

LED/LCD Display Key Debugging Instructions



- The product adopts the latest low-power microprocessor technology and advanced power management technology, with reduced voltage, stable display, and high display brightness.
- Adopting imported specialized integrated circuits and manufactured using SMT technology, the circuit assembly density is high.
- The universal two-wire loop power supply ammeter is suitable for all two-wire transmitters, such as pressure, differential pressure, temperature, flow rate, pH value, acceleration, and force.
- Two wire passive working mode, less than 3.0VDC at ultra-low working voltage of 20mA. The whole machine has ultra-low power consumption of less than 2.5VDC at 4mA.
- Fully intelligent working mode. Support user self calibration and non-linear correction of displayed values.
- The meter head has reverse polarity protection inside, and the instrument does not light up when the current input is reversed, so the instrument will not be damaged.
- This instrument supports user calibration, and requires entering the menu to separately collect zero position and full degree to calibrate accurately.

■ LED Display 4-20mA Output



Button Settings

1. Press and hold the "SET" button for more than 5s to display 0000.
2. Press the "SHIFT" key to change the number to 0006.
3. Short press the "SET" key to display "POnT", short press the "SET" key to enter the adjustment "SHIFT" key to change the decimal place.
4. Short press the "SET" key to exit, and "dS-L" will be displayed. Short press the "SET" key to enter adjustment, and "ADD, SHIFT" can change the display value corresponding to 4mA.
5. Short press the "SET" key to exit, and "dS-H" will be displayed. Short press the "SET" key to enter adjustment, and "ADD, SHIFT" can change the corresponding display value of 20mA.
6. Short press the "SET" key to exit, and "door" will be displayed. Short press the "SET" key to enter adjustment, and "ADD, SHIFT" can change the starting drift value of 4mA.
7. Press the "SET" key briefly to exit, and "End" will be displayed. Press the "SET" key briefly once, and then press it again to confirm exiting the homepage.

■ LCD Display 4-20mA/0-5V/0-10V Output



1. Overview

Built in microprocessor, programmable with two buttons to achieve adjustable settings for zero point, full range, decimal point, display rate, and control point, without the need for any potentiometer adjustment. No external power supply is required, just connect it in series in the tested circuit to accurately display the 4-20mA signal in the tested circuit.

2.Product Features

- 2.1 Two wire passive working mode, 4-digit LCD display.
- 2.2 Support zero point reset, small signal cutoff, filtering settings, and other functions, easy to use
- 2.3 12 units including pressure, temperature, liquid level, etc. are available for selection.
- 2.4 It has complete protection against overcurrent, overvoltage, short circuit, and reverse connection. Even if the load is short circuited, direct 24V power supply will not be damaged.
- 2.5 Enhanced anti-interference design, suitable for various industrial environments with harsh electromagnetic conditions.

3.Technical Parameter

Pressure range: -1bar-0-1000bar (refer to nameplate for details)

Accuracy: 0.5%F.S.(20°C ± 3°C)

Power supply: DC12-28V(default 24V)

Response frequency: ≤500HZ

Stability performance: ± 0.1F.S./Year

Temperature drift: ± 0.01F.S./°C

Protection level: IP65

Working pressure drop: 3.0V<20mA

Display range: -1999~9999

Current resolution: 1uA

Whole machine accuracy: 0.1%

Environmental temperature -10°C ~ 60°C

Air humidity ≤85%RH

4.Button Description

4.1 Up key "▲"

- A. Press and hold for 5s in measurement mode to reset the main variable.
- B. Short press in setting mode to move the flashing bit.

4.2 Down arrow key "▼"

- A. In the setting mode, increase the setting parameters.

4.3 Set key "▲"+"▼"

- A. Simultaneously pressing "▲" and "▼" is the setting key function.
- In measurement mode, press both "▲" and "▼" simultaneously to enter the setting state.
- B. In the setting mode, press both "▲" and "▼" simultaneously to set or confirm parameter modifications.

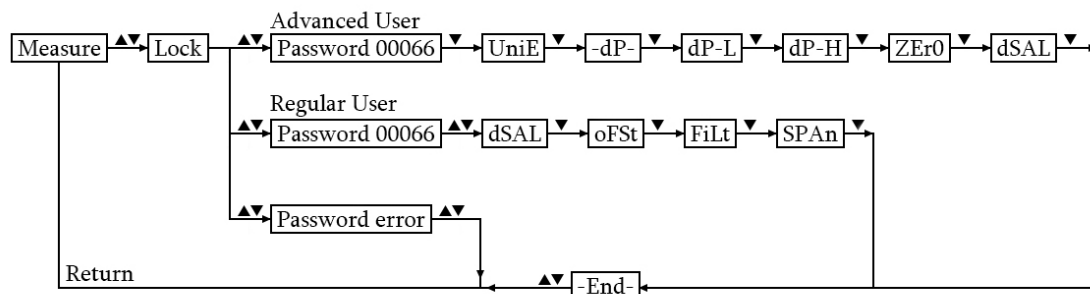
4.4 Overview of Four Button Functions

The instrument achieves all parameter inputs and calibration data settings and collection through two buttons on the panel. Multiple optimization measures have been taken for the settings and inputs of this instrument to improve customer operation speed:

- A. The shift and increase keys on the instrument panel have a variable speed function.
- B. In user settings mode, if the user does not operate the instrument within 60 seconds, it will automatically exit to measurement mode.
- C. The instrument will only save all set parameters when exiting the menu normally.

4.5 Set Up Block Diagram

This instrument menu is divided into "Advanced User Menu" and "Regular User Menu", distinguished by the entry password for each level of menu.



Advanced User Menu

The entry password is "00066", which allows you to set the display unit and display mode.

Regular User Menu

The entry password is "00016", which is used for special settings required for on-site use.

Attention: In advanced user and user menu settings, if there is no button operation within 60 seconds, the setting will automatically exit and return to measurement mode.

Password Setting Menu

Lock: Password input menu, can set the range (19999~99999), press ▲ and ▼ at the same time to enter the Lock page, press ▲/▼ to enter the password input page, set the menu to enter the password. If the password is entered incorrectly or there is no key operation within 30 seconds, it will automatically return to measurement mode.

Regular User Menu

DiSAL: Over range alarm switch, adjustable range (0-1)

This setting indicates that when the pressure value exceeds the upper limit of the calibration range by 125% or falls below the lower limit of the range by 25%, a flashing prompt will be displayed.

'0' - Disable alarm function, '1' - Turn on the alarm function

OFSt: Display offset value

By setting this menu value, the displayed value can be offset. The default value of this menu is 0 at the factory, and generally there is no need to set this menu value.

FiLt: Filter constant setting, adjustable range (0-4)

The larger the setting of the filtering constant value, the stronger the ability to suppress interference, but the sensitivity will decrease. The default value in this menu is "2" for moderate filtering effect, which can adapt to most application scenarios.

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 performing sensitivity correction, the zero point error of the meter head should be corrected through the main variable reset function to ensure that the linearity of the transmission is normal after sensitivity correction. The default value of this menu is "1.000".

Advanced User Menu

Unit: User unit setting, adjustable range (0-12), menu prompt for each set unit.

There are 12 types of unit settings, namely "MPa", "KPa", "Pa", "bar", "mbar", "Psi", "kg", "mmHg", "mm", "m", "°C", and "none".

-DP -: Display Resolution Setting

The display resolution refers to the number of decimal places displayed in the measurement mode. Users can set it according to their on-site usage requirements. The more decimal places displayed, the better, and the stability of the displayed value should be prioritized.

DP-L: Display lower range setting, adjustable range (-1999~9999)

DP-H: Display range upper limit setting, adjustable range (-1999~9999)

ZERO: Zero full shielding coefficient, adjustable range (0.0~1.0)

This menu setting value represents the zero full blocking range, and when the setting value is "0.0", the zero full blocking function is turned off.

For example, when set to 0.1, it means that when the transmitter output approaches zero or full point by adding or subtracting 0.10% of the transmission range, the meter display will automatically stabilize at zero or full point, and there will be no output jumping due to interference.

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This setting indicates that when the pressure value exceeds the upper limit of the calibration range by 125% or falls below the lower limit of the range by 25%, a flashing prompt will be displayed.

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Production Debugging Menu

-DP -: Display Resolution Setting

The display resolution refers to the number of decimal places displayed in the measurement mode. Users can set it according to their on-site usage requirements. The more decimal places displayed, the better, and the stability of the displayed value should be prioritized.

DP-L: Display lower range setting, adjustable range (-1999~9999)

DP-H: Display range upper limit setting, adjustable range (-1999~9999)

Ad-L: Zero calibration point

When the "▲" and "▼" keys are pressed simultaneously, the last collected value will be displayed. Press "▲" or "▼" once to start the current collection. When the collected value stabilizes, press "▲" and "▼" simultaneously to confirm the current collection.

Ad-H: Full calibration point, with the same collection method as zero calibration.

ZERO: Zero full shielding coefficient, adjustable range (0.0~1.0)

This menu setting value represents the zero full blocking range, and when the setting value is "0.0", the zero full blocking function is turned off.

For example, when set to 0.1, it means that when the transmitter output approaches zero or full point by adding or subtracting 0.10% of the transmission range, the meter display will automatically stabilize at zero or full point, and there will be no output jumping due to interference.

DiSAL: Over range alarm switch, adjustable range (0-1)

This setting indicates that when the pressure value exceeds the upper limit of the calibration range by 125% or falls below the lower limit of the range by 25%, a flashing prompt will be displayed.

'0' - disable alarm function, '1' - enable alarm function

Exit The Settings Menu

End: Exit the settings menu and set the range (0-1)

'0' - Do not save the set value and exit the setting state, prompt " NO "

'1' - Save the set value and exit the setting state, prompt " YES "

■ LCD Display RS485 Output



1.Overview

RS485 LCD pressure transmitter, which performs logical operations and combines analog and digital circuits. The power supply, sensor signal acquisition, and RS485 digital communication all use isolation technology to ensure that the board can work reliably in harsh working environments. Adopting imported 20 bit ADC high-precision acquisition and conversion module, effective fully isolated processing circuit, and adopting Modbus RTU universal protocol.

2.Product Features

- 2.1 Four wire system working mode: two power supply+two communication.
- 2.2 Single temperature, single pressure, and temperature pressure integration can be achieved (customizable).
- 2.3 Universal MODBUS data communication, easy to connect, with a wide range of applications.
- 2.4 The small signal cutoff function allows for free setting of the cutoff ratio.
- 2.5 Five digit red LCD display, observable from a distance day and night.

3.Technical Parameter

Pressure range: -1bar-0-1000bar (refer to nameplate for details)

Accuracy: 0.5%F.S.(20°C ± 3°C)

Power supply: DC12-28V(default 24V)

Response frequency: ≤500HZ

Stability performance: ± 0.1F.S./Year

Temperature drift: ± 0.01F.S./°C

Protection level: IP65

Explosion proof grade: Wx ia IIC T6 Ga (explosion-proof type required)

Environmental temperature -10°C ~ 60°C

Air humidity ≤85%RH

4.Button Description

