

3S-MT-PT1000

Module Temperature Sensor



Module Temperature Sensor

The Module Temperature Sensor is part of the SEVEN meteorological sensor range, which includes professional and intelligent measuring sensors with a digital or analog interface for environmental and industrial applications such as PV plants.

It is used for the measurement of the PV module temperature. The sensor has two different casing methods. PT1000 is either encapsulated with ABS plastic injection or laminated between EVA film and a Tedlar backsheet. It is attached to the back of the module with a 3M® tape placed on the sensor. This specially selected tape provides secure attachment of the PT1000 to the module.

The measured module temperature data are transmitted as analog or digital output signals to the data loggers and receiver units according to the input requirements.

SEVEN products use reliable and high-quality components to provide accurate meteorological information in environmental and industrial applications.

This product is specifically designed according to the requirements of PV plant monitoring systems, in compliance with IEC 60751:2022 and IEC 61724-1:2021 Annex B.

Benefits and Features

- High Accuracy
- Ultralight Design
- Fast & Simple to Install
- Low Power Consumption
- 2 Year Warranty
- Smaller Than 10% of a Single Cell Area on the Panel
- SEVEN Remote Setup Service
- SEVEN Customer Support
- Free Software Update (for Modbus RTU)
- SunSpec Compliant (for Modbus RTU)

Models

3S-MT-PT1000

It is a measuring transmitter with PT1000 output used for the measurement of the PV module temperature. The measured values are transmitted as ohmic resistance signals. It can be connected to SEVEN Irradiance Sensor or Sensor Box models with a 5-pin connector with IP 67 protection class. It can also be directly connected to data loggers and other receiving units with compatible inputs.



3S-MT-PT1000-MB

Professional and intelligent measuring sensors with a digital interface for environmental and industrial applications such as PV plants. The measured value can be transmitted to monitoring instruments, data loggers and other receiving units via the serial RS485 interface with MODBUS RTU protocol.



3S-MT-PT1000-I

Module temperature sensors with analog 4-20 mA output are specially designed for advanced environmental conditions. The PV module temperature is detected by a high precision PT1000 sensor and converted to analog 4-20 mA output with an electronic card placed in UV resistant and high protection box.



3S-MT-PT1000-U

Module temperature sensors with analog 0-10 V output are specially designed for advanced environmental conditions. The PV module temperature is detected by a high precision PT1000 sensor and converted to analog 0-10 V output with an electronic card placed in UV resistant and high protection box.



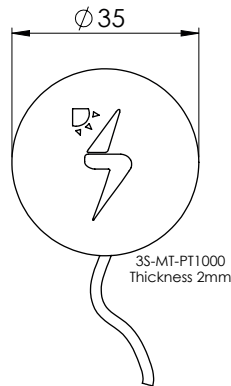
Technical Specifications

	3S-MT-PT1000	3S-MT-PT1000-MB	3S-MT-PT1000-I	3S-MT-PT1000-U
Sensor Type	PT1000			
Measuring Range	-40°C to +85°C			
Accuracy	±0,1°C			
Resolution	0,1°C			
Data Output	PT1000	RS485 up to 38400 Baud	Analog 4-20 mA	Analog 0-10 V
Communication Protocol	-	Modbus RTU	-	-
Power Supply	-	12 to 30 V DC		
Power Consumption	-	15 mA @ 24 V DC	30 mA @ 24 V DC	15 mA @ 24 V DC
Cable Length & Features	3 m 2x2x0,22 mm², 24 AWG, LI2YC11Y-TP PUR Cable, UV and Weather Resistant	1,2 m 2x2x0,22 mm², 24 AWG, LI2YC11Y-TP PUR Cable and 2 m 3x2x0,22 mm², 24 AWG, LI2YC11Y-TP PUR Cable, UV and Weather Resistant	1,2 m 2x2x0,22 mm², 24 AWG, LI2YC11Y-TP PUR Cable and 2 m 2x2x0,22 mm², 24 AWG, LI2YC11Y-TP PUR Cable, UV and Weather Resistant	
Operating Temperature Range	-40°C to +85°C			
Converter Box Dimensions	-	65 x 100 x 41 mm (W x L x H)	64 x 68 x 35 mm (W x L x H)	65 x 115 x 55 mm (W x L x H)
Dimensions	Ø 35 mm x 8 mm Plastic model Ø 35 mmx 2 mm EVA model			
Weight	167 gr	140 gr	257 gr	267 gr
IP Rating	IP 67			
Converter Box Material	-	ABS*		
Housing Material	Laminated Backsheet (EVA - Tedlar) / ABS* Plastic Injection			
Mounting Method	Mounting to the Back of the Module with 3M® Tape and Primer 94			
Standard	Class A according to IEC 60751:2022 and IEC 61724-1:2021			

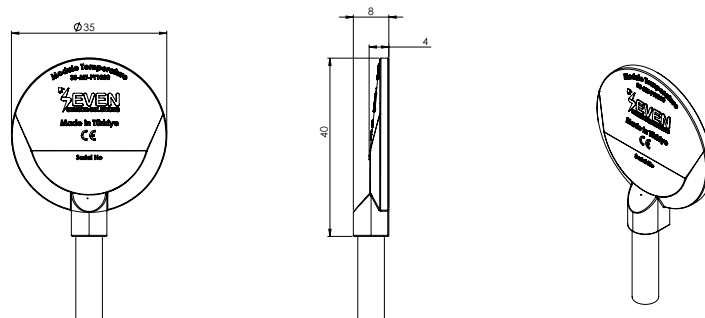
*Since this product contains plastic parts, color changes may occur when exposed to direct sunlight.

Technical Drawing

3S-MT-PT1000 EVA Model Technical Drawing



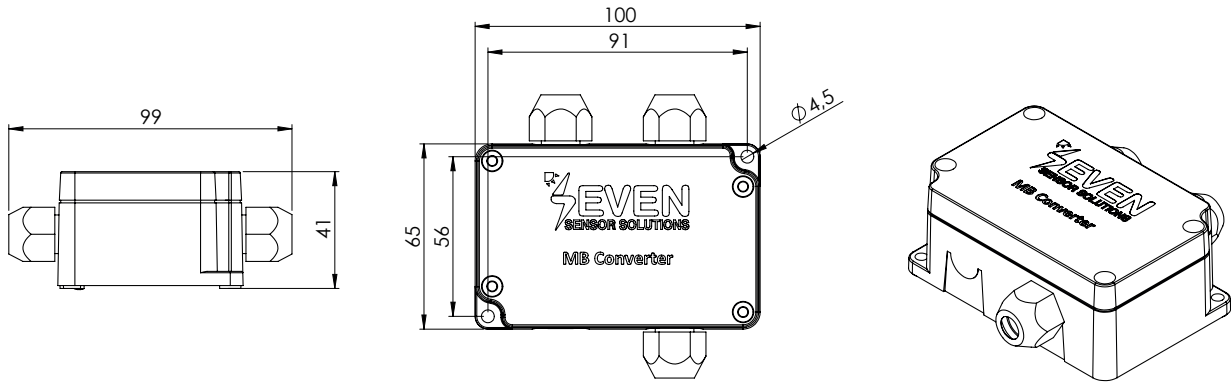
3S-MT-PT1000 ABS Plastic Injection Model Technical Drawing



3S-MT-PT1000

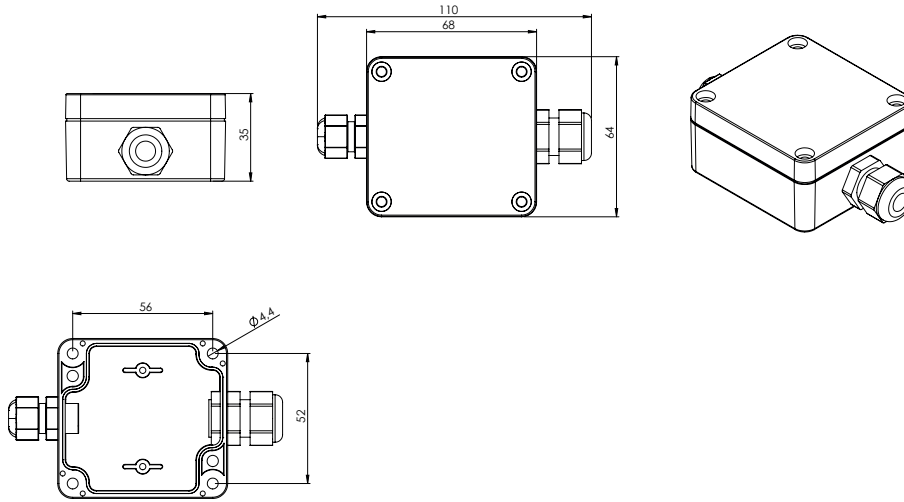
Module Temperature Sensor

PT1000-MB Converter Box Technical Drawing



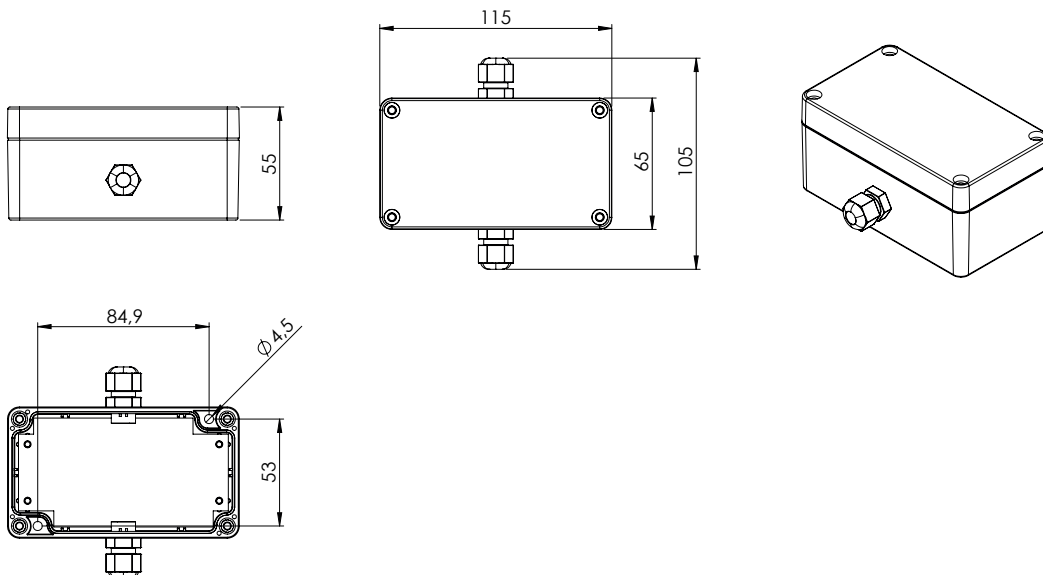
Note: All dimensions are in mm.

PT1000-I Converter Box Technical Drawing



Note: All dimensions are in mm.

PT1000-U Converter Box Technical Drawing



Note: All dimensions are in mm.