

OPERATION OF DIGITAL GAUGE INSTRUMENTS

PMS Instrument Company – www.pmsinstrument.com

If your instrument has a digital gauge installed, the following instructions will be applicable to gauge operation.

KEYPAD OPERATION

There are five buttons on the keypad, which function as follows:

1) ON/OFF

This button manually turns the unit on or off without regard to mode of operation.

When the unit is turned on, the gauge will display, in 1 second intervals, the following start up sequence:

- Firmware version
 - Top line: numerical firmware rev number
 - Bottom line: VER
- Pressure range
 - Top line: Full Scale pressure range
 - Bottom line: units of measure to which the unit was calibrated (PSI).
- Current pressure
 - Top line: pressure currently being sensed by the gauge.
 - Bottom line: selected unit of measure.



If the ON/OFF button is pressed and held for three seconds, a menu will appear, which can be scrolled through by pressing the ON/OFF button. The menu will offer the following selections, which will be blinking to indicate a selectable option:

- NEVER (default) – the gauge will stay on until the ON/OFF button is pushed again.
- 5 MIN – the gauge will turn off 5 minutes after it is turned on.
- 10 MIN – the gauge will turn off 10 minutes after it is turned on.
- 20 MIN – the gauge will turn off 20 minutes after it is turned on.

A selection is made by pressing the ON/OFF button for 3 seconds while an option is blinking. Once a selection is made, or scrolled past “20 MIN”, the gauge will return to current pressure.

2) ZERO/CLEAR

With the gauge reading the current pressure, this button will zero the display provided the reading is below the lesser of 50 psi or $\pm 5\%$ of the pressure range (e.g. between -50 and 50 psi on a 1000 psi gauge).

3) MIN/MAX

Pressing this button will display the maximum pressure the gauge has sensed since being turned on, in the top line of the display. The bottom line will read “MAX”. Pressing the button again will display the minimum pressure the gauge has sensed since being turned on, and show “MIN”. Pressing a third time will revert the gauge back to the current pressure. The “MAX” or “MIN” values will be cleared by depressing the ZERO/CLEAR button with value displayed. Both values will be cleared when the gauge is turned off (manually or automatically).

4) LIGHT

This button toggles the display backlight on and off. However, if this button is held for 3 seconds a menu will appear which can be scrolled through by pressing the “LIGHT” button. The menu will offer the following selections, which will be blinking to indicate a selectable option:

- IMMED – the backlight will only be on while the “LIGHT” button is being pressed.
- 30 SEC – the backlight will turn off 30 seconds after the “LIGHT” button is no longer being pressed.
- 1 MIN – the backlight will turn off 1 minute after the “LIGHT” button is no longer being pressed.
- 5 MIN – the backlight will turn off 5 minutes after the “LIGHT” button is no longer being pressed.
- NEVER – (default) – the backlight will stay on until the “LIGHT” button is pressed again.

Note: If while in the menu, the “LIGHT” button is not pressed for 3 seconds (to either scroll or select), the gauge will revert back to the current pressure. While in this menu, pressing the “ZERO/CLEAR” button will also bring the gauge back to the current pressure. The backlight option selected will be saved when the gauge is turned off.

5) UNITS

This button accesses a scrollable menu of pressure measurement “unit” options: psi, Bar, kg/cm², kPa, mPa, ftH₂O, in. Hg, mmHg, cmHg. For most water potential readings Bar or mPa scale is used.

Pressing the “UNITS” button once will show the first selection (blinking). Pressing the button again will show the next blinking entry, and so on until the menu is completed. Upon completion of the menu, pressing the button again will exit the menu and use the last selected units. Selection of a units option is made by pressing the “UNITS” button for 3 seconds while the option is being displayed. If while in the menu, the “UNITS” button is not depressed in 3 seconds (to either scroll or select) the unit will revert back to the current pressure. While in this menu, pressing the “ZERO/CLEAR” button will also bring the unit back to the current pressure. The units option selected will be saved when the gauge is turned off.

BATTERY

Gauge powered by two **AAA** batteries.

The battery icon located in the lower right hand corner of the display – indicates the power level with three segments:

- No segments filled: Less than 10% battery life remaining.
- One segment filled: 10% to 25% battery life remaining.
- Two segments filled: 25% to 50% battery life remaining.
- Three segments filled: 50% to 100% battery life remaining.

When the batteries get too weak for the gauge to operate reliably, the gauge will shut off. If the gauge is turned on with batteries in this condition, the version and range display will show momentarily, but the gauge will again shut off. If the batteries are too weak the gauge will not turn on.

REPLACING THE BATTERIES

1. Remove the 4 screws that hold the instrument panel inside the case.
2. Remove the instrument from inside the case and turn it over.
3. Locate the back of the gauge. Using your thumb slide the back panel from the gauge.
4. Replace batteries with high quality fresh **AAA** batteries.

CALIBRATION / ERROR

For any calibration or error in gauge performance please contact PMS Instrument Company direct.