

**SEM1003 All in one sensor**



**FEATURES**

- Miniaturization design, low power consumption
- Modular, no moving parts
- Support 485 protocol
- Special process heat insulation treatment of protective cover
- Support extended parameter measurement

**APPLICATION**

- Meteorological monitoring
- Coastal rainwater monitoring
- Hydrology and water conservancy monitoring
- Agrometeorological monitoring
- Road safety monitoring
- Energy monitoring
- Commercial water demand monitoring



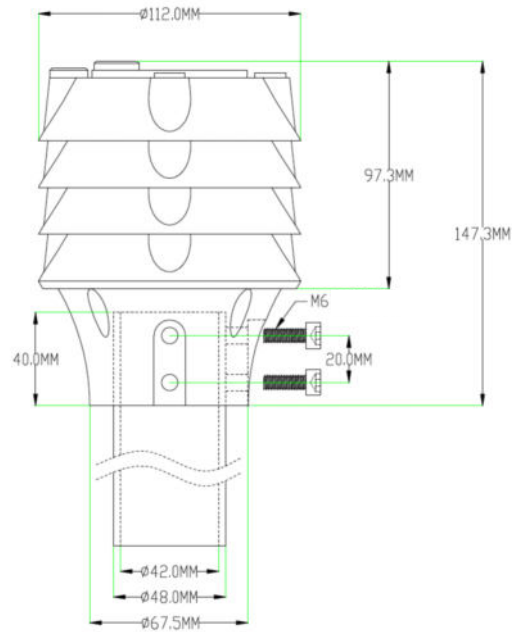
**OVERVIEW**

SEM1003 multi parameter meteorological sensor (outdoor protection type) is an instrument for monitoring meteorological parameters in many fields. Through innovative design, the equipment can simultaneously measure atmospheric temperature, humidity, atmospheric pressure, light, noise, PM2.5 and PM10, which can be realized through a highly integrated structure. It can realize 24-hour continuous online monitoring of outdoor meteorological parameters, and output the three parameters to users at one time through the digital communication interface.

**SPECIFICATION**

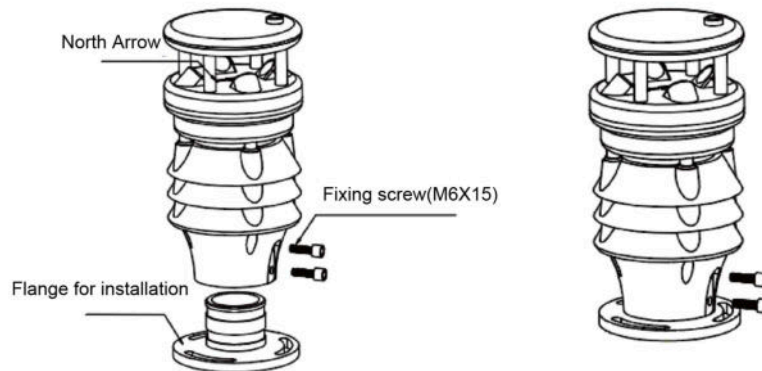
ITEMS	Range	Accuracy	Resolution	Sampling frequency
Air temperature	- 40 °C - + 85 °C	±0.3°C@25°C (typical)	0.01 °C	1Hz
Air Humidity	0-100%RH	± 3% RH (10% - 80% RH, typical)	0.01%RH	1Hz
Atmospheric pressure	500 -1100hPa	±0.5hPa (25°C, 950-1100hPa)	0.1hPa	1Hz
Illumination	0-100KLux	± 3% or 1% F. S	10Lux	1Hz
Noise	30-130dB	±1.5dB	0.1dB	1Hz
PM2.5	0-500ug/m <sup>3</sup> (expandable 1000ug/m <sup>3</sup> )	± (10+10%) ug/m <sup>3</sup>	1ug/m <sup>3</sup>	1Hz
PM10	0-500ug/m <sup>3</sup> (expandable 1000ug/m <sup>3</sup> )	± (10+10%) ug/m <sup>3</sup>	1ug/m <sup>3</sup>	1Hz
Working temperature	-40°C~80°C			
Output signal	The standard product is RS485 interface, ModbusRTU; Customizable SDI-12 (modules need to be purchased separately)			
Power supply	DC9-24V			
Protection level	IP65			
Fixing method	The standard product is fixed by sleeve, see the product dimension drawing. (Flange fixing or bending plate fixing mode is optional)			
Fixing bracket	None for standard products, 1.5m and 1.8m brackets are optional (to be purchased separately)			
Cable	3m cable (10m communication cable is optional)			

**DIMENSION**

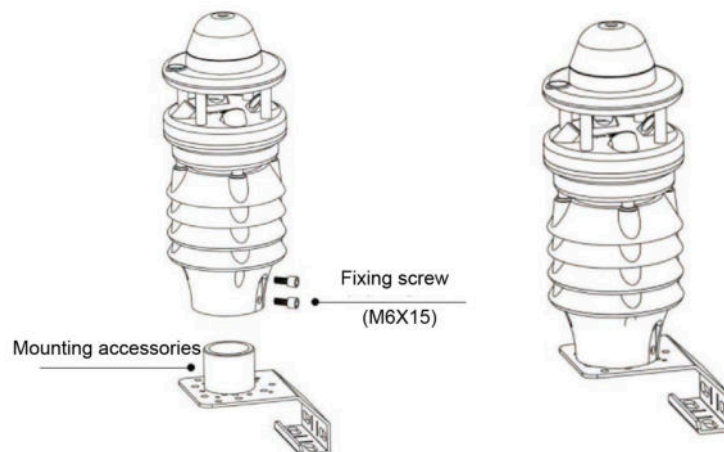


**INSTALLATION**

- *Fixing method of flange plate:*



- *Fixing method of bending plate:*



**ORDER CODE**

<b>Name</b>	Compact Weather Station	
	<b>Code</b>	<b>Function</b>
<b>Model</b>	<b>SEM1003</b>	Temperature +humidity+atmospheric pressure
	<b>SEM1003</b>	Temperature +humidity+Illumination+Noise+PM2.5+PM10

**Note:**

1. The sensor integrating the three parameters of atmospheric temperature, humidity and pressure is installed in a three-layer outdoor radiation shield. The radiation shield is configured with a special proportion of PC+fiber, and the internal thermal insulation layer is sprayed to minimize the impact of solar radiation. No moving parts, ensuring the accuracy of long-term measurement data.
2. Noise: High precision electret pickup is selected to measure the environmental noise by A-weighting method. It has the characteristics of small volume, high precision and high sensitivity.
3. PM2.5/PM10 particles: Based on the principle of laser scattering, the number of suspended particles with different diameters in the air per unit volume can be continuously collected and calculated, that is, the particle concentration distribution.
4. Illuminance: high specification 400-1100nm wavelength range optical element is selected to cooperate with filter for measurement.