

# senso-P

## Differential pressure displays with alarm signal



### Features

- easy-to-read main display thanks to large numerals and residual-light reflecting display technology
- Display of differential pressure in Pa up to a maximum of 1000 Pa or display of the degree of filter contamination in %
- Displays the alarm value in Pa
- Displays the current measuring range
- Red LED flashes when alarm value is exceeded
- Power: 2 x 1.5 V "Mignon AA" batteries

### Technical data

Housing:	High impact ABS
Colour front panel:	beige
Colour housing body:	anthracite
Protection:	IP 54 IP 64 with supplementary seal
Operating temperature:	-10 to +40 °C
Storage temperature:	-20 to +60 °C
Relative humidity:	max. 75 %, non-condensing
Dimensions body:	112 x 58 [Ø x T]
Dimension front panel:	184 x 139 x 20 mm [L x W x H]
Flexible tube connection:	5 to 6 mm internal diameter
Working range:	0-1000 Pa
Burst pressure:	15 kPa
Protection class:	II (IEC 60536)
Tolerance:	± 1.5 % of the measuring range
Long-term stability:	≤ ± 0,5 % V. EW/a
Approbations:	EMV: EN50081-1, EN50082-2
Battery:	2 x Mignon AA 1.5V
Battery service life:	3 - 4 years at ambient temperature 0 to 40 °C and Battery capacity of 2800 mAh

### Function

The differential pressure to be measured is fed using flexible tubing via the connection nipples to the Piezo-measuring device, electronically interpreted and shown on the LCD display.

The alarm value can be programmed using a button located behind the front panel.

Using the same button, the dimension displayed can also be changed from Pa to %. The alarm value then corresponds to 100 % filter contamination, for example.

### Specification

The **SENSO-P** consists of a round measurement instrument and a front panel.

The measurement instrument is optimised for mounting in air-handling units and switchboards. The two connections for pressure measurement are located at the back of the instrument in recesses to prevent mechanical damage. They are labelled with + (overpressure) and - (underpressure).

A threaded bushing is provided in the centre of the housing. The fixing clamp is attached using the threaded bolt and the wing-nut supplied. The wing-nut is secured against loosening. An O-ring integrated in the flange of the measurement instrument seals it against the panel in which it is mounted. In order to ensure correct mounting, an arrow can be found on the back of the device that must point upwards.

In the front part of the instrument an LCD display which reflects residual light can be found, together with the electronics motherboard, the red LED, the function button as well as a battery compartment in which batteries can be plugged-in using a special cable.

After the unit has been mounted and any programming done, the front panel can then be clipped onto it. Three guide-grooves ensure that this is only possible when correctly oriented. The front panel can be removed by pulling it with both hands and/or using a screwdriver.

## Activation and operation

The SENSO-P can be activated by plugging the battery pack's connecting cable onto the motherboard. This should remain connected even when changing batteries. It is protected against reverse polarity.

With sufficient battery capacity, the device is immediately ready for operation (displays on the LCD are active).

The setting of the units displayed and the programming of the alarm values is carried out using the single button that is accessible when the front panel is removed.

## Setting the units displayed (Dimension)

By pressing the button during normal operation for a short time, the units displayed change from Pa to % and back again. If, for example, % is chosen, the degree of filter pollution is shown in % of the alarm value defined.

## Programming the alarm (Limit)

By pressing the button for a longer time, the unit goes into programming mode. The upper alarm value to be set (displayed on the lower left) begins to flash. By pressing the button again, to the value begins to increase in the positive direction.

Short press → single step

Long press → increasing rate of change

With increasing alarm value, the optimal measuring range is automatically selected in the field on the lower right.

## Save (OK)

If the button is not pressed within 5 sec., the value currently shown is automatically stored and programming mode is left.

## Battery capacity display

Full: bar over the whole length of the battery icon

Empty: no bar visible

Change battery: after maximum 2 months if bar is in the right-hand segment.

Changing batteries: Pull the battery-holder out of its mounting without unplugging it and change both batteries.

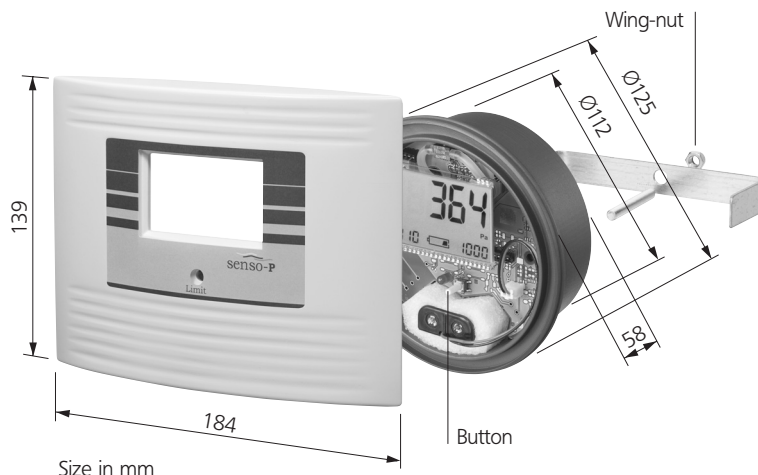
## Zero-point correction

If no differential pressure is applied and the power supply is removed for a short time, the device calibrates itself automatically.

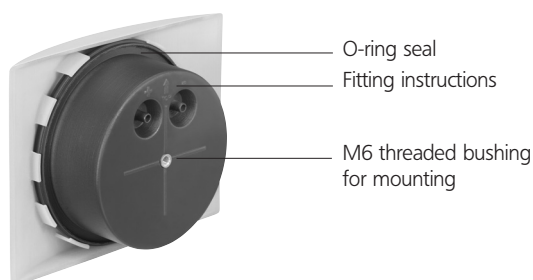
## Scope of delivery

The standard version comprises the measurement instrument, a front panel, a threaded bolt, a mounting bracket, a wing-nut and fitting instructions. The operating instructions can be found inside the front panel.

## SENSO-P assembly



## SENSO-P reverse side



## Fitting

A 115 mm Ø hole is drilled in the sandwich plate or the control cabinet door and the measurement instrument is slid into the aperture from the front side. The correct alignment of the instrument is indicated by an upwards-pointing arrow on the rear of instrument. Using a screwdriver, the threaded bolt is firmly screwed into the threaded bushing; the mounting bracket is placed over it and secured with the wing-nut. When connecting the pressure tubing, great care should be taken that the correct polarity is adhered to (+ overpressure, - underpressure). The front panel can then be snapped on.

## Overview of the SENSO range of products

Model	Display range	Units	Alarm value	Voltage	Analogue output	Relay contact
SENSO-P	0÷1000 Pa, 0÷100 %	Pa, %	exceeds	2 pcs. Mignon AA	-	-
SENSO-P+	0÷250 Pa 0÷500 Pa 0÷750 Pa 0÷1000 Pa -50÷ +50 Pa* 0÷100 %	Pa, %	exceeds	24 V, 50÷60 Hz 24 V DC	4÷20 mA 0÷20 mA 0÷10 V, 0,1 mA	EPU 8 A at 240 V
SENSO-V	100÷99'999	m <sup>3</sup> /h, l/s, ft <sup>3</sup> /min	falls below	2 pcs. Mignon AA	-	-
SENSO-V+	100÷99'999	m <sup>3</sup> /h, l/s, ft <sup>3</sup> /min	falls below	24 V, 50÷60 Hz 24 V DC	4÷20 mA, 0÷20 mA 0÷10 V, 0,1 mA	EPU 8 A at 240 V

\* special version

Technical details subject to change