

PRESSURE MEASUREMENT

Data Sheet No. CDS2101H

DIGITAL PRESSURE GAUGE SERIES 2100 MODELS 2101, 2102, 2106 & 2107

Accuracy to 0.010% FS
Precision to 0.003% FS



FEATURES

- Ranges up to 10,000 psi
- High Resolution (up to 2 ppm)
- Certified with NIST traceable primary standards
- Dynamic compensation from 15 to 45°C or 0 to 50°C
- IEEE-488 communications
- 33 selectable pressure units
- Calibration protection
- Display of max. and min. readings
- Displays pressure rate
- Function keys
- Absolute, gauge, bidirectional, or vacuum
- CE Compliant

DESCRIPTION

The **Series 2100 Digital Pressure Gauges** are high performance digital gauges that provide accurate measurement of pressure. The front panel "function keys" improve the ease of operation and expand the capabilities of the DPG. Standard communication is IEEE-488, with RS-232 as an option.

Mensor Model	Precision	Accuracy	Compensated Range
2101	0.003% FS	0.010% FS	15 - 45°C
2102	0.006% FS	0.025% FS	15 - 45°C
2106	0.003% FS	0.010% FS	0 - 50°C
2107	0.006% FS	0.025% FS	0 - 50°C

OPTIONS

- RS-232 communications
- BCD/Analog voltage outputs
- Carrying handle
- Carrying case
- Battery power
- Hand pump
- Rack mount kit
- Relief valves

DPG SPECIFICATIONS - MODELS 2101, 2102, 2106 & 2107

GENERAL SPECIFICATIONS

Accuracy	0.010% FS (Models 2101 & 2106) 0.025% FS (Models 2102 & 2107)
Precision	0.003% FS (Models 2101 & 2106) 0.006% FS (Models 2102 & 2107)
Calibration Stability	
Zero:	better than 0.01% FS for 180 days typical
Span:	better than 0.01% FS for 180 days typical
Pressure Range — Standard	
psia:	0 to 5 min, 0 to 10,000 max
psig:	0 to 0.36 min, 0 to 10,000 max
Pressure Range — Bidirectional, Vacuum	
psig:	-.36 to .36 min, -atm to 10,000 max
Resolution	up to 2 ppm depending on range
Over Pressure Limit	150% FS for most ranges
Storage	-20 to 70°C
Warm-up	Less than 15 minutes
Reading Rate	15.7 readings per second
Response Time	0.2 second for FS step
Orientation	Negligible
Communications	IEEE-488 (GPIB). LabVIEW® ¹ drivers are available.
Case Size	7.56" wide x 3.78" high x 9.50" deep (19.24 x 9.60 x 24.13 cm)
Panel Cutout	7.3" wide x 3.6" high (18.54 x 9.144 cm)
Weight	6 pounds
Mounting	Table model (standard)
Media Compatibility	Clean, dry, non-corrosive gases compatible with aluminum and 316 stainless steel. Not for oxygen service. Consult factory for special media requirements.
Power	Universal Adapter; Removable line input cable, approximately 2.2 meters long; Input: 90 to 264V, 47 to 63 Hz; Output: 12 VDC, 0 to 2.5A; Direct input without adapter: 12 VDC (10 to 15 VDC) @ 0.6A max.
Fittings	
≤ 6000 psi:	Female 7/16-20 SAE/MS straight thread port on rear of instrument. Female 1/8 inch and 1/4 inch NPT adapter fittings are included. Optional adapter fittings available.
> 6000 psi:	Rear mounted fitting mates to Autoclave Engineers, Inc. No. F 250 C, High Pressure Equipment Co. No. HF4 or an equivalent
Warranty	One year
Options	RS-232, BCD/Analog outputs; Rack adapter; Relief valves (mounted externally); Carrying handle; Carrying case; Hand pump; Battery power, 8-10 hours operation on full charge. Low battery indicator and universal input battery charger included.

FRONT PANEL INTERFACE

+ / – KEYS	Adjusts values
CAL	Allows zero offset and span adjust
COMM	Sets GPIB address, and optional RS-232 baud, parity, stop bits, and word length
SAVE	Stores changes made to various settings
PEAK	Displays current, maximum and minimum readings after being enabled
NULL	Stores current reading, then displays subsequent readings relative to stored reading
RATE	Displays current reading and rates of change in periods of 1 second, 1 minute, 1 hour and 3 hours (pressure tendency)
UNITS	Selects from 8 customer specified pressure units from the list of 33 available
Factory Standard Units:	psi, inHg @ 0°C, inH ₂ O @ 4°C, mBar, mmHg @ 0°C, Torr, hPa, kPa set at factory unless otherwise specified
Available Pressure Units:	psi, inHg @ 0°C and 60°F, inH ₂ O @ 4°C, 20°C and 60°F, ftH ₂ O @ 4°C, 20°C and 60°F, mTorr, inSW @ 0°C, ftSW @ 0°C, ATM, bars, mbars, mmH ₂ O @ 4°C, cm H ₂ O @ 4°C, MH ₂ O @ 4°C, mmHg @ 0°C, cmHg @ 0°C, Torr, hPa, kPa, Pa, D/cmsq, G/cmsq, Kg/cmsq, mSW @ 0°C, OSI, PSF, TSF, TSI, µHg @ 0°C. All seawater units are 3.5% salinity.
DISPLAY	2 line 20 alpha-numeric characters/line 0.36 inch character height (9.2 mm)
REMOTE	Indicates remote operation mode

Accuracy includes the following uncertainties in the pressure reading: repeatability, pressure hysteresis, creep, linearity, and temperature effects over the compensated range.

Precision is the closeness of agreement between independent test results obtained under stipulated conditions.

Per ANSI/NC SL Z540-2-1997 (U.S Guide to the Expression of Uncertainty in Measurement) that "*the term precision should not be used for accuracy*".

These models are calibrated with primary standards traceable to NIST. The calibration program at Mensor is compliant to ANSI/NC SL Z540-1-1994.

For more details on calibration of Mensor products see Technical Note entitled "*Accuracy Specifications for Mensor Products*" (available on our web site www.mensor.com).

Since product improvement is a continuous process at Mensor, we reserve the right to change specifications without notice.

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