



DIGITAL MANOMETER

■ HT-1890
■ HT-1891

■ HT-1892
■ HT-1893

■ HT-1895
■ HT-1890B
■ HT-1890C

Introduction

The device measures Gauge/Differential Pressure from -55 H₂O to +55 H₂O (+2 psi). It features 11 selectable units of measure: in H₂O, psi, bar, mbar, Kpa, InHg, mmHg, ozin², FtH₂O, cmH₂O, kgcm. Additional features include Data Hold and Auto Power Off disabled. Careful use of this meter will provide years of reliable service.

Meter Diagram

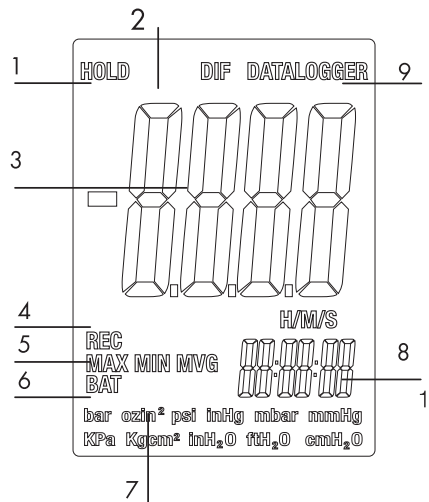
The meter has six buttons.

1. UNITS
2. DIF
3. HOLD
4. ON/OFF
- A. REC
- B. BACKLIGHT



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



HT-1890

Function	Range	Resolution	Function	Range	Resolution
inH ₂ O	± 55.40	0.01	Ozin2	±32.00	0.01
Psi	± 2.000	0.001	ftH ₂ O	±4.612	0.001
Mbar	± 137.8	0.1	cmH ₂ O	±140.6	0.1
kPa	± 13.79	0.01	Kgcm ²	±0.140	0.001
inHg	± 4.072	0.001	Bar	±0.137	0.001
mmHg	± 103.4	0.1			

HT-1890B

Function	Range	Resolution	Function	Range	Resolution
InH ₂ O	± 12.04	0.01	Ozin2	±6.96	0.01
Psi	± 0.435	0.001	ftH ₂ O	±1.003	0.001
Mbar	± 30.0	0.1	cmH ₂ O	±30.6	0.1
kPa	± 3.000	0.001	Kgcm ²	±0.030	0.001
inHg	± 0.886	0.001	Bar	±0.030	0.001
mmHg	± 22.5	0.1			

HT-1890C

Function	Range	Resolution	Function	Range	Resolution
InH ₂ O	± 24.08	0.01	Ozin2	±13.92	0.01
Psi	± 0.870	0.001	ftH ₂ O	±2.006	0.001
Mbar	± 60.0	0.1	cmH ₂ O	±60.9	0.1
kPa	± 6.000	0.001	Kgcm ²	±0.060	0.001
inHg	± 1.771	0.001	Bar	±0.060	0.001
mmHg	± 45.0	0.1			

HT-1891

Function	Range	Resolution	Function	Range	Resolution
InH ₂ O	±138.3	0.1	Ozin2	±80	1
Psi	±5.000	0.001	ftH ₂ O	±11.53	0.01
Mbar	±344.7	0.1	cmH ₂ O	±351.5	0.1
kPa	±34.47	0.01	Kgcm ²	±0.351	0.001
inHg	±1.018	0.001	Bar	±0.344	0.001
mmHg	±258.5	0.1			

HT-1892

Function	Range	Resolution	Function	Range	Resolution
InH ₂ O	±415.2	0.1	Ozin2	±240.0	0.1
Psi	±15.00	0.01	ftH ₂ O	±34.60	0.01
Mbar	±1034	1	cmH ₂ O	±1055	1
kPa	±103.4	0.1	Kgcm ²	±1.055	0.001
inHg	±30.54	0.01	Bar	±1.034	0.001
mmHg	±775.7	0.1			

HT-1893

Function	Range	Resolution	Function	Range	Resolution
InH ₂ O	±830	1	Ozin2	±480.0	0.1
Psi	±30.00	0.01	ftH ₂ O	±69.20	0.01
Mbar	±2068	1	cmH ₂ O	±2109	1
kPa	±206.8	0.1	Kgcm ²	±2.109	0.001
inHg	±61.08	0.01	Bar	±2.068	0.001
mmHg	±1551	1			

HT-1895

Function	Range	Resolution	Function	Range	Resolution
InH ₂ O	±2078	1	O ₂ in2	±1200	1
Psi	±75.00	0.01	ftH ₂ O	±173.0	0.1
Mbar	±5168	1	cmH ₂ O	±5272	1
kPa	±517.1	0.1	Kgcm ²	±5.250	0.001
inHg	±15.00	0.01	Bar	±5.138	0.001
mmHg	±3878	1			

Display	Dual LCD
Accuracy	±0.3%FSO(25°C)
Repeatability	±0.2%(Max+/-0.5%FSO)
Linearity/Hysteresis	±0.29% FSO
Maximum Pressure	10psi (HT-1890)
	20psi (HT-1891)
	100psi (HT-1895)
Response Time	0.5Seconds typical
Low Battery Indicator	Yes
Over Range Indicator	Err.1
Under Range Indicator	Err.2
Operating Conditions	32°F to 122°F(0 to 50°C)
Storage Conditions	14°F to 140°F(-1 to 60°C)
Power Supply	1X 9V Battery (included) or External 9VDC
Standard Accessories	Pouch & Tubing

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 "000" 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.

3. 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. 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 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 **MIN/MAX/AVG** measurements.
6. To exit the MIN/MAX/AVG mode, press the REC button for 3 seconds to return to normal operation.

7. **Backlight Display**

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

8. **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, 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.

9. **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 button of the display.

Error Codes

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

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. Err. 4: **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.



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