

Type D1005PS General Purpose Digital Gauge



SHOWN WITH
OPTIONAL BOOT



FEATURES:

- $\frac{1}{2}\%$ terminal point accuracy
- $\frac{4}{2}$ digit display with enhanced resolution
- Easy readability with .50" character size and 12 o'clock view angle
- Nine engineering units of measure
- Standard ranges include vacuum, compound and 30 psi-19,999 psi
- D1005PS with protective boot offers IP 54 weatherproof enclosure
- CE approvals
- Each D1005PS gauge is serialized for accurate traceability
- The versatile and economical choice for a wide variety of applications

The Ashcroft® Type D1005PS offers 0.5% of span accuracy, while the stainless steel sensor and socket make this product suitable not only for dry air applications but for other media as well.

This product offers selectable units of measure so rather than purchasing one gauge for each unit of measure required, the solution is one gauge for multiple units of measure.

The D1005PS is standard with many features not offered, or offered only as options, on competitor's digital gauge products, such as peak hold and $\frac{4}{2}$ digit display. When compared to mechanical gauges the D1005PS offers overall enhanced value.

PRODUCT SPECIFICATIONS

Accuracy: $\frac{1}{2}\%$ F.S.

Size: 2½"

Case Material: Noryl®

Wetted Parts:

17-4 PH stainless steel sensor;
316 stainless steel socket

Connection: ¼ NPT lower

Ranges: Vacuum, thru 19,999 psi, includes compound

Battery: Two AAA alkaline batteries

Battery Life: 1000 hours

Pointer: Black, aluminum

Overpressure:

Vac.	0/3000-		
	0/1000	0/5000	0/9999
Proof:	200%	150%	120%
Burst:	800%	300%	150%

Cycle Life: 10⁸ cycles 20/80% F.S. with negligible performance loss

Vibration: Less than $\pm 0.1\%$ F.S. effect for 0/2000 Hz at 20 g's in any axis

Shock: Less than $\pm 0.05\%$ F.S. effect for 100 g's, 20msec shock in any axis

Operating Temp: -10°C to 60°C (14°F to 140°F)

Storage Temp: -20°C to 70°C (-4°F to 158°F)
(maximum temperature shift is .028% per °F from -20°F to 180°F starting at 68°F. For vacuum and 30 psi ranges the maximum temperature shift is .04%)

Leak Integrity: 1 x 10⁻³ std. cc/sec

Update Rate: 100ms

Agency Approvals: CE EN 61326 (1998); CE EN 61326 Annex A (heavy industrial)

Packaging: Individual carton

Optional Features: $\frac{3}{4}\%$ F.S. accuracy; 3 o'clock, 9 o'clock, 12 o'clock; G ¼ DIN connections; Alternate socket configurations – upon application; Customized keypad; Protective orange (EPDM) or black (Buna N) boot; Bulk packaging

DISPLAY

Type: LCD

Display Digits: $\frac{4}{2}$

Display Resolution:

Full Scale	Numerical Value	Display Resolution
>=-15 >0		-XX.000
>0 <2		X.0000
>=2 <20		XX.000
>=20 <200		XXX.00
>=200 <2000		XXXX.0
>=2000 <19,999		XXXXX

Character Height: 0.5"

Backlite (optional): OFF by default

Battery: Four-level battery indication

KEYPAD FUNCTIONS

On/Off: Manually turns unit on and off (four options: never, 5 min., 10 min., 20 min.)

Backlight (optional): Manually turns backlight on and off (four programmable auto on/off options)

Max. (Peak Hold): Displays min./max. value when activated

Zero/Clear: Zeros display or clears max. value when activated

Engineering Units: psi, in.Hg, cmHg, mmHg, kPa, mPa, Bar, kg/cm², ftH₂O

Field Calibration: Zero and span

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Superior Design

- Chemical resistant Noryl® case.
- Stainless steel socket and sensor suitable for a variety of applications. Welded sensor to socket for added durability.
- Easy-to-read 4½ digit display with ½" character size.
- Versatility of nine engineering units.
- Min./Max. pressure indication is a standard feature.
- Optional protective boot provides a weatherproof enclosure and offers additional protection against rough handling.
- Can be customized for OEM applications.
- Optional backlite for easy viewing in low light areas.

Safety

- Meets ASME B40.7.
- Proof pressure from 120% to 200% of range.
- CE Approvals (provides EMI and RFI protection).

"No Nonsense" Accuracy

- Full scale ½% terminal point accuracy includes linearity, hysteresis and repeatability.

- Some competitors refer to "typical" accuracy. They may or may not indicate the maximum tolerance allowed. This is misleading in that you have no assurance the gauge you receive will be one that falls into the stated "typical" accuracy. **All Ashcroft Type D1005PS gauges are within the stated ½% accuracy.**
- Many competitors refer to stated accuracy as being ± the least significant digit. This could add as much as .33% error to stated accuracy. **The 4½ digit display on the Ashcroft Type D1005PS provides enhanced resolution needed to read stated accuracy.**
- Terminal point accuracy allows re-zeroing to eliminate sensor offset.
- The D1005PS is also available with optional ¼% full scale terminal point accuracy.

The Bottom Line...

Ashcroft Type D1005PS Digital Gauge
Accuracy Includes

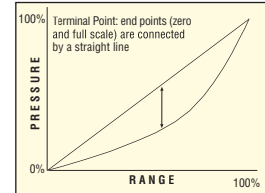
Linearity	✓
Hysteresis	✓
Repeatability	✓
Terminal Point Accuracy	✓

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What you should know about digital gauge accuracy... Terminal Point versus Best Fit Straight Line Accuracy.

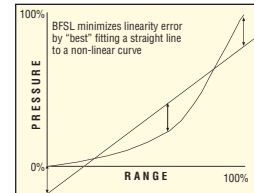
Ashcroft Type D1005PS Digital Gauge with Terminal Point Accuracy

BENEFIT



- All points between zero and full-scale will be within stated accuracy
- Allows zeroing of gauge at start-up to eliminate any sensor offset

Competitive Digital Gauges with Best Fit Straight Line (BFSL) Accuracy



- Linearity error minimized by "best" fitting a straight line to a non-linear curve
- BFSL gauges may have a zero offset at calibration that must be maintained to ensure accuracy throughout range

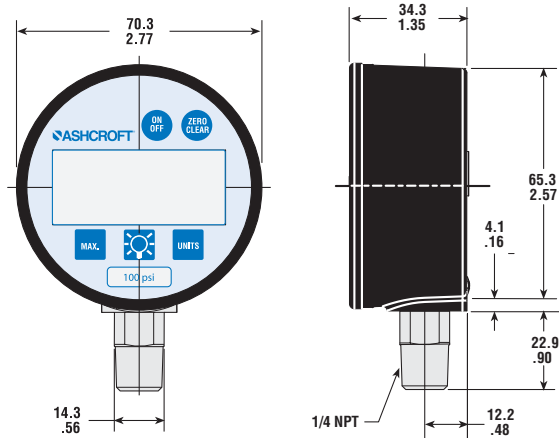
PROBLEM

- Re-zeroing gauge may invalidate published accuracy specification
- Zero offset at start-up may be the result of either:
 - BFSL Calibration
 - Zero Drift



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DIMENSIONS



PRESSURE RANGES

Vacuum					
in. Hg	kPa	cmHg	Bar	kg/cm ²	mmHg
-30/0	-100/0	-76/0	-1/0	-1/0	-760/0
Compound					
in. Hg/psi	kPa	mPa	Bar	kg/cm ²	ft H ₂ O
-30/30	-100/200	-	-1/2	-1/2	-35/70
-30/60	-100/400	-	-1/2	-1/2	-35/140
-30/100	-100/700	-	-1/2	-1/2	-35/230
-30/150	-100/1050	-	-1/11	-1/11	-35/350
-30/300	-100/2100	-	-1/21	-1/21	-35/700
Pressure					
psi	kPa	mPa	Bar	kg/cm ²	ft H ₂ O
0/30	0/200	-	0/2	0/2	0/70
0/60	0/400	-	0/4	0/4	0/140
0/100	0/700	-	0/7	0/7	0/230
0/200	0/1400	-	0/14	0/14	0/460
0/300	0/2100	-	0/21	0/21	0/700
0/500	0/3500	-	0/35	0/35	-
0/1000	0/7000	-	0/70	0/70	-
0/1500	-	0/10	0/105	0/105	-
0/2000	-	0/14	0/140	0/140	-
0/3000	-	0/21	0/210	0/210	-
0/5000	-	0/35	0/350	0/350	-
0/10,000	-	0/70	0/700	0/700	-
0/15,000	-	0/100	0/1000	0/1000	-
0/19,999	-	0/140	0/1400	0/1400	-

HOW TO ORDER (Typical example)

Dial Size: 2½" _____ 25
Type Number: D1005P _____ D1005
Wetted Parts: Stainless Steel _____ 02L
Connection Size/Location: ¼ NPT Lower _____ 100#
Range: 0/100 psi _____