PRODUCT OVERVIEW

Total solar radiation sensor

Model ES-S228T

Main features

- Adopt thermoelectric sensing element, high measurement accuracy.
- The light transmittance is as high as 95%, the transparent double-layer glass cover, the sensitivity is good
- The surface is specially treated to prevent dust adsorption
- Spectral range reaches 0.3~3μm
- Short response time, small error and temperature compensation, more accurate measurement

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

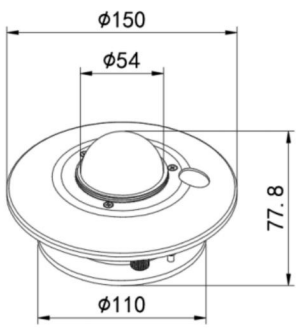
ES-S228T total solar radiation transmitter adopts the thermoelectric principle and can be used to measure solar radiation with a spectral range of 0.3~3μm. The sensing element adopts a wire-wound electroplating thermopile, and the sensing surface is a black layer with high absorptivity. Using the thermal effect of radiation,Absorb solar radiation and convert it into thermoelectromotive force. It also has a temperature compensation function, which can accurately measure solar radiation. The double-layer glass cover above the sensing surface can not only reduce the influence of air convection on the device, but also block the radiation of the cover itself. And add a radiation shield to measure scattered radiation.
ES-S228T support standard analog signal or Modbus-RTU 485 communication protocol, which can directly read the current total solar radiation value, and the wiring method is simple. The appearance is beautiful, and the installation space is small.

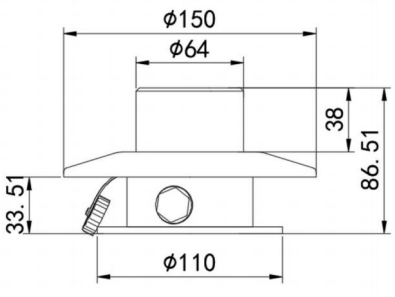
Application

They are widely used in solar energy utilization, meteorology, agriculture, building materials aging and air pollution and other departments to measure solar radiation energy.

Dimension

Unit:mm





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Specification

Power supply	10V～30V DC, or without power supply
Power consumption	RS485: 0.8W, Current output: 0.7W, Voltage output: 0.22W
Output signal	4~20mA, 0-10V, 0-5V, RS485 (Modbus-RTU)
Working temperature	-40°C~60°C
Working humidity	0%~100%RH
Sensitivity	7～14 μV·W-1·m2
Internal resistance	about 300Ω
Response time (99%)	≤30s
Non-linear error	≤±3%
Corresponding error of directionality	≤±30W/m² (≤±20W/m² customized)
Temperature response error	≤±8% (-40°C～+40°C)
Tilt response error	≤±2%
Spectral range	0.3~3μm
Measuring range	0-2000W/m²
Resolution	1W/m²
Accuracy	±3%
Annual stability	≤±3%
Spectral selectivity	≤±10%
Cosine response error	≤±5%
Load capacity	Voltage output: output resistance ≤250Ω, current output ≤600Ω
IP level	IP65 default

Order guide

ES-S228T	Solar radiation sensor		
	CODE	Material	
	A	Aluminum shell	
		CODE	Signal output
		1	4-20mA
		2	0-10V
		3	0-5V
		4	RS485
ES-S228T	A	1	Order example

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