

## Model 550

### Low Pressure Transducer

#### General Service and Submersible



Setra's Model 550 low pressure transducer features 3:1 range turndown for field adjustment from 110% to 32% of the nominal pressure range, making this unit well suited to applications that are subject to overpressure. Adjustment is made via the switch and potentiometer conveniently located on the top of the transducer housing.

Utilizing capacitance technology, the Model 550 is designed to measure pressures as low as 10 in. W.C up to 400 in. W.C. (1 psi up to 15 psi) and features a wide selection of current or voltage outputs with 0.25% full scale accuracy.

The Model 550 is packaged in a rugged 316 stainless steel housing for use in general purpose and submersible applications. A male or female threaded pressure fitting is offered for general purpose applications, and an open face style with a KF25 flange is offered for submersible applications. This open face architecture keeps the internal bore of the transmitter as large as possible, making this unit well-suited to waste water and viscous fluid applications. A triple sealed cable assembly assures that water cannot penetrate the sensor or electronic enclosure, even if the sheath sustains damage during use.

#### Principle of Operation

The capacitive sensor is constructed of an electrically isolated stainless steel electrode and a ceramic diaphragm, mounted closely and in parallel to each other. The diaphragm is capable of slight flexing under applied pressure. A minute change in applied pressure alters the gap between the electrode and diaphragm. This change is detected by a custom designed ASIC, amplified, and converted to high-level linear output signal that is proportional to applied pressure.

The Model 550 circuit is RFI/lightning protected, virtually eliminating costly field replacement.

This unit offers high performance, exceptional long-term service and stable operation, yet is a cost-effective choice for the most demanding applications.

#### Pressure Ranges

Pressure Range	Proof Pressure	Burst Pressure
≤85 in. W.C.	803 in. W.C.	1219 in. W.C.
86 in. W.C. to 140 in. W.C.	1607 in. W.C.	2410 in. W.C.
141 in. W.C. to 400 in. W.C.	2025 in. w.C.	4017 in. W.C.
≤3 psi	29 psi	44 psi
3.1 to 5 psi	58 Psi	87 psi
5.1 to 15 psi	102 psi	145 psi

#### Applications

- Tank Level
- Reservoir Level
- River Level
- Hydro-Power
- Open Channel Flow
- Flood Warning
- Process
- Waste Water
- Clean Room

#### Benefits

- Superior Stability  
Avoids Down Time
- ±0.25% FS High Accuracy
- NEMA 4/ IP65 and NEMA 6/IP68 Rated
- 3:1 Range Turndown
- Fast 5ms Response
- Long-Term Service  
Exceeding 10 Million Cycles.
- Meets CE Conformance Standards

*When it comes to a product to rely on - choose the Model 550.  
When it comes to a company to trust - choose Setra.*



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**800-257-3872**

# Model 550 Specifications

## Performance Data

Accuracy RSS* (at constant temp)	±0.25% FS
<b>Thermal Effects**</b>	
Compensated Range °F (°C)	-5 to +140 (-20 to +60)
Zero Shift %FS/100°F (100°C)	1.0 (2.0)
Span Shift %FS/100°F (100°C)	1.0 (2.0)
Long-Term Stability	0.25% FS/1 year
Response Time	5 ms
Zero Adjustment	±10% (by Potentiometer)
Span Adjustment	±10% (by Potentiometer)
Mounting Effects	25% Span Max.

\*RSS of Non-Linearity, Non-Repeatability and Hysteresis.

\*\*Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.

## Pressure Media

Water or Viscous Fluids Compatible with 316 SS, Ceramic and Nitrile

Specifications subject to change without notice.

## Environmental Data

Temperature	
Operating* °F (°C)	
w/Elec Codes E2	+15 to +185 (+25 to +85)
w/Elec. Codes UA	-5 to +120 (-20 to +50)
w/Process Media	-40 to +212 (-40 to +100)
Storage °F (°C)	
w/Elec Codes E2	+15 to +185 (+25 to +85)
w/Elec code UA	-5 to 120 (-20 to +50)
w/Process Media	-40 to +212 (-40 to +100)

\*Operating/Storage temperature limits of the cable or process media.

## Physical Description

Case	318 Stainless Steel
Rating	IP68 (NEMA 6) Submersible G IP65
Wetted Parts	Inconel, Ceramic & Nitrile
Electrical Connection	See Order Chart Below
Pressure Fitting	318 SS See Order Chart Below
Weight	11.6oz (330g)
Diameter	38.1 mm w/o K2 flange 40.0 mm w K2 flange

## Electrical Data (Voltage)

Circuit	3-Wire
Excitation	7.5 to 35 VDC (8-35 VDC, 1-6 VDC Output)
Output	0.5 to 5.5 VDC, 1 to 6 VDC, 0 to 5 VDC, 0.1 to 5.1 VDC, 1 to 5 VDC

\*Zero output is factory set to 1.0% of Full Scale

\*\*Span output is factory set 1.0% of Full Scale

## Electrical Data (Current)

Circuit	2-Wire
Excitation	9 to 35 VDC
Output*	4 to 20 mA
Maximum Loop Resistance	(Vs-9) x 50 Ohms

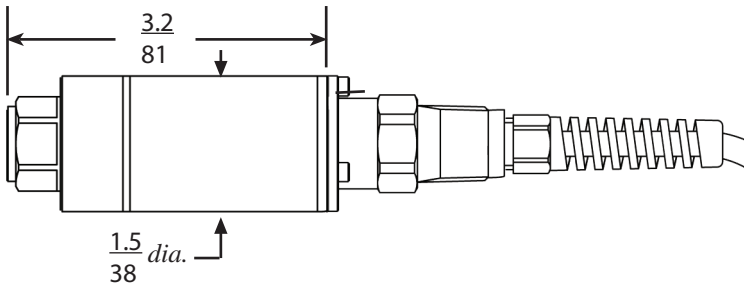
\*Zero output factory set to within ±0.16 mA.

\*\*Span output factory set to within ±0.16 mA.

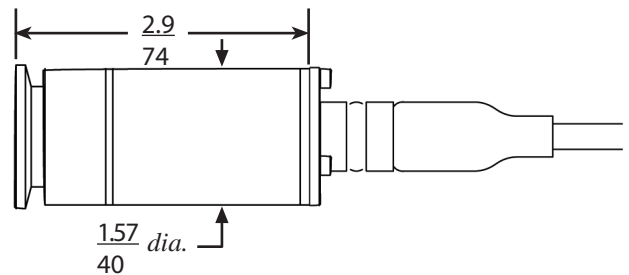
## Accessories

Part No.	Description
GA9	Large Din, 4365-A, Strain Relief
GA10	Large Din, 4365-A, 1/2" Conduit
GA11	6-Pin Bendix to 125°C
GA25	Plastic Noe Cone w/G 1/4 Port

## Outline Drawings



Shown w/1/2-14 NPT Conduit



Shown w/KF25 Flange and Submersible Cable Assembly

in.  
mm

## ORDERING INFORMATION

Code all blocks in table.

Example: Part No 5501002PG211UAF- For a Model 550 Pressure Transducer, 2 PSIG, G 1/4" Male Pressure Fitting, 4-20 mA Output, Molded Submersible Cable, and 0.25% Accuracy

Model	Range	Pressure	Pressure Fitting	Output	Elec. Termination	Accuracy	Approval (Option)
5501 = 550	001P = 1 psi 002P = 2 psi 003P = 3 psi 004P = 4 psi 005P = 5 psi 007P = 7 psi 010P = 10 psi 012P = 12 psi 015P = 15 psi	G = Gauge	G3 = G1/4 Female 2M = 1/4-18 NPT Male 4M = 1/2-14 NPT Male G2 = G1/4 Male N2 = KF25 Flange	11 = 4-20mA, 2 wire 28 = 1-6VDC, 3 wire 2B = 0-5VDC, 3 wire 24 = 0.5-5.5VDC, 3 wire 27 = 1-5VDC, 3 wire 22 = 0.1-5.1VDC, 3 wire	UA = Molded Submersible Cable* (Submersible up to 200 Meters [656 ft.]) E2 = Large DIN 43650 Connector w/Mating Plug	F = 0.25% FS	G = Galvanic Intrinsic Safe
	010W = 10 in W.C. 015W = 15 in W.C. 025W = 25 in W.C. 050W = 50 in W.C. 100W = 100 in W.C. 150W = 150 in W.C. 200W = 200 in W.C. 250W = 250 in W.C. 300W = 300 in W.C. 350W = 350 in W.C. 400W = 400 in W.C.						

Please contact factory for configurations not shown.

While we provide application assistance on all Setra products, both personally and through our literature, it is the customer's responsibility to determine the suitability of the product in the application.

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