



- LED Display and Pressure Level Indicator
- Ranges from  $\pm 0.25$  inH<sub>2</sub>O to  $\pm 40$  inH<sub>2</sub>O
- Accuracies of  $\pm 0.25\%$ ,  $\pm 0.5\%$ , or  $\pm 1\%$
- Mounts in Industry-Standard Openings
- Universal Power 24-240 VAC/VDC
- Optional 4-20 mA Isolated Output

### Monitor the Following

- Clean Rooms, Room Pressure, Glove Boxes
- Fan, Blower, or Duct Static Pressure
- HVAC Filters, Dust Collectors, Cabinet Purging
- Pneumatic Conveyors, Paint Booths

The C2000 series are microprocessor-based digital differential pressure gauges to measure positive, negative, and differential pressure using an extremely stable piezoresistive sensor.

A 4-20 mA analog isolated output is optional.

The bright 1/2" high red LED display gives the gauges improved readability and precision.

The pressure level indicator LEDs are designed to mimic the indicating needle of a mechanical gauge. The LEDs will light up from left to right as the pressure moves away from zero.

They are designed to be direct replacements for mechanical gauges that use industry-standard openings ranging from 4-9/16" to 4-13/16" diameter.

Five user selectable engineering units are available including inH<sub>2</sub>O, mmH<sub>2</sub>O, cmH<sub>2</sub>O, kPa, and Pa. This gives improved versatility and performance over mechanical gauges. A Lock button prevents accidental changes of settings.



Quick Link  
[cecomp.com/dp](http://cecomp.com/dp)



### Ranges

See ordering table. All ranges will read pressure or vacuum.

### Resolution

0.01 up to 9.99, 0.1 up to 99.9, 1 at 100 and above

### Accuracy

$\pm 0.25$  inH<sub>2</sub>O,  $\pm 60$  Pa,  $\pm 6$  mmH<sub>2</sub>O ranges  
 $\pm 0.5\%$  or  $\pm 1\%$  of full scale

### All other ranges

$\pm 0.25\%$ ,  $\pm 0.5\%$ ,  $\pm 1\%$  of full scale

Thermal effect:  $\pm 0.02\%$  FS/ $^{\circ}$ F

### Calibration

Non-interactive zero and span

### Displays

4 readings per second nominal display update rate

Red LED, 1/2" (12.7 mm) H digits

3 digit display, (4 digit for 1000 mm H<sub>2</sub>O and higher)

18 segment process level display

### Pressure Connections

Push on connections (Lo and Hi)

0.20" diameter for 3/16" ID, 0.188" ID, or 5 mm ID tubing

### Maximum Pressure

Ranges -00 to -05: 2 PSI (13.8 kPa)

Ranges -06 to -12: 10 PSI (68.9 kPa)

### Media Compatibility

Air and compatible non-combustible, non-corrosive gases

### Isolated Analog Output (Optional)

Sourcing 4-20 mA output

Electrically isolated

Response time: less than 100 milliseconds

Maximum loop resistance: 750  $\Omega$

0-4 mA:

full positive pressure = 20 mA

4-20 mA with B option: full vacuum = 4 mA

0 = 12 mA

full positive pressure = 20 mA

### Power

Universal 24 to 240 VAC or VDC, 255 mA

375 mA with 4-20 mA option

### Electrical Connections

Rear screw terminals

### Housing and Protection

Glass filled nylon

Face: NEMA 4X (IP 65)

Rear: NEMA 4X (IP 65) with optional rear terminal cover

### Weight

Approximately 8 ounces, shipping weight 1 pound

### Environmental Temperatures

Operating:  $-10^{\circ}$  to  $140^{\circ}$ F ( $-23^{\circ}$  to  $60^{\circ}$ C)

Compensated:  $-10^{\circ}$  to  $140^{\circ}$ F ( $-23^{\circ}$  to  $60^{\circ}$ C)

Model - Select Range Below	Accuracy	Output
C2000 - Range	$\pm 1\%$	None
C2001 - Range	$\pm 0.5\%$	
C2002 - Range	$\pm 0.25\%$	
C2010 - Range	$\pm 1\%$	4-20 mADC scaled for 0 to positive pressure
C2011 - Range	$\pm 0.5\%$	
C2012 - Range	$\pm 0.25\%$	
C2010 - Range B	$\pm 1\%$	4-20 mADC scaled for vacuum to positive pressure
C2011 - Range B	$\pm 0.5\%$	
C2012 - Range B	$\pm 0.25\%$	

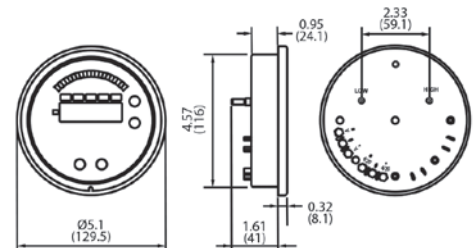
$\pm$ Inches of H <sub>2</sub> O	Range	$\pm$ Pascals	Range	$\pm$ mm of H <sub>2</sub> O	Range
.25*	00	60.0*	00P	6.00*	00M
.50	01	125	01P	12.0	01M
1.00	02	250	02P	25.0	02M
2.00	03	500	03P	50.0	03M
3.00	04	750	04P	75.0	04M
4.00	05	1.00 kPa	05P	100	05M
5.00	06	1.25 kPa	06P	125	06M
8.00	07	2.00 kPa	07P	200	07M
10.0	08	2.50 kPa	08P	250	08M
15.0	09	3.75 kPa	09P	375	09M
20.0	10	5.00 kPa	10P	500	10M
30.0	11	7.50 kPa	11P	750	11M
40.0	12	10.0 kPa	12P	1000	12M

\*  $\pm 0.25\%$  accuracy not available in these ranges

### Examples

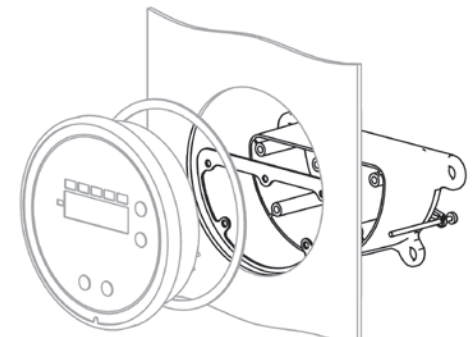
**C2011-08:**  $\pm 0.5\%$  FS accuracy  
 $-10.0$  to  $10.0$  inches H<sub>2</sub>O  
4-20 mA output scaled for 0 to  $10.0$  inches H<sub>2</sub>O

**C2012-07MB:**  $\pm 0.25\%$  FS accuracy  
 $-200$  to  $200$  millimeters H<sub>2</sub>O  
4-20 mA output scaled for  $-200$  to  $200$  millimeters H<sub>2</sub>O



### Accessories—order separately

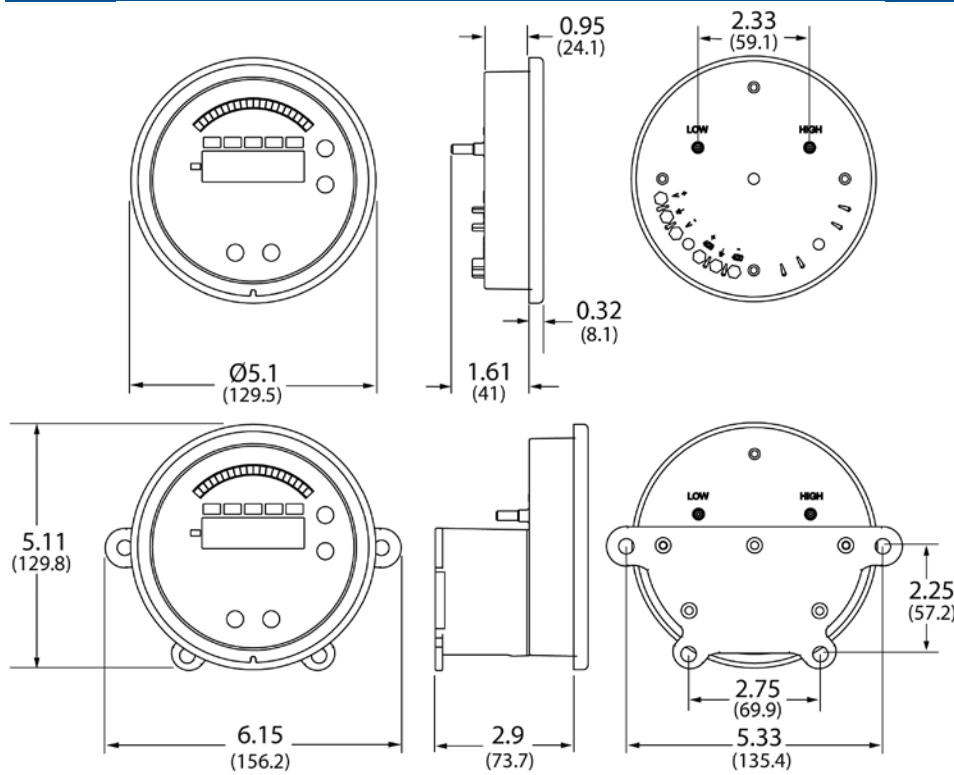
C-010	PG21 cable gland for use with C-101 cover. Fits 0.354 to 0.630" diameter cable.
C-024	Vinyl tubing 5 feet
C-101	Weatherproof cover, surface mount bracket
C-105	Air filter kit
C-131	Static pressure tip with barbed connection
C-201	Rubber 90° fitting for 3/16" ID tubing
C-202	Short shut off valve
C-203	Long shut off valve



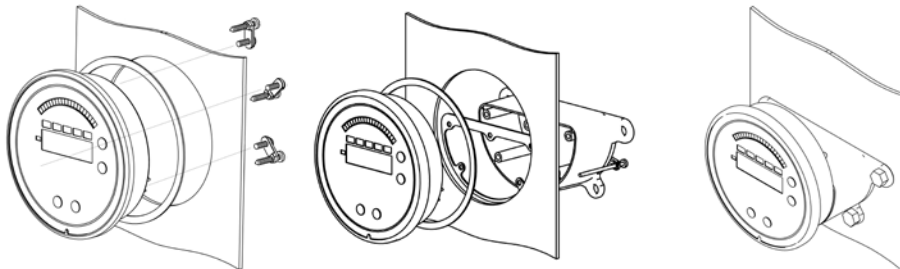
C-101 weatherproof cover kit



Dimensions



Installation



**Flush Mounting** – For new applications, cut a 4 9/16" diameter hole in the panel. Insert the gauge with the provided gasket through the hole and secure it to the panel with the provided mounting tabs and screws. They fit in industry standard holes ranging from 4 9/16" to 4 13/16". Simply remove the old device and insert the new gauge into the existing cutout.

**Surface Mounting** – Surface mounting requires the optional rear weatherproof cover. Once the gauge is wired and the cover has been attached, the gauge can be mounted to any flat surface with the four mounting screws provided with the cover.

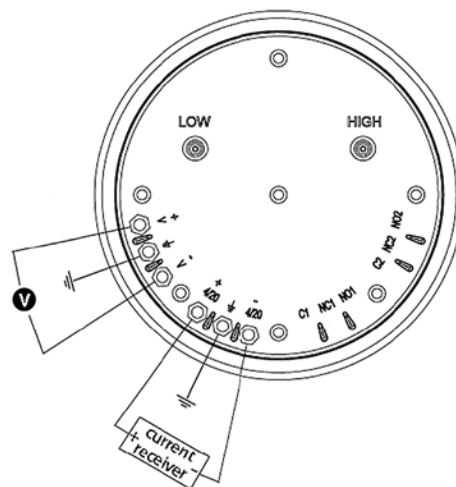
**Flush Mounting with Weatherproof cover** – The gauge can also be flush mounted with a weatherproof cover. The procedure is the same as above, but utilizes two extra long mounting screws (provided with the weatherproof cover) for the bottom two panel connections.

Wiring

Supply voltage is universal from 24-240 VAC or VDC.

The C1000 series provides power to the optional 4-20 mA output loop.

Maximum allowable loop resistance is 750 Ohms.



Pressure Connections

Two 3/16" pressure connections are located on the back of the unit, labeled "High" and "Low". For best results, connect 3/16" I.D. push-on tubing to the pressure connections. If the High connection has a greater absolute value than the Low connection, the front display will give a positive value. If the HI connection has a lower absolute value than the LO connection, the front display will give a negative value.

Setup

The Lock button locks and unlocks the keypad on the gauge. Press and hold the lock button for 3 seconds to lock or unlock the keypad. If the keys do not respond, press and hold the Lock button again.

The Units button changes the unit of measure. Press the button to increment through the available units. Not all units may be available in all ranges.



Operation

The series C2000 series displays vacuum or pressure on the LED display. For most ranges 3 digits are used.

Negative pressure (vacuum) will be indicated by a negative sign before the numerical indication.

Units of measure are indicated above the numerical display.

The pressure level indicator LEDs are designed to mimic the indicating needle of a mechanical gauge. The LEDs will light up from left to right as the pressure or vacuum moves away from zero.

The optional 4-20 mA process output is set to give a linear output from 0 to the full-scale positive pressure range.

With the "B" option, the 4-20 mA output covers vacuum and pressure. Full vacuum is 4 mA, zero is 12 mA and full pressure is 20 mA.

Special 4-20 mA ranges are available from the factory.

Calibration

Periodically, it may be necessary to recalibrate the gauge to maintain the accuracy of the product.

The Lock button locks and unlocks the keypad on the gauge. Press and hold the lock button for 3 seconds to lock or unlock the keypad. If the Span or Zero keys do not respond, press and hold the Lock button again.

To "zero" the gauge, remove the pressure connections from both pressure ports and hold the zero button for 3 seconds. Pressure must be maintained at zero during the calibration process.

To "span" the gauge, use an accurate pressure calibrator to apply the full scale pressure to the High pressure port and hold the span button for 3 seconds while maintaining the full scale pressure.

The span and zero are non interactive, so this should complete the calibration process.