

Falcon Digi Pro⁴ NEMA 4X Digital Pressure Gauges

F4B Battery-Powered

F4BBL Battery-Powered with Backlit Display

ELECTRICAL SPECIFICATIONS

Ranges & Resolution

Bold indicates standard ranges, price adder for all others

"abs" indicates absolute reference, gauge will read atmospheric pressure with no connection and zero under full vacuum

"vac" indicates vacuum gauge, minus sign not used unless specified

Resolution is fixed as indicated in table below

Contact factory for engineering units not listed

Compound Ranges -30.0 inHg/15.0 psig -30.0 inHg/100.0 psig	150.0 mmHg 250 mmHg 760 mmHg abs 760 mmHg vac 760 mmHg 1500 mmHg abs 1500 mmHg	±1000 mbar 1000 mbar 1999 mbar abs 1999 mbar 1.000 bar abs 1.000 bar 1.999 bar abs 1.999 bar 4.00 bar 7.00 bar abs 7.00 bar 14.00 bar 19.99 bar 35.0 bar 70.0 bar 140.0 bar 199.9 bar 350 bar 19.99 kPa 35.0 kPa 100.0 kPa abs 100.0 kPa vac 100.0 kPa 199.9 kPa abs 199.9 kPa 400 kPa 700 kPa abs 700 kPa 1500 kPa 1999 kPa 3.50 MPa 7.00 MPa	14.00 MPa 19.99 MPa 35.0 MPa 1000 g/cm ² abs 1000 g/cm ² 1999 g/cm ² abs 1999 g/cm ² ±1.000 kg/cm ² 1.000 kg/cm ² abs 1.000 kg/cm ² 1.999 kg/cm ² abs 1.999 kg/cm ² 4.00 kg/cm ² 7.00 kg/cm ² abs 7.00 kg/cm ² 14.00 kg/cm ² 19.99 kg/cm ² 35.0 kg/cm ² 70.0 kg/cm ² 140.0 kg/cm ² 199.9 kg/cm ² 350 kg/cm ² 1.000 atm 4.00 atm 7.00 atm 14.00 atm 19.99 atm 35.0 atm 70.0 atm 135.0 atm 199.9 atm 340 atm
3.00 psig 5.00 psig 15.00 psi abs 15.00 psig vac ±15.00 psig 15.00 psig 30.0 psia 30.0 psig 60.0 psig 100.0 psi abs 100.0 psig 199.9 psig 300 psig 500 psig 1000 psig 1999 psig	50.0 oz/in ² 80.0 oz/in ² 240 oz/in ² 85.0 inH ₂ O 140.0 inH ₂ O 400 inH ₂ O abs 400 inH ₂ O vac ±400 inH ₂ O 400 inH ₂ O 850 inH ₂ O 7.00 ftH ₂ O 12.00 ftH ₂ O 35.0 ftH ₂ O 70.0 ftH ₂ O 140.0 ftH ₂ O 230 ftH ₂ O 500 ftH ₂ O 1999 mmH ₂ O 199.9 cmH ₂ O 350 cmH ₂ O 1000 cmH ₂ O 1999 cmH ₂ O 199.9 mbar 350 mbar 1000 mbar abs		
6.00 inHg 10.00 inHg 30.0 inHg abs 30.0 inHg vac ±30.0 inHg 30.0 inHg 60.0 inHg abs 60.0 inHg 120.0 inHg 199.9 inHg abs 199.9 inHg 760 torr abs			

Accuracy (linearity, hysteresis, repeatability)

Standard: ±0.25% of full scale ±1 least significant digit

"-HA" option: ±0.1% FS ±1LSB (most ranges) or

"-4A" option ±0.4% FS ±1LSB

NIST traceable test report and data optional

Temperature Stability (relative to 77°F or 25°C)

±1% FS for offset and span, 32 to 158°F (0 to 70°C) typical

±2% FS for offset and span, 32 to 158°F (0 to 70°C) typical for 3 and 5 psi ranges

Display (update rate, type, size)

3 readings per second nominal display update rate

F4B series: 3½ digit LCD, ½" digit height

F4BBL series: 3½ digit LCD, ½" digit height, red LED backlighting

Controls & Location

Front-accessible potentiometers

Non-interactive zero and span, ±10% range

F4B series: Front pushbutton turns gauge on or off

F4BBL series: Front pushbutton turns gauge and backlighting on or off

Auto Shutoff (5 minutes standard)

Factory settable to 5, 10, 30 minutes, or ON/OFF

Batteries & Battery Life

Two AA alkaline

B: approximately 2500 hours, BBL: approximately 180 hours

Low Battery Indication

"LOBAT" on display when batteries must be replaced

- ±0.25% Test Gauge Accuracy
- 316 Stainless Steel Wetted Parts
- Battery Life up to 2500 Hours
- Polycarbonate Display Window



MECHANICAL SPECIFICATIONS

Size

3.5"W x 3.0"H x 2.0"D (not including pressure fitting)
Add approximately 0.75" to height for pressure fitting

Weight (approximate)

Gauge: 9 ounces

Shipping weight: 1 pound

Housing

NEMA 4X

UV stabilized polycarbonate/ABS case, light gray color

Clear polycarbonate window to protect display

Gasketed rear cover, six captive stainless steel screws

Pressure/Vacuum Connection & Material

¼" NPT male, 316 stainless steel

Media Compatibility

All wetted parts are 316 SS

Compatible with most liquids and gases

Overpressure

5000 psig for metric ranges equivalent to 3000 psig

7500 psig for metric ranges equivalent to 5000 psig

All others 2x rated pressure minimum

Burst Pressure

4x rated pressure minimum or 10,000 psi, whichever is less

ENVIRONMENTAL 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)

Description

The **Falcon Digi Pro™** series is a versatile family of industrial pressure and vacuum gauges featuring a rugged NEMA 4X case. This type of enclosure, when properly installed, is suitable for indoor or outdoor non-hazardous locations and provides a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, hose-directed water, corrosion and ice formation.

The **F4B** and **F4BBL** are ideally suited for portable or fixed applications with occasional display-activation requirements. The **F4BBL** has display backlighting for use in night time or low light applications.

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

Press the round button on the front of the gauge to activate the display. If the gauge was ordered with an auto shutoff time, it will stay on for a period of time determined by the auto-shutoff time. After this time, the gauge will automatically shut off. The gauge can be shut off at any time by pressing the button again. For **F4BBL** models the display backlighting 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 batteries.

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

Calibration

Unscrew the calibration potentiometer covers on the front of the unit to access the zero and span potentiometers.

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.

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.

ABSOLUTE reference gauges require vacuum generation and atmospheric pressure measurement equipment for accurate calibration and thus are more difficult to calibrate in the field.

Gauges may be returned to Ccomp Electronics for factory certified recalibration. N.I.S.T. traceability is available.

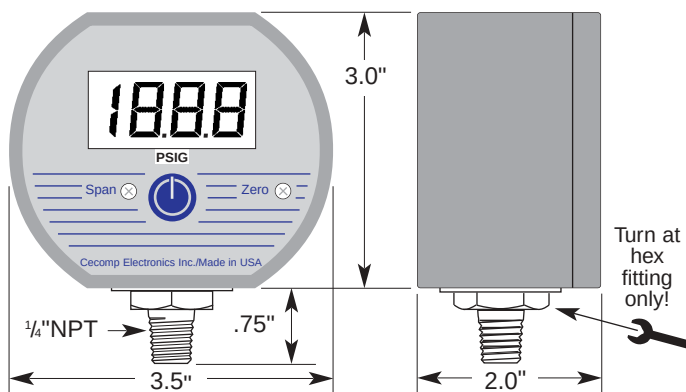
Battery Replacement

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. Always replace both batteries at the same time with high quality alkaline batteries.

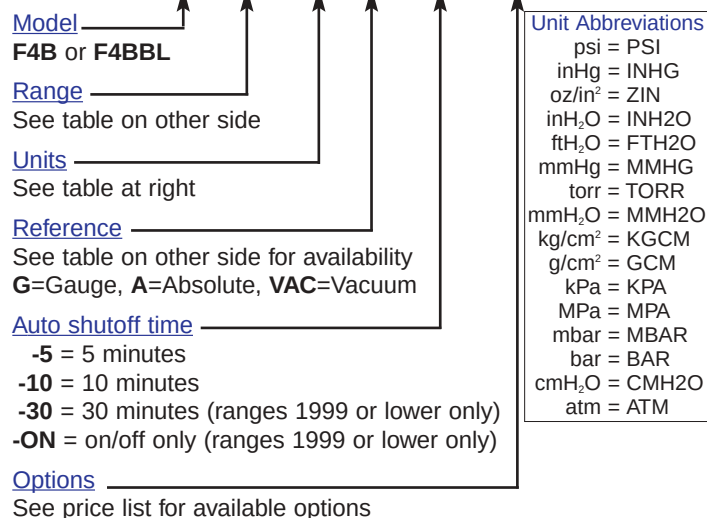
Observe the polarity of the batteries when replacing them. The negative (flat) end of each battery should be inserted first and should face the spring in the battery holder. Replace the back cover, including the rubber sealing gasket, and tighten screws evenly.

Dimensions



MODEL DESIGNATION SYSTEM

ModelRangeUnitsRef-Shutoff-Options



Example: **F4B100PSIG-5** = Falcon NEMA 4X, Battery powered, 100.Opsig, 5 minute shutoff

Options

- ET Extended Temperature LCD (-40 to 85°C), includes conformal coating on circuit board.
- HA High Accuracy, $\pm 0.1\%$ FS ± 1 least significant digit, not available in all ranges, see price list

Accessories (order as separate line item)

- NC NIST Certificate; 5 test points with data, test date, and NIST traceability documentation
- CD Factory Calibration Data; 5 test points with data

Ccomp Electronics maintains a constant effort to upgrade and improve its products, therefore specifications are subject to change.