



SJ TWM30



**DIFERENTIAL
PRESSURE
CONTROLLER**

Differential Pressure Controller

Model: TWM30

Product Description

- Support multiple working modes
- Built-in buzzer with sound-light alarm, field programmable alarm pressure value
- Used to measure fan and blower pressure, filter resistance, medical equipment, etc



Product Specification

Electrical connections

Cable outlet (0.5 cm)

Accuracy

 $\pm 1.0\%$ F.S.

Nominal size

4.5"

Process connection

Quick coupler

Air inler way: front panel, back panel, side panel

Pressure medium

Gas

Case/Ring

ABS

Scale ranges

0 type: -1000 ... 1000 Pa

2 type: -10000 ... 10000 Pa

6 type: -100 ... 100 Pa

Pressure limitation

0 type: 10 kPa

2 type: 80 kPa

6 type: 5 kPa

Pressure units

Pa, kPa, mbar, mmHG, inWC, mmWC

Ambient temperature

 $-20^{\circ}\text{C} \dots 70^{\circ}\text{C}$

Product Specification

Medium temperature

-10°C ... 60°C

Display

LCD, switchable backlight button

Voltage supply

DC 16-30 V

Output signal

None, 4-20mA & 0-10V, RS485

Relay

2 SPDT RELAY 3A@250VAC/30VDC

Control signal

None, 2 SPDT RELAYS

Power consumption

≤ 2.5W

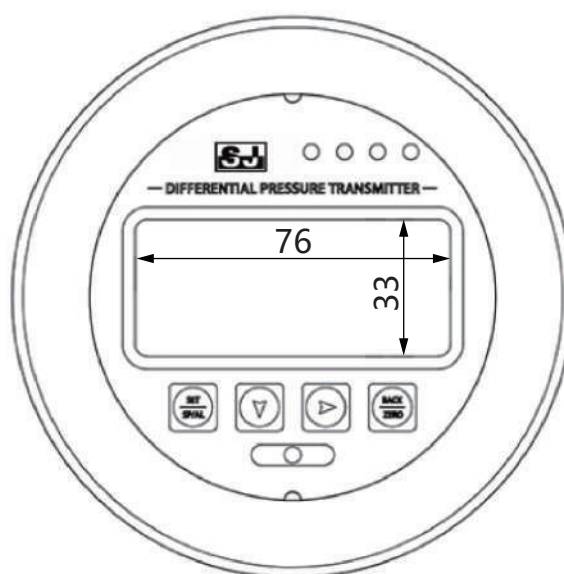
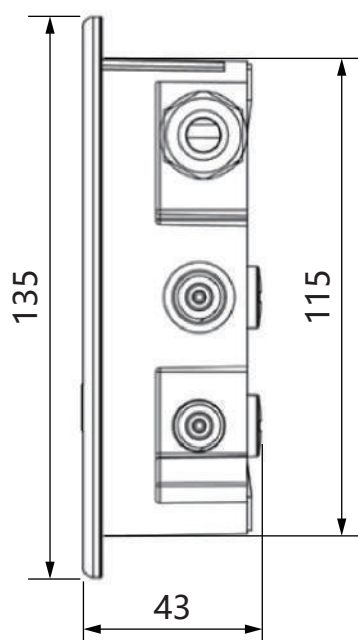
Protection level

IP 54

Weight

360 g

Dimensions



Unit: mm

※ **Ordering information**

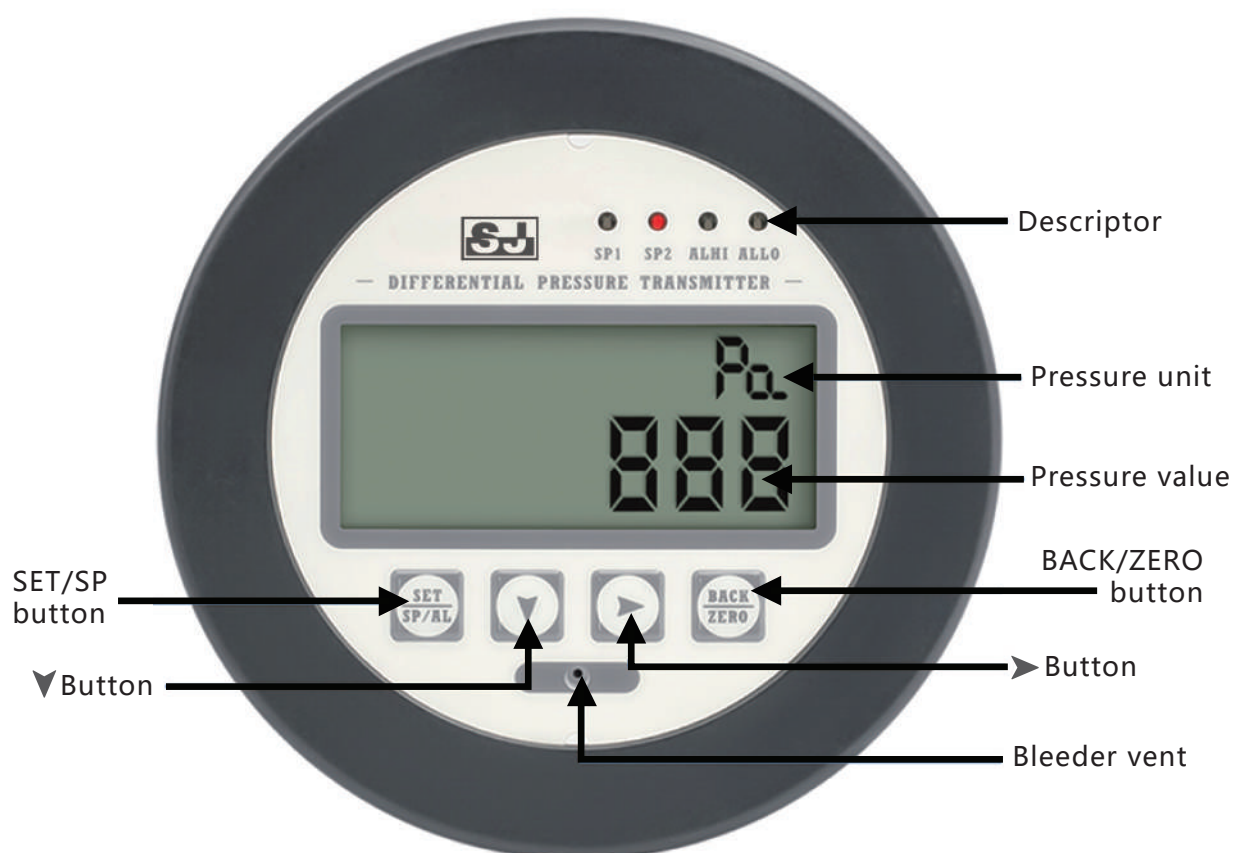
Model / Scale range / Output signal / Control signal / Options

For any changes to the specifications of this catalogue, the latest version shall prevail.





Panel Display





Menu Instruction

	Pressure Display	Main Menu	Sub-menu
	1. Press to enter the main menu 2. Press and hold to enter the control point setting and alarm point setting	Press to enter the sub-menu	1. Enter the sub-menu function setting 2. Save the parameter setting (the parameter flashes during setting)
	Eliminate the buzzer alarm sound	Scroll down the main menu to switch the sub-menu function switch	1. Decrease the value 2. Move the setting button switch
	Backlight switch	X	Increase the value
	1. Press to cancel the alarm status 2. Press and hold to reset the setting	Back to Main Menu	1. Return to the previous main menu 2. Press and hold to return to the main menu

※ Note: Press and hold for 3 seconds.

■ Set point and alarm setting sort display:

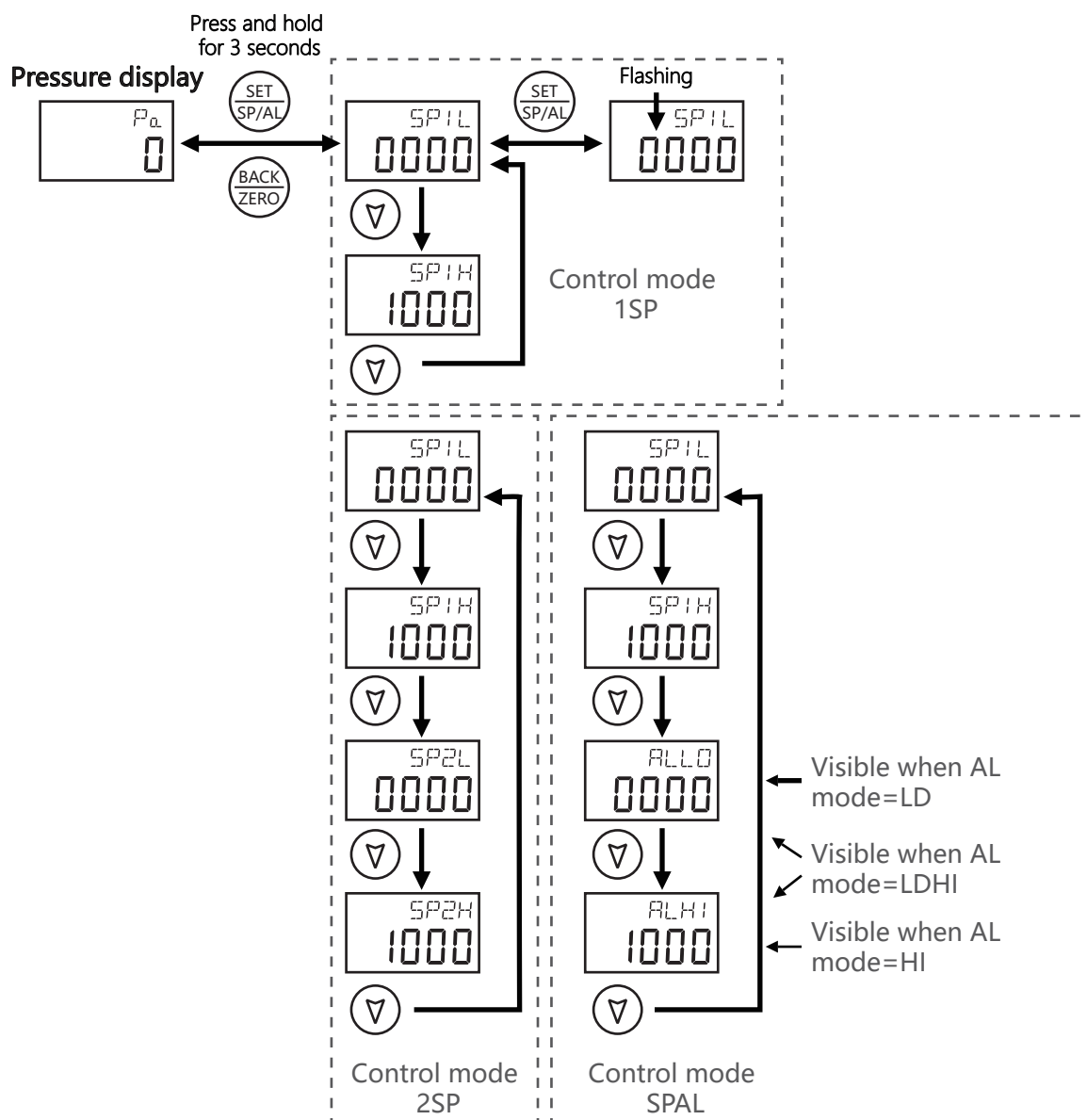
Press and hold  to enter the relay control point and alarm point setting menu. This menu display is based on the control mode selection in the submenu. 3 control modes are set separately:

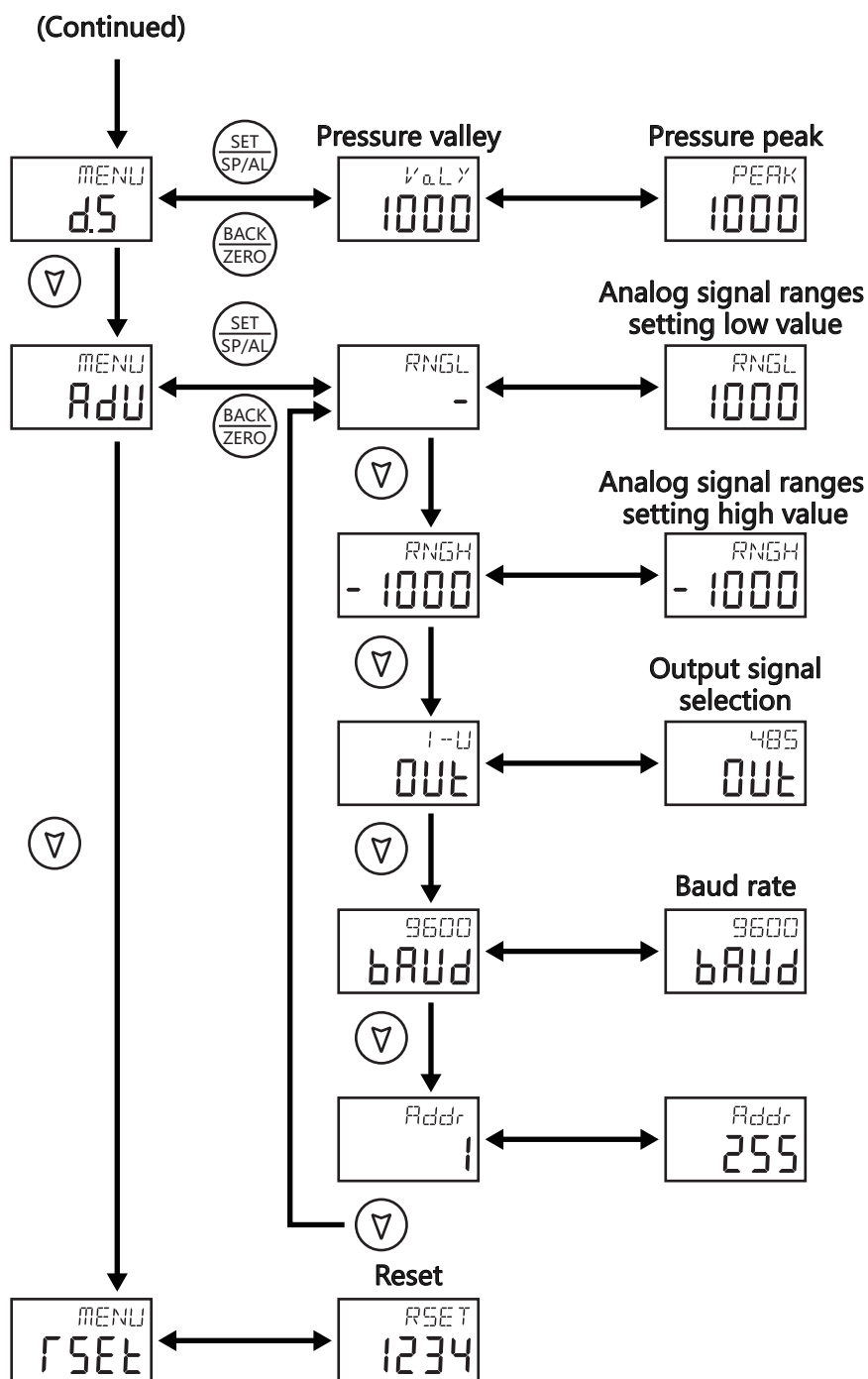
- (1) ISP: Control relay works alone
- (2) 2SP: Control relay and alarm relay work independently
- (3) SPAL: Control relay work and alarm relay is used as alarm function output

In the 2SP mode, the alarm relay works; in the control mode, SP2H and SP2L are the high and low points of its control action respectively; for specific control logic, please refer to P6 "Out output". In the SPAL mode, the alarm relay works in the alarm state output mode, ALHI and ALLO are respectively the high and low points of its alarm signal output.



■ Menu navigation:
control point setting and alarm point setting







Instruction of Main Menu Functions

■ **UNIT** pressure unit

Used for pressure unit selection and setting.

Pascal (Pa), kilopascal (kPa), Millibar (mbar), millimeters of mercury (mmHG), inches of water column (inWC), millimeters of water column (mmWC)

Among them, only Pa, mmWC, mbar three units can be selected when the range is -100 ... 100 Pa.

■ **FILT** pressure filter level

A total of 0~7 filter levels can be used. Used to adjust the air pressure detection sensitivity.

■ **OUT** output

Used to set the working mode setting, 1 control output, 2 control output or 2 control and alarm output mode.

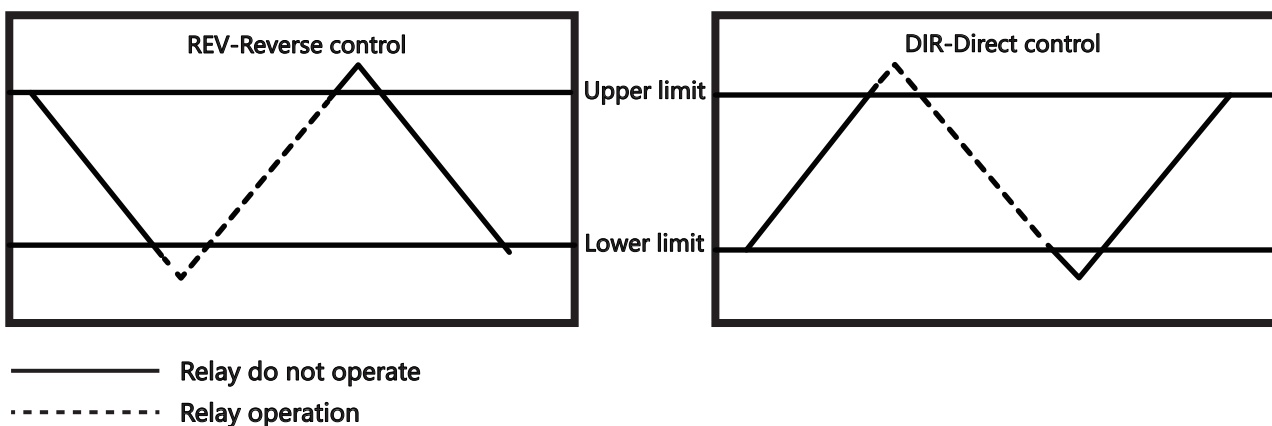
(1) MODE submenu (working mode setting):

1sp: 1 relay control output

2sp: 2 relay control output

Spal: 1 relay control output, alarm relay status output

(2) 1SP submenu (for 1 relay control direction):



(3) AL submenu (alarm mode setting):

HI-high pressure alarm, Lo-low pressure alarm, Hilo-high and low pressure alarm

(4) ALOS sub-menu (alarm relay status when alarming):

Clos-The alarm relay will act on when it alarms;

Open-When alarming, the alarm relay action is disconnected;



(5) ALrE sub-menu (alarm working mode):

Onof-Alarm automatically turns on and off

Hold-Alarm status is maintained until the alarm is manually cancelled

(6) AL.H sub-menu (inhibition of alarm signal at power-on):

N-Turn on the power-on alarm signal suppression; eliminate the low-voltage alarm when starting up

Off-Turn off the suppression of the power-on alarm signal; the low-voltage alarm is directly output when the power is turned on

(7) ALdL submenu (alarm delay time):

0-3600: The maximum delay is 3600 seconds

■ **dS display**

Peak: Pressure peak; valy: pressure valley

■ **AdU more settings**

Output signal control and RS485 control parameter settings.

(1) RNGL: analog signal range setting low value;

(2) RNGH: analog signal range setting high value;

(3) Out: output signal selection

I: Single current signal output U: Single voltage signal output

I-u: current and voltage signal output 485: 485 signal output

(4) bAUd: RS485 communication baud rate setting

(5) Addr: RS485 communication address ID setting

■ **rSEt reset**

Enter the number 1234 to confirm the factory reset.

System Error Remark

Err1 : Zero clearing failed

Err2: Failed to set the max limit (the max limit must be greater than the min limit)

Err3: Failed to set the min limit (the max limit must be greater than the min limit)

Err4: The password for restoring factory settings is entered incorrectly

Err5: Pressure sensor error



Electrical Connections

- **Cable outlet type:** connect according to the corresponding wire color.

Connection	Cable outlet	Description		
M10	Power +	DC power cord interface		
	Power -			
	4~20mA Output	Current output port, connect to the positive end of the multimeter, and the other end to Power-		
	0~10V Output	Voltage output port, connect to the positive end of the multimeter, and the other end to Power-		
	RS485_A	RS485 Communication interface		
	RS485_B			
Connection	Cable outlet	Cable description	Cable outlet function	Cable description
M16	SP1 RELAY N/O	Normal open	SP2 or Alarm RELAY N/O	Normal open
	SP1 RELAY COM	Common	SP2 or Alarm RELAY COM	Common
	SP1 RELAY N/C	Normal close	SP2 or Alarm RELAY N/C	Normal close

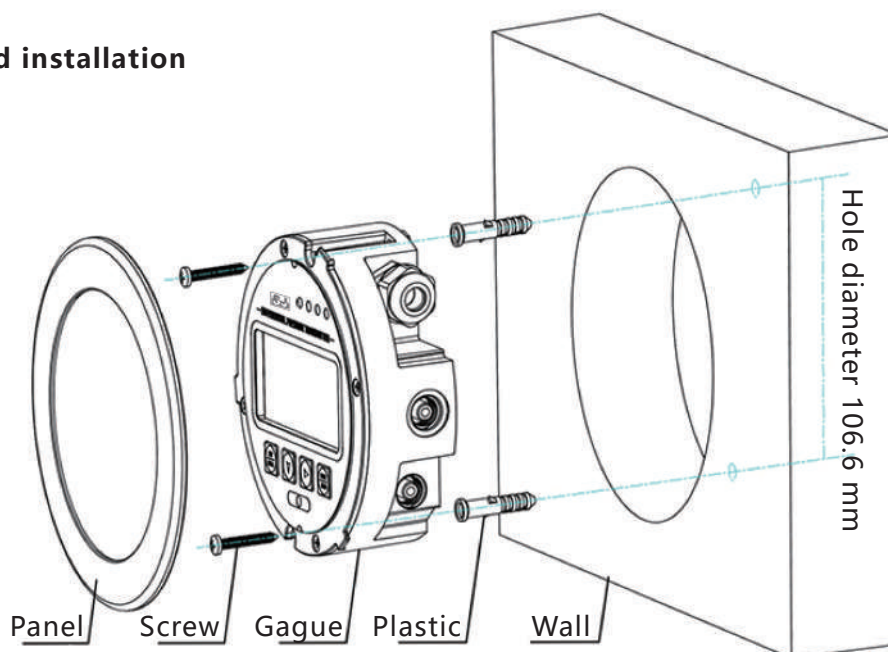
■ Trachea connection

The back of the product supports side and back air intake; the back and the side vents are connected; therefore, after using one of the vents, you need to plug the vent on the other side with a plug; the + hole connects the trachea to the high pressure area to be measured;- Connect the trachea to the low pressure area to be measured.



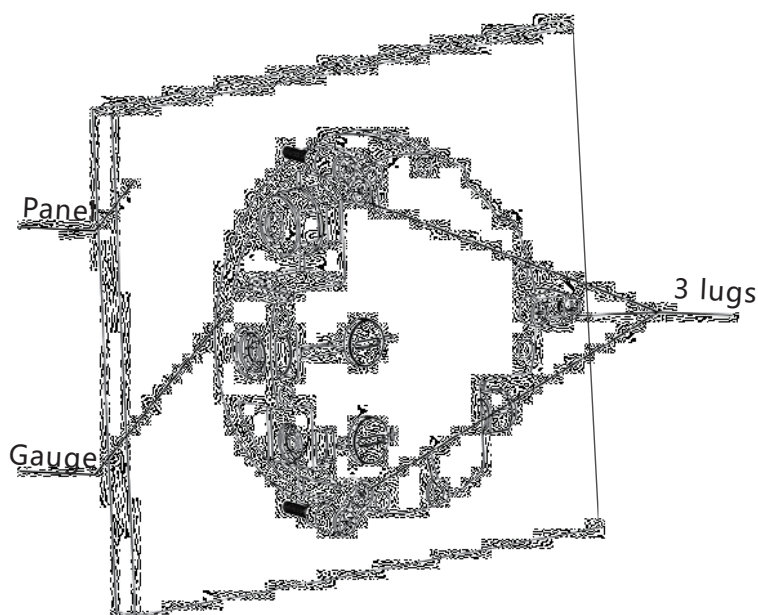
Installation

■ Embedded installation



■ Panel installation

Open a 120mm diameter hole on the panel to be installed, insert the product from the front of the panel, and finally install the lug on the back, and then fix it on the panel from the back with ST3.5x30 screws. The pressure port and the air pipe are connected reliably, pay attention to the difference between the high and low pressure ports.



■ Accessories

Static pressure tips, plastic lug, self-modified screw, wall head, expansion tube, PU tube



Frequently Asked Questions

■ **The pressure display or output value does not change after pressurization (mostly displayed as 0 or FULL) or the change is not accurate.**

- (1) Whether the loading pressure exceeds the burst pressure and directly breaks the pressure core.
- (2) Whether the medium used is corrosive or differs from the applicable medium of the purchased product.
- (3) Check whether the intake hose is blocked by foreign matter (particulate matter or water column) or leaks.
- (4) Whether the use environment temperature exceeds the compensation temperature range.
- (5) Whether there is a misoperation of clearing during pressurization, if any, clear again after confirming that there is no input pressure.

■ **A slight drift in the zero pressure value**

After the drift is stable, perform the reset operation.

■ **Attention**

- (1) The power supply should be disconnected during the installation process, and the power interface should not be short-circuited, otherwise it will bring unpredictable consequences and even damage the product.
- (2) Please use within the rated voltage range.
- (3) Do not make the pressure exceed the withstand pressure value, otherwise it may damage the product and safety.
- (4) Some unused output wires need to be wrapped with insulating tape to avoid possible short circuits.

4ManPro

*Elements For
Manufacturing Processes*



4ManPro
Mexico Branch Office

Elements For Manufacturing Processes

MEXICO BRANCH OFFICE

Roberto Diaz No. 401
Ciudad Industrial
Aguascalientes, Ags.
México
20290

4ManPro@4ManPro.com
(449) 171 3420
www.4ManPro.com/SPA/



USA BRANCH OFFICE

Pennzoil Place
700 Milam
Suite 1300
Houston, Tx, USA
77002

4ManPro-USA@4ManPro.com
+1 (832) 871 5022
www.4ManPro.com/ENG/

*Elements For
Manufacturing Processes*

For any changes to the specifications of this catalogue , the latest version shall prevail.

Copyright © 12/2019 by SIN JIA ENTERPRISE COMPANY LIMITED. All rights reserved.

