

DPG 1600 Calibration Instructions

Preparation

Calibration should only be performed by qualified individuals using appropriate calibration standards and procedures. The calibration equipment should be at least four times more accurate than the gauge being calibrated.

1. Remove the 6 screws on the back of the unit and remove cover.
2. Although battery powered gauge accuracy is not affected by battery condition until after the low battery symbol appears on the display, it is good practice to install fresh batteries at this time.
3. Allow the gauge to equalize to normal room temperature before calibration.

Calibration of DPG 1600 Models with Internal Potentiometers

1. Note the locations of the calibration mode jumper points and the three calibration potentiometers. **IMPORTANT:** Do not adjust the calibration potentiometers unless the gauge is in the calibration mode.
2. To enter the calibration mode, place a jumper wire between the calibration mode jumper points as shown below.
3. Press the front pushbutton to power up the gauge. The display first indicates the gauge's full-scale pressure range, tests all display segments, and then indicates CAL to indicate that the gauge is in the calibration mode.
4. The display will then indicate the current pressure reading, updating approximately 3 times per second. The jumper can be removed at this time and the gauge will remain in the calibration mode until powered down manually. While in the calibration mode, the auto shutoff timer is disabled, the One Touch Zero (gauge reference models only) is disabled, and the calibration potentiometers remain active. In normal operation, the calibration potentiometers are only read during initialization to conserve power.
5. With the gauge port open to atmosphere, adjust the Zero potentiometer on the lower left hand side of the circuit board for a display indication of zero. **Absolute reference gauges:** Apply full vacuum to the gauge. The vacuum pump must be able to produce a vacuum of 10 microns (0.01 torr or 10 millitorr) or lower.
6. Apply full-scale pressure and adjust the Span potentiometer on the lower right hand side of the circuit board for a display indication equal to full-scale pressure.
7. Apply 50% full-scale pressure and adjust the single-turn linearization potentiometer (marked Lin on the circuit board) for a display indication equal to 50% of full-scale pressure.
8. Verify pressure indications at 0%, 25%, 50%, 75%, and 100% of full scale.
9. Remove the jumper between the calibration mode terminals following calibration. Failure to remove the jumper will greatly reduce battery life.
10. Replace the rear cover and 6 screws, taking care not to pinch the power leads between the case and the rear cover.

Calibration of DPG 1600 Models with Internal Pushbuttons

1. Note the locations of the two calibration pushbuttons marked UP and DN. Press and hold either of the calibration buttons, and also press the front button to power up the gauge in calibration mode.
2. The display will then indicate the current pressure reading, updating approximately 3 times per second. The gauge will remain in the calibration mode until powered down manually. While in the calibration mode, the auto shutoff timer is disabled, the One Touch Zero (gauge reference models only) is disabled, and the calibration pushbuttons are active.
3. Each press of the calibration pushbutton makes a small correction, which may not always be indicated on the digital display. Press and hold the pushbutton for one second or longer to make larger continuous corrections.
4. With the gauge port open to atmosphere, press the Up and Down buttons to obtain a display indication of zero. **Absolute reference gauges:** Apply full vacuum to the gauge. The vacuum pump must be able to produce a vacuum of 10 microns (0.01 torr or 10 millitorr) or lower.
5. Apply full-scale pressure, and press the Up and Down buttons to obtain a display indication equal to full-scale pressure.
6. Apply 50% full-scale pressure and press the Up and Down buttons to obtain a display indication equal to 50% of full-scale pressure.
7. **Bipolar and compound ranges:** Apply full vacuum, and press the Up and Down buttons to obtain a display indication equal to the full vacuum reading.
8. **Bipolar and -30inHg/15psig compound ranges:** Apply 50% vacuum and press the Up and Down buttons to obtain a display indication equal to 50% of the full vacuum reading.

9. If the battery pack is unplugged or the power removed, calibration settings will not be saved.
Battery-powered gauges: Exit the calibration mode and save the calibration data by pressing and holding the front button until the display indicates OFF.
10. Verify pressure indications at 0%, 25%, 50%, 75%, and 100% of full scale.
 11. Replace the rear cover and 6 screws, taking care not to pinch the power leads between the case and the rear cover.