

# FIBER OPTIC PRESSURE SENSOR

## MEMS-BASED FIBER OPTIC ABSOLUTE PRESSURE SENSOR FOR THE HARSHTEST ENVIRONMENTS



### KEY FEATURES

- Maintenance free
- No drift over time, reliable results during years
- Intrinsically safe
- Robust design
- Can be located 3 km from the readout unit
- Immune to EMI, lightning
- Embedded Temperature sensor (OPP-CT)

## OPP-C/OPP-CT Reliable - Robust - Easy to install

### DESCRIPTION

The OPP-C absolute pressure sensor is compatible with all Opsens Solutions' WLPI (Patent #7,259,862) signal conditioners. This compact and very robust probe can be customized to specific customer requirements. The fiber optic extension cable can be a maximum length of 3 kilometers.

Opsens Solutions' OPP-C, MEMS-based fiber-optic pressure sensor, is perfectly tailored to meet the challenges of pressure monitoring Applications **in submerged and/or harsh environments**.

The OPP-C sensor delivers **long term accuracy, durability and high fidelity pressure measurements** with a pressure operating range of **up to 100 bar**.

It's the perfect piezometer: Completely sealed, with a stainless steel body and diaphragm, the OPP-C is designed to work in adverse conditions of temperature, pressure, and toxic or corrosive atmospheres. It can be grounded in place if needed.

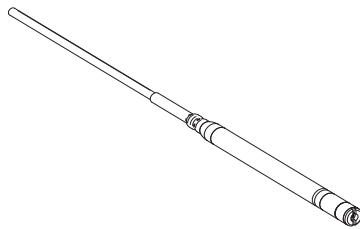
With the inherent advantages of fiber optic, it is **not subject to interference** from electromagnetic interference, vibrations and lightning that may be present in the sensing environment.

### APPLICATIONS

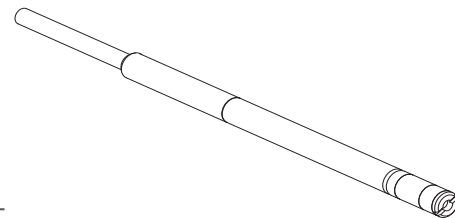
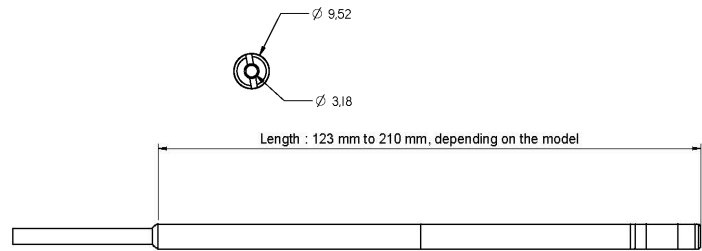
- Geotechnical applications
- In-situ pressure monitoring for food processing
- Harsh subsurface monitoring equipment
- Hydrostatic pressure measurements with corrosive chemicals.
- Groundwater elevation surveillance in wells and streams
- Pressure monitoring in pumping stations
- Hazardous and nuclear environments
- Offshore platform and refineries

# OPP-C/OPP-CT

## MEMS-BASED FIBER OPTIC PRESSURE SENSOR



OPP-C  
(Pressure only)



OPP-CT  
(Temperature and pressure)

### SPECIFICATIONS (ABSOLUTE PRESSURE)

MEASURING RANGE (other ranges available on request)	25 PSI (172 kPa)	50 PSI (345 kPa)	100 PSI (690 kPa)	500 PSI (3500 kPa)	1 000 PSI (7000 kPa)	1 500 PSI (10350 kPa)
PRECISION (Excluding thermal effect)	± 0.5 % F.S.	± 0.2 % F.S.	± 0.2 % F.S.	± 0.2 % F.S.	± 0.2 % F.S.	± 0.2 % F.S.
RESOLUTION	< 0.02 % F.S. (Range dependant)					
THERMAL COEFFICIENT OF ZERO	< 0.03 % F.S. / °C					
PROOF PRESSURE	2 X F.S. (for up to 500 PSI F.S.); 1.5 X F.S. (for up to 1500 PSI F.S.)					
TEMPERATURE OPERATING RANGE	-20°C to +85°C (other temperatures available upon request)					
EMI/RFI LIGHTNING	Complete immunity					
HOUSING	Stainless steel : (123 mm to 210 mm depending on the model) x (9.5 mm OD)					
MASS	0.06 Kg					
OPTICAL CABLE LENGTH	Up to 3 km (Sampling rate dependent, consult factory for more details)					
OPTICAL CONNECTOR	SCA (Standard), SC (Standard), other connector available on request					
OPTICAL CABLE TYPE	From ruggedized flexible outdoor cable to robust stainless steel cable					
SIGNAL CONDITIONER COMPATIBILITY	All Opsens Solutions' WLPI signal conditioners					

### SPECIFICATIONS (TEMPERATURE) - FOR OPP-CT ONLY

RESOLUTION	0.1 °C
ACCURACY	±1.0 °C @ ±3.3 sigma limit (99.9% confidence level)