

## enviSENS

### AUTOMATIC SENSOR IMMISSION MONITORING STATION



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The enviSENS unit is a device used for online monitoring of air quality in a specific location. For this purpose, it uses different types of sensors, according to the customer's requirements for the monitored variables. The unit is checked and adjusted before shipment by means of alignment with a reference/equivalent measuring unit.

The standard version is 230V mains powered, and the unit can optionally be equipped with a battery module for lamp or solar power supply, providing a minimum of 12 hours of operation.

**Dust sensor** - monitors the size and quantity of particles fraction PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> in µg/m<sup>3</sup> working on optical principle in the range 0-1000 µg/m<sup>3</sup>, manufacturer Sensirion.

**NO<sub>2</sub> sensor** - monitors the concentration of nitrogen dioxide in the ambient air, measurement range is 0-250 ppb, manufacturer ENVEA.

**NH<sub>3</sub> sensor** - monitors the concentration of ammonia in the ambient air, measurement range is 0-25 ppm, manufacturer ENVEA.

**H<sub>2</sub>S sensor** - monitors the concentration of hydrogen sulfide and methane in ambient air, measurement range is 0-1000 ppb, manufacturer ENVEA.

The unit can also be equipped with sensors for measuring noise, CO, O<sub>3</sub>, SO<sub>2</sub>, NO or VOC.

## Key benefits and features



Modular unit.



Possibility to create local measurement networks.



Low acquisition costs compared to professional analyzers. No consumables required for operation - low operating costs.



Compact unit with variable installation options.



Online transmission of measured data using. Averaging time: 1/10/60 min for gases, 1/24hours for dust



Power supply - internal switching power supply with maximum output 25W input 230V/0,11A, output 5V/5A. Battery module or solar power as an option.



Operating temperatures: minimum ambient temperature -20°C, maximum ambient temperature +40°C.



Box (231x125x90 mm), polycarbonate, non-flammable, self-extinguishing, IP65 with input for dust meter and gas sensors, aluminium bracket for mounting the station on a wall, vertical or horizontal structure (railing, public lighting).

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#### TECHNICAL PARAMETERS OF THE MOST COMMONLY USED SENSORS

	Cairpol Cairsens NO <sub>2</sub>	Cairpol Cairsens NH <sub>3</sub>	Cairpol Cairsens H <sub>2</sub> S
<b>Measuring principle:</b>	electrochemical sensor	electrochemical sensor	electrochemical sensor
<b>Range:</b>	0 – 250 ppb	0 – 25 ppm	0 – 1000 ppb
<b>Resolution:</b>	1 ppb	1 ppb	1 ppb
<b>Low detection limit:</b>	20 ppb	0,5 ppm	10 ppb
<b>Operating conditions:</b>	Temperature -20 to +40 °C Relative humidity 10–90 % Active sample aspiration	Temperature -20 to +40 °C Relative humidity 10–90 % Active sample aspiration	Temperature -20 to +40 °C Relative humidity 10–90 % Active sample aspiration
<b>Maximum measurement uncertainty:</b>	± 25 %	± 30 %	± 30 %

	Cairsens nmVOC Photo Ionisation Detector (PID) VOC senzor	Noise sensor
<b>Measuring principle:</b>	PID, measuring of total VOC	microphone (PID)
<b>Measured substances:</b>	nm VOC	noise
<b>Measuring range:</b>	0 - 2   0 - 16 ppm	40–100 dB
<b>Detection limit:</b>	200 ppb	40 db
<b>Resolution:</b>	1 ppb	–
<b>Communication:</b>	UART	UART
<b>Operating conditions:</b>	-20 to +50 °C Relative humidity 10 – 90 % –	-20 to +50 °C Relative humidity 15 – 85 % –
<b>Time resolution:</b>	1 min	≤ 1 sec

	Sensirion SPS30
<b>Measuring principle:</b>	Optical light scattering
<b>Measured variables:</b>	PM <sub>1</sub> , PM <sub>2.5</sub> and PM <sub>10</sub> , particle number concentration (also by individual size channels)
<b>Mass concentration:</b>	0 – 1000 µg/m <sup>3</sup>
<b>Detection limit:</b>	≤ 1 µg/m <sup>3</sup>
<b>Size range:</b>	0,3 - 10 µm
<b>Operating temperature:</b>	-20 to +40 °C

#### Sensors



Sensirion SPS30



Cairpol Cairsens NO<sub>2</sub>  
Electrochemical Sensor



Cairsens nmVOC  
Photo Ionisation Detector



Cairsens H<sub>2</sub>S  
Electrochemical Sensor



Noise sensor