

## Differential Pressure Transmitter

### SA810,811,812,81X



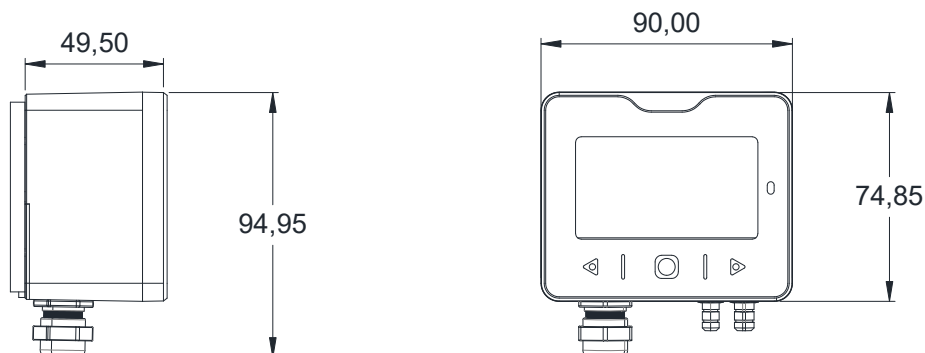
### Application

- Clean room
- Pharmaceutical workshop
- Surgery room
- Ambulance

### CHARACTERISTICS

- Ranges from -100/+100 Pa to -10000/+10000 Pa ( or can be customized, contact factory)
- Configurable intermediary ranges
- 0-5 V, 0-10 V, RS485 or active 4-20 mA output, power supply from 16 to 35 Vdc
- WIFI configurable with local server for remote monitoring.
- ABS V0 housing, IP65, with or without display
- "¼ turn" system mounting with wall-mount plate
- Housing with simplified mounting system
- Solenoid valve for auto-calibration
- Relay output, alarm pressure level configurable

### FEATURES OF THE HOUSING



- **Material** : ABS V0 as per UL94
- **Protection**: IP65
- **Display**: 42\*75mm TFT LCD
- **Height of digits**: Pressure, 10mm, unit,3mm, Temperature and Humidity, 3mm。
- **Pressure connections**: ribbed, diameter 6.2mm
- **Cable Gland**: for cables, diameter maximum 8mm.
- **Weight**: 350g

## TECHNICAL PARAMETERS

<b>Measurement units</b>	inH2O, Kpa, Psi, Bar, Pascal, mmH2O
<b>Accuracy*</b>	<b>SA810</b> : $\pm 0.5\%$ of reading $\pm 2$ Pa ; <b>SA811</b> : $\pm 0.5\%$ of reading $\pm 3$ Pa ; <b>SA812</b> : $\pm 0.5\%$ of reading $\pm 3$ mmH2O
<b>Response time</b>	1/e (63%) 0.3 s
<b>Resolution</b>	0.1Pa; 1Pa; 1Pa
<b>Auto-Zero</b>	Automatic by solenoid valve
<b>Type of fluid</b>	Air or neutral gases
<b>Overpressure</b>	<b>SA810</b> : 5Kpa, <b>SA811</b> : 10Kpa; <b>SA812</b> : 100Kpa
<b>Operating Temperature</b>	From 0 to 50°C
<b>Storage Temperature</b>	From -20 to 75°C

\*All the accuracies indicated in this technical datasheet were tested in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation

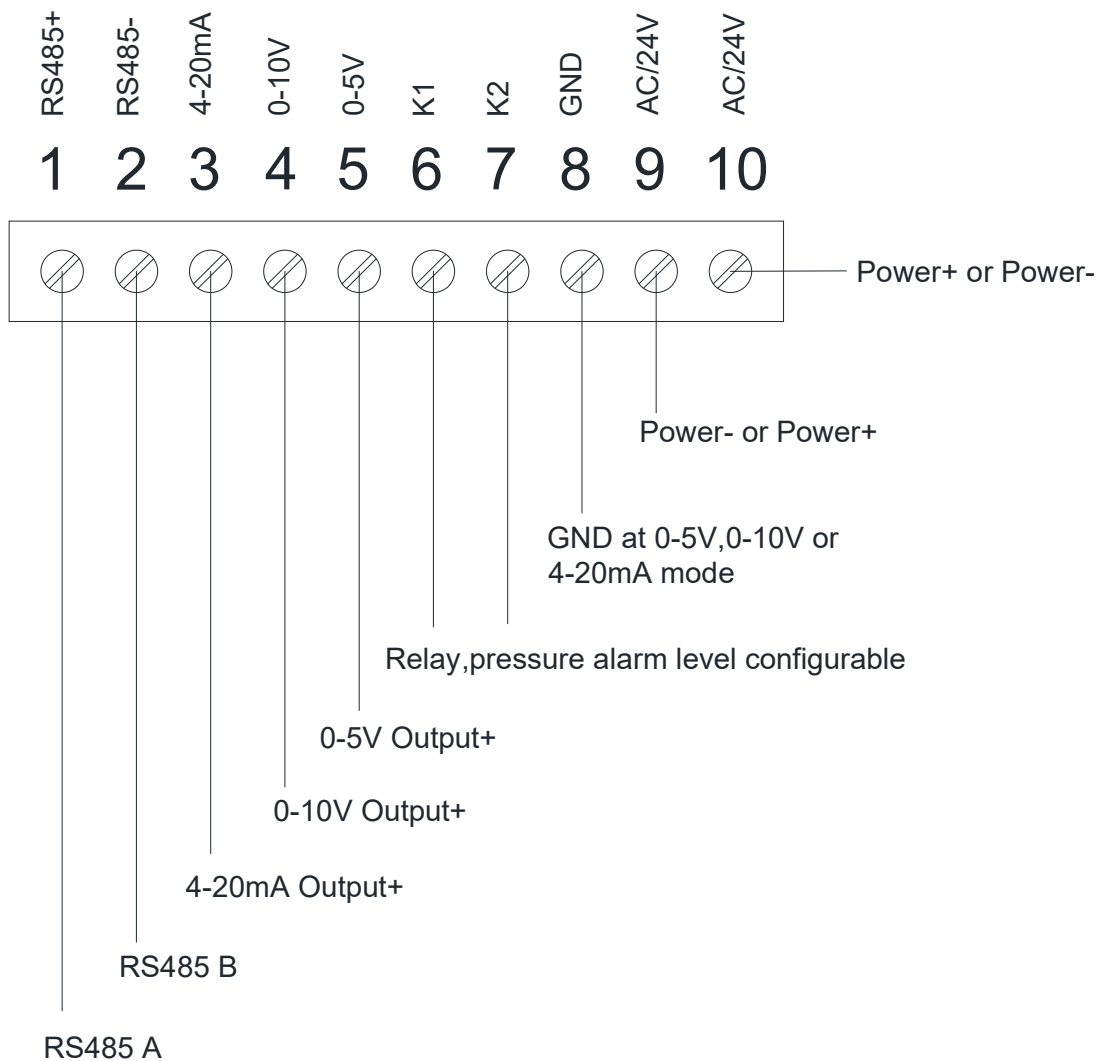
## PART NUMBER ORDERING

<b>SA81-</b>	<b>0 -</b>	<b>D</b>
<b>Model Number</b>	<b>Pressure range</b>	<b>Display</b>
	<b>0</b> : -100/+100Pascal	<b>D</b> : with display
	<b>1</b> : -1000/+1000Pascal	<b>N</b> : Without display
	<b>2</b> : -10000/+10000Pascal	
	<b>X</b> : Customization, contact factory	

**TECHNICAL SPECIFICATIONS**

<b>OUTPUT/SUPPLY</b>	Maximum load: 500ohm( 4-20mA), Minimum load: 1Kohm (0-10V,0-5V)
<b>POWER CONSUMPTION</b>	2VA(0-5,0-10V), 22mA (4-20mA)
<b>Electromagnetical Compatibility</b>	EN61326
<b>Electrical Connection</b>	Screw terminal block for cables from 0.05 to 2.5 mm <sup>2</sup> or from 30 to 14 AWG

**CONNECTIONS**



## RS 485 MODBUS-RTU PROTOCL

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Follows the Standard Modbus-RTU serial communication protocol

Baud rate: 9600, 8 data bits, no parity, 1 stop bit.

00 : Pressure output, 16 bits signed integer, Default one decimal point, Unit as kPa

01: Temperature output, 16 bits signed integer, Default one decimal point, Unit as °C

02 : Humidity output, 16 bits signed integer, Default one decimal point, Unit as %

03 : Communication address

04 : Pressure output high 16bits, combined with 05 to form 32 bits signed integer, Default one decimal point, Unit as Pa

05 : Pressure output low 16bits, combined with 04 to form 32 bits signed integer, Default one decimal point, Unit as Pa

Support command 03 06 16

## AUTO CALIBRATION

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Pressure transmitter has a temperature compensation from 0 to 50°C and an auto calibration process that guarantees excellent stability and perfect reliability of the measurement on low and high ranges over time.

Auto calibration principle: the microprocessor of the transmitter drives a solenoid valve that compensates the possible drifts on the sensitive element over time. The compensation is performed by the permanent adjustment of the zero, so the measurement of the differential pressure is then independent from the environmental conditions of the transmitter.

**Advantage:** No drift

**Frequency of auto-calibration:** Resettable from 1min to 60min

## RANGE CONFIGURATION

The range of the pressure transmitter can be configured according to user's application. The configurable percentage can be set is 10%,20%,40%,60%,80% within menu.

For example, the original range is +/-1000Pa, if select 10%, the range will change to +/-100Pa, the corresponding 0-5V,0-10V and 4-20mA output will change automatically.

For detailed instruction for the range configuration, consult factory.

## MOUNTING

To mount the transmitter, mount the ABS plate on the wall ( drilling: diameter 6mm, screws and pins are supplied.)

Insert the transmitter on the fixing plate ( See below drawing for reference). Rotate the housing in clockwise direction until you hear a click which confirms that the transmitter is correctly installed.

