Model 3089, 3086, 3084
Precision Digital Test Gauge

LOOK FOR THESE AGENCY MARKS ON OUR PRODUCTS

.05% Total Error Band
Temperature corrected full-scale terminal-point accuracy from 0 to 150°F

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 Heise 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 Heise digital gauge with total error band ensures accuracy from 0-150°F.*

PRODUCT SPECIFICATIONS

Type: 3089 (0.05% F.S. accuracy), 3086 (0.10% F.S. accuracy), 3084 (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, Repeatablilty 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: ¼ 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 approval not available on vacuum ranges and compound ranges up to 15 psi

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_2O, ftSW, Bar, mBar, kPa, mPa, mmHg, cmH_2O, mmH_2O, kg/cm^2
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 3089, others optional
Standard Features: 300 Series SS Protective Cover,

ISO 9001
REGISTERED FIRM
BULLETIN HDTG-1

Ashcroft Inc., 250 East Main Street, Stratford, CT 06614 USA
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IS YOUR DIGITAL GAUGE AS ACCURATE AS YOU THINK?

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Unmatched Accuracy Performance

- .05% Full Scale Total Error Band (TEB). Includes the effects of linearity, hysteresis, repeatability and temperature from 0 to150°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, FM/CSA approval not available on vacuum ranges and compound ranges up to 15 psi
- 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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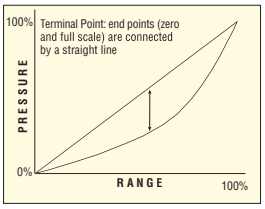
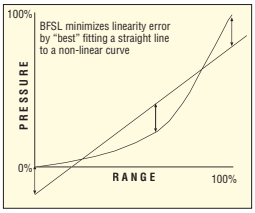
Hesie Precision Digital Gauges with Terminal Point Accuracy

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...

Heise Digital Test Gauge *Accuracy Includes*	
Linearity	✔
Hysteresis	✔
Repeatability	✔
Temperature (0/150°F)	✔
Terminal Point Accuracy	✔

Total Error Band (TEB) ***...A Heise Exclusive***

INDUSTRY LEADING CONFIGURABLE OPTIONS

- ***UNITS** of measurement – 12 options including ˝H_2O 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*

.66˝ high digital display

Bar graph % of full scale

Flashing display when unit pressured beyond range or below zero

Battery level indicator

Press to indicate minimum or maximum pressure gauge has measured. Stores minimum and maximum values

Range on keypad, complies with ASME B40.7, reduces the possibility of accidental overpressure

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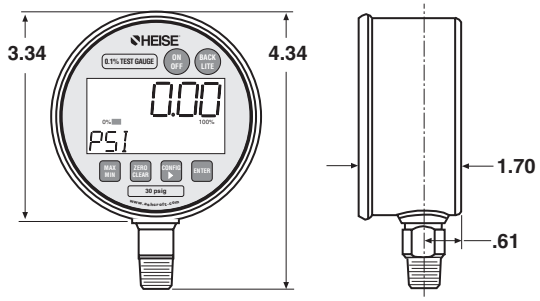
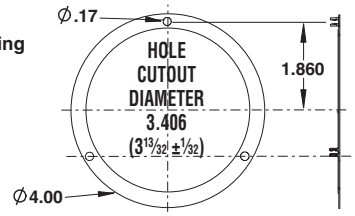
Dimensions



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			160	
600			250	
800			400	
1000			500	
2000				
2500				
3000				
5000				
7000				

mmH_2O	MPa	mBar/ cmH_2O	Absolute (psia)
3000	1	250	15
5000	1.6	300	25
10,000	2.5	400	50
	6	500	
	40	600	
		1000	
		1600	
		2000	
		2500	
		4000	
		5000	
		6000	
		10,000	

TYPICAL PRODUCT CODING

1		2		3		4		5
30	–	3089	–	SD	–	02L	–	100#

1. Dial Size: 3″
2. Type: 3089
3. Wetted Parts: 316 SS
4. Connection: ¼ NPT lower
5. Range: 100 psi

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