

## Model 3089, 3086, 3084 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

**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 temperature 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.*

#### Heise Precision Digital Gauges with Terminal Point Accuracy

- 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 with Competitors (BFSL) Approach

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

### PRODUCT SPECIFICATIONS

|                       |                                                                                                                                                       |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type:</b>          | 3089 (0.05% F.S. accuracy), 3086 (0.10% F.S. accuracy), 3084 (0.25% F.S. accuracy)                                                                    |
| <b>Accuracy:</b>      | 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) |
| <b>Case Size:</b>     | 3"                                                                                                                                                    |
| <b>Case Material:</b> | 300 Series Stainless Steel                                                                                                                            |

|                        |                                                                                                                                |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Case Finish:</b>    | Electropolished                                                                                                                |
| <b>Case Rating:</b>    | Weatherproof, IP65, NEMA 4                                                                                                     |
| <b>Case:</b>           | Available with Optional Protective Rubber Boot                                                                                 |
| <b>Wetted Parts:</b>   | 316 Stainless Steel                                                                                                            |
| <b>Inlet Size:</b>     | 14 NPT Male, JIS, DIN, SAE, (others on application)                                                                            |
| <b>Inlet Location:</b> | Lower (6 o'clock) 3 and 9 o'clock (optional)                                                                                   |
| <b>Mounting:</b>       | Stem (standard), Panel (optional)                                                                                              |
| <b>Ranges:</b>         | Vac. thru 7000 psi (see engineering units below for other units of measurement) Non-cataloged available ranges on application. |

|                          |                                                                       |
|--------------------------|-----------------------------------------------------------------------|
| <b>Operating Temp.:</b>  | 0/150°F (-18/63°C)                                                    |
| <b>Storage Temp.:</b>    | -40/180°F (-40/82°C)                                                  |
| <b>Temp. Corrected:</b>  | Yes                                                                   |
| <b>DISPLAY</b>           |                                                                       |
| <b>Type:</b>             | LCD                                                                   |
| <b>Display Digits:</b>   | 5, 99999 display counts                                               |
| <b>Character Height:</b> | .66"                                                                  |
| <b>Backlite:</b>         | Off by default                                                        |
| <b>Bar Graph:</b>        | Yes                                                                   |
| <b>Battery Life:</b>     | >1000 hrs. (3 AAA alkaline batteries)                                 |
| <b>Agency Approvals:</b> | CE EN 50082-1 (1997), FM, CSA, (CEN-ELEC - ATEX 100 approval pending) |

### KEYPAD FUNCTIONS

|                                     |                                                                                                                                                                                        |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>On/Off:</b>                      | Manually turns unit on and off (auto off options in configuration menu)                                                                                                                |
| <b>Backlite:</b>                    | Manually turns backlite on and off (auto off options in configuration menu)                                                                                                            |
| <b>Min/Max:</b>                     | Stores min. and max. values when displayed                                                                                                                                             |
| <b>Zero/Clear:</b>                  | Zeros display or clears min. and max. values when displayed                                                                                                                            |
| <b>Enter:</b>                       | Selects items in configuration menu                                                                                                                                                    |
| <b>Configuration Mode (CONFIG):</b> | Allows scrolling through configuration menus to select available options                                                                                                               |
| <b>Engineering Units:</b>           | 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> (*Allows choice of reference temperatures 4°C, 20°C or 60°F) |
| <b>Update Rate:</b>                 | Four Options: 10x/sec, 5x/sec, 2x/sec, 1x/sec                                                                                                                                          |
| <b>Auto Off:</b>                    | Five Options: Never, 2 min., 5 min., 15 min., 30 min.                                                                                                                                  |
| <b>Dampening:</b>                   | Five Options: None, average 2, 4, 6, 8 readings                                                                                                                                        |
| <b>Language:</b>                    | Seven Languages: English, Spanish, French, Italian, German, Portuguese, Dutch                                                                                                          |
| <b>Backlite:</b>                    | Five Options: On/off, 10 sec., 30 sec., 1 min., 5 min.                                                                                                                                 |
| <b>Calibrate:</b>                   | Zero and Span (password protected)                                                                                                                                                     |
| <b>Contrast:</b>                    | Seven available options                                                                                                                                                                |
| <b>Disable:</b>                     | Locks in current configuration settings                                                                                                                                                |
| <b>Calibration Chart:</b>           | 10 point individual calibration chart, standard for Type 3089, others optional                                                                                                         |
| <b>Standard Features:</b>           | 300 series SS protective cover, Protective carrying pouch                                                                                                                              |
| <b>Optional Features:</b>           | Hard carrying case, Protective rubber boot, Panel mount bracket, Special cleaning (oxygen service)                                                                                     |

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