

HVAC

2014 PRODUCT CATALOG

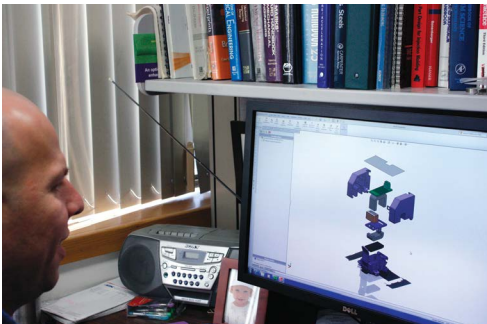
setra®



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



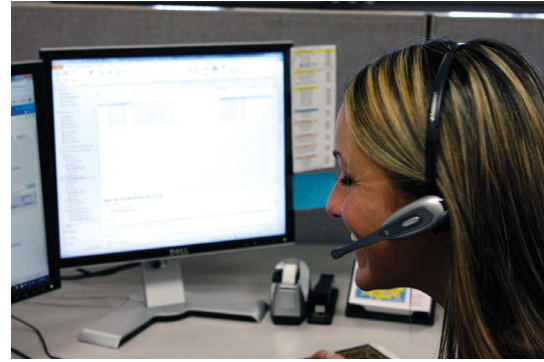
Setra's multi-disciplinary engineering department has decades of experience in designing high precision pressure, humidity, and current sensing instruments. The design group includes senior electrical, mechanical, and software engineers in an organization that fosters creativity and innovation in design.

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
or 978-263-1400

Mission Statement

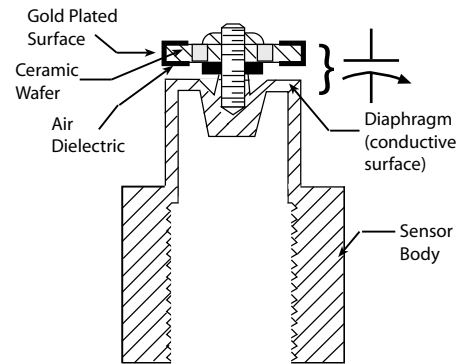
To globally serve the sensing, display and control needs of the HVAC Building Automation market and Industrial OEM Pressure sensing segments, with an emphasis on solutions that provide energy cost savings and support the expansion of quality healthcare products and services

Our vision is to have a rich understanding of our served applications, local market requirements and the specific needs of our customers. We will utilize our design engineering core competency and open innovation to develop and deliver solutions that are driven by our DBS principles.

Capacitive Transducers

Setra's capacitive pressure transducers are expertly designed adaptations of a simple, durable and fundamentally stable device...the electrical capacitor.

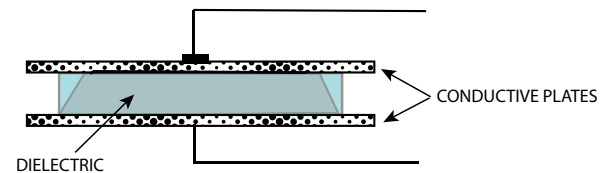
In a typical Setra configuration, a compact housing contains two closely spaced, parallel, electrically isolated metallic surfaces, one of which is essentially a diaphragm capable of slight flexing under pressure. The diaphragm is constructed of a low-hysteresis material such as 17-4 PH SS or a proprietary 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.)

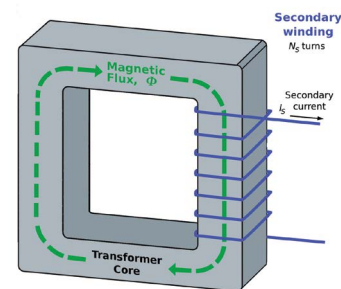
Capacitive RH Sensors

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

MODELS:

260	264	265
267/267MR	269	230
231	231RS	239

setra

Model 260

Very Low 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

Ideal for installers who are unsure of the exact job requirement, the Model 260 gives the installer the ability to “configure on the fly”. The Model 260 offers user-selectable unidirectional and bidirectional pressure ranges and analog outputs, a standard LCD, and AC/DC excitation on voltage output operation. At a standard accuracy of 1% FS, the Model 260 provides fixed range performance for all selectable ranges. The 260 is ideal for HVAC Control, Static Room Pressure, Oven Pressurization, Furnace Draft Controls, HVAC Service and Retrofit, and Environmental Pollution Control.

FEATURES

- Optional 4 Digit LCD
- Field Selectable Multi-Range
- Field Selectable Multi-Output
- Simple 5-Step Setup
- Field Accessible Push-Button Zero and Span
- Hinged Cover
- External Mounting Tabs
- Unregulated AC/DC Operation
- Microprocessor-Based Electronics - Guarantees Range to Range Performance
- NIST Traceable
- Fire Retardant Case (UL 94 V-0 Approved)
- Meets CE Conformance Standards

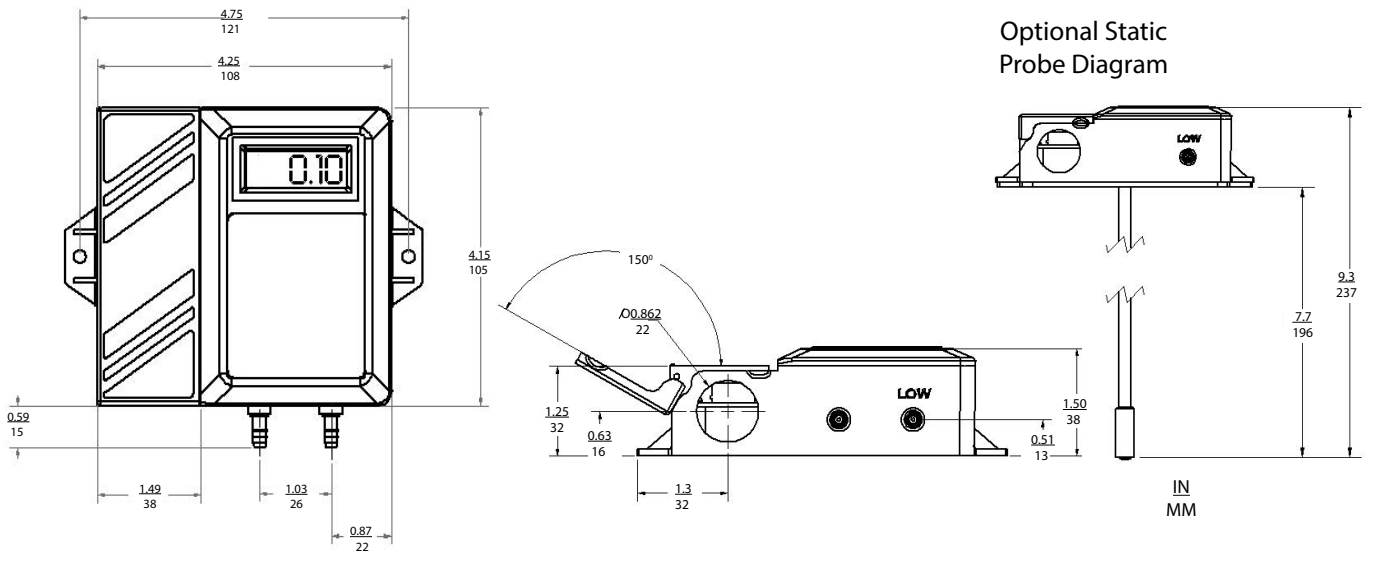
TARGET USERS

- Service/Retrofit Friendly
- Small Users - Inventory & Installation Savings
- Sub-Contractors - Quick Installation
- Flexible for Building Specification Changes
- Service Technicians - Quick & Accurate Reconfigurations

SPECIFICATIONS

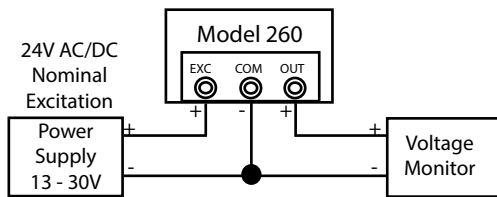
Performance Data		Environmental Data		Electrical Data (Voltage)	
	Standard	Operating Temperature ³	32 to 122°F (0 to 50°C)	Circuit	3-Wire (Com, Out, Exc)
Accuracy RSS ¹ (at constant temp)	±1.0% FS	Physical Description		Excitation	13 - 30 VDC/18-24 VAC
Non-Linearity, BFSL	±0.96% FS	Case	Fire-Retardant Glass Filled Polyester (UL 94 V-0 Approved), Hinged Lid	Field Selectable Output ⁴	0 to 5 or 0 to 10 VDC ⁵
Hysteresis	0.10% FS	Mounting	Two External Screw Holes Vertical Position	Bidirectional output at zero pressure	0 to 5 VDC = 2.5 VDC 0 to 10 VDC = 5 VDC
Thermal Effects²		Electrical Connection Block	Removable Screw Terminal	Output Impedance	300 ohms
Compensated Range °F (°C)	32 to 122°F (0 to 50°C)	Pressure Fitting	3/12" O.D. Barbed Brass	Electrical Data (Current)	
Zero Shift %FS/°F(°C)	0.03 (0.054)	Zero	Push Button	Circuit	2-Wire, Reverse Wiring Protected
Maximum Line Pressure	10 PSI	Span	Push Button	Excitation	24 V (DC only)
Overpressure	Up to 10 PSI	Weight (approx.)	8 Ounces	External Load	0 to 800 ohms
Max. Line Pressure	10 PSI	Pressure Media		Field Selectable Output ⁴	4 to 20 mA ⁷
Overpressure	Up to 10 PSI (range dependent)	Typically air or similar non-conducting gases.		Max. Loop Supply Voltage (VDC)	30 + 0.004 x (resistance of receiver plus line)
Long Term Stability (max.)	2.0% FS/YR	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.		Bidirectional output at zero pressure	12 mA ⁷
Position Effect				External Load	0 to 800 ohms
Zero Offset %FS/G	0.2%	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.		Minimum Supply Voltage (VDC)	13 Volts (at terminal)
(Unit is factory calibrated at 0g effect in the vertical position)		Specifications subject to change without notice.		Maximum Supply Voltage (VDC)	30 Volts (at terminal)

DIMENSIONS

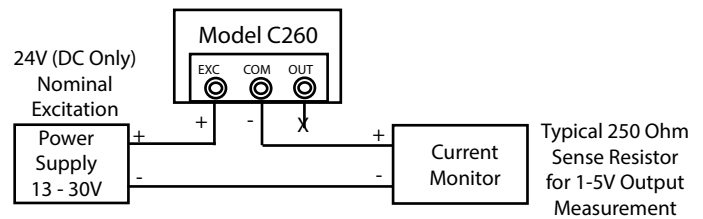


WIRING

Multi-Sense Voltage
3-Wire, 0-5, 0-10 VDC Configuration



Multi-Sense Current
2-Wire, 4-20 mA Configuration



ORDERING INFORMATION

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Model	Range Code	Options
2601 = 260	See Table 1 Below	S Static Pressure Probe
		N No Display
		Z Static Pressure Probe/No Display

Please contact factory for versions not shown.

Table 1. Range Specification*

RANGE CODE	UNIDIRECTIONAL PRESSURE RANGES	BIDIRECTIONAL PRESSURE RANGES
MS1	0.1, 0.25, 0.5, 1.0 in. WC FS	±0.1, 0.25, 0.5, 1.0 in. WC FS
MS2	1.0, 2.5, 5.0, 10 in. WC FS	±1.0, 2.5, 5.0, 10 in. WC FS
MS3	25, 50, 100, 250 Pa FS	±25, 50, 100, 250 Pa FS
MS4	0.25, 0.50, 1.00, 2.5 kPa FS	±0.25, 0.50, 1.00, 2.5 kPa FS

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

Ordering Example: 2601MS1S = Model 260, 0 to 1.0 in. W.C. Range, with Static Pressure Probe

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

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 in. W.C. full scale to 100 in. W.C. full scale. Static standard accuracy is $\pm 1.0\%$ full scale 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

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

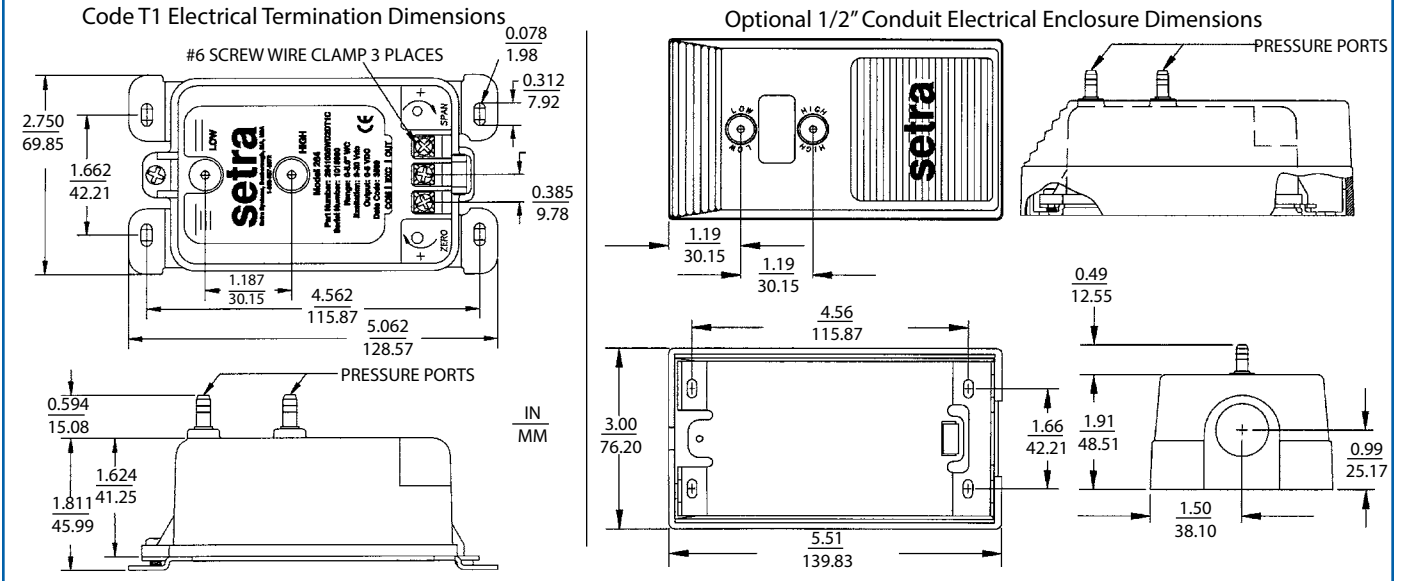
APPLICATIONS

- 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

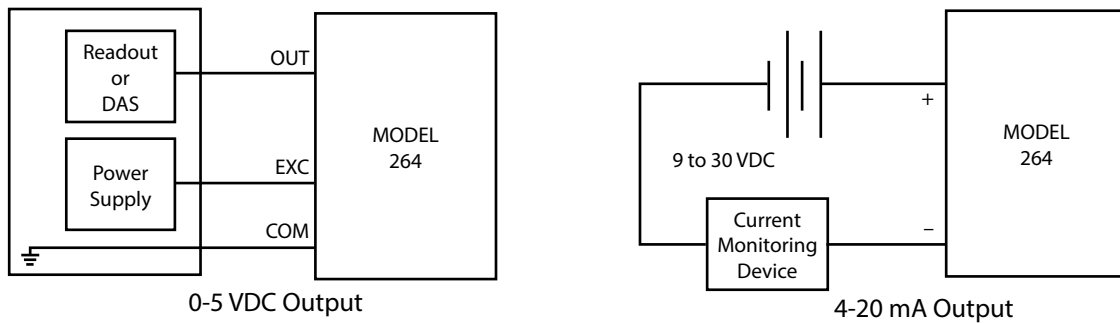
SPECIFICATIONS

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	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" pushon 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				
	0.25 in. 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

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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
				Opt. F ±0.25% FS
				Opt. G ±1% FS

RANGE CODE	DIFFERENTIAL	RANGE CODE	BIDIRECTIONAL
	in. W.C.		in. 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 in. W.C. Range, 4 to 20 mA Output, Terminal Strip Electrical Connection, and ±1% Accuracy

Model 265

Very Low Differential Pressure Transducer



Model 265 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. 5442962, 6019002, 6014800 and other Patents Pending.

DESCRIPTION

The Model 265 is designed to reduce installation costs while increasing overall operating efficiency. At $\pm 1\%$ full scale 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.

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 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

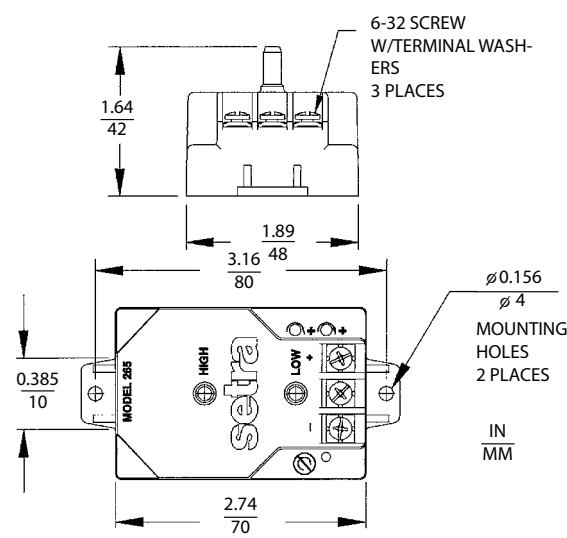
- Heating, Ventilating and Air Conditioning (HVAC)
- Energy Management Systems
- Variable Air Volume and Fan Control (VAV)
- Environmental Pollution Control
- Static Duct and Clean Room Pressures
- Oven Pressurization and Furnace Draft Controls

SPECIFICATIONS

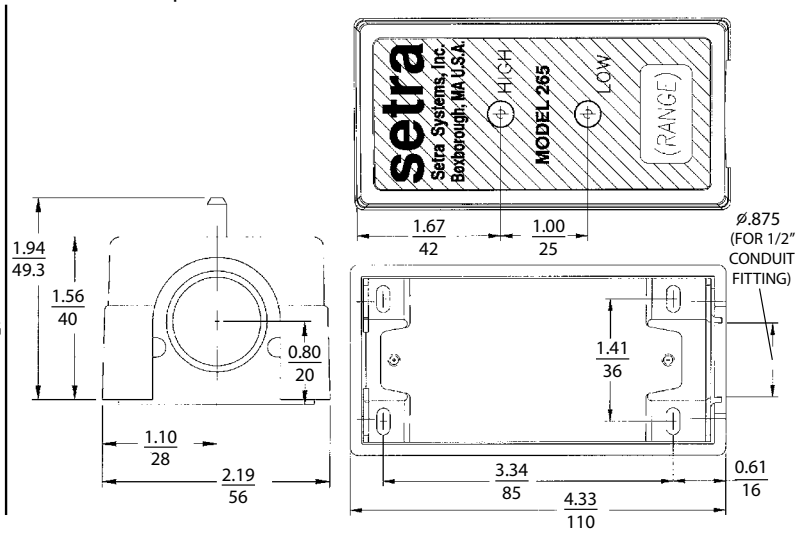
Performance Data			Physical Description		Electrical Data (Voltage)	
	Standard	Optional	Pressure Fittings	1/4" Fitting	Circuit	3-Wire (Com, Out, Exc)
Accuracy RSS ¹ (at constant temp)	$\pm 1.0\%$ FS	$\pm 0.4\%$ FS $\pm 0.22\%$ FS	Case	Fire Retardant Glass Filled Polyester (UL 94-V Approved)	Excitation/Output 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

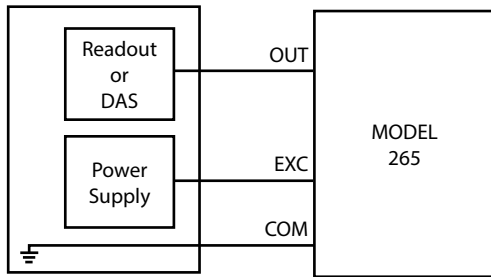
Code T1 Electrical Termination Dimensions



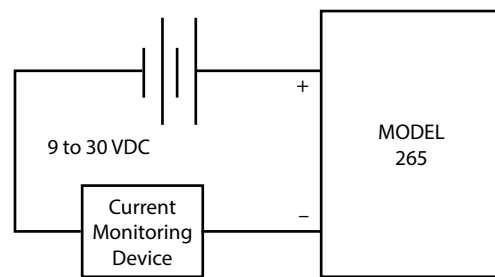
Optional A1 Conduit Electrical Enclosure Dimensions



WIRING



4-20 mA Output



0-5 VDC Output

ORDERING INFORMATION



Model	Range Code	Excitation/Output	Elec. Termination			Accuracy		
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

Table 1. Range Specification

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

Please contact factory for versions not shown.

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

Model 267/267MR

Very Low Differential Pressure Transducer



Model 267MR - Multi-Range



Model 267 w/ Display 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

DESCRIPTION

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

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.

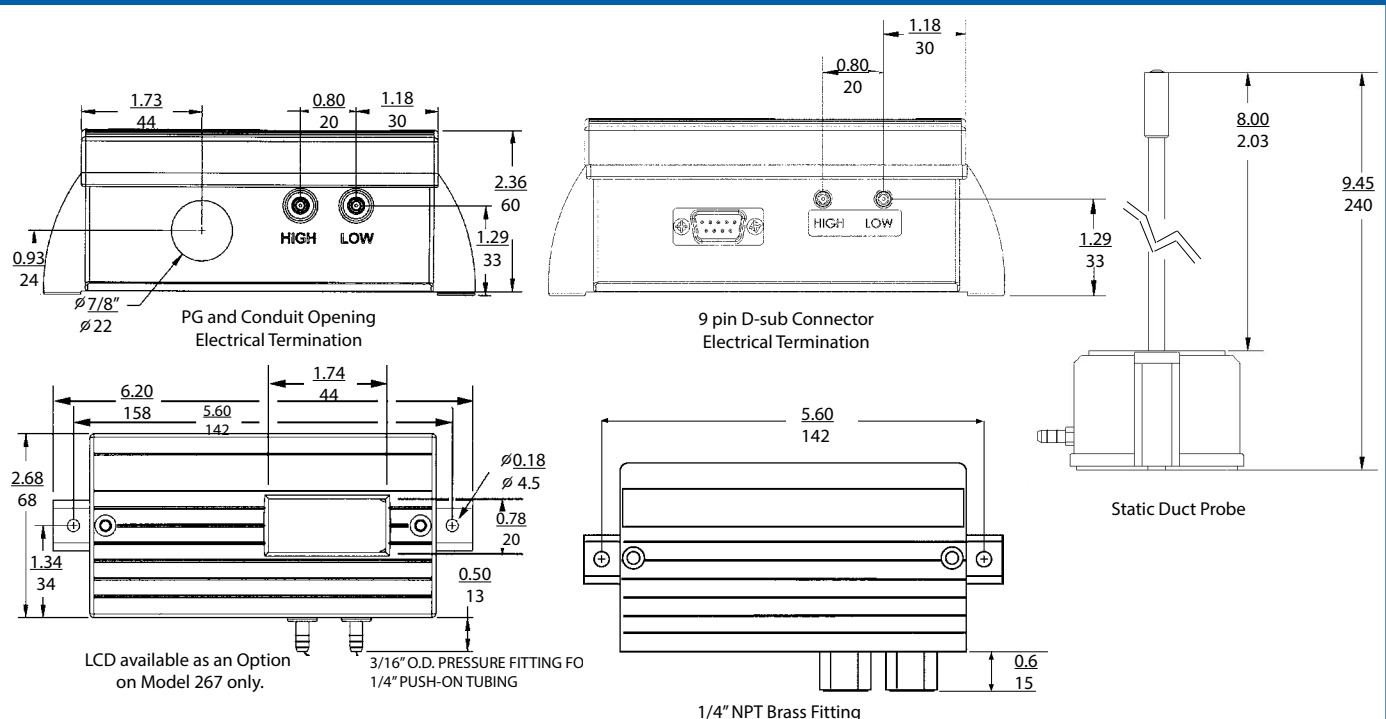
FEATURES

- 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 0.5% FS Standard Accuracy
- NEMA 4/IP65 Rated Housing
- Optional Accuracies as High as 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 in. 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

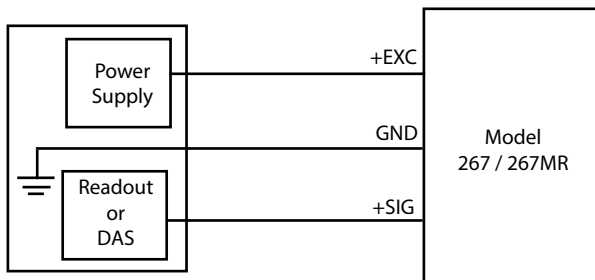
DIMENSIONS



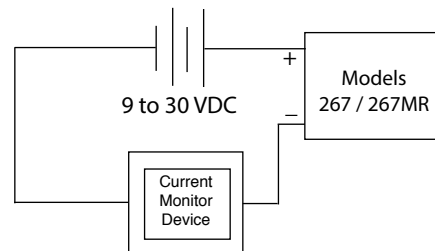
SPECIFICATIONS

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 in. WC	2.3	Zero and Span Adjustments	Accessible Inside of Case	Bidirectional Output at Zero	Mid-Range of Specified
	0.25 in. WC	1	Display (Optional on 267 only)	Accessible Inside of Case Display (1/74"W x 0.78"H)	Output Impedance	Ohms
	0.5 in. WC	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 in. WC	0.3			Electrical Data (Current)	
	2.5 in. WC	0.2			Circuit	2-Wire, Protected from Miswiring
	10 in. WC	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)					
Maximum Line Pressure	10 psi					
Overpressure	Up to 10 psi (Range Dependant)					
Long Term Stability	0.1% FS Total					

WIRING



Voltage Output



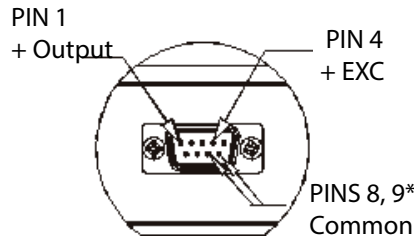
Current Output

Model 267/267MR

Very Low Differential Pressure Transducer

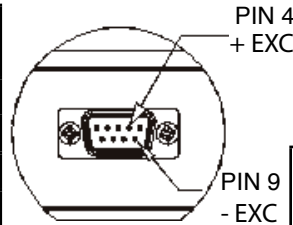


D-SUB ELECTRICAL TERMINATION



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 (Full Scale)	Display
2671 = 267	See Table 1 Below	11 4-20 mA	3/16" Barbed Brass Fitting	Std. C ±1%	D LCD
		2D 0-5 VDC	Std. G1 PG-13.5 Strain Relief	Opt. ¹ E ±0.4%	N None
		2E 0-10 VDC	Std. G2 PG9 Strain Relief	Opt. ¹ F ±0.25%	
			Std. D9 9 pin D-Sub Conn.	Opt. ¹ G ±1%	
			Std. A1 1/2" Conduit Opening	Opt. ^{1,2} H ±0.5%	
			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. Optional accuracies include Calibration Certificate
 2. ±0.5% FS (Code H) accuracy is standard when ordered with the LCD Display (Code D).

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	-	□	□	□	-	□	-	□	-	□	-	□
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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%
		2D	0-5 VDC	Std.	G1	PG-13.5 Strain Relief	Opt. ¹	G	±1%		
		2E	0-10 VDC	Std.	G2	PG9 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 tfor ±1% Acc. to include Calibration Certificate

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

Ranges are factory set for the highest range

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

Very Low Differential 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 269 is a very low differential pressure transducer offering enhanced accuracies including non-linearity of 0.15% and 0.35% full scale, terminal-based for improved resolution in critical environments.

The ultimate solution for in-situ pressure calibration, the Model 269 is provided with a removable process head, allowing for field certification without disturbing the process tubing. Simply detach the header (no need to cut tubing), plug in the Calibration Security Key and verify the performance with its “snap-back” zero/span feature.

Installation is simplified with either the base mount or din rail easy mount design, and a removable electrical terminal strip that makes wiring a breeze.

FEATURES

- Installation Time Minimized with DIN Rail Mounting and Easy-To-Access Pressure Ports and Electrical Connections
- Removable Process Head Eliminates the Need to Cut Tubes for Easy Installation
- Detachable Terminal Block so Field Wiring Can Remain In-Situ During Calibration
- Secure Calibration Key for Making Zero and Span Adjustments
- 2-wire 4 to 20 mA Analog Outputs 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)
- Calibration Certs. Available
- 2:1 Turndown Ratio Available
- Meets CE Conformance Standards

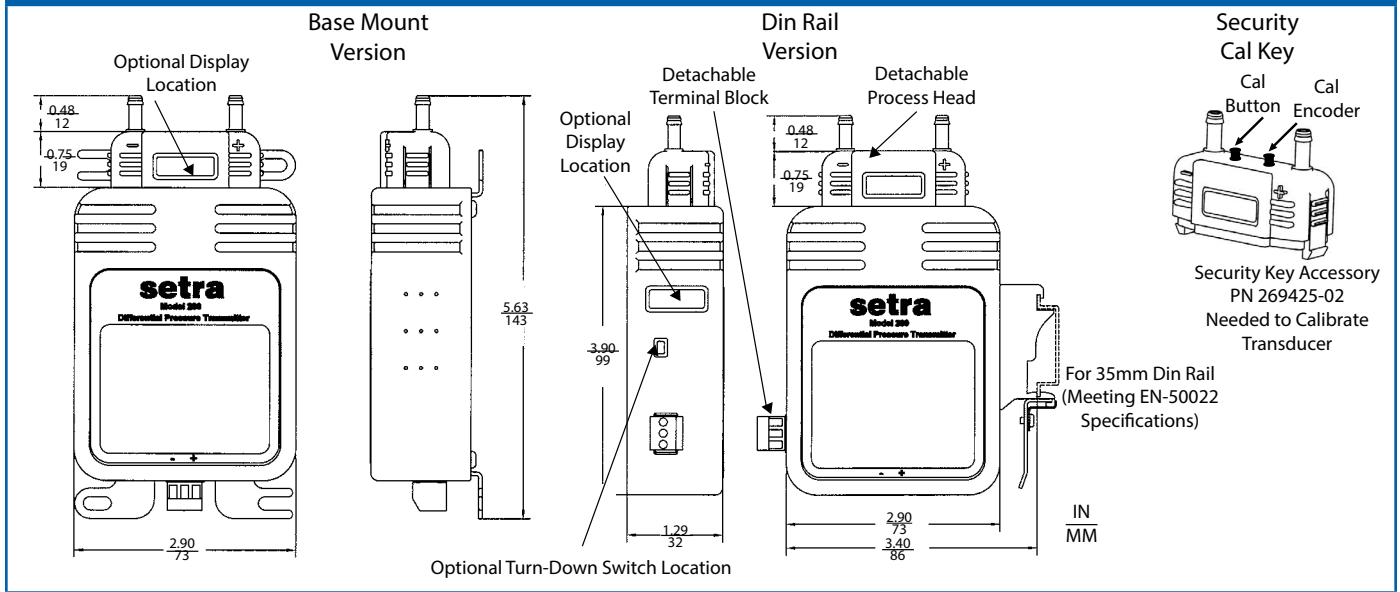
APPLICATIONS

- Critical Environments
- Clean Rooms
- Isolation Rooms
- Room Pressure Monitoring
- Environmental Pollution Control

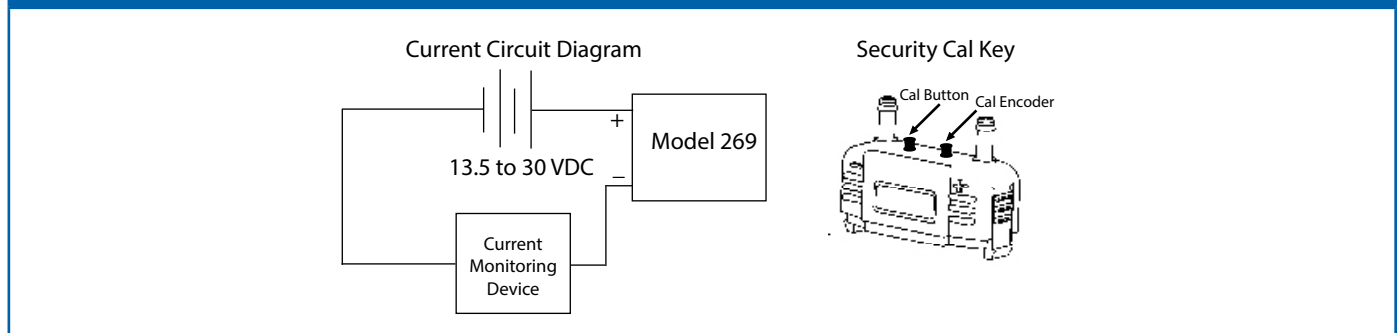
SPECIFICATIONS

Position Effect		Performance Data					Environmental Data		
	Range	(%FS/G)	Accuracy Class (FS)	Code	V	E	G	Operating Temperature °F (°C)	-20 to +160
Unit is factory calibrated at 0g effect in the vertical position	To 1.0 in. WC	2.50	(at constant temp.)		±0.5%	±0.50%	±1.00%	Storage Temperature °F (°C)	-40 to +185
	To 0.5 in. WC	1.00	Non-Linearity (Terminal)		±0.15%	±0.35%	±0.75%	Electrical Data (Current)	
	To 1.0 in. WC	0.50	(BSFL based)		±0.10%	±0.25%	±0.55%	Circuit	2-Wire
	To 2.5 in. WC	0.22	Non-Repeatability		±0.05%	±0.05%	±0.10%	Output ²	4 to 20mA
	To 5.0 in. WC	0.14	Zero Setting Tolerance		±0.05%	±0.05%	±0.05%	Bidirectional output at zero pressure	12mA
Physical Description			Span Setting Tolerance		16±.04mA	16±.08mA	16±.12mA	External Load	0 to 800 ohms
Case	Fire-Retardant ABS		Thermal Effects¹				Minimum Supply Voltage (VDC)	13.5 + 0.02 x (Resistance of receiver plus line)	
Mounting	Base Mount or 35mm DIN Rail		Compensated Range °F	20 to +140			Maximum Supply Voltage (VDC)	30 + 0.004 x (Resistance of receiver plus line)	
Electrical Connection	Detachable Screw Terminal Strip		Zero/Span Shift %FS/°F	0.01%	0.02%	0.02%	Pressure Media		
Pressure Fittings	3/16" O.D Barbed Brass Fittings on Removable Process Head		Maximum Line Pressure	10 pis			Typically air or similar non-conducting gases.		
Zero/Span Adjustments External Security Key			Overpressure	Up to 2 psi (Range Dependent)			¹ Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.		
			Long Term Stability	0.5% FS/1 YR			² Calibrated at factory with a 24VDC loop supply voltage and a 250 ohm load. Specifications subject to change without notice.		

DIMENSIONS



WIRING



ORDERING INFORMATION

2 6 9 1 -

Model	Range Code	Output	Mounting Config.	Display	Accuracy	Turndown
2691 = 269	See Table 1 Below	11 4-20 mA	B Base Mount D DIN Rail	D w/ Display N No Display	V ±0.25% FS E ±0.50% FS G ±1.0% FS	A 2X1 N None

Table 1. Range Specification

RANGE CODE	DIFFERENTIAL	RANGE CODE	DIFFERENTIAL	RANGE CODE	BIDIRECTIONAL	RANGE CODE	BIDIRECTIONAL
	"W.C.		Pascals		"W.C.		Pascals
0R1WD	0 to 0.1	025LD	0 to 25	R05WB	±0.05	015LB	±15
R25WD	0 to 0.25	050LD	0 to 50	0R1WB	±0.1	025LB	±25
0R5WD	0 to 0.5	100LD	0 to 100	R25WB	±0.25	050LB	±50
001WD	0 to 1	250LD	0 to 250	0R5WB	±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 2.5 kPa	2R5WB	±2.5	001KB	±1 kPa
010WD	0 to 10			005WB	±5		

Ordering Example: Part NO. 26912R5WD11BNGN for a 269 transducer, 0 to 2.5 in. WC Range, 4 to 20 mA Output, Base Mount, No Display, ±1.0% Accuracy with No Turndown.

Model 230

Wet-to-Wet Pressure Transducer



Model 230 is based on ANSI-Z540-1. The calibration of this product is NIST traceable.

DESCRIPTION

The Model 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

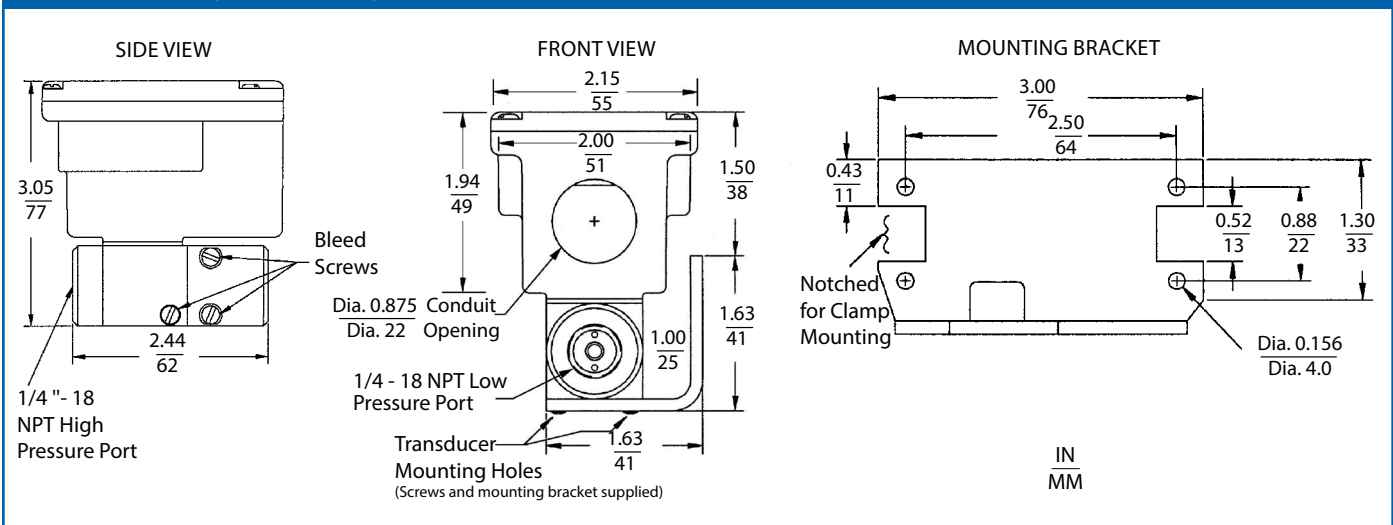
BIDIRECTIONAL		
Pressure Range PSID	Proof Pressure High Side* PSI	Proof Pressure Low Side* PSI
0 to ± 0.5	20	1.25
0 to ± 1.0	40	2.5
0 to ± 2.5	100	6.35
0 to ± 5.0	100	12.5
0 to ± 10.0	200	25
0 to ± 25.0	250	62.5
0 to ± 50.0	250	125

*The zero will shift slightly when high differential overpressure is applied. The shift may be as much as $\pm 10\%$ 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 ⁸
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					
Operating ³ Temperature °F (°C)	0 to +175 (-18 to +80)	Process Connection	1/4"-18 NPT Internal Thread	³ Refer to drawings on page 16 and 17.	
Storage Temperature °F (°C)	-65 to +250 (-54 to +121)	Dimensions	7.05"W x 6.25"H x 2.16"D	⁶ Order assembled with the Model 230 (Code 5V)	
Vibration	5 g from 5 Hz to 500 Hz	Weight	<3.8 lbs.	⁷ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.	
Acceleration	10 g			⁸ Zero output factory set to within ±25mV (for 5 VDC output) or ±50mV (for 10 VDC output)	
Shock	50 g			Span (Full Scale) output factory set to ±25 mV (for 5 VDC output) or ± 50 mV (for 10 VDC output)	
				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

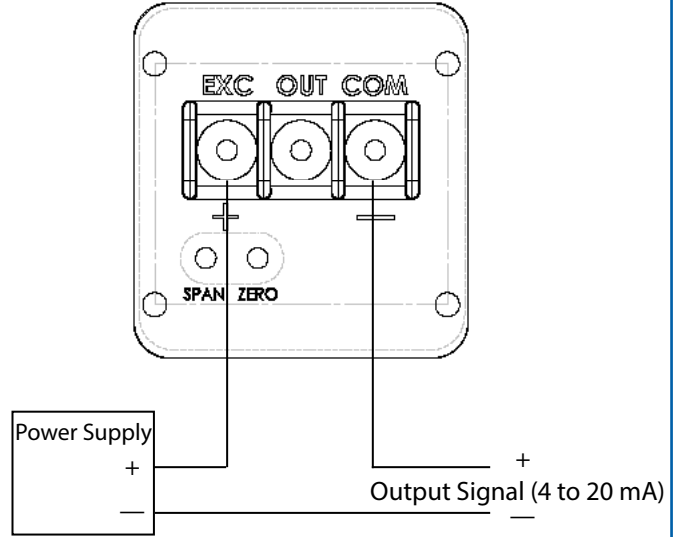
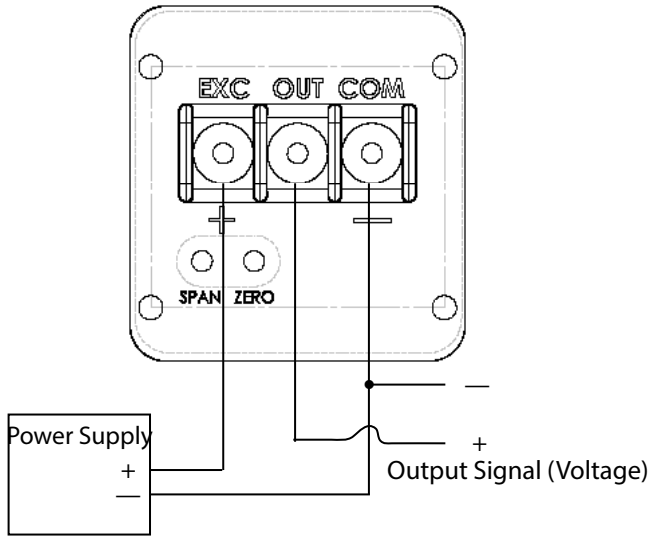
Wet-to-Wet Pressure Transducer



WIRING

Voltage Transducer

Current Transmitter

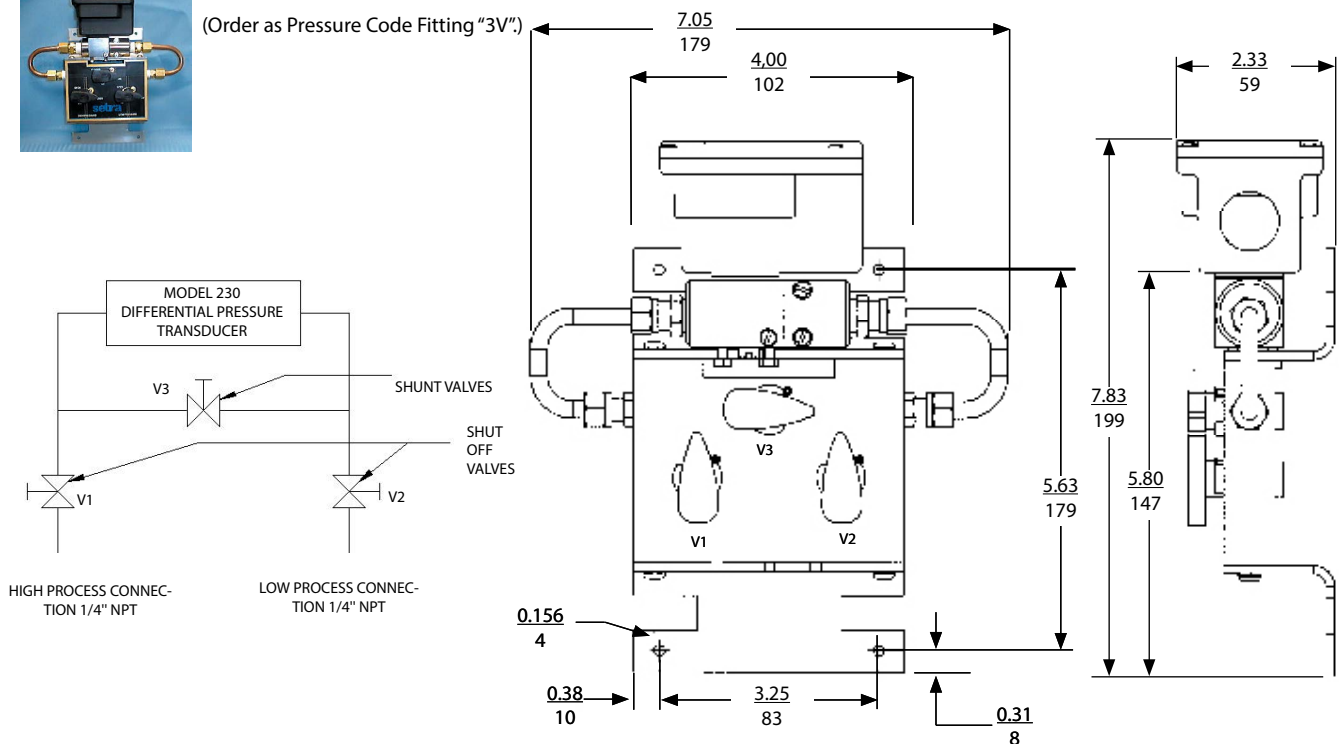


DIMENSIONS (3-Valve Manifold Assembly)



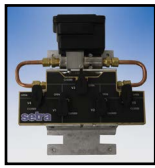
3-Valve Manifold Assembly Description

(Order as Pressure Code Fitting "3V")

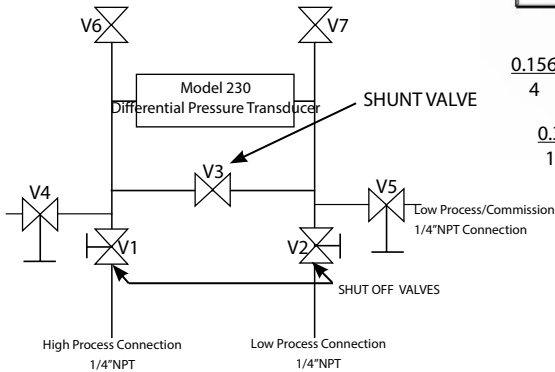
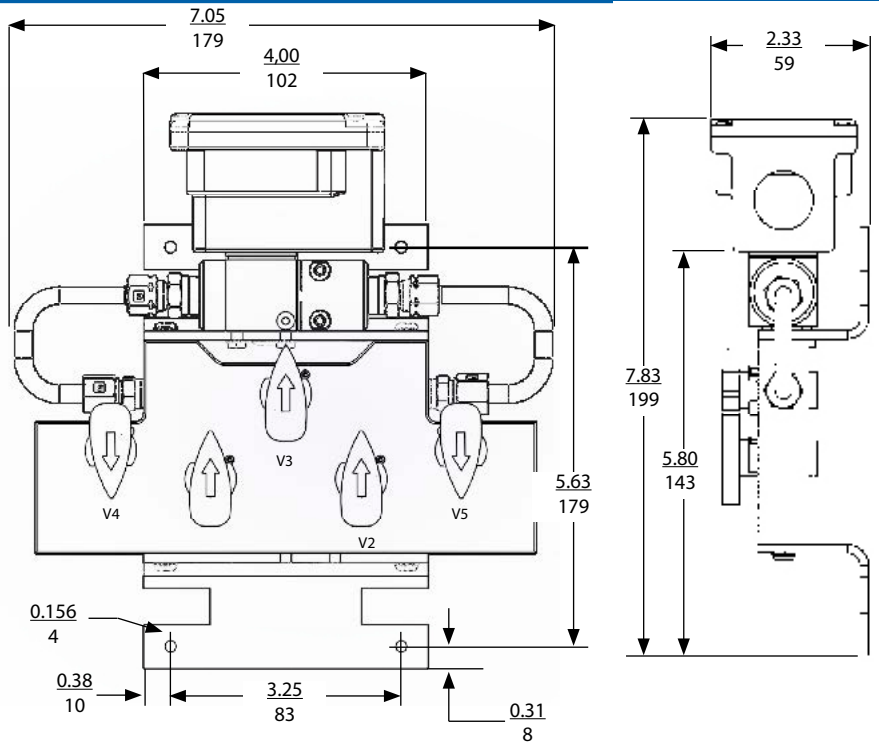


For differential pressure measurements at high line pressure (350 psig max), it is recommended that the pressure sensor be installed with a valve in each line, plus a shunt valve across the high and low (reference) pressure ports as shown.

DIMENSIONS (5-Valve Manifold Assembly)



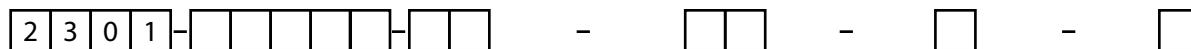
5-Valve Manifold Assembly Description
(Order as Pressure Code Fitting "5V")



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 Option 891. (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 replumbing 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, NEMA4 Rated Housing
- CE and RoHS Compliant

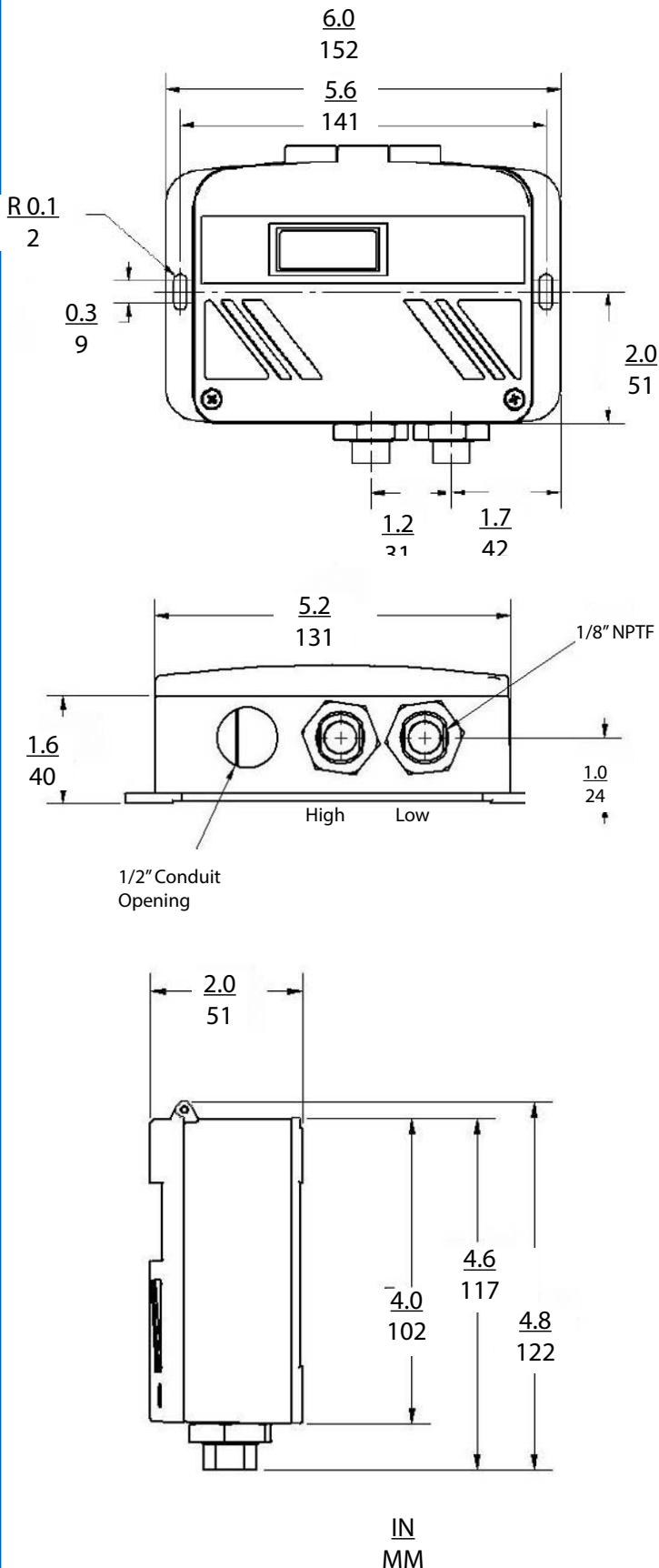
APPLICATIONS

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

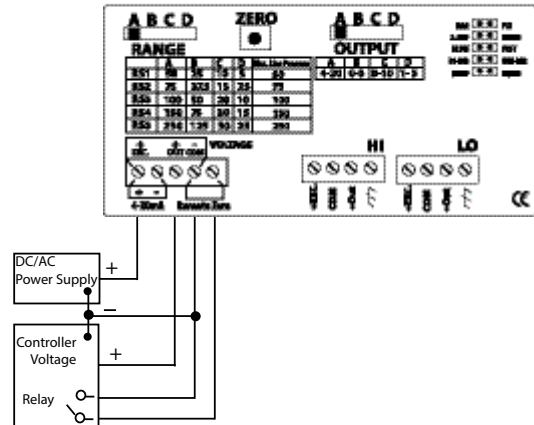
SPECIFICATIONS

Electrical Data (Voltage)		Performance Data						Environmental Data	
Circuit	3-Wire	Accuracy RSS ¹ (at constant temp.)						Operating ³ 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
Electrical Data (Current)		MS2	100	50	20	10	100	Pressure Fittings	1/8-18 NPT Internal
Circuit	2-wire (Reverse Excitation Protected)	MS3	250	125	50	25	250	Electrical Connection	1/2 in. Conduit
Output ⁵	4 to 20 mA	Pressure Media						Size	4.0 x 6 x 2 in. (102 x 152 x 51 mm)
External Load	0 to 250 Ohms	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
Min. Supply Voltage (VDC)	15 + 0.02 x (Resistance of receiver plus line).	¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability. ² Units calibrated at nominal 70°F. Maximum thermal error computed from this datum. ³ Operating temperature limits of the electronics only. Pressure media 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
Max. Supply Voltage (VDC)	30 + 0.004(Resistance of receiver plus line).							Thermal Effects²	
								Compensated Range °F (°C)	+32 to +130 (0 to +54)
								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)

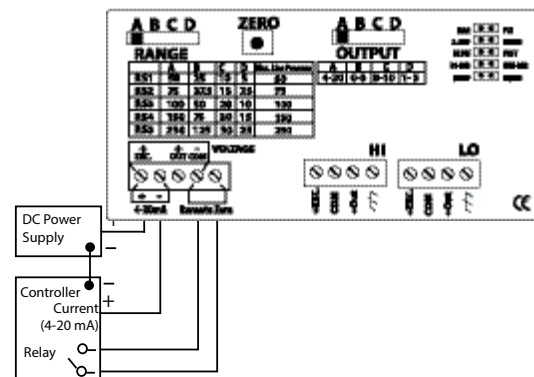
DIMENSIONS



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 231



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

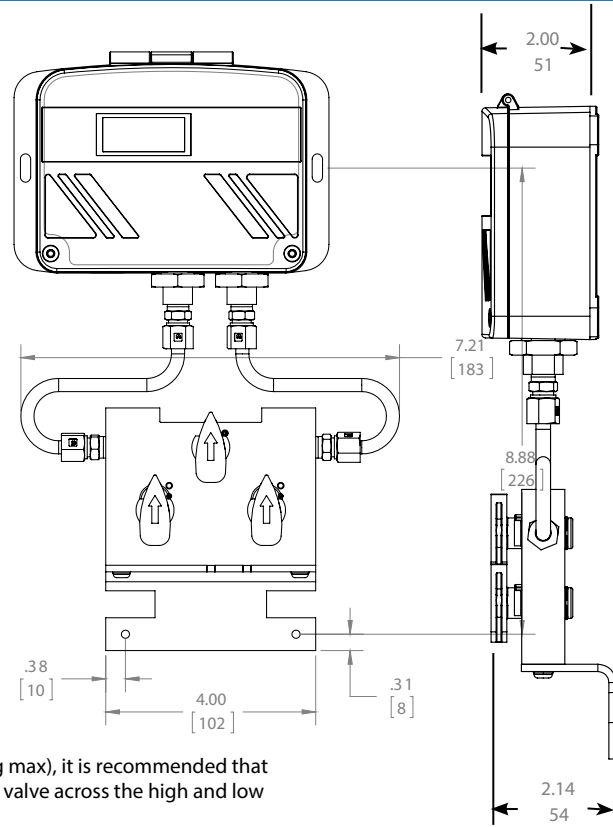
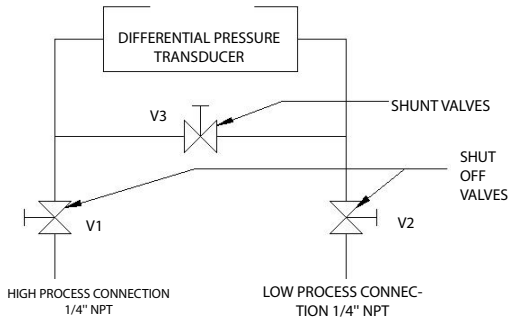
DIMENSIONS (3-Valve Manifold Assembly)



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.

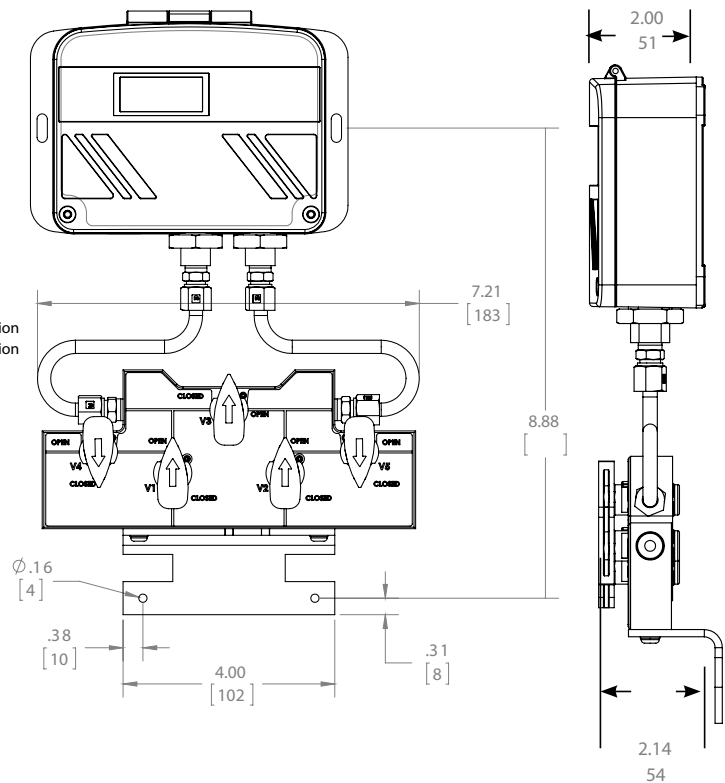
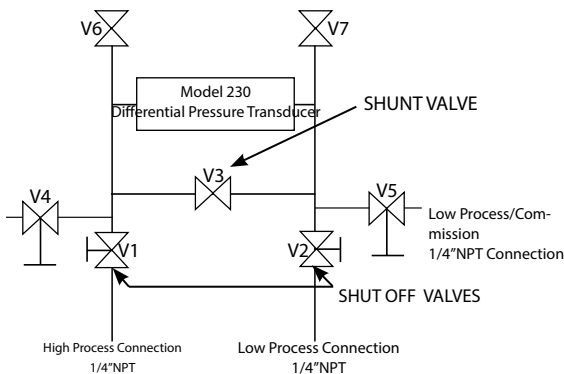
DIMENSIONS (5-Valve Manifold Assembly)



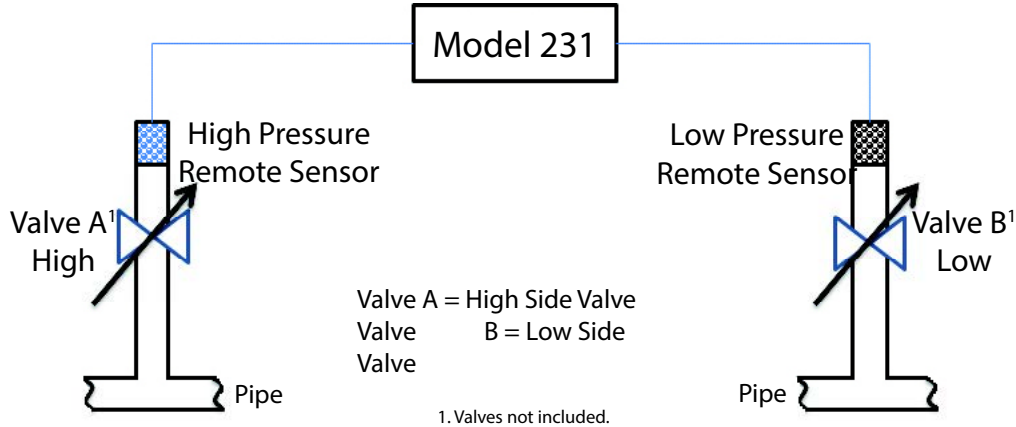
5-Valve Manifold Assembly Description

(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.

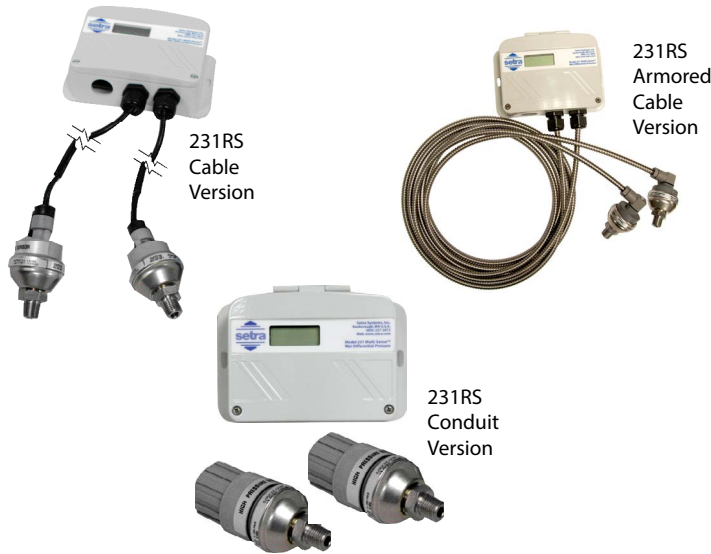
Ordering Example: 231GMS12FD = Model 231, 5 PSID up to 50 PSID, 1/8" NPT Female Fitting, and LCD Display 31GMS13VN= Model 231, 0 to 5 psid up to 50 PSI, 3-Valve Manifold, and No LCD Display

S5P231 RevD 05/21/2012

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, NEMA4 Rated Housing
- CE and RoHS Compliant

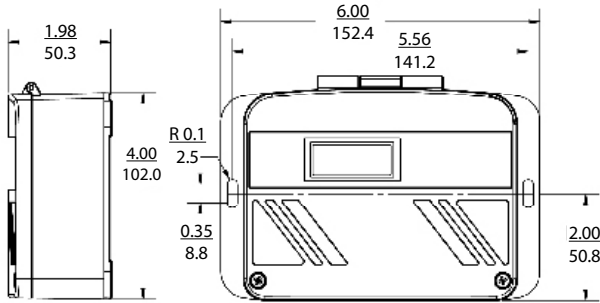
APPLICATIONS

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

SPECIFICATIONS

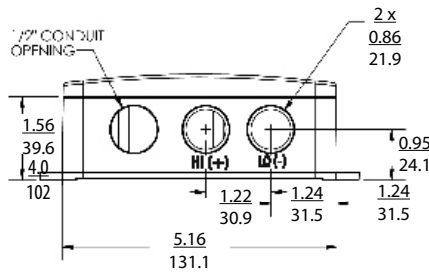
Electrical Data (Voltage)		Performance Data						Environmental Data	
Circuit	3-Wire	Accuracy RSS ¹ (at constant temp.)						Operating ² Temperature °F (°C)	-4 to +185 (-20 to -85)
Excitation	15 to 30 VDC/18 to 30 VAC (Reverse Excitation Protected)	Pressure Ranges A, B, C			±1.0% FS			Storage Temperature °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.						Burst Pressure	15 x Full Scale (50 psi), 10 x Full Scale (75 x 150 psi), 8 x Full Scale (250 psi)
		Specifications subject to change without notice.							

DIMENSIONS



Side View

Front View

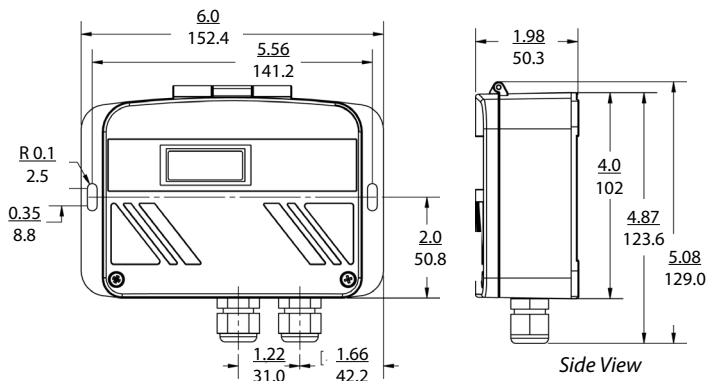


Bottom View

Conduit Version

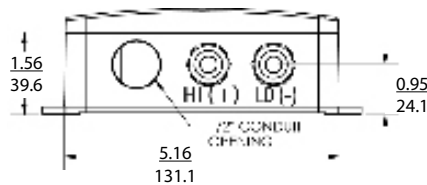
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Front View

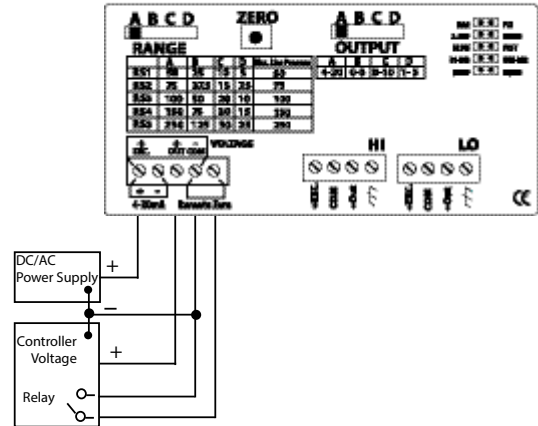
Side View



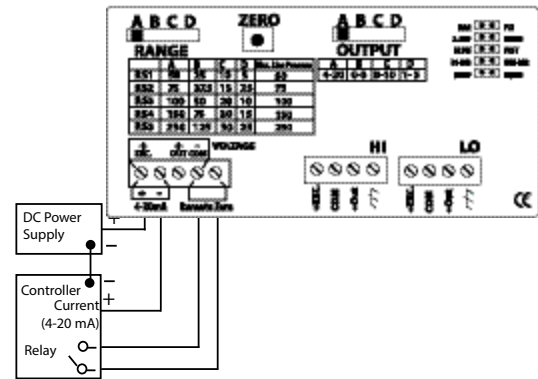
Bottom View

Cable Version

WIRING



3-Wire - Voltage Output
 0 to 5 VDC
 0 to 10 VDC
 1 to 5 VDC
 Remote Zero



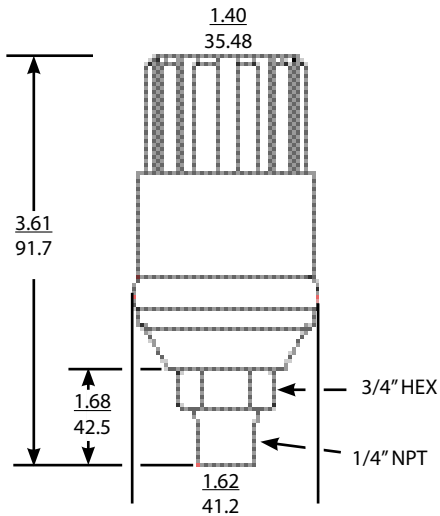
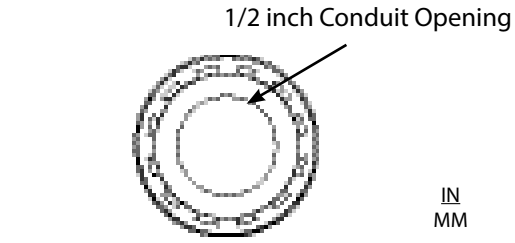
2-Wire - Current Output
 4 to 20 mA
 Remote Zero

Multi-Sense® Model 231RS

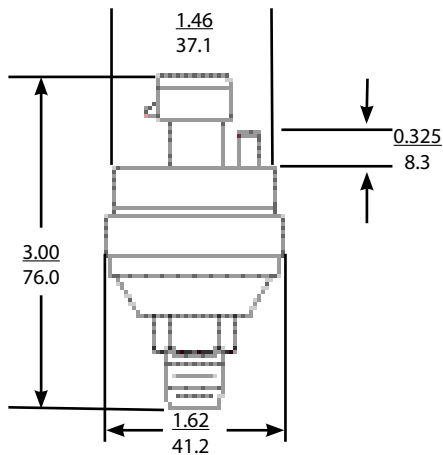
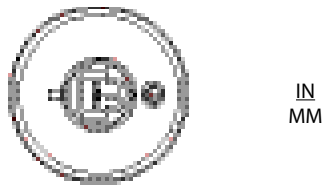


Wet-to-Wet, Differential, Multi-Configurable Pressure Transducer

DIMENSIONS

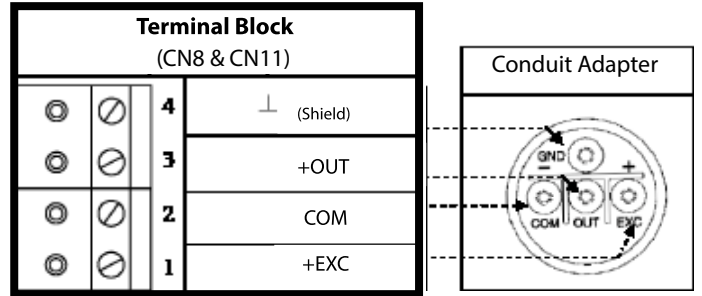


Transducer w/Conduit

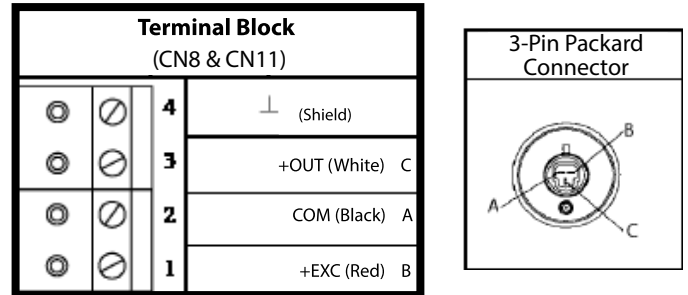


Transducer w/Packard Connector

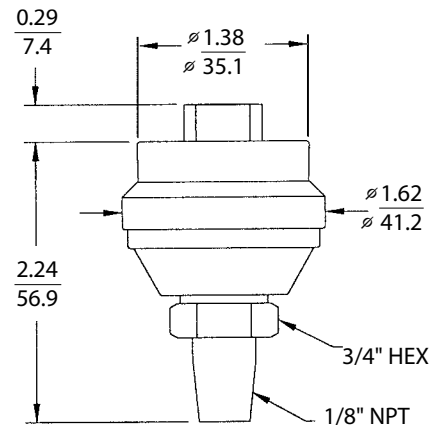
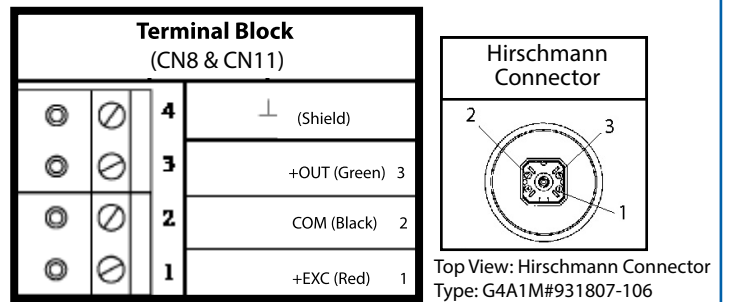
WIRING



Transducer w/Conduit

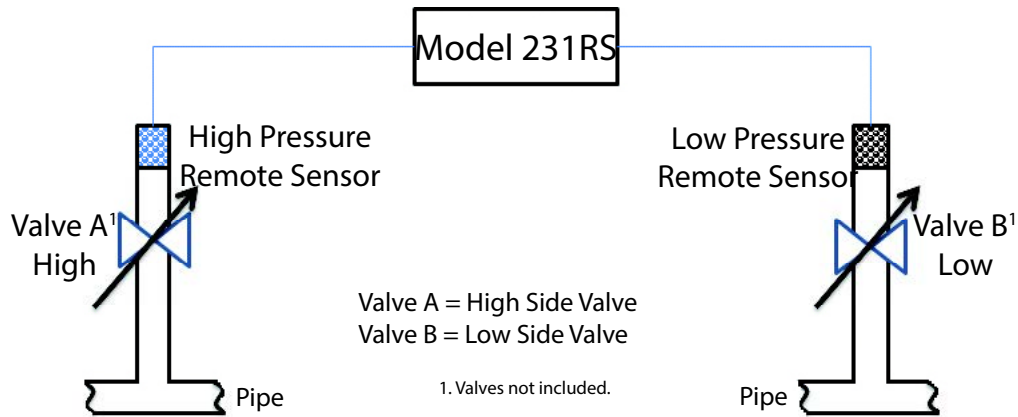


Transducer w/Packard Connector



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



DESCRIPTION

The Model 239 Series pressure transducers are designed for very low pressure applications that require high accuracy.

The variable capacitance sensor is design to be simple and reliable. The stainless steel diaphragm and insulated electrode form a variable capacitor. As pressure increases or decreases, the capacitance changes. This change is detected and converted to a linear DC electric signal by Setra's unique electronic circuit.

The Model 239 series is available in a voltage or current output. High positive overpressure protection is achieved by the sensor electrode acting as a stop for the diaphragm. The high level output signals, excellent long term stability, and fast dynamic response make these transducers ideal for a wide range of industrial, laboratory and aerospace applications.

FEATURES

- $\pm 0.14\%$ FS Accuracy
- Fast Warm-Up
- Low Thermal Effects
- Fast Response Time ($<10\text{ms}$)
- Withstands High Overpressure
- RoHS Compliant
- Meets CE Conformance Standards

APPLICATIONS

- HVAC Control
- Leak Detection
- Environmental Testing
- Medical Instrumentation
- Energy Management
- Clean Rooms

SPECIFICATIONS

Performance Data		Physical Description		Electrical Data (Voltage)	
Accuracy RSS at constant temp*	$\pm 0.14\%$ FS	Pressure Fittings	1/8"-27NPT internal	Circuit	4-Wire (+Exc, -Exc, +Out, -Out)
Non-Linearity, BFSL	$\pm 0.10\%$ FS	Electrical Connection	2' Multiconductor Cable	Excitation*	22 to 30 VDC (reverse excitation protected)
Hysteresis	0.10% FS	Weight (approx)	8 oz	Output Impedance	<10 ohms
Non-Repeatability	0.02% FS	Vibration	2g from 5 Hz to 500 Hz	Output Noise	<200 microvolts RMS (in band, 0Hz to 10kHz)
Warm-Up Shift	$<\pm 0.1\%$ FS residual shift after 5 minutes	Internal Volumes	Positive port 0.03 in ³ Reference port 0.1 in ³	Output**	See Ordering Information (for unidirectional ranges) ± 2.5 VDC (for bidirectional ranges)
Settling Time	<100 ms	Max Volume Change at FS	0.001 in ³	*Internal regulation minimizes effect of excitation variation, with $<\pm 0.005\%$ FS output change. Will operate on 28VDC aircraft power per MIL-STD-704A & not be damaged by emergency power conditions. **Calibrated into 50K ohm load. Operable into 5000 ohms or greater. ***Zero output factory set to within $\pm 20\text{mV}$	
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	Environmental Data		Electrical Data (Current)	
Line Pressure Effect	2%/100 PSI	Temperature		Circuit	2-Wire
Thermal Effects**		Operating °F (°C)	0 to +175 (-18 to +80)	Output*	4 to 20 mA**
Compensated Range °F (°C)	+30 to +150 (-1 to +65)	Storage °F (°C)	-65 to +250 (-55 to +120)	External Load	0 to 1000 ohms
Zero Shift %FS/100°F(50°C)	$<+1$ ($<\pm 0.9$)	Pressure Media		Min. Supply Voltage (VDC)	$17 + 0.02 \times$ (resistance of receiver plus line)
Span Shift %FS/100°F(50°C)	$<+1$ ($<\pm 0.9$)	Positive Pressure Media: Gases compatible with stainless steel, hard anodized 6061 aluminum (Buna-N O-ring) Reference Pressure Media: Clean dry air or other gases (non-corrosive, non-condensable)		Max. Supply Voltage (VDC)	$42 + 0.004 \times$ (resistance of receiver plus line)
*RSS of Non-Linearity, Non-Repeatability and Hysteresis **Units calibrated at nominal 70°F. Maximum thermal error computed from this datum. $\times 2$ for 0.5 and ± 0.25 in. W.C. ranges.				Effect of Power Supply	
		Variations	<0.003 mA/Volt	Output Noise	<10 microamperes RMS (0Hz to 10kHz)

Specifications subject to change without notice

*Calibrated at factory with a 24VDC loop supply voltage and a 250 ohm load.

** Zero output factory set to within ± 0.07 mA. Span (FS) output factory set to within ± 0.07 mA.

ORDERING INFORMATION

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

Model	Pressure Ranges		Pressure Fitting		Output		Termination		Accuracy		Options ⁴	
2391 239	Unidirectional Bidirectional		1F	1/8" NPT Female	11	4 to 20 mA	02	2' Cable 22 GA	W	±0.14% FS	N	None
	0R5WD	0 to 0.5 in. W.C.	R25WB	±0.25 in. W.C.	25	±2.5 VDC ¹	10	10' Cable 22 GA	9	±0.073% FS	1	303SS Housing Positive Port
	001WD	0 to 1 in. W.C.	0R5WB	±0.5 in. W.C.	2B	0 to 5 VDC ²	25	25' Cable 22 GA			3	Compensated Temp. Range (-65 to 250°F) ⁶
	2R5WD	0 to 2.5 in. W.C.	001WB	±1 in. W.C.	27	1 to 5 VDC	Y1	2' 30 GA 9-Conductor ³			4	Viton O-Ring
	005WD	0 to 5 in. W.C.	2R5WB	±2.5 in. W.C.	28	1 to 6 VDC	Y3	5' 30 GA 9-Conductor ³			D	Mate with Datum
	015WD	0 to 15 in. W.C.	005WB	±5 in. W.C.	2C	0 to 10 VDC	Y4	10' 30 GA 9-Conductor ³			E	Special Excitation Voltage ±24 VDC
	030WD	0 to 30 in. W.C.	7R5WB	±7.5 in. W.C.	2T	0 TO 5 VDC ¹	Y6	25' 30 GA 9-Conductor ³			G	Special Excitation Voltage ±15VDC
	005PD	0 to 5 PSID	015WB	±15 in. W.C.							L	Etched SS Tags
	010PD	0 to 10 PSID	2R5PB	±2.5 PSID							M	Remote Full Scale Sensitivity ⁵
	250LD	0 to 250 Pa	005PB	±5 PSID							R	Remote Calibration (Adjustable) ⁵
	500LD	0 to 500 Pa	125LB	±125 Pa							S	Remote Calibration Adjustment (Fixed) ⁵
	10CLD	0 to 1000 Pa	250LB	±250 Pa							Y	Clean for Oxygen
	20CLD	0 to 2000 Pa	500LB	±500 Pa								
	50CLD	0 to 5000 Pa	10CLB	±1000 Pa								
	10KLD	0 to 10 kPa	25CLB	±2500 Pa								
	15KLD	0 to 15 kPa	50CLB	±5000 Pa								
	35KLD	0 to 35 kPa	75CLB	±7500 Pa								
	70KLD	0 to 70 kPa	35KLB	±35 kPa								

¹ Y1-Y6 = Red Jacket Cable (previously the standard for voltage outputs.)
² 2S and 2T are for Bi-Directional Pressure Ranges Only
³ 2B is for Uni-Directional Pressure Ranges Only

Example: Part No. 2391001WD1F1102WLN = Model 239, 0 to 1 in. 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

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

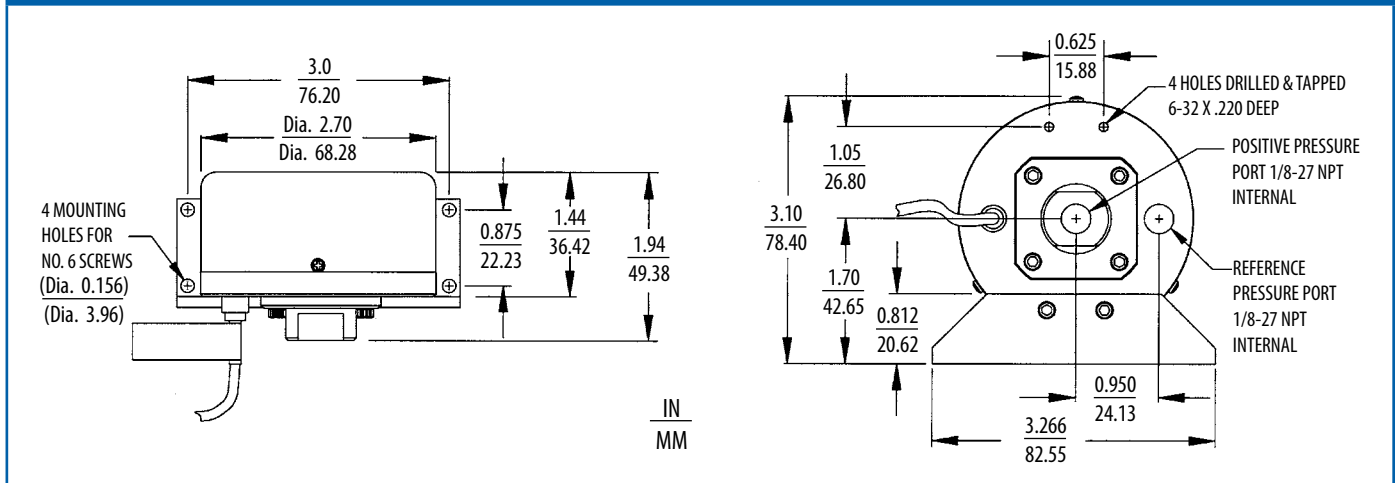
⁵ Options M, R & S are for voltage units and Y1-Y6 Termination Codes
⁶ 2x Thermal Effects Specification

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

Proof Pressure: The maximum recoverable pressure that may be applied without changing performance beyond specifications ±0.5% Zero/Span shift.

DIMENSIONS



ROOM PRESSURE MONITORS

MODELS:

MRMS

SRCM

SRPM

SRIM

SRMD

setra

Model MRMS

Multi-Room Monitoring Station



DESCRIPTION

The MRMS (Multi-Room Monitoring Station) is designed for installation in a central location, such as a nurses station or main control room. It is designed to be flush mounted to provide remote viewing and alarm monitoring for up to 8 rooms or critical spaces equipped with Setra's Pressure and Room Condition Monitors, such as the Model SRPM or SRCM. The built-in Auto-Discover feature will automatically search and connect to other SRPM and SRCM units through BACnet® MS/TP and import all MAC addresses, BACnet objects, naming conventions and other setup parameters. A built-in audible and visual alarm and high definition color display alerts users to room status and room condition, while allowing for easy alert of a change in room condition.

FEATURES

- Remotely Monitor up to 8 Rooms
- Auto-Discover
- Built-in Audible & Visual Alarm
- Display Room Status and Room Condition
- Flush Mount Design
- Easy Installation
- Reduce Total Installation Cost
- BACnet® MS/TP Protocol
- High Definition Color (TFT) Touchscreen Display
- Meets CE Conformance Standards

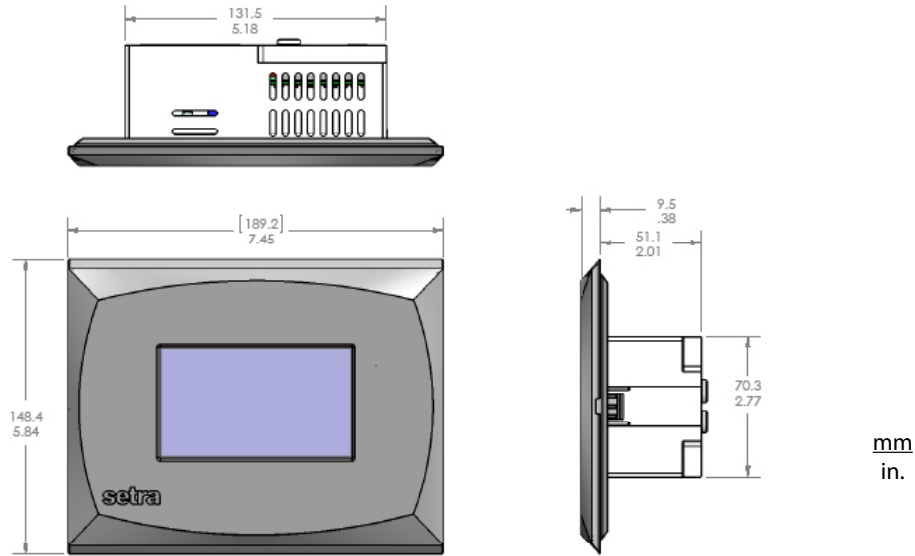
APPLICATIONS

- Nurses Station
- Surgical Suites
- Intensive Care Isolation Rooms
- Pharmacology
- Research Laboratories
- Pharmaceutical Manufacturing
- Clean Rooms
- Biological Safety Lab
- Animal Research - Vivarium
- Organic Laboratory

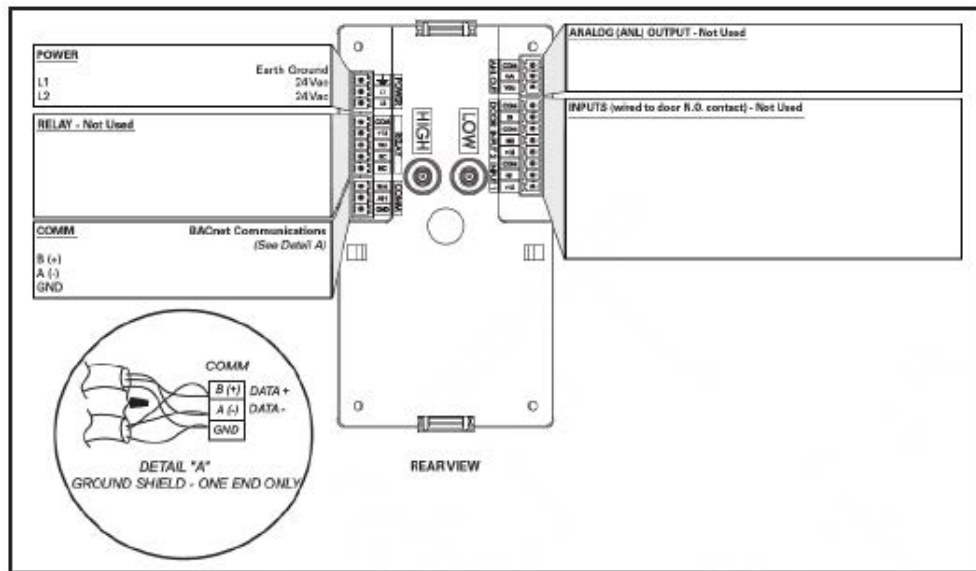
SPECIFICATIONS

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

DIMENSIONS



WIRING



ORDERING INFORMATION

MRMS -

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



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

Model SRPM

Room Pressure Monitor



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 SRPM Room Pressure Monitor is designed for critical low differential pressure applications that require stringent pressure monitoring and alarming. The SRPM can be configured to monitor positive, negative or neutral pressure in protected environments and hospital isolation rooms per CDC guidelines. The SRPM is a complete system that includes a backlit RGB LCD display with a graphic user interface, which enables access to pressure, security, calibration, and alarm setup. The touch-screen displays menus that guide the user through setup, as well as setting up password protection. Red and green LED's and a local audible alarm (with time delay feature) alert personnel to system status. The SRPM has a NEMA 1(IP20) rated fire retardant plastic housing for indoor applications. True differential pressure is displayed with a resolution of .0001". Setra's patented very low pressure capacitance sensor is dead ended and avoids the potential for cross contamination of the room and reference space as well as eliminating drift that results from fouling of flow based sensors, which by nature have a flow path connecting the protected and reference spaces. Additionally there are 2 levels of password protection available as well as optional BACnet MSTP communications.

FEATURES

- Touch Screen Display
- BACnet®Option
- Password Enabled
- Local Audible Alarm
- Visual Red and Green Room Status Displays
- SPST Alarm Relay
- Door Status Monitor
- Variable Alarm Delay
- Positive and Negative Pressure Monitoring
- Bar Graph Display
- CE and RoHS Compliant

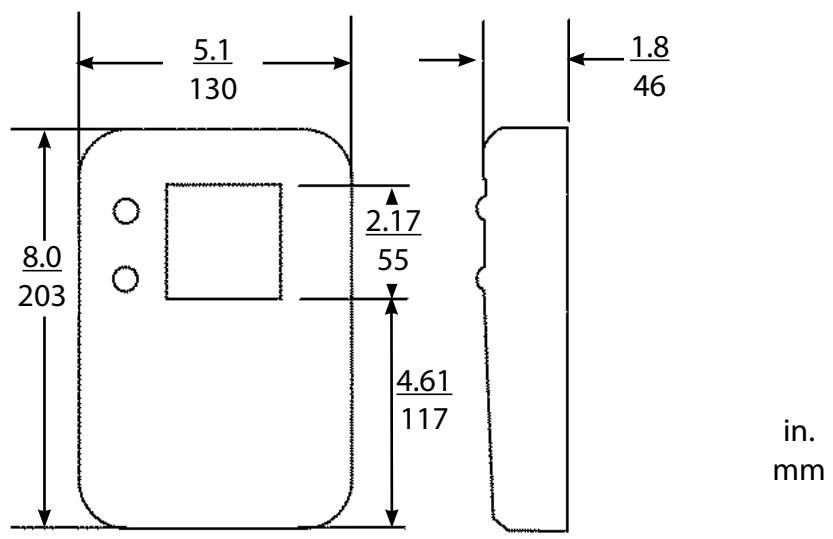
BENEFITS

- Easy to Install, Set-up, and Calibrate
- Fingertip Operation
- Password Security
- Local Display of Room

APPLICATIONS

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

DIMENSIONS

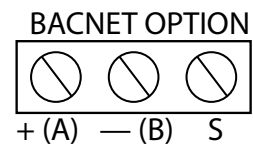
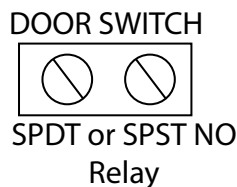
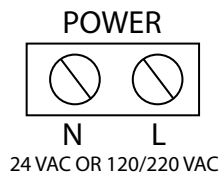
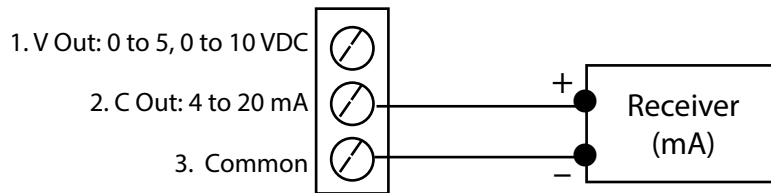
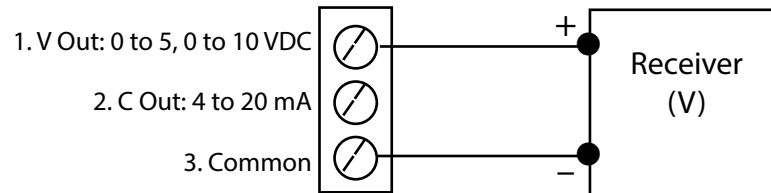


in.
mm

SPECIFICATIONS

Performance Data			Environmental Data		Electrical Data (Voltage)	
	Standard	Optional	Operating Temperature °F (°C)	32 to +120 (0 to +50)	Circuit	3-Wire (Exc, Out, Com)
Accuracy RSS ¹ (at constant temp)	±0.25%	±0.5%	Storage Temperature °F (°C)	-20 to +160 (-30 to +170)	Output ⁴	0 to 5VDC, 0 to 10 VDC
Non-Linearity, BFSL	±0.24%	±0.49%	Operating Humidity	5 to 95% RH (Non-Condensing)	Excitation	
Hysteresis	±0.05%	±0.05%	Physical Description		Code V1 Code A1 Code V2 Code A2	85-265 VAC, 50-60 Hz 18-32 VAC, 50-60 HZ 85-265 VAC, BACnet® 18-32 VAC, BACnet®
Non-Repeatability	±0.05%	±0.05%	Case	Fire-Retardant Plastic (NEMA 1, IP20 Rated for Indoor Applications)	Alarm Output	SPDT Relay: 1A @ 24VDC, 1A @ 120 VDC
Zero Setting Tolerance	±0.05% FS	±0.05% FS	Dimensions	8"H x 5.1"W x 1.8"D (203 x 130 x 46 mm)	Power Consumption	5W
Span Setting Tolerance	±0.05% FS	±0.05% FS	Electrical Connection	Removable Terminal Block	Electrical Data (Current)	
Thermal Effects²			Pressure Fittings	Barbed Fittings for 1/4" O.D. Tubing	Circuit	2-Wire
Compensated Range °F (°C)	±0.03% FS (±0.05%FS)		Weight (approx.)	1.5 lbs (680g)	Output	4 to 20 mA
Overpressure	±15"W.C.		Communications Option	BACnet®, MS/TP ASC	External Load	0 to 510 ohms
Certifications			Display LCD	128 x 128 RGB Backlit	Excitation: Code V1 Code A1	85-265 VAC, 50-60 Hz 1 8-32 VAC, 50-60 HZ
CSA Standard C22.2 No. 0-M 91	General Requirements - Canadian Electrical, Part 1		Status Indicators	Green LED = Normal Red LED = Alarm Backlit LCD	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. ⁴ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater. Specifications subject to change without notice.	
CAN/CSA C22.2 No. 0.4-04	Bonding of Electrical Equipment		Communication Option BACnet®	MS/TP ASC		
CAN/CSA C22.2 610101-1-04	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use Part 1: General Requirements		Communication Option BACnet®	MS/TP ASC		
ANSI/UL61010-1 (Special Edition)	Safety Requirements for Electrical Equipment for Measurement, Control					

WIRING

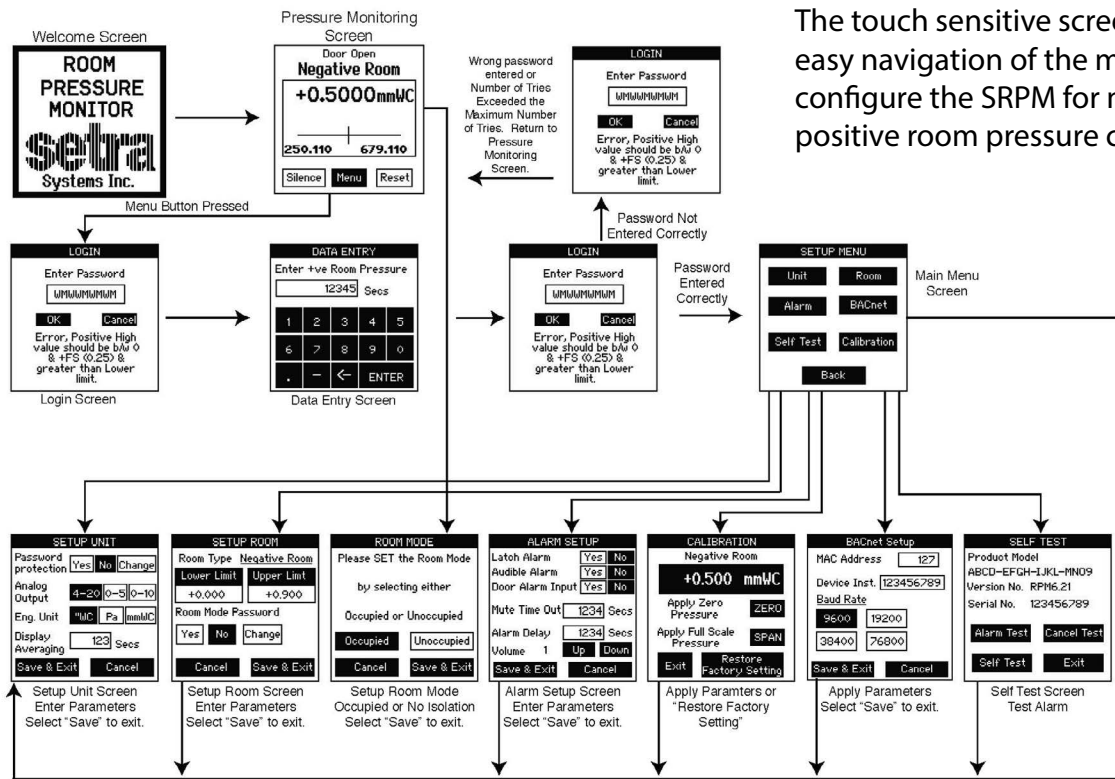


Model SRPM

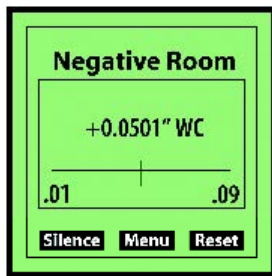
Room Pressure Monitor



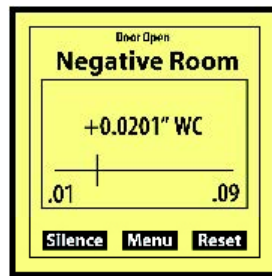
SRPM MENU TREE



Touch-Sense Screen
The touch sensitive screen allows easy navigation of the menu tree to configure the SRPM for negative or positive room pressure control.



If pressure is Normal, the screen is Green



If pressure is Normal, and Door is open, the screen is Yellow



If pressure falls outside of preset limits (Alarmed State), the screen is Red

ORDERING INFORMATION

S R P M - [] [] [] [] [] - [] [] - []

Model	Range Code	Excitation/Output		Accuracy	
SRPM = SRPM	See Table 1 Below	A1	24 VAC/4-20 mA or 0-5 and 0-10 VDC	E	±0.5% FS
		V1	120/240 VAC/4-20 mA or 0-5 and 0-10 VDC	V	±0.25% FS
		A2	24 VAC w/ BACnet®		
		V2	120/240VAC BACnet®		

Table 1. Range Specification

RANGE CODE	INCHES W.C.
005WB	±5
2R5WB	±2.5
001WB	±1.0
0R5WB	±0.5
R25WB	±0.25
0R1WB	±0.1
R05WB	±0.05



Please contact factory for versions not shown.

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.

ACCESSORIES

Model SRAN

Remote Annunciator



Green LED, Normal Indication
 Red LED, Alarm Indication
 Buzzer, Audio Alarm, ADJ. from SRPM Acknowledge Switch

Order Part Number: **S R A N**

Model RPS

Room Pressure Snubber (Wall Mount Pressure Taps)



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.

Order Part Number: **R P S**

Model SRCM

Room Pressure and Condition Monitor



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

In a hospital, laboratory or animal research facility, the integrity of the ventilation control system is at the heart of a contaminant free environment. Whether a room is to be maintained at a negative pressure to prevent contaminants from escaping into adjacent areas or positive pressure to protect patients with compromised immune systems, the proper pressurization of the room is essential. To assure proper pressurization is maintained in these critical environments, a room pressure monitor is employed to measure and alert staff and personnel of any change in pressure—no matter how small. A fail-safe solution to monitoring these very low pressure changes is Setra's Model SRCM room pressure monitor, which utilizes highly accurate capacitance sensing technology to measure and display true low pressure differential.



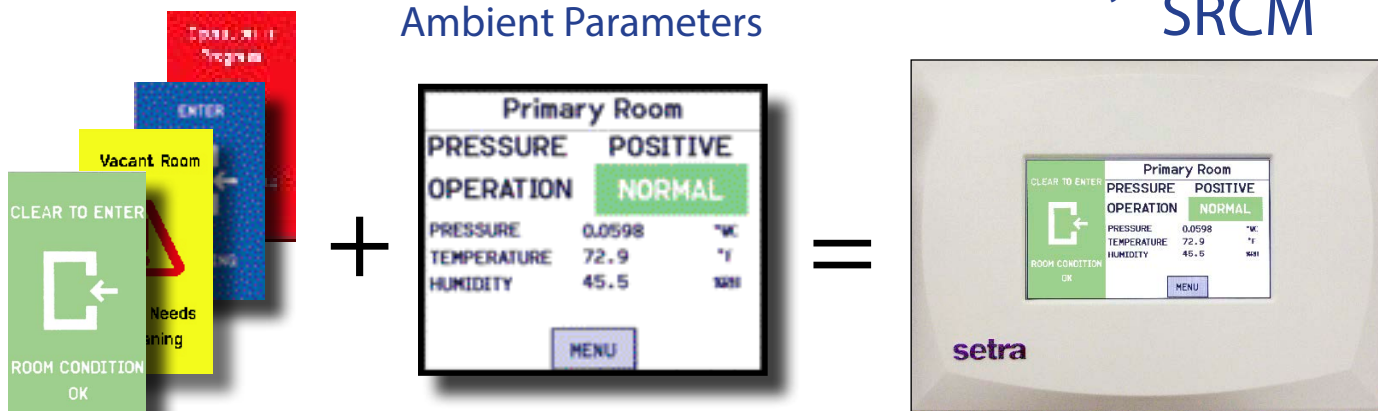
FEATURES

- True Pressure Measurement
 - High accuracy Setra low differential technology
 - Dead ended solution —no contamination or clogging
 - Standard on-board sensor and optional remote sensor
- Display 4 Ambient Parameters
 - Pressure, Temperature, Humidity, User-Defined (ex., CO2, LUX)
- Flush Mount Design
 - No visible mounting fasteners
 - Snap-in flush bezel
 - Face is sealed for cleaning or wipe-down
- Full Banner Feature
 - Utilize same monitor for room condition
 - Clearly display condition with facility specific nomenclature
- Clone Feature
 - Display rotates up for access to USB port
 - On-board USB port—cloning of configurations for multiple unit installation
- BACnet® Communications
 - Installed or field upgrade for in-situ installation
 - BACnet• MSTP/ASC
 - All setups configurable through touch screen display
- Alarm Capabilities
 - Local Audible and Visual alarming
 - Remote annunciator alarming capability
 - Alarm delay feature—prevent nuisance alarms
- Ease of Installation
 - Mounts in off-the-shelf electrical gang box
 - 4-screw self leveling mount
 - Labeled, removable termination strips—ease of wiring
 - Alarm delay feature—prevent nuisance alarm

Setra's "2 in 1" Solution

The Environment is Critical, the Control is Easy
Ambient Parameters

SRCM



Attractive, Intuitive, and Configurable Design

Simultaneously Monitor and Display 4 Parameters Per Room (up to 2 rooms)

Selectable Room Condition Banners
1/3 Screen Banners

- Vacant Room
- Room Condition OK
- DO NOT ENTER
- ENTER
- DO NOT ENTER
- CLEAR TO ENTER
- ROOM CONDITION OK

Full Screen Banners

- DO NOT ENTER
- ENTER
- DO NOT ENTER
- CLEAR TO ENTER
- ROOM CONDITION OK

Display 4 Ambient Parameters (slide bar off)
Pressure, Temperature, Humidity, and User-Defined Parameter

Room I.D.
Customer Configurable Feature - Customize Room Name

Room Pressure Mode
Display Positive, Negative, or Neutral Mode of Room

Room Pressure Status
Visual Indication of Normal, Warning, and Alarm Condition

Displayed Pressure
Displays Room Pressure in User Selectable Units

Pressure Slide Bar On
Graphic Display of Pressure Reading Relative to Alarm Setpoints

Setup Menu
Password Protected Entry to Menu Structure

Fingertip Access for Easy Setup

Setup Display Primary Room

General | Advanced | Condition Banner | Set Time & Date

Touch to Change Text and Condition

- ACTIVE PRESSURE: User Defined Text: Enabled [Change ->]
- Blink in Green: Disabled [Change ->]
- Language: English [Change ->]
- [Save & Exit]
- [Exit]

Setup Display Banner

- User Defined Text: Free form data entry for room name
- Room Status: Change room from Isolation to No Isolation

Setup Display Primary Room

General | Advanced | Condition Banner | Set Time & Date

- Adjust Contrast Level: [Change ->]
- Display Average: 10
- Which Room To Display?: Primary Only [Change ->]
- Pressure Resolution: 4 [Change ->]
- Supervisor Password: Enable [Change ->]
- Operator Password: Enable [Change ->]
- [Save & Exit]
- [Exit]

Setup Display Advanced

- Display Contrast: Change brightness of display
- Display Averaging: Improve display resolution in unstable ambient pressure environments
- Display Ambient Parameters: Display primary and secondary rooms or toggle between 2 rooms
- Enable Password: Administrator and Supervisor

Setup Unit Anteroom - 301

Primary | Secondary

Parameter 1 | Parameter 2 | Parameter 3 | Parameter 4

Parameter: temperature [Change ->] Input Source: AIX CH1 [Change ->]

Label: Primary Room

Primary - CH1

Temperature Range: LOW -50.0 High 50.0 [Save & Exit]

Input Range: 1 10

Engineering Unit: °C [Change ->] [Exit]

Setup Unit Operation

- Setup primary and secondary room
- Change analog output
- Free form data entry for room name

Model SRCM

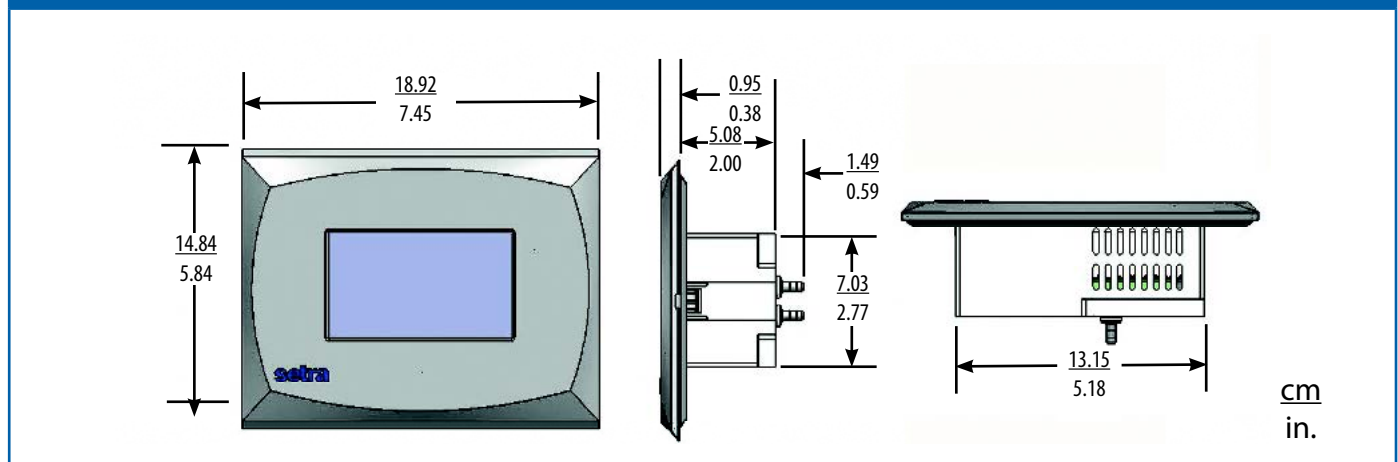
Room Pressure and Condition Monitor



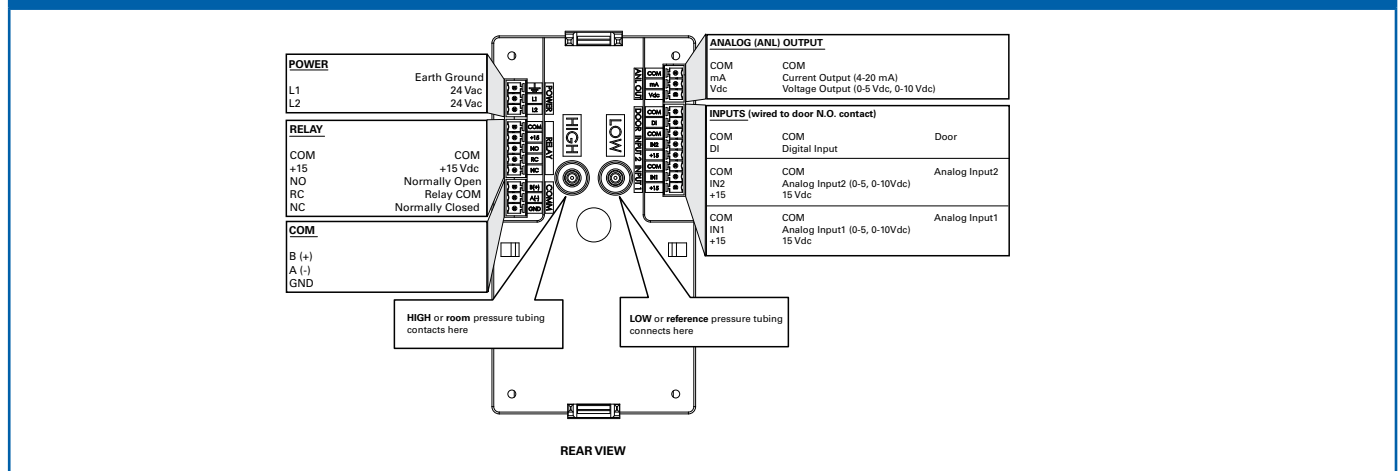
SPECIFICATIONS

Performance Data			Environmental Data		Electrical Data (Voltage)	
	Code F	Code H	Operating ² Temperature °F (°C)	32 to +120 (0 to +50)	Circuit	3-Wire (Exc, Out, Com),
Accuracy RSS ¹ (at constant temp)	±0.25% FS	±0.5%	Storage Temperature °F (°C)	-20 to +160 (-30 to +70)	Output ⁴	0 to 5VDC, 0 to 10VDC
Non-Linearity (BFSL based)	±0.24%	±0.49%	Operating Humidity	5 to 95% RH (non-condensing)	Excitation	18-32 VAC, 50-60 HZ
Hysteresis	±0.05%	±0.05%	Physical Description		Power Consumption	10 W max., 3 W typ.
Non-Repeatability	±0.05%	±0.05%	Case	Fire Retardant Plastic UL94 V-0	Alarm Output	SPDT Relay: 0.6A @ 120 VAC, 2A @ 30VDC
Zero/Span Tolerance	±0.05% FS	±0.05% FS	Dimensions	5.84"H x 7.45"W x 0.38"D (14.84 x 18.92 x 0.95 cm)	Electrical Data (Current)	
Pressure Media			Electrical Connection	Removable Terminal Block	Circuit	2-Wire
Air or Non-Conductive, Non-Explosive Gases.			Pressure Fittings	Barbed Fittings for 1/4" O.D. Tubing	Output	4 to 20 mA
Certifications			Weight (approx.)	1 lb. 3.2 ounces (554 grams)	External Load	0 to 510 ohms
CE	Electro-Magnetic Compatibility Directive 2004/108/EC Low-Voltage Directive 2006/95/EC RoHS Directive 2011/65/EC		Mounting	Mounts to a triple gang double-deep electrical box	Excitation	18-32 VAC
			Communications Option		Thermal Effects ²	
CSA	CAN/CSA - C22.2 No. 61010-1-04 ANSI/UL 61010-1, 2nd Edition		BACnet [®]	MS/TP ASC	Compensated Range °F (°C)	±0.03% FSI (±0.05% FS)
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. ⁴ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater. Specifications subject to change without notice.			Display		Overpressure	±1 PSI (15" W.C. for ≤ 0.10" W.C. F.S.)
			LCD	4.3" TFT, 480 x 272, Dimmable		

DIMENSIONS



WIRING



ORDERING INFORMATION

S R C M - [] [] [] [] [] [] - [] [] - [] - []

Model	Range Code	Excitation/Output	Accuracy	Pressure Snubber*
SRCM = SRCM	See Table 1 Below	A1 24 VAC/4-20 mA or 0-5 and 0-10 VDC	H ±0.5% FS	N 0
		A2 24 VAC w/ BACnet®	F ±0.25% FS	1 1
				2 2


RANGE CODE	INCHES W.C.	RANGE CODE	PASCALS
R05WB	±0.05	Z02LB	±12.5
0R1WB	±0.10	025LB	±25
R25WB	±0.25	050LB	±50
0R5WB	±0.50	100LB	±100
001WB	±1.00	250LB	±250
2R5WB	±2.50	500LB	±500
005WB	±5.00	10CLB	±1000




Ordering Example: Part No. SRCMR05WBA1HNS for A SRCM, ±0.05"WC Range, 24VAC/4-20 mA, 0.5% Full Scale Accuracy, NO Pressure Snubber

* For other pressure fitting configurations, please contact factory.

ACCESSORIES

Model SRAN	
Remote Annunciator	
	Green LED, Normal Indication Red LED, Alarm Indication Buzzer, Audio Alarm, ADJ. from SRPM Acknowledge Switch
Order Part Number:	S R A N

Pressure Snubber	
Room Pressure Snubber (Wall Mount Pressure Taps)	
	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.

Model SRIM

Room Isolation Monitor



Wall Mount



Duct Mount

FEATURES

- Large 2-Line LCD Display
- Membrane Keypad for Ease of Configuration & Menu Navigation
- Upper/Lower Alarm Limit Setting
- Wall & Duct Mount Versions
- Mounting Thickness <50mm
- Easy Calibration without Removing the Wiring or Plumbing
- True 2-Wire 4 to 20 mA, 0 to 5 VDC & 0 to 10 VDC, Field Selectable
- Unidirectional or Bidirectional Ranges
- Accuracy Options: $\pm 1.0\%$, $\pm 0.5\%$, $\pm 0.25\%$ FS
- Ranges as Low as ± 0.05 in. W.C.
- CE Compliant

APPLICATIONS

- Pharmaceutical Manufacturing
- Hospitals
- Laboratories
- Vivariums

DESCRIPTION

In a pharmaceutical, hospital, laboratory, or animal research facility, the integrity of the ventilation control system is at the heart of a contaminant free environment. Whether a room is to be maintained at a positive pressure to prevent product contamination or a negative pressure to prevent contaminants from escaping into adjacent areas, the proper pressurization of the room is essential.

To assure proper pressurization is maintained in these critical environments, a room pressure monitor is employed to measure and alert staff and personnel of any change in pressure no matter how small. A fail-safe solution to monitoring these very low pressure changes is Setra's Model SRIM room pressure monitor, which utilizes highly accurate capacitance sensing technology to measure and display true low pressure differential.

SPECIFICATIONS

Performance Data			Physical Description		Electrical Data		
	Code F	Code H	Code C/G	Electrical Connection	Screw Terminal	Circuit	3-Wire (Exc, Out, Com)
Accuracy RSS*	$\pm 0.25\%$ FS	$\pm 0.5\%$ FS	$\pm 1.0\%$ FS	Dimensions	See reverse side	Output	0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA (Loop Powered)
Non-Linearity (BFSL)	$\pm 0.22\%$ FS	$\pm 0.49\%$ FS	$\pm 0.98\%$ FS	Weight	8.9oz (Duct), 9.8oz (Wall)	Excitation	18 to 32 VDC
Hysteresis	$\pm 0.1\%$ FS	$\pm 0.1\%$ FS	$\pm 0.1\%$ FS	Display	Custom 2-Line Character LCD	Current Consumption	5 mA (voltage output mode)
Non-Repeatability	$\pm 0.05\%$ FS	$\pm 0.05\%$ FS	$\pm 0.05\%$ FS	Pressure Fittings	Barbed Fittings for 1/4" Tubing	*Calibrated into a 50K ohm load, operable into a 10K ohm load or greater	
Zero Setting Tol.	$\pm 0.5\%$ FS	$\pm 0.5\%$ FS	$\pm 1.0\%$ FS	Case	Fire Retardant Plastic UL94V-0	Pressure Media	
Span Setting Tol.	$\pm 0.5\%$ FS	$\pm 0.5\%$ FS	$\pm 1.0\%$ FS			Air or non-conductive, non-explosive gases	
Thermal Effects			Environmental Data		Certifications		
Compensated Range	$\pm 0.06\%$ FS/C		Temperature		CE	EN61326-1 & EN61326-2-3 BASIC Immunity & Class B Emission	
Overpressure	Up to 10 PSI		Operating	21.2 to +140°F (-6 to +60°C)	RoHS		
			Storage	-4 to +185°F (-20 to +85°C)			
			Operating Humidity	5 to 95% RH (non-condensing)			
*RSS of Non-Linearity, Non-Repeatability & Hysteresis at constant temp. **Units calibrated at nominal 21°C. Max thermal error computed from this datum.				Specifications Subject to Change without Notice			

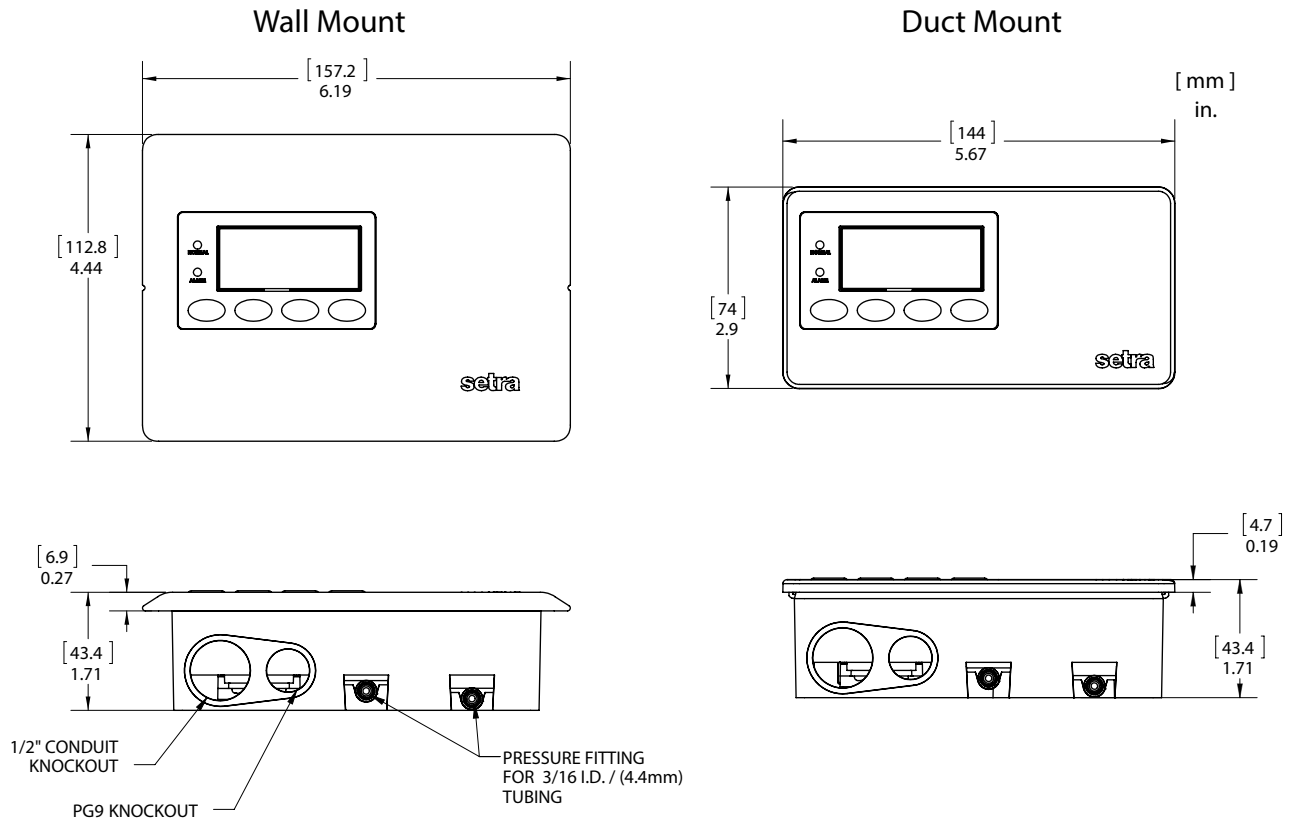
ORDERING INFORMATION

SRIM - [] [] [] [] - [] - [] [] - [] [] - [] - [] [] - N - E

Model	Pressure Ranges	Type	Output	Mounting/Logo	Accuracy	Pressure Snubber	Option
Model SRIM	in. W.C.	Differential	11 4 to 20 mA	WL Wall Mount, w/ Logo	C ±1.0% FS	N Quantity 0	N
R05W*	0 to 0.05 ±0.05	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	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	*available in unidirectional only		DN Duct Mount, No Logo	G ±1.0% FS w/ cal. cert		
OR5W	0 to 0.5 ±0.5						
001W	0 to 1.0 ±1.0						
2R5W	0 to 2.5 ±2.5						
005W	0 to 5.0 ±5.0						
Pascals							
Z02L	0 to 12.5 ±12.5						
O25L	0 to 25 ±25						
O50L	0 to 50 ±50						
100L	0 to 100 ±100						
250L	0 to 250 ±250						
500L	0 to 500 ±500						
10CL	0 to 1000 ±1000						
25CL	0 to 2500 ±2500						

Example: Part No. SRIMR05WD11WLC1NE = Model SRIM, 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



SSP-SRIM RevA 05/2013

Model SRMD

Setra Room Monitoring Display



Dual Display



Single Display

DESCRIPTION

The Model SRMD is a bright, attractive LCD display that provides a clear and remote view of real-time "at a glance" room conditions, ensuring effective environment control management.

CE-compliant, the SRMD accepts 0 to 5 and 0 to 10 VDC analog signals from virtually any sensing technology including temperature, humidity, CO₂, pressure, and others. Adjustable zero and span capabilities make it easy for the user to calibrate readings. Units are available with either a single or dual 1-inch, 3.5 digit LCD display and choice of red, blue or green backlight for easy viewing from across a room. These units are also wipedown capable requiring no special maintenance. The SRMD is easy to install, only requiring a standard 4-11/16 electrical box.

This unit is also designed for direct compatibility with Setra's Relative Humidity (SRH) sensors with temperature output. Units may be ordered and shipped as a factory calibrated bundle along with the SRMD for faster installation and commissioning.

FEATURES

- Highly Visible 1" LCD Display
- Single LCD Display or Dual LCD Display Model
- Flush Mount Design
- Wipe Down Capable
- Available in Red, Green or Blue LCD Backlight
- Mount in Standard 4-11/16" sq. Electrical Box
- Compatible with Any Analog Sensor with 0-5VDC or 0-10VDC output
- CE Compliant

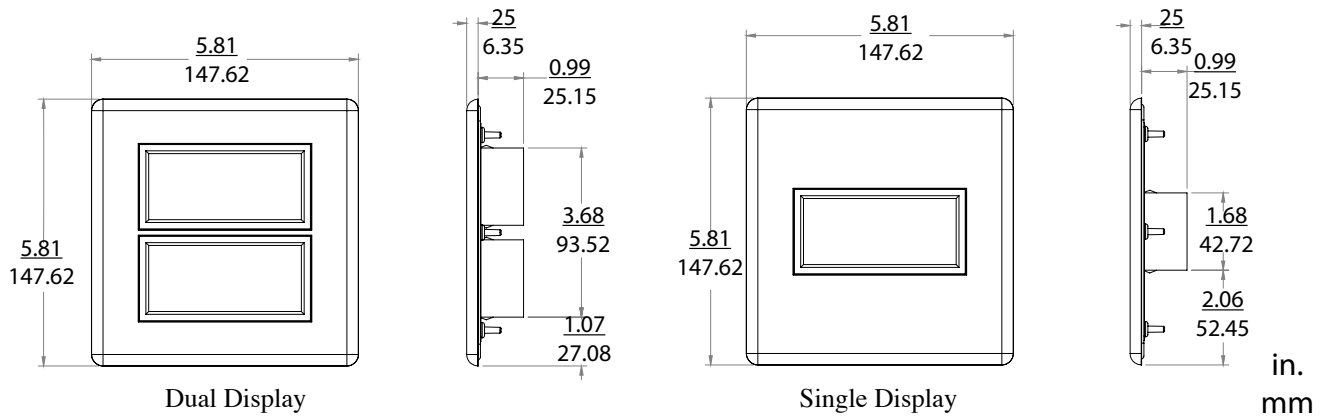
Applications

- Surgical Suites
- Intensive Care Isolation Rooms
- Pharmacology
- Research Laboratories
- Pharmaceutical Manufacturing
- Clean Rooms
- Biological Safety Lab
- Animal Research - Vivarium
- Organic Laboratory

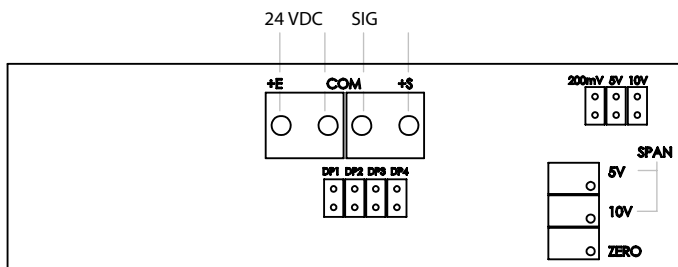
SPECIFICATIONS

Physical Description		Environmental Data		Electrical Data (Voltage)	
Flesh Mount Bezel	Fire Retardant UL94V-0	Operating ³ Temperature °F (°C)	14 to +122 (-10 to +50)	Power Input	15-32 VDC or 24 VAC
Bezel Dimensions	Single Display Model - 5.9"H x 5.9"W Dual Display Model - 5.9"H x 5.9"W	Storage Temperature °F (°C)	-40 to +167 (-40 to +75)	Current Consumption	50mA max (per display)
		Operating Humidity	5 to 95% RH (non-condensing)	Analog Signal Input	Jumper Selectable 0-5 VDC or 0-10 VDC
LCD Assembly Dimension	1.89"H x 3.78"W x 1.5"D	Display		Adjustments	Wide Adjustable Zero and Span by 25-Turn Pots.
Weight (approx.)	Single Display Model - 10oz (554g) Dual Display Model - 13 oz (369g)	LCD	Available in Red, Green or Blue Backlit 1" high 3.5 digit (±1999 counts)	Accuracy	+/-1% FS +/- 2 Counts
		Engineering Unit Labels	Jumper Selectable °F °C % PSI, PPM, "WC	Input Impedance	Greater than 300K ohms
Mounting	Standard 4-11/16 Double Gang Electrical Box	Decimal Point	Jumper Selectable	Sampling Rate	3 Readings per Second
				Connection	Screw Terminals
Specifications subject to change without notice.					
Certifications					
CE	Conforms to European Directive				

DIMENSIONS



WIRING



Wiring

- +E DC Power Supply or one of the AC Power Supply wires
- COM DC Power Supply Common or one of the AC Power Supply wires
- +S Signal input Positive from Sensor
- COM Signal input Common from sensor

Calibration

1. Set voltage input full-scale range jumper in 5V or 10V position (200 mV is not used)
2. Set decimal point location jumper as required (default DP1 has jumper for one decimal point)
3. Apply "zero" signal and adjust ZERO pot for desired "ZERO" display reading
4. Apply "full scale" signal and adjust 5V or 10V SPAN pot for desired "Full-Scale" display reading

Note: 4-11/16" sq. standard electrical box required for installation, not included.

ORDERING INFORMATION



Single Display

Model	Display Bezel Color	Display Color	Measurement Parameter	Sensor Option
SRMD=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 SRH12PW2CTS5N
		B Blue	H Humidity (0.0 to 100.0% RH)	D SRH Duct Mount SRH12PD2CTS5N

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

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



Dual Display

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

Model	Display Bezel Color	Display Color (Top)	Measurement Parameter (Top Display)	Sensor Option	Display Color (Bottom)	Measurement Parameter (Bottom Display)
SRMD=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 SRH12PW2CTS5N	G Green	T Temp. (14 to 140°F)
		B Blue	H Humidity (0.0 to 100.0% RH)	D SRH Duct Mount SRH12PD2CTS5N	B Blue	H Humidity (0.0 to 100.0% RH)

POWER MONITORING

MODELS:

Power Patrol


Patrol Flex CT

Split Core Standard CT

Split Core Performance CT

Power Squad 24

setra



POWER PATROL

Power Patrol

Advanced Power Meter



The **Setra Power Patrol** is every electrical contractor's dream. The 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 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.

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 voltages ranging from 80-600V (phase-to-phase). The Power Patrol has 3 LED indicators (Red/Green) which confirm proper CT-to-phase installation.

Field Selectable Communications (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).

Power Patrol Features:

- Configure & Power Through USB
- Rogowski Coil and 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
- Bi-Directional
- DIN- Mount

Applications:

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

5 Year Warranty

Power Patrol

Advanced Power Meter



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 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-phase 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 Certified to CSA Std C22.2 No. 61010-1

Modbus Register/BACnet Object Descriptions (Partial 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)

Ordering Information for Setra Power Patrol

S P P
SPP - Setra Power Patrol

Communication Port
E - Ethernet & Serial
S - Serial Only (RS-485)

Display
D - Display
N - No Display

Communication Accessories	Setra P/N	Description
(Cable and software required for meter setup)	900900-G	USB Communication Cable, Type A to B, Power Patrol
	900901-G	USB Flash Drive, HeadStart Software, Power Patrol

Power Squad 24

Multi-Circuit Power Meter



POWER SQUAD 24

The **Power Squad 24** is a versatile, multi-channel (CT) instrument. 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 Power Flex CTs and is capable of monitoring up to 8 three-phase or 24 single-phase electrical devices.

Versatility

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).



Power Squad 24 Features:

- Rogowski Coil and Split Core CT Compatible
- Broadband Power Supply (80-600V)
- Field Selectable BACnet/Modbus (4-in-1)
- Data Updates Occur Every 1 Second
- Bi-Directional

Applications:

- Measurement & Verification
- Energy Cost Allocation
- Equipment Efficiency Tracking
- Preventive Maintenance
- Data Center Monitoring

5 Year Warranty

Power Squad 24

Multi-Circuit Power Meter

SPECIFICATIONS			
Technical		Communications	
Service Type	Single Phase, Three Phase-Four Wire (WYE), Three Phase-Three Wire (Delta)	Direct	BACnet TP, 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	1% (<0.5% typical) for V, A, kW, kVAR, kVA, PF.	Weight	without enclosure: 369g (13oz) with enclosure: 610g (21.5oz)
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")
LED Indicators	Bi-color LEDs (red and green): 1 LED to indicate communication, 3 LEDs for correct CT-to-phase installation (per meter element)	Safety	
Pulse Output	Open Collector, 75mA max current, 40V max open voltage	Power Patrol Serial and Ethernet	UL Listed and CE Mark, Conforms to UL Std 61010-1, Certified to CSA Std C22.2 No. 61010-1

Modbus Register/BACnet Object Descriptions (Partial 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)

Ordering Information for Setra Power Patrol

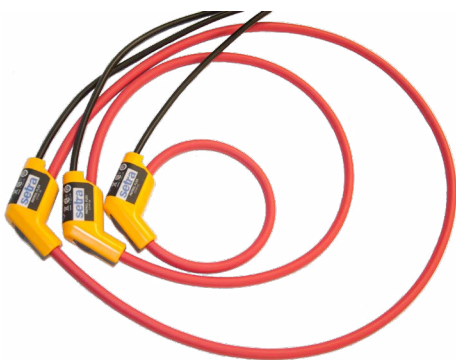
SPS24 - Setra Power Squad 24

— —
Communication Port
 E - Ethernet & Serial
 S - Serial Only (RS-485)

—
Enclosure
 E - Enclosure
 N - No Enclosure

Patrol Flex

Rogowski Coil



DESCRIPTION

The Setra Patrol Flex is an AC current probe utilizing the Rogowski principle. The flexible and lightweight measuring head allows quick and easy installation in hard to reach areas, without batteries or an external power source.

Setra Patrol Flex is available as a 3-pack, perfect for use with 3-phase power applications. The Flex clamp fits around bus bars and large or hard-to-reach conductors.

SPECIFICATIONS

General Specifications		Specifications		Safety Specifications	
Probe and Cable Material	TPE rubber, reinforced insulation UL94 V-0, Colour: RED Munsell 7.5 R 1/14	Current Range	12" - 0-1500A 24" - 0-3000A 36" - 0-6000A	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 AC RMS or DC and frequencies below 1 kHz. -Please note that this probe is designed to work with Fluke 435, if used with other products safety rating for the output to earth is limited to 600V AC RMS or DC.
Couplings Material	Polypropylene, UL94 V-0	Voltage Output (@1000 ARMS, 50 Hz)	85 mV		
Probe Cable Length	610 mm	Accuracy	± 1% of reading (@ 25°C, 50 Hz)		
Probe Cable Diameter	12.4 mm	Linearity (10% to 100% of range)	± 0.2% of reading		
Probe Cable Bend Radius	40 mm	Noise (10 Hz - 7 Hz)	1.0 mV AC RMS		
Output Cable Length	2.5 meters RG58	Output Impedance	82 Ω min		
Output Connector	Unterminated	Load Impedance	50 kΩ		
Operating Range	-20° to +90° C	Internal Resistance per 100 mm probe length	10.5Ω ± 5%		
Storage Temperature	-40° to +105° C	Bandwidth (-3dB)	10 Hz to 7 kHz		
Operating Humidity	15% to 85% (non condensing)	Phase Error (45-65 Hz)	±1°		
Degree of Protection (Probe)	IP41	Position Sensitivity	± 2% of reading max.		
		Temperature Coefficient	± 0.08% max of reading per °C		
		Working Voltage (see Safety Standards section)	1000 V AC RMS or DC (head) 30 V max. (output)		



ORDERING INFORMATION

C	T	-	P	F	-		
Name				Probe Length			
PF	Patrol Flex			12	12"		
				24	24"		
				36	36"		



DESCRIPTION

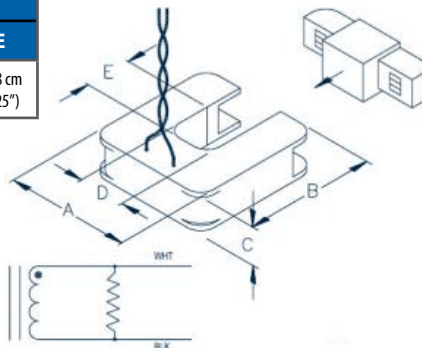
Split Core Standard CTs provide linear output voltage that is directly proportional to the input current. These current transformers are safely and easily installed over existing electrical power lines without disconnecting the lines or interrupting service.

Setra's energy monitoring components are used for a variety of applications including building automation, tenant submetering, performance verification, energy management, and new technology assessment.

SPECIFICATIONS				
	100A	200A	400A	600A
Window 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			

*IEEE C57.13 Certification available upon request

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 - SCS - [] [] []

Name		Amps	
SCS	Split Core Standard	100	100 Amps
		200	200 Amps
		400	400 Amps
		600	600 Amps

Split Core Performance CT

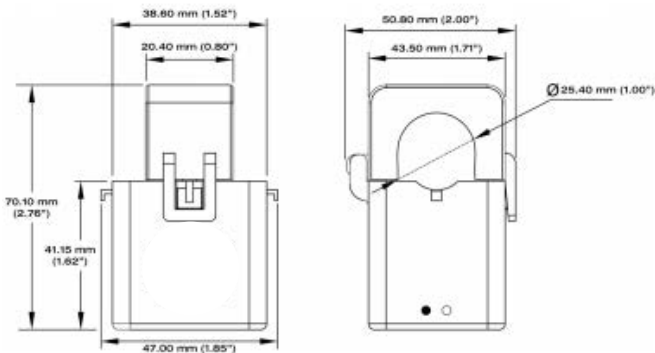
Current Transformers



DESCRIPTION

The hinged Split Core Performance CTs are small, low cost current transformers with high accuracy over a wide dynamic range with excellent phase shift. These CTs are ideal where space is limited such as when metering multiple loads within a panel board. Use for current measurement, energy metering, load surveys, demand metering, energy research, and submetering.

SPECIFICATIONS				
	20A	50A	100A	200A
Window Size	0.4" (10mm)	0.4" (10mm)	25mm (1.0")	25mm (1.0")
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			
Oreintation	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	



ORDERING INFORMATION

CT - SCP - [] []

Name		Amps	
SCP	Split Core Performance	020	20 Amps
		050	50 Amps
		100	100 Amps
		200	200 Amps

CURRENT SENSORS

MODELS:

CSS Series

CTC Series

CCM Mini

CSC Series

Sure Set

setra

Model CSS Series

Solid Core Current Switches



DESCRIPTION

The CSS models are ideal for new installations and provide the greatest savings opportunity. Ideal for direct drive units, small exhaust fans, and other fixed loads, these solid state switches have accurate, very low fixed or user adjustable setpoints, which are activated when the desired amperage is reached. The adjustable CSSGA2100NN and CSSGA2100R1 units have LED's, which indicate switch status. (User can also adjust the setpoint for over or under loads.) Excitation is magnetically induced from current carrying conductor (wire or cable), making these units completely self-powered.

The CSS Series, solid core, current switch's convenient wide orifice allows easy pass through of the conductor, and is bundled with a mounting bracket and hardware, making installation easy.

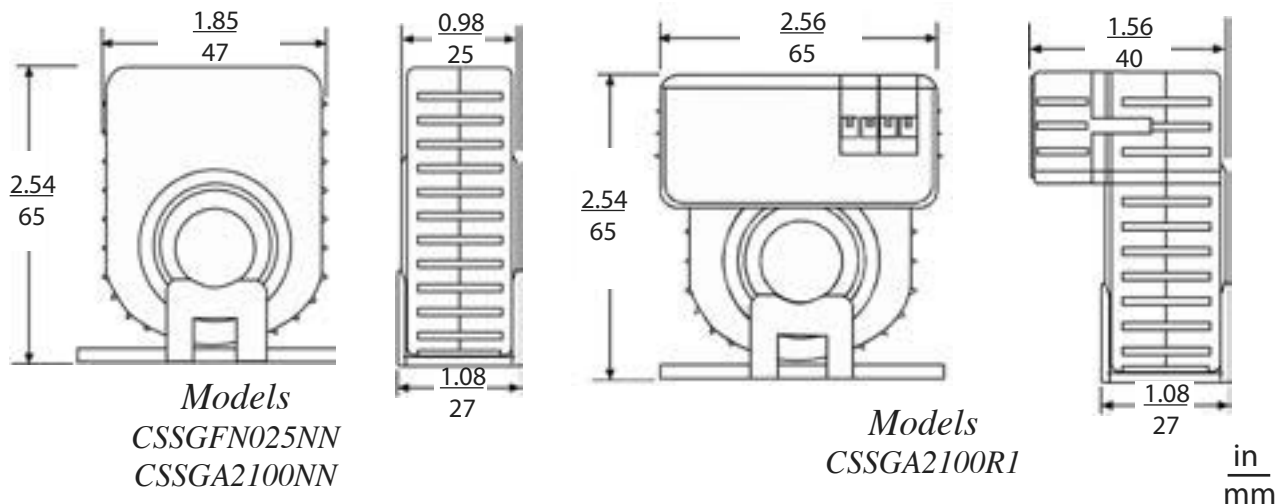
FEATURES

- Solid Core Design
- Adjustable Switch Setpoints
- Switch LED Indication
- Relay LED Indication
- Over/Under Current Sensing
- Snap-On Power Relay
- Low Cost Solution
- Self-Powered
- Simple Installation
- Accurate Fixed Setpoint Models, No Guessing at Switchover Current

APPLICATIONS

- HVAC
- Refrigeration
- Pumps
- Small Industrial Motors
- Fans
- Lighting

DIMENSIONS



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			
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 (Sensing Hole 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 CSC Series

Split Core Current Switches



DESCRIPTION

A significant increase or decrease in operating current may result in motor belt loss, slippage, or mechanical failure, which could jeopardize the user's process. The split core design of the Model CSC is an ideal solution, as it can easily be clamped onto existing power cables or wires. These units are offered with industry standard 135 Amp or 200 Amp output and very low fixed or adjustable setpoints, which are activated when the desired amperage is reached. Model CSCGA2125NN and CSCGA2125R1 include LEDs for indication of switch status. (Setpoint can be adjusted for over or under loads.)

Model CSCGFN150R1 and CSCGA2125R1 are equipped with a snap-on power relay for remote motor startup.

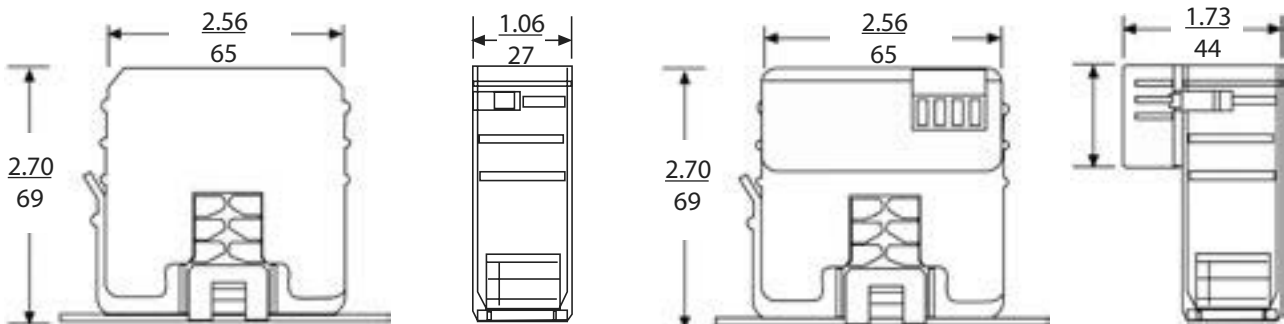
FEATURES

- Clamped/Split Core Design
- Adjustable Switch Setpoints
- Switch LED Indication
- Relay LED Indication
- Over/Under Current Sensing
- Snap-On Power Relay
- Low Cost Solution
- Self-Powered
- Simple Installation
- Accurate Fixed Setpoint Models, No Guessing at Switchover Current

APPLICATIONS

- HVAC
- Refrigeration
- Pumps
- Small Industrial Motors
- Fans
- Lighting

DIMENSIONS



Models
CSCGFN015NN
CSCGFN150NN
CSCGA2125NN

Models
CSCGFN150R1
CSCGA2125R1

in.
mm



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				
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	Adjustable	Fixed	Adjustable
Output Relay	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	24 V AC/DC	24 V AC/DC
Switch LED Indication	No	Yes	No	Yes
Relay LED Indication	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	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 1.73 in. (69 x 65 x 44 mm)	2.7 x 2.56 x 1.73 in. (69 x 65 x 44 mm)
Aperture (Sensing Hole 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

Model CTC Series

Split Core Current Transducers



FEATURES

- Clamped/Split Core Design
- Slide Switch, Selectable Amperage Ranges
- Snap-On Power Relay
- Relay LED Indication on CTC when Used with Optional CCR-24 or CCR-12 Command Relay
- Low Cost Solution
- 24 VDC Loop Power or Self-Powered
- Simple Installation

APPLICATIONS

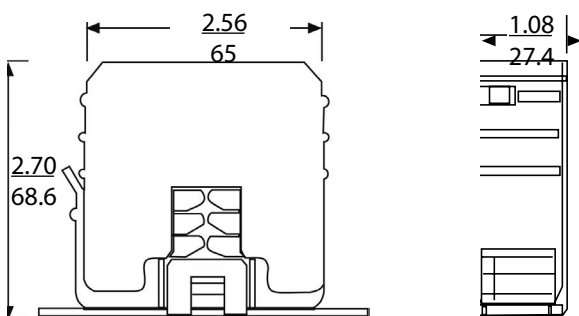
- HVAC
- Refrigeration
- Pumps
- Small Industrial Motors
- Fans
- Lighting

DESCRIPTION

CTC Series Split Core Current Transducers combine accurate magnetic current sensing with signal conditioning electronics. They are available in either 24 VDC loop power or self-powered, which means they are easy to install and put into operation. Their self-gripping, compact split core design makes it easy to retrofit into existing equipment.

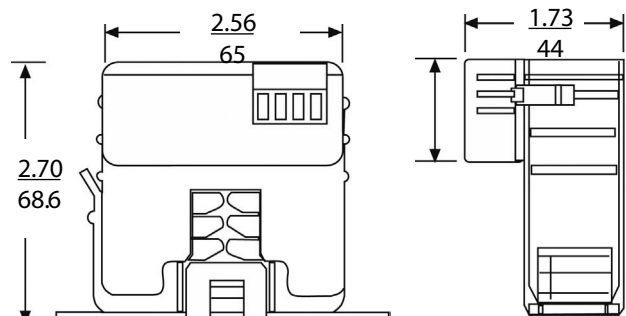
Each unit has a three position slide switch to select the most suitable range for the application. The 0 to 5V and 4 to 20 mA output units have 30/60/120 Amp sensing ranges. The 0 to 10V output units have a 20/100/150 Amp sensing range.

DIMENSIONS



Models
CTCG420NN, CTCGV05NN,
CTCGV10NN

in.
mm



Models
CTC Models w/Optional
CCR-24 / CCR-12 Command Relay

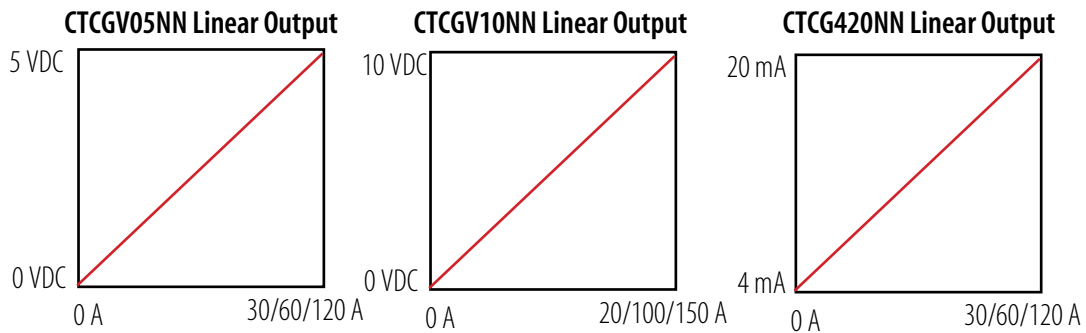


CAUTION, RISK of ELECTRIC SHOCK

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			
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		
Output Relay	No	No	No
Actuation Coil	Use optional CCR-24 or CCR-12 Command Relay Module (sold separately)	Use optional CCR-24 or CCR-12 Command Relay Module (sold separately)	Use optional CCR-24 or CCR-12 Command Relay Module (sold separately)
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		

Output



ORDERING INFORMATION

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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

Note: Contact factory to order power relay separately

Sure-Set

Split Core Current Switch



DESCRIPTION

The Sure-Set Model SSC Split Core Current Switch provides a unique approach to calibration and installing current sensors that eliminates exposure to Arc Flash hazards while providing a low cost, fast and accurate method of setting the proper current set point for the application. By eliminating the need to work on a live electrical enclosure, the Sure-Set Current Switch allows installation without the need for Arc Flash Personal Protective Equipment reducing install time. Using the 9 position Sure-Set Selector and the scale rated in motor HP, the installer simply sets the selector to the rated motor HP prior to opening the electrical enclosure. The installer powers down the electrical enclosure, snaps the Sure-Set onto the sensed conductor, connects the signal leads, closes the enclosure and powers up the system. No further calibration is required! In fact, the engineer or installer can pre-set all the Sure Set current switches used in a system prior to arriving at the job site, making the on-site install time for the current switches even shorter.

Offered with 9 HP settings per range, the Sure Set has the derating from Full Load Amps (FLA) already designed into the product. Simply set the Sure-Set 9 position selector switch to the rated motor HP and install. The Sure-Set, like other members of Setra's Current Switch family, are completely self-powered from the sensed conductor. 600V AC isolation is standard and the Sure-Set is agency listed with UL/cUL and is CE and RoHS compliant.

FEATURES

- Sure-Set Scaled in Motor Hp, Allowing User to Preset Unit Prior to Installation
- 9 Motor HP Settings Per Model
- De-rating Built-In from Full Load Amps to Detect Belt Loss or other Mechanical Load
- Snap-on Power Relay Option

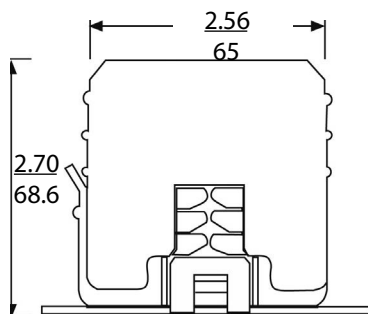
BENEFITS

- Eliminates Exposure to Arc Flash - No Personal Protective Equipment Required
- No Live Calibration Required - Save Time and Labor
- Accurate Fixed Setpoint Models, No Guessing at Switchover Current

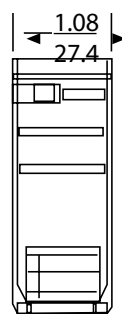
APPLICATIONS

- HVAC
- Refrigeration
- Pumps
- Industrial Motors
- Fans
- Lighting
- Heaters

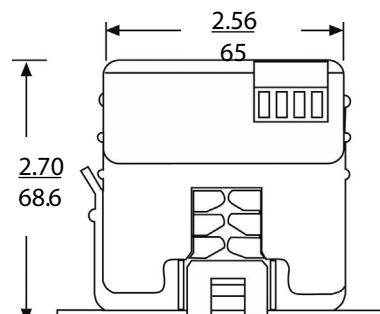
DIMENSIONS



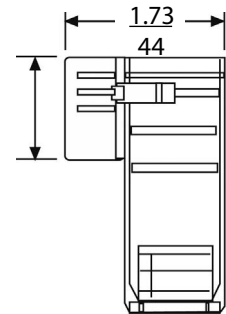
Model
SSC-2H
SSC-4H



in.
mm



Shown with
Optional CCRXX
Snap-on Power
Relay



Patent Pending



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		
MODEL	SSC-2H	SSC-4H
Motor Hp Range	5, 7.5, 10, 15, 20, 25, 30, 40, 50	15, 20, 25, 30, 40, 50, 60, 75, 100
Continuous Operating Current	135A, 600V AC	
Switch Setpoint	Adjustable, 9 position selector 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	Yes
Relay LED Indication (option)	Yes	Yes
Trip Point Set Value	35% below FLA @ selected Hp value	
Current Switching Mode	Under Current Sensing	
Dimensions	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 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	

ORDERING INFORMATION

□□□□ - □□

Model	Motor HP Range Code	Motor HP Ranges
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 Snap on Power Relay

Model	Voltage	Description
CCR	12	AC/DC
CCR	24	AC/DC

CCM MINI

Current Clamped Mini



FEATURES

- Clamped/Split Core Design
- Under Current Sensing
- Integral Mounting Flange with DIN-Rail Capability

BENEFITS

- Low Cost Solution
- Self-Powered
- Simple Installation
- Accurate Fixed Setpoint,
No Guessing at Switchover Current

APPLICATIONS

- HVAC
- Refrigeration
- Pumps
- Small Industrial Motors
- Fans
- Lighting

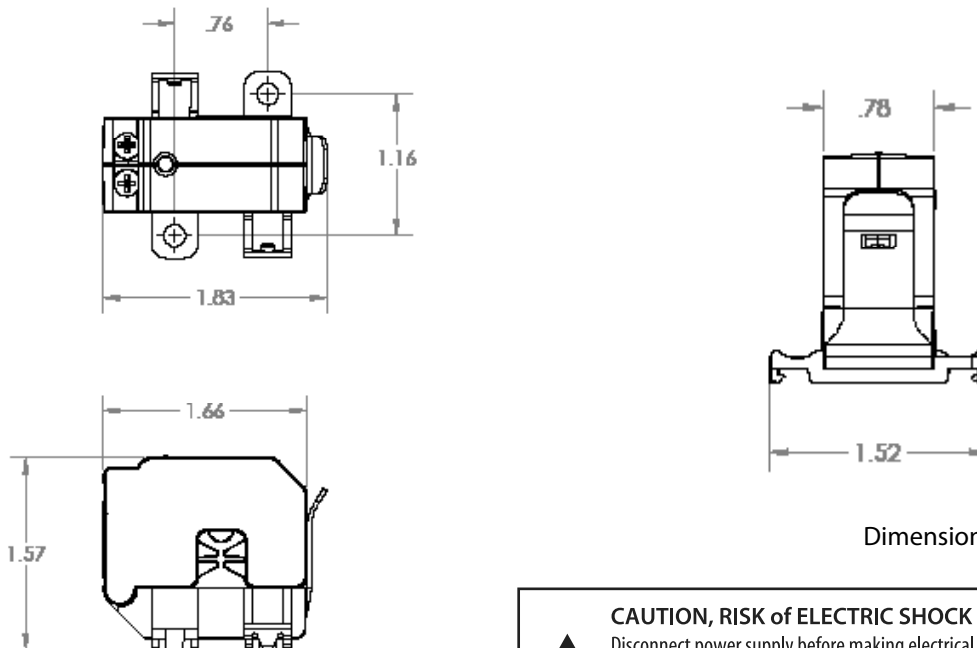
DESCRIPTION

The CCM Mini is a cost effective solution to monitoring light to medium current loads.

An increase or decrease in operating current may result in motor belt loss, slippage or mechanical failure, which could jeopardize the user's process. Designed to detect these changes in operating current, the Model CCM Mini (Current Clamped Mini) can be easily clamped onto new or existing power cables or wires.

The CCM Mini has a 0.15A Trip Set Point.

DIMENSIONS



Dimensions are in inches.

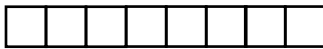


CAUTION, RISK of ELECTRIC SHOCK

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	
MODEL	CCM015NN
Amperage Range	0.15 to 60 A
Continuous Operating Current	60A, 300V AC
Current Set Point	Fixed
Switch LED Indication	No
Relay LED Indication	Yes
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 measured conductor No external source needed
Status Output	N.O.
Switch Load Capacity	1A @ 30V AC/DC
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	UL/c-UL Listed: 508, IND. Cont. EQ: E317719/CE Compliant/RoHS Compliant

ORDERING INFORMATION



Model No. Description

CCM015NN Model CCM MINI, Fixed Setpoint, Trip Point Set Value 0.15 A, No LED,

GAUGE PRESSURE

MODELS:

206

209

256

3100

3200

setra

Model 206 Pressure Transducers



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 206 gauge pressure transducers are the most rugged and most reliable sensors available. Time after time, these transducers prove to be superior to competitive brands and technologies in the most critical test of all—the field application test!

Setra's robust capacitive design is resistant to environmental effects such as shock, vibration, temperature and EMI/RFI. In addition, the 206 meets NEMA4 and IP65 environmental protection ratings.

Packaged in a welded stainless steel housing, the Model 206 accommodates a variety of pressure fittings and electrical connector options.

FEATURES

- Solid Stability for Confident Installations
- Exceptional EMI/RFI Performance Prevents False System Shutdown
- NEMA-4/IP-65 Certified (206) for Use in Harsh Environments
- Reverse Wiring Protection
- Rugged Design Withstands High Shock/Vibration Applications
- Versatile Package Design Provides JIT Delivery
- User Accessible Zero and Span Adjustment
- Meets CE Conformance Standards

APPLICATIONS

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

PRESSURE RANGES

PSIG Ranges		
Gauge Pressure	Proof Pressure	Burst Pressure
0-25	100	500
0-50	150	750
0-100	300	1000
0-250	500	2000
0-500	1000	3000
0-1000	2000	5000
0-3000	4500	7500
0-5000	7500	10,000
0-10,000	12,500	20,000

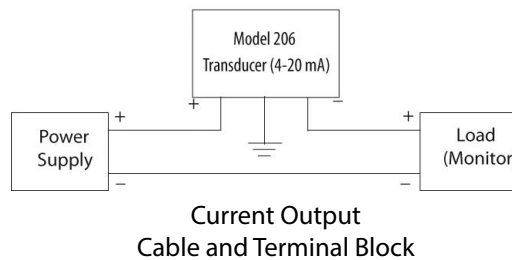
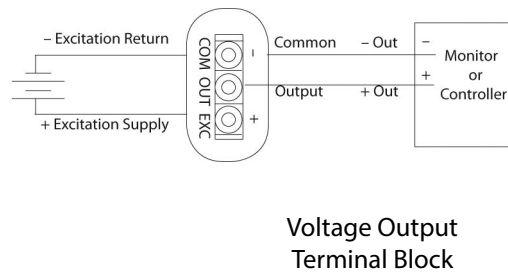
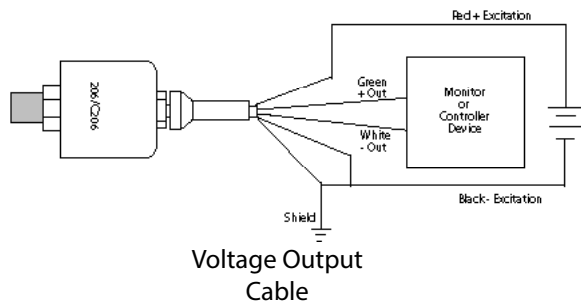
Bar Ranges		
Gauge Pressure	Proof Pressure	Burst Pressure
1.6	6	32
4.0	10	50
6.0	18	60
10	30	80
16	32	130
25	50	170
40	80	240
60	120	300
100	200	400
160	250	500
250	380	550
400	600	800
700	800	1350

Gauge Pressure: Pressure measured relative to ambient atmospheric pressure. Referred to as pounds per square inch (gauge) or psig.
 Proof Pressure: The maximum pressure that may be applied without changing performance beyond specifications ($\pm 0.5\%$ FS zero shift).
 Burst Pressure: The maximum pressure that may be applied to the positive pressure port without rupturing the sensing element.

SPECIFICATIONS

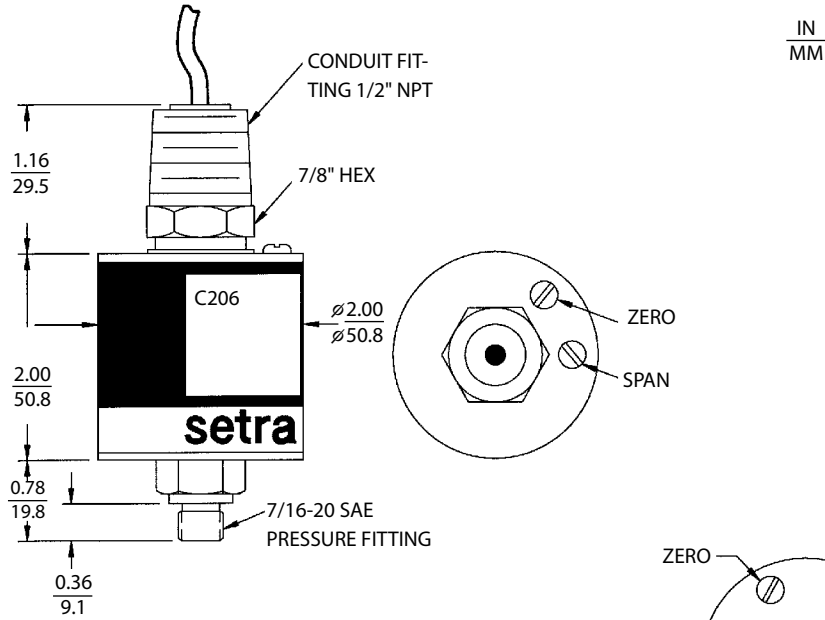
Performance Data		Environmental Data		Electrical Data (Voltage)	
Accuracy RSS ¹ (at constant temp)	±0.13% FS	Operating ² Temperature °F (°C)	32 to +120 (0 to +50)	Circuit	2-Wire
Non-Linearity, BFSL	±0.1% FS	Storage Temperature °F (°C)	-20 to +160 (-30 to +70)	Output ¹⁰	4 to 20 mA ¹¹
25 psig Range ²	±0.2%	Operating Humidity	5 to 95% RH (non-condensing)	External Load	0 to 800 ohms
Hysteresis	0.08% FS	Acceleration	10 g Maximum ⁵	Minimum Supply Voltage (VDC)	9 + 0.02 x (Resistance of receiver plus line)
Non-Repeatability	0.02% FS	Shock ⁶	200g Operating	Maximum Supply Voltage (VDC)	30 + 0.004 x (Resistance of receiver plus line)
Thermal Effects		Vibration ⁷	20g 50-2000 Hz	Electrical Data (Current)	
Compensated Range °F (°C)	-4 to +176 (-20 to +80)	Physical Description		Circuit	2-Wire
Zero Shift %FS/100°F (%FS/50°C)	1.0 (0.9)	Case	Stainless Steel	Output ¹⁰	4 to 20 mA ¹¹
Span Shift %FS/100°F (%FS/50°C)	1.5 (1.4)	Pressure Fittings 1/4"NPT external	G1/4A or M14 x 1.5 Optional	External Load	0 to 800 ohms
Warm-up Shift	0.1% FS Total	Vent	Through cable (Cable Version) Via Zero Screw (Terminal Block)	Minimum Supply Voltage (VDC)	9 + 0.02 x (Resistance of receiver plus line)
Response Time	5 Milliseconds	Electrical Connection	2 ft. Multiconductor Cable or 3 Screw Terminal Block	Maximum Supply Voltage (VDC)	30 + 0.004 x (Resistance of receiver plus line)
Long Term Stability	0.5% FS/1 YR	Zero/Span Adjustments	Top External Access	Electrical Data (Current)	
¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability. ² 25 psig range accuracy is ±0.22% of Full Scale output. ³ Hydrogen not recommended for use with 17-4 PH Stainless Steel. ⁴ The high temperature limit of the cable is 200°F (95°C). ⁵ Shift in output reading <0.05 psi/g typical; pressure port axis only. ⁶ Mil-Std. 202, Method 213B, Cond. C		Weight (approx.)	6 Ounces	Circuit	3-Wire (Exc, Out, Com)
		⁷ Mil-Std. 202, Method 204, Cond. C ⁸ Calibrated into a 50k ohm load, operable into a 5000 ohm load or greater. ⁹ Zero output factory set to within ±25mV. Span (Full Scale) output factory set to within ±50mV. ¹⁰ Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. ¹¹ Zero output factory set to within ±0.08mA. Span (Full Scale) output factory set to within ±0.16mA. Specifications subject to change without notice.		Excitation	12 to 18 VDC, Revers Excitation Protected
				Output ⁸	0.1 to 5.1 VDC ⁹
				Output Impedance	100 ohms
				Power Consumption	<0.15 watts (approx. 5mA @ 24 VDC)

WIRING

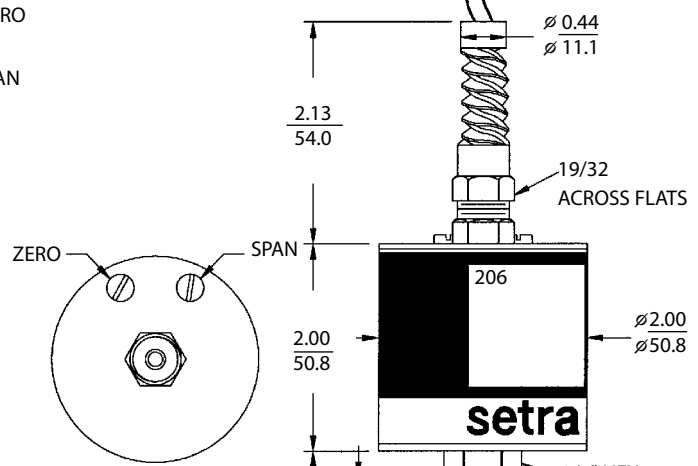


DIMENSIONS

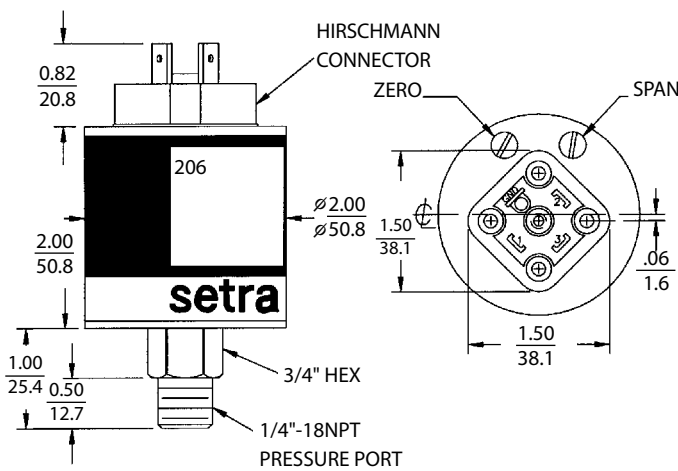
Cable with Conduit Version



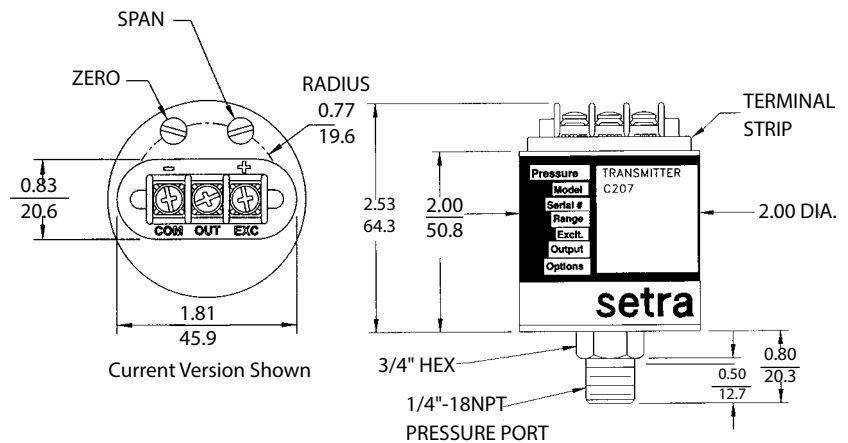
Cable Version



Hirschmann Connector



Terminal Version



ORDERING INFORMATION

2	0	6	1	-				-			-			-		
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Model	Range Code	Pressure Type		Fitting		Output		Termination		Accuracy		Options ²	
2061 = 206	See Table 1 Below	G	Gauge	1M	1/4" NPT Male	11	4 to 20 mA	XX	Cable Length ¹	8	±0.13% FS	NN	None
		C	Compound	2M	1/8" NPT Male	22	0.1 to 5.1 VDC	H1	Hirschmann			A	Cleaning for Oxygen Service
		A	Absolute	1F	1/8" NPT Female	27	1 to 5 VDC	A1	1/2" Conduit			B	Mating Bayonet Connector
				2F	1/4" NPT Female	28	1 to 6 VDC	T1	Terminal Block			C	Cal Cert
				J7	7/16" SAE	2T	0.1 to 10.1 VDC					D	Mate with Datum
												L	Etched SS Tag
												F	NEMA 4 Enclosure

RANGE CODE	PSI	RANGE CODE	BAR
025P	0 to 25	1R6B	0 to 1.6
050P	0 to 50	004B	0 to 4
100P	0 to 100	006B	0 to 6
250P	0 to 250	010B	0 to 10
500P	0 to 500	016B	0 to 16
10CP	0 to 1000	025B	0 to 25
30CP	0 to 3000	040B	0 to 40
50CP	0 to 5000	060B	0 to 60
10KP	0 to 10000	100B	0 to 100
		160B	0 to 60
		250B	0 to 250
		400B	0 to 400
		700B	0 to 700B

- Notes:
- 2 feet of cable is standard.
Ordering Example: 2 feet = 02
Up to 25 feet of cable can be ordered.
 - Both boxes must be filled in:
If No options: N + N
If 1 option: Option Code + N
If 2 options: Option Code + Option Code

Ordering Example: 2061G1M22XX8C = Model 261, 0 to 25 PSI Range, Gauge Pressure, 1/4" NPT Male Fitting, 0.1 to 5.1 VDC Output, 2 ft. Cable, ±0.13 FS Accuracy, Calibration Certificate

Model 209

Pressure Transducers



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 209 pressure transducer is designed for industrial applications with demanding price and performance requirements. The 209 offers exceptional reliability in typical industrial grade environments. Standard features tailor the Model 209 for applications with more extreme environmental conditions or more stringent performance needs. The Model 209 offers unparalleled performance in a configurable transducer designed specifically for the budget conscious OEM.

Setra's proven center mount electrode configuration is the heart of this simple, yet industrialized design. A 17-4 Stainless steel sensor and a rigid stainless steel electrode form the variable capacitor.

The 209 transducer is packaged in a rugged stainless steel valox housing, which is small and lightweight for optimum compatibility with system designs. As a totally self-contained package, the 209 stainless steel capacitance sensing element, coupled with a high level output IC-based circuit, assures excellent accuracy and long term stability.

FEATURES

- High Over Pressure Option Available on Selected Ranges
- Rugged Design Withstands Harsh Environments
- Operates Over a Wide Temperature Band
- Compatible w/ Wide Range 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
- 3 to 5 Day Shipment for Small Quantities, Standard Configurations
- CE & RoHS Compliant

APPLICATIONS

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

GAUGE, COMPOUND & VACUUM PRESSURE RANGES

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	5000
100	200	1000	1000	5000
200	400	2000	1500	5000
250	500	2000	2000	8000
500	1000	3000	2500	10,000
1000	2000	5000	4000	10,000
1500	2500	6000	5000	12,000
2000	3000	6500	N/A	N/A
3000	4500	7500	N/A	N/A
5000	7500	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

*Also available in Bar ranges. Consult Factory.

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

Proof Pressure: The maximum pressure that may be applied without changing performance beyond specifications (\pm 0.5% FS zero shift).

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

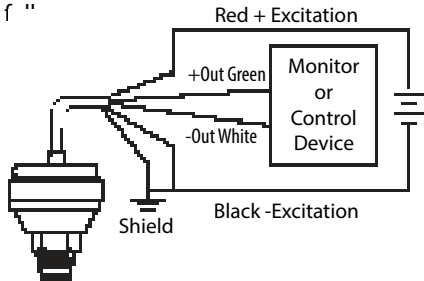
SPECIFICATIONS

Performance Data		Environmental Data		Electrical Data (Voltage)	
Accuracy RSS ¹ (at constant temp)	±0.25% FS	Operating ³ Temperature °F (°C)	-40 to +185 (-40 to +85)	Circuit	3-Wire (COM, OUT, EXC)
Non-Linearity, BFL	±0.22% FS	Storage Temperature °F (°C)	-40 to +185 (-40 to +85)	Excitation	9 to 30 VDC
Hysteresis	0.10% FS	Shock ³	200g operating	Output ⁶	0.5 to 5.5 VDC ⁷
Non-Repeatability	0.05% FS	Acceleration	10 g Maximum ⁵	Output Impedance	10 ohms
Thermal Effects		Shock ³	200g Operating	Electrical Data (Current)	
Compensated Range °F (°C)	-4 to +176 (-20 to +80)	Vibration ⁴	20g	Circuit	2-Wire
Zero Shift %FS/100°F (%FS/50°C)	±2.0 (±1.8)	Environmental Protection	Weather Resistant	Output ⁸	4 to 20mA ⁹
Span Shift %FS/100°F (%FS/50°C)	±1.5 (±1.3)	Physical Description		External Load	0 to 800 ohms
Warm-up Shift	0.1% FS Total	Case	Stainless Steel & Valox	Minimum supply voltage (VDC)	9+ 0.02 x (Resistance of receiver plus line)
Response Time	5 milliseconds	Sensor	17-4 PH Stainless Steel	Maximum supply voltage (VDC)	30+ 0.004 x (Resistance of receiver plus line).
Long Term Stability	0.5% FS/1 YR	Electrical Connection	2 ft. multiconductor cable	¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability.	
Pressure Media		Pressure Fitting ⁵	1/4" -18 NPT external, 17-4 PH Stainless Steel	² Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.	
Liquids and gases compatible with 17-4 PH Stainless Steel. ²		Vent	Through cable	³ Mil-Std. 202, Method 213B, Cond. C	
		Weight (approx.)	2.3 ounces (65 grams)	⁴ See ordering information for other fittings available (minimum quantities apply).	
				⁵ Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater.	
				⁶ Zero output factory set to within ±50mV. Span (Full Scale) output factory set to within ±50mV.	
				⁷ Zero output factory set to within ±0.16mA. Span (Full Scale) output factory set to within ±0.16mA.	
				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.	

WIRING

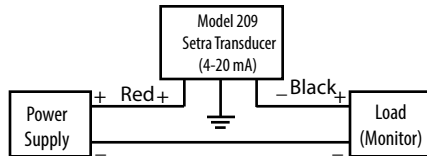
Voltage Output

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

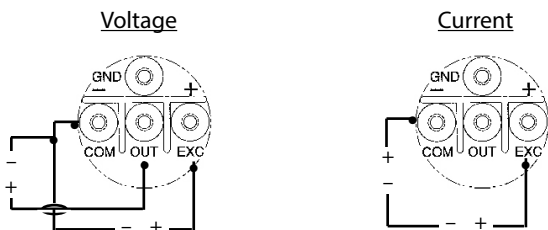


Current Output

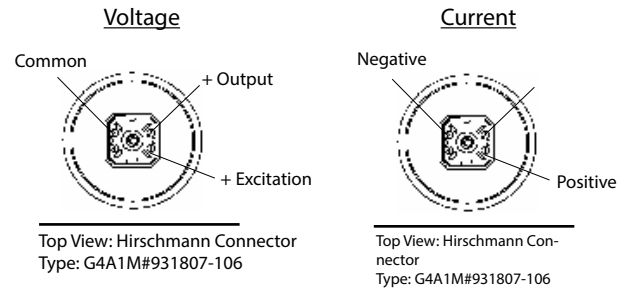
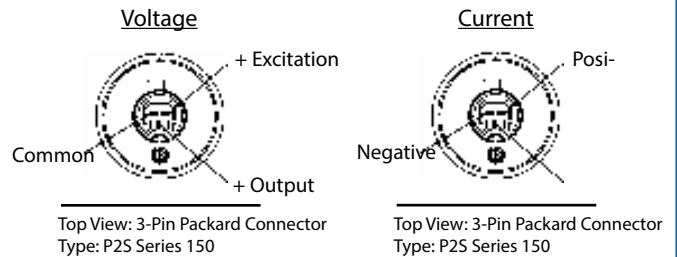
The Model 209 True 2-wire device. If the 209 is supplied with 2 feet of cable, the electrical connection is as follows:



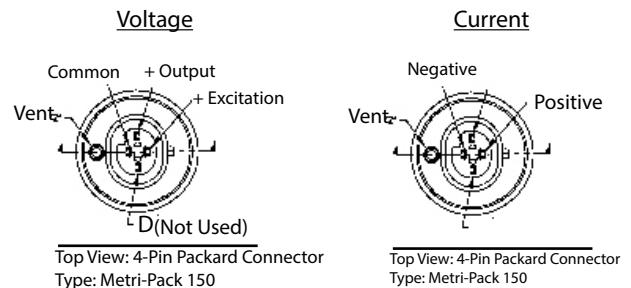
Conduit Version



Hirschmann Connectors



4-Pin Packard Connector

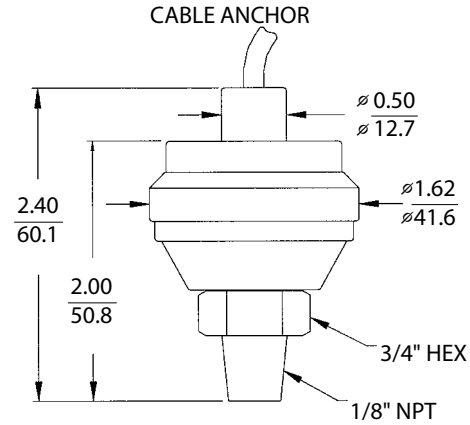
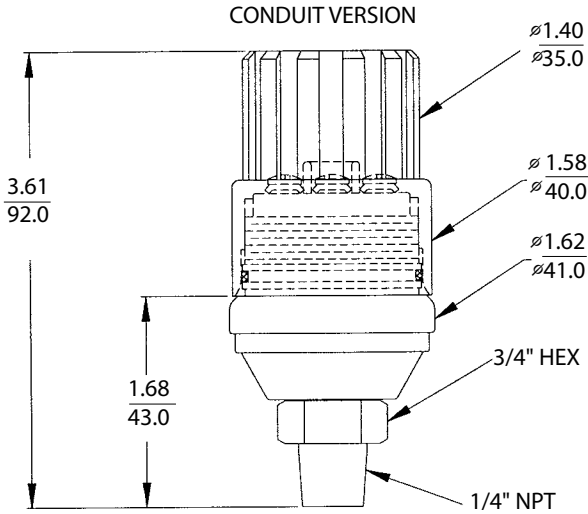


Model 209

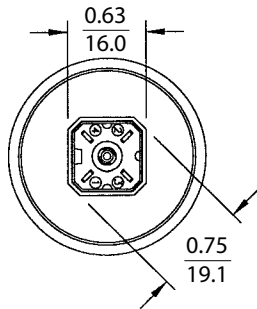
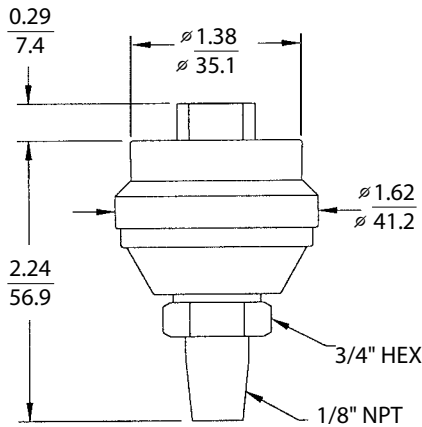
Pressure Transducers



DIMENSIONS



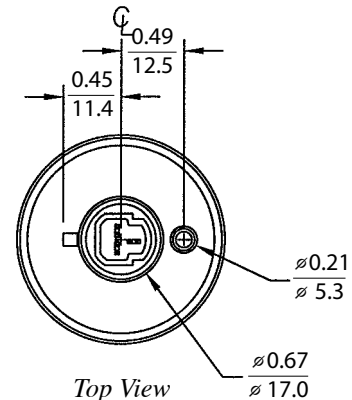
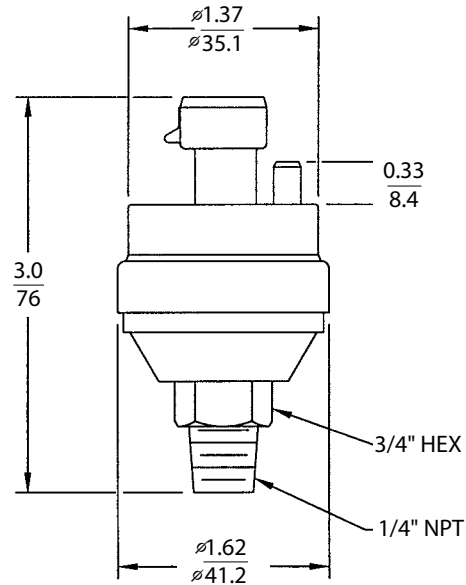
OPTIONAL HIRSCHMANN CONNECTOR
Type: G4A1M #931807-106



Top View

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

OPTIONAL 3-Pin PACKARD CONNECTOR
Type: P2S Series 150



Top View

Mating Packard Connectors available. See table below to order.

in.
mm

ORDERING INFORMATION

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Model	Range Code	Pressure Type		Pressure Fitting		Output		Elec. Termination		Options	
2091 = 209	See Table 1 Below	G	Gauge	2M	1/4" NPT Male	11	4-20 mA	XX	Cable length in feet ¹	H	High Overpressure Capability (Only available on 50 PSI up to 1500 PSI Pressure Ranges)
		C	Compound	J7	7/16" SAE Male	24	0.5 to 5.5 VDC	P1	Packard (3-Pin) ²		
		S	Sealed	1M	1/8" NPT Male	28	1 to 6 VDC	P3	Packard (4-Pin) ³		
		V	Vacuum	L4	1/4 Female SAE	45	0.5 to 4.5 VDC	H2	Hirschmann, ("Mini") ⁴		
				G4	1/2" A Male			A1	Terminal Block w/ Conduit Cover		

RANGE CODE	PSI
001P	0 to 1
002P	0 to 2
005P	0 to 5
010P	0 to 10
025P	0 to 25
050P	0 to 50
100P	0 to 100
200P	0 to 200
250P	0 to 250
500P	0 to 500
10CP	0 to 1000
15CP	0 to 1500
20CP	0 to 2000
30CP	0 to 3000
50CP	0 to 5000
10KP	0 to 10000
Z01P	0 to -14.7 PSI

P1 1/8" NPT Female Bulkhead (Available on Ranges > 50 PSI)

- ¹ i.e., 2 feet = 02
- ² Order Setra Part #577 for Mating Connector
- ³ Order Setra Part #857 for Mating Connector
- ⁴ Order Setra Part #590 for Mating Connector

Note: Order mating connectors direct from manufacturers:
Mfr. Part #12103881-L/#12065287/#1203-4413 = Setra's Part #577
Mfr. Part #12065298/#12066176/#12048086 = Setra Part #857
Mfr. Part #932157-106 = Setra Part #590

NOTE: Standard configuration consists of: PSI Range, 1/4" NPT Fitting and 2 feet of cable (up to 25 feet of cable can be ordered) . (Minimum quantities apply for all other configurations. Consult a Setra Applications Engineer for assistance.

Ordering Example: 2091001PG2M11XX = Model 209, 0 to 1 PSI Range, Gauge Pressure, 1/4" NPT Male Fitting, 4 to 20 mA Output, 2 ft. Cable.

Model 256

Pressure Transducers



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 NEMA4/IP65 service, the 256 is packaged in a die-cast aluminum enclosure and includes Setra's robust capacitive design, making it resistant to environmental effects such as shock, vibration, temperature and EMI/RFI.

Available in a wide variety of gauge pressure ranges, the 256 features adjustable potentiometers for zero and span settings.

Only 3.6" high x 4.0" wide, the Model 256 is designed for compact installations. The removable cover provides easy access to the internal terminal strip for wiring. Installation is quick and easy with 1/2 inch internal threaded conduit ports for electrical termination.

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

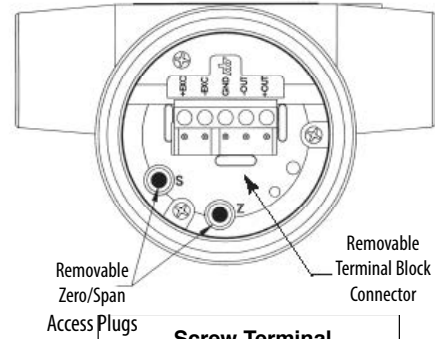
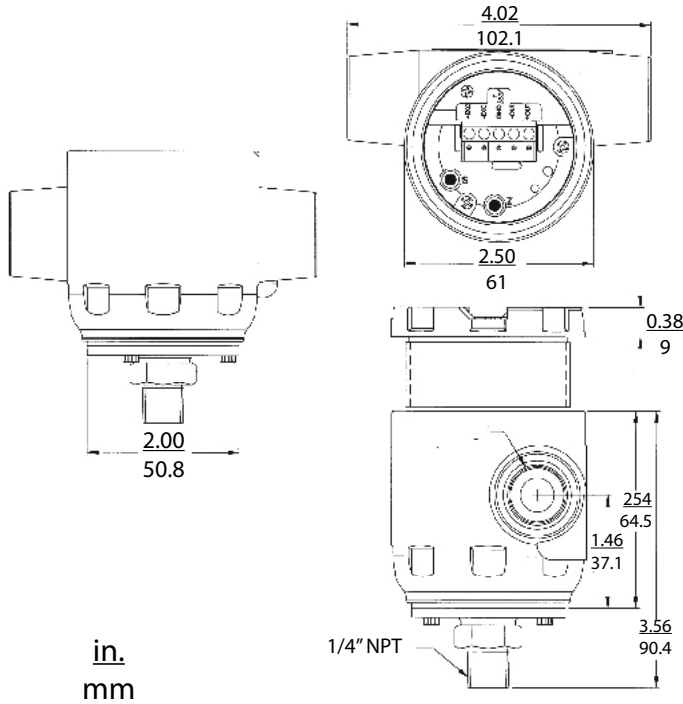
- Process Control
- Chemical Processing
- Agricultural Irrigation Systems
- Natural Gas Pipeline Monitoring
- Grain Processing
- Industrial Pressure Monitoring

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 @ 24 VDC)
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		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.	
Span Shift %FS/100°C	1.4	±1.4	Environmental Protection	Weather Resistant		
Long Term Stability	0.5% FS/YR	0.5% FS/YR	Physical Description		5. Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater. 6. Zero output factory set to within ±25 mV. Span (Full Scale) output factory set to within ±50 mV. 7. Calibrated at factory with a 24 VDC loop supply voltage and a 250 ohm load. 8. Zero output factory set to within ±0.08 mA Span output factory set to within ±16 mA	
Warm-up Shift	0.1% FS Total	0.1% FS Total	Case	Stainless Steel & Valox		

DIMENSIONS

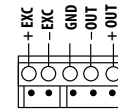
Wiring



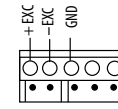
Removable Zero/Span Access Plugs

Removable Terminal Block Connector

Screw Terminal Designations

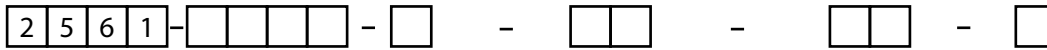


Voltage Connections



Current Connections

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 1000		
30CP	0 to 3000		
50CP	0 to 5000		
10KP	0 to 10000		

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 3100/3200

Standard & Heavy Duty OEM Pressure Transducers



FEATURES

- Low Cost for High Volume OEM Installations
- Thin Film Tech. Assures Long-Term Stability
- Wide Choice of Pressure Ranges from 50 PSI up to 32,000 PSI
- Long-Term Stability Better Than $\pm 0.1\%$ FS/Yr
- 0.25% Full Scale Accuracy
- Dual Temperature and Pressure Output on Voltage Units
- Small Footprint -Less than 1 inch Dia. (25 mm long)
- Choice of mA, Voltage, or Ratiometric Outputs
- Reverse Wiring Protected
- Accuracy Specified Over the Full Temperature Range of -40°F to $+221^{\circ}\text{F}$ (-40°C to $+105^{\circ}\text{C}$)
- All Welded Stainless Steel Construction
- No Oil Fill to Cause Thermal Instability or Leakage
- No Internal Elastomers or O-Rings, no RTV's or Epoxies
- CE, RoHS Compliant & UL Approved

DESCRIPTION

The 3100/3200 Series high-pressure OEM transducers feature a sputtered thin-film sensor to provide high levels of performance and stability for large volume OEM installations. A wide choice of outputs as well as electrical and pressure connections means that the unit is suitable for most applications without modification. In addition, the compact construction of the 3100/3200 Series makes it ideal for installations where space is at a premium.

The Model 3200 features a thicker diaphragm and a restrictor (optional) to handle environments where extreme positive or negative pressure spikes are a concern. Proof pressures on the Model 3200 are 3x full scale on 50 psi up to 10,000 psi pressure ranges.

PRINCIPLE OF OPERATION

Sputtered Thin Film Strain Gauge Pressure Sensors

Using the well proven Wheatstone Bridge principle, molecular layers are sputtered onto a 17-4PH stainless steel diaphragm and the circuit is etched to provide excellent resistor definition and uniformity. Sputtered thin film technology allows the design of simple, highly accurate and compact strain gauges deposited onto the back of the sensing diaphragm, which is in direct contact with the media. This method virtually eliminates drift, while offering enhanced sensitivity.

APPLICATIONS

- Medical
- Hydraulic Pressure
- HVAC/R Compressors
- Variable Speed Pumps
- Refrigeration
- Industrial/OEM
- Pumps

PRESSURE CAPABILITY

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. The data in the tables is "times rate ranges" (xRR).

Pressure Range PSI (BAR)	Proof Pressure (x Full Scale)		Burst Pressure (x Full Scale)	
	3100	3200	3100	3200
50-300 (3.5-25)	3.00 x FS	3.00 x FS	40 x FS	40 x FS
500-1,500 (3.5-25)	2.00 x FS		20 x FS	20 x FS
2,000-6,000 (160-400)			10 x FS	10 x FS
7,500-9,000 (600)			4 x FS	10 x FS
10,000 (700)	1.40 x FS	2.50 x FS	1.8 x FS	>60,000 PSI (4,000 Bar)
15,000 (1,000)				
25,000 (1,800)	1.40 x FS	—	1.5 x FS	—
30,000 (2,200)				

SPECIFICATIONS					
Performance Data		Thermal Effects ²		Electrical Data (Voltage) ⁶	
Accuracy RSS ¹		Compensated Range °F (°C)	-40 to +221 (-40 to +105)	Circuit	3-Wire (Exc, Out, Com)
Model 3100	±0.25% FS	Zero/Span Shift %FS/100°F (%FS/100°C)		Output	1 to 6 VDC 1 to 5 VDC 0.5 to 4.5 VDC 0 to 5 VDC 0 to 10 VDC
Model 3200	±0.25% FS	Model 3100	0.83 (1.5)		
Environmental Data		Model 3200	0.94 (2.0)		
Operating Temperature °F (°C)	-40 to +221 (-40 to +105)	Zero Tolerance		Excitation	2 Volts above Full Scale to max 30 Volts @ 4.5mA (6.5mA on Dual Output Version)
Storage Temperature °F (°C)	-40 to +221 (-40 to +105)	Model 3100	±0.5% of Span	Sources and Slnks	2 mA
Approvals		Model 3200	1% FS for <1000 PSI (60 Bar)	Electrical Data (Ratiometric)	
CE	Conforms to European Pressure Directive	Span Tolerance		Output	0.4 to 4.5 VDC @ 4mA (6.5mA on Dual Output Version)
EMC	Radiated Immunity is 100V/m	Model 3100	±0.5% of Span	Excitation	5 VDC ± 10%
RoHS	Fully Compliant	Model 3200	1% FS for <1000 PSI (60 Bar)	Electrical Data (Current)⁷	
UL	E321651	Response Time	±0.2% FS/YR Non-Cumulative	Circuit	2-Wire
Physical Description		Proof Pressure	see table below	Output	4 to 20 mA
Pressure Port	See Ordering Instructions, Back Page	Burst Pressure	see table below	Excitation	8 to 30 VDC (24 VDC max. above 110°C applications)
Wetted Parts	17-4 Stainless Steel (Diaphragm) 304 Stainless Steel (Fittings)	Fatigue Life	Designed for more than 100M cycles	Maximum Loop Resistance	(Supply Voltage -8) x 50 ohms
Electrical Connection	See Ordering Instructions, Back Page	Temperature Output ^{3,4,5} Range °F (°C)		Performance	
Enclosure	IP67 (IP65 for Electrical Code A)	Series 3101/3201	-40 to +221 (-40 to +105)	Accuracy	3.5% of Temperature Span
Vibration	40G Peak to Peak Sinusoidal to 2000 Hz (Random Vibration: 20 to 1000 Hz @ approx. 40G Peak per MIL-STD-810E)	Series 3102/3202	+32 to +212 (0 to +100)	¹ RSS of Non-Linearity, Hysteresis, and Non-Repeatability. ² Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel. ³ Temperature outputs are for voltage output pressure sensors only and limited to connections that have 4 pins (Electrical Codes -B, -E, -7, and -8). Requires additional 2 mA of power. ⁴ For use with pull-down resistors, contact factory before ordering. ⁵ Pressure Ranges 10,000 psi (1000 bar) and above available with 2T pressure port only. ⁶ Reverse Wiring Protected ⁷ Not available for pressure ranges lower than 100 PSI (7 BAR)	
		Series 3103/3203	+32 to +176 (0 to +80)		
Shock	Withstands free fall to IEC 68-2-32 procedure 1				
Weight	35 grams				

Model 3100/3200

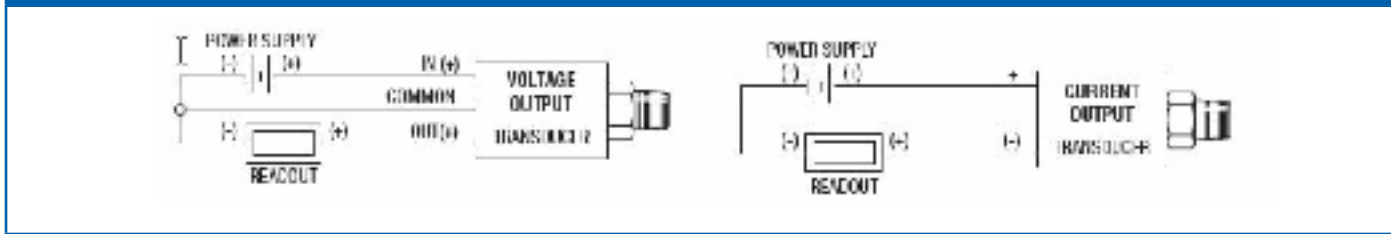
Standard & Heavy Duty OEM Pressure Transducers



ELECTRICAL FITTINGS

	Din 9.4 mm		M12 x 1P		Amp Supeseal 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	—	—		—	—	—

WIRING

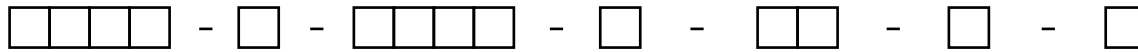


PRESSURE FITTINGS

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*	
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*	

Dimensions: in. (mm)

ORDERING INFORMATION



Model	Output		Range Code	Pressure Type		Pressure Fittings	Electrical Conn.	Restrictor (3200 only)	
See Table 1	B	4-20 mA	See Table 2	C	Compound	See Table 3	See Table 4	O	No Restrictor
	C	1-6 VDC		G	Gauge			R	Restrictor
	H	1-5 VDC		S	Sealed Gauge ²				
	N	0.5-4.5 VDC							
	R	0-5 VDC							
	S	0-10 VDC							
	T	0.5-5.5 V Ratiometric							

CODE	DESCRIPTION
3100	Std. 3100
3200	Std. 3200
Voltage Units w/Temp. Output	
3101 ¹	Temp. Output Range: -40°C to +105°C
3102 ¹	Temp. Output Range: -0°C to +100°C
3103 ¹	Temp. Output Range: -0°C to +80°C
3201 ¹	Temp. Output Range: -40°C to +105°C
3202 ¹	Temp. Output Range: -0°C to +100°C
3203 ¹	Temp. Output Range: -0°C to +80°C

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
300P ²	300	0020 ²	20
500P ²	500	0035 ²	35
10CP ²	1000	0070 ²	70
15CP ²	1500	0100 ²	100
23CP	2300	0160	160
36CP	3600	0250	250
60CP	6000	0400	400
10KP	10000	0700	700
15KP ³	15000	1000 ³	1000
26KP ³	26000	1800 ³	1800
32KP ^{3,5}	32000	2200 ³	2200

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 ⁵	Female 1/4-18NPT

CODE	DESCRIPTION
B	Industrial DIN (mating connector not supplied)
C	3-Pin Deutsch
E	M12xP,4-Pin
6	AMP Superseal 1.5 Series
8	Deutsch DT04-4P
9	Packard Metri Pack

1	Temperature outputs are for voltage output pressure sensors only (applies temperature span. Requires additional 2mA of power.
2	Sealed gauge not available on ranges ≤1500 psi (≤100 bar).
3	Ranges 1000 bar (15,000 psi) and above available with 2T pressure port only.
4	For use with pull-up or pull-down resistors, contact factory.
5	Pressure ports OE and 1G are NOT available with the Restrictor option.
6	0 to 50 PSI (4 bar) - Not available with 4 to 20 mA or 0 to 10 VDC outputs.

Part No.	Description	For Code	Part No.	Description	For Code
557230	Mini Din Connector, Strain Relief	B	210730	AMP 12" Flying Leads Cord Set - White Pos 1, Black, Red Post 3 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		Recommended Mating Parts (Deutsch p/n: Housing Plug DT0645-P012; Wedge W45-P012; Sockets 4X 0462-201-1631)	8
557703-03M0	M12 Cord Set - 3 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E		Packard Mate Kit	9
557703-04M0	M12 Cord Set - 4 Meters (Red 1, Green 2, Blue 3, Yellow 4)	E	577	Packard Cord Set 3' Long (18 AWG PVC Cable - White 1, Black 2, Red 3)	9
557703-05M0	M12 Cord Set - 5 Meters (Red 1, Green 2, Blue 3, Yellow 4) Recommended Mating Parts (AMP p/n: Housing 282087-1; Contacts 3X 183025-1; Seal 281934-1; Boot 880811-2)	6	581	9 Packard Cord Set 6' Long (18 AWG PVC Cable - White 1, Black 2, Red 3)	9
557701	AMP Superseal Mate Kit	6	582		
210729	AMP 3.5' Cable Cord Set - Clear Pos 1, Black Pos 2, Red Pos 3	6			

Ordering Example: 3100B050PG08CO= Standard Model 3100, 4 to 20 mA output, 50 psi, 1/8-27 NPT ext. fitting, 3-Pin Deutsch electrical connector, No Restrictor.

INDOOR AIR QUALITY



MODEL SRH:
Wall Mount
Duct Mount
Outside Air

The logo for 'setra' is displayed in a stylized, lowercase font. Each letter is filled with a pattern of vertical blue lines of varying heights, creating a textured, barcode-like appearance. The letters are set against a white background.

Model SRH

Relative Humidity Sensor



DESCRIPTION

The Model SRH Humidity Series include wall mount, duct mount and outside air configurations in 2%, 3%, and 5% 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.

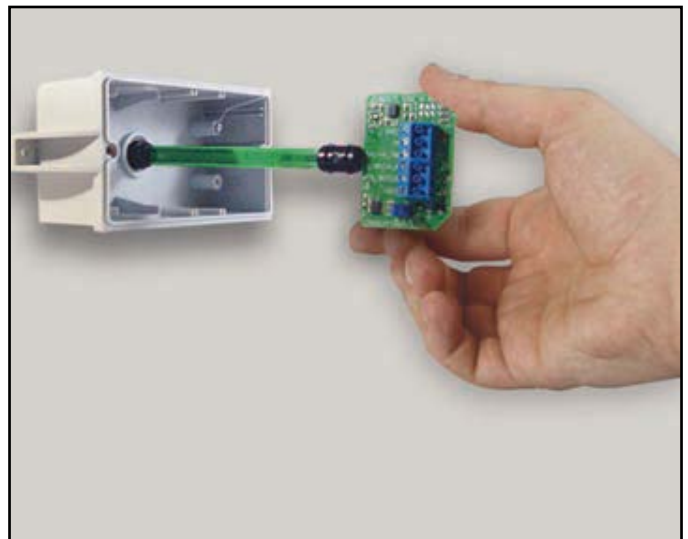
Replacing the removable sensor tip requires no special training and can be easily replaced by the end user. No calibration is needed because each new sensor module is factory calibrated before shipping, reducing downtime during service intervals. As an example, the duct mount probe is easily accessed 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: 2%, 3%, & 5%
- 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

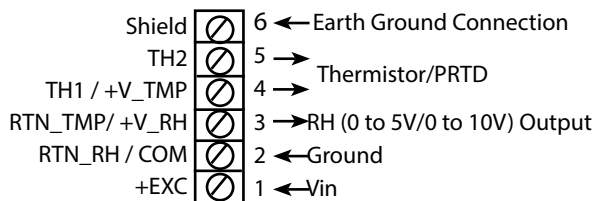


SPECIFICATIONS

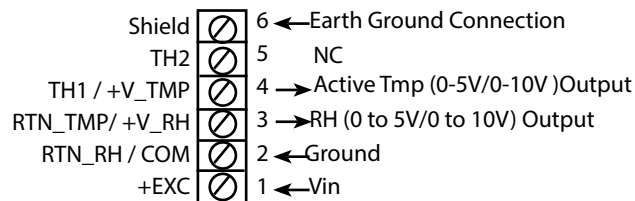
RH Performance Data		Temperature Sensing Options (Passive)		Physical Description	
Sensing Element	Capacitive Polymer	T1: Thermistor	NTC 10K Ω 77°F/25°C (Direct Connect) Type II	Enclosure Materials	
Humidity Operating Range	0 to 99% RH (non-condensing)	T2: RTD Output	1000 Ω 32°F/0°C (Direct Connect)	Wall Mount	VA 94-V0
Accuracy @ 68°F (20°C)	2%, 3%, 5% ¹	T6: Thermistor	NTC 10K Ω 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% \pm 1.1 (\pm 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% \pm 0.7 (\pm 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 \pm 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

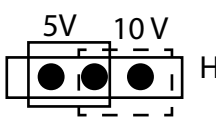
Wiring 0-5 V/0-10 V Output Units (3-wire / T0, T1, T2 & T6)



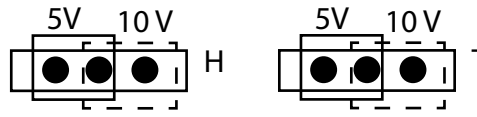
Wiring 0-5 V/0-10 V Output Units (4-wire / T3 & T5)



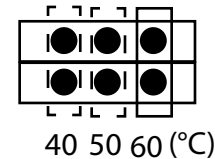
Selectable Outputs



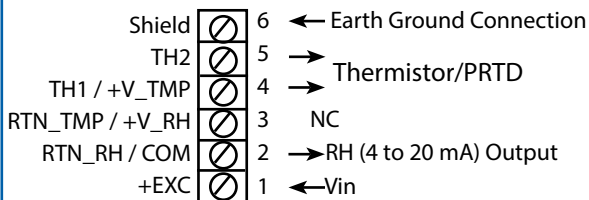
Selectable Outputs



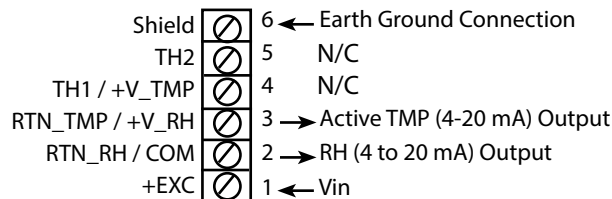
Selectable Tspan



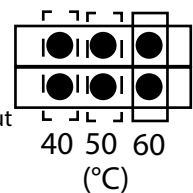
Wiring 4 to 20 mA Output Units (2-wire / T0, T1 & T2)



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



Selectable Tspan

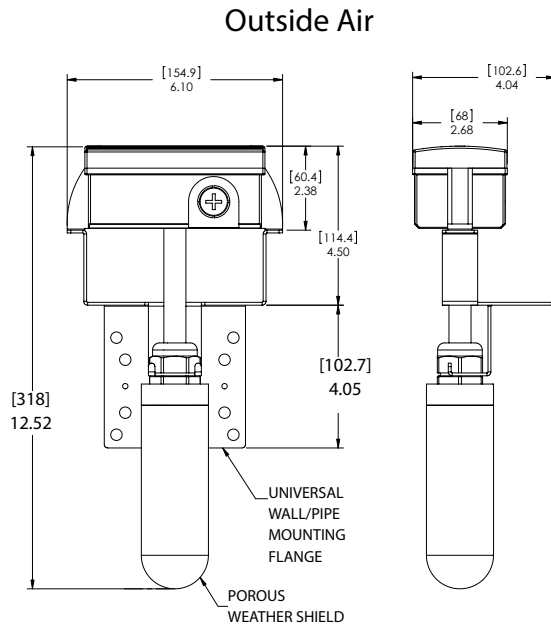
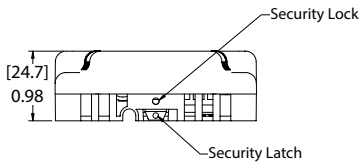
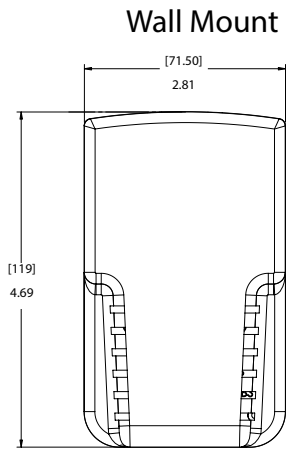


Model SRH

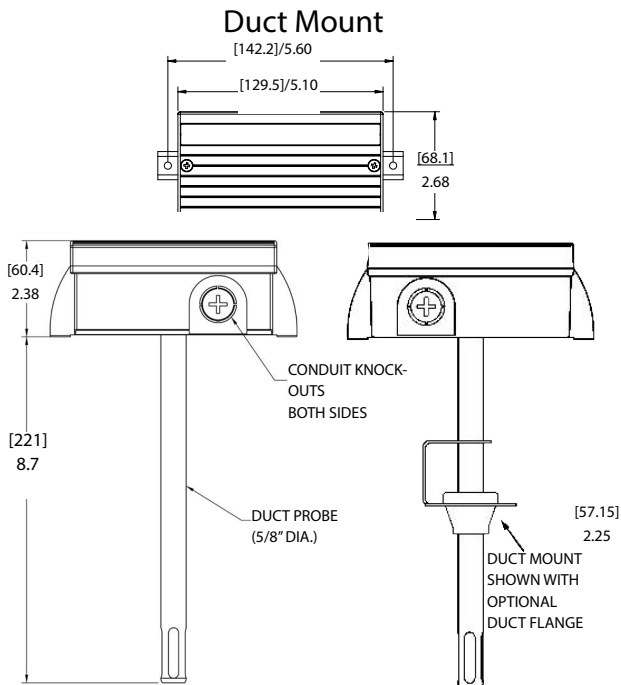
Relative Humidity Sensor



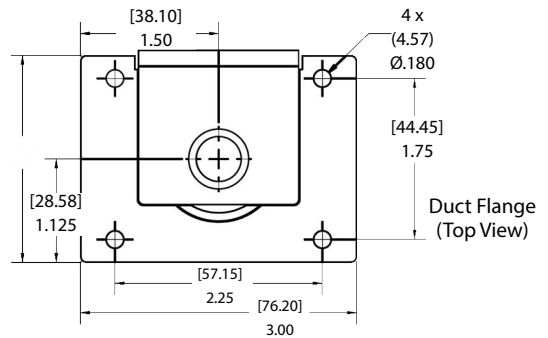
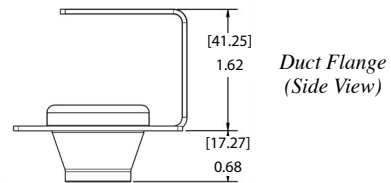
DIMENSIONS



[mm]
in.



Optional Duct Flange Mates with Duct Mount Unit



ORDERING INFORMATION

SRH1 - - - - - N -

Model	Accuracy		Configuration		Outputs		Temperature Outputs		Display ³		Options	
	SRH1 = SRH	2P	2%	W	Wall	11	4 - 20 mA	T0	None (RH only)	N	None	C
	3P	3%	D	Duct	2C	0-5 or 0-10 VDC ¹ (user-selectable)	T1	10K Ω Type II Thermistor (Passive)				
	5P	5%	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 Ω Type III Thermistor [Passive]				

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

SRH3 - - -

Model	Accuracy		Temperature Outputs	
SRH3 = SRH	2P	2%	T0	None (RH only)
	3P	3%	T1	10K Ω Type II Thermistor (Passive)
	5P	5%	T2	1000 Ω 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 Ω Type III Thermistor [Passive]

Replacement Sensor Assembly: Ordering Example: SRH32PT0 = 2% 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 5T temperature option Must be replaced with the same T(x) version.

Very Low Pressure Calibrators

MODELS:

869

869XP

setra

Model 869/869XP

Ultra-Low Pressure Generating and Documenting Calibrator

CALIBRATORS



Model 869



Model 869XP

FEATURES

- Easy Step-by-Step User Interface Process
- Designed with Built-in Leak Test Function
- Provides Accuracy and Stability Plots
- Handles Multiple Engineering Units
- Both Pressure Generation and Monitoring Modes to Verify System Performance
- Highest Accuracy to Support Certification of all Low DP Critical Process Pressure Sensors
- True Low Range Dual Reference Pressure Sensors with NIST Traceability
- Dual Reference Design Provides Maximum Accuracy, Repeatability and Resolution

Calibration Capabilities

- Analog Pressure Transducers
- Pressure Switches
- Analog Dial Gauges
- Setra Digital Auto-Cal™ Products 269 & RPM

DESCRIPTION

The Model 869 and 869XP are designed for use in critical environments that require portability, high accuracy, and periodic low pressure sensor calibration and documentation to certify regulated processes.

Designed to perform calibration checks on installed pressure transducers, pressure switches, and gauges, the 869 and 869XP offers users selectable automated pressure generation profiles with up to 101 calibration points. This NASA patented low pressure generating technology achieves ± 0.0002 in. W.C. low pressure regulation with micro in. of W.C. per step resolution.

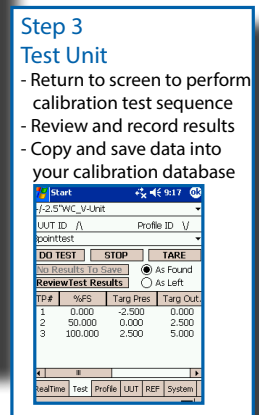
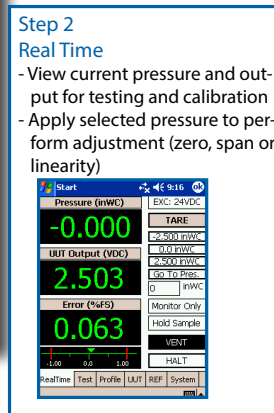
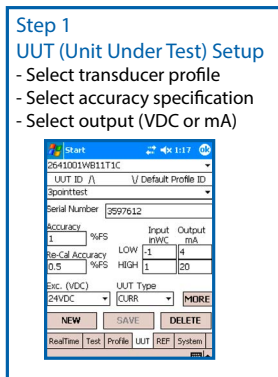
True differential pressure is generated with both high and low pressure ports connected to the unit under test, providing isolation from process background disturbances. High and low pressure ports are shorted to produce stable, noise-free zero pressure input, outperforming competitive active zero pressure systems.

The Model 869XP offers fully automated, hands-off calibration. Its easy-to-use SMART communications software provides transducer detection and automated calibration of Setra's Model 269 digital transducer and Model SRPM room pressure monitor. An Electropneumatic Interface Cable (EPIC) allows the 869XP to simultaneously pressurize the 269 or SRPM under test and automatically transmit ID and calibration data between the two units.

Simple Pocket PC User Interface

Calibration Management database

- Store and retrieve transducer profiles
- Generate as found and as left calibration data
- Print calibration certificates



Portability & Versatility

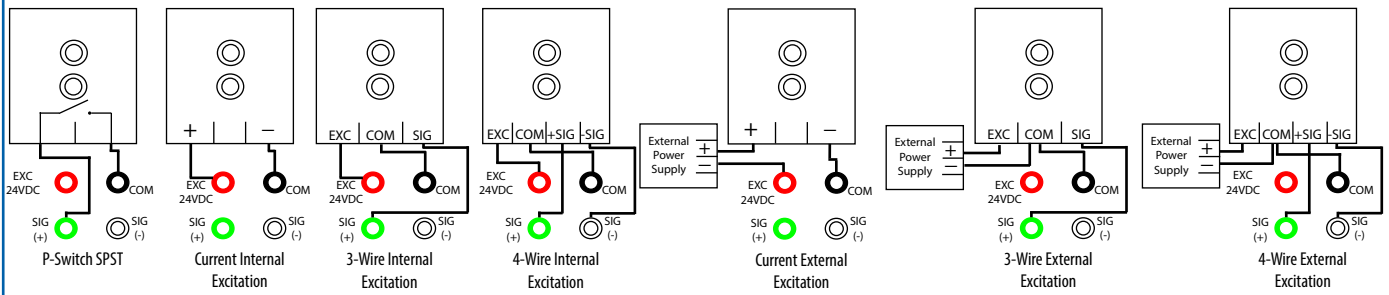
- AC or battery operation - eight hours of operation on full battery
- Rugged, compact carrying case - great for cramped and remote locations
- Calibrate difficult-to-reach devices in-situ (ceilings, ducts, etc) with electro-pneumatic harness assembly - for analog transducers, 2, 3 and 4-wire, configurable length



SPECIFICATIONS

Measurement		General Specifications		Pressure Transducer	
Accuracy	±0.04% FS	Pressure Units (Selectable)	n.W.C., PA, kPa, mbar, cm W.C.	Pressure Fittings	Barbed, Plug-in O-ring Quick Connects
Precision	0.0002"W.C.	Warmup	1 Hour	Electrical	Banana Plug Jacks
Calibration Stability (Pressure Span)	0.2% Rdg./yr	Reading Rate	20 Readings/Seconds, Typical	Voltage Meter	±0.005% FSO at ±10.5 VDC
Calibration Stability (mA and Voltage)	0.01% FS/yr	Gravity/Orientation	Negligible	Current Meter	±0.005% FSO at 4 to 20 mA
Calibration Adjustment	Zero Tare	Shock and Vibration	5g, Maximum	Excitation	24 VDC Nominal for 4 to 20 mA Output, Adjustable to 5 to 24 VDC for Voltage Output
Compensated Temperature Range	40°F to 120°F	Communications	RS 232	Control	
Storage Temperature Range	40°F to 160°F	Display	3.5" Transflective Type TFT Color, QVGA, 64-k Color	Controlled Pressure Stability	0.0002"W.C., Typical
Temperature Effect (Zero)	None, Zero, Tare	Keypad	Pocket PC Touch Pad	Minimum Controlled Pressure	0.00005"W.C.
Temperature Effect (Span)	0.01%/°F	Size:	11" x 14" x 6" (27.9 cm x 35.6 cm x 15.2 cm)	Dual Reference Pressure Ranges	See Order Info.
Certification	NIST	Weight	16 lbs. (8.2 kg)	Pressure Types	Gauge and Differential
		Pressure Media	Clean, Dry, Non-Corrosive Gases	Overpressure Limit	5 Psid
		Power	120/240 AC, 50/60 Hz, Battery Li Ion - 8 Hours Operation, Integrated Charger	Control Time	User Selectable

Electrical Connections



ORDERING INFORMATION

Ordering Example: 86910R5WD015WDPN = 869 Calibrator, 0 to 5 in. WC (Range One) to 0 to 15 in. WC (Range Two), PDA Included with a Standard Pharmaceutical Interface.

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Model	Range One		Range Two		PDA		User Interface	
8691 = 869	Inches.W.C.		Pascal		P	Includes PDA		N Standard User Interface
	0R5WD	0 to 0.5	050LB	±50				E Expert System
	001WD	0 to 1	100LD	0 to 100				
	005WD	0 to 5	100LB	±100				
	2R5WD	0 to 2.5	250LD	0 to 250				
	015WD	0 to 15	250LB	±250				
	R25WB	±0.25	500LD	0 to 500				
	0R5WB	±0.5	500LB	±500				
	001WB	±1	10CLD	0 to 1000				
	2R5WB	±2.5	10CLB	±1000				
	005WB	±5	35CLD	0 to 3500				
	015WB	±15	35CLB	±3500				

For calibrating hard to reach analog transducers, a 2-wire and 4-wire configurable length electropneumatic assembly is available from 6 to 15 feet.

Accessories



Power Supplies
Room Pressure Status
Pressure Tips and Tubing
299 Dri-Sense PT

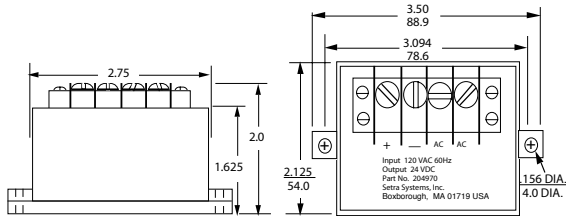


setra



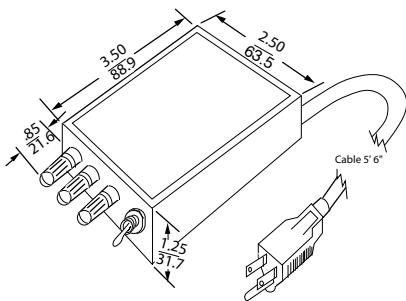
Models 867/867 30 V and Model 864

The Models 867 and 874 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



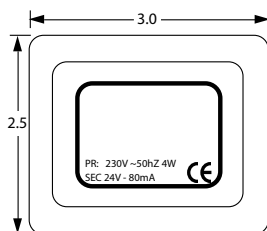
Model 868

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



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 adaptor and is 6 feet long The output cord is 6 feet long #8 gauge wire.



FEATURES

Model 867 & Model 867 30V

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

Model 868

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

Model 874

- Small Size
- Light Weight
- Integral Barrier Strip Terminal for Input and Output Wiring
- Convenient Mounting Holes
- Withstands Momentary Short Circuit without Failure
- 24 VDC Excitation from 220 to 240 VAC Input

Model 874

- Standard European Style Adaptor
- No Exposed Terminal
- 24 VDC Excitation from 220 to 240 VAC Input

NOTE: Setra quality standards are based on ANSI-Z540-1.

SPECIFICATIONS MODELS 867/867 30V/ 874

Output	
Model 867	24 VDC unregulated filtered <29 VDC with no load, >21 VDC at 100 mA No more than 0,7 pk - pk ripple
Model 867 30V	30 VDC unregulated filtered
Model 874	24 VDC @ 80 mA <29 VDC with no Load
Input	
Model 867 & 867 30V	120 VAC, 60Hz
Model 874	220-240 VAC, 50/60 Hz

SPECIFICATIONS MODEL 868

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

SPECIFICATIONS MODEL 890

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



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 plate (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



FEATURES

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

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.

SPECIFICATIONS	
Electrical (Current)	
Input	4 to 20 mA
Excitation	5 to 33 VDC
Electrical (Voltage)	
Input	0 to 6 VDC
Excitation	5 to 33 VDC
Electrical Termination	PG9 Strain Relief
Surge Suppression	Up to 2000 Voltage

SSP299 Rev B 01/26/11



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 NO:2641 R25WD 2D A1 E =
2641R25WD2DA1E

TERMS

Net 30 days upon credit approval, otherwise payment must be received in advance of shipment.
Remit payment to:

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

F.I.D. #: 042432269

We also accept:



PRICES

All prices are U.S. funds, F.O.B. 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. Quantity discounts in the following table apply to identical items with the same range:

Quantity	% Discount
10-24	2.5%
25-49	5%
50-99	7.5%
100+	10%

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

Customer Service
Setra Systems, Inc.
159 Swanson Road. M/S P417
Boxborough, Massachusetts 01719

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

RETURNED PRODUCT POLICY

Authorization must be obtained from Setra prior to returning any product.* Products must be returned, freight prepaid, within 12 months of purchase date.

*Note: Returned products may be subject to a restocking charge.

LIMITED WARRANTY AND , LIMITATIONS OF LIABILITY

SETRA warrants its products to be free from defects in materials and workmanship, subject to the following terms and conditions. Without charge, SETRA will repair or replace products found to be defective in materials or workmanship within the warranty period; provided that:

- the product has not been subjected to abuse, neglect, accident, incorrect wiring not our own, improper installation or servicing, or use in violation of instructions furnished by SETRA;
- the product has not been repaired or altered by anyone except SETRA or its authorized service agencies;
- the serial number or date code has not been removed, defaced, or otherwise changed; and
- examination discloses, in the judgment of SETRA, the defect in materials or workmanship which developed under normal installation, use and service;
- SETRA is notified in advance of and the product is returned to SETRA transportation prepaid.

Unless otherwise specified in a manual or warranty card, or agreed to in writing signed by a SETRA officer, SETRA pressure and acceleration products shall be warranted for one year from date of sale.

The foregoing warranty is in lieu of all warranties, express, implied or statutory, including but not limited to, any implied warranty of merchantability, for a particular purpose. Setra's liability for breach of warranty is limited to repair or replacement, or if the goods cannot be repaired or replaced, to a refund of the purchase price. Setra's liability for all other breaches is limited to a refund of the purchase price. In no instance shall SETRA be liable for incidental or consequential damages arising from a breach of warranty or from the use or installation of the products.

No representative or person is authorized to give any warranty other than as set out above or to assume for SETRA any other liability in connection with the sale of its products.



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