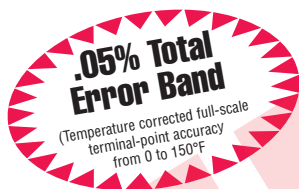


## Types 2089, 2086 & 2084 Precision Digital Test Gauge



### FEATURES

- **Industry Leading Accuracy**
- **Breakthrough Display Height**
- **Rugged & Portable Design**
- **Configurable Options Including:**
  - Twelve Engineering Units
  - Seven Languages
  - Adjustable Update and Dampen Modes
  - Field Calibration Capability
  - Disable Mode

### Is your digital gauge as accurate as you think?

Gauge accuracy can be dramatically impacted by changes in temperature, re-zeroing of gauges and other factors. Until now there has been no one single solution to address these concerns. The Ashcroft precision digital test gauge is that solution.

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

#### Ambient Temperature Changes

Other manufacturers of digital gauges may specify operating temperature range *without* specifying the additional error associated with changes in ambient temperature. Errors can range as high as .04%/°F. A 25°F change from an ambient of 70°F may add an additional 1% to the stated accuracy of the gauge! *The Ashcroft digital gauge with total error band ensures accuracy from 0-150°F.*

### PRODUCT SPECIFICATIONS

**Type:** 2089 (0.05% F.S. accuracy), 2086 (0.10% F.S. accuracy), 2084 (0.25% F.S. accuracy)

**Accuracy:** 0.05%, 0.10% or 0.25% all Full Scale, Terminal Point, Total Error Band (TEB) Including Hysteresis, Linearity, Repeatability and Temperature (0/150°F)

**Case Size:** 3"

**Case Material:** 300 Series Stainless Steel

**Case Finish:** Electropolished

**Case Rating:** Weatherproof, IP65, NEMA 4

**Case:** Available with Optional Protective Rubber Boot

**Wetted Parts:** 316 Stainless Steel

**Socket Size:** 1/4 NPT Male, JIS, DIN, SAE, (others on application)

**Socket Location:** Lower (6 o'clock) 3 and 9 o'clock

**Mounting:** Stem (standard), Panel (optional)

**Ranges:** Vac. thru 7000 psi (see engineering units below for other units of measurement) Non-cataloged available ranges on application.

**Operating Temp.:** 0/150°F (-18/63°C)

**Storage Temp.:** -40/180°F (-40/82°C)

**Temp. Corrected:** Yes

### DISPLAY

**Type:** LCD

**Display Digits:** 5, 99,999 counts

**Character Height:** .66"

**Backlite:** Off by default

**Bar Graph:** Yes

**Battery Life:** >1000 hrs. (3 AAA alkaline batteries)

**Agency Approvals:** CE EN 50082-1 (1997), FM, CSA, (CENELEC – ATEX 100 approval pending)

### KEYPAD FUNCTIONS

**On/Off:** Manually turns unit on and off (auto off options in configuration menu (CONFIG) )

**Backlite:** Manually turns backlite on and off (auto off options in configuration menu (CONFIG) )

**Min/Max:** Stores min. and max. values when displayed

**Zero/Clear:** Zeros display or clears min. and max. values when displayed

**Enter:** Selects items in configuration menu (CONFIG)

**Configuration Mode (CONFIG):** Allows scrolling through configuration menus to select available options

**Engineering Units:** psi, "Hg, "H<sub>2</sub>O, ftSW, Bar, mBar, kPa, mPa, mmHg, cmH<sub>2</sub>O, mmH<sub>2</sub>O, kg/cm<sup>2</sup>

**Update Rate:** Four Options: 10x/sec, 5x/sec, 2x/sec, 1x/sec

**Auto Off:** Five Options: Never, 2 min., 5 min., 15 min., 30 min.

**Dampening:** Five Options: None, average 2, 4, 6, 8 readings

**Language:** Seven Languages: English, Spanish, French, Italian, German, Portuguese, Dutch

**Backlite:** Five Options: On/off, 10 sec., 30 sec., 1 min., 5 min.

**Calibrate:** Zero and Span (password protected)

**Zero Disable:** Allows for disabling of Zero button

**Contrast:** Seven available options

**Disable:** Allows for "lock-out" of CONFIG options

**Calibration Chart:** 10 point individual calibration chart, standard for Type 2089, others optional

**Standard Features:** 300 Series SS Protective Cover, Protective Carrying Pouch

# Types 2089, 2086 & 2084 Precision Digital Test Gauge

## IS YOUR DIGITAL GAUGE AS ACCURATE AS YOU THINK?

Gauge accuracy can be dramatically impacted by changes in temperature, re-zeroing of gauges and other factors. Until now there has been no one single solution to address these concerns. The Ashcroft precision digital test gauge is that solution.

### Unmatched Accuracy Performance

- .05% Full Scale Total Error Band (TEB). Includes the effects of linearity, hysteresis, repeatability and temperature from 0 to 150°F
- Gauge also available with .1% or .25% full scale TEB accuracies
- Terminal point accuracy allows re-zeroing to eliminate sensor offset
- 12 units of measurement
- Inches of water range for three reference temperatures: 4°C, 20°C and 60°F

### INDUSTRY LEADING FEATURES Rugged Design

- Stainless steel case and socket welded for strength
- Polyester window protects display from damage.
- Stainless steel cover protects keypad
- Weatherproof, NEMA 4, IP65 case
- Intrinsically safe, CSA, FM Approved Class I, Div. 1, CE Approved EN 50082-1
- Strain relief to protect wiring while replacing batteries
- Optional Protective Rubber Boot.

### Industry Leading Display and Portable Size

- Industry's smallest case size (3")
- Largest display height of .66"
- Seven languages
- % of range bar graph

### Safety

- The only portable digital test gauge that meets ASME B40.7
- Pressure range on keypad and bar graph reduces accidental overpressure
- Proof pressure = 2 x gauge range

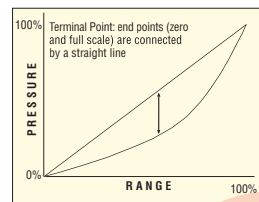
## What you should know about digital test gauge accuracy... Terminal Point versus Best Fit Straight Line Accuracy.

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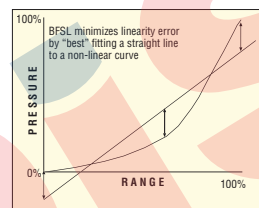
### Ashcroft Precision Digital Gauges with Terminal Point Accuracy

#### 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 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

## The Bottom Line...

Ashcroft Digital Test Gauge Accuracy Includes	
Linearity	✓
Hysteresis	✓
Repeatability	✓
Temperature (0/150°F)	✓
Terminal Point Accuracy	✓

Total Error Band (TEB)  
...An Ashcroft Exclusive

## INDUSTRY LEADING CONFIGURABLE OPTIONS

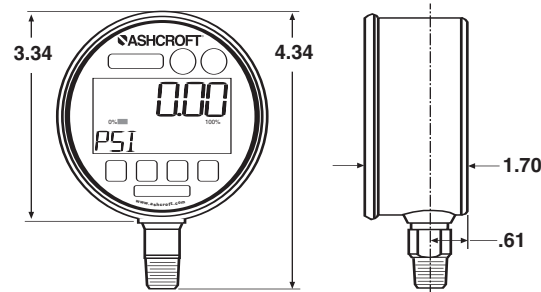
- **UNITS of measurement** – 12 options including °H<sub>2</sub>O with three temperature offerings
- **LANGUAGES** – Seven available options
- **UPDATE RATE** – Four options
- **DAMPENING** – Five averaging options
- **PASSWORD PROTECTED** – Calibration, Zero & Span
- **DISABLE** – Password protected
- **BACKLITE** – Five options including NEVER
- **CONTRAST** – Seven available options
- **AUTO OFF** – Five options



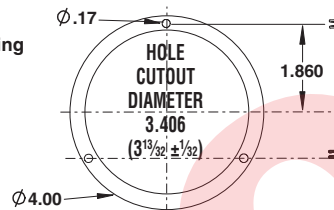
**ISO 9001**  
REGISTERED FIRM

## Types 2089, 2086 & 2084 Precision Digital Test Gauge

### DIMENSIONS



Panel Mounting  
Dimension Drawing



### PRESSURE RANGES:

psi	Compound (psi)	kPa	Bar/KSC	Compound (bar)
vac.	15# & vac.	-100/0	1	-1 to 0
5	30# & vac.	25	1.6	-1 to 1
10	60# & vac.	40	2.5	-1 to 2
15	100# & vac.	60	4	-1 to 3
30		100	6	-1 to 30
60		160	10	
100		250	16	
160		400	25	
200		600	40	
300		1000	60	
500			100	
600			160	
800			250	
1000			400	
1500			500	
2000				
2500				
3000				
5000				
7000				

mmH <sub>2</sub> O	MPa	mBar/cmH <sub>2</sub> O	Absolute (psia)
3000	1	250	15
5000	1.6	300	25
10,000	2.5	400	50
	6	500	
	10	600	
	40	1000	
		1600	
		2000 <sup>(2)</sup>	
		2500 <sup>(1)</sup>	
		4000	
		5000	
		6000	
		10,000	

### TYPICAL PRODUCT CODING

1. Dial Size: 3" **30**  
 2. Type: 2089 **2089**  
 3. Wetted Parts: 316 SS **SD**  
 4. Connection: 1/4 NPT lower **02L**  
 5. Range: 100 psi **100#**