Electrical Specifications

Ranges and Resolution
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

<table>
<thead>
<tr>
<th>Range</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30.0 inHg/15.0 psig</td>
<td>120.0 inHg</td>
</tr>
<tr>
<td>-30.0 inHg/100.0 psig</td>
<td>200.0 inHg</td>
</tr>
<tr>
<td>-30.0 inHg/200.0 psig</td>
<td>200.0 inHg</td>
</tr>
<tr>
<td>3.00 psig</td>
<td>50.00 oz/in²</td>
</tr>
<tr>
<td>5.00 psig</td>
<td>80.00 oz/in²</td>
</tr>
<tr>
<td>10.00 psig</td>
<td>160.00 oz/in²</td>
</tr>
<tr>
<td>15.00 psig</td>
<td>240.00 oz/in²</td>
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<tr>
<td>30.00 psig</td>
<td>400.00 oz/in²</td>
</tr>
<tr>
<td>40.00 psig</td>
<td>580.00 oz/in²</td>
</tr>
<tr>
<td>50.00 psig</td>
<td>730.00 oz/in²</td>
</tr>
<tr>
<td>60.00 psig</td>
<td>905.00 oz/in²</td>
</tr>
<tr>
<td>3.00 bar</td>
<td>45.00 bar</td>
</tr>
<tr>
<td>5.00 bar</td>
<td>75.00 bar</td>
</tr>
<tr>
<td>10.00 bar</td>
<td>150.00 bar</td>
</tr>
<tr>
<td>15.00 bar</td>
<td>225.00 bar</td>
</tr>
<tr>
<td>30.00 bar</td>
<td>450.00 bar</td>
</tr>
</tbody>
</table>

Accuracy (linearity, hysteresis, repeatability)
Standard: ±0.25% of full scale ±1 least significant digit
Optional: -HA ±0.1% FS ±1LSD (most ranges)
CD Factory calibration data
NC NIST traceable test report and calibration data

Display
3 readings per second nominal display update rate
4-digit LCD, 0.5" H, 5 character 0.25" H alphanumeric lower display
BL models: Red LED backlight

Controls & Functions
Front pushbutton turns gauge on or off and cycles through functions
BL: Press pushbutton to activate 1 minute backlighting when gauge is on

Function | Pushbutton | Prompt (Release Button) | Result
--- | --- | --- | ---
On | Press 1 sec | Gauge Range/Display Test | Actual Pressure
One Touch Zero | Press/hold | 0000 | Zeroed Actual Pressure
Hi Reading | Press/hold | HI | HI & max. reading
Lo Reading | Press/hold | LO | LO & min. reading
Exit Hi/Lo | Press/hold | RP | Actual Pressure
Clear Hi/Lo | Press/hold | H/L | H/L | RP or cL | Actual Pressure
Clear Zero, Off | Press/hold | H/L | L/O | RP or cL | OFF | Clear Zero, Gauge Off

Calibration
Internal calibration pushbuttons, non-interactive zero, span, & linearity, ±10% range

Auto Shutoff
5 minutes standard (-S), factory settable to on/off (-ON) or specified custom time

Batteries, Battery Life, Low Battery Indication
B: 2 AA alkaline, approx. 2000 hours
BL: 2 AA alkaline, approx. 150 to 1500 hrs depending on backlight usage
Low battery symbol on display when batteries must be replaced

Material & Color
F16B: Extruded aluminum case, light gray epoxy powder coated, black ABS/poly carbonate bezel (aluminum bezel optional), front and rear gaskets, black/gold label
F16BN: Light gray ABS/poly carbonate NEMA 4X case, rear gasket, black/gold label

Pressure/Vacuum Connection Size, Material, Media Compatibility
3/4" NPT male, all wetted parts are 316 SS, compatible with most liquids and gases

Overpressure
3000 psig range and metric equivalents: 5000 psig
5000 psig range and metric equivalents: 7500 psig
All others: 2 x sensor pressure
112.5% out-of-range display: 1 – – – or 1 – – – – – depending on model

Burst Pressure
4 times sensor pressure rating, or 10,000 psi, whichever is less

Environmental
Storage Temperature: -40 to 200°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)

For NEMA 4X models

RB Rubber Boot
Digi Max® F16B, F16BN, F16BBL, F16BNBL Instructions

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.

POWER-UP
1. Press and hold the pushbutton for approximately 1 second.
2. The full-scale range is indicated and the display segments are tested.
3. The actual pressure and units are displayed.

Power-Up With Zero (Gauge reference models only)
1. Be sure the gauge port is exposed to normal atmospheric pressure and no pressure is applied. The zeroing function is only activated at each 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 the pushbutton is released and then release the button. This indicates that the gauge has been zeroed.
5. The actual pressure is displayed.

Atmosphere to zero pressure greater than approximately 3% of the full-scale range 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 on or whenever the button is pressed, 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 and the actual measured pressure. The gauge must be powered down to reset the error condition.

Display backlighting can be turned on by momentarily pressing the button whenever the gauge is off. The stored readings can be manually cleared if desired. The HI and LO memory is also cleared whenever the gauge is shut off.

Press and hold the pushbutton for about 1 second until the pushbutton is displayed. The maximum stored value is displayed.

After HI is displayed, press and hold the pushbutton again for about 1 second until the pushbutton is displayed. The minimum stored value is displayed.

After LO is displayed, press and hold the pushbutton again for about 1 second until the pushbutton is displayed. The pressure calibration equipment at least 4 times more accurate than the gauge.

MINIMUM AND MAXIMUM READINGS
Minimum and maximum readings are continuously stored and updated whenever the gauge is on. The stored readings can be manually cleared if desired. The HI and LO memory is also cleared whenever the gauge is shut off.

Press and hold the pushbutton for about 1 second until HI is displayed. The maximum stored value is displayed.

After HI is displayed, press and hold the pushbutton again for about 1 second until LO is displayed. The minimum stored value is displayed.

After LO is displayed, press and hold the pushbutton again for about 1 second until the pushbutton is displayed. The display switches to the minimum stored value.

All battery indications are shown in the upper left-hand corner of the display.

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.

1. Remove the 6 Phillips head screws on the back of the unit.
2. Remove batteries by lifting up the positive end of the battery (opposite the spring) and then release.
3. Discard old batteries properly. DO NOT discard into fire, sources of extreme heat, or in any other hazardous manner.
4. Always replace both batteries at the same time with high quality alkaline batteries. Install batteries with correct orientation. The negative (flat) end of each battery should be inserted first facing the battery holder spring.
5. Replace the back cover, including the rubber sealing gasket.

DISPLAY BACKLIGHTING (BBL MODELS ONLY)
Display backlighting can be turned on by momentarily pressing the button whenever the gauge is on. The display backlighting will turn on for one minute and then automatically shut off. This also restarts the auto shutoff timer. The display backlighting will not be apparent under bright lighting conditions.

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

For gauges with auto shutoff, the display indicates OFF 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.

DIMENSIONS

PART NUMBERS

CALIBRATION
F16-series gauges use internal controls for calibration. The calibration instructions are available at cecomp.com. Gauges can be recalibrated by any metrology lab with pressure calibration equipment at least 4 times more accurate than the gauge.

Gauges may also be returned for factory recalibration and refurbishment. NIST traceability is available.

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