

FIBER OPTIC TEMPERATURE SENSOR

FAST RESPONSE TIME GaAs-BASED FIBER OPTIC TEMPERATURE SENSOR FOR R&D AND INDUSTRIAL APPLICATIONS



KEY FEATURES

- Good accuracy
- Small and robust design
- Outstanding repeatability
- EMI/RFI/RFI and microwave immune
- Intrinsically safe
- OEM-type and custom version

OTG-M SERIES - (M170-M220-M360-M420-M600-MPK5-MPK8)

DESCRIPTION

Opsens Solutions' OTG-M Series (OTG-M170, OTG-M220, OTG-M360, OTG-M420, OTG-M600, OTG-MPK5 & OTG-MPK8) fiber optic temperature sensors offers high performances. The OTG-M Series sensors uses the well proven technique based on the temperature-dependent bandgap of GaAs crystal as the temperature transduction mechanism. Its small sensing GaAs crystal located at the tip of the optical fiber makes it convenient for **tip measurement applications**. The difference between each model of the OTG-M series is the response time and the diameter of the sensor (OD) are presented on the next page in the specifications section, the detail of each sensor.

Combined with Opsens Solutions' SCBG (Semiconductor Bandgap) signal conditioning technology and with the inherent advantages of fiber optic, the OTG-M Series delivers **unprecedented repeatability and reliability in the most adverse conditions** such as high levels of EM, RF, MR, and microwave field environments.

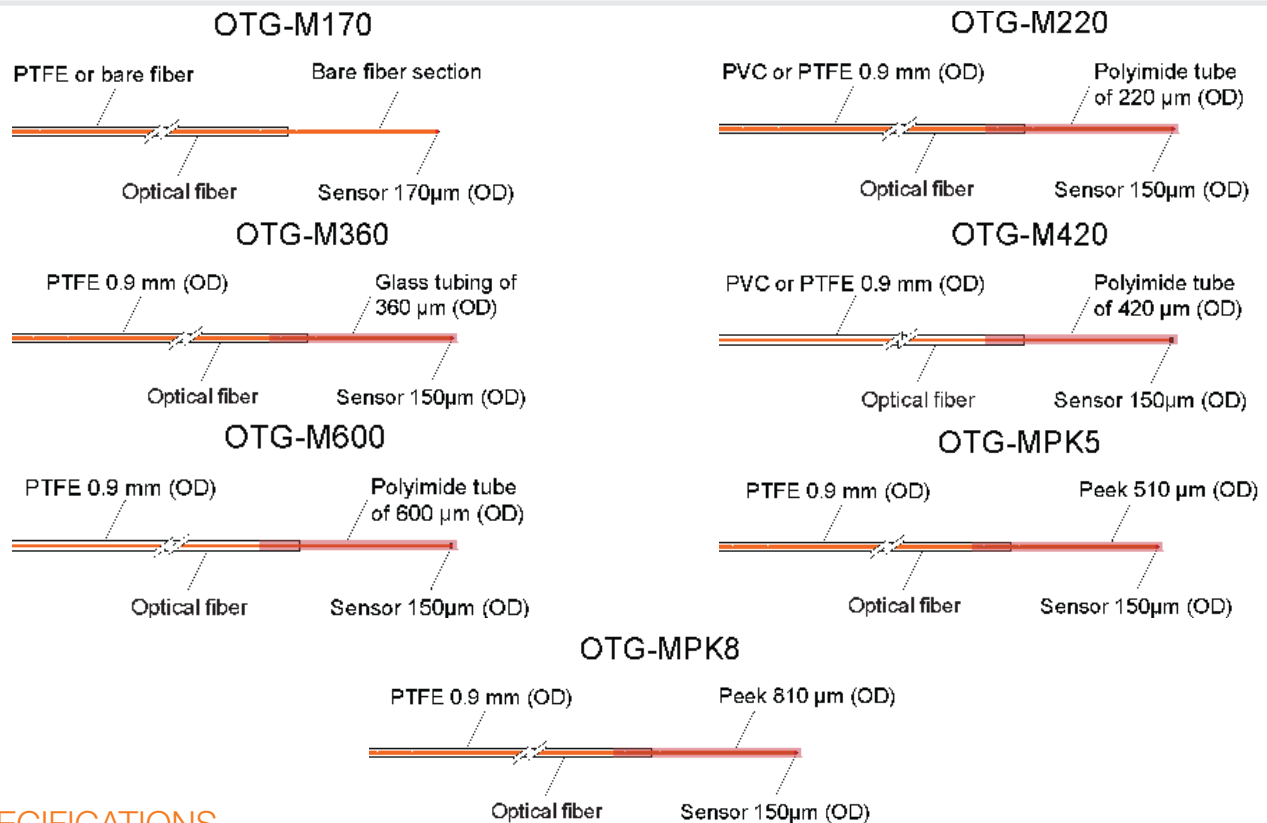
The OTG-M Series are made with industry standard optical fiber and is compatible with all Opsens Solutions' SCBG signal conditioners. This compact and **robust fiber optic temperature sensor** is available with different optical cables and sheath options and is customizable according to customer specific applications or for OEM-type applications.

APPLICATIONS

- Dynamic temperature monitoring
- EM, RF and microwave environments
- High voltage environments
- Applications that require small size sensors
- Low cost disposable sensor

OTG-M (M170-M220-M360-M420-M600-MPK5-MPK8)

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SPECIFICATIONS

| SENSOR MODEL | OTG-M170 | OTG-M220 | OTG-M360 | OTG-M420 | OTG-M600 | OTG-MPK5 | OTG-MPK8 |
|--|---|-----------|----------|-----------|-----------|----------|----------|
| RESPONSE TIME | ≤ 35 ms | ≤ 50 ms | < 100 ms | < 200 ms | 200 ms | < 225 ms | < 500 ms |
| SENSOR DIAMETER | 0.170 mm | 0.220 mm | 0.360 mm | 0.420 mm | 0.600 mm | 0.510 mm | 0.810 mm |
| SENSOR TIP MATERIAL (TUBE) | Bare fiber | Polyimide | Glass | Polyimide | Polyimide | PEEK | PEEK |
| TEMPERATURE OPERATING AND CALIBRATED RANGE | -40 °C to +250 °C (other ranges available upon request) | | | | | | |
| ACCURACY | ± 0.8 °C or better for other temperature range | | | | | | |
| OPERATING HUMIDITY RANGE | 0-100 % | | | | | | |
| EMI/RFI SUSCEPTIBILITY | Complete immunity | | | | | | |
| CALIBRATION | NIST traceable | | | | | | |
| CABLE LENGTH | 1.5 meters standard (other lengths available) | | | | | | |
| OPTICAL CONNECTOR | LCA, ST, standard | | | | | | |
| CABLE SHEATHING | Teflon™ | | | | | | |
| SIGNAL CONDITIONER COMPATIBILITY | All Opsens Solutions' GaAs (SCBG) signal conditioners | | | | | | |