



**HIGH RELIABILITY  
MULTI-CHANNEL SIGNAL CONDITIONER**

Use with Opsens' GaAs (SCBG) fiber optic temperature sensors

**Key Features**

- Up to 12 measurement channels
- Total system accuracy ( $\pm 0.8\text{ }^{\circ}\text{C}$ )
- Internal reference to guaranty reliability
- No drift, no calibration required
- SCPI, MODBUS protocols
- RS-232 and RS-485
- SoftSens easy programming and operation
- Local and remote data acquisition
- Relays and analog output options available
- Large LCD display with user definable description for each optical channel

**Applications**

- General laboratory applications
- Temperature monitoring in MR environment
- RF, ultrasound and electro surgery environments
- High voltage environments
- EMI, RFI and microwave environments
- Microwave and food processing
- Nuclear and hazardous environments
- Civil engineering and geotechnical applications

**Description**

The TempMonitor is a multi-channel and easy to operate signal conditioner that is used with any of Opsens' GaAs-based fiber optic temperature sensors.

At the heart of the TempMonitor is the Opsens' Semiconductor Band Gap (SCBG) technology which provides accurate measurements using the temperature dependent bandgap shift of a GaAs crystal.

The TMM is now fitted with an internal reference that allows regular self verification and correction of its fully traceable calibration. The internal reference guarantees long term Total System Accuracy of  $\pm 0.8\text{ }^{\circ}\text{C}$  in the most adverse conditions.

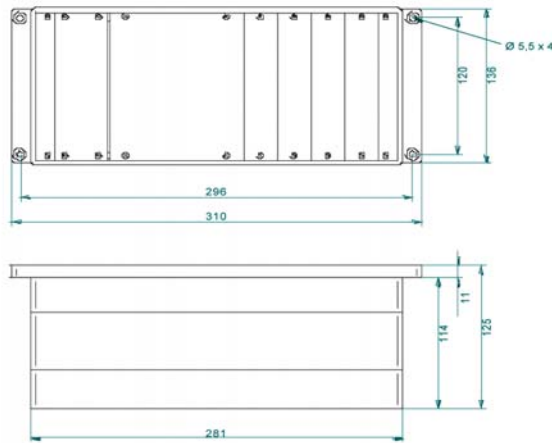
The TMM is equipped with an LCD display. SCPI and MODBUS over RS-232 or RS-485 interface are all available communication options. SPDT-type relays and analog outputs are optionally available. PLC controller is also available to offer extended control capabilities through a wide range of input/outputs.

With a  $\pm 0.3\text{ }^{\circ}\text{C}$  accuracy or better (total accuracy including both signal conditioner and sensor errors from  $20\text{ }^{\circ}\text{C}$  to  $45\text{ }^{\circ}\text{C}$ ) and  $0.01\text{ }^{\circ}\text{C}$  resolution, the TMM delivers the performances needed for a wide range of critical measurement applications.

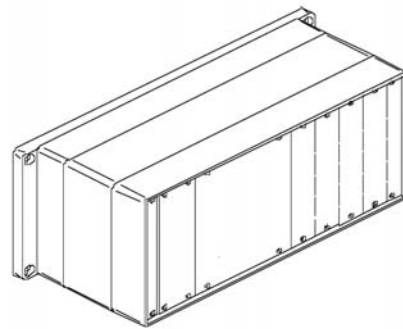
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Dimensions in mm



## Specifications

Number of channels	Up to 12
Compatibility	All Opsens GaAs fiber optic sensors with 62.5/125 microns optical fiber
Accuracy	± 0.3 °C or better (Total accuracy over the full range from 20°C to 45°C including both signal conditioner and sensor errors) ± 0.8 °C or better (Total accuracy over the full range -20°C to 250°C including both signal conditioner and sensor errors)
Resolution	0.01 °C
Reliability	Internal reference
Sampling rate	50 Hz standard (rate given for a fixed channel); 700 ms channel to channel switch time
Display	LCD screen display standard
Communication	SCPI and MODBUS standard
Serial Output	RS-232 and RS-485 standard
Analog output	4-20 mA output, 0-1 mA, ± 5 V
Relay	6 C-Form SPDT relays, 5 A @ 250 VAC or 30 VDC, 6 relay status indicators
I/O and control option	PLC controller unit with various I/O optionally available
Input power	12 to 24 VDC
Consumption	2.5 W typical
T° data storage	> 1,000,000 temperature measurement points
Operating temperature	10 °C to 45 °C
Storage temperature	- 40 °C to 70 °C
Humidity	95 % non condensing

All specifications are subject to change without prior notification