



WEATHER SYSTEM

7-in-1 Ambient Weather Station, high-precision sensors for temperature, humidity, barometric pressure, light, precipitation (rain), wind speed, and wind direction.

The weather station offered by Ellona is an all-in-one weather monitoring system using the RS485 Modbus protocol, designed to continuously measure various atmospheric conditions, including air temperature, relative humidity, barometric pressure, light intensity, precipitation (optical), wind speed, and wind direction (ultrasonic). It offers high resolution and accuracy with a rugged and aesthetic housing.



Key features:

- > **All-in-one weather station:** This weather monitoring system is designed to continuously measure various atmospheric conditions, including air temperature, relative humidity, barometric pressure, light intensity, precipitation intensity, wind speed, and wind direction.
- > **RS485 compatibility:** The output signal is RS485 with the standard Modbus-RTU communication protocol, allowing modification of the communication address and baud rate, as well as other features. RS485 communication supports distances of up to 1200 meters and enables secondary development for a wide range of applications.
- > **Built-in electronic compass:** An integrated magnetometer facilitates installation. The electronic compass can also be disabled, allowing manual orientation of the sensor to the north.
- > **Built-in heater:** Integrated heaters can be activated to cope with extreme weather conditions.
- > **Integrated design:** Ultrasonic wind speed and direction sensors without moving parts.
- > **Accurate measurement:** Radiation shields are integrated to ensure precise ambient measurements.

Technical specifications

Power supply	12V~ 24V (0.42W)		
Heating power supply	24V (21W)		
Support protocols	RS485 (MODBUS-RTU)		
IP rating	IP66		
Working temperature	-40°C ~ + 85°C (-104°F ~ + 185°F)		
Working Humidity	0 à 100 %RH (non-condensing)		
Weight	1,551 kg (3,42 lb)		
Measurement parameter	Measurement range	Measurement accuracy	Resolution
Air temperature	-40~85°C	±0.1°C	0.01°C
Air humidity	0~100%RH	±1.5%RH	0.01%RH
Barometric pressure	300~1,250 hPa	±50Pa	10 Pa
Wind speed	0~60 m/s standard range 0~75m/s extended range Up to 80 m/s withstand range	±0.3m/s(≤10m/s); ±3% (10m/s ~ 50m/s) ±5% (>50m/s)	0.1m/s
Direction of the wind	0~360° (@-40°C~60°C)	±3.0°	0.1°
Light intensity	0~188,000 Lux	5% * reading	5 Lux
Rain intensity	0~200mm/h	±10%	0.2mm/0.02mm

