

## Data Sheet

# 2084, 2086 & 2089 Digital Test Gauge

### FEATURES

- Full Scale Total Error Band (TEB) includes the effects of linearity, hysteresis, repeatability and temperature from 0 °F to 150 °F (-18 °C to 63 °C)
- Weatherproof IP65
- Large LCD display
- Seven languages
- Field calibration capability

### TYPICAL USES

- Test bench / gauge repair facilities
- Calibration laboratories
- Mobile calibration labs
- Test measurement and validation

### SPECIFICATIONS

Accuracy: 2089: ±0.05% of span accuracy  
2086: ±0.10% of span accuracy  
2084: ±0.25% of span accuracy  
Terminal Point, Total Error Band (TEB) Including Hysteresis, Linearity, Repeatability and Temperature (0 °F to 150 °F)

Size:	3"
Case Material:	300 Stainless Steel
Case Finish:	Tumble polished
Case:	Weatherproof ABS gauge carrying case
Process Connection:	¼ NPT Male
Process Connection Location:	Lower, left or right
Mounting:	Stem
Ranges:	Gauge, compound, absolute and vacuum thru 7,000 psi (see engineering units on page 3 for other units of measurement)
Temperature Corrected:	Yes
Calibration Chart:	10 NIST Traceable chart included with 2089, optional for 2084 and 2086
Enclosure Rating:	Weatherproof, IP65

### WETTED COMPONENTS

Model	Process Connection and Sensor
2084, 2086, 2089	316 Stainless steel

### NON-WETTED COMPONENTS

Model	Case
2084, 2086, 2089	304 Stainless steel

### MIN/MAX TEMPERATURE LIMITS

Version	Process	Storage
2084, 2086, 2089	0 °F to 150 °F (-18 °C to 65 °C)	-40 °F to 180 °F (-40 °C to 82 °C)



2084, 2086 & 2089  
3" dial size



### KEY BENEFITS

- Highly accurate test instruments
- Silicone MEMS sensor technology provides accuracy and long term stability
- Rugged and portable design
- Twelve engineering units

### DISPLAY

Type:	LCD
Display Digits:	5
Character Height:	0.66"
Backlight:	Off by default, programmable Manually turns backlight on and off
Bar Graph:	10 segment
Battery Life:	1,000 hrs. (3 AAA alkaline batteries)

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#### PRESSURE RATINGS

Overpressure:	Proof:	Burst:
Vac to ≤300 psi	2 X Range	3 X Range
≥300 to ≤3,000 psi	2 X Range	5 X Range
≥5,000 to ≤7,000 psi	2 X Range	2 X Range

#### AGENCY APPROVALS

FM and CSA Intrinsically Safe.

FM Class I to III, Div. 1 Groups A-G

CSA Class I, Div. 1, Groups A-D, Class II Div. 1, Groups E-G, Class 2 Div. 2

Groups F and G, Class III

**Note: FM/CSA approval not valid on vacuum and 15# & vacuum ranges**

ORDERING CODE	Example:	30	2089	S	D	02	L	XS7	1000#
<b>Dial Size</b>									
30 - 3.0"		30							
<b>Model (Accuracy)</b>									
2089 - ±0.05% of span (includes NIST traceable calibration certificate)			2089						
2086 - ±0.10% of span									
2084 - ±0.25% of span									
<b>System</b>									
S - 316 Stainless Steel				S					
<b>Case</b>									
D - Dry					D				
<b>Process Connection Size</b>									
02 - ¼ NPT Male						02			
<b>Process Connection Location</b>									
L - Lower							L		
E - Left (9 o'clock)									
D - Right (3 o'clock)									
T - Top									
<b>Options (if choosing an option(s) must include a "X")</b>									X
6W - Cleaned to ASME B40.100 level IV NOT marked for oxygen service									
C4 - Individual certified calibration chart (included on 2089 no code required)									
S7 - Weatherproof ABS gauge carrying case								S7	
FF - Flange for panel mounting									
B1 - Protective rubber boot (black)									
B2 - Protective rubber boot (orange)									
NH - Metal tag wired to case									
NN - Paper tag bonded to case									
MF - Free from mercury certificate									
TU - Throttle plug									
MN - Mylar tag bonded to case									
<b>Range (coding example, see range table below for all standard ranges)</b>									
1,000# - 0-1,000 psi									1000#

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### MENU MODE

Engineering Units:	psi, inHg, inH <sub>2</sub> O, ftSW, Bar, mBar, kPa, mPa, mmHg, cmH <sub>2</sub> O, mmH <sub>2</sub> O and kg/cm <sup>2</sup>
Configuration Mode (Config):	Access configuration menus to select available options
Auto Off (Off):	Allows for changes to auto off of gauge, five options: Never, 2 min., 5 min., 15 min., 30 min.
Update Rate (Update):	100 ms, 200 ms, 500 ms or 1 sec
Dampening (Damp):	None, average, 2, 4, 6 or 8 times per 100ms
Backlite:	Never, 10 sec., 30 sec., 1 min. or 5 min.
Field Recalibration:	Allows for recalibration of zero, midscale and span (password protected)

### KEYPAD FUNCTIONS

On/Off:	Manually turns unit on and off (auto off options in configuration menu)
Min./Max. (down) Arrow Key:	Stores Min. and Max. values, arrow key allows for scrolling thru menu items
Zero/Clear:	Zeros display and clears Min. and Max. values
Zero Disable:	Allows for disabling of Zero button
Contrast:	Seven options available
Disable:	Allows for "lock-out" of CONFIG options
Menu Key:	Provides access to menu options
Enter:	Selects items in the configuration menu

### STANDARD PRESSURE RANGES

SINGLE SCALE		SINGLE SCALE	
psi	bar	psi	bar
<b>Pressure</b>		<b>Absolute</b>	
5#	1 BR	15#	1.6 BR
10#	1.6 BR	25#	1 BR
15#		50#	1.6 BR
30#	2.5 BR	<b>Compound</b>	
60#	4 BR	15#&V	0 BR & V
100#	6 BR	30#&V	1 BR & V
160#	10 BR	60#&V	2 BR & V
200#	16 BR	100#&V	3 BR & V
	25 BR	<b>Vacuum</b>	
	40 BR	15#&V	0 BR & V
300#	60 BR	Consult factory for additional ranges and units of measure.	
500#			
600#	160 BR		
800#	250 BR		
1000#	400 BR		
2000#	500 BR		
2500#			
3000#			
5000#			
7000#			

### DIMENSIONS

For reference only, consult Ashcroft for specific dimensional drawings

