

Agency Approval

Factory Mutual Approved Intrinsically Safe for Hazardous Locations USA & Canada
 T3 Ta = -40°C to 82°C; T4 Ta = -40°C to 66°C
 CL I Zone 0 AEx/Ex ia IIC
 T3 Ta = -40°C to 82°C; T4 Ta = -40°C to 66°C

Ranges and Resolution

See table below. Engineering units are factory set.
 Resolution is fixed and limited to available display digits
 20, 200, or 2000 range codes display 19.99, 199.9, or 1999
 See DPG200B D4 series for models with increased resolution

Accuracy

Accuracy includes linearity, hysteresis, repeatability
 Std. accuracy: ±0.25% of full scale ±1 least significant digit
HA accuracy option: ±0.1% FS ±1 LSD, see range table for availability
 Sensor hysteresis: ±0.015% FS, included in accuracy
 Sensor repeatability: ±0.01% FS, included in accuracy

Display

3 readings per second nominal display update rate
 3.5 digit (1999) LCD, 0.5" H digits
BL models: Red LED display backlight

Batteries

Two 1.5 V AAA (Panasonic LR03) alkaline cells
B: Approx. 1000 hours
BL: Approx. 150-1000 hours depending on backlight usage
 Low battery indication: "LOBAT" on display

Auto Shutoff

Factory set for 5, 10, or 30 minutes

Controls

Front button turns gauge on and starts auto shutoff timer
BL models: Front button turns gauge on and starts auto shut-off timer. Hold front button to operate backlight.

Calibration

Non-interactive zero and span pots, ±10% of range
 Top-mounted potentiometers covered with reusable label

Weight

9 ounces (approx.), shipping wt. 1 pound (approx.)

Housing Materials and Circuit Board Protection

Epoxy powder coated aluminum case, rear cover, and bezel
 Front and rear rubber gaskets, polycarbonate label
 Stainless steel stiffener plate to reinforce sensor area
 Conformal coating on circuit boards for moisture resistance

Connection and Sensor Material

1/4" NPT male fitting
 Sensor and all wetted parts are 316L stainless steel

Overpressure, Burst, Vacuum Service

3000 psig sensor: 5000 psig overpressure
 5000 psig sensor: 7500 psig overpressure
 All others: 2 X pressure range overpressure
 Burst pressure: 4 X sensor pressure rating, or 10,000 psi, whichever is less
 Vacuum service: 15 psig, ±15 psig, 100 psig, 200 psig, 15 psia, 30 psia, 100 psia

Temperature Ranges

Compensated: 32 to 158°F (0 to 70°C)
 Storage: -40 to 203°F (-40 to 95°C)
 Operating: -40 to 180°F (-40 to 82°C)

- ±0.25% Test Gauge Accuracy
- 316L Stainless Steel Sensor
- All Metal Housing



Ranges and Resolution		* -HA option not available		The listed ranges are rounded off				Consult factory for special units			
psig vacuum	Res	oz/in ² vacuum	Res	Torr absolute	Res	bar vacuum	Res	kPa vacuum	Res	g/cm ² vacuum	Res
15PSIVAC*	0.01	240ZINVAC*	1	760TORRA	1	1BARVAC*	0.001	100KPAVAC*	0.1	1000GCMVAC*	1
psi absolute	Res	oz/in ² absolute	Res	1600TORRA	1	bar absolute	Res	kPa absolute	Res	g/cm ² absolute	Res
15PSIA	0.01	240ZINA	1	mmHg vacuum	Res	1BARA	0.001	100KPAA	0.1	1000GCA*	1
30PSIA	0.1	480ZINA	1	760MMHGvac*	1	2BARA	0.001	200KPAA	0.1	2000GCA*	1
100PSIA	0.1	1600ZINA	1	mmHg absolute	Res	7BARA	0.01	700KPAA	1	g/cm ² pressure	Res
psig pressure	Res	oz/in ² pressure	Res	760MMHGA	1	bar pressure	Res	kPa pressure	Res	200GCMG*	0.1
3PSIG*	0.01	50ZING*	0.1	1600MMHGA	1	1BARG	0.001	20KPAG*	0.01	350GCMG*	1
5PSIG*	0.01	80ZING*	0.1	mmHg pressure	Res	2BARG	0.001	35KPAG*	0.1	1000GCMG	1
15PSIG	0.01	240ZING*	1	150MMHGG*	0.1	4BARG	0.01	100KPAG	0.1	2000GCMG	1
30PSIG*	0.1	480ZING	1	260MMHGG*	1	7BARG	0.01	200KPAG	0.1	kg/cm ² vacuum	Res
60PSIG	0.1	960ZING	1	760MMHGG	1	14BARG	0.01	400KPAG	1	1KGCVMAC*	0.001
100PSIG	0.1	1600ZING	1	1600MMHGG	1	20BARG	0.01	700KPAG	1	kg/cm ² absolute	Res
200PSIG	0.1	inH ₂ O vacuum	Res	mmH ₂ O pressure	Res	35BARG*	0.1	1400KPAG	1	1KGCMA	0.001
300PSIG*	1	400INH20VAC*	1	2000MMH20G*	1	70BARG	0.1	2000KPAG	1	2KGCMA	0.001
500PSIG	1	inH ₂ O absolute	Res	cmH ₂ O vacuum	Res	140BARG	0.1	MPa pressure	Res	7KGCMA	0.01
1000PSIG	1	400INH20A	1	1000CMH20VAC*	1	200BARG	0.1	0.7MPAG	0.001	kg/cm ² pressure	Res
2000PSIG	1	850INH20A	1	cmH ₂ O absolute	Res	350BARG*	1	1.4MPAG	0.001	1KGCVMG	0.001
inHg vacuum	Res	inH ₂ O pressure	Res	1000CMH20A	1	atm vacuum	Res	2MPAG	0.001	2KGCVMG	0.001
30INHGVAC*	0.1	85INH20G*	0.1	2000CMH20A	1	1ATMVAC*	0.001	3.5MPAG*	0.01	4KGCVMG	0.01
inHg absolute	Res	140INH20G*	0.1	cmH ₂ O pressure	Res	atm absolute	Res	7MPAG	0.01	7KGCVMG	0.01
30INHGA*	0.1	400INH20G	1	200CMH20G*	0.1	1ATMA	0.001	14MPAG	0.01	14KGCVMG	0.01
60INHGA	0.1	850INH20G	1	350CMH20G*	1	2ATMA	0.001	20MPAG	0.01	20KGCVMG	0.01
200INHGA	0.1	ftH ₂ O pressure	Res	1000CMH20G	1	7ATMA	0.01	35MPAG*	0.1	35KGCVMG*	0.1
inHg pressure	Res	7FTH20G*	0.01	2000CMH20G	1	atm pressure	Res			70KGCVMG	0.1
6INHGG*	0.01	12FTH20G*	0.01	mbar vacuum	Res	1ATMG	0.001			140KGCVMG	0.1
10INHGG*	0.01	35FTH20G*	0.1	1000MBARVAC*	1	2ATMG	0.001			200KGCVMG	0.1
30INHGG*	0.1	70FTH20G	0.1	mbar absolute	Res	4ATMG	0.01			350KGCVMG*	1
60INHGG	0.1	140FTH20G	0.1	1000MBARA	1	7ATMG	0.01				
120INHGG	0.1	230FTH20G*	1	2000MBARA	1	14ATMG	0.01				
200INHGG	0.1	480FTH20G	1	mbar pressure	Res	20ATMG	0.01				
400INHGG	1	700FTH20G	1	200MBARG*	0.1	34ATMG*	0.1				
600INHGG	1	1150FTH20G	1	350MBARG*	1	70ATMG	0.1				
1000INHGG	1			1000MBARG	1	140ATMG	0.1				
2000INHGG	1			2000MBARG	1	200ATMG	0.1				

How to Specify	Type
DPG2000B range -5 options	5 minute shutoff
DPG2000B range -10 options	10 minute shutoff
DPG2000B range -30 options	30 minute shutoff
DPG2000BBL range -5 options	5 minute shutoff, backlit display
DPG2000BBL range -10 options	10 minute shutoff, backlit display
DPG2000BBL range -30 options	30 minute shutoff, backlit display

Range—see table at left
 G = gauge reference pressure
 VAC = gauge reference vacuum
 A = absolute reference
 Range codes listed as 2, 20, 200, or 2000 display 1.999, 19.99, 199.9, or 1999 respectively.
 For ranges requiring 4 digits including 3000 and 5000 psi, see DPG200B D4 series.
 If vacuum gauge requires a minus sign, please specify.

Example: **DPG2000BBL300PSIG-5**
 Battery powered, backlit display, 0-300 psig, 5 minute auto shutoff,
 Note: Model number on gauge may vary from part number ordered.

Options—add to end of model number. See price list for details.	
HA	High accuracy, ±0.1% FS ±1 LSD. See range table.
PM	Panel mount, 4.1" x 4.1"
TP	Top port, gauge port on top of case
CD	Calibration data; 5 test points and date
NC	NIST traceability documentation, 5 points and date

TP
 Top gauge port. Primarily used with tire pressure applications. Not available with NEMA 4X models.

Accessories—order separately
RB
 High visibility orange rubber boot protects gauge for portable applications. Not available with NEMA 4X models.

SCR14SS
 Filter screen fitting keeps debris out of gauge sensor. For food vacuum packaging applications. 303SS body, 100 micron 304SS screen.
CON14SS
 Quick connector to install or remove gauge without tools. 304 stainless steel, urethane seal.



Precautions

Approved Locations

The DPG2000B series is approved for use in the following Hazardous Locations.

IS Class I Div 1 Gp ABCD

T3C Ta = -40°C to 82°C; T4 Ta = -40°C to 66°C.

CL I Zone 0 AEx/Ex ia IIC

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Installation

- ✓ Read these instructions before installing the gauge. Configuration may be easier before the gauge is installed. Contact the factory for assistance.
- ✓ Installation instructions must be strictly followed in compliance with Intrinsic Safety National Standard NEC 504 or ANSI/ISA RP 12.6 and the National Electrical Code.
- ✓ Outdoor or wash down applications require a NEMA 4X gauge or installation in a NEMA 4X housing.
- ✓ Use fittings appropriate for the pressure range of the gauge.
- ✓ Due to the hardness of stainless steel, it is recommended that a thread sealant be used to ensure leak-free operation.
- ✓ For contaminated media use an appropriate screen or filter to keep debris out of gauge port.
- ✓ Avoid permanent sensor damage! NEVER insert objects into gauge port or blow out with compressed air.
- ✓ Remove system pressures before removing or installing gauge.
- ✓ Install or remove gauge using a wrench on the hex fitting only. Do not attempt to turn by forcing the housing.

Operation

- ✓ Use within the pressure range indicated on gauge label.
 - ✓ Avoid permanent sensor damage! Do not apply vacuum to gauges not designated for vacuum operation.
 - ✓ Use only with media compatible with 316L stainless steel.
 - ⚠ Gauges are not for oxygen service. Accidental rupture of sensor diaphragm may cause silicone oil inside sensor to react with oxygen.
 - ✓ The DPG2000B series gauges must only be operated in specified ambient temperature ranges.
- ### Maintenance
- ✓ The non-metallic cover of the pressure gauge is considered to constitute an electrostatic discharge hazard. Clean only with a damp cloth.
 - ✓ Batteries must be replaced when the low battery indication comes on to prevent unreliable readings.
 - ✓ WARNING: Replace batteries with approved type in non-hazardous locations only.
 - ✓ Approved batteries are two Panasonic LR03 1.5 V AAA alkaline cells. Replace both batteries at the same time.
 - ☒ WARNING: Substitution of batteries may impair intrinsic safety. Improper voltages will damage the gauge.
 - ✓ WARNING: Substitution of components may impair intrinsic safety. Do not modify the gauge.
 - ✓ These products do not contain user-serviceable parts except for batteries. Contact factory for repairs, service, or refurbishment.

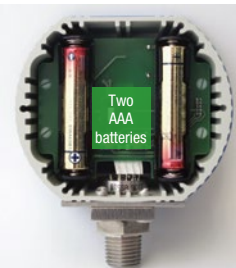
Battery Replacement

A low battery indication (either LOBAT or a  symbol depending on the model) will be shown in the upper left-hand corner of the display when the battery voltage falls sufficiently. The batteries should be replaced when the indicator comes on or unreliable readings may result.

WARNING: Replace batteries with approved type in non-hazardous locations only. Replace batteries with two Panasonic LR03 1.5 V AAA alkaline cells.

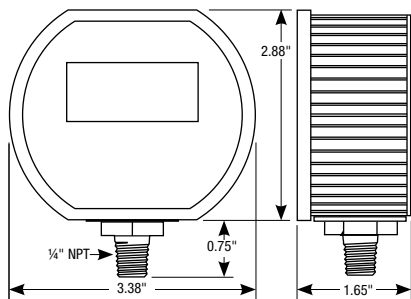
Replace both batteries with new ones at the same time. Do not mix different types of batteries. Substitution of components may impair intrinsic safety.

1. Remove the 6 Phillips screws on the back of the unit.
2. Remove batteries by lifting up the positive end of the battery (opposite the spring) taking care not to bend the spring.
3. Discard old batteries properly, do not discard into fire, sources of extreme heat, or in any hazardous manner.
4. 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 gasket.



DS-DPG2000B rev. 12-12

Dimensions



Types of Gauges

Gauge reference reads zero with the gauge port open.

Bipolar ranges read positive pressure and vacuum in the same units, and zero with the gauge port open.

Sealed reference reads zero with the gauge port open and is referenced to 14.7 psi. Used for 1000 psi and up.

Absolute reference reads atmospheric pressure with gauge port open and zero at full vacuum.



Operation

Press the button on the front of the gauge to activate the display. The pressure readings are then displayed and updated approximately 3 times per second.

The gauge will stay on for a period of time determined by the auto shutoff time. After this time the gauge will automatically shut off to conserve battery life.

Display Backlighting (BL models only)

Display backlighting can be turned on by pressing and holding the front button. When the button is released the display backlighting turns off. Frequent use of the display backlight shortens battery life.

Calibration Preparation

Calibration must only be done in a non-hazardous area. See Installation and Precautions above.

Gauges are calibrated at the factory using equipment traceable to NIST. There is no need to calibrate the gauge prior to use.

Calibration should only be performed by qualified individuals using appropriate calibration standards and procedures.

Contact factory if assistance is required. Gauges can be returned to factory for certified calibration and repairs. NIST traceability is available.

Calibration intervals depend on your quality control program requirements. Many customers use an annual calibration cycle. The calibration equipment should be at least four times more accurate than the gauge being calibrated.

The calibration system must be able to generate and measure pressure and/or vacuum over the full range of the gauge.

A vacuum pump able to produce a vacuum of 100 microns (0.1 torr or 100 millitorr) or lower is required for vacuum and absolute gauges.

Warning: Never apply vacuum to gauge not designated for vacuum service. Permanent sensor damage may result.

It is good practice to install fresh batteries before calibration. Allow the gauge to equalize to normal room temperature (about 20 minutes minimum) before calibration.

Calibration

See calibration preparation section. See rear label of gauge for potentiometer identification model identification and pressure range.

Remove calibration label to expose opening with calibration potentiometers. This label may be reused many times if kept clean.

Zero calibration should be done before span calibration.

Zero for gauge reference ranges

With the pressure port open to the ambient, adjust the Zero control until the gauge reads zero, with the “-” sign occasionally flashing.

Zero for absolute reference gauges

Apply full vacuum to the gauge. Adjust the Zero potentiometer for a display indication of zero.

Span for gauge reference pressure gauges and absolute reference gauges

Apply full-scale pressure and adjust the Span potentiometer for a display indication equal to full-scale pressure indication of the calibrator.

Span for gauge reference vacuum gauges

Apply full vacuum to the gauge. Adjust the span potentiometer to match the gauge display to the vacuum indication of the calibrator.

Verify pressure indications at 0%, 25%, 50%, 75%, and 100% of full scale and repeat calibration as needed to achieve best accuracy over desired operating range.

Replace the calibration label.



CECOMP maintains a constant effort to upgrade and improve its products. Specifications are subject to change without notice. Consult factory for your specific requirements.