

# Instruction Manual

(Differential Pressure Instrument)





- Pressure measurement of air or non corrosive gases
- Measurement of Differential, Gauge, Positive, Negative (Vacuum, Both(±) pressure)
- 5 1/2 Digit LCD Display (Back light)
- Analog output (4-20mA or 1-5V)
- Zero, Offset setting
- Minimum, Maximum, 0-100% Display
- 2 Alarm setting (2 SPDT Relay Switch)
- Measurement units selection (15 units)
- Easy and Simple Operation

## SPECIFICATION

### GENERAL

Maximum Pressure : Rated Range × 2  
 Media Compatibility : Air or non corrosive gases  
 Pressure Range : ±5~±5000mmH2O

### ELECTRICAL

Power : DC24V  
 Output : 4~20mA DC or 1~5V  
 Warm up Time : 5 minutes  
 Display : 5 1/2 Digit LCD (Backlight)

### SWITCH (option)

Relay Contact : 2 SPDT (NC-COM-NO)  
 Contact Rating : 5A@250V  
 Connection : Wire insert and screw Joint  
 Level setting : Switch 1 & 2 Individual setting

### PERFORMANCE @ 23°C

Accuracy : ±0.15% FSO (Includes Linearity, Hysteresis & Repeatability)  
 Operating Temperature : -20 to 125°C  
 Ambient Temperature : -20 to 85°C  
 Compensated Temperature : -20 to 80°C

### MECHANICAL

Pressure : 3/16"  
 Connections : Barbed Nipple  
 Inside Pressure Connections Materials : Silicon tube  
 Case Materials : PC Mold resin  
 Weight : Approx, 350g

### FUNCTION

ZERO - Auto Zero; Interval selectable (Option)  
 UNIT - 15 field selectable

### STANDARD ACCESSORIES

One(1) Cable Grand  
 Two(2) Mount Screw  
 Instruction Manual

**INSTALLATION**

■ **LOCATION**

Select your site location , Clean and dry, no shock and vibration, proper to the ambient temperature and humidity in use.

■ **PRESSURE PORT TUBE CONNECTION**

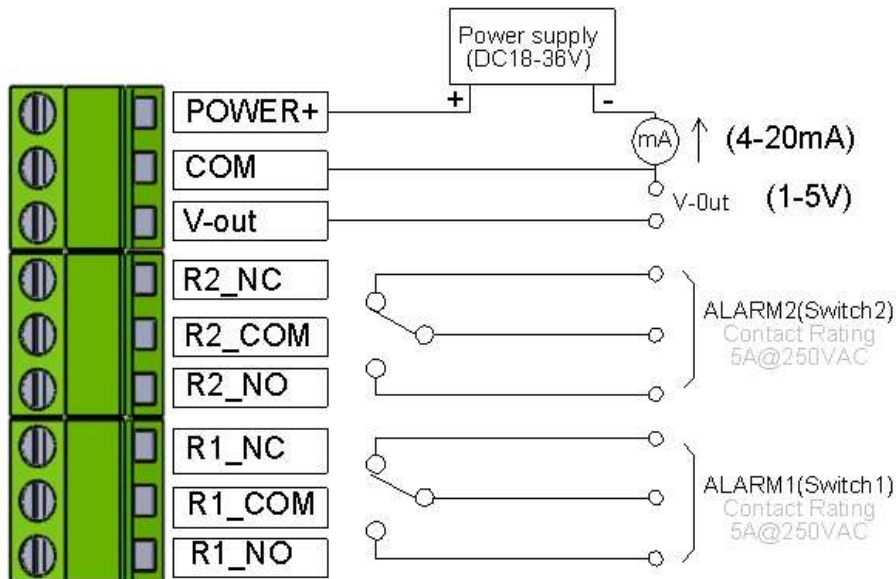
Tow(2) 3/16" barbed nipples are mounted all PATM Series Pressure Transmitter

1. Standard pressure connections are barbed nipples for 3/16" I.D. tubing.
2. When you use the PATM to measure differential pressure, high pressure is connect to "HIGH" port, and low pressure is connect to "LOW" port.
3. When you use PATM to measure single pressure, positive pressure is connect to "HIGH" port and negative pressure(vacuum) is connect to "LOW" port. (In this case, another port is open to air)

■ **CAUTION**

- Do not supply shock pressure to pressure ports. It may cause to sensor broken
- Give it more about 5 minutes after power on PATM for warming up

**WIRING**



**KEY SWITCH FUNCTION**



- Into setting Menu(short press)
- Go to Back step menu or Return to Measurement mode(non saving setting parameter)
- Moving numeric input position with under bar(in use menu setting mode)



- Moving next step
- Setting value set(0→9)

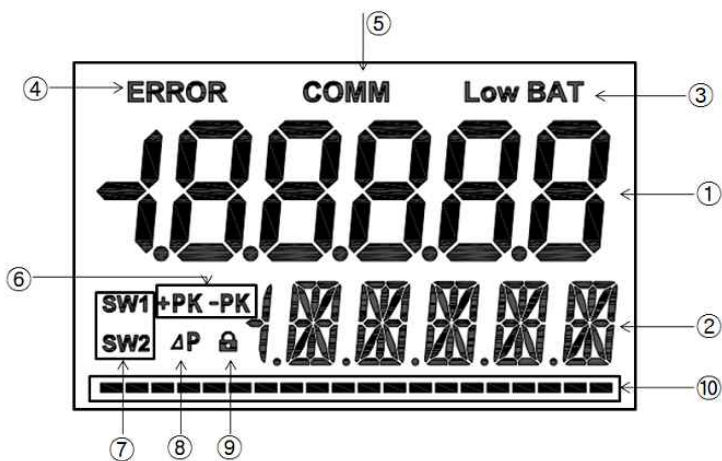


- Moving back step
- Setting value set(9→0)
- Back light on/off(press 1~3 sec)



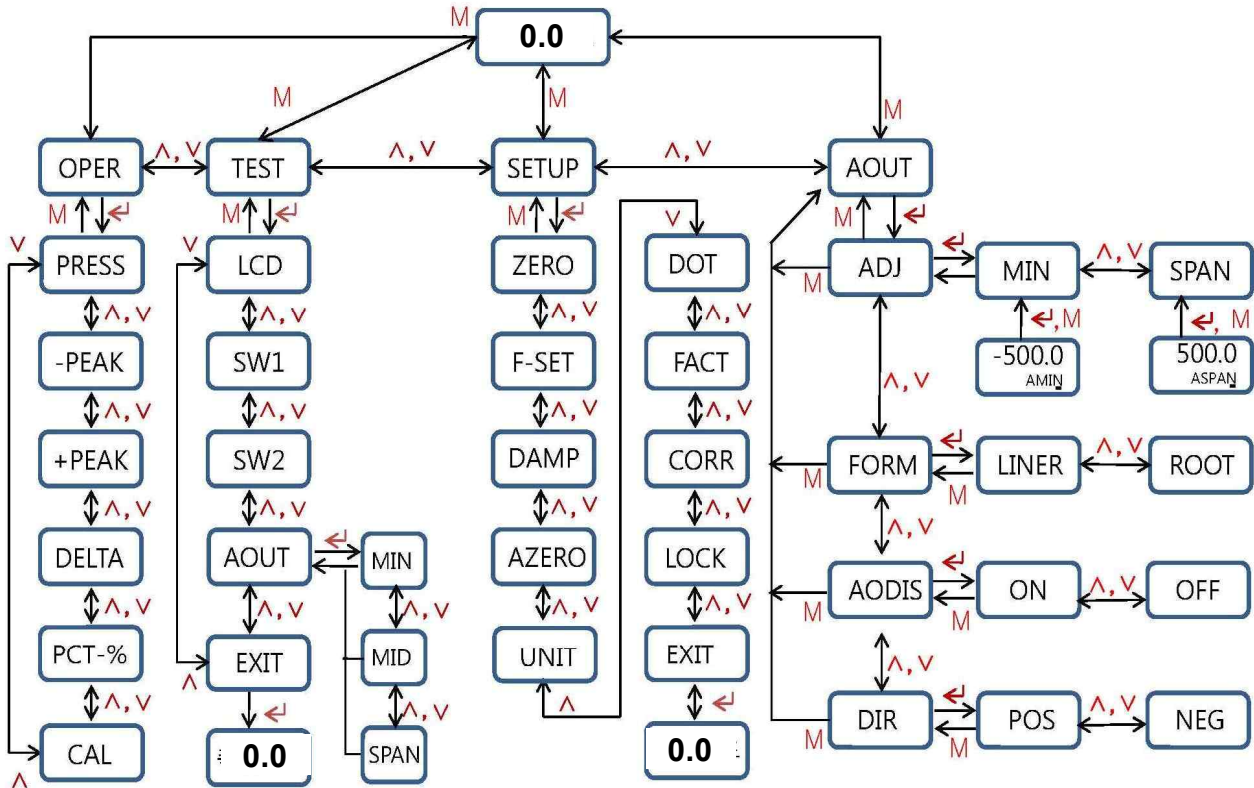
- Select setting menu / saving setting value
- Zero Setting(press about 3 seconds above)

**DESCRIPTION of LCD DISPLAY**



- ① Main window(Pressure display)
- ② Sub Window(Unit,Status,Mode)
- ③ Battery status(On with low)
- ④ Error status(On with error)
- ⑤ Communication status
- ⑥ Max, Min Mode
- ⑦ Switch Operation status1,2
- ⑧ Pressure deviation mode
- ⑨ Key rock status
- ⑩ Bar Graph(Pressure %)

**MODE AND MENU FLOWCHART**



- Into setting Menu(short press)
- Go to Back step menu or Return to Measurement mode(non saving setting parameter)
- Moving numeric input position wthe under bar(in use menu setting mode)



- Select setting menu / saving setting value
- Zero Setting(press about 3 seconds above)

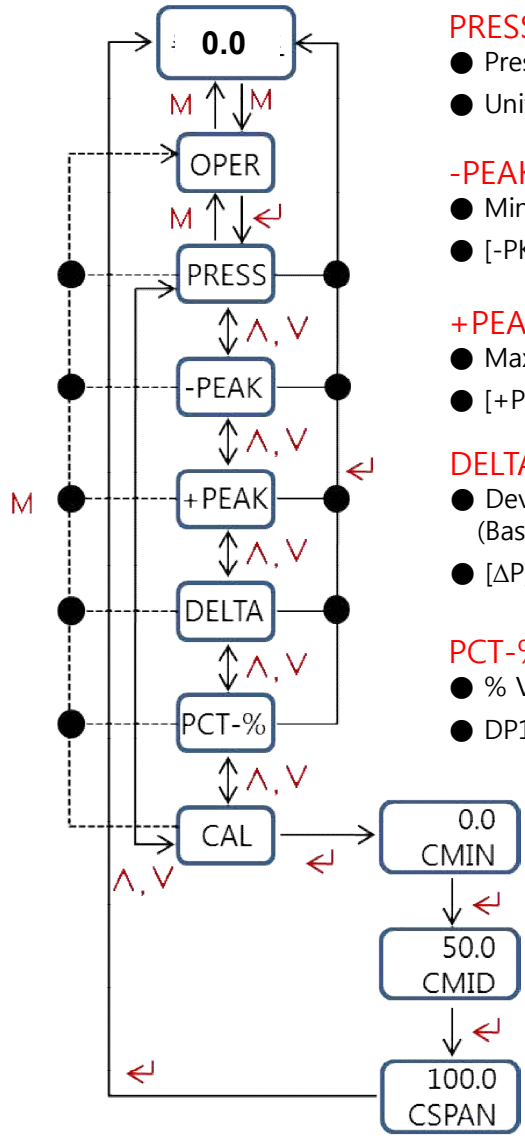


- Moving next step
- Numeric Select(0→9)



- Moving back step
- Numeric Select(9→0)
- Back light on/off(press 1~3 sec)

**OPERATION MODE**



**PRESS mode**

- Pressure measurement and display on main window
- Unit display on sub window

**-PEAK mode**

- Minimum Pressure display on main window
- [-PK] display on sub window

**+PEAK mode**

- Maximum Pressure display on main window
- [+PK] display on sub window

**DELTA mode**

- Deviation Pressure display on main window (Base on present pressure)
- [ΔP] display on sub window

**PCT-% mode**

- % Value display on main window
- DP1 FIX

**CAL mode : Pressure calibration**

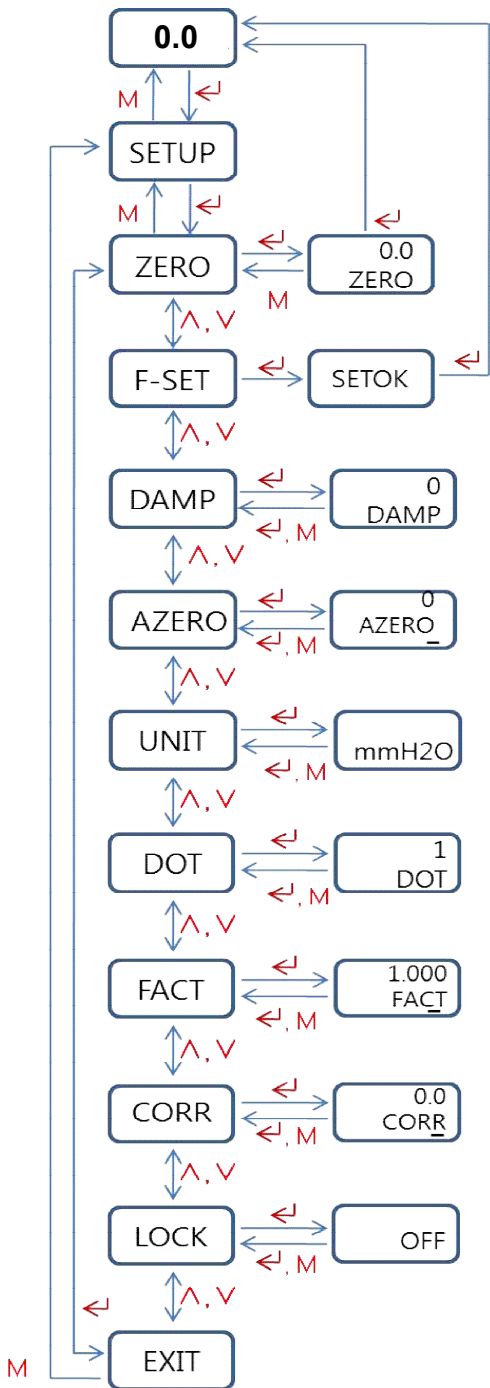
**CMIN** : Supply minimum pressure of the Range and press key [ENTER ↵]

**CMID** : Supply center pressure of the Range and press key [ENTER ↵]

**CSPAN** : Supply maximum pressure of the Range and press key [ENTER ↵]

※ If Error occur in calibration mode may it be wrong calibration (wrong pressure supplied)

**SETUP MODE**



: saving and return to back step  
 : non saving and return to back step  
 : non saving and return to back step

**ZERO** [Zero setting mode]

- You should have release pressure before [ZERO] setting

**F-SET** [Recall all factory setting parameter]

**DAMP** [Set for average pressure measure smapling time]

- Time range : 0~30sec (0sec : real time 250ms)

**AZERO** [Automatic zero Set interval time setting]

- Time range : 1~600min (0sec : Auto zero mode off)

**UNIT** [Select apply unit]

- Pa, Kpa, Mpa, Bar, mbar, PSI, mmH2O, cmH2O, Kg/cm2, InH2O, TORR, mmHg, METER, cmMETER, mmMETER
- It may occur error 10 times different both unit that origin and target unit

**DOT** [Setting decimal point position for main window]

- Set range : 0~5

**FACT** [Setting specific gravity of apply media]

- Set range : 0.500~1.500 (Default : 1.000)
- It changeable numeric number with under bar
- M : move under bar location , v ^ : change number

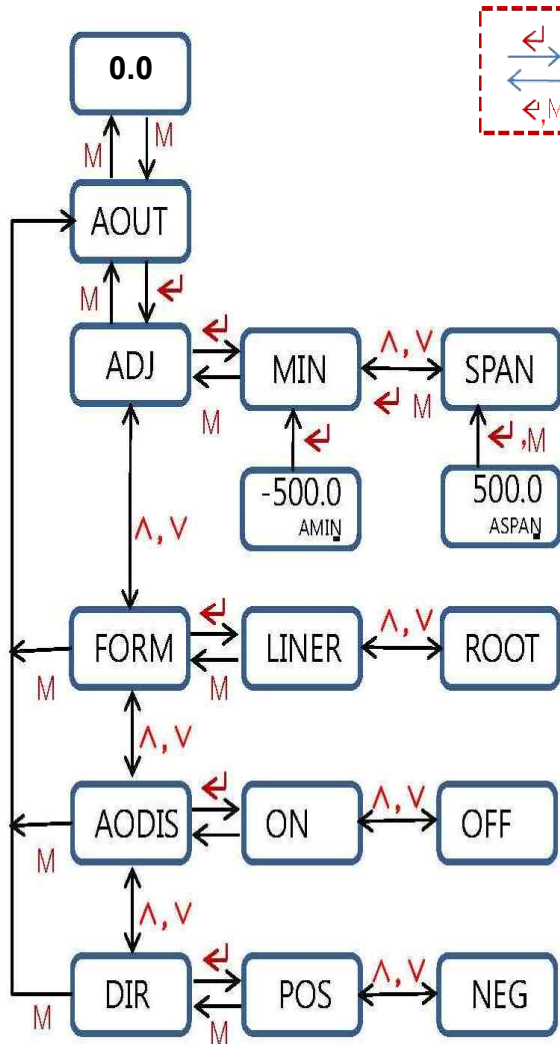
**CORR** [Compensation inclin]

- Set range : -30.0~30.0
- It changeable numeric number with under bar
- M : move under bar location , v ^ : change number

**LOCK** [Setting key lock on/off]

- v ^ : key lock on/off mode select
- [M]+[ ] (above 3sec) : release key lock mode

**AOUT MODE(Analog out put mode setting)**



: saving and return to back step  
 : non saving and return to back step

**ADJ** [Setting for 4~20mA current out(1~5Vout)]

- MIN : 4mA position level setting
- SPAN : 20mA position level setting
- It changeable numeric number with under bar
- M : move under bar location
- v ^ : change number

**FORM** [Analog out type selection]

- LINER : direct proportion of pressure current out
- ROOT : root squar of pressure current out
- v ^ : change over LINER/ROOT

**AODIS**

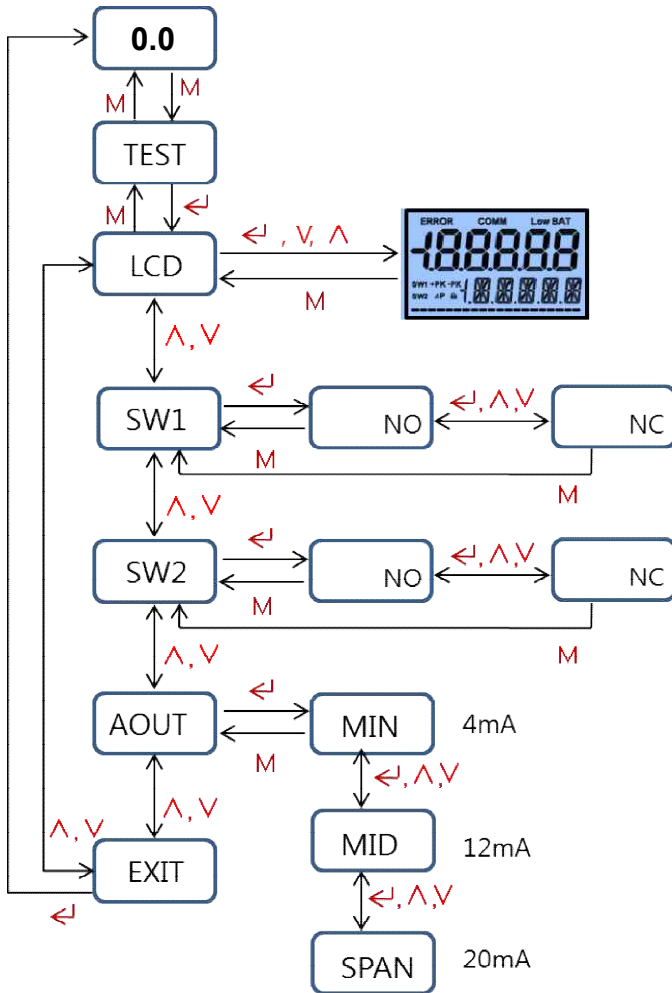
- Current(4~20mA) display on main window
- v ^ : change over ON/OFF

**DIR** [Analog out put reverse mode]

- POS : 4mA@zero, 20mA@span
- NEG : 4mA@span, 20mA@zero
- v ^ : change over POS/NEG



**TEST MODE**



**LCD** [LCD display status check]

- Every display parameter on/off check
- Back light on/off check
- v ^ : change parameter
- ← : ON/OFF test

**SW1** [Relay1 status check]

- you can make sw1 ON or OFF manually

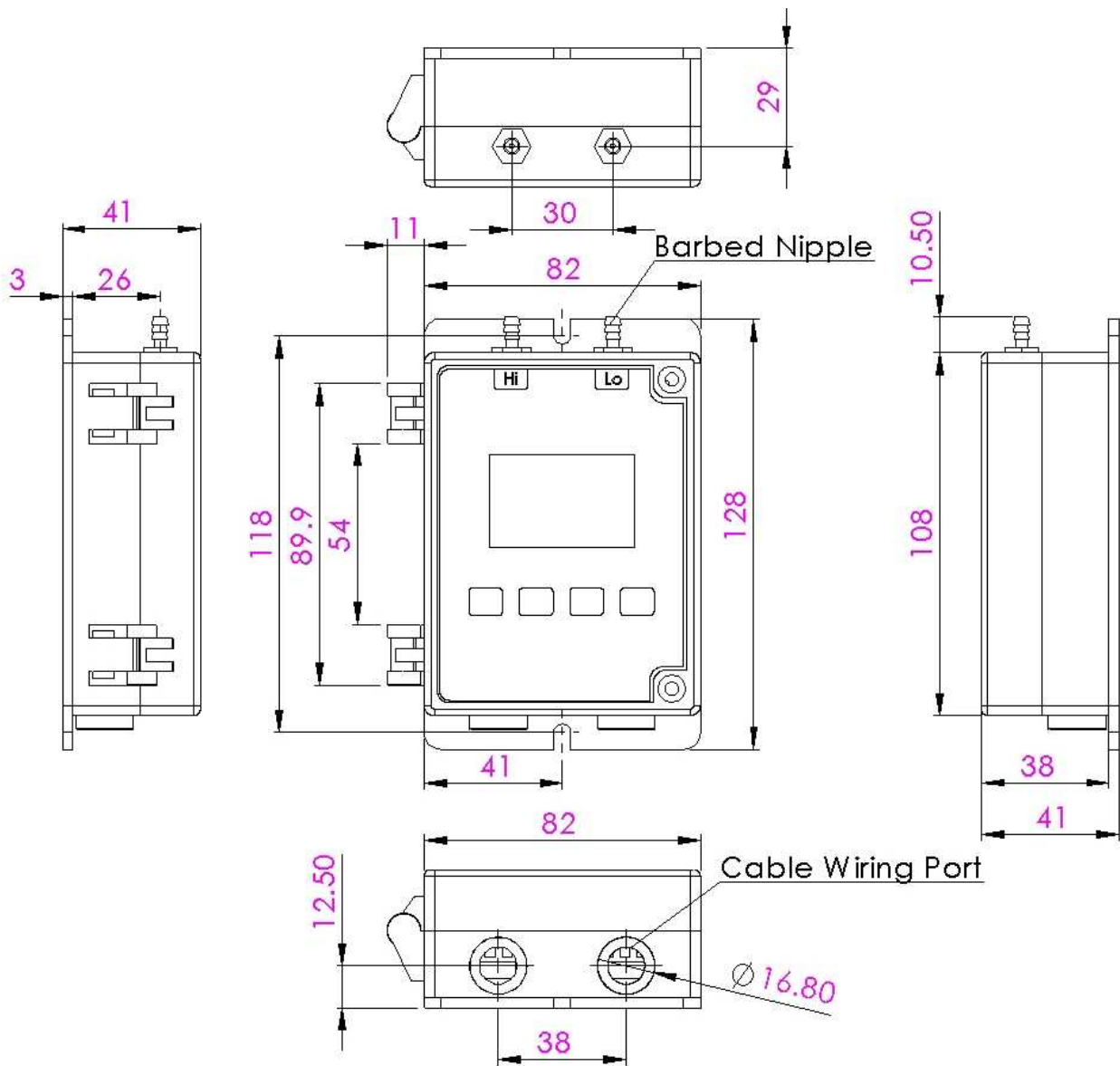
**SW2** [Relay2 status check]

- you can make sw2 ON or OFF manually

**AOUT** [Analog out put check]

- MIN : make 4mA current out manually
- MID : make 12mA current out manually
- SPAN : make 20mA current out manually

LAY OUT



**Warranty period**

one year from date of shipment

- This warranty does not apply under the below condition
  - Label is removed
  - Gauge is abused, altered, used at ratings above the maximum specified
  - Otherwise misused in any way



#1005, Hoseo-Dae Venture tower, 70 Gasandigital1-ro, Geumcheon-gu,  
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