

# Model 370

## Digital Pressure Gauge



### DESCRIPTION

Setra Systems Model 370 offers extremely high accuracy and unmatched stability in a digital output configuration. Environmental monitoring and test & measurement systems around the world rely on Setra's experience in barometric pressure measurement instrumentation, as well as high accuracy measurements of higher pressures. The 370 utilizes Setra's unique SETRACERAM™ sensor, which is combined with advanced microprocessor based circuitry and sophisticated firmware to provide system accuracy to better than ±0.02% FS.

The Model 370 Digital Pressure Gauge is an extremely versatile instrument. Pressure and altitude data is displayed on a 6 digit LCD and is also accessible through a bidirectional RS-232 port. A numeric keypad is provided for easy access to engineering unit conversions, min/max tracking, entry of Hi/Lo alarm setpoints and calibration procedures. The 370 is also available with an optional rechargeable battery pack to bring lab accuracy to the field.

### BENEFITS

- ±0.02% Full Scale Accuracy
- High Resolution 6 Digit LCD Display for Pressure or Altitude Monitoring
- Bidirectional RS-232 Digital Communications I/O Port
- Engineering Unit Conversions for Pressure and Altitude
- Digital Altimeter Setting Indicator (DASI) and Corrected Altimeter Mode
- Programmable Non-Linear Functions

### APPLICATIONS

- Automatic Weather Reporting Systems
- Pressure Transfer Standard
- Altimeter Calibration Recertification
- Lab or Production Process Monitoring
- Altitude Chambers

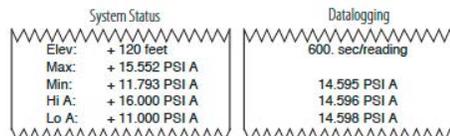
### SPECIFICATIONS

Performance Data		Physical Description			
Accuracy <sup>1</sup>	±0.02% FS <sup>2</sup> at 70° F (21°C)	Pressure Fitting	1/8" - 27 NPT Internal	Display	6 digit Liquid Crystal Display (LCD) with annunciators for pressure/altitude engineering units (PSI, mbar, hPa, mmHg, in.Hg, mmH2O, in.H2O, ft, m, units), HI/LO ALARM, pressure signal stability (O.K.) and barometric pressure corrected to sea level (SEA LEVEL).
Non-Linearity	±0.012% FS (End Point)	Power Cord	5 Ft. Length, 3-Prong		
Hysteresis	0.010% FS	Weight	12 lbs. (with Battery Pack)	Digital Output	Bidirectional RS-232 interface. All display data can be transmitted on the interface and all keyboard functions and commands can be duplicated using a remote terminal or keyboard.
Non-Repeatability	0.010% FS	<b>Thermal Effects</b> <sup>3</sup>			
<b>Pressure Media</b>		Compensated Range °F(°C)	+32 to +110 (0 to +45)	Operating Power	110/220 VAC (-10% to +20%), 50/60 Hz., optional 12 VDC internal rechargeable battery pack (approx. 8 hours between charges). Approximately 4 watts power consumption.
Clean dry air or other gases (non-condensable)		Zero Shift %FS/°F (%FS/°C)	0.002 (0.004)		
		Span Shift %FS/°F (%FS/°C)	0.001 (0.002)	Digital Interface	Bidirectional RS-232 interface. Access data, functions and commands via an RS-232 compatible remote terminal, data acquisition system or data storage device. 300, 600, 1200, 2400, 4800, 9600 Baud Rate, adjustable. Typical data printouts below:
<sup>1</sup> RSS of Non-Linearity, Non-Repeatability and Hysteresis <sup>2</sup> FS = 300 hPa/mb for 800-1100 hPa/mb range; 500 hPa/mb for 600-1100 hPa/mb range <sup>3</sup> Unit calibrated at 70°F. Maximum thermal error is computed from this datum.		Altitude Resolution	1 ft. (4 ft. for 100 psia range)		
		Stability	0.005% FS, 24 hours 0.02% FS, 30 days 0.05% FS, 1 year		

### PRESSURE RANGES

Type of Pressure	Pressure Range	Readout or Report	Altitude Range <sup>1</sup>
Barometric	600 to 1100 mb/hPa	600.00 to 1100.00	-1000 to 13,800 ft.
	800 to 1100 mb/hPa	800.00 to 1100.00	-1000 to 6,400 ft.
Absolute	0 to 10 psia	10.0000	10,300 to 100,000 ft.
	0 to 20 psia	20.0000	-1000 to 100,000 ft.
	0 to 50 psia	50.0000	-1000 to 100,000 ft.
	0 to 100 psia	100.0000	-1000 to 100,000 ft.

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

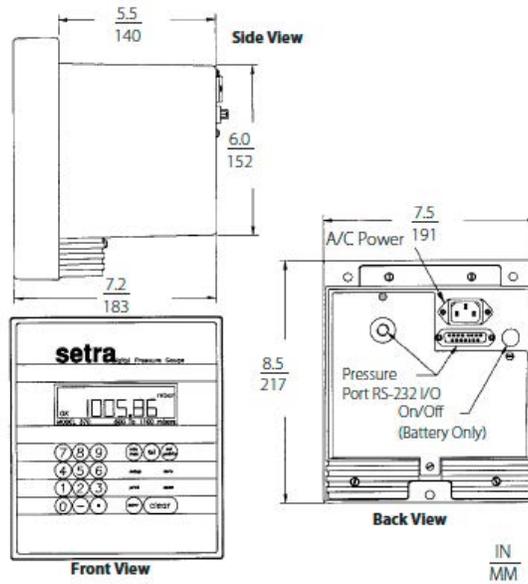


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### DRAWINGS & DIMENSIONS



### ORDERING INFORMATION

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Model	Pressure Range	Units	Pressure Type	Fitting	Output	Accuracy	Options
3701 370	600 600-1100	M mb/hPa	A Absolute	1F 1/8" NPT Internal	VT RS-232/6 Digit LCD/120 VAC	Y ±0.02% FS	NN None
	800 800-1100	M mb/hPa					L Etched SS Tag
	010 0-10	P PSI					S Installed Battery Pack
	020 0-20	P PSI					
	050 0-50	P PSI					
	100 0-100	P PSI					

Both boxes must be filled in alphanumeric order:  
 • If No options: N + N  
 • If 1 option: Option Code + N  
 • If 2 options: Option Code + Option Code