

PV specialized weather station

PH-1

TAOKE



The PV specialized automatic weather station is composed of weather sensor, micro-computer weather data collector, power system, light instrument shelter, wind protection box and the mounting bracket. The total irradiance sensor is designed according to PV characteristics, allowing agreement with the characteristics of PV cell panel. The velocity sensor and wind direction sensor are specialized weather sensors with a high accuracy and reliability. The micro-computer weather data collector has the functions of weather data collection, real-time clock, weather station timing storage, parameter setting, friendly interface and standard communications.

This weather station is used specially for PV industry, making it an effective tool for users to evaluate power station operation effects.

The micro-computer weather data collector has the functions of weather data collection, real-time clock, weather station timing storage, parameter setting, parameter and weather historical center power down protection. The software and hardware are designed in an open module-combination way, allowing for flexible combination and use.

The weather sensor can be chosen according to one's needs. It can work reliably in all kinds of forbidding wild environments with low power consumption, high stability, high accuracy with no-staff on duty, perfect lightning and disturbance-resisting functions.

The weather station is customized in a certain way according to PV characteristics such as date, month or year time window, peak output or sunshine hours, providing convenience for users to analyze characteristics of PV power stations.



irradiance meter



ambient thermometer



cell panel thermometer



wind velocity sensor and
wind direction sensor

Technical parameters

Sensor	Measuring range	Resolution	Accuracy
Total irradiance	0.3~3 μ m	1 W/ m^2	$\pm 3\%$
Wind speed	(0~45) m/s	0.1m/s	$\pm (0.3+0.03)$ m/s
Wind direction	(0~360) °	1°	$\pm 3^\circ$
Cell panel temperature	(-50~100) °C	0.1°C	$\pm 0.5^\circ\text{C}$
Ambient temperature	(-50~100) °C	0.1°C	$\pm 0.5^\circ\text{C}$
Relative humidity	(0~100) %RH	0.1%RH	$\pm 5\%$ RH
Rainfall	$\leq 4\text{mm/min}$	0.2mm	$\pm 4\%$

Power system	AC220V	Supplying power with on-site weather station	User can choose power supplying method ording to the situation on the site
	DC12V		
	DC5V		
	Supplied with solar energy		

Communications system	RS232 wired	Users can choose wired or wireless communications.	User can choose communication method according to the situation on the site.
	RS485 wired		
	USB		
	Ethernet RJ-45		
	Mobile Wireless GPRs		

Product type	Sensors included	Note
PH-1-A	4 elements (irradiance, ambient temperature, cell panel temperature, wind speed)	It includes weather station collector, stainless steel waterproof box; instrument shelter included if ambient temperature is measured; stainless steel mounting bracket is included if wind speed is measured.
PH-1-B	3 elements (irradiance, ambient temperature, cell panel temperature)	
PH-1-C	3 elements (irradiance, ambient temperature, wind speed)	
PH-1-D	2 elements (irradiance, ambient temperature)	
PH-1-E	1 element (irradiance)	
PH-1-F	5 elements (irradiance, ambient temperature, wind speed, wind direction, cell panel temperature)	

Communications interface

There are three interfaces on the weather station: RS232, USB and RS485. Users can choose any one interface for communication with the computer through communications cable.

