

SENSO-P differential pressure indicator



- Easy to read LCD display
- Differential pressure displayed in Pa
- Filter contamination level displayed in %
- Limit displayed in Pa
- Measuring range displayed
- Flashing red light when set limit is exceeded
- Power supply: 2 "AA" batteries 1.5 V which last for at least 3 years

Design

The SENSO-P consists of a round section and a square or round front cover. The instrument is optimized for installation in ventilation devices and control cabinets. The two pressure test points are sunk into the housing on the back and labeled with + (overpressure) and - (under pressure). There is a threaded sleeve in the middle. The retaining bracket is attached with the supplied threaded rod and wing nuts. The wing nuts are secured against loosening. The flange sealing of the functional part across from the mounting surface occurs with an integrated O-ring. There is an arrow on the device, pointing to the up side in order to ensure the vertical mounting position when being installed. Visible at the front, built into the functional part, there is an LCD display, an LED to indicate when limits are exceeded, 1 function button and the battery compartment. After installation and configuration of the device, the front cover is snapped onto the functional part. Due to 3 guided notches this is only possible in the correct position. Removing the front cover is done by pulling with both hands or by using a screwdriver.

Technical data

Housing:	high impact ABS
Front panel color:	antique white
Lower housing color:	anthracite
Protection class:	IP 54 with additional sealing (accessories) IP 64
Operating temperature:	-10 to +40 °C
Storage temperature:	-20 to +60 °C
Relative humidity:	max. 75 % non-condensing
Housing dimensions:	112 x 58 mm [Ø x D]
Front cover dimensions	
square:	184 x 139 x 20 mm [L x W x H]
round:	145 mm Ø
Hose connection:	inner diameter 4 – 6 mm
Working and measuring range:	see table
Burst pressure:	15 kPa (P1000) / 75 kPa (P5000)
Protection class:	II (IEC 60536)
Tolerance:	≤ 1.5 % of measuring range
Long-term stability:	≤ ±0.5 % FS/a
Approvals (EMC):	EN61000-6-1, EN6000-6-2 EN61000-6-3, EN610002-6-4
Battery type:	2 x AA 1.5
Battery life:	3 to 4 years at 0 – 40 °C ambient temperature and battery capacity of 2800 mAh

Types:

	Working range 15 – 1000 Pa, 0 – 100 %	Working range 50 – 5000 Pa, 0 – 100 %
Square front cover	P1000-00	P5000-00
Round front cover	P1000-01	P5000-01
Measuring range [Pa]	0 – 250, 0 – 500, 0 – 750, 0 – 1000	0 – 2000, 0 – 3000, 0 – 4000, 0 – 5000

Activation and operation

To activate the SENSO-P, the polarized power cable of the battery pack is plugged into the motherboard. With sufficient battery capacity, the device is immediately ready for operation (indicators on the LCD are active). Within the first 20 min. the measured values are renewed every 3 seconds after previously averaging over 5 measurements. After this, the average is shown only once every 2 min. With values below 15 Pa (model P1000) or 50 Pa (model P5000), the display shows "LO". The setting of the display unit (dimension), and the programming of the limit, occurs via the one key available after removing the front cover.



Setting display unit (dimension)

A brief push of the key in normal operation switches the unit back and forth between Pa and %. If the unit % is chosen, for example, a filter contamination level in % of the current limit is shown.

Programming the limit

A prolonged pressing of the key gets you into the programming mode. The upper limit to be set (in the display box lower left) starts flashing. When you push the key again the value begins to change in a positive direction.

Short pushes → single steps

Long press → increases rate of change

With increasing threshold changes the measurement range in the box at the bottom right changes automatically.

If you exceed the limit the LED flashes.

Save (OK)

If the key is not pressed for more than 5 seconds, the set values are saved automatically and the programming mode is exited.

Battery capacity display

Full: loading bar right down the full length of the battery

Empty: no progress bar visible

Change battery: in max. 2 months, when the loading bar is visible in the right segment. To change batteries, pull the battery holder as it is inserted, from the holder itself, and change both batteries.

0-point adjustment

Disconnect supply voltage. Then release pressure from the measuring inputs (remove both hoses).

Push (S1) key and keep pressed.

Apply supply voltage (→ display flashes).

Release S1 key (→ pressure indicated: 0 Pa).

Press S1 button briefly and let go again

(→ value will be stored).

Delivery

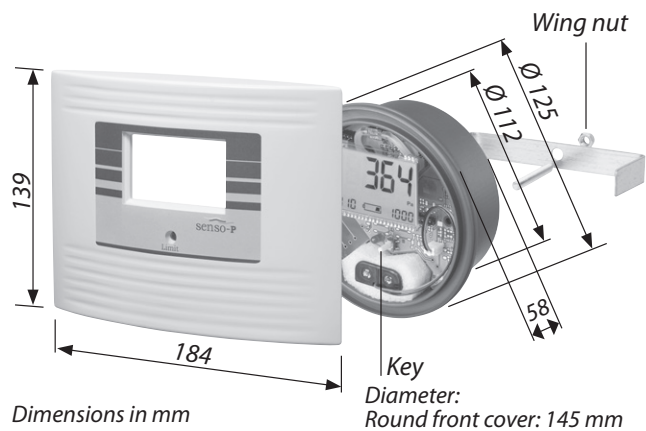
The standard version contains the functional part with 2 batteries, the front cover and installation instructions.

Accessories:

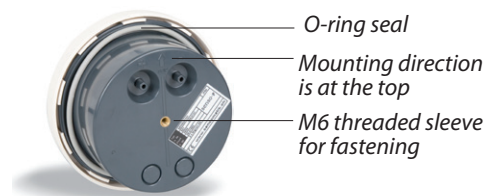
SENSO-Z assembly kit, O-ring for IP 64 SENSO-D,

Clima-set SENSO-CS, mounting rack for SENSO-H with a height of 30 or 50 mm.

SENSO-P set



Back view of SENSO-P



Principle of operation

The measured differential pressure is guided over the connecting nipples with flexible hoses onto the piezoelectric differential pressure sensor and electronically evaluated and displayed on the LCD indicator.

The limit can be programmed using a key situated behind the front cover of the device.

With the same key the display unit (dimension) can be changed from Pa into %. Then the set limit represents 100 % filter contamination.

Installation

In the sandwich plate or the cabinet door a 115 mm Ø hole is milled and the functional part is pushed through the opening from the front. The mounting direction is labeled with an arrow pointing upward on the back of the device. The threaded rod is screwed into the threaded sleeve with a screwdriver; the mounting bracket is slipped over and secured with a wing nut. When assembling the pressure transfer hoses, care must be taken to comply with the direction of the pressure (+ pressure, - pressure).

Now, the front panel can be snapped into place. The operating instructions are pasted onto the back side of the front cover.