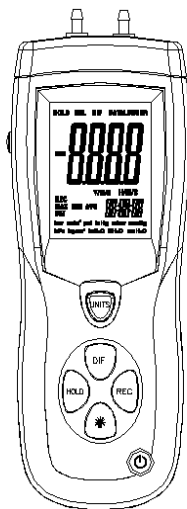


# Manometer

DD890



## Introduction

The device measures Gauge/Differential Pressure from -200 mbar to 200mbar (+-80.29 in H<sub>2</sub>O), it features 11 selectable units of measure: inH<sub>2</sub>O , psi , bar , mbar, kPa , inHg , mmHg ,ozin<sup>2</sup> ,ftH<sub>2</sub>O , cmH<sub>2</sub>O, kgcm<sup>2</sup> . Additional features include Data Hold. Auto Power Off disabled , and an USB for capturing reading to a PC using optional software . Careful use of this meter will provide years of reliable service.

## Specifications

Function	Range	Resolution	Function	Range	Resolution
inH <sub>2</sub> O	80.29	0.01	ozin <sup>2</sup>	46.41	0.01
psi	2.901	0.001	ftH <sub>2</sub> O	6.690	0.001
mbar *	200.0	0.01/0.1	cmH <sub>2</sub> O	203.9	0.1
kPa	20.00	0.01	kgcm <sup>2</sup>	0.204	0.001
inHg	5.906	0.001	bar	0.200	0.001
mmHg	150.0	0.1			

\* Resolution: 0.01 mbar < 100 mbar ,0.1mbar>100mbar

Display	Dual LCD
Accuracy	$\pm 0.3\%$ FSO (25 °C)
Repeatability	$\pm 0.2\%$ (Max.+/-0.5% FSO)
Linearity/Hysteresis	$\pm 0.29\%$ FSO
Pressure Range	$\pm 200$ mbar
Maximum Pressure	500mbar
Response Time	0.5 Seconds typical
Low Battery Indicator	Yes
Over range Indicator	Err.1
Under range Indicator	Err.2
Operating Conditions	0 to 50 °C
Storage Conditions	-10 to 60 °C
Power Supply	1×9V Battery or external 9VDC

### CP2102 USB to UART Bridge Controller

Serial format: Baud rate: 9600 Baud , 8 Data Bits.

## Button

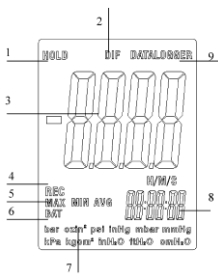
The meter has six buttons.

1. UNITS
2. DIF
3. REC
4. HOLD
5. BACKLIGHT
6. ON/OFF



## Display Description

1. Hold Function
2. Differential Mode
3. Primary Data screen
4. Record Mode
5. MAX/MIN/AVG
6. Low Battery indicator
7. Pressure Unit indicator
8. Relative Time Clock
9. Data output from USB



# Operation

## 1.Power

Press the **ON/OFF** button to turn power on or off. The meter will perform a short self-test when turned on. The meter defaults to the setting used during the last operation.

## 2.Zero Adjust and Offset

Before use and without fittings attached to the meter, press the **HOLD** button for more than 2 seconds to zero the meter. The meter will reset and display “**0000**” from right to left. **0.000** will be display.

If it is desired to offset the meter and display, press the **DIF** button while taking a measurement. Subsequent reading will be the difference between the current measurement and the measurement that was on the display when the **DIF** button was pressed.

## 4. Data Hold

Press the **HOLD** button momentarily to freeze the displayed reading. The ‘**HOLD**’ icon will appear on the upper left-hand side of the display. If the pressure value is over the range, error codes will show on the screen.

Press the **HOLD** button again to return to normal operation.

#### **4.Record**

The MAX/MIN mode allows the user to view only the highest (**MAX**) , lowest (**MIN**)or average (**AVG**) readings with relative time stamp.

1. Press the **REC** button once and **REC** appears on the display (All other functions are locked out except for Power & Backlight). The relative time clock also appears in the secondary display and starts counting.
2. Press the **REC** Button again and **MAX** appears on the display .The display is now showing the maximum pressure and relative time that it was recorded.
3. Press the **REC** button to display the minimum **MIN** reading with the relative time.
4. Press the **REC** button to display the average value **AVG** reading with the relative time.
5. Press the **REC** button again to continue recording **MAX/MIN /AVG** measurements.
6. To exit the **MIN/MAX/AVG** mode, press the

**REC** button for 3 seconds to return to normal operation.

## **5.Backlight Display**

Press the **Backlight** button to turn on the backlight. It will remain on for 40 seconds.

## **6. Automatic Power Off**

The meter will automatically shut off after 20 minutes to conserve battery life. To disable Auto Power Off , hold down the HOLD button and turn on the meter on , An “n” will appear in the display indicating that Auto Power Off mode is disabled. The meter will return to normal operation when it is turned off.

## **7.Units**

Press the Unit button momentarily and the meter will cycle through the 11 available units of measure as indicated by the cursor on the bottom of the display.

## **USB**

The meter has a USB port for use with the optional PC interface Data Acquisition Software./Hardware kit.

## **Error Codes**

An error message will appear on the display if the meter fails an internal diagnostic test. And it will freeze all the buttons.

1. Err.1: Pressure value is over the range.
2. Err.2: Pressure value is below the range.
3. Err.3: DIF function , the differential pressure value is over range.
4. Err4: DIF function, the differential pressure value is below range.

## **Battery Replacement**

When the battery power falls low ,“**BAT**” will appear on the LCD. Replace the 9V battery .

