

Signal Conditioners

Opsens offers full-featured systems and OEM ready products dedicated to the Life Sciences and Medical industries.

- System insensitive to temperature shift and drift or mechanical shock
- Built-in internal reference mechanism ensure system to system consistency, long term stability and reliability
- Open platform to fit client specific requirements



MINIT AND DUO

The MiniT and DUO are OEM-type board that offers the OEM customer a product designed for their specific needs. Its compact size and modular assembly give OEM's the best in design flexibility.



PICOM

The PicoM is a 50 Hz compact full-featured signal conditioner specifically designed for life sciences research in laboratory environment or for OEM customer who seeks for a complete system for private labelling.



TEMPESENS

The TempSens system is a multi-channel system available in 4 and 8 channels. With its easy user interface features, the TempSens system is a plug and play system with full features SoftSens as data acquisition software.

FIBER OPTIC TEMPERATURE SENSOR SYSTEM FOR LIFE SCIENCES AND MEDICAL DEVICES

OUTSTANDING FIBER OPTIC TEMPERATURE MONITORING SOLUTIONS FOR LIFE SCIENCES AND MEDICAL DEVICES

KEY FEATURES

- Consistent and accurate temperature reading with tight interchangeability tolerance
- Built-in internal reference mechanism ensure system to system consistency, long term stability and reliability
- System insensitive to temperature shift and drift or mechanical shock
- Competitive cost solution
- Complete immunity to RF, EM, MR and electrical interferences

« To know more
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Innovation. Precision. Solutions.

FIBER OPTIC TEMPERATURE SENSOR SYSTEM FOR LIFE SCIENCES AND MEDICAL DEVICES

Opsens' intrinsically safe fiber optic temperature sensors are designed to provide accurate real time temperature monitoring during MR, RF ablation, hyperthermia therapy and new electro-surgical procedures. These compact tip sensing temperature transducers are available as skin surface, core, nasal and oesophageal probes.

Opsens' fiber optic temperature sensing offers a whole new take on temperature monitoring during these procedures.

Opsens' high accuracy fiber optic temperature sensors provide precise temperature measurements in MR, NMR and RF environments

FEATURES

- Total system accuracy of $\pm 0.3^{\circ}\text{C}$ or better
- NIST traceability
- Consistent, reliable and interchangeable ability from "system-to-system"
- Fully customizable and robust sensor packaging
- Cost competitive for OEM design
- Complete immunity to RF, EM, MR and electrical interferences

OTG-M SOLUTIONS FOR MEDICAL OEM MARKET

Opsens' fiber optic temperature sensors are offered in multiple packaging types and sizes. They are disposable and reusable and can be tailor made to package from as small as 170 micron to 3mm OD. Bare or miniature packaging available for use in catheter assemblies and other medical devices. Opsens also offers ready to use, fully packaged, robust sensors for the OEM market.

Highly stable, Opsens sensors provide reliability, tight interchangeable tolerances, geometries, and fast response times that are often required.

Our OEM MiniT and DUO system offered in single and two-channel are user friendly and ready for integration. Opsens also offers technical assistance, to help with design requirements on new and existing applications.

CATHETER ASSEMBLIES AND OTHER MEDICAL DEVICE ASSEMBLIES

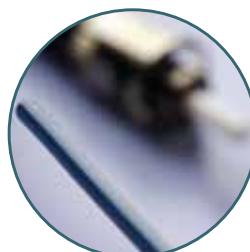
OTG-M170 and OTG-M280

Miniature size of 0.170mm OD and 0.28 mm OD. Due to their miniature size, these sensors offer excellent flexibility in catheter assemblies and temperature profiling in medical device tool.



SURFACE OR CORE PATIENT MONITORING

OTG-M3000 sensor with USP Class VI PVC sheath offers robustness for real time patient monitoring. Its atraumatic rounded tip offers a safe feature for core monitoring and can easily be taped for surface temperature monitoring. The OTG-M3000 sensor is also available in disposable version.



SURFACE PATIENT MONITORING

The OTG-MS is a customizable temperature sensor with a plastic disk for skin surface contact. Disk size and design are customer specified.

ABLATION, RF AND MW THERAPY

OTG-M360, OTG-M420 and OTG-MPK5 sensors offer ODs of less than 0.5mm and are ideal for applications that require robustness and compactness for localized temperature monitoring.



Typical Applications

- Continuous patient monitoring in MR environment
- RF and MW ablation
- Animal physiology temperature monitoring
- Hyperthermia therapy
- Liquid immersion temperature monitoring

OTG-M SOLUTIONS IN TEMPERATURE MONITORING FOR LIFE SCIENCES

Opsens fiber optic temperature sensor is available in both skin surface and core temperature packaging. Sensor ODs of less than 0.50mm for small animal models and robust sensors of 1.0mm OD or less for larger animal models. All sensors are compatible with MR, PET, CT and other optical imaging systems.

Opsens PicoM and TempSens models are available in single and multi-channel versions and provide both digital and analog output options with front panel interface. Opsens' SoftSens software lets you perform a large number of different measurement tasks quickly and simply... without wasting time or effort on programming.

Opsens system is simple to use; just connect and read temperature!

SENSOR SPECIFICATIONS

Dimensions	From 170 μm OD to 3 mm OD or other custom packaging
Temperature ranges	M1 = 0°C to $+80^{\circ}\text{C}$ M2 = 0°C to $+150^{\circ}\text{C}$ L = -40°C to $+250^{\circ}\text{C}$ Cryogenic = -196°C to $+100^{\circ}\text{C}$
Resolution	0.05 $^{\circ}\text{C}$
Accuracy	$\pm 0.2^{\circ}\text{C}$ and better (on M1 range)
RF/MR/MW susceptibility	Complete immunity

SMALL, FLEXIBLE AND FAST RESPONSE TIME

OTG-M280, OTG-M360, OTG-M420 and OTG-MPK5 sensors offer small OD which is ideal for small animals or phantom studies. These sensors can be used for both surface and invasive temperature monitoring and for applications that require localized temperature monitoring.



MECHANICALLY ROBUST AND FLEXIBLE

OTG-MPK5, OTG-M650 and OTG-MPK8 sensors offers excellent mechanical stress resistant due to their unique sensor packaging. These sensors are suitable for both surface and invasive temperature monitoring or applications that requires robust sensor feature.

