Fande

HIGH PRECISION PRESSURE GAUGE

——— OPERATION INSTRUCTION

www.fandesensor.com

■ NOTICE

1. Please check the packaging and appearance after you received the product.
2. Please check the mode and specification of the product. Keep correct electrical connection and mounting method.
3. Power: three pieces of AA battery or USB-power.
4. During using, please notice the technical and operation conditions: the temperature of medium, burst pressure, power supply.
5. This product is a precision device, DO NOT use hard objects to touch the diaphragm or disassemble.
6. During installation, do not install or disassemble strongly, especially the installation of thread.
7. Please install or disassemble with a suitable wrench, Otherwise, the damage is not in the scope of warranty.
8. After starting the gauge, it is a normal phenomenon to take a few minutes to keep it stable and work normally.
9. If the product is out of order, please contact our after-sale technical staff.
10. During installation, the gauge will be affected by installation stress. After installation, please zero clearing.

(!)The product damage caused by non-professional operation according to the operation regulation is not the scope by the warranty.

■ DESCRIPTION

This gauge adopts 55x55 mmlarge size LCD screen: main screen and auxiliary screen. It displays the pressure in real time, at the same time, it can also display the temperature, maximum and minimum value of the reference data.

Powerful functions: three pieces AA battery power display; preset 10 common pressure units available; the pressure acquisition rate adjustable; the product is equipped with USB external power supply and battery power.

This product uses three pieces AA battery power supply, with the ultra low power consumption design, the highest life may exceed 3600 hours.

The product adopts high precision ADC and high speed microprocessor, all digital design. The product has high precision, good stability and good shock resistance.

☆ 5 digit display, main and auxiliary screen design
☆ AA battery power, services more than 3600 hours
☆ High accuracy class，0.2/0.1/0.05%Fs
☆ 10 pressure units available: MPa/KPa/psi/bar/pa
mBAR/mmHg/mH20/Torr/kgf/cm²
☆ Display the temperature,maximum and minimum value of the reference data

■ SPECIFICATION

Pressure Range：
    -1~1 1.6 2.5 4 6 10...1000bar
    -100 -60 -40 -25 -10~10...100kPa
    0~100Kpa...1000Kpa(Absolutely Pressure)
Pressure Accuracy: 0.2%, 0.1%, 0.05%(10~30℃)
Temperature Accuracy: ≥0.5℃
Operation Temperature: -10~50℃
Compensation Temperature：0~40℃
Power：   AA battery or USB power
Battery Life： 3600 hours
Sampling Rate： 1-10 times/second
Dial Diameter： 105mm
Screw Thread： M20*1.5 G1/4 or customized
Product Material： 304 stainless steel
Measuring Medium： oil, gas, liquid (non corrosive)
Storage Condition： Temperature (-20~60℃)
    Humidity (0~95%RH)
Certificates： CE / EX
Net Weight： 260g
Product Accessory：Power cord (1 meter), box

■ WARN

1. This product is a precision instrument, it should be regularly calibrated or submitted to ensure the accuracy of the product.

2. Product storage should be moisture and dust, as far as possible in the dry and normal temperature environment.

3. The company does not undertake any direct or indirect loss other than the product itself.

4. The company reserves the right to change the specifications of the product without notice.

■ SET

LCD AND CODE DESCRIPTION

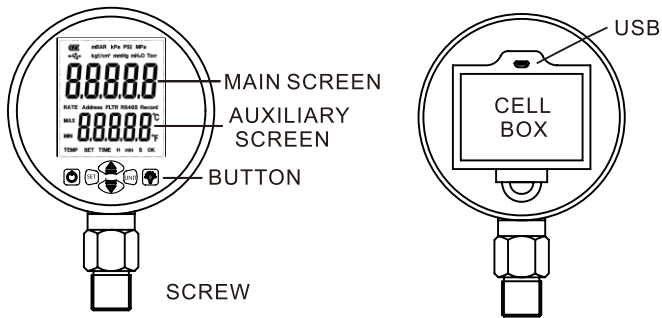| CODE	DESCRIPTION
MPA PSI mBAR kgf/CM² kPA mmHg mH₂O Torr	PRESSURE UNIT
MAX/MIN	MAXMIN PRESSURE
RATE	SAMPLING RATE
TEMP	CURRENT TEMPERATURE
℃	CENTIGRADE
℉	FAHRENHEIT DEGREE
TIME	TIME
SET	SET FUNCTION
🔋	BATTERY LEVEL
Rs485	Rs485 Signal
Address	Address Bit
FLTR	Baud Rate
Record	Record Function
H min S	Hour/Minute/Second
⟵•	COMMUNICATION SIGN

***The above code is NOT fully open to the customer because of the product design requirements.

■ BUTTON FUNCTION
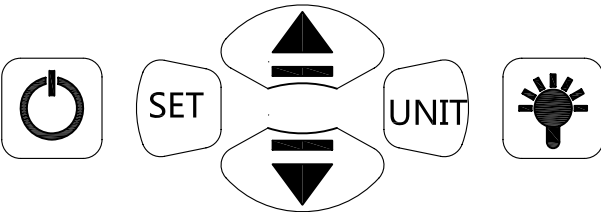
| BUTTON	NAME	DESCRIPTION
⏻	POWER	Short press to ON/OFF
SET	SET	Short press two seconds to enter set function, the'set light' on
▲	INCREASE	Short press to increase; long press to zero clearing
▼	DECREASE	Short press to decrease; long press to clear auxiliary screen record value
UNIT	UNIT	Short press to switch pressure units
☀	BACKLIGHT	Short press to open the backlight; long press to keep the backlight on

■ APPEARANCE

MAIN SCREEN
AUXILIARY SCREEN
BUTTON
SCREW
USB
CELL BOX

■ POWER

Two models power supply: Battery or USB

Battery	Three pieces AA battery
USB	USB2.0, 5V Power *Standard power cord (5V0.15A)

■PRODUCT SIZE


45

105

155
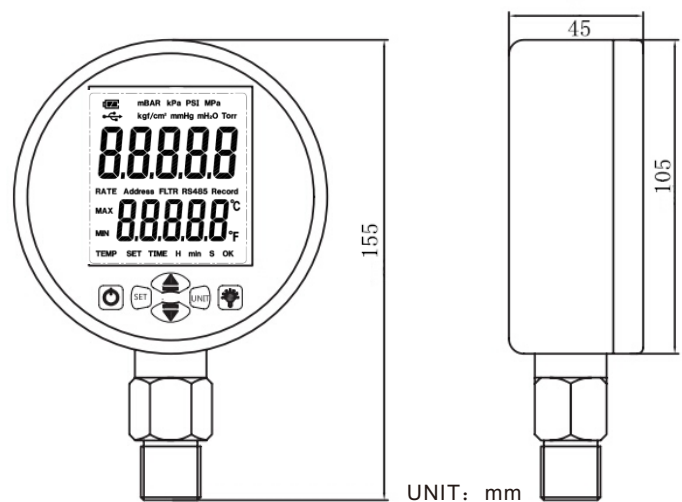
UNIT：mm

■ FUNCTION DESCRIPTION

1.ZERO CLEARING

Long press ' ▲ ' for 4 seconds to zero clearing (main screen). The full screen displayed once means zero-clearing finished.

*** MAIN SCREEN ZERO CLEARING MUST BE WITHOUT PRESSURE.

2. MAX/MIN VALUE ZERO CLEARING

Long press ' ▼ ' for 4 seconds to Max/Min value zero-clearing (auxiliary screen). The full screen displayed once means zero-clearing finished.

3.PRESSURE UNITS SWITCH

Short press ' UNIT 'to switch units cyclically.

*** NOT ALL THE PRESSURE UNITS CAN BE SWITCHED. THE SPECIFIC SITUATION BASED ON PRESSURE RANGE CHOICE.

4. BACK-LIGHT

Short press ' ☀ ',the back-light will be on for 3 seconds; Long press ' ☀ 'for 2 seconds, the back-light will be always on. Press ' ☀ 'to turn off.

## 5. ON/OFF

Short press' ⏻ 'to turn on/off the gauge.

6.AUTOMATIC SHUTDOWN

When the function on, the gauge will shutdown automatically with any operation in 10 minutes.

*** Factory defaults the function is on. Turn off the function, please refer to 'FUNCTION SETTING'.

■FUNCTION SETTING

***Press 'SET' button for 2 seconds to enter set function, the screen will show 'SET' sign.

| CODE	FUNCTION	DESCRIPTION
RATE	Sampling Rate	When 'RATE' light on, the value showing on the auxiliary screen is sampling rate. The sampling rate range is 1~10(Factory defaults: 3). Higher value means lower sampling rate and stable; smaller value means faster sampling rate. then press'SET'button to enter next function setting.
MAX	Maximun Value	When 'MAX' light on, auxiliary screen showing 'OFF' means the function off. If it showing 'ON' means the function on. Press ' ▲ 'or ' ▼ ' button to switch ON/OFF, then press 'SET' button to enter next function setting.
MIN	Minimun Value	When 'MIN' light on, auxiliary screen showing 'OFF' means the function off. If it showing 'ON' means the function on. Press ' ▲ 'or ' ▼ ' button to switch ON/OFF, then press 'SET' button to enter next function setting.
TEMP	Current Temperature	When 'TEM' light on, auxiliary screen showing 'OFF' means the function off. If it showing 'ON' means the function on. Press ' ▲ 'or ' ▼ ' button to switch ON/OFF, then press 'SET' button to enter next function setting.
AS-1	Automatic Shutdown	When auxiliary screen showing 'AS-1/0', press ' ▲ 'or ' ▼ ' button to switch. (AS-1 means the function on, the gauge will be shutdown in 10 minutes without any operation; AS-0 means the function off), then press 'SET' button to enter next function setting.
Rs485	Rs485 Signal	When 'Rs485'light on, auxiliary screen showing 'ON/OFF', press ' ▲ 'or ' ▼ ' button to switch. (ON means the function on; OFF means the function off), then press 'SET' button to enter next function setting. *** This is additional function. It needed to put it up before purchase.
ADDRESS	Address Bit	When 'Address 'light on, auxiliary screen showing address bit, press ' ▲ 'or ' ▼ ' button to change. (1~255 available). Then press 'SET' button to enter next function setting. *** This is additional function. It needed to put it up before purchase.
FLTR	Baud Rate	When 'FLTR 'light on, auxiliary screen showing baud rate, press ' ▲ 'or ' ▼ ' button to change. (4800/9600/19200 available). Then press 'SET' button to enter next function setting. *** This is additional function. It needed to put it up before purchase.

***After setting, press ' SET ' for 2 seconds to save and quit.

■PROBLEMS AND SOLUTION

1. Q: Back-light Dim
   A : Low Battery, it needed to change new battery.

2. Q: Battery identification flashing
   A : Low Battery, it needed to change new battery.

3. Q: Pressure no change
   A: Reason Analysis:
      (1). Pressure connector block
      (2). Zero clearing with pressure
      (3). Pressure sensor damage
   Solutions:(1). Clear pressure connector
            (2). Zero clearing without pressure
            (3). Return factory to repair

4. Q: Showing 'E--H'
   A: Reason Analysis:
      (1). Over pressure
      (2). Pressure sensor damage
   Solutions:
      (1). Decrease pressure
      (2).Return factory to repair

5.Q:Pressure change slowly
   A: Sampling rate low. Sampling rate value decrease

6.Q: Pressure change slowly
   A: Value is beating too fast. Sampling rate value increase

7.Q:Pressure shock frequently
   A: Reason Analysis:
      (1). Pressure sensor damage easily
      (2). Pressure leakage
   Solutions:
      Use buffer pipe

8. Q:High operation temperature
   A: Damage gauge easily. Use buffer pip

9.Q:Automatic Shutdown
   A: Check the function of AS-1'

■ AFTER-SALE SERVICE

1. The product warranty period is 12 months from the date of delivery. During the 12 months, free warranty for an artificial fault. Out of warranty, we still provide technical services.

2. The main parts of product: pressure-sensitive components, shell and screen buttons. Normally worn of shell is out of warranty and replacement. Diaphragm damaged (over pressure or hard material touching) is out of the warranty.

3. The followed situations are out of warranty service:

1) All human factors: failure to use the instructions, damage in abnormal working environment.

2) Without company's permission, the user disassemble, repair or refit the product without authorization.

3) Damage caused by bad transportation after purchasing our products.

4) Damage caused by other non resistance (flood, lightning, earthquake, abnormal voltage)

5)Normal worn, broken and disseminated.

6) Fake-not the product of my company

7)Unable to provide valid shopping vouchers no warrantycards etc.