

ENGLISH

ET180

INSTRUCTION MANUAL

Digital Differential Manometer

- P1, P2, AND DIFFERENTIAL PRESSURE
- +/- 60 inH₂O RANGE AND +/-1.5% FS ACCURACY
- UNITS INCLUDE:
bar, oz/in², psi, mbar, kPa, inHg, mmHg, kg/cm², inH₂O, ftH₂O, and cmH₂O
- MAGNET ON BACK FOR HANDS-FREE OPERATION



CE

**UK
CA**



GENERAL SPECIFICATIONS

Klein Tools ET180 is designed to measure the pressure for ports P1, P2, and the differential pressure individually for air and gas pressures. The meter features a magnet in back for hands-free operation.

- **Environment:** Indoors
- **Sensor Type:** Gauge manometer/dual sensors with temperature compensation
- **Range:** +/- 60 inH₂O
- **Accuracy:** +/- 1.5% FS at 25°C
- **Measurement units:** bar, oz/in², psi, mbar, kPa, inHg, mmHg, kg/cm², inH₂O, ftH₂O, and cmH₂O
- **Auto Power Off (APO):** After 15 minutes of inactivity
- **Tubing:** 1/8" ID x 6.56' (3mm ID x 2m) silicon tubing included
- **Batteries:** 3x AAA alkaline
- **Operating Altitude:** 6562 ft. (2000 m)
- **Relative Humidity:** <85% non-condensing
- **Operating Temp:** 32° to 122°F (0° to 50°C)
- **Storage Temp:** 14° to 140°F (-10° to 60°C)
- **Dimensions:** 6.19" x 2.47" x 1.38" (157 x 63 x 35 mm)
- **Weight:** 7.2 oz. (202 g) including batteries
- **Standards:** Conforms to EN 61326-1:2013; EN61326-2-3:2013











Specifications subject to change.

⚠ WARNINGS

To ensure safe operation and service of the tester, follow these instructions. Failure to observe these warnings can result in severe injury or death. Know the characteristics of the gas you are working with and use proper precautions to avoid hazardous conditions.

- Read, understand, and follow all instructions to ensure safe operation.
- The meter is NOT insulated. Avoid contact with areas where energized conductive elements may be present. Shut off power to the area before starting measurements.
- Always wear approved eye protection.

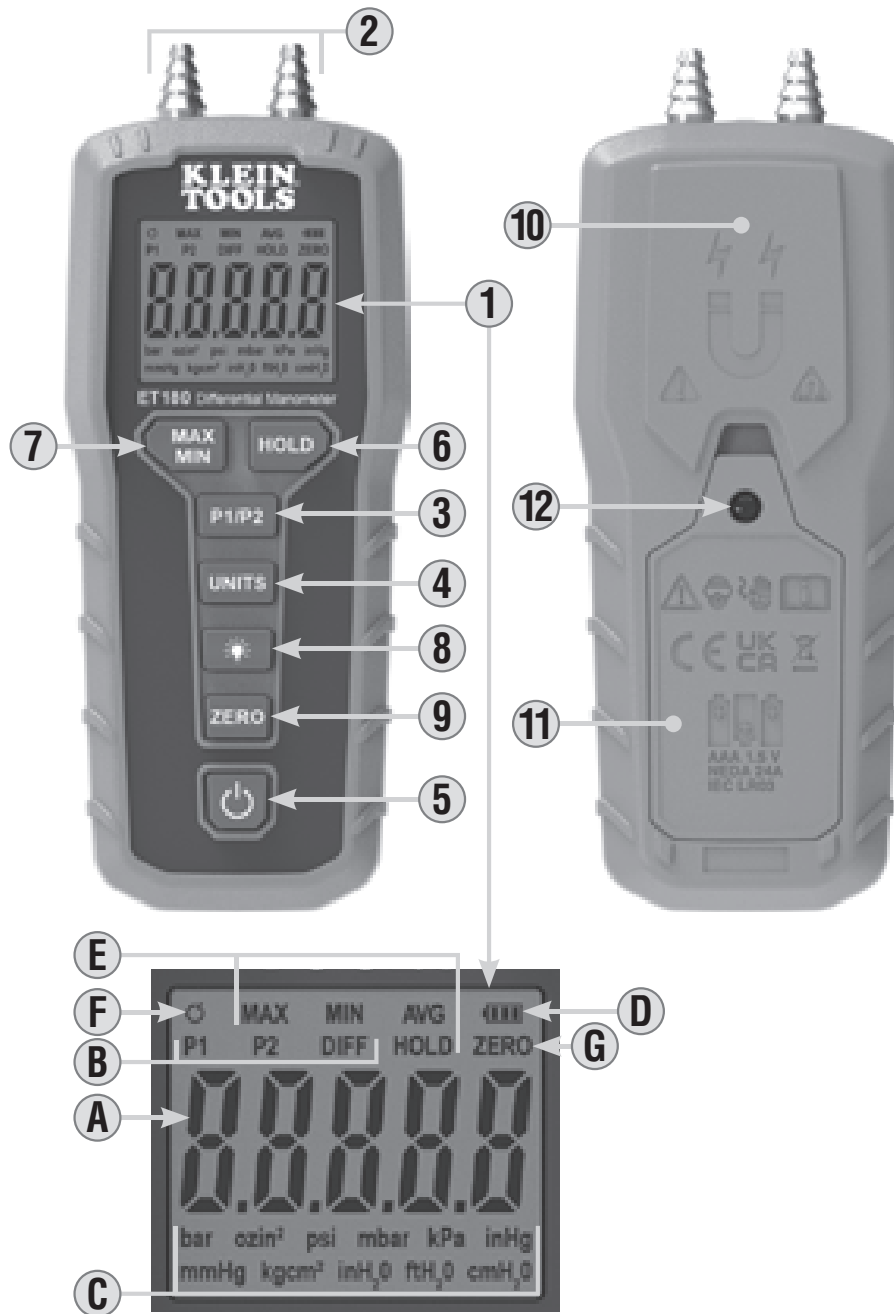
SYMBOLS ON METER

 Warning or Caution	 Magnet Location
 Wear Approved Eye Protection	 Conformité Européenne: Conforms with European Economic Area directives
 NOT insulated - Will NOT protect against electric shock	 UKCA - UK Conformity Assessment
 Strong Magnetic Field	 WEEE – Electronics disposal
 Read Instructions	 Battery Type and Orientation

FEATURE DETAILS

Front of Tester

Back of Tester



- | | |
|---------------------------------|------------------------|
| 1. LCD Screen | 4. UNITS button |
| A. Measurement | 5. Power button |
| B. P1, P2, DIFF indicator | 6. HOLD button |
| C. Units of Measure | 7. MAX/MIN button |
| D. Low battery indicator | 8. Backlight button |
| E. Hold, Max, Min and Avg icons | 9. ZERO button |
| F. Auto Power Off (APO) icon | 10. Magnetic holder |
| G. Zero icon | 11. Battery door |
| 2. P1/P2 ports | 12. Battery door screw |
| 3. P1/P2 button | |

FUNCTION BUTTONS

POWER BUTTON ⑤

Press and hold for two seconds to turn the meter on/off. **NOTE:** To conserve battery life, the meter will automatically power off after 15 minutes of inactivity.

Auto-Power Off (APO) Function

While unit is powered on, press and hold the Zero button ⑨ for two seconds to turn on/off the APO function. **NOTE:** APO on is default setting.

P1/P2 BUTTON ③

Repeated presses will toggle between P1, P2, and differential (P1-P2) measurements. **NOTE:** P1 is the meter default.

UNITS BUTTON ④

Repeated presses will toggle between bar, oz/in², psi, mbar, kPa, inHg, mmHg, kg/cm², inH₂O, ftH₂O, and cmH₂O options.

HOLD BUTTON ⑥

Press to lock the current reading on the display. Reading will remain on the display until pressed again, or until the meter automatically powers off.

MAX/MIN BUTTON ⑦

Press to toggle between the Maximum, Minimum, and Average values. Press and hold for two seconds to exit selected mode.

BACKLIGHT BUTTON ⑧

Press to power backlight on/off.

ZERO BUTTON ⑨

Press to automatically zero the meter before starting measurements.

OPERATING INSTRUCTIONS

1. Press the Power button ⑤ for 2 seconds to power on the meter. **NOTE:** The Auto-power off will automatically turn off the meter after 15 minutes of non-user activity to conserve battery life.
2. Press the Zero button ⑨ before taking pressure readings, it will zero both P1 and P2 ports.
3. Connect a single hose to measure pressure relative to ambient pressure or attach both hoses for differential pressure (P1-P2).
4. Press the P1/P2 button ③ to toggle between the P1, P2, or Differential Pressure measurement on the display.
5. Press the Unit button ④ to change to desired unit.

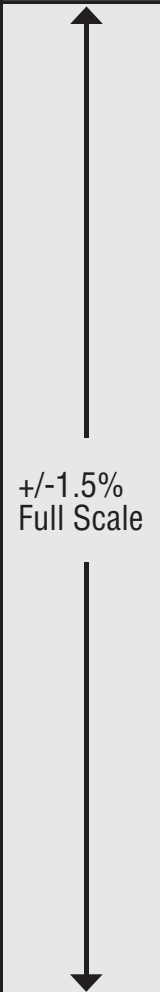
NOTE: "OL" is displayed on the LCD if the pressure is outside the measurement range.

NOTE: "ERR" is displayed on the LCD if the sensor has been damaged. The unit will no longer operate to measure pressure. **NO USER-SERVICEABLE PARTS INSIDE METER. DO NOT ATTEMPT TO REPAIR.** Discontinue use and contact Klein Tools Customer Service.

NOTE: To ensure highest accuracy it is recommended to use the meter at ambient temperature.

OPERATING INSTRUCTIONS

PRESSURE MEASUREMENT ACCURACY

UNIT OF MEASURE	ABBREVIATION ON LCD	RANGE	RESOLUTION	ACCURACY
Bar	bar	±0.150	0.001	 +/-1.5% Full Scale
Ounces per square inch	ozin ²	±34.80	0.01	
Pounds per square inch	psi	±2.175	0.001	
Millibar	mbar	±150.0	0.1	
Kilopascal	kPa	±15.00	0.01	
Inch of mercury	inHg	±4.429	0.001	
Millimeter of mercury	mmHg	±112.5	0.1	
Kilogram per square centimeter	kgcm ²	±0.152	0.001	
Inch of water	inH ₂ O	±60.32	0.01	
Foot of water	ftH ₂ O	±5.026	0.001	
Centimeter of Water	cmH ₂ O	±152.9	0.1	

+/-1.5% Full Scale

BATTERY REPLACEMENT

When the Low Battery Indicator **(D)** is blinking, the batteries must be replaced.

1. Loosen screw **(12)** and remove battery door **(11)**.
2. Remove and recycle 3 spent AAA batteries.
3. Install 3 new AAA batteries, noting proper polarity.
4. Replace battery door and tighten screw securely.

CLEANING

Be sure tester is turned off and wipe with a clean, dry lint-free cloth. ***Do not use abrasive cleaners or solvents.***

STORAGE

Remove the batteries when the tester 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 tester to return to normal operating conditions before using.

DISPOSAL / RECYCLE

Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations. Please see www.epa.gov or www.ecycle.org for additional information.