# MP101M

## CONTINUOUS, AUTOMATIC SUSPENDED **PARTICULATE MONITOR**

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**The MP101M uses the ISO 10473 Standard for dust monitoring in ambient air: Measurement of the mass of particulate matter on a filter medium - Beta-ray absorption method**

## **FEATURES** AND **BENEFITS**

- High accuracy, not influenced by the physicochemical nature of particles
- True volumetric air flow control with three atmospheric pressure and temperature sensors
- Sampling flow-rate continuously regulated to the atmospheric temperature and pressure: reduces evaporation artefacts of volatile compounds (compliant with EU recommendations for PM2.5 measurement)
- No influence of the seasons changes on the calibration coefficient
- Built-in reference gauge for calibration: no need for factory re-calibration
- Rugged instrument, not sensitive to vibration, humidity, temperature
- Data recording through RS232, Ethernet, USB port
- Compact: easy to install as bench top or rack mounting in mobile or stationary laboratories
- Interchangeable sampling heads PM10, PM2.5, PM1 and TSP
- On board web server compatible with any internet browser




ISO 10473:2000, EN 16450 : 2017, EN 12341 : 2014, EN 15267-1 & EN 15267-2 : 2009, VDI 4202-3

MCERTS CSA MC240439/00 CSA MC250446/00

TÜV Rheinland N°0000074619 N°0000074620

EQPM-0404-151 EQPM-1013-211

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## TECHNICAL **SPECIFICATIONS**

| | |
|---|---|
| **Measuring ranges** | 0-10 000 µg/m³ (user selectable or auto-ranging) |
| **Measurement units** | mg/m³, µg/m³, (user selectable) |
| **Measurement resolution** | 0.1 µg/m³ |
| **Lower detectable limit** | <4.8 µg/m³ (1h average) <0.5 µg/m³ (24h average) |
| **Accuracy** | According to US ESPA tests (PM2.5 class III): 5.7% - 10.9% |
| **Measurement uncertainty** | Expanded measured uncertainty PM10 (24h): 12.56% / Expanded measured uncertainty PM2.5 (24h): 14.34% |
| **Measurement cycles** | 30 min, 1h, 6h, 12h, 24h... user-selectable (up to 96 hours) |
| **Measuring period** | 10 min, 15 min, 30 min, 1h, 2h... user-selectable (up to 48 hours) |
| **Calibration** | Manual or automatic with optional module |
| **Repeatability** | Std deviation <2% (mass test) |
| **Linearity** | 0,94 <R2 (upon EPA test) < 0.99 |
| **Precision** | According to US ESPA tests (PM2.5 class III): 5.7% - 10.9% |
| **Detector** | High performance Geiger-Müller counter |
| **Sampling flow rate** | 1 m³/h |
| **Standard filter** | Fibreglass tape (width 35 mm, length 30 m) Autonomy for 1,200 samples (>3 years of daily measurements) |
| **Power supply** | 100-240 VAC, 50/60Hz 24VDC (option) |
| **Connectivity** | Ethernet (RJ45 socket) USB Port, serial RS232/RS485 (optional) |
| **Optional analog output** | External opto-isolated I/O interface with: •4 independent analog inputs •4 independent analog outputs •4 remote control inputs •6 dry contacts outputs |
| **Communication protocols** | Modbus (TCP-IP, RTU/Jbus), Mod4, UDP, Baeyrn. Gas Inlet/Outlet: External Zero, Span, SV control |
| **Housing** | 19" rack / 6U |
| **Dimensions** | 483 x 324 x 266 (W x D x H) (mm) |
| **Weight** | 15.2 kg (without pump) |
| **Operating temperature** | 5°C to +40°C |
| **Pressure and temperature compensation** | |

## SAMPLING **INLETS**



PM 10 - EN 12341
PM 2.5 - EN 14907



PM10
US-EPA



Adapter
PM 2.5 VSCC
US-EPA

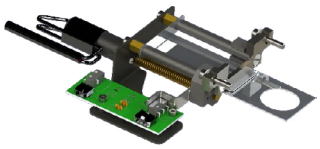


TSP
US-EPA

Other sampling inlets for research or specific applications are available upon request, such as PM1 for Europe and US-EPA

## OPTIONS AND **ACCESSORIES**

- Temperature-regulated sampling tube (RST): 1 m, 1.5 m, 2 m, 2.75 m, compliant with CEN PM10 Directive
- Field connection kit for leak and zero test (on RST tube)
- External pump assembly: diaphragm (9.4kg), rotary vane (4.6kg)
- All-weather cabinet for outdoor use, with or without air conditioning
- Laboratory connection kit for leak and zero test (on MP101)
- Bead flowmeter for calibrating the sampling flow rate
- HEPA filter for zero test
- CPM module for optical real-time indication (concentration, counting,classification by size range) of particles
- Easy to install span calibration module for automatic and programmable calibrations



Automatic and Programmable Span Calibration Module

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16.02.2026 EN-007471-DS-5
**MP101M Datasheet**
*MP101M Continuous, automatic suspended particle monitor*
*Specifications subject to change without notice.*

ISO 45001:2018
ISO 14001:2015
ISO 9001:2015
CERTIFICATION