORMATION

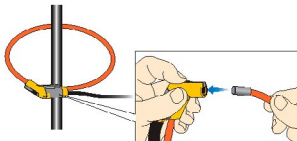
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Model	Probe Length	
PF=Patrol Flex	12	12" (≈3.5" inner diameter)
	24	24" (≈7.5" inner diameter)
	36	36" (≈11.5" inner diameter)

Example: Part No. CTPF12 = Model Patrol Flex, 12" Probe Length.

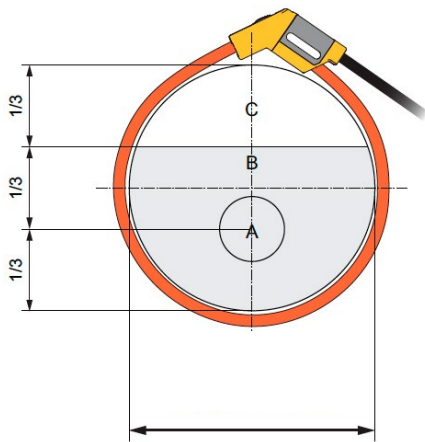
OPERATING INSTRUCTIONS

1. Connect the Probe to the product terminal block.
2. Wear protective gloves or de-energize the circuit and place the coil around the conductor under test. Re-energize circuit.



Locking the Coil

3. Positive output indicates that the current flow is in the direction shown by the arrow on the Probe. (arrow toward electrical load)



	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)

GENERAL SPECIFICATIONS

General Specifications		Specifications	
Probe and Cable Material	TPE rubber, reinforced insulation UL94 V-0, Color: RED Munsell 7.5 R 1/14	Voltage Output (@1000 ARMS, 60 Hz)	108 mV
Couplings Material	Polypropylene, UL94 V-0	Current Range ¹	5-4,000+ A AC RMS
Probe Cable Length	610 mm	Accuracy	± 0.5% of reading (@ 25°C, 60 Hz)
Probe Cable Diameter	12.4 mm	Linearity (10% to 100% of range)	± 0.2% of reading
Probe Cable Bend Radius	40 mm	Working Voltage (see Safety Standards section)	1000 V AC RMS or DC (head) 30 V max. (output)
Output Cable Length	2 meters shielded 2-wire cable	Safety Specifications	
Output Connector	Unterminated	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.
Operating Range	-20° to +70° C		
Storage Temperature	-40° to +80° C		
Operating Humidity	15% to 85% (non condensing)		
Degree of Protection (Probe)	IP40		

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



POWER PATROL

Revenue Grade Power Meter

The Setra Power Patrol is every electrical contractor's dream. The Revenue Grade networked 3-phase power meter works with Rogowski Coils and has a small enough form factor to be mounted inside or outside of the panel using either mounting tabs or the DINrail clip making it the easiest installation in the industry.

Rogowski and CT Compatible

The Power Patrol works with either Rogowski Coil "flex" CTs or conventional split-core CTs. The ability to have interchangeable CTs gives added flexibility for last minute changes at the job site. The Power Patrol is embedded with the necessary amplifier/integrator circuitry for the Rogowski coil CTs--eliminating the need to provide external power.

Easy USB Configuration

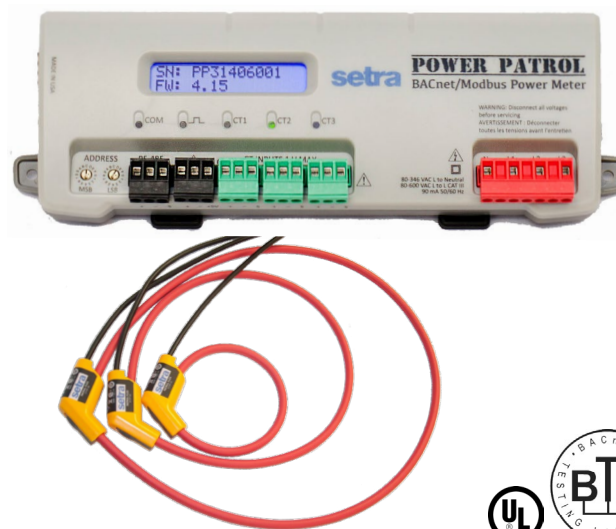
Using the Power Patrol HeadStart software, power and configure the meter through your computer's USB port. While other meter's require configuration in a live enclosure, the Power Patrol can be easily configured outside of the panel, eliminating the risk of arc flash. HeadStart can save meter settings, allowing the installer to clone meter profiles quickly and easily.

Field Selectable Communication (4-in-1)

Each Power Patrol comes with a field selectable Modbus or BACnet communication. Communications interface to the Power Patrol is through either an RS-485 serial connection (BACnet MS/TP / Modbus) or over Ethernet (BACnet IP / Modbus TCP).

Line Powered From 80-600V

The Power Patrol series instruments are line-powered and do not require external power. Its power supply can accommodate service voltage ranging from 80-600V (phase-to-phase). The Power Patrol has 3 LED indicators (Red/Green) which confirm proper CT-to-phase installation.



- **Configure & Power Through USB**
- **Field Selectable BACnet/Modbus (4-in-1)**
- **5 Year Warranty**

Power Patrol Features:

- Revenue Grade Approved by NRTL
- Configure & Power Through USB
- Eliminate Setup Within Live Enclosure
- UL 610 Rated & BTL Certified
- Phase-Check LED's Confirm Wiring
- Rogowski Coil & Split-Core CT Compatible
- Field Selectable BACnet/Modbus (4-in-1)
- Broadband Power Supply (80-600V)
- Optional Display For Setup and Monitoring
- ANSI C12.20-2010 Class 0.2
- Bidirectional
- DINrail Mount
- Digital Pulse Output

Applications:

- Measurement & Verification
- Demand Response
- Energy Cost Allocation
- Equipment Efficiency Tracking
- Preventative Maintenance

ORDERING INFORMATION

S	P	P	-		-	
Model	Communication Port		Display			
SPP= Setra Power Patrol	E	Ethernet & Serial	D	Display		
	S	Serial Only (RS-485)	N	No Display		

ACCESSORIES

900900-G	USB Communication Cable, Type A to B, Power Patrol
900901-G	USB Flash Drive, HeadStart Software, Power Patrol
SPP-ACC-ENC1	Enclosure Kit
SPP-ACC-LEADS-208	Voltage Leads 208 VAC
SPP-ACC-LEADS-480	Voltage Leads 480 VAC
SPP-ACC-FUSE-208	Fuse Leads 208 VAC
SPP-ACC-FUSE-480	Fuse Leads 480 VAC

MODBUS REGISTER/BACNET OBJECT DESCRIPTION LIST

System True Energy (kWh)	Individual Phase to Phase Voltages
Instantaneous Total True Power (kW)	Line Frequency (Hz)
Peak Demand (Adjustable Window) (kW)	Individual Phases True Energy (kWh)
Maximum Instantaneous Power (kW)	Individual Phases True Power (kW)
System Reactive Energy (kVARh)	Individual Phases Reactive Energy (kVARh)
System Apparent Energy (kVAh)	Individual Phases Reactive Power (kVAR)
System Apparent Power (kVA)	Individual Phases Apparent Energy (kVAh)
System Displacement Power Factor (dPF)	Individual Phases Apparent Power (kVA)
System Apparent Power Factor (aPF)	Individual Phases Apparent Power Factor (aPF)
Average Current (Amps)	Individual Phases Displacement Power Factor (dPF)
Average Line to Line Voltage (Volts)	Individual Phases Current (Amps)
Average Line to Neutral Voltage (Volts)	Individual Phases Line to Neutral Voltages (Volts)
Multiple Meters External Data Synchronization	Individual Phases Line to Line Voltages (Volts)
Refer to Operating Manual For Complete List	

GENERAL SPECIFICATIONS

Technical		Communications	
Service Type	Single Phase, Three Phase-Four Wire (WYE), Three Phase-Three Wire (Delta)	Direct	BACnet IP, BACnet MS/TP, Modbus TCP, Modbus RTU
Power	From L1 Phase to L2 Phase. 80-600VAC CAT III 50/60Hz, 70 mA Max. Non-user replaceable .5 Amp internal fuse protection	Max Distance	1200 meters with data rate of 100K bits.second of less
Voltage Channels	80-346 Volts AC Line-to-Neutral, 600V Phase-to-Phase, CAT III	Baud Rate	9600 (Modbus default), 19200, 38400, 57600, 76800 (BACnet default), 11200
Current Channels	3 Channels, 0.67 VAC max, 333 mV CTs, 0-4,700 Amps depending on CT	Data Bits	8
Maximum Current Input	200% of current transducer rating (mV CTs) Measure up to 5000A with Patrol Flex	Parity	None, Even, Odd
Measurement Type	True RMS using high-speed digital signal processing (DSP)	Stop Bit	2, 1
Line Frequency	50/60	Data Formats	Modbus or BACnet
Waveform Sampling	12 kHz	Mechanical	
Parameter Update Rate	.5 seconds	Operating Temperature	-7° to 60° C (-20° to 140° F)
Measurements	Volts, Amps, kW, kWh, kVAR, kVARh, kVA, aPF, dPF (Partial List)	Humidity	5% to 95% non-condensing
Accuracy	0.2% (<0.1% typical) ANSI C12.20-2010 Class 0.2	Enclosure	ABS Plastic, 94-V0 flammability rating
Resolution	0.01 Amp, 0.1 Volt, 0.01 watt, 0.01 VAR, 0.01 VA, 0.01 Power Factor depending on scalar setting	Weight	340 g (12 ounces, exclusive of CTs)
LED Indicators	Bi-color LEDs (red and green): 1 LED to indicate communication, 2 LEDs for correct CT-to-phrase installation (per meter element), 1 LED for pulse	Dimensions	23.0 x 9.0 x 4.0 cm, (9.0" x 3.5" x 1.5")
Pulse Output	Open Collector, 5mA max current, 30V max open voltage	Safety	
		Power Patrol Serial and Ethernet	UL Listed and CE Mark, Conforms to UL Std 61010-1



POWER SQUAD 24

Multi-Circuit Power Meter

The Power Squad 24 is a versatile, multi-channel (CT) power meter designed to significantly reduce overall installation cost. The modular design allows it to be configured for monitoring multiple electrical circuits (sharing a common voltage source) or for current-only monitoring of branch circuits. It can be supplied with virtually any combination of Setra's internally-shunted split-core or Patrol Flex CTs and is capable of monitoring up to 8 three-phase or 24 single-phase electrical devices.

Application Flexibility

The Power Squad 24 works with either Rogowski Coil "flex" CTs or conventional split-core CTs. The ability to have interchangeable CTs gives added flexibility for last minute changes at the job site. All Setra CTs are internally shunted and carry either UL or ETL certification as well as the CE Mark. Every Power Squad 24 is embedded with the necessary amplifier/integrator circuitry for Rogowski coil CTs—eliminating the need to provide external power to these flexible CTs.

Easy Installation

The Power Squad 24 series instruments are line-powered and do not require external power. Its power supply can accommodate service voltages ranging from 80-600V (phase-to-phase). The Power Squad 24's flexibility, and ease-of-use make it the ideal solution for commercial, industrial, government, and retail applications.

Field Selectable Communications

Each Power Squad 24 comes with a field selectable Modbus or BACnet communication. Communications interface to the Power Squad 24 is through either an RS-485 serial connection (BACnet MS/TP / Modbus) or over Ethernet (BACnet IP / Modbus TCP).



- **Configure & Power Through USB**
- **Field Selectable BACnet/Modbus (4-in-1)**
- **5 Year Warranty**

Power Squad Features:

- Revenue Grade Approved by NRTL
- Configure & Power Through USB
- Monitors 8 Three-Phase or 24 Single-Phase Devices
- UL 610 Rated & BTL Certified
- Phase-Check LED's Confirm Wiring
- Rogowski Coil & Split-Core CT Compatible
- Field Selectable BACnet/Modbus (4-in-1)
- Broadband Power Supply (80-600V)
- Bidirectional
- Digital Pulse Input & Output
- ANSI C12.20-2010 Class 0.2

Applications:

- Measurement & Verification
- Healthcare Facilities
- Energy Cost Allocation
- High Density Electrical Distribution Panels
- LEED Projects



Power Squad 24

Multi-Circuit Power Meter

ORDERING INFORMATION

S	P	S	2	4	-	<input type="checkbox"/>	-	<input type="checkbox"/>
Model		Enclosure		Communication Port				
SPS24= Setra Power Squad 24		D	Enclosure	E	Ethernet			
		N	None	S	Serial			

ACCESSORIES

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>
900900-G	USB Communication Cable, Type A to B, Power Patrol					
900901-G	USB Flash Drive, HeadStart Software, Power Patrol					

MODBUS REGISTER/BACNET OBJECT DESCRIPTION LIST

System True Energy (kWh)	Individual Phase to Phase Voltages
Instantaneous Total True Power (kW)	Line Frequency (Hz)
Peak Demand (Adjustable Window) (kW)	Individual Phases True Energy (kWh)
Maximum Instantaneous Power (kW)	Individual Phases True Power (kW)
System Reactive Energy (kVARh)	Individual Phases Reactive Energy (kVARh)
System Apparent Energy (kVAh)	Individual Phases Reactive Power (kVAR)
System Apparent Power (kVA)	Individual Phases Apparent Energy (kVAh)
System Displacement Power Factor (dPF)	Individual Phases Apparent Power (kVA)
System Apparent Power Factor (aPF)	Individual Phases Apparent Power Factor (aPF)
Average Current (Amps)	Individual Phases Displacement Power Factor (dPF)
Average Line to Line Voltage (Volts)	Individual Phases Current (Amps)
Average Line to Neutral Voltage (Volts)	Individual Phases Line to Neutral Voltages (Volts)
Multiple Meters External Data Synchronization	Individual Phases Line to Line Voltages (Volts)
Refer to Operating Manual For Complete List	

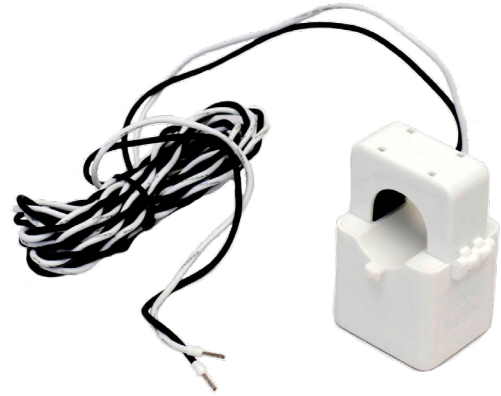
GENERAL SPECIFICATIONS

Technical		Communications	
Service Type	Single Phase, Three Phase-Four Wire (WYE), Three Phase-Three Wire (Delta)	Direct	BACnet IP, BACnet MS/TP, Modbus TCP, Modbus RTU
Power	From L1 Phase to L2 Phase. 80-600VAC CAT III 50/60Hz, 70 mA Max. Non-user replaceable .5 Amp internal fuse protection	Max Distance	1200 meters with data rate of 100K bits.second of less
Power Out	Unregulated 5VDC output, 500 mA Max	Baud Rate	9600 (Modbus default), 19200, 38400, 57600, 76800 (BACnet default), 11200
Voltage Channels	80-346 Volts AC Line-to-Neutral, 600V Phase-to-Phase, CAT III	Data Bits	8
Current Channels	3 or 24 Channels, 0.67 VAC max, 333 mV CTs, 0-5,000 Amps depending on CT	Parity	None, Even, Odd
Maximum Current Input	200% of current transducer rating (mV CTs) Measure up to 5000A with Patrol Flex	Stop Bit	2, 1
Measurement Type	True RMS using high-speed digital signal processing (DSP)	Data Formats	Modbus or BACnet
Line Frequency	50/60 or 400Hz	Mechanical	
Waveform Sampling	12 kHz	Operating Temperature	-7° to 60° C (-20° to 140° F)
Parameter Update Rate	1 second	Humidity	5% to 95% non-condensing
Measurements	Volts, Amps, kW, kWh, kVAR, kVARh, kVA, aPF, dPF.	Enclosure	(optional) PC UL 94 5V
Accuracy	0.5% ANSI C12.20-2010 Class 0.5 for V, A, kW, kVAR, kVA, PF.	Weight	without enclosure: 454g (16oz) with enclosure: 1361g (48oz)
Resolution	0.01 Amp, 0.1 Volt, 0.01 watt, 0.01 VAR, 0.01 VA, 0.01 Power Factor depending on scalar setting	Dimensions	without enclosure: 25.5 x 16.5 x 3.2 cm (10.0" x 6.5" x 1.3") with enclosure: 27.8 x 18.8 x 13.0 cm (10.9" x 7.4" x 5.1")
Pulse Output	Open Collector, 75mA max current, 40V max open voltage, 8 outputs	Safety	
Pulse Input	Open Collector, 75mA max current, 40V max open voltage, 2 inputs	Power Squad Serial and Ethernet	UL Listed and CE Mark, Conforms to UL Std 61010-1

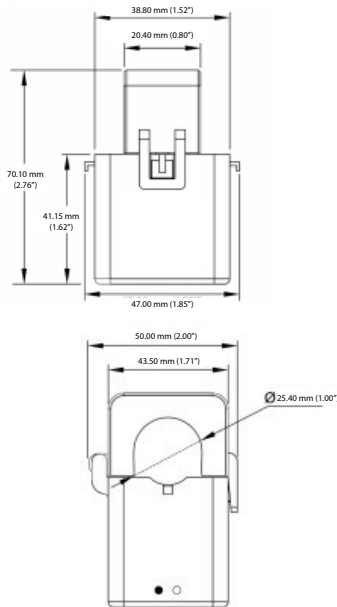
Split-Core Performance CT

Current Transformer

Setra's Split-Core Performance current transformers provide a high accuracy current measurement over a wide dynamic sensing range for power metering applications. Unlike the competition, Setra offers "Safe CT's" which provide a 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. These CT's are available from 20A to 200A and when used with Setra's Power Patrol (SPP) or Power Squad (SPS24) provide a complete metering solution for demanding applications.



DIMENSIONS



GENERAL SPECIFICATIONS

Nominal Rating	20A	50A	100A	200A
Aperture Size	0.4" (10mm)	0.4" (10mm)	1.0" (25mm)	1.0" (25mm)
Current Range	0.25-40A AC	0.25-80A AC	1-200A AC	1-300A AC
Output	333 mV @ 20A AC, 16.65 mV/A AC	333 mV @ 50A AC, 6.66 mV/A AC	333 mV @ 100A AC, 3.33 mV/A AC	333 mV @ 200A AC, 1.67 mV/A AC
Ratio Error*	<0.5% from 0.25 to 40A AC (typical)	<0.5% from 0.25 to 80A AC (typical)	<0.3% from 1.0A to 200A AC (typical)	<1.0% from 1.0A to 300A AC (typical)
Phase Error	<1.5° from 1A to 80A AC <2° from 0.25 to 1A AC	<1.5° from 1A to 40A AC <2° from 0.25 to 1A AC	<0.5° from 1.0A to 200A AC	<0.5° from 1.0A to 300A AC
Electrical				
Wire Polarity	White = Hi, positive (+) Black = Low, negative (-)			
Phasing	Arrow on Case Points			
Orientation	Toward Load			
Frequency Range	50 to 400 Hz			
Mechanical				
Case Material	White Nylon, UL 94 V-0			
Leads	2.4 M (8'), 600V, 20 gage		2.4 M (8'), 600V, 22 gage	
Operating Temp.	-15 to 60°C (5 to 140°F)			
Storage Temp.	-20 to 85°C (-4 to 185°F)			
Safety				
Working Voltage	600 VAC, Category III			
Dielectric Strength	3525 VAC for 1 Minute		5200 VAC for 1 Minute	
Certifications	UL STD 61010-1 Certified to: CAN/CSA STD 22.2 NO. 61010-1			

ORDERING INFORMATION

CT - SCP - [] [] [] []

Model	Amps
SCP Split-Core Performance	020 20 Amps
	050 50 Amps
	100 100 Amps
	200 200 Amps

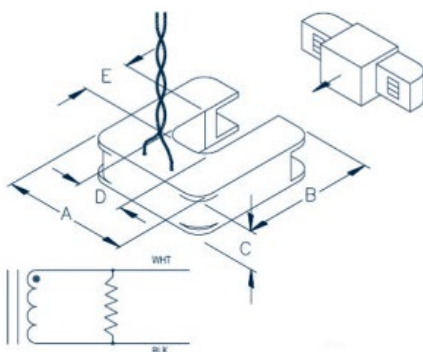
Split-Core Standard CT

Current Transformer

Setra's Split-Core Standard current transformers provide a high accuracy current measurement over a wide dynamic sensing range for power metering applications. Unlike the competition, Setra offers "Safe CT's", which provide a 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 CT's are available from 100A to 600A and when used with Setra's Power Patrol (SPP) or Power Squad (SPS24) provide a complete metering solution for demanding applications



DIMENSIONS



A	B	C	D	E
8.26 cm (3.25")	8.51 cm (3.35")	2.54 cm (1.00")	3.18 cm (1.25")	3.18 cm (1.25")

ORDERING INFORMATION

CT - SCM - [] [] []

Model		Amps	
SCM	Split-Core Medium	100	100 Amps
		200	200 Amps
		400	400 Amps
		600	600 Amps

GENERAL SPECIFICATIONS

Nominal Rating	100A	200A	400A	600A
Aperture Size	1.25" (3.20 cm)			
Current Range	5-130A AC	4-260A AC	8-520A AC	12-780A AC
Output	333 mV @ rated current			
Ratio Error*	<1% at rated current (typical)			
Phase Error	<2° at rated current (typical)			
Electrical				
Wire Polarity	White = Hi, positive (+) Black = Low, negative (-)			
Frequency Range	50 to 400 Hz			
Mechanical				
Case Material	Epoxy Encapsulated Housing			
Leads	2.7 M (8'), twisted pair, 20 AWG			
Operating Temp.	Maximum 105°C (220°F)			
Safety				
Working Voltage	600 VAC, Category III			
Dielectric Strength	5000 VAC around case, 600V rated leads			
Certifications	UL STD 61010-1, EN 60044-1:1999 Certified to: CAN/CSA STD 22.2 NO. 61010-1			

Sure-Set

CCM

CSC

CSS

CTC

CURRENT SENSORS

PRODUCT SECTION 4.1

setra[®]

Sure-Set™

Split-Core Current Switch

Setra's Sure-Set™ Model SSC current switch is the safest current switch for under current sensing on constant speed drive applications. The split-core current switch provides a unique approach to calibration and installing current sensors, utilizing the horsepower of the motor. This eliminates exposure to arc flash vs. traditional adjustable set point switches on the market. The multi-range dial maximizes flexibility and reduces overall installation time, allowing installation to be done on a cold circuit without the need for an arc flash suit and protective equipment. The SSC's recessed set point dial reduces the chance of inadvertent adjustments, while the detents provide tactical feedback that the desired horsepower rating has been selected.

Avoid Arc Flash

Traditional adjustable current switches require the installer to make set point adjustments to the unit on a live circuit during installation increasing the safety risk to the installer. Each Sure-Set™ model offers 9 pre-configured set points so the installer can pre-configure the switch, based on the rating of the motor, prior to powering the circuit, eliminating the risk of arc-flash hazard.

Save Time and Money on Installation

The installer simply sets the switch to the appropriate setting to match the horsepower (HP) rating of the motor, clamps it on to the de-energized circuit, connects the signal leads and the installation is complete. By eliminating the need to work in a live electrical enclosure, the installer is no longer required to wear a personal protective equipment (PPE) suit, saving valuable time on the job.

Reduce Inventory

Each Sure-Set™ offers 9-pre-configured set points, giving the installer the flexibility to use the same switch on a variety of different motor loads. Unlike fixed set-point switches, the Sure-Set™ provides the multi-range flexibility to work with motors ranging from 1 to 100 HP.



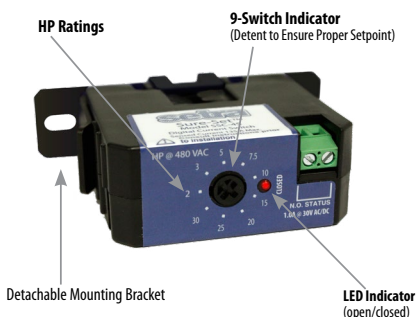
- Safe Installation
- No PPE Suit Required
- Pre-Calibrated Set Points by HP

Sure-Set™ Features:

- Split-Core Design
- Multi-Range 9 Set Points Available on Each Model
- Match Set Point to Motor Horsepower Rating
- Rotary Switch Detents Confirm Intended Settings
- Rotary Switch Eliminates Inadvertent Adjustments
- Allows Installation to be Completed on a Cold Circuit
- Under Current Sensing Applications

Applications:

- HVAC/R Systems
- Constant Volume Drives (CVD)
- Fans
- Industrial Motors
- Pumps
- Refrigeration



ORDERING INFORMATION



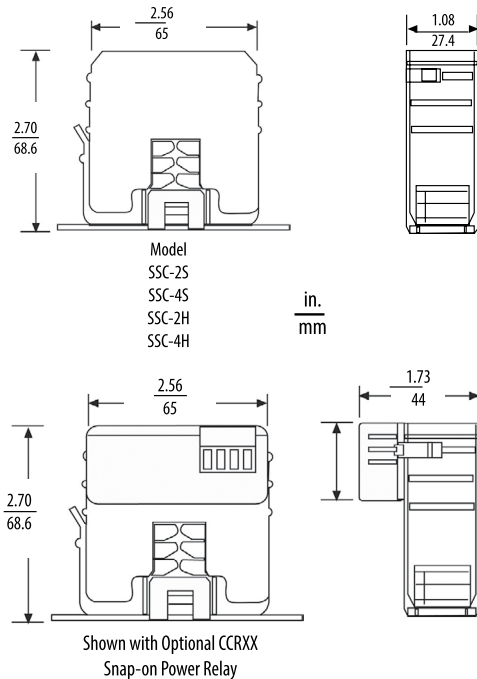
Model	Motor hp Range Code	Motor hp Ranges
SSC	2S	1, 2, 3, 5, 7.5, 10, 15, 20, 25 9 position set point for 230V AC Motor Application
SSC	4S	2, 3, 5, 7.5, 10, 15, 20, 25, 30 9 position set point for 480V AC Motor Application
SSC	2H	5, 7.5, 10, 15, 20, 25, 30, 40, 50 9 Position set point for 230V AC Motor Application
SSC	4H	15, 20, 25, 30, 40, 50, 60, 75, 100 9 Position set point for 480V AC Motor Application

OPTIONAL RELAY

CCR-12	Snap on Power Relay 12 VAC/DC
CCR-24	Snap on Power Relay 24 VAC/DC

Ordering Example: SSC2S = Model SSC with 1, 2, 3, 5, 7.5, 10, 20, 25 hp Ranges and 9 position set point for 230V AC Motor Application.

DIMENSIONS



GENERAL SPECIFICATIONS

Continuous Operating Current	135A, 600V AC
Switch Set Point	Adjustable, 9 position rotary switch
Output Relay Contacts (option)	Optional. Output contacts rated 10A @ 260V AC, 5A @ 30V DC
Output Relay Coil Voltage (option)	Optional, 12V AC/DC or 24V AC/DC
Switch LED Indication	Yes
Relay LED Indication (option)	Yes
Trip Point Set Value	50% below FLA @ selected hp value
Current Switching Mode	Under Current Sensing
Dimensions	2.7 x 2.56 x 1.08 in. (69 x 65 x 27 mm)
Aperture Size	0.72 x 0.78 in. (18 x 20 mm)
Sensor Power Source	Induced from power conductor cable
Status Output	Switch normally open
Switch Load Capacity	1A @ 30V AC/DC max.
Isolation Voltage	600V AC rms.
Temperature Range	5 to 140°F (-15 to 60°C)
Frequency Range	50/60 Hz
Humidity Range	0 to 95% non-condensing
Agency Approvals/Compliance	CE Compliant, RoHS Compliant, UL/c-UL Listed: 508, IND. Cont. EQ: E317719

CAUTION, RISK of ELECTRIC SHOCK



Disconnect power supply before making electrical connections. Contact with components carrying hazardous voltage can cause electrical shock and may result in severe personal injury or death.

Specifications subject to change.

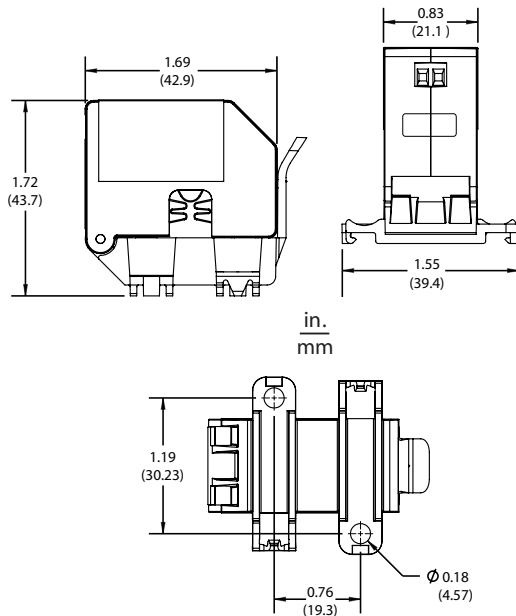
Model CCM

Mini Current Switch

Setra's Model CCM is the industry's smallest split-core current switch offering a cost effective solution for monitoring light to medium current loads in common HVAC applications. It is designed to detect increases or decreases in operating current based on belt loss, slippage or mechanical failure within a process. The CCM incorporates an integrated DINrail and surface mounting flange for easy installation in any application, at no additional cost. The Mini Current Switch is easily clamped onto new or existing power cables or wires, making it ideal for new construction and retrofit projects.



DIMENSIONS



GENERAL SPECIFICATIONS

Model	CCMF015
Amperage Range	0.15 to 60 A
Continuous Operating Current	60A, 300V AC
Current Set Point	Fixed
Switch LED Indication	No
Relay LED Indication	No
Trip Point Set Value	0.15A
Current Switching Mode	Under Current Sensing
Dimensions	1.57 H X 1.66 L X 1.52 W in. (39.9) x 42.2 L x 38.6 W mm)
Aperture Size	0.3 in. (7.6 mm) 6 AWG
Sensor Power Source	Induced from power conductor cable
Status Output	Switch normally open
Switch Load Capacity	1A @ 30V AC/DC
Isolation Voltage	300V AC rms.
Temperature Range	5 to 140°F (-15 to 60°C)
Frequency Range	50/60 Hz
Humidity Range	0 to 95% non-condensing
Agency Approvals/Compliance	UL/c-UL Listed: 508, IND. Cont. EQ: E317719/ CE Compliant/RoHS Compliant

ORDERING INFORMATION

C C M F 0 1 5

Model	Description
CCMF015	Mini Current Switch, Trip Point Set Value 0.15 A

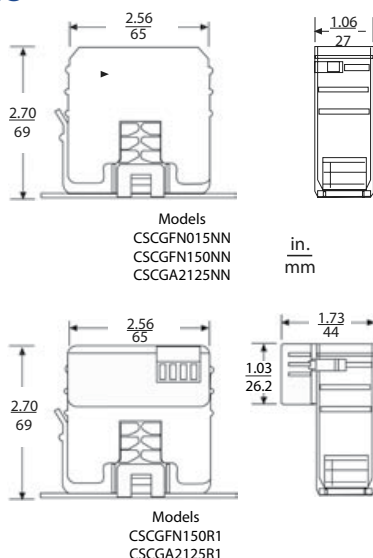
Model CSC

Split-Core Current Switch

Setra's Model CSC split-core current switch provides a cost effective solution for real-time monitoring of motor status in common HVAC applications. The CSC is available with fixed or adjustable trip set-point values alerting the user to over or under current conditions in the application, with trip points as low as 0.15 A up to 135 A. Setra's design utilizes magnetic induction current sensing technology allowing the CSC switches to accurately operate over a wide range of environmental conditions, without the need for an additional power supply. The current switch is available with a snap-on power relay designed to start or stop AC motors during tripped set-point conditions, minimizing service time in the field.



DIMENSIONS



GENERAL SPECIFICATIONS

Model	CSCGFN015NN	CSCGFN150NN	CSCGA2125NN	CSCGFN150R1 w/snap-on relay	CSCGA2125R1 w/snap-on relay
Amperage Range	0.15 to 200 A	1.5 to 200 A	1.25 to 135 A	1.5 to 200 A	1.25 to 135 A
Continuous Operating Current	200 A, 600 V AC	200 A, 600 V AC	135 A, 600 V AC	200 A, 600 V AC	135 A, 600 V AC
Switch Setpoint	Fixed	Fixed	Adjustable	Fixed	Adjustable
Output Relay	No	No	No	SPST. NO. 10 A @ 260 V AC, 5 A @ 30 VDC	SPST. NO. 10 A @ 260 V AC, 5 A @ 30 V DC
Actuation Coil	No	No	No	24 V AC/DC	24 V AC/DC
Switch LED Indication	No	No	Yes	No	Yes
Relay LED Indication	No	No	No	Yes	Yes
Trip Setpoint Value	0.15 A	1.5 A	1.25 to 135 A	1.5 A	1.25 to 135 A
Current Switching Mode	Under Current Sensing	Under Current Sensing	Over/Under Current Sensing	Under Current Sensing	Over/Under Current Sensing
Dimensions	2.7 x 2.56 x 1.08 in. (69 x 65 x 27 mm)	2.7 x 2.56 x 1.08 in. (69 x 65 x 27 mm)	2.7 x 2.56 x 1.08 in. (69 x 65 x 27 mm)	2.7 x 2.56 x 1.73 in. (69 x 65 x 44 mm)	2.7 x 2.56 x 1.73 in. (69 x 65 x 44 mm)
Aperture Size	0.72 x 0.78 in. (18 x 20 mm)				
Sensor Supply Voltage	Induced from power conductor cable				
Status Output	Switch normally open				
Switch Load Capacity	1 A @ 30 V AC/DC max.				
Isolation Voltage	600 V AC rms				
Temperature Range	5 to 140°F (-15 to 60°C)				
Frequency Range	50/60 Hz				
Humidity Range	0 to 95% non-condensing				
Agency Approvals	CE Compliant, RoHS Compliant, c-UL Listed: 508, IND. Cont. EQ: E317719				

ORDERING INFORMATION

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Model	Description
CSCGFN015NN	Model CSC, Fixed Setpoint, No LED, 0.15 A Setpoint, No Snap-on Power Relay
CSCGFN150NN	Model CSC, Fixed Setpoint, No LED, 1.50 A Setpoint, No Snap-on Power Relay
CSCGA2125NN	Model CSC, Adjustable Setpoint, with LED, 1.25 A Setpoint, No Snap-on Power Relay
CSCGFN150R1	Model CSC, Fixed Setpoint, No LED, 1.5 A Setpoint, with Snap-on Power Relay
CSCGA2125R1	Model CSC, Adjustable Setpoint, with LED, 1.25 A Setpoint, with Snap-on Power Relay

¹ Units calibrated at nominal 70°F. Max thermal error computer from this datum.
² Calibrated at factory with a 24VDC loop supply voltage and a 250 ohm load.
 Specifications subject to change without notice.

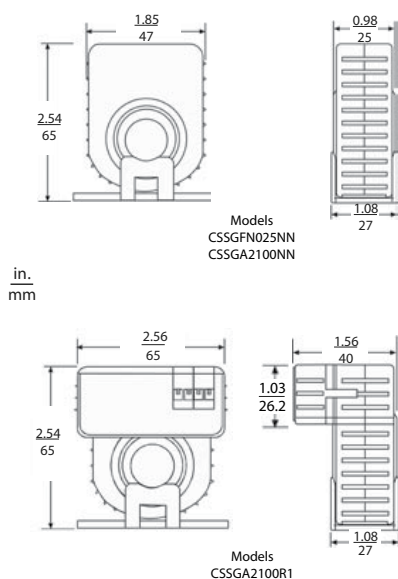
Model CSS

Solid-Core Current Switch

Setra's Model CSS solid-core current switches provide a cost effective solution for real-time monitoring of motor status in common HVAC applications. The CSS is available with fixed or adjustable trip set-point values alerting the user to over or under current situations in the application, with trip points as low as 0.25 A up to 135 A. The Model CSS's design utilizes magnetic induction current sensing technology allowing the CSS switches to accurately operate over a wide range of environmental conditions, without the need for an additional power supply. The current switch is available with a snap-on power relay designed to start or stop AC motors during tripped set-point conditions, minimizing service time in the field.



DIMENSIONS



GENERAL SPECIFICATIONS

Model	CSSGFN025NN	CSSGA2100NN	CSSGA2100R1 w/ snap-on relay
Amperage Range	0.25 to 200 A	1.00 to 135 A	1.00 to 135 A
Continuous Operating Current	200 A, 600 VAC	125 A, 600 VAC	135 A, 600 VAC
Switch Setpoint	Fixed	Adjustable	Adjustable
Output Relay	No	No	SPST, NO. 10 A @ 260 VAC, 5 A @ 30 VDC
Actuation Coil	No	No	24VAC/DC
Switch LED Indication	No	Yes	Yes
Relay LED Indication	No	No	Yes
Trip Setpoint	0.25 A	1.00 to 135 A	1.00 to 135 A
Current Switching Mode	Under Current Sensing	Over/Under Current Sensing	Over/Under Current Sensing
Dimensions	2.54 x 1.85 x 0.98 in. (65 x 47 x 25mm)	2.54 x 1.85 x 0.98 in. (65 x 47 x 25mm)	2.54 x 2.56 x 1.56 in. (65 x 65 x 40mm)
Aperture Size	0.71 in. Dia. (18mm Dia.)		
Sensor Supply Voltage	Induced from power conductor cable		
Status Output	Switch normally open		
Switch Load Capacity	1 A @ 30 VAC/DC max.		
Isolation Voltage	600 VAC rms		
Temperature Range	5 to 140°F (-15 to 60°C)		
Frequency Range	50/60 Hz		
Humidity Range	0 to 95% non-condensing		
Agency Approvals	CE Compliant, RoHS Compliant, c-UL Listed: 508, IND. Cont. EQ: E317719		

ORDERING INFORMATION

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Model	Description
CSSGFN025NN	Model CSS, Fixed Setpoint, No LED, 0.25 A Setpoint, No Snap-on Power Relay
CSSGA2100NN	Model CSS, Adjustable Setpoint, with LED, 1.00 A Setpoint, No Snap-on Power Relay
CSSGA2100R1	Model CSS, Adjustable Setpoint, with LED, 1.00 A Setpoint, with Snap-on Power Relay

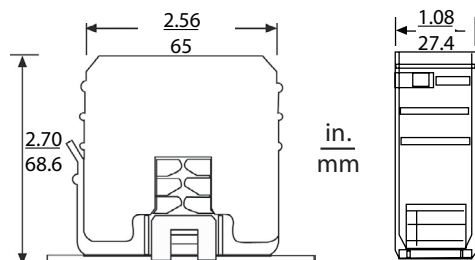
Model CTC

Split-Core Current Transducer

Setra's Model CTC current transducers provide an accurate and cost effective solution for real-time current measurement on AC powered circuits. Unlike a current switch, each transducer provides an instantaneous voltage or milliamp output that is proportional to any of 3 field selectable amperage ranges. The 5V and 4 to 20 mA output units have 30/60/120 Amp sensing ranges, while the 10V output units have a 20/100/150 Amp sensing ranges. The multi-range capability combined with the split-core design increases installation flexibility to handle unexpected changes on the job site.



DIMENSIONS



GENERAL SPECIFICATIONS

Model	CTCG420NN	CTCGV05NN	CTCGV10NN
Multi-Range	30/60/120 A	30/60/120 A	20/100/150 A
Continuous Operating Current	120 A Max.	120 A Max.	150 A Max.
Output	4-20 mA	0-5 VDC	0-10 VDC
Accuracy ($\geq 10\%$ FS)	$\pm 2\%$ of Selected Ranges		
Response Time	2 Seconds		
Dimensions	2.7 x 2.56 x 1.08 in. (68.6 x 65 x 27.4 mm)	2.7 x 2.56 x 1.08 in. (68.6 x 65 x 27.4 mm)	2.7 x 2.56 x 1.08 in. (68.6 x 65 x 27.4 mm)
Aperture Size	0.72 x 0.78 in. (18 x 20 mm)		
Sensor Supply Voltage	24 VDC Loop Power	Self-Powered	
Isolation Voltage	600 V AC rms		
Temperature Range	5 to 140°F (-15 to 60°C)		
Frequency Range	50/60 Hz		
Humidity Range	0 to 95% non-condensing		

ORDERING INFORMATION



Model	Description
CTCG420NN	Model CTC, Output 4 to 20 mA
CTCGV05NN	Model CTC, Output 0 to 5 VDC
CTCGV10NN	Model CTC, Output 0 to 10 VDC

206

209

256

3100

3200

GAUGE PRESSURE TRANSDUCERS

PRODUCT SECTION 5.1

setra[®]

Model 206

Industrial Pressure Transducer

The Model 206 pressure sensor is designed for Industrial and OEM customers who require high performance, reliability and versatility at an affordable price. It offers exceptional $\pm 0.13\%$ 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 designed to meet NEMA 4 and IP65 environmental ratings, preventing unwanted moisture ingress.

High Performance at an Affordable Price

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

Flexibility & Serviceability

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.



- High Accuracy Sensor
- NEMA 4/IP65 Design
- Configurable Design

Model 206 Features:

- Long-Term Stability: $< 0.5\%$ /Year
- Exceptional EMI/RFI
- Rugged Design Withstands High Shock & Vibration
- User Accessible Zero/Span
- Calibration NIST Traceable
- Wide Operating Voltage 12 VDC to 28 VDC
- Meets CE Conformance Standards
- Reverse Wire Protection

Applications:

- Industrial OEM Equipment
- Hydraulic Systems
- Compressor Control
- HVAC/R Equipment
- Industrial Engines

ORDERING INFORMATION

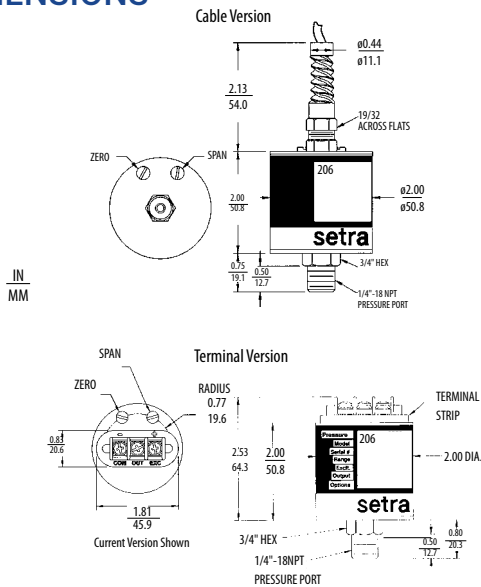
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Model	Pressure Range		Pressure Type		Fitting		Output		Termination		Accuracy	Options ²				
2061= Model 206	025P	0 to 25 PSI	1R6B	0 to 1.6 Bar	G	Gauge	2M	1/4" NPT Male	11	4 to 20 mA	XX	Cable Length (02-25')	8	±0.13% FS	NN	None
	050P	0 to 50 PSI	004B	0 to 4 Bar	C	Compound	1M	1/8" NPT Male	22	0.1 - 5.1 VDC	H1	Hirschmann			C	11 Point Cal Cert
	100P	0 to 100 PSI	006B	0 to 6 Bar			J7	7/16" SAE	27	1 to 5 VDC	A3	1/2" Conduit w/ 2' Cable			D	Mate with Datum
	200P	0 to 200 PSI	010B	0 to 10 Bar					28	1 to 6 VDC	AD	1/2" Conduit w/ 6' Cable			F	Nema 4 Enclosure ³
	250P	0 to 250 PSI	016B	0 to 16 Bar					2T	0.1 to 10.1 VDC	AE	1/2" Conduit w/ 10' Cable			G	Mating Hirschmann Con.
	500P	0 to 500 PSI	025B	0 to 25 Bar							AF	1/2" Conduit w/ 20' Cable			L	Etched SS Tags
	10CP	0 to 1,000 PSI	040B	0 to 40 Bar							AG	1/2" Conduit w/ 25' Cable			Y	Clean For Oxygen
	30CP	0 to 3,000 PSI	060B	0 to 60 Bar							T1	Terminal Strip ⁴				
	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												

¹Units higher than 5k PSI are only available with a 1/4" NPT male fitting
²Both 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
³Only available with T1 termination
⁴Formerly Model 207

Ordering Example: 2061025PG2M11048CN - Model 206, 0 to 25 PSIG, Gauge pressure, 1/4" NPT Male fitting, 4 to 20 mA output, 4' Cable Length, ±0.13% FS Accuracy, 11 Point Cal Cert Option.

DIMENSIONS



GENERAL SPECIFICATIONS

Performance Data		Physical Description	
Accuracy RSS ¹ (at constant temperature)	±0.13% FS	Pressure Fittings	See Ordering Information
Non-Linearity, (BFSL) 25 PSIG range ²	±0.1% FS ±0.2% FS	Vent	Through cable or terminal
Hysteresis	0.08% FS	Electrical Connection	2 ft. multiconductor cable
Non-Repeatability	0.02% FS	Case	Stainless Steel
Response Time	5 milliseconds	Zero/Span Adjustments	Top External Access
Long Term Stability	0.5% FS/1 YR	Weight (approx.)	6 oz
Thermal Effects		Electrical Data (Voltage)	
Compensated Range	-4 to +176°F (-20 to +80°C)	Excitation/Output	12 to 28 VDC Reverse Excitation Protected
Zero Shift	1.0 (0.9)	Power Consumption	<0.15 watts (approx. 5mA @24VDC)
Span Shift	1.5 (1.4)	Output ⁸	0.1 to 5.1 VDC ⁹
Pressure Media		Output Impedance	100 ohms
Gases or liquids compatible with 17-4 PH Stainless Steel. ³		Circuit	200g Operating
Environmental Data		Vibration ¹¹	3-Wire (Exc, Out, Com)
Temperature		Electrical Data (Current)	
Operating ⁴	-40 to +185°F (-40 to +85°C)	Circuit	2-Wire
Storage	-40 to +185°F (-40 to +85°C)	Output ¹⁰	4 to 20 mA ¹¹
Acceleration	10g Maximum ⁵	External Load	0 to 800 ohms
Shock ⁶	200g Operating	Min. Supply Voltage (VDC) = 9 + 0.02 x (Resistance of receiver plus line)	
Vibration ⁷	20g 50-2000 Hz	Max. Supply Voltage (VDC) = 30 + 0.004 x (Resistance of receiver plus line)	

PROOF PRESSURE

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

PSIG RANGES		
Gauge Pressure	Proof Pressure	Burst Pressure
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

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

Specifications subject to change without notice.

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

Model 209

OEM Pressure Transducer

The Model 209 pressure sensor is designed for Industrial and OEM customers who require high performance, reliability and versatility at an affordable price. It offers exceptional $\pm 0.25\%$ FS accuracy with pressure ranges from 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 features 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.

- Rugged For Demanding Applications
- Full Span Ranges Down to 1 PSI
- Highly Configurable Design

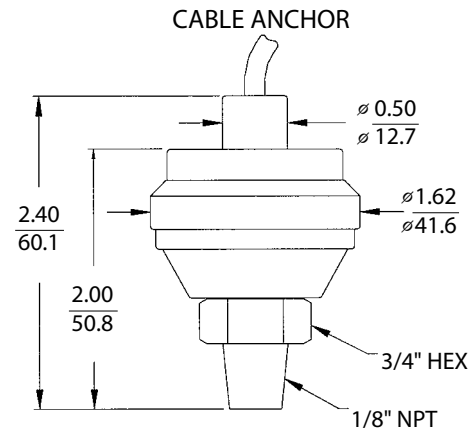
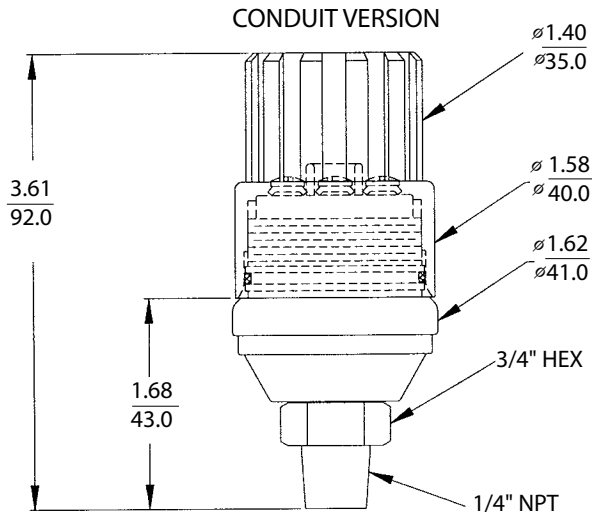
Model 209 Features:

- High Overpressure Option Available on Select Ranges
- Operates Over a Wide Temperature Band
- 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
- No Brazed Joints Susceptible to Corrosion Problems
- CE & RoHS Compliant

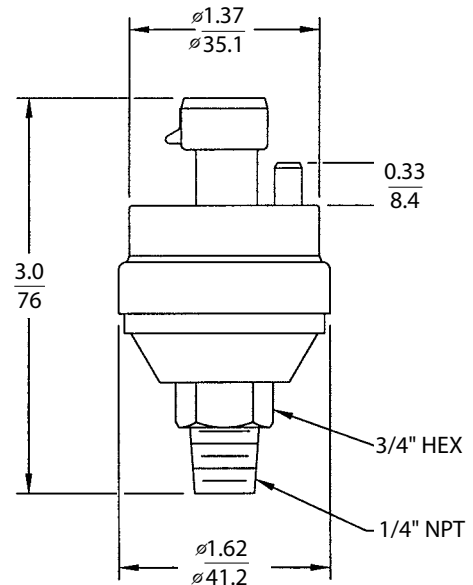
Applications:

- Industrial OEM Equipment
- Hydraulic Systems
- Compressor Control
- HVAC/R Equipment
- Industrial Engines

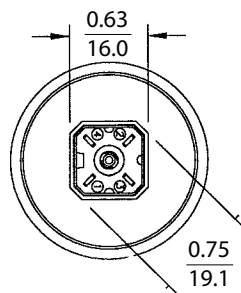
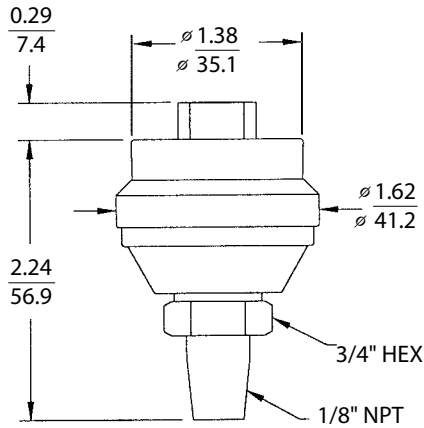
DIMENSIONS



OPTIONAL 3-Pin PACKARD CONNECTOR
Type: P2S Series 150



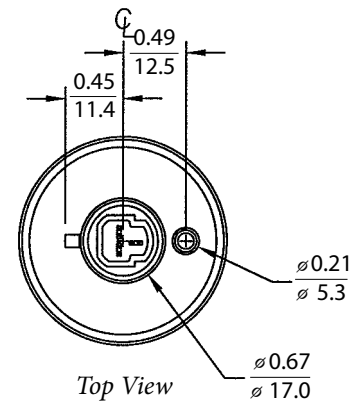
OPTIONAL HIRSCHMANN CONNECTOR
Type: G4A1M #931807-106



Top View

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

in.
mm



Top View

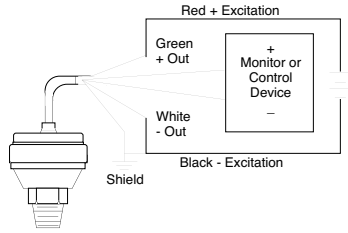
Mating Packard Connectors available. See table below to order.

WIRING

CABLE ANCHOR

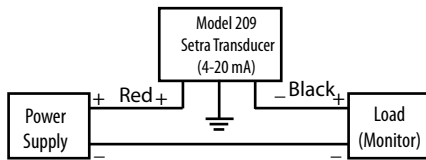
Voltage Output

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:



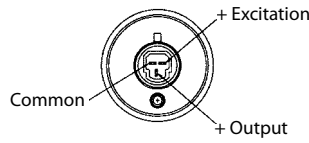
Current Output

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



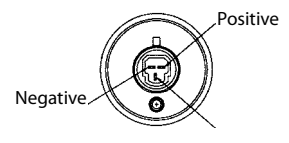
3-PIN PACKARD CONNECTOR

Voltage



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

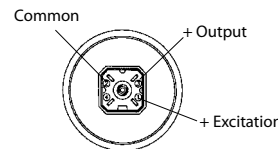
Current



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

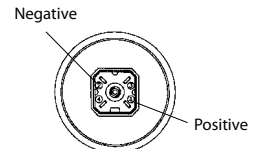
HIRSCHMANN CONNECTOR

Voltage



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

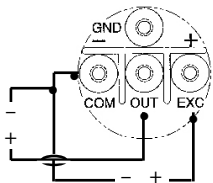
Current



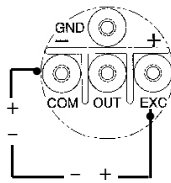
Top View: Hirschmann Connector
Type: G4A1M#931807-106

CONDUIT VERSION

Voltage

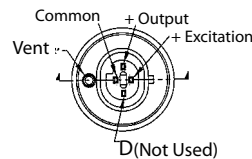


Current



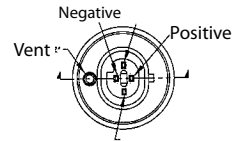
4-PIN PACKARD CONNECTOR

Voltage



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

Current



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

ORDERING INFORMATION

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Model	Range Code				Pressure Type		Pressure Fitting		Output ²		Elec. Termination		Options	
2091 = Model 209	Range Code	PSI	Range Code	PSI	G	Gauge	2M	1/4" NPT Male	11	4-20 mA	XX	Cable length in feet	H	High Overpressure Capability (Only available on 25 PSI up to 1500 PSI Pressure Ranges)
	001P	0 to 1	500P	0 to 500	C	Compound	J7	7/16" SAE Male	24	0.5 to 5.5 VDC	P1	Packard (3-Pin) ²		
	002P	0 to 2	10CP	0 to 1,000	S	Sealed ¹	1M	1/8" NPT Male	27	1 to 5 VDC	P3	Packard (4-Pin) ³		
	005P	0 to 5	15CP	0 to 1,500	V	Vacuum	L4	1/4 Female SAE	28	1 to 6 VDC	H2	Hirschmann, ("Mini") ⁴		
	010P	0 to 10	20CP	0 to 2,000			G4	1/2" A Male	45	0.5 to 4.5 VDC	A1	Terminal Block w/ Conduit Cover		
	025P	0 to 25	30CP	0 to 3,000			P1	1/8" NPT Female 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	0 to -14.7										
	250P	0 to 250												

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

¹ Sealed version available on 200 PSI range and above
² Consult factory for other output options

ACCESSORIES

577	3-Pin Mating Packard Kit
581	3 Ft Mating Cable Accessories
582	6 Ft Mating Cable Accessories
590	Mating Hirschmann Kit
857	4-Pin Mating Packard Kit

PROOF PRESSURE

Full Scale Range (PSI)	Standard		Option	
	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

GENERAL SPECIFICATIONS

Performance Data		Environmental Data	
Accuracy RSS ¹ (at constant temp)	±0.25% FS	Operating ³ Temperature °F (°C)	-40 to +185 (-40 to +85)
Non-Linearity, BFSL	±0.22% FS	Storage Temperature °F (°C)	-40 to +185 (-40 to +85)
Hysteresis	0.10% FS	Shock ²	200g operating
Non-Repeatability	0.05% FS	Acceleration	10 g Maximum ⁵
Thermal Effects		Shock ²	200g Operating
Compensated Range °F (°C)	-4 to +176 (-20 to +80)	Vibration ⁴	20g
Zero Shift %FS/100°F (%FS/50°C)	±2.0 (±1.8)	Environmental Protection	Weather Resistant
Span Shift %FS/100°F (%FS/50°C)	±1.5 (±1.3)	Electrical Data (Voltage)	
Warm-up Shift	0.1% FS Total	Circuit	3-Wire (COM, OUT, EXC)
Response Time	5 milliseconds	Excitation	9 to 30 VDC
Long Term Stability	0.5% FS/1 YR	Output ⁶	0.5 to 5.5 VDC ⁷
Pressure Media		Output Impedance	10 ohms
Liquids and gases compatible with 17-4 PH Stainless Steel. ²		Electrical Data (Current)	
Physical Description		Circuit	2-Wire
Case	Stainless Steel & Valox	Output ⁸	4 to 20mA ⁹
Wetted Material	17-4 PH Stainless Steel	External Load	0 to 800 ohms
Electrical Connection	2 ft. multiconductor cable	Minimum supply voltage (VDC)	9+ 0.02 x (Resistance of receiver plus line)
Pressure Fitting ⁵	1/4" - 18 NPT external, 17-4 PH Stainless Steel	Maximum supply voltage (VDC)	30+ 0.004 x (Resistance of receiver plus line).
Vent	Through cable	¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability. ² Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel. 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.	
Weight (approx.)	2.3 ounces (65 grams)		

Model 256

Pressure Transducer



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

U.S. Patent nos. 6019002; 6014800

DESCRIPTION

The Model 256 is one of the most rugged and reliable sensors available. Specifically designed for NEMA 4/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.

BENEFITS

- Low Cost
- High Accuracy
- NEMA 4/IP-65
- Wide Operating Temperature Range
- Compatible with a Wide Range of Gases or Liquids
- Corrosive Resistant All Stainless Steel Wetted Parts
- Choice of Voltage or Current Output
- Operates on Low Cost Unregulated Power Supply
- Meets CE Conformance Standards

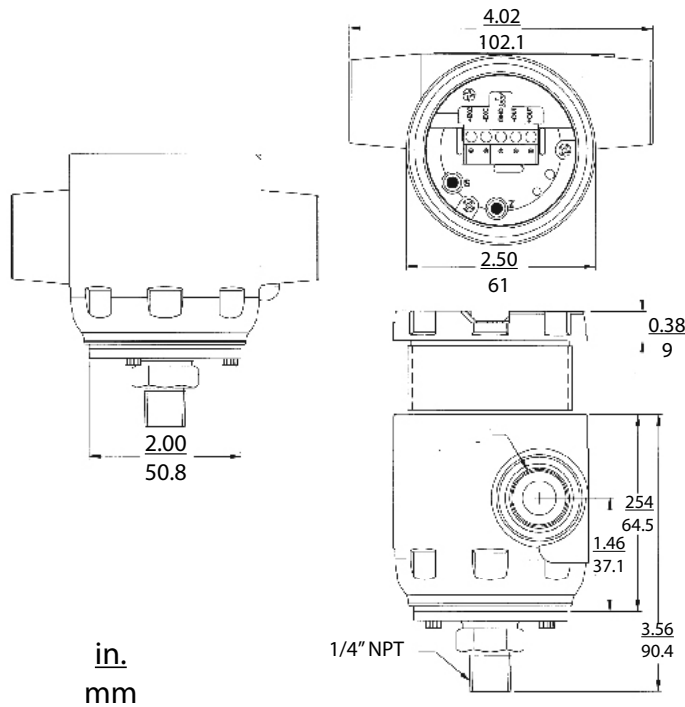
APPLICATIONS

- Process Control
- Chemical Processing
- Agricultural Irrigation Systems
- Natural Gas Pipeline Monitoring
- Grain Processing
- Industrial Pressure Monitoring

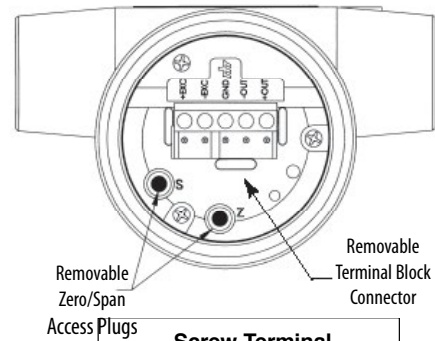
SPECIFICATIONS

Performance Data			Environmental Data		Electrical Data (Voltage)	
	Ranges	Ranges	Operating ³ Temperature °F (°C)	-40 to +185 (-40 to +85)	Circuit	3-Wire (Exc, Out, Com)
	25 PSI & Higher	Less than 25 PSI	Storage Temperature °F (°C)	-40 to +185 (-40 to +85)	Excitation	9 to 30 VDC
Accuracy RSS ¹ (at constant temp) ²	±0.13% FS	±0.25% FS	Shock ⁶	200g	Output ⁵	0.1 to 5.1 VDC for Ranges ≥ 25 PSI ⁶
Non-Linearity, BFSL	±0.10% FS	±0.22% FS	Vibration ⁷	20g	Output Impedance	100 ohms
Hysteresis	0.08% FS	0.10% FS	Environmental Protection	NEMA 4/IP65	Power Consumption	<0.15 watts (approx. 5mA @ 24VDC)
Non-Repeatability	0.02% FS	0.05% FS	Physical Description		Electrical Data (Current)	
Thermal Effects			Case	Die Cast Aluminum	Circuit	2-Wire
Compensated Range °F	-4 to +176	-4 to 176	Electrical Connections	Two 1/2" Internal Conduit Ports	Output ⁷	4 to 20mA ⁸ for All Ranges
Compensated Range °C	-20 to 80	-20 to ±80	Pressure Fittings	1/4" NPT External	External Load	0 to 800 ohms
Zero Shift %FS/100°F	1.0	1.0	Weight (approx.)	13.4 Ounces	Minimum supply voltage (VDC)	9 + 0.02 x (Resistance of receiver plus line).
Zero Shift %FS/100°C	±0.9	±1.8	Pressure Media		Maximum supply voltage (VDC)	30 + 0.004 x Resistance of receiver plus line).
Span Shift %FS/100°F	1.5	±1.5	Liquids and gases compatible with 17-4 PH Stainless Steel. ⁴		<small> 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 Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel. Specifications subject to change without notice. 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 ±0.5 mV. 7. Calibrated at factory with a 24VDC 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 </small>	
Span Shift %FS/100°C	1.4	±1.4	Environmental Protection	Weather Resistant		
Long Term Stability			Physical Description			
Warm-up Shift	0.5% FS/YR	0.5% FS/YR	Case	Stainless Steel & Valox		

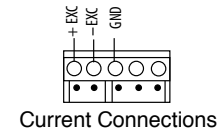
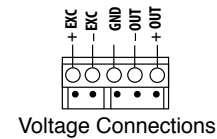
DIMENSIONS



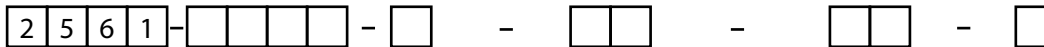
Wiring



Screw Terminal Designations



ORDERING INFORMATION



Model	Range Code	Pressure Type	Pressure Fitting	Output	Options
2561 = 256	See Table 1 Below	G Gauge	Ranges <25 PSI	Ranges <25 PSI	C Calibration Certificate

RANGE CODE	PSI	RANGE CODE	BAR
001P	0 to 1	1R6B	0 to 1.6
002P	0 to 2	004B	0 to 4
005P	0 to 5	006B	0 to 6
010P	0 to 10	010B	0 to 8
015P	0 to 15	016B	0 to 16
025P	0 to 25	025B	0 to 25
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		

2M	1/4" NPT Male	11	4-20 mA
1M	1/8" NPT Male	Ranges ≥25 PSI	
Ranges ≥ 25 PSI		11	4-20 mA
2M	1/4" NPT Male	22	0.1 - 5.1 VDC
4M	1/2" NPT (Male)		
2F	1/4" NPT (Female)		

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

Model 3100

OEM Industrial Pressure Transducer

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 $\pm 0.25\%$ 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 $0.005\%^\circ\text{C}$ 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 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.

Rugged Design

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.



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

Model 3100 Features:

- No Oil Fill - Prevents Thermal Instability & Leakage
- Wide Choice of Pressure Ranges: 75 PSI-32,000 PSI
- $\pm 0.25\%$ FS Accuracy
- Dual Temperature and Pressure Output
- Small Footprint - Less than 1" Diameter
- Choice of Current, Voltage, or Ratiometric Outputs
- Reverse Wiring Protection
- Accuracy Specified Over Full Temperature Range
- All Welded Stainless Steel Construction
- CE & UL Approved, RoHS Compliant
- IP67 Rated
- 40x FS Burst Pressure*

*Range Dependent

Applications:

- Power Generation
- Hydraulic Systems
- Booster Pump Systems
- Irrigation Systems
- Off Highway Vehicles

GENERAL SPECIFICATIONS

PRESSURE CAPABILITY

Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)	Burst Pressure (x Full Scale)
50-300 (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)		8 x FS
7,500-9,000 (600)		4 x FS
10,000 (700)		
15,000 (1,000)	1.40 x FS	2.2 x FS
25,000 (1,600)		1.8 x FS
30,000 (2,200)		

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.

Performance Data		Physical Description	
Accuracy ¹	±0.25% FS	Pressure Port	See Ordering Instructions
Thermal Effects ²		Enclosure	IP67 (IP65 for Electrical Code A)
Compensated Range °F(°C)	-40 to +221 (-40 to +125)	Elec. Connections	See Ordering Instructions
Zero/Span Shift %FS/100°F (%FS/100°C)	0.83 (1.5)	Wetted Parts	17-4PH SS (Diaphragm), 304 SS Fittings
Zero/Span Tolerance	±0.5% of Span	Vibration	40G Peak to Peak Sinusoidal to 2000Hz (Random Vibration: 20 to 1000Hz @ approx. 40G Peak per MIL-STD-810E
Response Time	1ms	Shock	Withstand free fall to IEC 68-2-32 procedure 1
Long Term Stability	±0.2% FS for <1000 PSI (60 BAR)	Weight	35 Grams
Proof/Burst Pressure	See Table	Electrical Data (Voltage)⁶	
Fatigue Life	Designed for more than 100M cycles	Circuit	3-Wire (Exc, Out, Com)
Temp. Output Range °F(°C) ^{3,4,5}	-40 to +221 (-40 to +125)	Output	1 to 6 VDC, 1 to 5 VDC, 0.5 to 4.5 VDC, 0 to 5 VDC, 0 to 10 VDC ⁷
Operating/Storage Temp °F(°C) ^{3,4,5}	-40 to +221 (-40 to +125)	Excitation	2 Volts above FS to max 30 Volts @ 4.5 mA (6.5mA Dual Output Version)
Electrical Data (Ratiometric)		Source & Sinks	2mA
Output	0.5 to 4.5 VDC @ 4mA (6.5 mA on Dual Output Version)	Electrical Data (Current)	
Excitation	5VDC ± 10%	Circuit	2-Wire
Options		Output	4 to 20mA
Full miswire protection between all signal and power lines (any combination)		Excitation	8 to 30 VDC (24 VDC max. above 110° applications)
Full short-circuit protection for Vout1 to 0V or Vout1 connected to supply, indefinitely.		Max. Loop Resistance	(Supply Voltage-8) x50 ohms
Ratiometric output not available			
Supply Voltage must be 4V above the maximum Vout1 output. This also accounts for worse-case customer output leads.			

¹RSS of Non-Linearity, Hysteresis, and Non-Repeatability .

²Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.

³Temperature outputs are for voltage output pressure sensors only and limited to connections that have 4 pins (Electrical Codes -D, -E, -8).

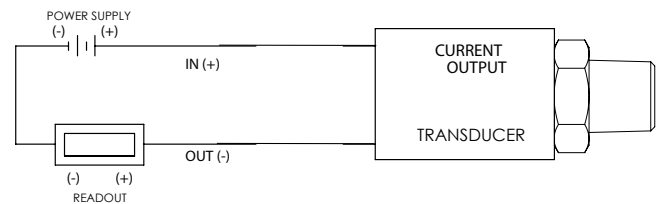
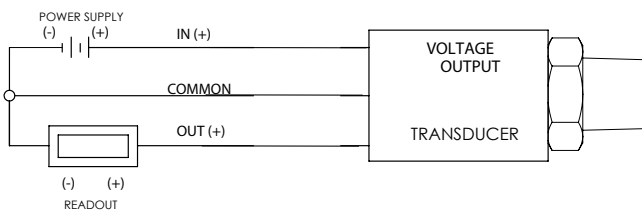
⁴Requires additional 2 mA of power.

⁵For use with pull-down resistors, contact factory before ordering.

⁶Reverse Wiring Protected.

⁷Not available for pressure ranges lower than 100 PSI (7 BAR)

WIRING



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	Current Mode	Voltage Mode		
1	V _{out1} (pressure)	No Connect	V _{supply}	V _{supply}	V _{out1} (pressure)	No Connect	Ground	Return	V _{out1} (pressure)	No Connect	C	V _{supply}	V _{supply}	A
2	V _{supply}	V _{supply}	V _{out1} (pressure)	No Connect	Ground	Return	V _{supply}	V _{supply}	Ground	Return	A	Ground	Ground	B
3	V _{out2} (temp)	No Connect	Ground	Return	V _{supply}	V _{supply}	V _{out2} (temp)	No Connect	V _{supply}	V _{supply}	B	No Connect	V _{out1} (pressure)	C
4	Ground	Return	V _{out2} (temp)	No Connect	—	—	V _{out1} (pressure)	No Connect	—	—		—	—	—

PRESSURE FITTINGS

SAE Dimensions in Inches					
Fitting Code	0L = 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.	0E = Female 1/4-18NPT	08 = 1/8-27 NPT Ext.	0K = M14 x 1.5 Straight	
Torque	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	2-3 TFFT*	

ORDERING INFORMATION

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Model	Output	Range Code	Pressure Type	Pressure Fitting	Elec. Connection	Restrictor	Options
See Table 1	B 4-20 mA	See Table 2	C Compound	See Table 3	See Table 4	0 No Restrictor	1 Miswire Protection
	C 1-6 VDC		G Gauge				None
	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
050P ^{2,6}	50	0004 ^{2,6}	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 ²	250	0020 ²	20
300P ²	300	0035 ²	35
500P ²	500	0070 ²	70
10CP ²	1000	0100 ²	100
15CP ²	1500	0160	160
23CP	2300	0250	250
36CP	3600	0400	400
60CP	6000	0700	700
10KP	10000	1000 ³	1000
15KP ³	15000	1800 ³	1800
25KP ³	25000	1600 ³	1600
32KP ^{3,5}	32000		

TABLE 3: FITTING SPEC

CODE	DESCRIPTION
08	1/8-27 NPT Ext.
02	1/4-18 NPT Ext.
4C	1/4 NPT Dryseal Ext.
4D	1/8 NPT 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 Female 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)
OK	M14 x 1.5 Straight
0E	Female 1/4-18NPT

NOTES

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

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

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

⁴For use with pull-up or pull-down resistors, contact factory.

⁵Pressure ports 0E and 1G are NOT available with the Restrictor option.

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

⁷Temperature outputs not available with Option 1 Miswire Protection PCB Ratiometric output not available

TABLE 4: ELEC. SPEC

CODE	DESCRIPTION
B	Industrial DIN
C	3-Pin Deutsch (Sealed Only)
E	M12xP4-Pin
6	AMP Superseal 1.5 Series
8	Deutsch DT04-4P
9	Packard Metri Pack

ACCESSORIES - MATING CONNECTORS

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, Consult AMP for Contacts, Wire Seal and Strain Relief options)	6
557703-01M0	M12 Cord Set - 1 Meter (Red 1, Green 2, Blue 3, Yellow 4)	E	210730	AMP 12" Flying Leads Cord Set	6
557703-03M0	M12 Cord Set - 3 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E		Recommended Mating Parts (Deutsch p/n: Housing Plug DT0645-P012; Wedge W45-P012; Sockets 4X 0462-201-1631)	8
557703-04M0	M12 Cord Set - 4 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E		Deutsch Cord Set 3' Long (18 AWG PVC Cable - Black 1, Red 2, Green 3, White, 4)	8
557703-05M0	M12 Cord Set - 5 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E	224153	Recommended Mating Parts (Delphi Packard MetriPack p/n: Body 12065268; Seal 12052893; Consult Delphi for Contacts)	9
	Recommended Mating Parts (AMP p/n: Housing 282087-1; Contacts 3X 183025-1; Seal 281934-1; Boot 880811-2)	6		Packard Mate Kit	9
557701 210729	AMP Superseal Mate Kit	6	577	Packard Cord Set 3' Long	9
	AMP 3.5' Cable Cord Set - Clear Pos 1, Black Pos 2, Red Pos 3	6	581	Packard Cord Set 6' Long	9
			582		

Model 3200

Heavy Duty OEM Industrial Pressure Transducer

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 $\pm 0.5\%$ 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 to 10k 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.

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. To ensure best in class accuracy and long term stability, each sensing element is thermally compensated to an accuracy of less than $0.005\%^\circ\text{C}$ 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.

Unrivalled 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.



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

Model 3200 Features:

- No Oil Fill - Prevents Thermal Instability & Leakage
- Wide Choice of Pressure Ranges: 75 PSI-32,000 PSI
- $\pm 0.5\%$ FS Accuracy
- Dual Temperature and Pressure Output
- Small Footprint - Less than 1" Diameter
- Choice of Current, Voltage or Ratiometric Outputs
- Reverse Wiring Protection
- Accuracy Specified Over Full Temperature Range
- All Welded Stainless Steel Construction
- CE & UL Approved, RoHS Compliant
- IP67 Rated
- 40x FS Burst Pressure*

*Range Dependent

Applications:

- Power Generation
- Hydraulic Systems
- Booster Pump Systems
- Irrigation Systems
- Off Highway Vehicles

GENERAL SPECIFICATIONS

PRESSURE CAPABILITY

Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)	Burst Pressure (x Full Scale)
50-300 (3.5-25)	3.00 x FS	40 x FS
500-1,500 (35-100)		20 x FS
2,000-6,000 (160-400)		10 x FS
7,500-9,000 (600)		
10,000 (700)	2.50 x FS	>60,000 PSI (4,000 Bar)
15,000 (1,000)		
25,000 (1,600)		

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.

Performance Data		Physical Description	
Accuracy ¹	±0.5% FS	Pressure Port	See Ordering Instructions
Thermal Effects ²		Enclosure	IP67 (IP65 for Electrical Code A)
Compensated Range °F(°C)	-40 to +221 (-40 to +125)	Elec. Connections	See Ordering Instructions
Zero/Span Shift %FS/100°F (%FS/100°C)	0.94 (2.0) for <1000 PSI (60 BAR)	Wetted Parts	17-4PH SS (Diaphragm), 304 SS Fittings
Zero/Span Tolerance	1% FS for <1000 PSI (60 BAR)	Vibration	40G Peak to Peak Sinusoidal to 2000Hz (Random Vibration: 20 to 1000Hz @ approx. 40G Peak per MIL-STD-810E
Response Time	1ms	Shock	Withstand free fall to IEC 68-2-32 procedure 1
Long Term Stability	±0.2% FS for <1000 PSI (60 BAR)	Weight	35 Grams
Proof/Burst Pressure	See Table	Electrical Data (Voltage)⁶	
Fatigue Life	Designed for more than 100M cycles	Circuit	3-Wire (Exc, Out, Com)
Temp. Output Range °F(°C) ^{3,4,5}	-40 to +221 (-40 to +125)	Output	1 to 6 VDC, 1 to 5 VDC, 0.5 to 4.5 VDC, 0 to 5 VDC, 0 to 10 VDC ⁷
Operating/Storage Temp °F(°C) ^{3,4,5}	-40 to +221 (-40 to +125)	Excitation	2 Volts above FS to max 30 Volts @ 4.5 mA (6.5mA Dual Output Version)
Electrical Data (Ratiometric)		Source & Sinks	2mA
Output	0.5 to 4.5 VDC @ 4mA (6.5 mA on Dual Output Version)	Electrical Data (Current)	
Excitation	5VDC ± 10%	Circuit	2-Wire
Options		Output	4 to 20mA
Full miswire protection between all signal and power lines (any combination)		Excitation	8 to 30 VDC (24 VDC max. above 110° applications)
Full short-circuit protection for Vout1 to 0V or Vout1 connected to supply, indefinitely. Ratiometric output not available		Max. Loop Resistance	(Supply Voltage-8) x50 ohms
Supply Voltage must be 4V above the maximum Vout1 output. This also accounts for worse-case customer output leads.			

¹RSS of Non-Linearity, Hysteresis, and Non-Repeatability.

²Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.

³Temperature outputs are for voltage output pressure sensors only and limited to connections that have 4 pins (Electrical Codes -D, -E, -8).

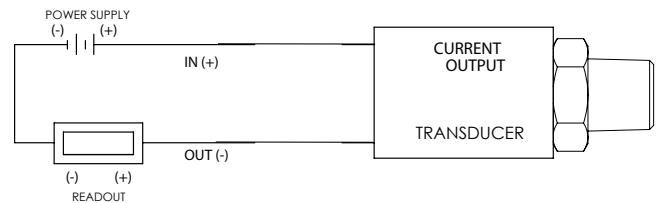
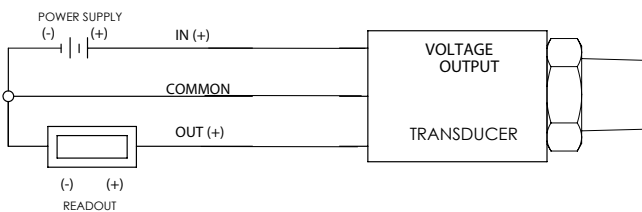
⁴Requires additional 2 mA of power.

⁵For use with pull-down resistors, contact factory before ordering.

⁶Reverse Wiring Protected.

⁷Not available for pressure ranges lower than 100 PSI (7 BAR)

WIRING



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		Current Mode	Voltage Mode	
1	V _{out1} (pressure)	No Connect	V _{supply}	V _{supply}	V _{out1} (pressure)	No Connect	Ground	Return	V _{out1} (pressure)	No Connect	C	V _{supply}	V _{supply}	A
2	V _{supply}	V _{supply}	V _{out1} (pressure)	No Connect	Ground	Return	V _{supply}	V _{supply}	Ground	Return	A	Ground	Ground	B
3	V _{out2} (temp)	No Connect	Ground	Return	V _{supply}	V _{supply}	V _{out2} (temp)	No Connect	V _{supply}	V _{supply}	B	No Connect	V _{out1} (pressure)	C
4	Ground	Return	V _{out2} (temp)	No Connect	—	—	V _{out1} (pressure)	No Connect	—	—		—	—	—

PRESSURE FITTINGS

SAE Dimensions in Inches					
Fitting Code	0L = 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.	0E = 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*	

ORDERING INFORMATION

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Model	Output		Range Code	Pressure Type		Pressure Fitting	Elec. Connection		Restrictor		Option			
See Table 1	B	4-20 mA	See Table 2	C	Compound	See Table 3	See Table 4		0	No Restrictor	1	Miswire Protection		
	C	1-6 VDC		G	Gauge							None		
	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
3203 ¹	Temp. Output Range: -0°C to +80°C

TABLE 2: RANGE SPEC

RANGE CODE	PSI	RANGE CODE	BAR
050P ^{2,6}	50	0004 ^{2,6}	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 ²	250	0020 ²	20
300P ²	300	0035 ²	35
500P ²	500	0070 ²	70
10CP ²	1000	0100 ²	100
15CP ²	1500	0160	160
23CP	2300	0250	250
36CP	3600	0400	400
60CP	6000	0700	700
10KP	10000	1000 ³	1000
15KP ³	15000	1800 ³	1800
25KP ³	25000	1600 ³	1600
32KP ^{3,5}	32000		

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 Female 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	Female 1/4-18NPT

NOTES

- ¹Temperature outputs are for voltage output pressure sensors only (applies temperature span. Requires additional 2mA of power).
- ²Sealed gauge not available on ranges ≤1500 PSI (≤100 bar).
- ³Ranges 1000 bar (15,000 PSI) and above available with 2T pressure port only. Ranges above 1,000 BAR are not UL Labeled.
- ⁴For use with pull-up or pull-down resistors, contact factory.
- ⁵Pressure ports 0E and 1G are NOT available with the Restrictor option.
- ⁶0 to 50 PSI (4 bar) - Not available with 4 to 20 mA or 0 to 10 VDC outputs.
- ⁷Temperature outputs not available with Option 1 Miswire Protection PCB Ratiometric output not available

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

ACCESSORIES - MATING CONNECTORS

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, Consult AMP for Contacts, Wire Seal and Strain Relief options)	6
557703-01M0	M12 Cord Set - 1 Meter (Red 1, Green 2, Blue 3, Yellow 4)	E	210730	AMP 12" Flying Leads Cord Set	6
557703-03M0	M12 Cord Set - 3 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E		Recommended Mating Parts (Deutsch p/n: Housing Plug DT0645-P012; Wedge W45-P012; Sockets 4X 0462-201-1631)	8
557703-04M0	M12 Cord Set - 4 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E		Deutsch Cord Set 3' Long (18 AWG PVC Cable - Black 1, Red 2, Green 3, White, 4)	8
557703-05M0	M12 Cord Set - 5 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E	224153	Recommended Mating Parts (Delphi Packard MetriPack p/n: Body 12065268; Seal 12052893; Consult Delphi for Contacts)	9
	Recommended Mating Parts (AMP p/n: Housing 282087-1; Contacts 3X 183025-1; Seal 281934-1; Boot 880811-2)	6		Packard Mate Kit	9
557701 210729	AMP Superseal Mate Kit	6	577	Packard Cord Set 3' Long	9
	AMP 3.5' Cable Cord Set - Clear Pos 1, Black Pos 2, Red Pos 3	6	581	Packard Cord Set 6' Long	9
			582		

SRH

Wall Mount

Duct Mount

Outside Air

INDOOR AIR QUALITY

PRODUCT SECTION 6.1

setra

Model SRH

Relative Humidity Sensor



DESCRIPTION

The Model SRH Humidity Series include wall mount, duct mount and outside air configurations in $\pm 2\%$ FS, $\pm 3\%$ FS, and $\pm 5\%$ FS RH accuracy. The SRH Series offers optional active temperature with choice of 4 to 20 mA or user-selectable 0 to 5 and 0 to 10 VDC output, and passive temperature with choice of thermistor or RDT output. Humidity transmitters configured with active temperature option feature jumper selectable Tspan ranges of 40°C, 50°C, and 60°C. All models feature a removable sensor tip, NIST traceability, and a durable capacitive sensor capable of full scale 0 to 100% RH measurement. All models can withstand 100% saturation without losing performance.

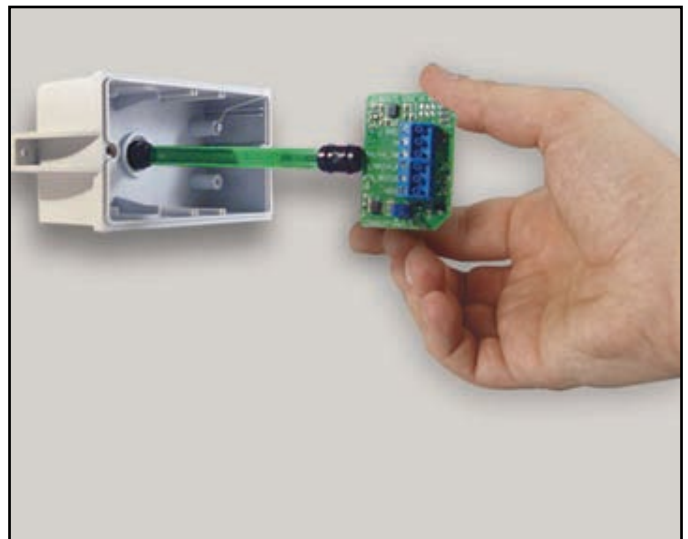
Replacing the removable sensor tip requires no special training and can be easily replaced by the end user. No calibration is needed because each new sensor module is factory calibrated before shipping, reducing downtime during service intervals. As an example, the duct mount probe is easily accessed by taking off the front cover, pulling out the probe and replacing the sensor tip. This same procedure can be performed on the wall mount and outside air models. An additional benefit for duct and outside air applications is the sensor module can be replaced without having to remove the unit and disconnect the wiring conduit.

FEATURES

- Available in Wall, Duct Mount or Outdoor Air
- Key Component of Comprehensive HVAC/R System
- Active Temperature with Jumper Selectable
- Tspan Ranges of 40°C, 50°C, and 60°C
- Excellent Reliability through ASIC Technology
- Robust Capacitive Sensor Design
- Low Cost of Ownership
- Three Accuracy Options: $\pm 2\%$ FS, $\pm 3\%$ FS & $\pm 5\%$ FS
- Replaceable Sensor Tip
- Quick Mount, 2 Screw Install with Plug-In Terminal Wiring
- 5 Year Warranty on Electronics
- 2 Year Warranty on Sensor Module
- CE and RoHS Compliant

APPLICATIONS

- HVAC/R Control
- Indoor Air Quality (IAQ)
- Laboratories
- Antiquities Preservation

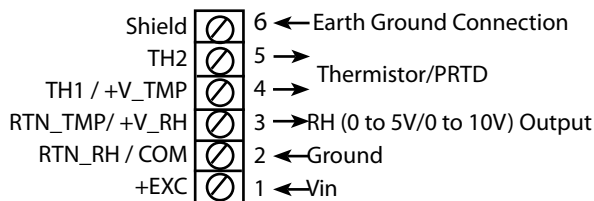


SPECIFICATIONS

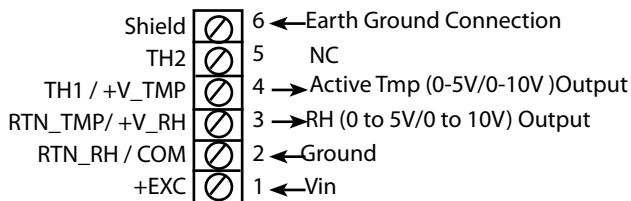
RH Performance Data		Temperature Sensing Options (Passive)		Physical Description	
Sensing Element	Capacitive Polymer	T1: Thermistor	NTC 10K ohms 77°F/25°C (Direct Connect) Type II	Enclosure Materials	
Humidity Operating Range	0 to 99% RH (non-condensing)	T2: RTD Output	1000 ohms 32°F/0°C (Direct Connect)	Wall Mount	VA 94-V0
Accuracy @ 68°F (20°C)	2%, 3%, 5% ¹	T6: Thermistor	NTC 10K ohms 77°F/25°C Type III	Duct & Outside Air	Polycarbonate 94-V0
Non-Repeatability	0.05% FS	Temperature Sensing Options (Active)		Probe (Duct & Outside Air)	Aluminum
Long Term Stability	<1%/Year @ 68°F (20°C), 50% RH	T3: Ranges °F (°C) Accuracy @ 68°F (20°C)	-58 to +140 (-50 to +60) Typ @ 50% ±1.1 (±0.6) ²	Weather Shield	Porous Polyethylene
Electrical Data		T5: °F (°C) Accuracy @ 68°F (20°C)	+14 to +140 (-10 to +60) Typ @ 50% ±0.7 (±0.4) ²	Sensor Tip Filter	70 Micron Polypropylene
Signal Outputs		Signal Output Options (includes humidity output)		Dimensions	See Dimensions Drawings
Current (2-Wire)	4 to 20mA	Current	4 to 20mA	Environmental Data	
Field-Selectable Voltage (3-Wire)	0 to 5 VDC, 0 to 10 VDC	Field-Selectable Voltage	0 to 5 VDC, 0 to 10 VDC	Operating Temperature °F (°C)	-40 to 140 (-40 to 60)
Excitation	13.5 to 30 VDC (10 VDC Output) 12 to 30 VDC (4 to 20 Ma, 5 VDC Output)	¹ 5% units available only with passive temperature option. ² Excitation 24 VDC ±10% Specifications subject to change without notice.		Storage Temperature °F (°C)	-40 to 158 (-40 to 70)
Maximum Load (Current Only)	=(Supply - 10) - 0.02			Moisture Resistance	IP65, NEMA-4 (Duct & Outside Air)
Electrical Termination	Pluggable Terminal Block (5mm Pitch)			Solar	UV Resistant (Outside Air)
Wiring Protection	Reverse Excitation			Flammability Rating	94-V0
CE Compliance	EMC Directive 2004/108/EC			Compliance	RoHS Compliant, CE Compliant

WIRING

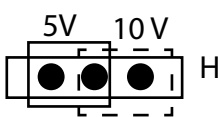
Wiring 0-5 V/0-10 V Output Units (3-wire / T0, T1, T2 & T6)



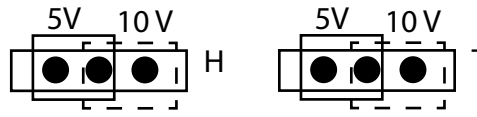
Wiring 0-5 V/0-10 V Output Units (4-wire / T3 & T5)



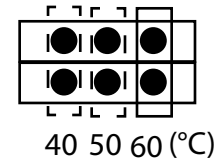
Selectable Outputs



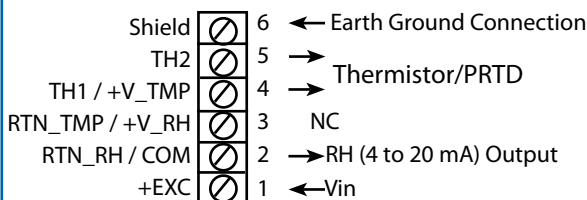
Selectable Outputs



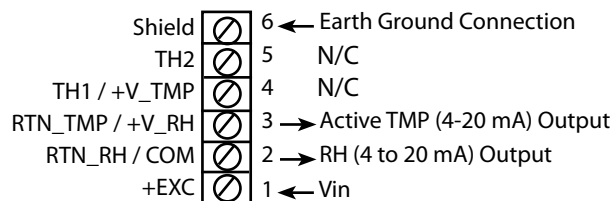
Selectable Tspan



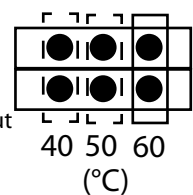
Wiring 4 to 20 mA Output Units (2-wire / T0, T1 & T2)



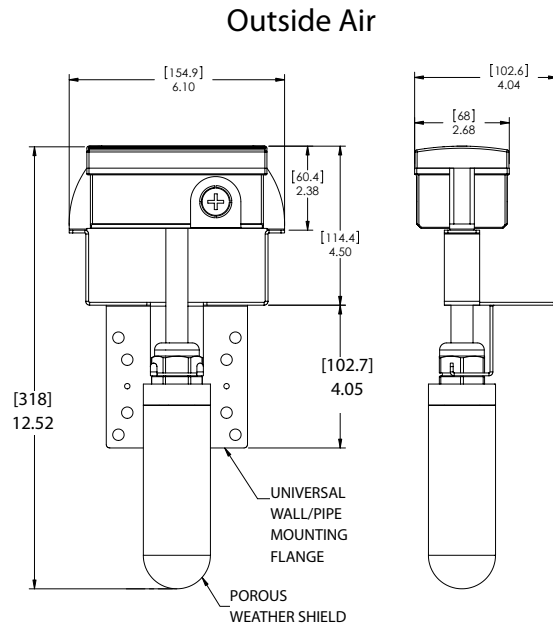
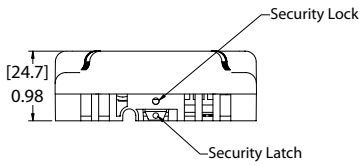
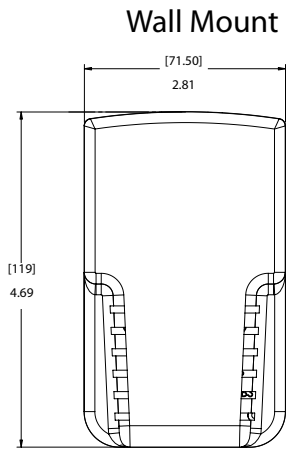
Wiring 4 to 20 mA Output Units (3-wire / T3, T5)



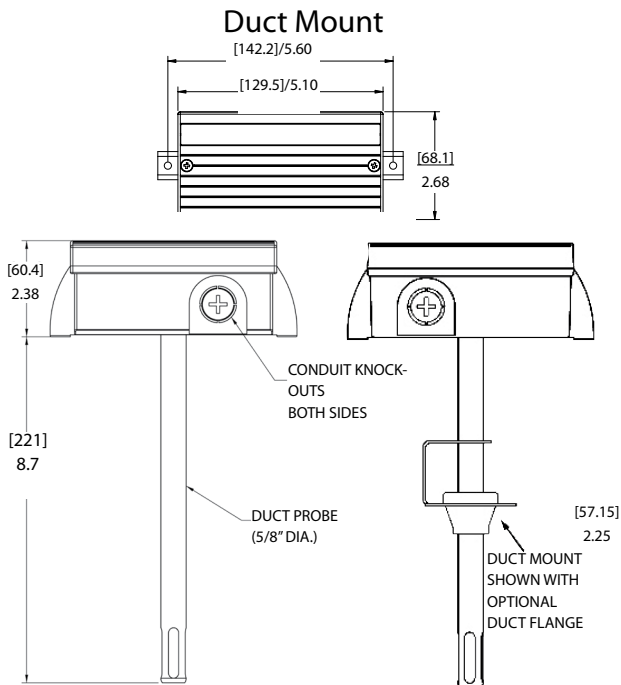
Selectable Tspan



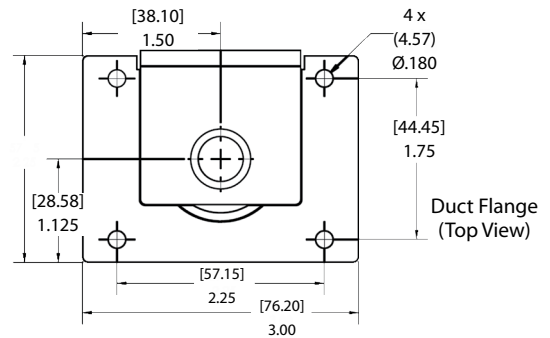
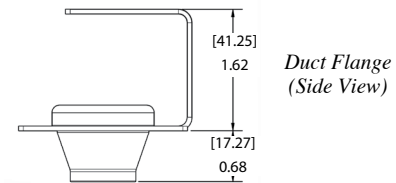
DIMENSIONS



[mm]
in.



Optional Duct Flange Mates with Duct Mount Unit



ORDERING INFORMATION

S R H 1 - [] [] - [] - [] [] - [] [] - N - []

Model	Accuracy		Configuration		Outputs		Temperature Outputs		Display ³		Options	
SRH1 = SRH	2P	±2% FS	W	Wall (T3 option not available)	11	4 - 20 mA	T0	None (RH only)	N	None	C	NIST Certificate of Performance
	3P	±3% FS	D	Duct	2C	0 - 5 or 0-10 VDC ¹ (user-selectable)	T1	10K ohms Type II Thermistor (Passive)				
	5P	±5% FS (Available w/ T3 and T5 only)	O	Outside Air			T2	1000 Ω RTD (Passive)				
							T3	-58 to 140°F (-50 to 60°C [Active]) ^{2,3}				
							T5	+14 to 140°F (-10 to 60°C [Active]) ^{2,3}				
							T6	10K ohms Type III Thermistor [Passive]				

Ordering Example: SRH12PW11T0NC = Model SRH, ±2% FS Accuracy, Wall Mount, 4 to 20 mA Output, RH only, No Display, NIST Certificate of Conformance

S R H 3 - [] [] - [] []

Model	Accuracy		Temperature Outputs	
SRH3 = SRH	2P	±2% FS	T0	None (RH only)
	3P	±3% FS	T1	10K ohms Type II Thermistor (Passive)
	5P	±5% FS	T2	1000 ohms RTD (Passive)
			T3	-58 to 140°F (-50 to 60°C [Active]) ³
			T5	+14 to 140°F (-10 to 60°C [Active]) ³
			T6	10K ohms Type III Thermistor [Passive]

Replacement Sensor Assembly: Ordering Example: SRH32PT0 = ±2% FS Accuracy, RH only.

Notes:

1. Voltage outputs (2C) are factory configured for 0 to 5 VDC operation. User-selectable jumper for 0 to 10 VDC operation.
2. Tspan jumper factory configured for 60°C. User-selectable Tspan for 40°C and 50°C option provided.
3. SRH1 units originally ordered with either a T3 or T5 temperature option Must be replaced with the same T(x) version.

MicroCal™

ULTRA-LOW PRESSURE & DOCUMENTING CALIBRATORS

PRODUCT SECTION 7.1

setra

MicroCal™

Advanced Modular Pressure Calibrator

The MicroCal™ automated pressure calibrator is used as a stand-alone calibration standard for differential and gauge pressure sensors found in critical environments. Setra partnered with NASA to develop the industry's quickest and most stable pressure control for low range applications. The MicroCal™ combines precise pressure control with high accuracy modular pressure references providing the quickest and most accurate calibration solution available on the market today. The MicroCal™ is an easy-to-use solution that significantly improves labor productivity and efficiency when compared to the leading competitors, providing immediate ROI.



Modular Design to Cover Many Applications

The MicroCal™ utilizes modular pressure references, enabling the user to select the most accurate reference for calibrating the unit under test. Competitive calibrators often use fixed higher range reference sensors that do not allow for proper calibration ratios at the low end of the pressure range. The modular rechargeable battery offers further flexibility to extend available calibration time beyond the standard 8 hours.

NASA Patented Technology

The MicroCal™ is designed to perform calibration checks on installed sensors, pressure switches and gauges that monitor critical applications. The on-board pressure generation system allows for stable & accurate pressure to be applied to the unit under test during calibration, while providing isolation from process background disturbances. This NASA patented technology achieves 0.0002 "W.C./step resolution; when combined with the high accuracy MCPM pressure module the MicroCal™ is the ultimate low-pressure calibration device.

Reduce Calibration Time

When the fast and stable pressure control is combined with high accuracy reference modules and easy to use interface, the MicroCal™ can reduce overall calibration time up to 80%. This time savings provides almost immediate ROI based on the number of calibrations performed annually.

7" Touchscreen With Intuitive User Interface

The easy to use 7" touchscreen interface, combined with an intuitive menu structure, provides the user with all the features needed for verification and calibration of differential pressure instrumentation. The MicroCal™ offers the Expert System feature, which detects and automatically calibrates Setra's Model 269 digital pressure transducer.

- Best-in-Class Pressure Generation
- Immediate ROI
- Increased Calibration Ratios

MicroCal™ Features:

- Modular Pressure References
- Up to 8 Hours of Battery Life
- Easy Step-by-Step User Interface Process
- Built-In Leak Test Function
- Provides Accuracy & Stability Plots
- Pressure Generation & Monitoring Modes to Verify System Performance
- True Low Range Dual Reference Pressure Sensors With NIST Traceability

Calibration Capabilities:

- Analog Pressure Transducers
- Pressure Switches
- Analog Dial Gauges

ORDERING INFORMATION

M C A L - [] - [] - []

Model	Pressure Control Range	Electro-Pneumatic Interface	Options
MCAL = MicroCal™	L Low- up to 0-30"W.C	N Std. user interface with 6' tubing	N None
		M Std. user interface with 12' tubing	L LEMO Connector for Remote Digital Sensor
		E Expert system interface with 6' cable and tubing	
		L Expert system interface with 12' cable and tubing	

Ordering Example: MCALLMN = MicroCal™, Range 30"W.C., Std. user interface with 12' tubing.

REFERENCE MODULES

M C P M - [] [] [] [] []

Model	Range	
	"W.C	Pascal
MCPM = MicroCal™ Pressure Modules	Unidirectional	
	0R5WD 0 to 0.5	100LD 0 to 100
	001WD 0 to 1	250LD 0 to 250
	005WD 0 to 5	500LD 0 to 500
	2R5WD 0 to 2.5	10CLD 0 to 1000
	015WD 0 to 15	35CLD 0 to 3500
	Bidirectional	
	R25WB ±0.25	050LB ±50
	0R5WB ±0.5	100LB ±100
	001WB ±1	250LB ±250
	2R5WB ±2.5	500LB ±500
	005WB ±5	10CLB ±1000
	015WB ±15	35CLB ±3500



Ordering Example: MCPMR25WB=MicroCal™ Pressure Module, Range ±0.25"W.C

ACCESSORIES

869973-G	Spare Battery
869974-G	Desktop Charger
869923	Accessory Kit (Screwdriver, Silicon Tube, Misc. Fittings)
869920	Harness Cable End Ass'y, 2-Wire
869904-10	2-Wire Electro-Pneumatic Harness: 10 ft.
869921	Harness Cable End Ass'y, 4-Wire
869905-10	4-Wire Electro-pneumatic Harness: 10 ft.

GENERAL SPECIFICATIONS

Measurement Uncertainty (1 YR)	
Pressure	±0.12% Reading ±0.028% FS
Voltage	±0.015% Reading ±0.002 V
Current	±0.015% Reading ±0.002 mA
Physical	
Operating Temperature	50° to 95°F (10° to 35°C)
Storage Temperature	32° to 160°F (0° to 71°C)
Power Requirements	24 VDC (110/220V Power Adapter Included)
Battery (included)	Li-ion, 6.75 AH, Recharge Time < 3 hours
Case Dimensions	18.6" x 14.7" x 7.1"
Weight	18-22 lbs.
Control	
Controlled Pressure Stability	0.0002"W.C.
Minimum Controlled Pressure	0.00005"W.C.
Temperature Effect (Outside Operating Temperature)	
Zero	None, Zero Tare
Span	Additional ±0.005% FS/F
General	
Engineering Units	Field Selectable (20 Options)
Warm up	20 Minutes
Communications	RS232
Display	7" Touchscreen
Pressure Connections	Plug-In O-Ring Quick Connects
Electrical Connections	Banana Plug Jacks

Specifications subject to change.

Power
Supplies

Room
Pressure
Status

Static
Pressure Tips
and Tubing

299 Dri-Sense

ACCESSORIES

PRODUCT SECTION 8.1

setra

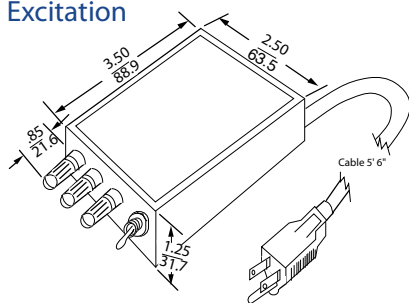
24VDC Power Supplies



Model 868

The Model 868 modular 100% encapsulated package offers the advantage of compact size, ruggedness, long life and environmental immunity. Packaging features such as #4-40 threaded inserts for mounting. AC power cord, banana jacks and on/off toggle switch facilitate its use as a stand alone unit or integral part of a pressure measurement system.

- Low Output Ripple
- Excellent Line & Load Regulation
- Short-Circuit Current Limiting
- 100% Encapsulated Package
- 24VDC Excitation



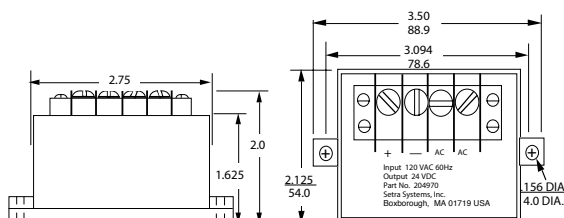
Model 868 Specifications

Input Voltages	105 to 125VAC
Input Frequency	50 to 440Hz
Output Voltage	Isolated ± 12 VDC 100 mA (use as 24VDC w/ Setra transducers). Some require 12VDC Excitation
Line Regulation	0.05% LL-HL
Load Regulation	0.1% NL-FL
Ripple	<1 mV RMS
I/O Isolation	50 megaohms/min.
Short Circuit Protection	Current Limiting (140%)
Storage Temperature	55°C to ± 85 °C
Operating Temperature	-25°C to 71°C
Temperature Coefficient	0.02%/°C (typical)
Wiring Instructions	Red: +Out, White: common, Black: -Out

Model 867/867 30V

Models 867 and 867 30V are low cost power supplies that have the advantage of being able to withstand a momentary short circuit without failure. Mounting holes are located on both sides of the unit for easy panel installation.

- Small Size & Light Weight
- Integral Barrier Strip Terminal for Input & Output Wiring
- Convenient Mounting Tabs
- Withstands Momentary Short Circuit without Failure
- 24 or 30VDC Excitation



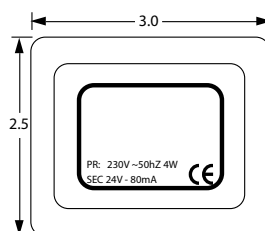
Model 867/867 30V Specifications

OUTPUT	
867	24VDC unregulated filtered <29VDC with no load, >21VDC at 100mA, no more than 0,7 pk-pk ripple
867 30V	30VDC unregulated filtered
INPUT	
867	120VAC, 60Hz
867 30V	220-240VAC, 50/60Hz

Model 890

The Model 890 offers an enclosure for applications where exposed terminal strips are not allowed. The input cord has the standard European two prong adapter and is 6 feet long. The output cord is 6 feet long #8 gauge wire.

- Standard European Style Adapter
- No Exposed Terminal
- 24VDC Excitation



Model 890 Specifications

Input Voltage	220 to 240VAC
Input Frequency	50/60Hz
Output Voltages	24VDC @ 80mA



Applications

- Hospital Patient Isolation Wards
- Pharmaceutical
- Semiconductor Fabs
- Cleanrooms
- Research Laboratories
- Animal Resource Facilities

Model SRAN - Remote Annunciator

Setra's Remote Annunciator (SRAN) allows remote indication of room pressure status at monitoring/nurses station. A Green LED indicates Normal room condition, a Red LED and Audible Alarm signal a breach in room pressure status.

The SRAN is the same size as a standard electrical wall plat (2.75"W x 4.5"H) and fits flush to the wall. It can be mounted to the wall using a standard electrical box.

Under normal conditions the Green LED remains. When an alarmed condition occurs (i.e., room pressure falls outside preset range) a signal is triggered by the SRPM, the Green LED shuts off, the Red LED flashes and the Audible Alarm sounds. The acknowledge button can be pressed to momentarily turn-off the Audible Alarm and the Red LED will continue to flash until the alarmed condition is corrected. When the alarmed condition is corrected the annunciator will reset itself. The Green LED will turn-on, the Red LED and Audible alarm will shut off.

SPECIFICATIONS

Enclosure	2.75"W x 4.5"H aluminum wall cover plugs
Display Panel	Red and Green LED Indicators, Acknowledgement Switch
External Power Supply	15 VDC, 50 mA Max.
Audible Alarm	0 dBA - 85 dBA measured 4 inches from Annunciator
Time Delay	Adjust at (SRPM) Room Pressure Monitor
Note: The SRAN operates with the SRPM and SRCM or with any dry contact and an external power supply	



Model RPS - Room Pressure Snubber








The RPS is a stainless steel room static pressure sensor that has the same footprint (2.75"W x 4.5"H) as your standard electrical wall plate. It can be mounted to the wall using a standard electrical box.

ORDERING INFORMATION

Model	Part Number
SRAN	S R A N
RPS	R P S

The **Stainless Steel Static Pressure Tips** are used to measure static pressure in ducts or rooms. They are to be connected to differential pressure switches and transmitters. Two static pressure sensors are used in applications where differential pressure is required across a filter or coil. These sensors include a mounting flange with integral rubber gasket and two screws for simplifying mounting on a duct.

Brass Static Pressure Tips: These sensors are for use with manometers, Magnahelic gages, pressure switches and other controllers to pick-up or sense static pressure drop across air filters and cooling coils, blower input and discharge pressure, etc. The angles tips shown have 4" insertion depth. Each has four radially drilled 0.040" sensing holes. No. 242904 and 242905 are suitable for use in low velocity systems or where the need for accuracy is less critical.

ORDERING INFORMATION	PART NUMBER	DESCRIPTION
	242901-04	Static Pressure Sensor, 4" straight static pressure tip with flange
	242901-06	Static Pressure Sensor, 6" straight static pressure tip with flange
	242901-08	Static Pressure Sensor, 8" straight static pressure tip with flange
	242902-04	Static Pressure Tip for 1/4" metal tubing connection
	242902-06	Static Pressure Tip, with 6" insertion depth
	242902-08	Static Pressure Tip, with 8" insertion depth
	242902-12	Static Pressure Tip, with 12" insertion depth
	242903-04	Static Pressure Tip for 3/16" and 1/8" I.D. plastic or rubber tubing
	242903-06	Static Pressure Tip with 6" insertion depth
	242904	Static Pressure Fitting for 1/4" metal tubing connection
	242905	Static Pressure Tip for 3/16" and 1/8" I.D. plastic or rubber tubing



Description

The NEMA 4X rated Model 299 Dri-Sense pressure transducer enclosure is designed for field termination of pressure transducers.

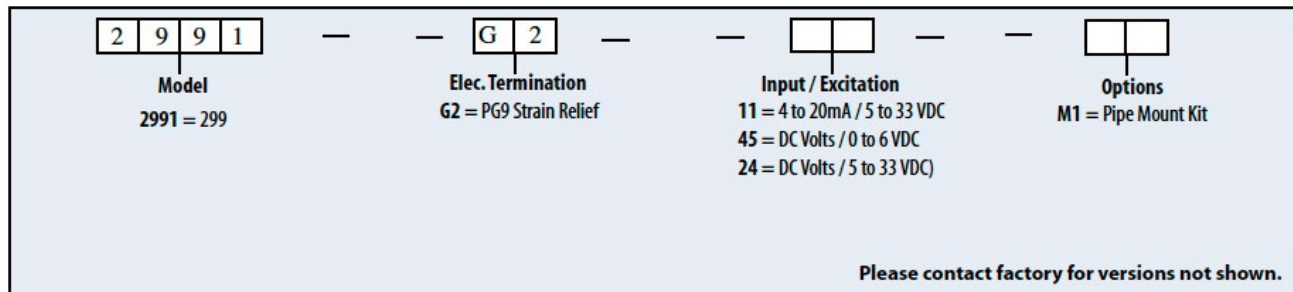
Desiccant material contained within the cover captures and condenses moisture through surface adsorption, providing an effective barrier against the ingress of humidity into the pressure transducer's sensor. When replacement is necessary the user is alerted through the clearly visible desiccant status window, which changes from blue (dry) to pink (saturated).

With a life expectancy of 6 months, the desiccant can be regenerated by removing the cover and baking it in a 200°F oven for 3 to 4 hours or until it returns to its dry status (blue). To ensure uninterrupted system operation, replacement desiccating covers are available.

The Model 299's case is constructed of sturdy plastic glass-filled polycarbonate (U94AB-0) and is designed with easy access to terminal connections. NEMA 4X (IP65) rated for indoor and outdoor installations. The Model 299 includes integral surge protection to protect the circuit board from a voltage surge up to 2000 volts.

FEATURES

- Visible Desiccant Status
- Easily Replaceable
- Replaceable Terminal Interface Circuit Board
- Surge Suppression
- NEMA 4X Industrial Housing



ORDERING INFORMATION

ORDER USING SETRA'S CONFIGURABLE PART NUMBER

Our products feature configurable part numbers. Configurable part numbers are designed to simplify and expedite the ordering process as well as provide you with a convenient reference number for inventory control. Individual part numbers identify the product and its unique specifications. The following is an example of how to order using Setra's configurable part numbers:

Example: Order a Model 264 (2641), with a range of 0.25 in.WC (R25WD), 0-5 VDC output (2D), Housing w/1/2" conduit opening (A1), 0.4% Accuracy (E).

Part Number :2641R25WD2DA1E

TERMS

Setra accepts net 30 days upon credit approval, credit card payments, otherwise prepayment must be received in advance of manufacturing.

Remit payment to:

Bank of America Lockbox Services
12003 Collections Center Drive
Chicago, IL 60693

F.I.D. #: 042432269

Credit cards accepted:



PRICES

All prices are in U.S. Dollars, F.O.B. origin. Prices do not include federal, state or local sales, use, excise or similar taxes that may be in effect, or shipping charges. All prices are subject to change without notice.

MAIL, FAX, TELEPHONE, OR EMAIL ORDER INQUIRIES TO:

Customer Care Group
Setra Systems, Inc.
159 Swanson Road
Boxborough, Massachusetts 01719

Telephone: 1 (800) 257-3872
Email: orders@setra.com
Fax: (978) 264-0292

RETURNS AND SERVICE

Repairs:

When returning a product to Setra please call 1 (800) 257-3872 or email orders@setra.com to obtain an RMA number before sending units back to us. Once an RMA number has been assigned to you, please send the package back to the below address.

Setra Systems, Inc.
159 Swanson Road
Boxborough, MA 01719
Attn: RMA#

To download return form, please visit www.setra.com/support/service.

To assure prompt handling, please make sure the RMA number is on the outside of the box and a copy of the service request is included in the shipment. If applicable, include a copy of the PO for the return shipment.

Calibration Services:

Setra maintains a complete calibration facility that is traceable to the National Institute of Standards & Technology (NIST). If you would like to recalibrate or recertify your Setra pressure transducers or transmitters, please call our Customer Care Department at 1 (800) 257-3872 or via email at orders@setra.com.

SETRA TERMS AND CONDITIONS APPLY

For a copy of our Terms and Conditions please visit:
www.setra.com/terms-and-conditions

