AVC-ES104 Datasheet

Aiming to create better and safer working environments and life experiences through the products we deliver.

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High Integrated Out-Door Weather Station
PM2.5, PM10，Temperature, Humidity Sensor

AVC-ES104

The AVC-ES104 is an intergraded outdoor sensor unit for environmental monitoring sensors include temperature, humidity, PM2.5, PM10. The monitored data is output through RS-485 interface by Modbus protocol. The AVC-ES104 sensor unit accepts 10~30VDC power input voltage and is protected by the IP65 grade Anti-U/V lightweight ABS instrument shelter radiation shield. With the optional gateway AP222 or LoRa end node AP144-LC, the data can be monitor on the cloud platform.

Features & Benefits

High Integrated Monitoring
- Intergraded multiple sensors
- Central management by sharing a signal output
- Support Industrial Modbus RTU protocol, RS485

Outdoor Protective Enclosure
- Prevent direct ultraviolet radiation to the sensors
- Avoid rapid aging of sensors under harsh environmental conditions such as strong winds, rain, and snow
- The sensor parts are ventilated for truly sensing the changes in external detection parameters

Flexible Design
- Customized Shutter Height
- Single or multiple parameters both can use small shutter, small size, light weight and easy to install
- Customized Monitoring parameters
- Each parameter is independent and high sensitivity, users can freely integrate monitoring parameters

Work with IoT Cloud Platform – ATMS
- Real-time online monitoring, analysis, reporting
- Remote cloud security and visual management

Ordering Information

Model	Description
AVC-ES104	Outdoor Integrated Sensors- PM2.5, PM10, Temperature, Humidity, Output：RS485

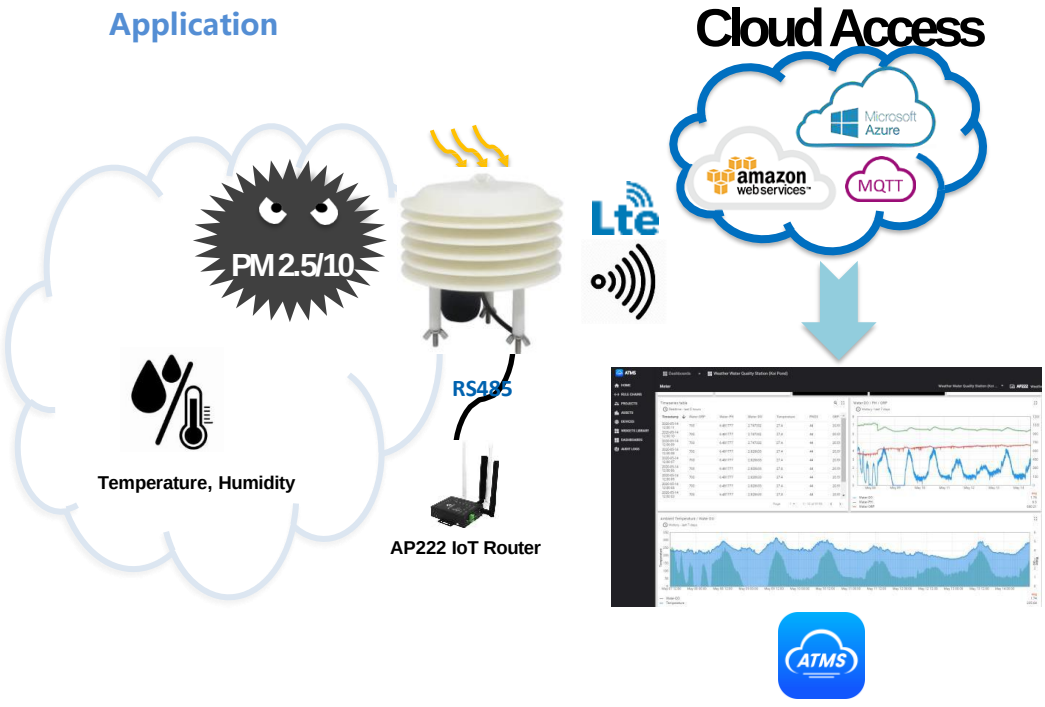
Specifications

Temperature & Humidity	
Measuring Range	Temperature: -40~120 °C (Sensor Measuring Range) Humidity: 0%RH~99%RH
Accuracy	Temperature: ±0.5°C (25°C) Humidity: ±3%RH (60%RH,25℃)
Long term stability	Temperature: ≤0.1°C/year Humidity: ≤1%RH/year
Response time	≤1s
PM2.5/PM10 (Either CO2 or PM2.5/PM10)	
Measuring Range	0~1000ug/m3
Resolution	1ug/m3
Accuracy	50%@0.3um，98%@>=0.5um ±10ug/m3@0~100ug/m3
Long term stability	≤1%/y
Response time	≤90s
System Parameters	
Power Range	DC 10~30V, 0.8W Power consumption
Enclosure Material	Shelter Box, Plastic ABS, Anti-U/V, UL94 V0
Enclosure Protection	IP65 Protection Level
Enclosure Dimension	138mm (Diameter) x 145 mm (High)
Communication	Modbus RTU protocol, 2-Wire RS-485 RS485 Modbus RTU Pulling & Waiting Time ≥ 200 m/s
Op. Temperature	-20~ 60℃, 0~95% Humidity, No Condensing

ES104 Modbus Register Information

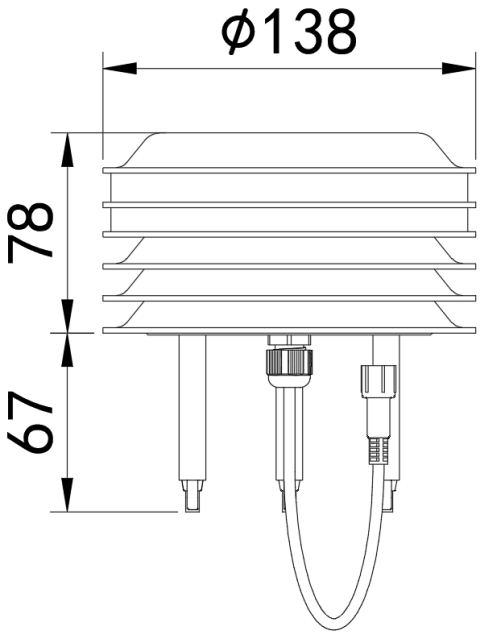
Register Address	PLC or Configuration Address	Content	Operation	Description
500	40501	Humidity Value	Read only	Real Value = Read Value /10
501	40502	Temperature Value	Read only	Real Value = Read Value /10
503	40504	PM2.5 Value	Read only	Real Value
504	40505	PM10 Value	Read only	Real Value

Function interface

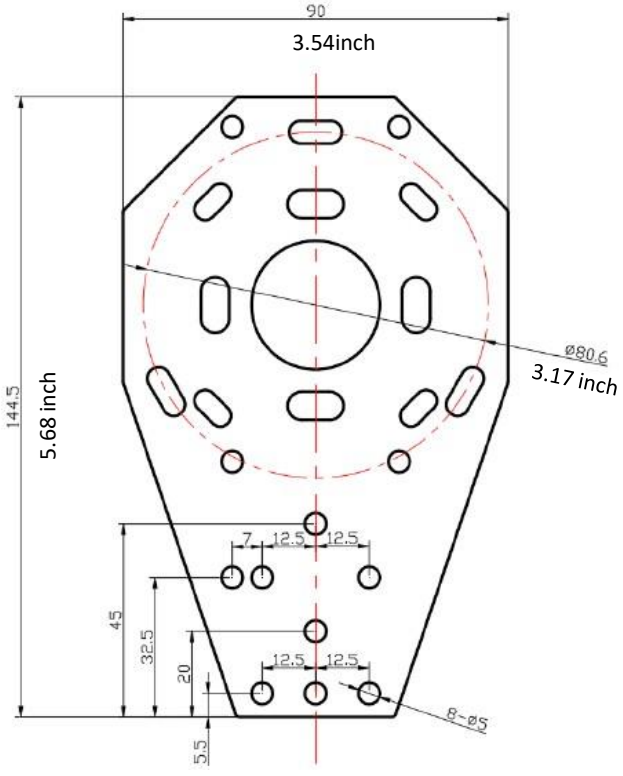


Installation dimensions

Unit: mm



Main Device



Mount Kit