

I.The product overview

1 .Overview

Precision digital pressure gauge is my company in accordance with the latest national standards developed and produced high-precision smart pressure measuring instruments. Pressure gauge mainly by the pressure sensor and signal processing circuit. Imported pressure sensor, superior performance, with high precision, corrosion resistance, shock resistance, vibration resistance, low temperature drift, high stability and other advantages; signal processing circuit using the latest ultra-low power processors, signal processing chips and power supply Management chip composition. High-capacity high-performance lithium battery-powered, no external power supply. The appearance of the instrument delicate, compact, beautiful, easy to use.

2. Characteristics

- Touch button, no mechanical contact, a good solution to the problem of life and sealing.
- Wide temperature temperature compensation, ultra-low power consumption.
- Unit conversion, peak valley and other functions fully preserved.
- Additional setting complete functions, customers can set their own use of the environment and habits, flexible use.

Battery can be replaced.

Waterproof grade $\cong$ IP66, higher than the industry level.

II.The technical parameters

1.Electrical characteristics

- 1) Measuring range: see label
- 2) Accuracy class: see the label
- 3) Display: 5-digit dynamic display + percentage indicator
- 4) Pressure units: Pa, kPa, MPa, psi, bar, mbar, mmH₂O, mmHg, inH₂O, inHg, kg · f / cm²
- 5) Overload pressure: 150% FS
- 6) Destruction pressure: 200% FS
- 7) Power supply: 3.6V non-rechargeable lithium battery (ER18505H)
- 8) Working environment:
Temperature: -20 °C ~ 60 °C;
Humidity: $\leq$ 85% RH;
Calibration reference environment: 20 °C $\pm$ 2 °C
- 9) Explosion-proof level: ExiaIICT4
- 10) Degree of protection: $\cong$ IP66

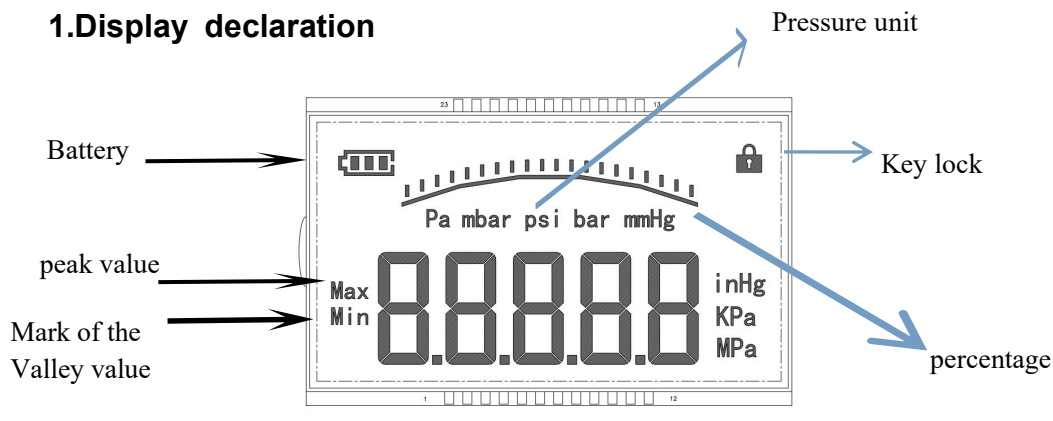
2.Mechanical properties

- 1) Process interface: M20 $\times$ 1.5 (male), special threaded interface needs to be customized
- 2) Dimensions: height 170mm, width 110mm, thickness 50mm

3) weight: 600g

III.Display

1.Display declaration



2.Key function description

the boot note after the display of three content in turn to enter the pressure value display interface, respectively, shown as follows:

Measuring pressure value of 0 points, measuring pressure value Man; The precision level display format is g-x.xx, such as x.xx=0.05, and the precision level is 0.05%FS.

IV.Basic Operating instructions

1.Turn on / off

Long press  about 3 seconds to switch machine.

2.Backlight switch

Short press  the backlight is turned on and off.

Note: If the backlight is turned off automatically, the backlight will turn off automatically after 5 seconds.

3.Unit change

Short press  to change the unit .

4.Peak and Valley value switching

Short press  peaks, valleys, and current pressure displays are switched, and peaks and valleys are displayed when peak and valley values are displayed. .

Note: Peak and valley value in automatic memory after power-on, shutdown will automatically clear, in peak and valley value display, long press  about 3 seconds to clear memory peak and valley value, pressure gauge restart record.

5. Clear zero

under the current pressure display interface, the pressure gauge interface placed in the air, long press  about 3 seconds to clear 0 points.

Note: Clear zero for the clearance of zero drift, if the pressure gauge in the clear zero process of err, indicating that the value has exceeded the scope of clearance, that is, the value is no longer a zero drift, it is recommended to contact the manufacturer.

6.Touch keys Unlock and lock

Press  and  hold at the same time to unlock and lock the touch keys, while the display will display or clear the lock identity. Note: If the touch key automatically locks the function to open, if has not the key operation for a period of time, the instrument will automatically lock. Key lock does not affect backlight key function.

V.Function operation

Brief description: You can enter different function setting interfaces by entering different passwords. If you enter the wrong password, the meter will indicate the wrong password and return to the pressure display interface.

1.Password input

long press  about 3 seconds into the password input interface, the password is three bits, and then enter, and determine the number of changes will be blinking  number +,  number -,  number yes,  to exit the interface; After entering three digits, the instrument will enter different functional interfaces according to different passwords.

2.Additional function set

1) Password: 100

2) Operation:

After entering the password, the pressure gauge will display the parameters that need to be set (each parameter has a digital ID 01, 02, etc.).  Scroll down to select the item to be modified, Scroll up to select the item to be modified,  To confirm the entry of the amendment,  To exit the setting interface, the pressure gauge will restart automatically after exiting.

Through  after confirming that the selection needs to be modified, the meter will display the value of the setting, through  and  To modify the setting value, select the desired setting parameter, through  key Determine the setting parameters of this item and return to the parameter selection interface.

3) Set the parameter description:

- 1.DSP: display rate adjustment settings
- 2.BLT: Backlight Auto Off Function Setting
- 3.PAD: Automatic Shutdown Function Settings
- 4.LOK: automatic key lock function setting

4) Display rate adjustment

Note: The adjustment of pressure collection and display speed can be modified through the setting of this item. The faster the speed is, the more power is consumed by the meter. When using peak hold, it is recommended to adjust the display speed so that the most realistic peak data can be obtained; when the meter is used for pipes When the pressure is detected, it will show a decrease in the rate and extend the battery life.

Parameter Options Description:

F-F meter collects and displays at the fastest acquisition rate

1-8 1 second acquisition 8 times

1-2 1 second acquisition 2 times

1-1 1 second acquisition 1 time

2-1 2 seconds to collect 1 time

8-1 8 seconds to collect 1 time

5) Backlight auto-off function

Note: The setting of the item can be used to select whether the instrument will automatically turn off the backlight. If you select Yes, after turning on the backlight, the instrument will automatically turn off the backlight for a period of time. If you select No, you need the user to turn off the backlight by pressing the button.

Parameter Options Description:

OFF Meter turns off backlight automatically

T-05 automatically turns off the backlight after 5 seconds

T-10 Turn off the backlight automatically after 10 seconds

T-20 automatically turns off the backlight after 20 seconds

T-30 automatically turns off the backlight after 30 seconds

6) Auto off function setting

Note: Through the setting of this item, you can choose whether the instrument will automatically shut down. If you select Yes, there is no key operation for a period of time, the instrument will turn off automatically. If it is not selected, the instrument will not turn off automatically.

Parameter Options Description:

OFF instrument automatic shutdown function close

T-05 5 minutes without any operation after automatic shutdown

T-10 10 minutes without any operation after automatic shutdown

T-20 20 minutes without any operation after automatic shutdown

T-30 30 minutes without any operation after automatic shutdown

7) Automatic locking function setting instructions

Note: As the instrument selected Touch button, in order to prevent accidentally touching the key, increased the key lock function, through the setting of the instrument is automatically to lock the keys, if the choice is, in the absence of key operation for a period of time, the instrument will be

automatically locked to the button, if you choose No, The instrument will not automatically lock the button, need manual button operation lock.

Parameter option Description:

- OFF button automatic lock function close
- T-05 5 minutes without any operation after the key lock
- T-10 10 minutes without any operation after the key lock
- T-20 20 minutes without any operation after the key lock
- T-30 30 minutes without any operation after the key lock

3.Unit switch

1) Password: 101

2) operation Instructions:

After entering the password, the meter will display the unit and the unit's switch state,through press key  and  To select units to open and close , key  Keys to modify open and close,  Key to exit and save the changes, the pressure gauge will automatically restart after exiting.

3) parameter:

- ON Open the Unit display
- OFF Close the Unit display

Note: The unit switch, can only set the instrument can display units, such as the instrument itself can not be displayed in the unit will be automatically screened; After the unit is turned off, the units are converted by the unit conversion keys, and the units that display the units are closed.

4.Pressure revise

1) Password: 102

2) Operation Instructions: After entering the password, the meter will show the corrected pressure value and provide the pressure gauge with corresponding pressure. Press the button  to adjust the pressure, after the correction, the pressure gauge shows call and jumps into the next correction point until all the pressure points are corrected. , Press  the exit correction interface and the pressure gauge reboots. After no key operation for a period of time, the instrument will automatically shutdown, if you choose No, the instrument will not automatically shutdown.

5.Restore factory set

1) Password: 555

2) Operating instructions: Due to improper operation, clear zero points and pressure correction caused by the pressure gauge can not be used normally, you can enter the password to clear, password input, the pressure gauge will clear the school zero and pressure correction value, clear after the pressure gauge will automatically restart.

VI.error tip

1. Out of range tips

such as pressure value beyond the range 120%fs, the pressure gauge percent indicator will flicker hint.

2.Low battery tip

if the battery is too low, the pressure gauge will display bat-l, after the display will be automatically shut down after 2 seconds, need to replace the battery to continue to use.

3.Zero point clear out the range of tips

Long button  to clear 0 o'clock, such as more than 0 points to clear the range, instrumentation will be an error, and display err.01

4.Password input error message

In the password input interface, if the password is wrongly entered, the meter will display ERR.0

VII.Frequently Asked Questions

1.Error calculation

Pressure gauge range of PL ~ PH, the accuracy of X-level, then the error = $X \cdot (PH-PL) / 100$

The error is the maximum allowable error of the pressure gauge, the pressure at the same point.

E.g:

Pressure gauge range (-100 ~ 100) kPa 0.5-level pressure gauge

Error = $(100 - (-100)) \times 0.5\% = 1 \text{ kPa}$

2.On the issue of pressure units and decimals

because the pressure gauge has only five digits, and the pressure gauge error is full range error, so the decimal and the number of digits is determined by the full range, for example, as follows:

1) 60MPa pressure gauge, five-bit display, MPA full range is shown as 60.000, 3 decimal, converted to PSI 8702.2, 4 decimal, no matter how much pressure (including 0), the instrument under MPa forever in 3 decimal form display, under the PSI forever with 1 decimal places display.

2) 250MPa pressure gauge, converted to kPa 250000, beyond the 5-digit display, so the pressure gauge unit automatically shielded kPa unit conversion can not be converted.

3) The reason why the pressure gauge does not display the decimal point is because the accuracy of the pressure gauge is full scale accuracy. No matter at what point the error is the error, the display of the decimal point movement has no practical meaning.

3.Peak and valley preservation problem

Peak and bottom pressure gauge for the previous record of the maximum and minimum, the instrument under normal pressure display automatically backstage, key operation can be switched

to view and clear the peak and valley, the record for the boot is valid, shut down will be automatically clear. Such as blasting experiments, in order to accurately record the maximum, it is recommended to adjust the acquisition rate to the fastest.

4.Pressure gauge battery replacement

- 1) Rotate the watch ring counterclockwise to open the pressure gauge, open the battery can be directly replaced, pay attention to the positive and negative battery (battery identification).
- 2) The battery model is 18505, 3.6V non-rechargeable lithium battery。