

Tracking Radiation Transmitter

Model ES-S228TM



Main features

- Detect multiple parameters: direct radiation, scattered radiation, sunshine hours, solar altitude angle, longitude and latitude, solar azimuth, GPS and time.
- Fully automatic measurement, using light tracking + GPS tracking dual mode
- It can ensure real-time tracking of the sun even when the sun is blocked by clouds.
- Support RS485, WIFI, 4G, LORA, Ethernet and other methods to view data

Compliance

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

Introduction

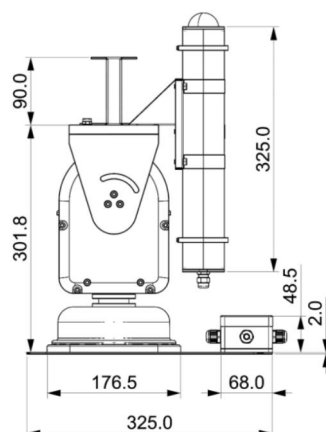
ES-S228TM fully automatic tracking solar radiation transmitter is a device that automatically tracks the sun and measures multiple solar radiation parameters. It meets the requirements of automated measurement and solves the problem that traditional solar radiation instruments require manual real-time maintenance to accurately measure. The device adopts dual modes of solar tracking (light tracking) and GPS tracking, which can automatically calculate the solar altitude angle and azimuth, sunrise and sunset time, and calculate, analyze and compare the changes in solar light intensity, so as to accurately track the sun all day long.

The direct solar radiation transmitter adopts the thermoelectric principle and can be used to measure solar radiation with a spectral range of $0.3\sim 3\mu\text{m}$. The sensing element adopts a winding electroplating thermopile, and the sensing surface is a black coating with high absorption rate. The product adopts the standard ModBus-RTU 485 communication protocol, which can directly read the current total solar radiation value. At the same time, with a variety of data collectors of our company, the data can be uploaded to our free data monitoring cloud platform for viewing through WIFI, 4G, LORA, Ethernet and other methods.

Application

They are widely used in solar photovoltaic power generation, solar water heaters and solar engineering, solar building fields, solar laboratories, agricultural and forestry ecological research, weather and climate research.

Dimension



Unit:mm

Specification

NAME	ITEMS	PARAMETERS
Automatic tracking parameters	Tracking Accuracy	1 degree
	load	10kg
	Rotation angle	Vertical adjustment angle 0-90 degrees
	tracking mode	Horizontal adjustment angle 0-300 degrees
Direct radiation and scattered radiation parameters	sensitivity	$7 \sim 14 \mu V \cdot W^{-1} \cdot m^2$
	internal resistance	200-400 Ω
	Response time (95%)	$\leq 30s$
	Nonlinear error	$\leq \pm 3\%$
	Directional corresponding error	$\leq \pm 30W/m^2$
	Temperature response error	$\leq \pm 3\%$ ($-30^{\circ}C \sim +50^{\circ}C$)
	spectral range	0.3~3 μm
	measuring range	0-2000W/m ²
	resolution	1W/m ²
	accuracy	$\pm 3\%$
	Annual stability	$\leq \pm 3\%$
	Cosine response error	$\leq \pm 5\%$
	Tilt response error	$\leq 2\%$
	zero drift	$\leq 6 W/m^2$
Basic parameters	Power supply requirements	12V DC
	Output	485(Standard ModBus RTU protocol)
	power consumption	8.5W
	operation temperature	$-30^{\circ}C \sim +60^{\circ}C$
	Working humidity	0%RH~95%RH Non condensing

Order guide

ES-S228TM	automatic tracking solar radiation transmitter		
	CODE	Functions	
	A	Fully automatic tracking of direct radiation transmitter	
	B	Fully automatic tracking of scattered radiation and direct radiation composite transmitter	
		CODE	Signal output
		1	RS485
ES-S228TM	A	1	Order example