PW806 Intelligent Digital Controller
Introduction and Specification

Wuyue Sensor Co., LTD
ISO9001:2000 Certified

Company Introduction

Wuyue Sensor Co., Ltd.(WTC) is a high-tech company and maker of sensors and related instruments. WTC majors in researching, designing, making and selling sensors, transmitter and digital instrument. WTC is of the capability to manufacture various kinds of sensors and relative products. Especially with the high temperature melting sensors, PW series products are widely used in plastic, rubber, petrol and chemistry lines. Actually, we are in the lead both at home and abroad. WTC's products are sold all over our country and exported to Southeast Asia, and are highly remarked.

PW806 Introduction

PW806 is an intelligent digital pressure controller, which is widely used in measurement and control field. PW806's appearance is beautiful; key operation is simple; PW806 is capable of resisting interference.

PW806 is adopted with double-row structure with four digit bit in each row to respectively vshow measured value(PV) and set value(SV). Output available is: 4 ~ 20 mA or 0 ~ 10V. Systematic adjustment can automatically finish through keyboard operation, i.e., only pressing "⌒" key to execute the adjustment. PW806 introduces photoelectric technology, watchdog, and special software to resist interference.

PW806 is generally connected with a high temp. melting sensor, and both of them form an excellent system to measure the pressure and temp. of the melting. Meanwhile, PW806 can be used to control the operation of motors, which are embedded in other equipments.

Main Technical Parameters

(1) Display Unit : double row structure with four LED digital bit, higher row for PV(measuring value) and lower row for SV(set value) .
(2) Inner Divided Ratio : 32000
(3) Outer Divided Ratio : 0.01MPa, 0.02MPa and 0.05MPa;
(4) No linearity : 0.05%+/-1 bit
(5) Alarm Setting : 0 ~ 99.99MPa with two ways
(6) Set Value of Relay : 250V AC, 5A
(7) Working Atmosphere : -10 ~ +50'C, <=99%RH
(8) Power Supply : 120V ~ 250V AC
(9) Outer Dimension : 96-96-110 mm
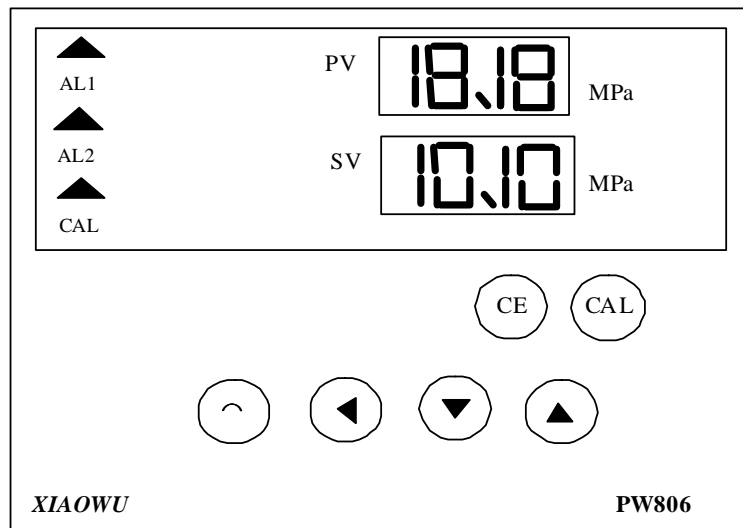(10) Output Signal : 4 ~ 20mA, 0 ~ 5V or 0 ~10V

Front Panel

Figure 1-1, front panel

◆ Higher Display Unit : when in normal operation, display the measured pressure value. When modifying inner parameters, display parameter's symbol.
◆ Lower Display Unit : when in normal operation, display the set pressure value. When modifying inner parameters, display parameter's value.

Keyboard

CE : Clear to zero(when pressing both CE key and ⌒ key, can clear to zero; when only pressing CE key for more than 5 seconds, can reset to zero)

CAL : Calibration(when pressing both CAL key and ⌒ key, can automatically calibrate)

⌒ : Transfer

◀ : Shift digit bit

▼: Decrease

▲: Increase

LED

AL1 : High limit alarm

AL2 : Low limit alarm
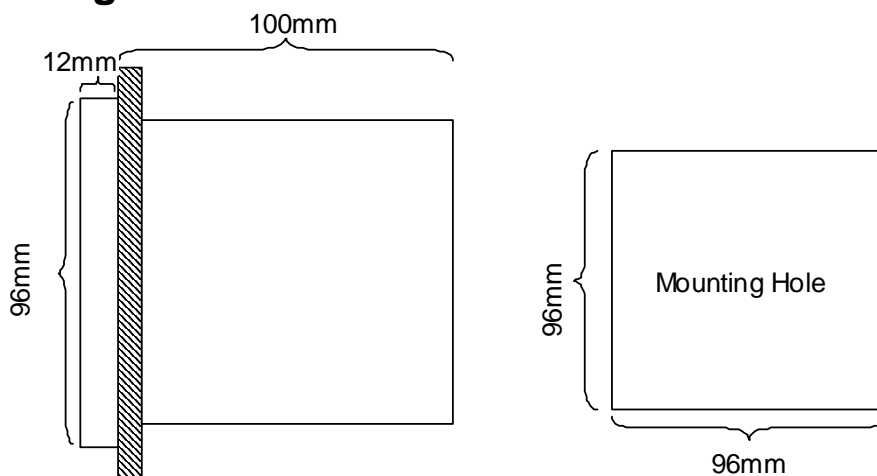
CAL : Self calibration

Mounting Dimension

Figure 1-2, mounting dimension

Connection between PW806 and sensor

The terminals of connector are as follows: (numeric symbol for five pin cable, alphabetic symbol for six pin cable)

1 (A)……………………….S+ Positive signal

2 (C)……………………….E+ Positive bridge voltage

3 (B)……………………….S - Negative signal

4 (D、E)…………………..E - Negative bridge voltage

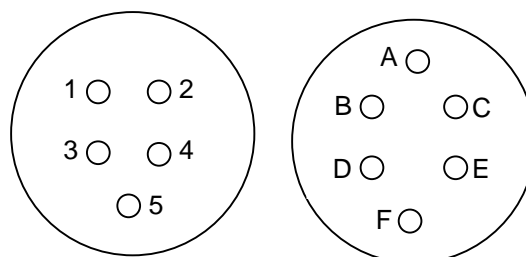5 (F)……………………….C   Calibration

Figure 1-3, terminals of the connector

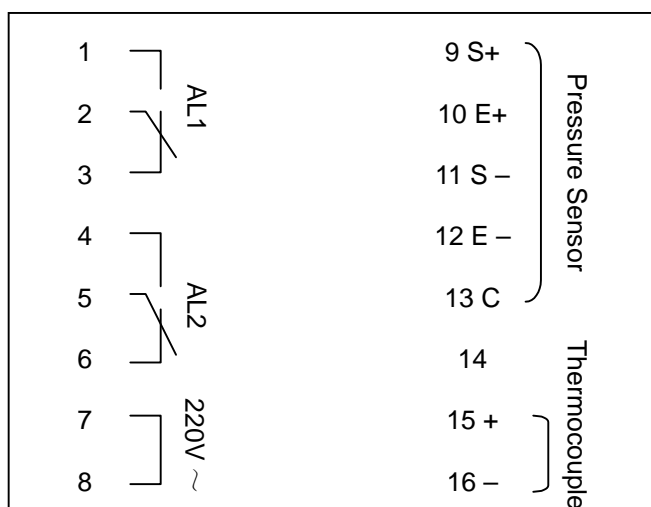# Rear Terminals

Figure 1-4, rear terminals

- ➢ 1, 2   Open terminals of AL1 relay
- ➢ 2, 3   Close terminals of AL1 relay
- ➢ 4, 5   Open terminals of AL2 relay
- ➢ 5, 6   Close terminals of AL2 relay
- ➢ 7, 8   Input voltage
- ➢ 9 S+   Positive signal from sensor (blue line)
- ➢ 10 E+   Positive voltage for sensor's power supply (red line)
- ➢ 11 S -   Negative signal from sensor (black line)
- ➢ 12 E -   Negative voltage for sensor's power supply (yellow line)
- ➢ 13 C   Adjustment (green line)
- ➢ 14   shield
- ➢ 15 +   positive signal from thermocouple
- ➢ 16 -   negative signal from thermocouple

Power-on and running

After power-on, PW806 does self-check. At the same time, the above display unit shows the full scale of pressure, and the lower display unit shows the full scale of temperature. After about 2 seconds, the above display unit shows the divided value for pressure, and the lower display unit shows the thermocouple type and divided value for temperature. Finally, PW806 return to working status automatically.

In the working status, the above display unit shows the measured value of pressure, and the lower display unit shows the measured value of temperature.

Modify the inner parameters

- ➢ In working state, press the "⌒" key for five seconds, and then the inner parameters can be modified.
- ➢ Pressing ◄ key, ▲ key and ▼ key to modify the parameter value.
- ➢ Pressing the "⌒" key stores the modified parameter and transfer to the next parameter.
- ➢ If user presses "⌒" for five seconds or if user doesn't press any key for one minute, PW806 will return automatically to working state.

Inner Parameter Table

Symbol	Name	Range	Description	Initial value before shipment

⌐⌐ r n	Span	10.00Mpa ~ 100.0Mpa	Range for pressure	Same as sensor's span
dv d v	Divided value for pressure	0.01, 0.02, 0.05MPa	Recommendation 1	0.02MPa
AL1 AL1	High limit for pressure	0.01 ~ 99.99MPa	Alarm for high limit of pressure	80% of span
AL2 AL2	High limit for temperature	0 ~ full scale value	Alarm for high limit of temperature	80% of span
Ld Ld	Loop differential	0 ~ 2.0MPa	Setting loop differential of alarm value	0.02MPa
E_SC E_SC	Working status	00:linear working status		0000
LCK LCK	Digital locker	0000:keyboard operation is valid, inner parameters can be modified. 0001:only pressing "⌒" is acceptable, other keyboard operation is invalid	the digital locker is enable, user can lock panel keyboard operation and parameters	0000

Recommendation 1 :

Span	Divided value for pressure
0 ~ 20 MPa	0.01
20 ~ 50 MPa	0.02
50 ~ 100 MPa	0.05

Pressure Adjustment

Generally, PW806 is corresponded with a sensor, and after our company adjusts them both, user can use them. If PW806 is not corresponded with sensor, user has to adjust both of them. It must be ensured that sensor is loaded zero pressure.

When PW806 is in working state, user presses CAL key, PW806 starts to adjust automatically. At the same time, user presses "⌒" key till adjustment is finished. PW806 will store the adjusted value. (CAL key and "⌒" must be both pressed till adjustment is finished.)

Note : before adjustment, user has to open digital locker, that is to say, LCK is set to zero.