# Pressure Display Module Manual




Fandeii Electronics Co., Ltd.
No.78 Keji 2 Road, High-Tech Development Zone, Xi'an, Shaanxi, China

Email: liujiang@fandeii.com
MOBIL/WhatsApp: +86 15902990387
Web: www.fandesensor.com

# 1 Description

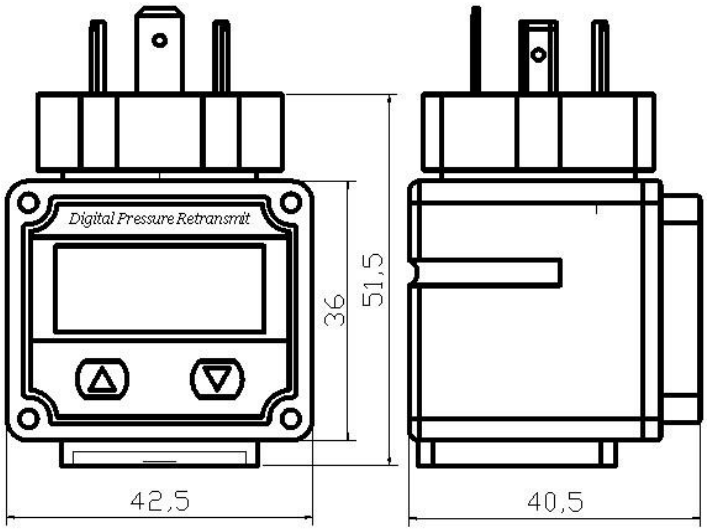
- Two-wire passive working mode, 4-digit high-brightness LED display.
- Supports functions such as zero-point clearing, small signal removal, filter setting, etc., which is easy to use.
- Full digital calibration, support nonlinear correction function, higher accuracy.
- It has complete protection against overcurrent, overvoltage, short circuit and reverse connection. Even if the load is short-circuited, the direct 24V power supply will not be damaged.
- Enhanced anti-interference design, suitable for various industrial environments with harsh electromagnetic environments.

# 2 Parameters

- Working mode: 4~20mA passive mode.
- Working voltage drop: 3.0V<@20mA;
- Display range: -1999~9999
- Current resolution: 1uA
- Overall accuracy: 0.1%
- Temperature drift coefficient: <30ppm
- Working environment: temperature -40~85℃, humidity <85%, dry and non-corrosive environment.
- Dimensions: 65×45×45mm (height×width×thickness)

# 3 Outline and Wiring

## 3.1 Outline drawing




## 3.2 Wiring Diagram

Pin definitions are as follows:

| Pin | 3-wire | 2-wire |
|---|---|---|
| 1 | +V | +V |
| 2 | GND | +OUT |
| 3 | +OUT | null |

# 4 Function Settings

## 4.1 Button function description

### 4.1.1 Up Key “▲”

- Short press in measurement mode to switch display mode.
- Press and hold for 5 seconds in the measurement mode to enter the main variable to clear.
- Short press in setting mode to move the blinking bit.

### 4.1.2 Down Key “▼”

- Short press in measurement mode to switch display mode.

- In the setting mode, it is the function of adding one to the setting parameters, and the continuous shift adds one when long press.

### 4.1.3 Setting key “▲” + “▼”

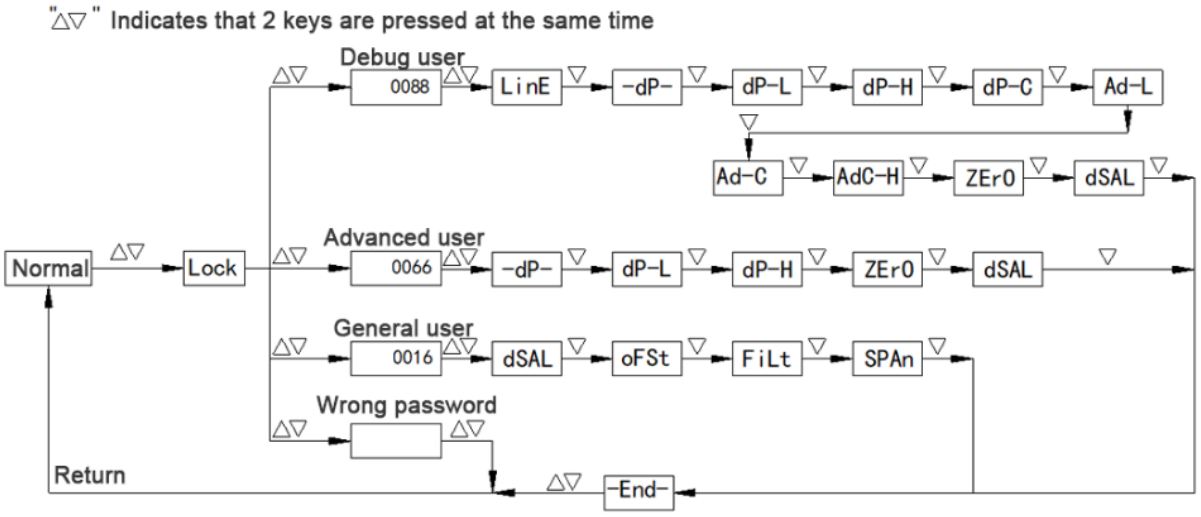
- Press "▲" and "▼" at the same time to setting function.
- In measurement mode, press "▲" and "▼" simultaneously to enter the setting state.
- In setting mode, press "▲" and "▼" simultaneously to set or confirm parameter modification.

### 4.1.4 Overview of button functions

The instrument realizes all parameter input and calibration data setting and collection through two buttons on the panel. Various optimization measures have been taken for the setting and input of the instrument to improve the operation speed of customers:

- The shift key and increase key of the meter have variable rate function.
- In the user setting mode, if the user does not operate the meter within 60 seconds, it will automatically exit to the measurement state.
- The instrument will save all the set parameters when it exits the menu normally.

## 4.2 Setting Block Diagram




## 4.3 Menu Description

The menu of the instrument is divided into three levels: "Production debugging menu"; "Advanced user menu"; "General user menu", which are distinguished by the entry passwords of the menus at all levels.

- "Production Debugging Menu"

  The entry password is "0088", which is used by the transmitter manufacturer to set the basic parameters of the meter head, which determines the precision of the meter head, calibration values and other parameters. Therefore, the production debugging menu cannot be opened to general users, so as to avoid the calibration data being damaged. damage, and the meter has been calibrated before leaving the factory, under normal circumstances there is no need to enter this mode.

- "Advanced User Menu"

  The entry password is "0066", which is used when the transmitter manufacturer sets the display range.

- "General User Menu"

  The access password is "0016", which is set for the special needs of the transmitter user site.

Note: In the normal user menu setting, if there is no key operation within 60 seconds, it will automatically exit the setting and return to the measurement mode.

### 4.3.1 Password setting menu

Lock: Password input menu, if the password is entered incorrectly or there is no key operation within 30 seconds, it will automatically return to the measurement mode.

### 4.3.2 General User Menu

**diSAL:** Over-range alarm switch, settable range (0～1)

This set value means that when the pressure value exceeds 125% of the upper limit of the calibration range or is lower than 25% of the lower limit of the range, the display will flash.

"0"—close the alarm function

"1"—open the alarm function

**oFSt:** Display offset value

By setting this menu value, the displayed value can be shifted. The factory default value of this menu is 0. Generally, this menu value does not need to be set.

**FiLt:** Filter constant setting, settable range (0～4)

The larger the filter constant value is set, the stronger the ability to suppress interference, but the sensitivity will decrease. The default value of this menu value is "2", which is a medium filtering effect, which can be adapted to most applications.

**SPAn:** Sensor Sensitivity Correction Factor

During the use of the transmitter, if the sensitivity of the sensor changes, it can be corrected through this menu. Before the sensitivity correction is performed, the zero error of the meter head should be

corrected through the main variable reset function to ensure the sensitivity. After the correction, the linearity of the transmission is normal. The default value of this menu is "1.000".

### 4.3.3 Advanced User Menu

**-dP-**: Display resolution settings

The display resolution is the number of decimal places displayed in the measurement mode, which can be set by the user according to the requirements of the field.

**dP-L**: Display the setting of the lower limit of the range, the settable range (-1999～9999)

**dP-H**: Display range upper limit setting, settable range (-1999～9999)

**ZErO**: Zero-to-full shielding coefficient, settable range (0.0～1.0)

The setting value of this menu represents the zero-to-full shielding range. When the set value is "0.0", the zero-to-full shielding function is turned off.

For example: when it is set to 0.1, it means that when the output of the transmitter is close to the zero point or the full point plus or minus 0.10% of the transmission range, the meter display will automatically stabilize at the zero point or the full point, and there will be no output beating due to interference. .

**diSAL**: Over-range alarm switch, settable range (0～1)

This set value means that when the pressure value exceeds 125% of the upper limit of the calibration range or is lower than 25% of the lower limit of the range, the display will flash.

“0”—关闭报警功能

“1”—打开报警功能

### 4.3.4 Production Debugging Menu

**LinE：** Calibration point setting, settable range (2,3)

After the calibration points are selected, the software will automatically divide the calibration range. If the bisected value is not in the input range, it can be modified in the corresponding calibration point settings. At the same time, it should be noted that the given value must be monotonic during the calibration process.

**-dP-：** Display resolution settings

The display resolution is the number of decimal places displayed in the measurement mode, which can be set by the user according to the requirements of the field.

**dP-L：** Display the setting of the lower limit of the range, the settable range (-1999～9999)

**dP-H：** Display range upper limit setting, settable range (-1999～9999)

**Ad-L：** Zero calibration point

When the "▲" and "▼" keys are pressed at the same time, the last acquisition value will be displayed. Press "▲" or "▼" once to start the current acquisition. When the acquired value is stable, press "▲" and "▼" simultaneously. "Confirm this collection

**Ad-C：** Intermediate calibration point, the acquisition method is the same as zero calibration

**Ad-H：** Full calibration point, the acquisition method is the same as zero calibration

**ZErO：** Zero-to-full shielding coefficient, settable range (0.0～1.0)

The setting value of this menu represents the zero-to-full shielding range. When the set value is "0.0", the zero-to-full shielding function is turned off.

For example: when it is set to 0.1, it means that when the output of the transmitter is close to the zero point or the full point plus or minus 0.10% of the transmission range, the meter display will automatically

stabilize at the zero point or the full point, and there will be no output beating due to interference.

**diSAL:** Over-range alarm switch, settable range (0～1)

This set value means that when the pressure value exceeds 125% of the upper limit of the calibration range or is lower than 25% of the lower limit of the range, the display will flash.

"0"—close the alarm function

"1"—open the alarm function

### 4.3.5 Exit the setting menu

**End:** Exit the setup menu

Press "▲" and "▼" simultaneously in this menu to save data and return to measurement mode.

Remark:

This watch head supports two-point quick calibration. Entering the password "2020" will directly enter the acquisition state. Press the "▲" key to collect the zero point value, and press the "▼" key to collect the full point value. After the two points are completed, it will automatically return to measurement mode. Because the basic data is involved, the password should not be told to ordinary users to avoid losses.