



PW31 Two-Wire Intelligent Current (LED) Digital Display

The PW31 series of two-wire loop-powered digital displays are suitable for all two-wire transmitters such as pressure, differential pressure, temperature, flow, pH, distance, acceleration and force. Its built-in microprocessor realizes zero, full-scale, decimal, alarm, delay and other settings and reference calibration through two-button operations. No potentiometers and other adjustments are required, and no external power supply is required. Only need to be connected in series in the measured circuit, and the value corresponding to the 4~20mA signal in the measured circuit can be accurately displayed. It adopts imported ASICs and manufactures them through SMT process to achieve the characteristics of high circuit assembly density and compact external size.

This display meets the requirements of RoHS standards, uses ABS plastic housing. The upper and lower ends are equipped with Hirschmann GDM3009 plugs and sockets, which can be connected in series into the transmitter device using Hirschmann interface for numerical display.

I. Specifications

1. Conditions of Use

(1) Passing current: Measuring range: 3~22mA

Limit range: <100 mA

(2) Temperature range: Rated use range: -20°C~ 60°C

Limit working range: -40°C~70°C

(3) Relative humidity: 20%~90%RH

(4) Shock vibration: meets the requirements of the Ministry of Electronics Industry standard environmental experiment

II. group instrument.

2. Display mode: LED (light-emitting diode) digital and decimal point display, word height 9.1mm, red.

3. Sample rate: 5 times/second

4. Normal use voltage drop

(1) Voltage drop $\leq 3.2V_{dc}$, 20mA without overcurrent protection

(2) Voltage drop $\leq 4V_{dc}$, 20mA with overcurrent protection

5. Digital display setting range

(1) 4mA: -1999~9999

(2) 20mA: -1999~9999

(3) Setting error ± 2 words (*)

6. Polarity conversion: the negative signal is automatically displayed "-", and the positive signal is displayed unsigned.

7. Accuracy: full scale linear deviation $\leq \pm 2$ words (*)

8. Temperature influence error (*):

(1) Full scale $\leq 50ppm/^{\circ}C$ (-20°C~60°C)

(2) Zero drift ≤ 5 words (-20°C~60°C)

9. Overdose indication: "-HI-" or "-LO-"

10. Dimensions: 56mm×42.5mm×41mm (height× width × thickness)

11. Net weight: 57 grams

*: This parameter is tested at 0~8000.

II. Structure and installation measures

The structure and dimensions of this watch are shown in Figure 1, the upper part of the watch body is equipped with a Hirschmann round positive plug, which can be plugged in with the power supply and load

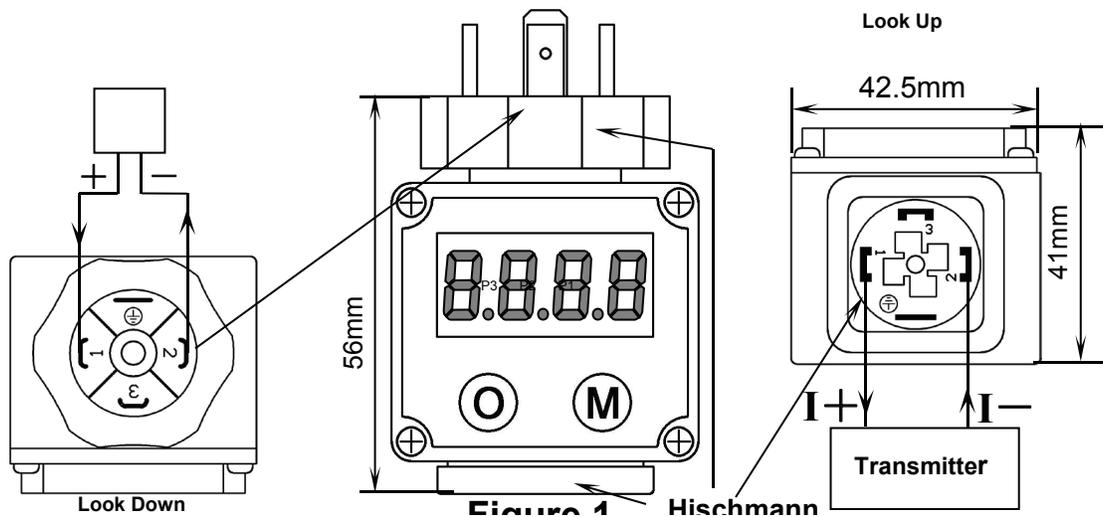
cable socket, and the lower part is equipped with a Hessmann square negative socket, which can be plugged into the plug on the transmitter assembly. When installing, first screw the round plug above the watch body, then insert the transmitter assembly into the square socket under the watch body, then use the axial screw locked on the diaphragm of the watch body cavity to fix the transmitter assembly on the watch body, and then install the round plug in the round hole above the watch body, then insert the cable socket, and finally use axial serial screws to fix and connect the two to complete the installation process.

III. Instructions for Use

The following instructions are only for ordinary products in this series, that is, products without alarm function.

1. Installation: Please refer to description and illustration of above "II. Structure and installation measures", and properly install this digital display table according to the actual situation of the user.
2. External circuit connection: this table is connected in series in the transmitter loop to work, access to the power supply and transmitter input and output current signal, its input-output relationship has been determined by the terminal definition of the plug seat, see Figure 1, Figure 2 for details, as long as the cable socket and transmitter plug wiring meets the requirements of this table can be used directly.
3. Debugging: According to the data regulations of the display range of the meter head of the system design, set the display number of input 4mA and 20mA respectively according to the "menu one" in the following "Brief Description of Debugging", and determine the decimal point position. The reference in the header is calibrated according to "menu three" before the appearance, and if the user wants to recalibrate, it must have a calibrator with an accuracy better than 0.02%, otherwise the accuracy cannot be guaranteed.

Cable socket (connected to 24v power supply and load)



IV. How to set

General: This instruction applies to the menu setting operation of all our LED/LCD CNC transmitters. In the manual, "O" means press "option", and you can switch menus and move the blinking bit in the menu settings. "M" means the key "modify", and you can enter the menu, modify the blink bit, execute, modify the settings, etc. in the menu settings. Press and hold the "O" key for three seconds in any menu except Advanced Settings to save and exit the current settings, and 10 seconds without any keys in any setting menu will automatically restore the measurement state. Press "O" once in the measurement state, the display will switch to the current current value display for 3 seconds (if 15.23 is displayed, it means that the current input current is 15.23mA), and the measurement state will be automatically restored after 3 seconds.

Menu 1: Measurement setup menu (password 0011). Press "O" and "M" at the same time in the measurement state for three seconds to enter the password state, press the "O" key to shift, "M" key to add the number to enter the password, set the value to 0011 and then press and hold the "O" key to enter the measurement setting menu, press "O" under this menu to scroll to switch the menu, press "M" to enter the submenu setting.

 (SE-1): 4mA display value setting, press "O" to switch the blinking bit after entering this menu, press M to add the blinking bit to change, if you press the number over, you can continue to press to the next cycle, and press and hold "O" for three seconds to save and exit after setting. Legend :



 (SE-2): 20mA display value setting, after entering the setting reference (SE-1).

 (SE-3): Decimal point setting, press "M" to move the decimal point after entering this menu, and press and hold "O" for three seconds to save and exit after setting. Legend: 

 (SE-4): Unit symbol setting, press "M" to move the unit symbol bit after entering this menu, and long press "O" for three seconds to save and exit after setting. Note: This menu is only available on LCD tables.

Menu 2: Alarm setting menu. Note: Ordinary products can not enter this menu, if you need alarm and switching output function products, please choose another type according to the type spectrum when ordering.

Menu 3: Advanced Settings Menu (Password 0033). Similar to the menu 1 to enter the password, enter the password 0033 and press and hold the "O" key to enter. Please note that the settings in this menu should be used with caution and should not be used by non-professionals.

 (SP-1): 4mA standard sampling calibration, after entering this menu, the table displays 0.004, input the standard 4mA current signal, press "M", and will automatically return to "menu three"

after one second, at this time, the current input 4mA current signal sampling has been saved as a standard.

0.0000 (SP-2): 20mA standard sampling calibration, after entering this menu, the table displays 0.020, enter the standard 20mA current signal, press "M", and will automatically return to "menu three" after one second, at this time, the current input 20mA current signal sampling has been saved as a standard. Note: The two settings (SP-1) and (SP-2) must input the standard current, if the input current is incorrect or not accurate enough, it will affect the measurement accuracy.

0.0000 (SP-3): Initialize the settings, press "M" after entering, that is, reset all the settings in the table. Note: This function is only used when the display table function is disordered due to unknown circumstances, and cannot be restored by normal settings, under normal circumstances, please use with caution, after use, the settings of (SP-1), (SP-2), (SE-1~4), (AL-1~4) are all lost, and need to be reset.

