EM152

Dual Differential Digital Manometer

INSTRUCTION MANUAL

ENGLISH

1-800-547-5740
www.ueitest.com • email: info@ueitest.com

WARRANTY

The EM152 is warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase. If within the warranty period your instrument should become inoperative from such defects, the unit will be repaired or replaced at UEi's option. This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Batteries and consequential damage resulting from failed batteries are not covered by warranty.

Any implied warranties, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the express warranty. UEi shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expenses or economic loss.

A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired (when repairable) for a service charge.

For more information on warranty and service, contact:

www.ueitest.com • Email: info@ueitest.com
1-800-547-5740

This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.

FEATURES

- **Range of -60 to +60 inH_2O**
- **Differential Pressure**
- **Dual input differential measurement to ±80.27 inches of water column**
- **Measures in 11 scales; inH_2O, PSI, Bar, mBar, kPa, inHG, mmHG, ozin, FtH_2O, cmH_2O and kgcm.**
- **Magnetic Mount**
- **Auto Ranging**
- **Backlit Display**
- **Data Hold**
- **Max/Mn**
- **Zero Button**

GENERAL SPECIFICATIONS

- **Operating Temperature:** 32˚ to 104˚F (0˚ to 40˚C)
- **Storage Temperature:** 14˚ to 140˚F (-1˚ to 60˚C)
- **Backlight:** Display Backlight
- **Over-range:** ERR1 or ERR2 is displayed
- **Dimensions:** 5.27" X 3" X 1.5"
- **Item Weight:** 6.2 oz.
- **Calibration:** Calibration
- **Battery Type:** 9V X 1

IMPORTANT SAFETY WARNINGS

⚠ **WARNING**

- Read entire Safety Notes section regarding potential hazards and proper instructions before using this manometer. In this manual the word "**WARNING**" is used to indicate conditions or actions that may pose physical hazards to the user. The word "**CAUTION**" is used to indicate conditions or actions that may damage this instrument.
- To avoid false readings, replace batteries if a low battery indicator appears.

⚠ **WARNING**

- **WARNING** Do not exceed Maximum Over Pressure of **10 psi**.
- Do not use the manometer if it operates abnormally.
- Always test the manometer before use to ensure it is operating properly.
- Always ensure that the connecting hoses you are using are free from kinks, blockage or splits.
- Always double-check all connections before testing.
- While using the manometer, if you suspect gas is leaking, or if you can smell gas, close off gas supply and ventilate the occupied space. Identify and repair the source of the leak before continuing with the test.
- Never connect the manometer to an unknown pressure source if the source is twice the working pressure of the instrument; the sensor may be damaged and it may cause injury to the user.
- Never open the manometer or attempt to modify it in any way. Otherwise, accident and injury may occur. And the warranty is voided.
- These manometers do not measure water pressures; under these conditions they will fail.

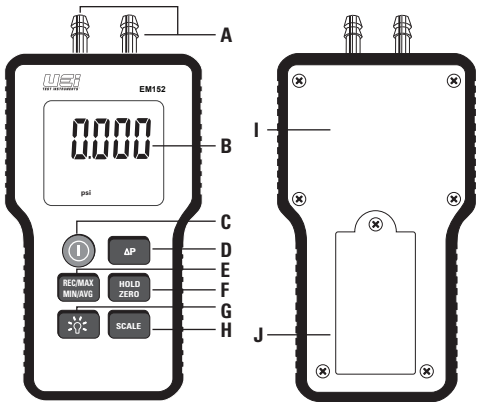
⚠ **WARNING**

- This manometer is designed for trained trade professionals who are familiar with the hazards of their trade. Observe all recommended safety procedures and use of personal protective equipment.

SYMBOLS

HOLD	**Hold/Capture Value**
MAX	**Maximum measured value displayed**
MIN	**Minimum measured value displayed**
⚠	**Warning or Caution**
▬	**Negative Pressure**

OVERVIEW



A. Pressure Sensor Inputs:

- Left Connection: Negative pressure port.
- Right Connection: Positive pressure port.

B. Display: with Backlight.

1. Hold: Values are captured/held.
2. Dif: Pressure Differential.
3. Record: The manometer will record the Maximum Pressure, Minimum Pressure and Average Pressure.
4. MAX/MIN/AVG:
   - MAX: Maximum value captured is displayed.
   - MIN: Minimum value captured is displayed.
   - AVG: Timed mean value calculation displayed.

NOTE: *REC/MAX/MIN/AVG function does not work when in ΔP/Pressure Differential test mode.*

5. Battery: When battery is too low for safe operation, the Low Battery indicator will display (**BAT**). See Battery Replacement section of this manual.
6. Time (H/M/S): Hours/Minutes/Seconds.

C. Power Button (Green): Press to turn on manometer. Press to turn off manometer.

D. ΔP/Pressure Differential Button: Used to start and stop pressure differential test.

E. REC/MAX/MIN/AVG Button: Press to record Max/Min/Avg values.

F. HOLD/ZERO Button: Press to capture displayed value or zero meter.

- Auto power off after 25 minutes of inactivity.
- To disable Auto power off: with the meter off, press the **POWER** button, then press and hold the **HOLD/ZERO** button until a 'n' displays.

G. Backlight Button: Press to turn on **Backlight**. Press again to turn off.

- Provides easy reading of Display in dark work environments.
- Backlight duration is 50 seconds.

H. Scale Button: 11 Selectable Units of measurement.

I. Magnetic Mount: For hands-free work.

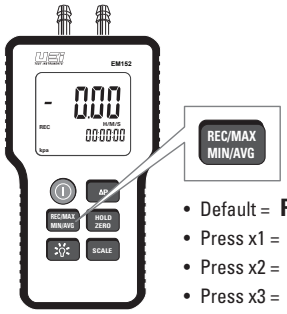
J. Battery Cover: Easy access for replacing batteries.

SPECIFICATIONS

Function	Ranges	Resolution	Accuracy (77˚F)
Bar	± 0.200	0.001	± 0.5% Full Scale Output
Ounces/ Sq. Inch	± 46.60	0.01	
PSI	± 2.900	0.001	
inHg	± 5.904	0.001	
mBar	± 200.0	0.1	
mmHg	± 150.0	0.1	
kPa	± 20.00	0.01	
Kg/Sq. cm	± 0.204	0.001	
In H2O	± 80.27	0.01	
Ft H2O	± 6.689	0.001	
cm H2O	± 203.9	0.1	

OPERATING INSTRUCTIONS

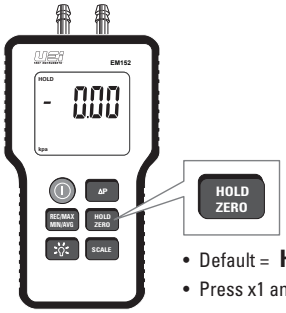
A. REC/MAX/MIN/AVG



- Default = **REC**
- Press x1 = **MAX**
- Press x2 = **MIN**
- Press x3 = **AVG**

- Press the **REC/MAX/MIN/AVG** button to record the Maximum, Minimum and Average pressures.
- Press again to display MAX pressure recorded.
- Press again to display MIN pressure recorded.
- Press again to display AVG pressure recorded.
- Press and hold to Exit REC/MAX/MIN/AVG mode and return to live reading.

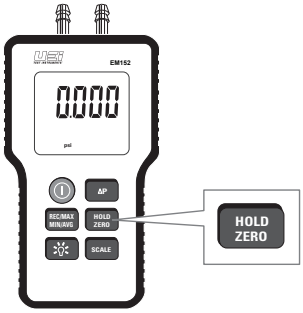
B. HOLD



- Default = **HOLD**
- Press x1 and hold = **ZERO**

- Press **Hold/Zero** button to capture values on display. Press again to return to live readings.
- Press and hold to reset pressure sensors to zero. Zero is used to compensate for ambient pressure changes or sensor drift.

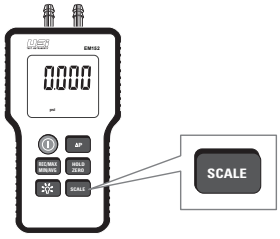
C. ZERO



NOTE: *Prior to use, the manometer must be zeroed. To do this, ensure the manometer is in a non-pressurized area and no hoses are attached.*

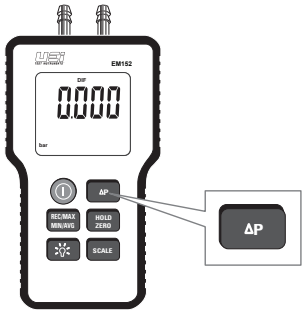
- If the display reads other than zero, press and hold the **HOLD/ZERO** button.
- The display will show '0000' to indicate that the Zero function has occurred.
- This operation should be performed especially if the manometer has been dropped or maximum pressure has been exceeded.

D. SCALE



- To Change Measuring Unit:
- Press the **Scale** button to change the selected unit
- Press again to scroll to the desired unit
- Once the Measuring unit is selected, it will remain until another unit is selected
- Units options:
  - Bar
  - ozin^2
  - PSU
  - InHg
  - mBar
  - mmHg
  - kPa
  - kgcm^2
  - InH_2O
  - Fth20
  - cmH_2O
- The SCALE selection cannot be changed while REC/MAX/MIN/AVG mode is active

E. PRESSURE TEST/ΔP



- Left port: Negative pressure port. Applying a pressure on this port will display a negative pressure.
- Right port: Positive pressure port. Applying a pressure on this port will display a positive reading.
- Use either port to measure a single source by venting the unused port into the atmosphere.
- The manometer will continually provide a pressure reading.
- Connect hoses to both Pressure ports from pressure sources for Pressure Differential mode.
- Press **ΔP** (Pressure Differential) button to toggle differential pressure on and off.

F. ERROR CODES

An error message will appear on the display if the meter fails an internal diagnostic test.

1. Err. 1: Positive pressure value is greater than the meter range.
2. Err. 2: Negative pressure value is less than the meter range.

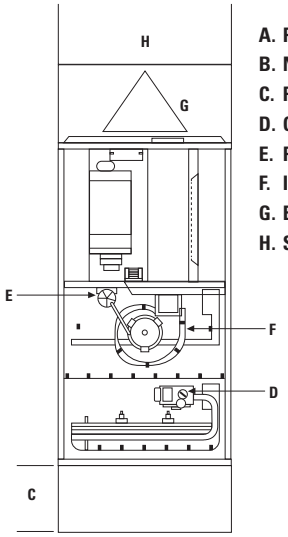
⚠ **WARNING**

- Maximum Over Pressure for this manometer is: **10 PSI**.

PRESSURE CONVERSIONS

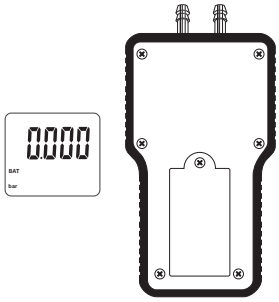
Multiply	By	To Get
In. of H2O	401.4630787	Bar
In. of H2O	1.72999405266	ozin
In. of H2O	0.036	PSI
In. of H2O	0.074	InHg
In. of H2O	2.491	mBar
In. of H2O	1.868	mmHg
In. of H2O	0.249	kPa
In. of H2O	249.1	Pascals
In. of H2O	393.700790036	kgcm
In. of H2O	0.0833333333333	FtH2O
In. of H2O	2.539999983	cmH2O

G. EM152 test sources



- **A. Positive Pressure Input**
- **B. Negative Pressure Input**
- **C. Return Plenum**
- **D. Gas Value**
- **E. Pressure Switch**
- **F. Inducer**
- **G. Evaporator Coil**
- **H. Supply Plenum**

BATTERY REPLACEMENT



- When the battery is too low for safe operation, the Low Battery indicator will display (**BAT**).
- Remove the screw (Phillips-head) from the battery cover.
- Replace the old battery with a new (9V) battery.
- Replace battery cover and screw.

DISPOSAL

⚠ **CAUTION:** This symbol indicates that equipment and its accessories shall be subject to separate collection and correct disposal.

CLEANING

Periodically clean your meter's case using a damp cloth. DO NOT use abrasive, flammable liquids, cleaning solvents, or strong detergents as they may damage the finish, impair safety, or affect the reliability of the structural components.

Keep pressure ports clean and free of grease and other deposits; clean with a moist cloth as required.

STORAGE

Remove the battery when instrument is not in use for a prolonged period of time. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the General Specifications section, allow the instrument to return to normal operating conditions before using it.