

HPE80 Digital Pressure Gauge



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Overview

HPE80 electronic digital pressure gauge uses high-precision and high-stability pressure core as sensitive element and is assembled and produced through strict process flow. The product is battery-powered, can accurately display pressure in real time, and has the characteristics of high precision and good long-term stability. The product is equipped with a large LCD screen, 5-digit display, and has functions such as unit switching, one-key zeroing, peak and valley value recording, backlight, power on and off, and adjustment of filter constants.

This electronic digital pressure gauge is widely used in hydropower, tap water, petroleum, chemical industry, machinery, hydraulic and other industries to measure and display the pressure of gas, water, oil and other media that are non-corrosive to stainless steel on site.

Features

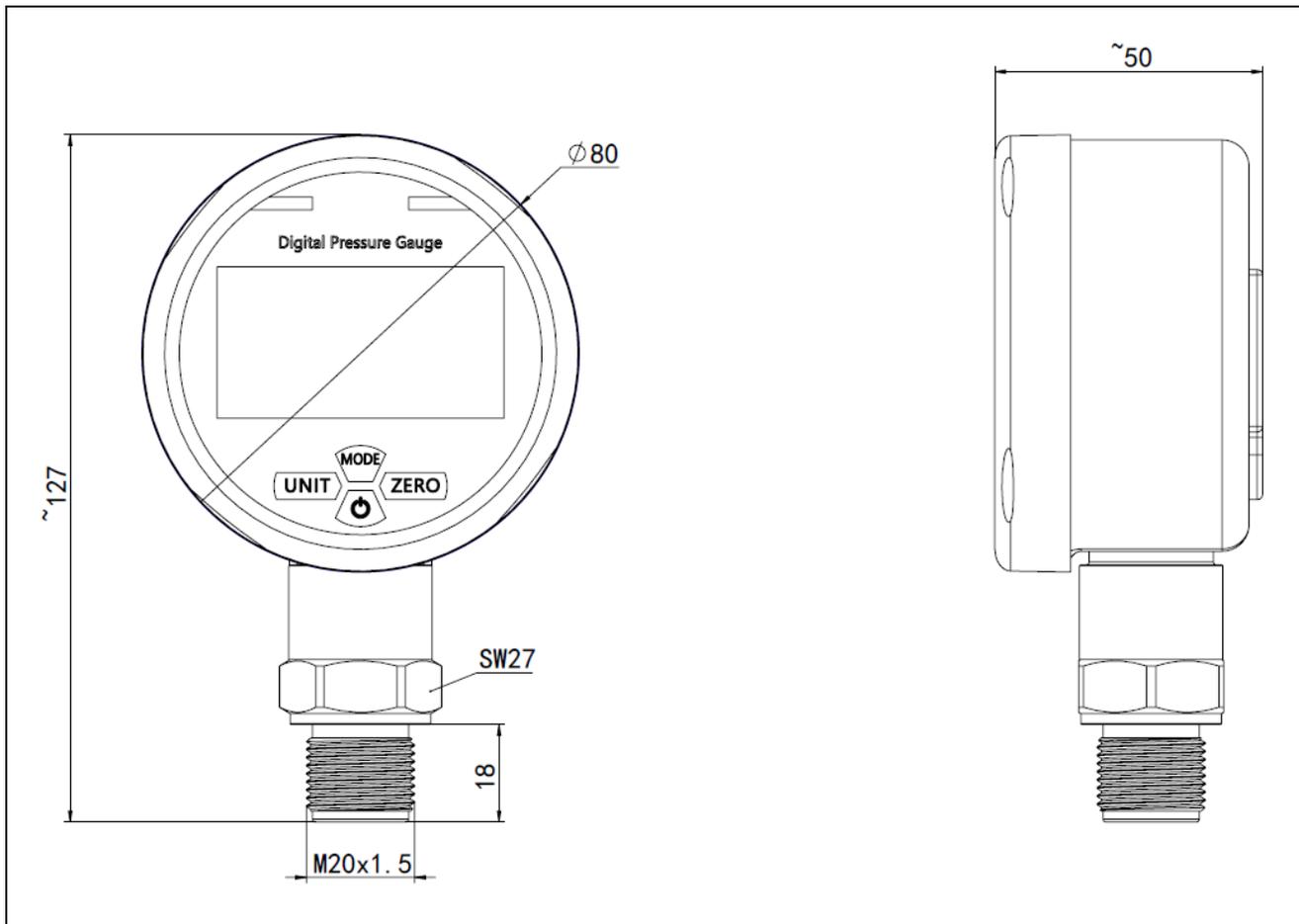
- ◆ 5-digit digital display, large LCD screen
- ◆ Comprehensive functions, easy operation
- ◆ 0.25-level typical accuracy, optional 0.1-level accuracy
- ◆ Wide measuring range, can measure gauge pressure, absolute pressure and sealed gauge pressure
- ◆ Universal for oil, water and gas
- ◆ Multiple pressure interfaces available
- ◆ Wide temperature range compensation, small temperature drift
- ◆ Good long-term stability

Technical Parameters

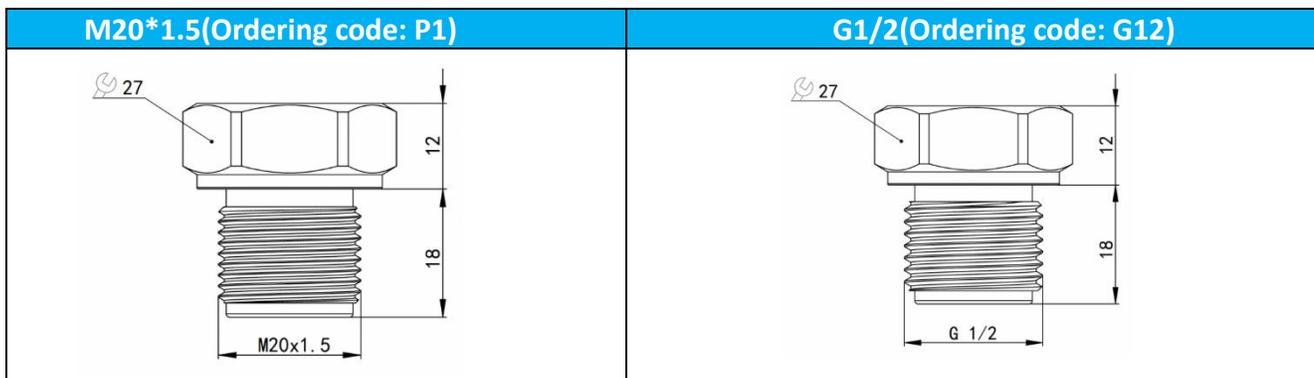
Pressure Range (Gauge pressure)	-100kPa...0~7kPa...250MPa
Pressure Range (Absolute pressure)	0~50kPa...10MPa
Overload	1.5x of full scale
Measuring Medium	various liquid, gas compatible with 304 or 316L stainless steel
LCD Display Digits	5-bits
LCD Display Range	-19999~99999
LCD Display Content	Simulation progress bar display, pressure unit display, remaining power display, peak and low value record display
Power Supply	3V (2*AAA battery)
Battery Life	≥6 months (depending on the specific working conditions)
Power Consumption in Shutdown State	<10uA

Accuracy	±0.25%FS, @25°C (Typical) ±0.1%FS, @25°C (Improved)
Long-term Stability	±0.3%FS/year (0.25% accuracy) ±0.2%FS/year (0.1% accuracy)
Backlight Time	15 seconds, 30 seconds, 60 seconds, always on demand. 30 seconds by default.
Auto power off time	300 seconds, 600 seconds, 900 seconds, 1800 seconds, 3600 seconds, always on. 3600 seconds by default.
Sampling rate	0.33 seconds/time, 1 second/time, 2 seconds/time, 3 seconds/time, 4 seconds/time, 5 seconds/time. 1 second/time by default
Compensate temperature range (0.25%FS accuracy)	0~50°C (Range≤35kPa) -10~70°C (35kPa<Range≤60MPa) 0~70°C (60MPa<Range≤250MPa)
Temperature Coefficient of Zero (0.25%FS accuracy)	±1.5%FS, Reference 25°C, Within temperature compensation range (Range≤35kPa ,temperature drift ±1.0%FS, 0~50°C)
Temperature Coefficient of Full Scale (0.25%FS accuracy)	±1.5%FS, Reference 25°C, Within temperature compensation range (Range≤35kPa ,temperature drift ±0.8%FS, 0~50°C)
Compensate Temperature Range (0.1%FS accuracy)	0~70°C (35kPa≤Range≤70kPa, 3.5MPa<Range≤70MPa) -20~85°C (70kPa<Range≤3.5MPa)
Temperature Coefficient of Zero (0.1%FS accuracy)	±0.75%FS, Reference 25°C, Within temperature compensation range
Temperature Coefficient of Full Scale (0.1%FS accuracy)	±0.75%FS, Reference 25°C, Within temperature compensation range
Ambient Temperature	-20~50°C
Medium Temperature	-30~80°C -40~140°C (with 5 pcs cooling fins) -40~200°C (with 10 pcs cooling fins)
Storage Temperature	-20~50°C
Protection Grade	IP54
Vibration	10g(20~2000Hz)
Impact resistance	100g(11ms)

Dimensions (Unit: mm)



Process connection (Unit: mm)



Structural Materials

Ordering Code	Part	Note
S4	Housing	Stainless steel 304 (By default)
S4	Process Connection	Stainless steel 304 (By default)
S6		Stainless steel 316L
X		Customized
M1	Sensor Diaphragm	Stainless steel 316L (By default)
X		Customized
FK	Sealing O-ring	FKM fluor rubber sealing ring (Applicable temperature range -20~200°C) (by default)
HJ		Welded, no internal seal ring.

Functional Instructions



Key Operation

Key	Note
	<ul style="list-style-type: none"> ● Power on/off In shutdown mode, shortly press the key to turn on the gauge. In measurement mode, press the key for 3 seconds to turn off the gauge. ● Backlight switch In power-on mode, short press the "power key" to turn on or off the backlight
	<ul style="list-style-type: none"> ● In measurement mode, short press the "UNIT" button to switch between various units. 7 units are available: Pa, kPa, MPa, bar, psi, kgf/cm2, m. ● In parameters setting mode, short press the "UNIT" or "ZERO" button to switch between the various values.
	<ul style="list-style-type: none"> ● One-button zero reset Under zero pressure, press and hold the "ZERO" button for 3 seconds, the display will show the ZERO prompt, continue to press and hold for 3 seconds until the zero reset is completed ● Cancel zero reset If it has been reset, press and hold the "ZERO" button for 3 seconds, the display will show the rZERO prompt, continue to press and hold for 3 seconds until the cancellation of zero reset is completed ● Clear peak and valley value records Shortly press the "ZERO" button to clear the maximum and minimum peak and valley value records
	<ul style="list-style-type: none"> ● In measurement mode, shortly press the "MODE" button to switch between normal measurement, maximum value mode, and minimum value mode. ● In parameters setting mode, short press the "MODE" button to confirm the select or quit the configuration.

Parameters Setting

Operation	<p>Long press the "MODE" key to enter the password input state, the "UNIT" key moves the cursor, the "ZERO" key changes the value at the cursor, and enter the password "00001" and press the "MODE" enter the menu setting state.</p> <p>Parameter settings are divided into viewing state and modification state.</p> <ul style="list-style-type: none"> ● In the viewing state, press the "UNIT" and "ZERO" keys to turn the menu, ● Press the "MODE" key to enter the menu to be modified. The whole value flashes. Use "UNIT" and "ZERO" keys modify the parameter value. Press the "MODE" key to return to the viewing state. <p>YES/NO: YES: Save, NO: Do not save All parameter changes must be saved after selecting YES.</p>
	Backlight time setting, can be set to 15 seconds, 30 seconds, 60 seconds, or always ON.
	Automatic shutdown time can be set to 300 seconds, 600 seconds, 900 seconds, 1800 seconds, 3600 seconds, or normally open/ON.
	The acquisition rate setting can be set to 0.33 seconds/time, 1 second/time, 2 seconds/time, 3 seconds/time, 4 seconds/time, 5 seconds/time.

Ordering Guide

Code	Type				
HPE80	Digital pressure gauge				
eg:HPE80	(X ₁ ~ X ₂)kPa	Measuring Range			
		X1 is the lower limit of the range X2 is the upper limit of the range			
		Code	Thread Spec		
		P1	M20×1.5 male		
		G12	G1/2 male		
		G14	G1/4 male		
		Code	Sensor Diaphragm		
		M1	316L		
		X	Customized		
		Code	Process Connection Material		
		S4	304		
		S6	316L		
		X	Customized		
		Code	Others		
		G	Gauge Pressure		
S	Sealed Gauge Pressure				
A	Absolute Pressure				
J25	0.25%FS Accuracy(by default)				
J1	0.1%FS Accuracy				
FK	FKM sealing ring (by default)				
HJ	Welded, no internal seal				
QF	Factory report				
	Others requests				
eg:HPE80	(0 ~ 600)kPa	P1	M1	S4	G J25 FK