

Component temperature sensor

Model ES-A140



Features

- Digital temperature sensor
- Full-range multi-stage calibration
- 485 communication interface, standard ModBus-RTU protocol
- Power reverse connection protection function
- Probe waterproof

Compliance

The electromagnetic compatibility in accordance with the following applicable directives:

- EMC 2014/30/EU Electromagnetic Compatibility
- EMC 2014/35/EU Electromagnetic Compatibility

Introduction

The ES-A140 module temperature sensor features a thermal response time of only 1 second, enabling rapid capture of module temperature changes and reducing dynamic measurement errors. Its accuracy reaches 0.2°C, meeting the precise requirements for photovoltaic module temperature monitoring. It can accurately distinguish minute temperature fluctuations, aiding in refined operation and maintenance analysis. The ES-A110 module temperature sensor uses an imported 18B20 probe, ensuring stable performance, good consistency, and minimal drift over long-term use. The probe size is only $\varnothing 6 \times 15 \text{mm}$, with a fully sealed stainless steel housing that is corrosion-resistant and easy to attach or fix. The entire unit is IP65 dustproof and waterproof, and the transmitter's plastic housing is sealed with adhesive, making it suitable for humid and dusty outdoor environments. An open API interface (providing integration support) is also included.

Application

The operation and maintenance personnel of photovoltaic power stations evaluate the power generation efficiency and heat loss of photovoltaic modules by monitoring the surface temperature and ambient temperature of photovoltaic modules in real time. The operation and maintenance personnel can adjust the operation strategy of the power station according to the temperature data, thereby improving the power generation efficiency of the power station and extending the life of the modules.

Dimension



Unit:mm

Specification

DC power (default)	10-30V DC
Measuring range	-50°C~+100°C
Precision	±0.2°C
Sensitivity	0.1°C
External structure	Probe: 6×15 (mm) stainless steel housing; Transmitter: Waterproof plastic shell with adhesive injection.
Operating environment	Temperature -30~90°C, Operating humidity: <100%
Power supply	DC12V/24V
Power consumption	DC12V <0.24W (485); DC12V <0.42W (current)
Operating current	DC12V <20mA (485); DC12V <35mA (current)
Probe	18B20
Response Time	1 second
Protection Rating	IP65
Cable	15 meters total length
Dimensions	376 × 136 × 164 mm

Order guide

ES-A140	Chip temperature transmitter		
	CODE	Range	
	R1	-50°C~+100°C	
	C	Other customized	
		CODE	Signal output
		1	RS485
ES-A140	R1	1	Order example