

## APT-1 Pressure Tester



### APPLICATION

- *For calibration, test and measurement applications requiring very high accuracy secondary transfer standards*

### FEATURES

- *Simultaneously display the output of two pressure sensors, two RTD's or one of each*
- *12 standard user selectable engineering units and one custom value.*
- *Dedicated front panel buttons to set zero, check max/min values, adjust measurement damping, select either or both ports for standard display, additive or differential display, print the display and configure the RS232 output. All front panel features are accessible via the RS232 port for remote configuration or data acquisition*

The PT indicator is an extremely versatile pressure measurement and test instrument. Each PT indicator provides the ability to select any of eight factory programmed engineering units, monitor and display minimum and maximum pressure values, program damping, tare out displayed measurement values and communicate over the standard RS232 interface. In addition to a broad variety of pressure ranges and types, the PT indicator can be supplied with temperature input modules.

These modules provide compatibility with platinum RTD Pt100 or Pt1000 probes. The modules accommodate 2, 3 and 4 wire configurations. All these capabilities are accessible through easy-to-follow keypad functions as well as over the RS232 interface.

Optional features such as the addition of a second sensor assembly, a backlit display or a built-in rechargeable battery pack make the PT indicator the ideal measurement tool for most major pressure measurement applications.

### PRODUCT SPECIFICATIONS

**Accuracy:**  $\pm 0.1\%$  of span  
 $\pm 0.25\%$  of span  
 $\pm 0.05\%$  of span

#### Optional Special Calibration:

Eliminates temperature error from 20° to 120°F.

**Calibration:** (Traceable to N.I.S.T.)

**Recalibration:** Complete recalibration can be accomplished over instrument RS232 interface. Zero and span can be accomplished via front panel keypad.

**Resolution:**  $\pm 0.002\%$  of span (max)

#### Repeatability: (typical)

$\pm 0.01\%$  of span (all psi ranges)  
 $\pm 0.01\%$  of span, (ranges of 1" through 200" H<sub>2</sub>O)  
 $\pm 0.02\%$  of span, (ranges below 1" H<sub>2</sub>O)

**Pressure Types:** gauge (sealed gauge over 300 psi), absolute, compound, differential and vacuum (as noted in range chart)

**Temperature Effect (zero & span):**  $\pm 0.004\%$  per °F from a reference temperature of 70  $\pm 3$  °F

#### Operating Temperature Range:

32-120° F (0 to +49° C)

#### Temperature Compensation Range:

20-120° F (-7 to +49° C)

#### Storage Temperature:

-4 to +158° F (-20 to +70° C)

#### Warm up:

5 minutes to rated accuracy  
 30 minutes to complete stability

#### Standard:

Inches of water ranges and psi ranges of 5 to 300 psi: clean, dry non-conductive and non-corrosive gases. Ranges above 300 psi: liquids and gases compatible with 316 SS.

#### Optional:

316 SS isolation available for ranges from 10-300 psi.

#### Overpressure:

Inches of H<sub>2</sub>O ranges  
 50 psi positive, 15 psi negative psi ranges  
 200% for ranges of 5 through 1000 psi  
 150% for ranges of 1500 psi and above

#### The front panel keypad provides access to the following standard features:

- Push button zero adjust
- Engineering unit select (12 standard)
- Push button tare function
- Push button max/min memory recall
- Pressure/temperature port select (left, right, both)
- Port addition, subtraction (for DP calculation)
- Selectable dampening of input pressure
- Serial output – port configuration
- Display hold
- Push button print

#### Display: Liquid crystal

**Display Size:** 2 line, 0.38 inch height per line, 16 alpha or numeric characters/line (max)

#### Display Update: 100 ms

#### Pressure Connection: 1/8 NPT internal

**Dimensions:** 7.72" x 6" x 2.95" (l x w x h)

**Panel Cutout:** 5.4" x 2.68" (w x h)

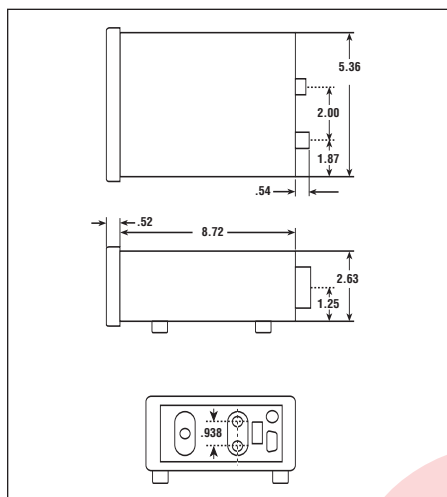
**Weight:** Will vary based on sensor type and number of sensors installed. Total weight less than 4 lbs with 2 sensors and battery option.

**Case Material:** High Impact ABS, black

#### Power Requirements:

**Standard:** ac adapter provided for operation off standard 110 Vdc, 60 Hz supply

## APT-1 Pressure Tester



### ASHCROFT PPT1: LOW PRESSURE SENSORS

Gauge & Differential Pressure					
Inches Water	mBar	kPa	mm Mercury	mm Water	cm Water
0.25*	0.6*	0.20*	0.5*	6*	0.6*
0.5*	1.0*	0.50*	1.0*	15*	1.5*
1.0*	2.5*		2.0*	30*	3*
2.0	4	1.0	3	50	5
3.0	6	2.5	5	60	6
5.0	10	4	10	150	15
10	25	6	20	300	30
15	40	10	30	600	60
25	60	25	50	1500	150
50	100	40	100	2000	200
100	250	60	200	5000	500
200	600				
Compound					
Inches Water	mBar	kPa	mm Mercury	mm Water	cm Water
±0.125*	±0.25*	±0.1*	±0.2*	±3*	±0.3*
±0.25*	±0.6*	±0.25*	±0.5*	±6*	±0.6*
±0.5*	±1.0*		±1.0*	±15*	±1.5*
	±2.5*		±2*	±30*	±3*
±1.0	±4	±0.4	±3	±50	±5
±1.5	±6	±0.6	±5	±60	±6
±2.5	±10	±1.0	±10	±150	±15
±5.0	±16	±1.6	±15	±200	±20
±7.5	±25	±2.5	±20	±300	±30
±12.5	±60	±6	±50	±600	±60
±25	±100	±10	±100	±1500	±150
±50	±160	±16	±150	±2000	±200
±75	±250	±25	±200	±3000	±300
±100					

\*Accuracy limited to +0.07% of span.

Inlet Fitting: 1/8 NPT internal thread.

### ASHCROFT PPT2: PRESSURE SENSORS<sup>(1)</sup>

Gauge and Absolute							
psi	Inches Water	Inches Mercury	mm Mercury	kPa	Bar Kg/cm <sup>2</sup>	mBar cmH <sub>2</sub> O	mmH <sub>2</sub> O
5	100	10	200	25	1	250	3000
10	150	20	250	40	1.6	300	5000
15	250	30	300	60	2.5	400	10,000
30	300	50	500	100	4	500	
50	500	100	750	160	6	600	
60	1000	200	1000	250	10	1000	
100		300	1500	400	16	1600	
150		500	3000	600		2000	
200			5000	1000		2500	
250						4000	
300						5000	
				mPa		6000	
				1		10,000	
				1.6			
500		1000		2.5	25		
600				4.0	40		
1000				6.0	60		
1500				10	100		
2000				16	160		
2500				25	250		
3000				40	400		
5000				50	500		
6000							
7500							
10,000*							
Vacuum							
5		10	250	25	0.25	250	3000
10		20	500	40	0.4	400	5000
15		30	750	60	0.6	600	
				100	1.0	1000	
Compound							
±5	±100	±10	±300	±25	±0.25	±250	±3000
±10	±250	±20	±500	±40	±0.40	±400	±6000
±15	±400	±30	±750	±60	±0.60	±600	±10,000
-15/30		-30/60	-750/1500	±100	±1.0	±1000	±3000
-15/60		-30/100	-750/3000	-100/200	-1/2	1000/2000	±6000
				-100/400	-1/4		±10,000

\*Not available in ±0.05% accuracy.

(1) Optional 316SS isolation available four ranges from 10-300 psi (standard on ranges 500 psi and above)