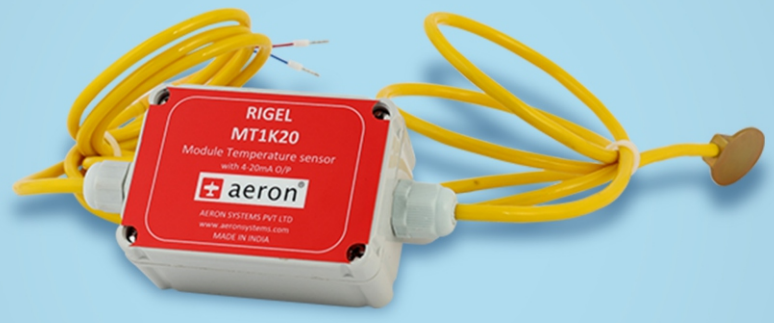
Module Temperature Sensor With 4-20mA Output

Class A Sensor designed as per IEC61724-1:2021



The solar PV module temperature sensor, featuring 4-20mA output and Class A accuracy compliant with IEC 61724-1:2021, is optimized for Bifacial PV modules, showcasing advanced technology.

DESCRIPTION

Aeron's Rigel MT1K20 module temperature sensor measures surface temperature of the Solar PV modules.

The sensor is equipped with a 4-20mA current loop output, a widely used industry standard for analog signals. This output configuration allows for a linear representation of the measured temperature within the specified range, offering a seamless and convenient integration with the programmable logic controllers (PLCs), or supervisory control and data acquisition (SCADA) systems and data aquisition devices (Data loggers). The 4-20mA output ensures robust signal transmission over long distances without signal degradation.

The sensor is designed to adhere to the stringent accuracy requirements outlined in the IEC 61724-1:2021 standard, achieving Class A accuracy. This ensures that temperature measurements are of the highest precision and reliability essential for assessing module efficiency, predicting energy yield, and optimizing overall system performance. The sensor is specifically designed to cater to the requirements of Bifacial PV modules. The compact design complies to the minimum shadow effect of the sensor on the bifacial modules. The sensor ensures precise temperature monitoring for understanding and maximizing their performance.

The sensor has an anodized aluminum casing which protects the RTD PT1000 element from outdoor environment and is thermally conductive to capture the surface temperature accurately. The sensor is IP65 rated and it's rugged design makes it well-suited for deployment in diverse climates, ensuring reliable and accurate temperature measurements even in challenging weather conditions.

PRODUCT FEATURES

Accuracy

The sensor, an RTD PT1000, maintains Class A accuracy with a margin of ±(0.15 + 0.0020 | t |), ensuring highly precise temperature readings.

Output

The 4-20mA current output, an industry standard, streamlines integration, ensuring compatibility and user-friendly operation.

Designed for Bifacial PV modules

The sensor can be mounted on bifacial PV modules without impacting performance, meeting the IEC61724-1:2021 standard.

Self Adhesive

The sensor includes a high-strength adhesive for secure attachment to the module's back, ensuring long-lasting performance and reliability.

Smallest size

The sensing component's small form factor makes it ideal for all bifacial solar PV panels, ensuring efficient performance.

Non corrosive material

The sensor is enclosed in a corrosion-resistant casing ensuring its durability and reliability even in the harshest environmental conditions.

APPLICATIONS

- Solar PV Module Temperature Monitoring
- Surface Temperature Monitoring

TECHNICAL SPECIFICATIONS

RIGEL MT1K20 (Prod. Code: 55009)

TEMPERATURE MEASUREMENT

Output Signal	4 to 20 mA Current
Temperature Range	-40 °C to +150 °C
Accuracy	Class A ±(0.15 + 0.0020 | t |)*
Uncertainty	±0.3°
Resolution	0.01 °C
Sensor Element Type	RTD PT1000 Class A

PHYSICAL AND ENVIRONMENTAL

Operating Temperature	-40 °C to +150 °C
Ingress Protection	IP65
Material	Aluminium 6082
Dimensions	Dia. 25.4 mm x Thickness 7.2 mm
Weight	<15 gms (excluding cable weight)
Cable Type	Diameter: 0.216 cm (0.085 in.)
	Length: 2 meters

* | t | is the numerical value of the temperature in °C irrespective of the sign.

ORDERING INFORMATION

RIGEL MT1K20 (PRODUCT CODE: 55009)