

# Model: PM-140

<b>Sensor type:</b>	Differential
<b>Operating range:</b>	130 mbar
<b>Connector Type:</b>	Push fit connector
<b>Units:</b>	mbar / PSI / kPa / inHg/ mHg / inH2O / mmH2O
<b>Operating Temperature:</b>	-10°C to +50°C
<b>Accuracy of Unit Only:</b>	+20 to +50°C: 0.10% of RDG +0.10% of FS + 1 LSD -10 to +20°C: 0.15% of RDG +0.15% of FS + 1 LSD All ± 1 LSD Digit ( 0.1°C Low scale; 1°C High scale ) Negative pressure: 0.3% reading + 0.3% full scale

Note: FS=Full Scale LSD= Least Significant Digit (Full range of the unit to be used for both low & high scale calculations)

**Particular care should be taken not to over pressure the device as this may rupture the sensor membrane. This is not covered by the manufacturers warranty.**


Note: The differential/gauge instrument will only measure relative pressures i.e positive pressure applied to the positive port or negative pressure applied to the negative port.

## Instrument Application

The PM-140 is suitable for the measurement of differential pressure.

## Instrument Operation


The instrument requires two AA or equivalent cells. These are not supplied with the unit.

When the batteries require changing the following symbol will be displayed: 

Please ensure the screws holding the battery compartment are firmly tightened when inserting or replacing batteries to ensure the IP67 rating is maintained.

Press ON key to turn unit ON. Press OFF key to turn unit OFF.

The unit will switch OFF automatically after 12 minutes, unless any key is activated.

To disable automatic switch off, hold  Key when the unit is being switched on. This will disable the automatic switch-off function until the unit is switched off.

## Out of Range

If pressure exceeds the scale range **Out** will appear on the display.

## Zeroing

In order to achieve maximum accuracy, it is recommended to zero the instrument in the orientation it will be used before taking any measurements.

Ensure both ports are open to atmospheric pressure, if indicated pressure is within 3% of full scale of the factory calibrated zero, press **0.0** key which will adjust the reading to zero.

## Hold Function

To enable the Hold Function, press the "Hold"  button, press again to release the Hold Function.


## Hose fitting

The input port(s) on the instrument are designed to accept a hose with 8mm Interior Diameter and 1mm wall. The hose is fitted by pushing the hose onto the port, an additional clamp fitting may be used to ensure secure fitting.

## Smoothing mode

Press = key and the instrument continuously averages the last four measurements to give a more stable reading on the display. Press = again to return back to normal settings.

## Units of pressure

Press  key to select required units of pressure. Chosen units will be saved when the instrument is switched off.

## Back Light

Press and hold **ON** key.

## Time Test Facility Mode

The instrument's Timer Mode indicates the measured pressure and time showing alternating on the display. The time advances in minutes and seconds to a maximum time of 99mins 59sec. The timer can be paused, continued or reset as required during the test period. The timer mode needs to be selected to be viewed on the display.

## Time Test Facility Operation

Press the **ON** button with the **ZERO** button held down and the timer feature initiated. (Note the instrument must be in the OFF state prior to this operation). In the mode the display will initially alternate between the measured pressure and 0.00 for time. With no pressure applied, press the **ZERO** button and the display will indicate ZERO and the pressure reading will be zeroed. The timer will remain at 0.00.

Press the **ZERO** button again and the time will advance from 0.00 to a maximum 99.59 in mins and secs format. The display will continue to alternate between pressure and time.

Press the **HOLD** button at the desired time and the display will alternate between the measured pressure and the paused time. Adjust the pressure to the next desired value. Press the **HOLD** button again and the timer will continue by advancing from the paused value. Press the **HOLD** button on completion of the test.

## Range lock

This instrument has Range lock feature that displays readings to the best resolution, shown by **A/R** on the display. This can be turned off by pressing the **A/R** key. The display will then use the same display resolution for the entire pressure range. This is useful to stop the display switching between resolutions where there is fluctuation in pressure. To cancel this mode, press the **A/R** key again.

## CAUTION

### Product damage

- Ensure liquid media is applied to Port + only; Port - is not compatible with liquids.
- Ensure liquid media contains no particulates.
- Recommended that the sensor is to be positioned with Port + facing downwards; as any particulates in the system are less likely to enter and settle within the pressure sensor.
- Ensure liquid media does not create a residue when drained.
- Ensure liquid media is compatible with wetted materials.

### Sensor is **not** compatible with:

- Gasoline
- Motor oil
- Transmission fluid
- Brake & hydraulic fluids
- Toluene
- Cetons
- Freon
- Diesel fuel
- Crude oil

**However the use of an additional "buffer" such as a "U" tube filled with silicone oil or a large air buffer would make it possible to measure the above.**

**Failure to comply with these instructions may result in product damage, this is not covered by the manufacturers warranty.**

## WARRANTY

This instrument has been tested following completion, and is warranted against faulty workmanship and materials for one year from the date of purchase.

During the warranty period any defective instrument will be repaired or replaced at the discretion of the manufacturer.

This warranty does not cover damage or failure resulting from misuse, accident, modification, adjustment or any alteration with the internal arrangement of the instrument shall absolve the manufacturer from any liability in respect of the instrument.