

PRESSURE MEASUREMENT

Data Sheet No. CDS2108B

DIGITAL PRESSURE GAUGE

SERIES 2100

AVIONICS MODELS

2108 - Altitude

2109 - Airspeed

Accuracy to 0.010% FS
Precision to 0.003% FS



FEATURES

- Ranges:
 - Model 2108: -2000 to 100,000 feet
 - Model 2109: 60 to 1000 knots
- High Accuracy 0.010% FSP
- High Resolution (up to 2 ppm)
- Certified with NIST traceable primary standards
- Dynamic compensation from 15 to 45°C
- IEEE-488 communications
- Selectable units of measure
- Display of max and min readings

OPTIONS

- RS-232 communications
- Carrying handle
- Carrying case
- Battery power
- Hand pump
- Rack mount kit
- Relief valves
- LabVIEW® drivers (no charge)

DESCRIPTION

The **Series 2100** is a family of advanced, high accuracy digital pressure gauges from Mensor. This product line includes many standard features not found in comparable gauges at comparable prices. The Series 2100 provides the best value in a high performance digital pressure measuring unit.

The **Mensor 2108** is a high performance measuring instrument that provides high accuracy readings of altitude.

The **Mensor 2109** provides high accuracy readings of airspeed. These models are ideal for use as pressure standards for avionics repair shops, airline maintenance depots or for use in the manufacture of avionics instruments, such as altimeters, rate of climb meters, airspeed indicators, etc.

SERIES 2100 DPG SPECIFICATIONS - AVIONICS MODELS 2108 & 2109

GENERAL SPECIFICATIONS

<i>Accuracy</i>	0.010% FS in pressure units
<i>Precision</i>	0.003% FS in pressure units
<i>Calibration Stability</i>	
Zero:	better than 0.01% FS for 180 days typical
Span:	better than 0.01% FS for 180 days typical
<i>Pressure Ranges</i>	
Model 2108:	-2000 to 100,000 ft
Model 2109:	60 to 1000 knots
<i>Resolution</i>	up to 2 ppm depending on range
<i>Over Pressure Limit</i>	150% FS for most ranges
<i>Warm-up</i>	Less than 15 minutes
<i>Storage</i>	-20 to 70°C
<i>Reading Rate</i>	15.7 readings per second
<i>Response Time</i>	0.2 second for FS step
<i>Orientation</i>	Negligible
<i>Communications</i>	IEEE-488 (GPIB)
<i>Case Size</i>	7.56" wide x 3.78" high x 9.50" deep (19.24 x 9.60 x 24.13 cm)
<i>Panel Cutout</i>	7.3" wide x 3.6" high (18.54 x 9.144 cm)
<i>Weight</i>	6 pounds
<i>Mounting</i>	Table model (standard)
<i>Media Compatibility</i>	Non-corrosive gases compatible with aluminum, 316 stainless steel, brass, Buna N, Loctite Sealant and silicone grease
<i>Fittings</i>	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.
<i>Power</i>	115 VAC, 50/60 Hz (95 to 135 VAC) @ 6 watts max. wall-mounted adapter 12 VDC (10 to 15 VDC) @ 0.6A max. direct input without adapter
<i>Warranty</i>	One year
<i>Options</i>	RS-232, BCD/Analog output. LabVIEW ¹ drivers are available; Rack adapter or carrying handle; Relief Valves (mounted externally); Optional adapter fittings available; Hand Pump; Battery power, 8 to 10 hours operation on full charge. Low battery indicator included.

¹ LabVIEW® is a trademark of National Instruments Corporation

FRONT PANEL INTERFACE

+ / - KEYS	Adjusts values
CAL	Allows zero offset, span adjust and sea level reference enable. May also be adjusted via remote bus
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 units of measure
Available Pressure Units:	Model 2108: feet, meters Model 2109: mph, knots, meters/sec, kilometers/hr, mach
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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