

ECOPX MONITORS

SUSPENDED PARTICULATES

- *TSP, PM₁₀, PM_{2.5} and PM_{1.0}*

SETTLEABLE PARTICULATE MATTER

- *SPM*

GASEOUS POLLUTANTS

- *SO₂, NO₂, O₃, CO, H₂S, VOC and others*

METEOROLOGY



The ECOPX family of monitors is designed to measure ambient air quality and weather conditions with low acquisition and operating costs. ECOPXs can be manufactured and configured with different sensors, communication interfaces, power supplies, support bases and accessories, according to the customer's needs.

LEARN MORE ABOUT ECOPX MONITORS

ECOPM

Suspended particulate monitor (TSP, PM₁₀, PM_{2.5} and PM_{1.0}).



ECOPS

In addition to the concentrations of TSP, PM₁₀, PM_{2.5} and PM_{1.0}, it measures settleable particulate matter (SPM), being the only monitor in the world able to simultaneously measuring all fractions of particles in the ambient air.

ECOPR

A monitor developed to compose monitoring networks for fugitive emissions of particulate matter (RAMP).



ECOMT

Monitoring of weather variables read by a wide range of meteorological sensors.

ECOGP

Monitors up to four gaseous air pollutants simultaneously.





HIGH MONITORING FREQUENCY

Measurements taken every 2 seconds.
Adjustable averaging interval from 1 to 60 minutes.



LOW POWER CONSUMPTION

Powered by 12 VCC 2 A source.
Can be powered by solar panels or batteries.



COMPACT, RESISTANT AND LIGHTWEIGHT DESIGN

Enables quick handling, repositioning and resume of operation of the monitor within minutes.



HIGH QUALITY AND WEATHER-RESISTANT

The monitors can operate directly indoors and outdoors (exposed to rain, sun, wind and dust), providing long-term readings with minimal operator intervention requirements.



MADE IN BRAZIL

Developed and manufactured by EcoSoft in Brazil.
12-month warranty and immediate technical assistance for equipment maintenance and calibration.



COMMUNICATION AND DATA COLLECTION

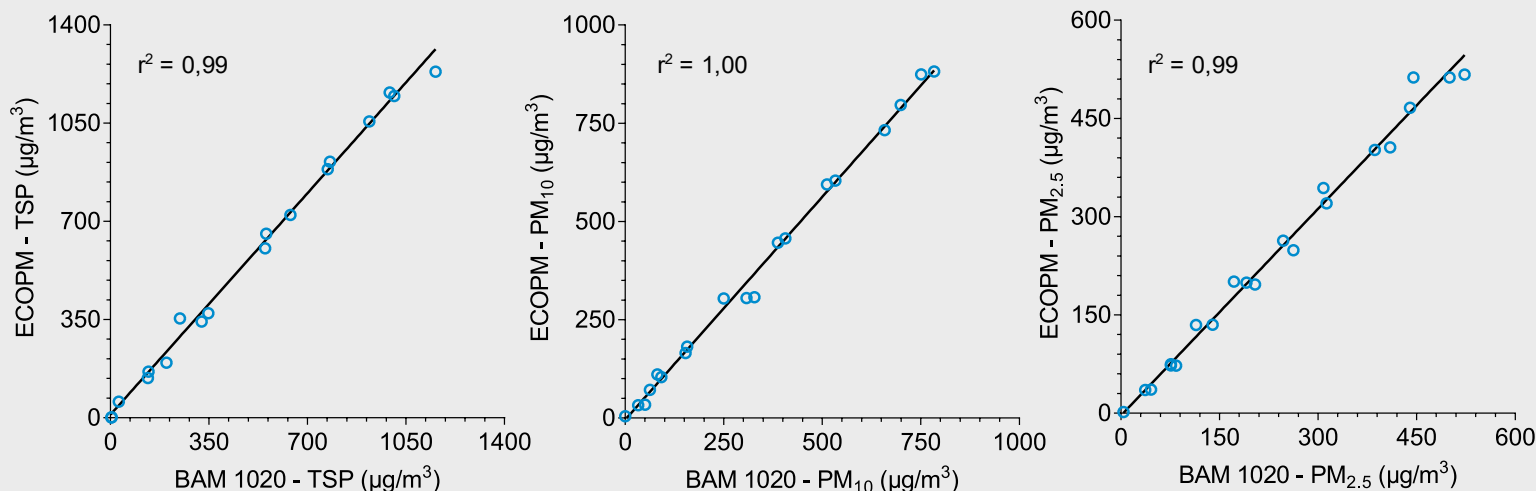
ECOPXs are designed to work with Ambion (sold separately) provided by EcoSoft. Ambion is a complete cloud-based solution for the acquisition, storage and visualization of data produced by ECOPX. With Ambion, remote access to data is continuous and in real time. Simply insert a compatible SIM card into the cellular modem and connect the equipment to your power source.

Data can also be accessed locally via USB by computers, notebooks and smartphones. The ECOPX software for Windows, supplied with the ECOPX monitor, has a simple and user-friendly interface for communication, configuration and data collection.

On demand, ECOPX equipment can be equipped with other network communication modules, allowing data to be sent to the internet via radio, Ethernet network or satellite.

CALIBRATION

ECOPXs can be calibrated by reference with approved automatic monitoring stations and/or approved manual methods. EcoSoft has a specialized laboratory with particle calibration chambers, unique in Latin America, and provides ECOPX maintenance and calibration services, in accordance with international standards.



ECOPM VS. Met One BAM 1020 calibration tests

Once calibrated, ECOPXs produce reliable measurements comparable to USEPA-approved reference equipment. The quality of measurements performed by ECOPX was also evaluated and approved in a proficiency test carried out by PEP-SENAI/SC LANAE, an agency accredited by CGCRE Inmetro.

FIESC SENAI

CERTIFICADO DE PROFICIÊNCIA

O Provedor de Ensaio de Proficiência - PEP SENAI LANAE certifica que:

EcoSoft Consultoria e Softwares Ambientais

Rua Anabyr Lopes França, Vitória/ES

apresentou os resultados dentro do limite esperado, do nível de confiança de 95% do valor designado. Foi satisfatório na Rodada 07/18 do Programa de Ensaio de Proficiência por Comparação Interlaboratorial no(s) parâmetro(s) abaixo:

Matriz Ar: PTS - Partículas Totais em Suspensão e MP10 - Partículas Inaláveis

Participação com: Monitor Automático de Partículas (PTS e PM10) N/S: ECOPMV1S005

Tássia S. Saes

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PEP - SENAI - LANAE

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GENERAL SPECIFICATIONS OF ECOPX MONITORS

Models	ECOPM, ECOPS, ECOPR, ECOMT and ECOGP
Communication	Native USB + Cellular Modem (2G/3G/4G). Direct connection and real-time data sending to the Ambion system <i>On demand: Ethernet, 915 MHz radio, satellite</i>
Power supply	100-240 VAC for 12 VDC (2 A) <i>On demand: photovoltaic system and rechargeable batteries</i>
Enclosure	Fiberglass reinforced polyester (IP-66)
Weight	From 1 to 2.5 kg <i>(depending on the enclosure model and equipped sensors)</i>
Operation site	Indoor and outdoor environments, remote or with infrastructure. Can be exposed to sun, rain, wind and dust.
Operating temperature and humidity	0 to 60 °C / 0 to 100% <i>(no condensing)</i>
Storage memory	Built-in datalogger for 365 days of data

Additional sensors *(sold separately)*

- Wind direction and speed, air temperature
- Atmospheric pressure, solar radiation
- Precipitation, relative humidity, evaporation
- Consult other optional sensors

Optional accessories *(sold separately)*

- 2 m aluminum detachable tripod
- 4 m aluminum folding pole
- 10 m aluminum telescopic tubular tower
- 10 m aluminum telescopic lattice tower
- Monitor storage and transport case
- Photovoltaic system for continuous power supply of the monitor
- Rechargeable battery and charger kit with 24-hour autonomy
- Consult other optional accessories

ADDITIONAL ECOMT TECHNICAL SPECIFICATIONS

Variable	Weather sensors of the customer's choice
Measuring range	Variable, according to the type and model of the sensors
Sensitivity	Variable, according to the type and model of the sensors

ADDITIONAL ECOPS TECHNICAL SPECIFICATIONS

Variables	Settleable particulate matter (SPM) and TSP, PM ₁₀ , PM _{2.5} , PM _{1.0} <i>Optional variables (on demand): supplied by meteorological sensors</i>
Measuring range	0 to 20 g/m ² /30 day (SPM) 0 to 2,000 µg/m ³ (TSP as reference)
Sensitivity	0.2 mg/m ² /min (SPM) 0.1 µg/m ³ (PM _{1.0} as reference)
Particle diameter range	0.34 to 40 µm (24 size-ranges - PM _{1.0} to TSP) 0 to 100 µm (SPM)
Sensor type	Laser optical particle counter (TSP, PM ₁₀ , PM _{2.5} , PM _{1.0}) Quartz crystal microbalance (SPM)
Air sample inlet	Internal, axial fan (TSP, PM ₁₀ , PM _{2.5} , PM _{1.0}) Natural dry deposition (SPM)
Probe	Heated with protective filter (TSP, PM ₁₀ , PM _{2.5} , PM _{1.0}) Shield with controlled temperature and rain protection (SPM)
Operating flow	0.05 to 0.35 L/min (TSP, PM ₁₀ , PM _{2.5} , PM _{1.0})
Additional operational variables	Air sample flow, air temperature, relative humidity
Accessories	Microbalance automatic cleaning module with compressed gas <i>(on demand)</i>

ADDITIONAL ECOPR TECHNICAL SPECIFICATIONS

Variables	TSP, PM ₁₀ , PM _{2.5} , PM _{1.0} <i>Optional variables (on demand): supplied by meteorological sensors</i>
Measuring range	0 to 10,000 µg/m ³ (TSP as reference)
Sensitivity	0.1 µg/m ³ (PM _{1.0} as reference)
Particle diameter range	0.35 to 35 µm (6 size-ranges)
Sensor type	Laser optical particle counter
Air sample inlet	Internal, axial fan
Probe	Heated with protective filter
Operating flow	0.05 to 0.20 L/min
Additional operational variables	Air temperature and relative humidity

ADDITIONAL ECOPM TECHNICAL SPECIFICATIONS

Variables	TSP, PM ₁₀ , PM _{2.5} , PM _{1.0} <i>Optional variables (on demand): supplied by meteorological sensors</i>
Measuring range	0 to 2,000 µg/m ³ (TSP as reference)
Sensitivity	0.1 µg/m ³ (PM _{1.0} as reference)
Particle diameter range	0.34 to 40 µm (24 size-ranges)
Sensor type	Laser optical particle counter
Air sample inlet	Internal, axial fan
Probe	Heated with protective filter
Operating flow	0.05 to 0.20 L/min
Additional operational variables	Air temperature and relative humidity

ADDITIONAL ECOGP TECHNICAL SPECIFICATIONS

Variables	SO ₂ , NO ₂ , CO, O ₃ , H ₂ S and VOC (up to 4 gases per monitor) <i>Optional variables (on demand): other gases and/or meteorological sensors</i>
Measuring range	0 - 3 ppm (SO ₂ , NO ₂ , O ₃ e H ₂ S), 0 - 7 ppm (CO) and 0 - 15 ppm (VOC)
Resolution	0.1 ppb
Accuracy	± 5% full scale (after stabilization and with no interferent gases)
Sensor type	Electrochemical (SO ₂ , NO ₂ , CO, O ₃ , H ₂ S) or PID (VOC)
Air sample inlet	Forced ventilation by a low flow fan Includes heating and sample temperature control
Probe	Heated and with stainless steel protective filter
Additional operational variables	Air temperature and relative humidity

