Innovative Electronics For You

# PV Module Temperature Sensor

## Class A accuracy at any cable length

## Overview

Designed for Photovoltaic System performance monitoring, the MBMet-800 Series offers precise measurements of PV Module Temperature. It uses PT100/PT1000 Class A Sensor Element sealed in a stable aluminium cuboid to provide accurate temperature measurements. PV Module Temperature is critical for Performance Ratio calculations. The MBMet-800 Series provides stable measurements, even at longer cable lengths. The sensor is designed to withstand India's rough climate conditions and the Harsh electrical environment of Solar Plants. The sensor is protected from Surges of up to 2.5kV – according to IEC-61000 & IS-14700.

The MBMet-800 Series has options available for installation on Bifacial PV Modules. The MBMet-800-BI series is specifically designed for installation and use in Bifacial PV Modules. With a sensor surface area of just 75mm$^2$ , the MBMet-800-BI series is the most compact available in the market. The compact design minimizes the sensor impact on Bifaciality and is small enough to fit between cells of a Bifacial PV Module.

## Features & Compliance

**2 Year Standard Warranty** & recommended recalibration interval

Widest Temperature Range of: **-40°C to +150°C**

**Traceable and Serialised Calibration** Certificate supplied with each sensor

Best in Class **Accuracy of ±0.2°C**

**Compact Design** available for Bifacial Modules

**Multiple output** options available

Class A

Meets or exceeds **IEC-61724 Class A** specifications

Certifications:

**IEC-60751 ed 2.0**
**IEC-61000-4-8**
**IEC-61000-4-18**

Inbuilt Surge Protection Complying with:

**IEC-61000-4-5:2017 (Level 4), IEC-61000-4-4: 2012(Level 3), IEC-61000-4-2:2008 (Level 1), IEC-61000-4-12:2017 (Level 4)**

## Technical Features

| | MBMET - 801A | MBMET - 801B | MBMET - 802 | MBMET - 803 | MBMET - 803BI |
|---|---|---|---|---|---|
| Communication Output | PT 100 | PT 1000 | 4-20mA | RS-485 Modbus | |
| Sensor Element Type | RTD Class A | | | | |
| **Measurement Performance** | | | | | |
| Measuring Range | -40°C to +110°C | | | | -10°C to +140°C |
| Accuracy | Class A | | ±0.2°C | | |
| Temperature Stability | <0.1°C per year | | | | |
| **Electrical Specifications** | | | | | |
| Input Voltage | NA | | Self-loop powered (12 to 24 VDC) | 12 to 24 VDC | |
| Power Consumption | NA | | 20mA max @12/24VDC | 30mA @12VDC | |
| **General Specifications** | | | | | |
| Operating Atmospheric Temperature | NA | | -40°C to +140°C | | |
| Operating Ambient Humidity (Non-condensing) | NA | | 0.1 to 99.9% RH | | |
| Sensor Transmitter Cable | NA | | PVC insulated | | |
| Sensor Cable-Length | Silicon cable – 3 meters | | | | |
| Sensor Housing | Self-Adhesive Aluminum | | | | |
| Sensor Transmitter | NA | | Powder Coated-Cast Aluminum, IP67 | | |
| Sensor Transmitter Dimention | NA | | 64 × 58 × 34 mm (LxWxH) | 98 × 64 × 36 mm (LxWxH) | |
| Weight (packed) | 72g (with standard 3 meters cable) | | 518g (with standard 5 meters cable) | 754g (with standard 5 meters cable) | |

## Ordering String

| SERIES | CABLE LENGTH | |
|---|---|---|
| 801A | | PT100 |
| 801B | | PT1000 |
| 802 | | 4-20mA |
| 803/803-BI | | RS-485 Modbus |
| | 3000 | Units : mm (default for 801A and 801B series) |
| | 5000 | Units : mm (default for 802 and 803 series) |
| | .... | Units : mm (on request) |