SDA-P
Intelligent Pressure Transmitter

Features

- Pressure measurement from 300 Pa up to 5kPa
- Programmable pressure display range
- Minimum and maximum pressure memory
- 0…10V or 0…20mA measuring signals, selectable with jumpers
- Signal range programmable
- Selectable averaging signal

Applications

- Pressure measurement in the field of heating, ventilation and air conditioning.
- Measuring of air flow velocity
- Measuring and control of positive or negative pressure for example for clean rooms.
- Measure exactly the range you need
- Recording of minimum and maximum values for critical environments
- Supervision of critical pressures.

Functions

The transmitter measures the pressure by the use of a diaphragm that transfers the force onto a ceramic fulcrum lever. The signal is temperature compensated and calibrated. The microprocessor samples the pressure once per second. It calculates an averaging signal over a preset number of seconds and generates an output signal based on minimum and maximum pressure values.

Minimum and Maximum Values:

Using the programming tool, the user has the option to read out and reset minimum and maximum values. The minimum and maximum values may be sent to the output using OP00. This way the sensor may be used to supervise the temperature for critical environments. The minimum and maximum values are saved into the EEPROM every minute. They will still be available after a power failure.

Ordering

Item Name	Description/Option
SDA-P1	Pressure range 0…300 Pa
SDA-P2	Pressure range 0…500 Pa
SDA-P3	Pressure range 0…1 kPa
SDA-P4	Pressure range 0…3 kPa
SDA-P5	Pressure range 0…5 kPa

SDA-Px		Standard: 0...10V DC output signal
SDA-PX- W	0	**Output Signal: 0…10V DC (Default)**
	1	Output Signal: 4…20mA
	2	Output Signal: 2…10V DC
	3	Output Signal: 0…20mA
	S	Output Signal: Special – Specify

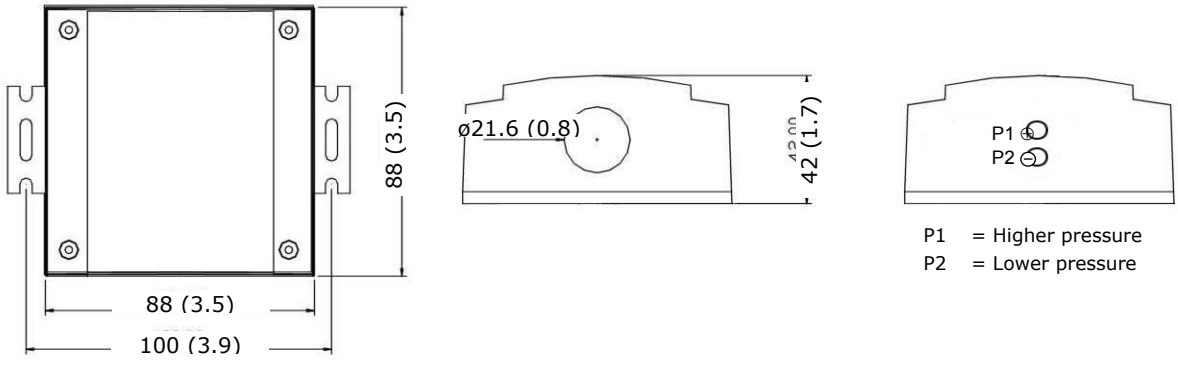
Options and Accessories

Use with OPA-S remote terminals and displays.

Technical Specification

Power Supply	Operating Voltage	24 V AC 50/60 Hz ± 10%, 24VDC ± 10%				
	Power Consumption	Max 2 VA				
	Electrical Connection	Terminal Connectors				
Sensing Probe	Product type	SDA-P1	SDA-P2	SDA-P3	SDA-P4	SDA-P5
	Pressure Range	300 Pa	500 Pa	1kPa	3kPa	5kPa
	Linearity	±0.5%	±0.5%	±0.3%	±0.3%	±0.3%
	Hysteresis	0.5%	0.4%	0.3%	0.2%	0.2%
	Stability over 1 year	0.5%	0.5%	0.5%	0.5%	0.5%
	Diaphragm:	Silicone polymer (LSR)				
	Pressure Sensing element	Ceramic Fulcrum Lever				
	Temperature coefficient sensitivity and zero point	±0.04%/°C				
Connection	Connection Terminals	2.5 mm^2				
Signal Outputs	Analog Outputs					
	Output Signal	DC 0-10V or 0…20mA				
	Resolution	10 Bit, 9.7 mV, 0.019.5 mA				
	Accuracy	± 2%				
	Maximum Load	20 mA, 500Ω				
Environment	Operation	To IEC 721-3-3				
	Climatic Conditions	class 3 K5				
	Temperature	-40…70°C (-40…158°F)				
	Humidity	<95% R.H. non-condensing				
	Transport & Storage	To IEC 721-3-2 and IEC 721-3-1				
	Climatic Conditions	class 3 K3 and class 1 K3				
	Temperature	-40…80°C (-40…176°F)				
	Humidity	<95% R.H. non-condensing				
	Mechanical Conditions	class 2M2				
Housing Materials	Cover & Mounting Plate	Fire proof ABS plastic				
Standards	CE conform according to EMC Standard 89/336/EEC EMEI Standard 73/23/EEC	EN 61 000-6-1/ EN 61 000-6-3				
	Product standards					
	Automatic electrical controls for household and similar use	EN 60 730 –1				
	Special requirement on temperature dependent controls	EN 60 730 – 2 - 9				
	Degree of Protection	IP40 to EN 60 529				
	Safety Class	III (IEC 60536)				
General	Dimensions (H x W x D)	42 x 112 x 88 mm (1.7 x 4.4 x 3.5 in)				
	Weight (including package)	178g				

Dimension [mm]



P1 = Higher pressure
P2 = Lower pressure

Configuration parameters

By the use of parameters the transmitter can be adapted to fit perfect into the application. The parameters are set with the operation terminal OPA-S. The OPA-S may be used as remote indicator.

Pressure Input configuration

Parameter	Description	Range	Standard
IP 00	P: Unit: 0 = no unit, 1 = %, 2 = scale 10 (0…2550)	0…2	0
IP 01	P: Samples taken for averaging control signal	1…255	10
IP 02	P: Calibration	-10…10%	0
IP 03	Minimum Display value	0…255	0
IP 04	Maximum Display value	0…255	100

Analog Output Configuration

Parameter	Description	Range	Standard
OP 00	AO1: Configuration output Signal: 0 = Feedback humidity input, 1 = Feedback humidity minimum value 2 = Feedback humidity maximum value	0 – 2	0
OP 01	AO1: Minimum limitation of output signal	0 – Max %	20%
OP 02	AO1: Maximum limitation of output signal	Min – 100%	100%

Analog Output Configuration

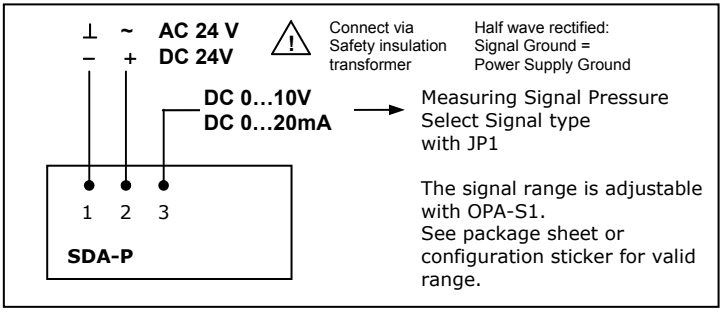
The analog output may be configured with a jumper for 0-10 VDC or 0-20 mA control signals. The jumper is located behind the terminal connector of the analog output. See table below for jumper placement. The factory setting is to 0-10 VDC.

Signal Type	Jumper selection
0 – 10 VDC	(1-2) ■■□
0 – 20 mA DC	(2-3) □■■

Installation

- To install the sensor, disassemble base plate and cover,
- Secure the base plate to the mounting surface with two screws.
- Connect the wires according to the wiring diagram to the measuring circuit in the cover,
- Connect the pressure pipes to the probe input. Observe pressure polarity.
- Assemble the cover with the base plate.

Wiring Diagram



Terminal Connections