

# Model 550

## Low Pressure Transducer



### DESCRIPTION

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

The Model 550 is packaged in a rugged 316 stainless steel housing for use in general purpose and submersible applications. A male or female threaded pressure fitting is offered for general purpose applications, and an open face style with a KF25 flange is offered for submersible applications.

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

### Principle of Operation:

The capacitive sensor is constructed of an electrically isolated stainless steel electrode and 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.

### FEATURES

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

### APPLICATIONS

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

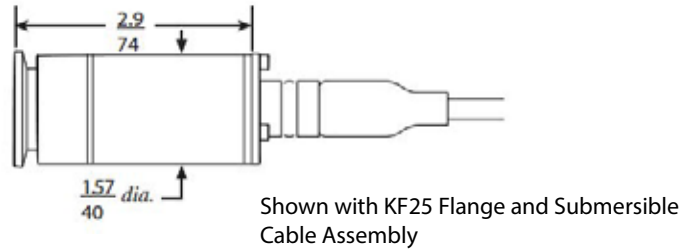
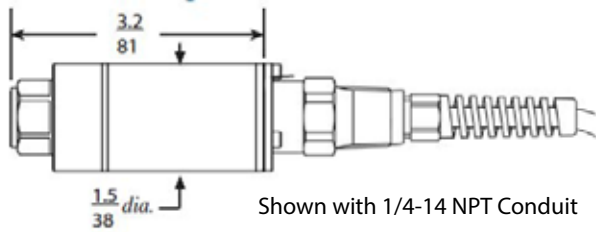
### SPECIFICATIONS

Performance Data		Environmental Data		Electrical Data (Voltage)																															
Accuracy RSS <sup>1</sup> (at constant temp)	±0.25% F	Operating and Storage Temperature <sup>3</sup> °P°C		Circuit	3-Wire																														
Thermal Effect <sup>2</sup>		for Elec. Codes E2	+15 to +185 (+25 to +85)	Excitation	7.5 to 35 VDC (8-35 VDC, 1-6 VDC output)																														
Compensated Range P(°C)	-5 to +140 (-20 to + 60)	for Elec. Codes UA	-5 to +120 (-20 to +50)	Output <sup>4</sup>	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/Span Shift %FS/100°F (%FS/50°C)	1.0 (2.0)	w/ Process Media	-40 to +212 (-40 to +100)	Electrical Data (Millivolt)																															
Zero/Span Adjustment	±10% (by Potentiometer)	Physical Description		Circuit	2-Wire																														
Response Time	0.5 milliseconds	Case Rating	318 Stainless Steel IP68 (NEMA) Submersible G IP65	Excitation	9 to 35 VDC																														
Long Term Stability	0.2% FS/1 year	Wetted Parts	Inconel, Ceramic & Nitrile	Output <sup>5</sup>	4 to 20 mA																														
Pressure Media		Weight	11.6 oz. (330g)	Maximum Loop Resistance	(Vs-9) x 50 Ohms																														
Water of Viscous Fluids Compatible with 316 SS, Ceramic and Nitrile		Diameter	38.1 mm w/o K2 flange, 40.0 mm w K2 flange	Accessories																															
<small><sup>1</sup> RSS of Non-Linearity, Non-Repeatability and Hysteresis.  <sup>2</sup> Units calibrated at nominal 70°F. Maximum thermal error is computed from this datum.  <sup>3</sup> Operating/Storage temperature limits of the cable or process media.  <sup>4</sup> Zero/Span output factory set to &lt; 1.0% Full Scale  <sup>5</sup> Zero/Span output factory set within ±0.16 mA.</small>		<table border="1"> <thead> <tr> <th colspan="3">Pressure Ranges</th> </tr> <tr> <th>Pressure Range</th> <th>Proof Pressure</th> <th>Burst Pressure</th> </tr> </thead> <tbody> <tr> <td>≤ 85 in. W.C.</td> <td>803 in. W.C.</td> <td>1219 in. W.C.</td> </tr> <tr> <td>86 in. W.C. to 140 in. W.C.</td> <td>1607 in. W.C.</td> <td>2410 in. W.C.</td> </tr> <tr> <td>141 in. W.C. to 400 in. W.C.</td> <td>2025 in. W.C.</td> <td>4017 in. W.C.</td> </tr> <tr> <td>≤ 3 psi</td> <td>29 psi</td> <td>44 psi</td> </tr> <tr> <td>3.1 to 5 psi</td> <td>58 psi</td> <td>87 psi</td> </tr> <tr> <td>5.1 to 15 psi</td> <td>102 psi</td> <td>145 psi</td> </tr> </tbody> </table>		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	<table border="1"> <tbody> <tr> <td>GA9</td> <td rowspan="5">Large Din, 4365-A, Strain Relief Large Din, 4365-A, 1/2" Conduit 6-Pin Dendix to 125°C Plastic Nose Cone w/ G 1/4 Port</td> </tr> <tr> <td>GA10</td> </tr> <tr> <td>GA11</td> </tr> <tr> <td>GA25</td> </tr> <tr> <td></td> </tr> </tbody> </table>		GA9	Large Din, 4365-A, Strain Relief Large Din, 4365-A, 1/2" Conduit 6-Pin Dendix to 125°C Plastic Nose Cone w/ G 1/4 Port	GA10	GA11	GA25	
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### OUTLINE DRAWING



### ORDERING INFORMATION

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Model	Range				Pressure		Pressure Fitting		Output		Elec. Term.		Accuracy		Options	
5501 = 550	001P	1 PSI	010W	10 in W.C	G	Gauge	G3	G 1/4 Female	11	4-20 mA, 2-Wire	E2	Large DIN 43650 Conn w. Mating Plug	F	0.25% FS	B	ATEX Intrinsic Safe
	002P	2 PSI	015W	15 in W.C			2M	1/4-18 NPT Male	28	1-6 VDC, 3-Wire	UA	Molded Immersible Cable (up to 2000 meters (656 ft))	S	0.15% FS, Opt.		
	003P	3 PSI	025W	25 in W.C			4M	1/2-14 NPT Male	2B	0-5VDC, 3-Wire						
	004P	4 PSI	050W	50 in W.C			G2	G 1/4 Male	24	0.5-5.5 VDC, 3-Wire						
	005P	5 PSI	100W	100 in W.C			N2	KF25 Flange	27	1-5 VDC, 3-Wire						
	007P	7 PSI	150W	150 in W.C						0.1-5-1VDC, 3-Wire						
	010P	10 PSI	200W	200 in W.C												
	012P	12 PSI	250W	250 in W.C												
	015P	15 PSI	300W	300 in W.C												
			350W	350 in W.C												
			400W	400 in W.C												

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

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