

DMT.PS Series

Duct-Type Particulate Matter Transmitters

20250710R0

Technical Catalogue



DMT.PS Series particulate matter transmitters are designed to measure airborne particle concentration (PM1.0, PM2.5, and PM10) in air ducts of heating, ventilation, and air conditioning (HVAC) systems. Measurements obtained from DMT.PS Series transmitters enable precise monitoring and control of indoor air quality in environments such as offices, hospitals, residential buildings, and commercial spaces.

Thanks to their high sensitivity and fast response time, air quality can be continuously monitored, allowing ventilation systems to operate only when necessary and thereby optimizing energy efficiency. The device provides reliable and stable output signals suitable for integration into building management systems (BMS) and automation applications.

DMT.PS Series transmitters utilize advanced optical sensing technology based on light scattering principles to detect particle concentration in the air. The integrated airflow design and robust construction ensure consistent performance and long-term reliability, even in demanding environmental conditions. The compact and user-friendly design allows for quick installation and easy integration into existing HVAC systems.

Features

- PM2.5/ PM1/PM10 particulate measurement range
- 0–10 V / 4–20mA analog output
- 24 V AC/DC power supply
- Max. 3 VA power consumption
- High measurement accuracy
- > 8 years Life Time (Depending on the operating environment)
- Operating range: –10 °C to +60 °C
- Concentration Range: 0 mg/m³ to 1000 µg/m³
- Compact housing
- IP54 enclosure protection (excluding sensor pipe)

Order Codes

DMT.PS.1021

Duct Type Particulate Transmitter 0-10V/2-10V/4-20mA Output

Warnings



Before starting the installation of the device, carefully read the user manual and the warnings below.

The user is responsible for any damage, loss, or personal injury resulting from failure to comply with the warnings in this manual. Do not modify or attempt to repair the device. Any intervention on the device may cause malfunction, damage to the device or the system.

In such cases, the device will be excluded from the warranty coverage.

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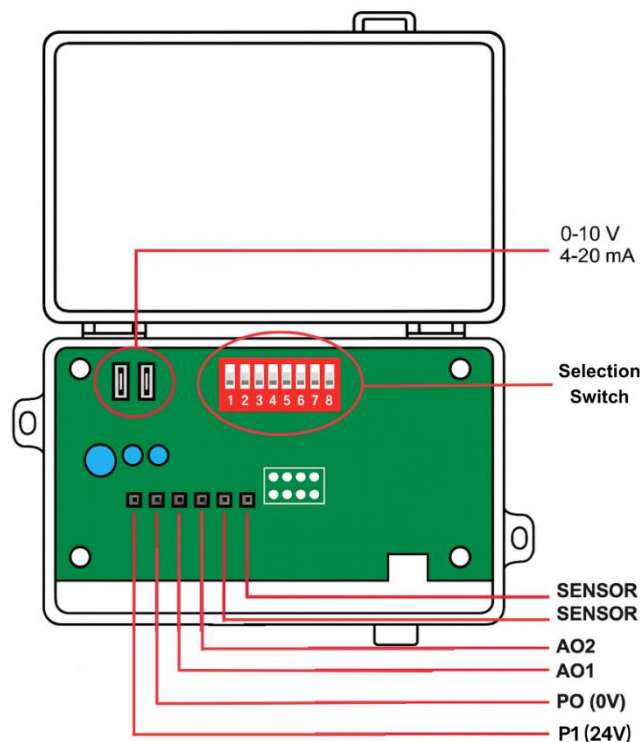
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Technical Specifications

Electrical Specifications	Power Supply	24 V AC/DC $\pm 10\%$, 50/60 Hz
	Power Consumption	3 VA
	Connection	Connector 1.5 mm ²
Environmental Specifications	Operating Temperature	-10 ... +60°C
	Storage Temperature	-25 ... +70°C (Without icing and condensation)
	Relative Humidity	Operates at 0...90% relative humidity.
	Altitude	Max. 2000m.
Functions	Operating Environment	Non-flammable and non-corrosive environments
	Outputs	0-10V/2-10V/4-20mA
Safety Information	IP Protection Rating	IP54 enclosure protection (excluding sensor pipe)
	Certification EN	EN60529

Enclosure Specifications

Enclosure Type	Duct Mounting
Dimensions	W155 x H117 x D72 (mm) (Width x Height x Depth)
Weight	478g



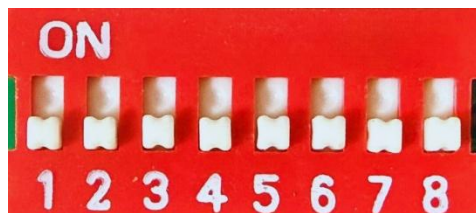
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Device Data



The switch is:

- in the **OFF position** when the white actuator is at the bottom
- in the **ON position** when the actuator is pushed upward

All particulate output ranges and filter time settings follow this convention.

DMT.PS Particulate Output Range

DIP 1	DIP 2	Output Particulate Value
OFF	OFF	PM10 / 0...100 $\mu\text{g}/\text{m}^3$
OFF	ON	PM4.0 / 0...250 $\mu\text{g}/\text{m}^3$
ON	OFF	PM2.5 / 0...500 $\mu\text{g}/\text{m}^3$
ON	ON	PM1.0 / 0...1000 $\mu\text{g}/\text{m}^3$

Accuracy of Particulate Read

Accuracy of PM2.5 $\pm 10 \mu\text{g}/\text{m}^3$ 0 $\mu\text{g}/\text{m}^3$ to 100 $\mu\text{g}/\text{m}^3 \pm 10$ % M.V. (100 $\mu\text{g}/\text{m}^3$ to 1000 $\mu\text{g}/\text{m}^3$)

Accuracy of PM1, PM4, PM10 $\pm 15 \mu\text{g}/\text{m}^3$ 0 $\mu\text{g}/\text{m}^3$ to 100 $\mu\text{g}/\text{m}^3 \pm 15$ % M.V. (100 $\mu\text{g}/\text{m}^3$ to 1000 $\mu\text{g}/\text{m}^3$)

Test condition: Temperature of 25°C $\pm 2^\circ\text{C}$; humidity of 50 %RH ± 10 %RH; reference instrument is TSI8530; source of particulate matter is cigarette smoke

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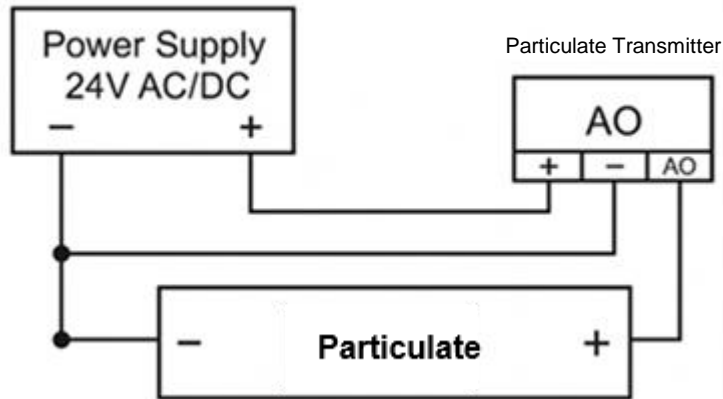
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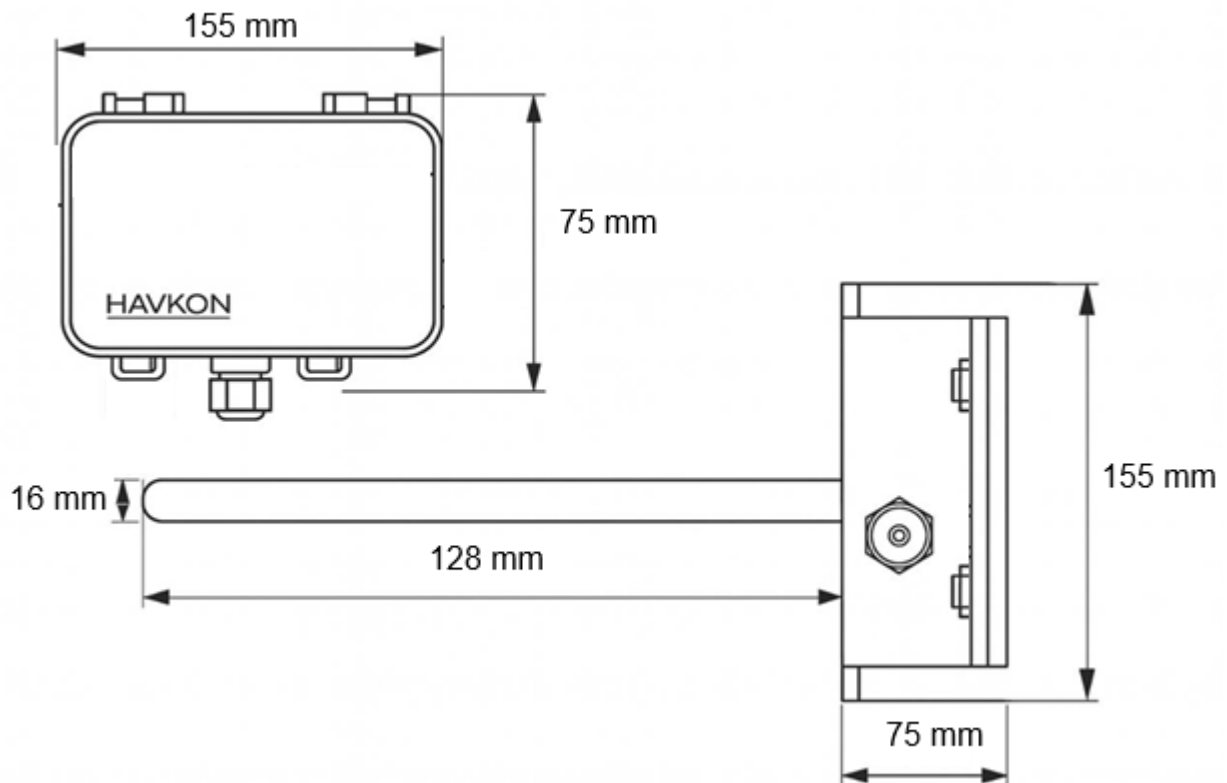
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Wiring Diagram

DMT.PS Series transmitters provide proportional particulate concentration outputs for HVAC control applications.



Dimensions



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Safety Instructions



- The DMT.PS series is a duct-type Particulate transmitter and must be operated in accordance with this manual.
- **Ensure that the connection cables are de-energized during installation.**
- The device must be protected from **moisture, vibration, and contamination**. Respect the specified operating temperature range.
- For signal and analog output lines, **shielded and twisted pair cables** must be used. These cables must be routed away from high-power lines and equipment to prevent interference.
- **Installation and electrical connections must be performed by qualified personnel** in accordance with the guidelines in this manual.
- **Fuse ratings and cable cross-sections** must be selected based on the load current and the device's operating voltage.
- **Power supply cables** must conform to **IEC 60227** or **IEC 60245** standards.
- For safety, the mains switch must be located in a position **easily accessible to the operator** and **clearly marked as being related to the device**.