

**MODEL: PCA870**

***Ideal for field  
& laboratory  
applications***



***Small + Accurate***

- **ACCURACY:  $\pm 0.05\%$  OF READING**
- **UP TO FOUR PRESSURE INPUTS**
- **MEASURES PRESSURE, VACUUM, DP, mA & VOLT**
- **GENERATES mA AND VOLTS**
- **CONTACT INPUT FOR PRESSURE SWITCH VERIFICATION**
- **PROVIDES A 24 VDC POWER SUPPLY FOR 2-WIRE TRANSMITTERS**
- **TEMPERATURE PROBE (OPTION)**
- **CALIBRATION SOFTWARE (OPTION)**
- **RS-232/485 COMMUNICATIONS**

## INTRODUCTION

The *PCA-870 Pressure Calibrator* is a compact, battery operated instrument for calibration of pressure instruments and sensors. It can have up to four pressure sensors to measure pressures as low as 10" H<sub>2</sub>O to a maximum of 5000 psi. It also measures vacuum and differential pressure between any pair of its sensors. It is capable of measuring and generating mA and voltage signals with 0.02% accuracy. A 24 VDC power supply is also provided to power 2-wire transmitters.

An input terminal is included for attaching the optional RTD precision temperature probe with 0.1°C accuracy.

Communication with computer is established via the RS-232/485 serial communication port. When the calibrator is used together with the SCA850 software, it takes advantage of the documenting calibration concept which automatizes the calibration process; allowing

storage of data and sharing them between calibrator and computer, improving efficiency in handling information, preparing report, issuing certificates and registering the process instruments and sensors.

Potable and small for field applications with performance levels comparable only to laboratory standards, the *PCA870* calibrators come with connecting cables in a carrying case with holders and fastener belt/rings for hands-free operations. If the calibrators were not ordered with all four pressure sensors, the number of sensors may be increased to four by adding sensors at a later time.

Values are displayed on a high contrast, 11 mm high, graphic LCD display for better viewing in poor conditions. Rechargeable battery and a high-size memory to store values obtained for a later upload are other standard features of this versatile and accurate pressure calibrator.

## SPECIFICATIONS

### General

<b>Engineering Units</b>	psi, kPa, bar, mbar, atm, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, mH <sub>2</sub> O, mmHg, cmHg, inHg and torr
<b>Over Pressure</b>	Up to twice the sensor full scale pressure
<b>Thermal Stability</b>	±0.005% FS/°C in operation range
<b>Pneumatic Connection</b>	¼" NPTF
<b>Ambient</b>	0 to 50°C and up to 90% relative humidity
<b>Dimensions (H x W x D)</b>	80 x 144 x 72 mm
<b>Weight</b>	Approximately 1.0 kg

### Electrical Specifications

	Input Ranges	Resolution	Accuracy	Remarks
Volt	-10 to 45 V	0.0001 V	±0.02% FS	R <sub>input</sub> > 1MΩ
mA	-5 to 24.5 mA	0.0001 mA	±0.02% FS	R <sub>input</sub> < 160 Ω
	Output Ranges	Resolution	Accuracy	Remarks
Volt	-1 to 11 V	0.0001 V	±0.02% FS	R <sub>output</sub> < 0.3 Ω
mA	0 to 22 mA	0.0001 mA	±0.02% FS	R <sub>max</sub> = 700 Ω
Transmitter	4 to 22 mA	0.0001 mA	±0.02% FS	V <sub>max</sub> = 60 V
	Probe Ranges	Resolution	Accuracy	Remarks
Pt-100	-200 to 850°C	0.01°C	±0.1°C	IEC-751

### ORDER CODES

**MODEL:** PCA870

#### NUMBER OF INPUTS

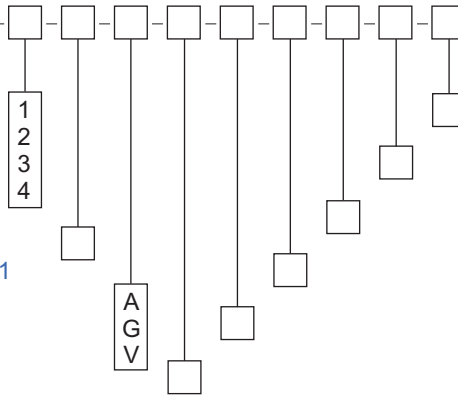
- One
- Two
- Three
- Four

#### RANGE FOR INPUT 1

Choose from the below table

#### PRESSURE TYPE FOR INPUT 1

- Absolute
- Gage
- Vacuum (only for range 3)



#### PRESSURE TYPE FOR INPUT 4

Same as input 1

#### RANGE FOR INPUT 4 (if needed)

Choose from the below table

#### PRESSURE TYPE FOR INPUT 3

Same as input 1

#### RANGE FOR INPUT 3 (if needed)

Choose from the below table

#### PRESSURE TYPE FOR INPUT 2

Same as input 1

#### RANGE FOR INPUT 2 (if needed)

Choose from the below table

Code	Range	Resolution	Accuracy of Reading*	Remarks
<b>0</b>	0...250 mmH <sub>2</sub> O	0.001	0.1%	Gage pressure used with air or inert gases
<b>1</b>	0...1 psi	0.0001	0.1%	
<b>2</b>	0...5 psi	0.0001	0.05%	
<b>3</b>	0...15 psi	0.0001	0.05%	Gauge or absolute pressure
<b>4</b>	0...30 psi	0.0001	0.05%	
<b>5</b>	0...100 psi	0.001	0.05%	
<b>6</b>	0...250 psi	0.001	0.05%	
<b>7</b>	0...500 psi	0.01	0.05%	
<b>8</b>	0...1,000 psi	0.01	0.05%	
<b>9</b>	0...3,000 psi	0.01	0.05%	
<b>A</b>	0...5,000 psi	0.1	0.05%	Used with fluids compatible with 316L St. Steel
<b>B</b>	0...10,000 psi	0.1	0.1%	

\* span > 20%



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