### Falcon Battery-Powered Digital Pressure Gauges

#### Electrical Specifications

**Ranges and Resolution**

- **Bold:** Standard ranges, price adder for all others
- **abs:** Absolute reference (atmospheric pressure to zero at full vacuum)
- **vac:** Vacuum gauge, minus sign not used unless specified

Resolution is fixed as indicated in table below

Contact factory for engineering units not listed

#### Material and Color

- Extruded aluminum case, epoxy powder coated
- Polycarbonate cover, front and rear gaskets
- Light gray body, light gray/blue front

#### Media Compatibility

All wetted parts are 316 SS

#### Shipping weight: 1 pound

#### Mechanical Specifications

- **Size**
  - 3.38" W x 2.88" H x 1.65" D housing
  - Add approximately 0.75" to height for pressure fitting

- **Weight** (approximate)
  - Gauge: 9 ounces
  - Shipping weight: 1 pound

#### Environment Specifications

- **Storage Temperature**
  - –40 to 203°F (–40 to 95°C)

- **Operating Temperature**
  - –4 to 185°F (–20 to 85°C)

- **Compensated Temperature**
  - 32 to 158°F (0 to 70°C)

### Tables

#### Pressure/Vacuum Connection and Material

- 1/4" NPT male, 316 stainless steel

#### Media Compatibility

All wetted parts are 316 SS

### Diagrams

- DPG1000B100PSIG-5 0 to 100 psig range
- DPG1000B5000PSIG-5 0 to 5000 psig range

### Display

- 3 readings per second nominal display update rate

### Controls and Locations

- B ranges up to 1999:
  - Front pushbutton turns gauge on/off
  - Front pushbutton turns gauge & backlighting on/off
  - Front calibration potentiometers, non-interactive zero and span, ±10% range

- BBL ranges up to 1999:
  - Front pushbutton turns gauge on/off
  - Front pushbutton turns gauge & backlighting on/off
  - Front pushbutton turns gauge on/off

### Batteries and Battery Life

- Two AA alkaline

- B ranges up to 1999:
  - Approx. 2500 hours

- BBL 3000 psi, 5000 psi, ±400 range
  - Approx. 2000 hours

### Electrical Specifications

#### Ranges and Resolution

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<th>Resolution</th>
<th>Display</th>
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<tr>
<td>30.0 inHg/15.0 psig</td>
<td>120.0 inHg</td>
<td>1600 mmHg</td>
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<tr>
<td>30.0 inHg/100.0 psig</td>
<td>199.9 inHg</td>
<td>760 torr</td>
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<tr>
<td>30.0 inHg/199.9 psig</td>
<td>199.9 inHg</td>
<td>140.0 bar</td>
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<td>Cylinder Vacuum</td>
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<td>±10% range</td>
<td>±30.0 psig</td>
<td>30.0 inHg</td>
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### Media Compatibility

All wetted parts are 316 SS

### Battery Life Indication

Low battery symbol on display when batteries must be replaced
Installation and Precautions

Install or remove gauge using wrench on hex fitting only. Do not attempt to tighten by turning housing or any other part of the gauge. Use fittings appropriate for the pressure range of the gauge. Do not apply vacuum to gauges not designed for vacuum operation.

Due to the hardness of 316 stainless steel, it is recommended that a thread sealant be used to ensure leak-free operation.

NEVER insert objects into the gauge port or blow out with compressed air. Permanent damage not covered by warranty will result to the sensor.

Operation – Ranges up to 1999

Press the round button on the front of the gauge to activate the display. The gauge will stay on for a period of time determined by the auto-shutoff time. The gauge can be shut off at any time by pressing the button again. Display backlighting on DPG1000BBL models is on whenever the gauge is on. If the gauge was ordered without auto shutoff it will stay on until the button is pressed or until the batteries are depleted. Turn gauge off when not in use to conserve battery.

Operation – 3000 psi, 5000 psi Ranges and -400 Option

Press and hold the pushbutton for approximately 1 second. The full-scale range is indicated, display segments are tested, and then the reading is displayed.

Power-Up With One-Touch Zero (Gauge reference models only)

1. Make absolutely certain no pressure is applied to the gauge. The gauge port should be exposed to normal atmospheric pressure. Note that the zeroing function may only be activated at power-up and the stored zero correction is erased when the gauge is shut off.
2. Press and hold the pushbutton.
3. The full-scale range is indicated and the display segments are tested.
4. Continue to press the pushbutton until E r r 0 is displayed and then release the button. This indicates that the gauge has been zeroed.
5. The actual pressure is displayed.

Attempting to zero the gauge with pressure greater than approximately 3% of full-scale applied will result in an error condition, and the display will alternately indicate E r r 0 and the actual measured pressure. The gauge must be powered down to reset the error condition.

Absolute reference gauges do not use the zero feature since they read atmospheric pressure under normal conditions.

Normal Operation

Following the start-up initialization, the display indicates the pressure reading updated approximately 3 times per second. The auto shutoff timer starts when the gauge is powered up or whenever the button is pushed, unless the gauge was ordered without an auto shutoff time (~ON option). If excessive vacuum is applied to a pressure-only gauge, the display will indicate ~ E r r 0 until the vacuum is released. Applying vacuum to a gauge designed for pressure may damage the pressure sensor.

Display Backlighting (BBL models only)

Display backlighting can be turned on by momentarily pressing the button whenever the gauge is on. The backlighting will turn on for one minute and then automatically shut off. This also restarts the auto shutoff timer.

Shut-Down

To shut off the gauge manually at any time, press and hold the pushbutton until the display indicates O F F (about 5 seconds) and then release.

For gauges with auto shutoff, the display indicates O F F five seconds prior to auto shutoff. The pushbutton can be pressed to keep the gauge on. The auto shutoff and backlight (if equipped) timers are reset whenever the pushbutton is pressed and released.

If the gauge was ordered without auto shutoff (~ON option) it will stay on until manually shut off or until the batteries are depleted. Turn gauge off when not in use to conserve battery life.

Calibration

All Falcon gauges are factory calibrated on NIST traceable calibration equipment. No calibration is required before placing the gauge into service.

Ranges up to 1999: Remove the calibration potentiometer covers on the front of the unit to access the zero and span controls.

Gauge reference units may be re-zeroed without affecting the span calibration. The gauge port must be open to the ambient with no pressure or vacuum applied. Adjust the Zero control until the gauge reads zero with the minus (−) sign occasionally flashing.

Calibration (continued)

Span calibration should only be attempted if the user has access to a pressure reference of known accuracy. The quality of the calibration is only as good as the accuracy of the calibration equipment and ideally should be at least four times the gauge accuracy. Zero calibration must be done before span calibration. Record readings at three to five points over the range of gauge and adjust span control to minimize error and meet specifications.

3000 psi, 5000 psi ranges and -400 option – The calibration adjustments are internal on these models. The procedure is available from www.cecomp.com or by calling to request the "F16" calibration instructions.

Absolute Reference – These models display atmospheric pressure if the gauge port is open to the ambient. It is normal for the reading to constantly change in response to atmospheric pressure changes. Vacuum generation and atmospheric pressure measurement equipment for accurate calibration and thus these are more difficult to calibrate in the field.

Gauges can be returned to Cecomp Electronics for factory certified recalibration, repairs and refurbishment. NIST traceability is available. Gauges can also be recalibrated by any metrology lab with pressure calibration equipment at least four times more accurate than the gauge.

Battery Replacement

A low battery indication will be shown in the upper left-hand corner of the display when the battery voltage falls sufficiently. The battery should be replaced soon after the indicator comes on or unreliable readings may result.

Remove the 6 Phillips head screws on the back of the unit.

Carefully remove batteries from the holders by lifting up the positive end of the battery (opposite the spring). Take care not to bend or distort the battery retention springs.

DO NOT discard the old battery into fire, any other sources of extreme heat, or in any other hazardous manner. Please consult local authorities if there is any question about proper disposal.

Always replace both batteries at the same time with high quality alkaline batteries. Observe the polarity of the batteries when replacing them. The negative (flat) end of each battery should be inserted first, and should face the spring in the battery holder.

Replace the back cover, including the rubber sealing gasket.

Dimensions

Part Numbers

DPG1000B range units reference - shutoff
B or BBL

Range (see table)

Units (see table)

Reference (see table)

G= Gauge, A= Absolute, VAC= Vacuum

Auto shutoff time
-5 = 5 minutes
-10 = 10 minutes
-30 = 30 minutes
-ON = on/off, no auto shutoff

Example: DPG1000B100PSIG-5 = Battery powered, 100.0 psig, 5 minute shutoff

Calibration Adjustments

Calibration Adjustments

DPG1000BBL

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