PRODUCT OVERVIEW

Ultrasonic weather station

Model ES-W7000

Main features

- Dual-core CPU, high precision, anti-interference
- Small size, lightweight
- Full signal acquisition, 60 channels, high integration
- Low failure rate, good stability, maintenance-free
- Low cost, low power consumption
- Handheld Bluetooth
- IP68 overall waterproof

Compliance

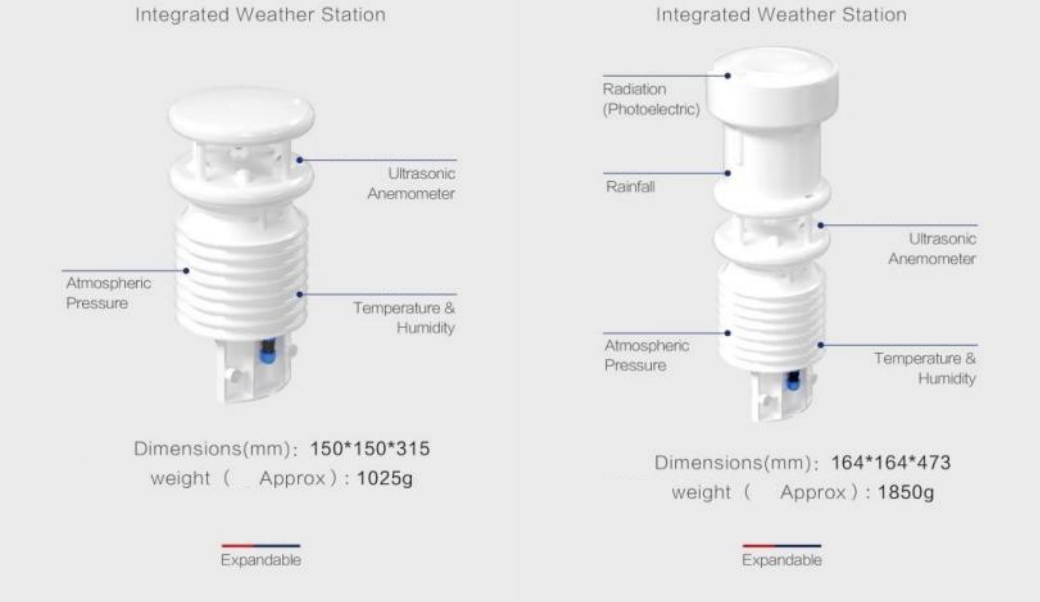
The electromagnetic compatibility in accordance with the following applicable directives:
LVD 2014/35/EU Low Voltage
EMC 2014/30/EU Electromagnetic Compatibility
EMC 2014/35/EU Electromagnetic Compatibility

Introduction

ES-W7000 integrated ultrasonic weather station is a new type of meteorological observation equipment that integrates multiple meteorological sensors, data acquisition units, and data processing systems, employing a high-performance dual-core 32-bit processor. It monitors various meteorological parameters, such as temperature, humidity, wind direction, wind speed, rainfall, air pressure, solar radiation, ultraviolet radiation, soil temperature, soil moisture, visibility, CO, CO2, SO2, and more.

These parameters provide comprehensive meteorological information for weather forecasting, climate analysis, and weather monitoring. The combination of intelligent and IoT technologies will enable the integrated weather station to provide more accurate and efficient meteorological data, providing strong support for development in various fields.

Typical Dimension



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Specification

ITEMS	Range	Resolution	Accuracy
Ambient temperature	-40 ~ 125°C	0.1°C	±0.3°C
Ambient humidity	0 ~ 100%RH	0.05%	±2% (≤80%), ±3% (280%)
Dew point temperature	-50-50°C	0.1°C	Calculated Value (Free)
Wind speed	0 ~ 60m/s	0.1m/s	2±0.03Vm/s
Wind direction	0-360°	1°	±2°
Electronic compass	0° - 360°	0.1°Magneticsight	±2°
Rainfall (optical)	0 ~ 8mm/min	0.1mm	≤4%
Rainfall (tipping bucket)	0 ~ 8mm/min	0.2mm/0.5mm	≤4%
Air pressure	300 ~ 1100hPa	0.1hPa	±0.5hpa
Total radiation (photonic)	0-2000W	1W/m2	≤5%
Total radiation (thermoelectric)	0- 2000W	1W/m2	≤2%
Ultraviolet light	0～500W	1W/㎡	≤5%
Illuminance	0～200000Lux	10Lux	±5%
Hours of sunshine	0～24h	0.1h	±0.1h
Photosynthetically active radiation	0～2500 μmol/m2•s	1 μmol/m2•s	±5%rdg+10dgts
Noise	20～130dB	0.1dB	±5db
PM2.5	0～1000ug/m3	0.01ug/m3	±2%
PM10	0～1000ug/m3	0.01ug/m3	±5%
Soil temperature	-50～+80℃	0.1℃	±0.3℃
Soil humidity	0～100%	0.10%	±3%
Soil salinity	0～15mS/cm	0.01mS/cm	±5%
Transpiration	0～80 mm/d	±25%	0.1mm/d
CO Carbon monoxide	0～20ppm	0.001ppm	±2%FS
SO2 Sulfur dioxide	0～1ppm	0.001ppm	±2%FS
NO2 Nitrogen dioxide	0～1ppm	0.001ppm	±2%FS
O3 Ozone	0～1ppm	0.001ppm	±2%FS
O2 Oxygen	0～30%VOL	0.01%VOL	±2%FS
CO2 Carbon dioxide	0～2000ppm	1ppm	±2%FS
VOC Volatile organic compounds	0～20ppm	0.001ppm	±2%FS
H2S Hydrogen sulfide	0～10ppm	0.001ppm	±2%FS
NH3 Ammonia	0～10ppm	0.001ppm	±2%FS
CH4 Methane	0～5000ppm	1ppm	±2%FS
Cl2 Chlorine gas	0～10ppm	0.01ppm	±2%FS

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ITEMS	Range	Resolution	Accuracy
ETO Ethylene oxide	0～10ppm	0.01ppm	±2%FS
H2O2 Hydrogen peroxide	0～100ppm	0.01ppm	±2%FS
H2 Hydrogen	0～1000ppm	1ppm	±2%FS
HCl Hydrogen chloride	0～10ppm	0.01ppm	±2%FS
N2 Nitrogen	0～100%VOL	0.01VOL	±2%FS
NO Nitric oxide	0～1ppm	0.001ppm	±2%FS
ClO2 Chlorine dioxide	0～20ppm	0.01ppm	±2%FS
CH3SH Methyl mercaptan	0～10ppm	0.01ppm	±2%FS
Br2 Bromine gas	0～10ppm	0.01ppm	±2%FS
COCl2 Phosgene	0～1ppm	0.001ppm	±2%FS
ETO Ethylene oxide	0～10ppm	0.01ppm	±2%FS
H2O2 Hydrogen peroxide	0～100ppm	0.01ppm	±2%FS
Other parameters		Customized	
Power supply voltage		DC 9–36V	
Heating function		Optional	
Operating humidity		0–100%	
Protection rating		IP65	
Communication protocols		Modbus-RTU, SDI-12	
Output interface		RS485	

Order guide

ES-W7000	Professional ultrasonic weather station		
	CODE	Function type	
	XXXXX	W1= wind speed W2 = wind direction R = rainfall V=Ultraviolet radiation *More customized according to specification functions	T= temperature H = humidity L =Luminance N=Noise
		CODE	Signal output
		1	RS232
		2	RS485
		3	SDI-12
ES-W7000	W1W2THA	2	Order example

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