

EVALUATION SYSTEM AND OPTICAL TEMPERATURE SENSORS OTG3 0E, OTR 148Z 1E, OTR 141R 1E

Point temperature sensors based on FBG (Fiber Bragg Grating) structures. They are designed to measure the temperature of gaseous, liquid and solid substances. The maximum temperature range is -50 to 200 °C. These fully dielectric sensors are designed for specialized measurements in highly electromagnetically disturbed environments.

APPLICATION

- Advanced industrial applications.
- Power industry (temperature measurement of transformer windings, electric motors, etc.).
- Automotive (temperature measurement of charging stations, batteries).
- Avionics, aerospace.

KEY FEATURES

- Long-term stability, accuracy and repeatability of measurements.
- Measurement accuracy linear over the entire range of measured temperatures.
- Large dynamic range, sensors can be located up to several kilometres from the evaluation unit.
- Completely dielectric sensor – galvanic isolation of the measuring point with the evaluation electronics.
- Immune to electromagnetic radiation.

ACCESSORIES

- Interconnecting fibre optic cable between evaluation electronics and sensors.
- Fibre optic switch.
- Converter to RS485.



SYSTEM SPECIFICATIONS

Measuring range	-50 °C up to 200 °C
Sensor type	FBG (Fiber Bragg Grating)
Number of measuring channels*	4, 7, 10, 13, 16
Measuring period*	3.5 s
Accuracy class	A
Measurement resolution	0.1 °C
Absolute accuracy over the entire range	± 0.5 °C
Fibre optic interface	LC/APC
Power supply	230 VAC / 50 Hz
Input power	Max. 10 W
Communication interface**	Ethernet (RJ-45), RS-485 (Modbus)
Operating temperature of the evaluation unit	0 °C – 40 °C
Weight of the evaluation unit	1.5 kg
Dimensions	230 × 115 × 80 mm
Warranty	1 year

* Depending on the fibre optic switch used and the number of measurement channels.

** Depending on the specific configuration.

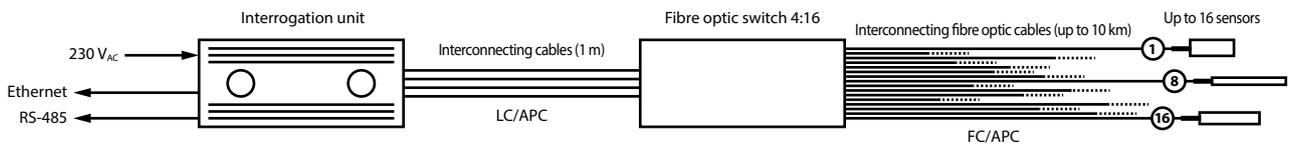
PARAMETERS OF INDIVIDUAL SENSORS

	OTG3 0E	OTR 148Z 1E	OTR 141R 1E
Ingress protection	IIP 67 according to EN 60529, as amended	IIP 67 according to EN 60529, as amended	IIP 67 according to EN 60529, as amended
Housing material	DIN 1.4571, DIN 1.4301 stainless steel	DIN 1.4571, DIN 1.4301 stainless steel	DIN 1.4571, DIN 1.4301 stainless steel
Sensor design	Smooth stem	Threaded	Contact sensor
Diameter	3 mm	3 mm	–
Length	from 30 mm	from 40 mm	55 mm
Lead-in cable length	3 m	3 m	3 m
Thread type	–	M8	–
Fibre optic connectors	FC/APC	FC/APC	FC/APC

The manufacturer issues an EU Declaration of Conformity.

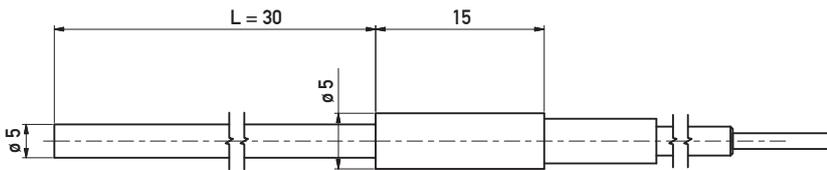
Calibration is performed in the calibration laboratory of SENSIT s.r.o. (according to the requirements of EN ISO/IEC 17025, as amended). It is performed by comparison with calibration standards. Continuity of the standards and working measuring instruments is ensured within the meaning of Section 5 of Act No. 505/1990 on Metrology.

WIRING DIAGRAM

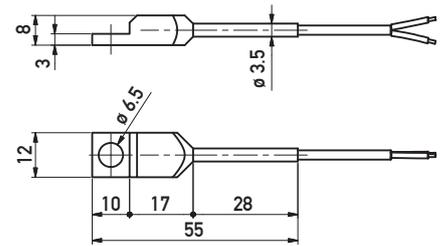


DIMENSIONAL DRAFT

OTG3 0E



OTR 141R 1E



OTR 148Z 1E

