

Agricultural Weather Station

NY1000

Features

- Power Consumption: Low-power data acquisition instrument with static power consumption less than 50μA.
- Communication Methods: Standard with GPRS networking; supports expandable Bluetooth and wired transmission.
- Protective Enclosure: ABS material enclosure, corrosion-resistant, oxidation-resistant, with an IP66 waterproof rating.
- Display Screen: Supports optional 7-inch LCD touchscreen or LED screen.
- Processor: Quad-core Cortex-A7, running version 4.4.2.
- Interfaces: Supports Modbus 485 expansion and GX-12 series connectors.
- Power Supply: Solar charging management with MPPT (Maximum Power Point Tracking).
- Tower: Three-meter carbon steel tower with four-sided horizontal arm fixing flanges; lightning rod optional.
- Cloud Platform: Supports multi-device login, real-time dashboard display, and PC/mobile alerts upon exceeding limits.
- Data Upload Interval: Adjustable from 1 to 1000 minutes.

Applications

- Agricultural Cultivation
- Facility Agriculture
- High-Standard Farmland Construction
- Orchard Management
- Agricultural Research
- Disaster Early Warning

Description

NY-1000 Agricultural Weather Station is our company's next-generation monitoring device for all-weather, on-site tracking of key meteorological parameters including wind speed, wind direction, rainfall, temperature, humidity, and atmospheric pressure. It features a built-in high-capacity storage chip, multi-channel communication interfaces for wired computer connections, and a GPRS module for remote wireless data transmission to monitoring centers. The station also supports connection via a dedicated data acquisition unit to transfer data to cloud platforms.

As highlighted in the 2025 No. 1 Central Document, the government emphasizes strengthening agricultural weather services, improving disaster risk monitoring and early warning, and promoting AI and IoT technologies in agriculture. The document also supports full meteorological coverage for high-standard farmland and introduces "new quality agricultural productivity" as a key goal, recognizing that smart weather services boost farming efficiency—providing a policy foundation for such stations.

IoT-based agricultural weather stations are compact, easy to install, and eco-friendly. They integrate real-time collection, storage, and transmission of field data, monitoring rainfall, temperature, humidity, wind, solar radiation, and atmospheric pressure, with real-time uploads to big data platforms.

Model	Descrip
NY1000	Six-Element Agricultural Weather Station



Figure 1 NY-1000 Agricultural Weather Station

1. Selection Guide

Model	Descrip
NY1000	Six-Element Agricultural Weather Station

2. Parameter

Product Name	NY1000
Installation Type	Pole-mounted
Dimensions	300 x 10 x 80 cm
Processor	Quad-core Cortex-A7, Running Version 4.4.2
Power Supply	DC 9~18V, AC 220V, Solar Panel + Battery/Lithium Battery (Optional)
Standby Power Consumption	Low-power Data Logger: Standby Consumption < 50μA
Interfaces	Supports Modbus 485 Expansion, GX-12 Series Connectors (Supply Voltage 5V/12V)
Communication	Standard with GPRS Networking; Supports Bluetooth Expansion, Wired Transmission
Display	7-inch LCD Touchscreen or LED Screen
Screen Resolution	1024*600 RGB LCD
Software Platform	Cloud Platform
Pole Height	2m, 3m, 3.5m
Measured Parameters	Ambient Temperature, Relative Humidity, Atmospheric Pressure, Wind Direction, Wind Speed, Rainfall, etc.
Measurement Principle	Thermocouple, Thermistor, or Semiconductor Sensors

Name	Measurement Range	Resolution	Accuracy
Ambient Temperature	-40 ~ +60°C	0.01°C	±0.3°C
Relative Humidity	0 ~ 100% RH	0.1% RH	±3% RH
Light Intensity	0 ~ 200,000 Lux	1 Lux	±2%
Atmospheric Pressure	300 ~ 1100 hPa	0.1 hPa	±0.3 hPa
Dew Point Temperature	-20 ~ +50°C	0.1°C	±0.5°C
Soil Temperature	-50 ~ +80°C	0.01°C	≤ ±0.2°C
Soil Moisture	0 ~ 100%	0.01%	±2%
Soil Salinity	0 ~ 20 mS/cm	0.1 mS/cm	±2%
Soil pH	0 ~ 14	0.1	±0.2%
Wind Direction	0 ~ 360° (16 directions)	1/16	< 3° (at wind speed > 1.0 m/s)
Wind Speed	0 ~ 30 m/s	0.01 m/s	±(0.1 + 0.03V) m/s
Rainfall	≤ 4 mm/min	0.01 mm	±0.2 mm
UV Radiation	0 ~ 70 W/m²	1 W/m²	±2% W/m²
Sunshine Duration	0 ~ 24 h	0.1 h	±2% h
Total Radiation	0 ~ 2000 W/m²	0.1 W/m²	Spectral Range: 300 ~ 3000 nm
Photosynthetically Active Radiation (PAR)	400 ~ 700 nm	Sensitivity: 10 ~ 50 μV/μmol·m ⁻² ·s ⁻¹	

3. Effect Diagram

Product Structure

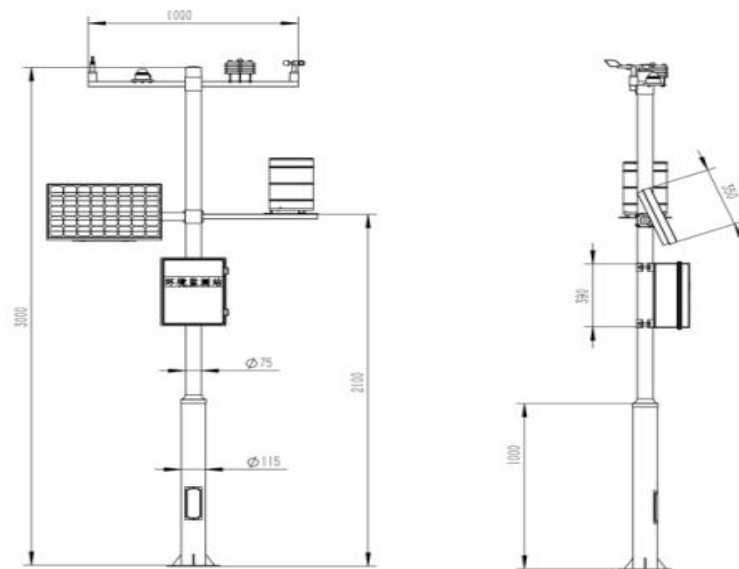


Figure 2 Structural Diagram of the NY-1000 Agricultural Weather Station

Solar Panel Bracket Mounting S



Figure 3 Solar Panel of the NY-1000 Agricultural Weather Station

Agricultural Weather Station Equipment Platform



Figure 4 Platform Diagram of NY1000 Agrometeorological Station