

# SPOT-WELDABLE FIBER OPTIC STRAIN SENSOR

MONITORING DEFORMATION IN THE  
HARSHEST ENVIRONMENT



## KEY FEATURES

- Perfectly suited for harsh environments such as marine and subsea conditions (seals up to 300 bars)
- No drift over time. Reliable results during years
- Intrinsically safe and immune to EMI/RFI
- Insensitive to transverse strains
- Metallic strip can be adapted to be spot welded on almost any alloy

OSP-SW Reliable - Robust - Easy to install

## DESCRIPTION

The spot-weldable fiber optic strain sensor of Opsens Solutions is perfectly suited for the most demanding environments and can be easily adapted to be fixed on almost any alloy.

Combined with Opsens Solutions' White Light Polarization Interferometry (WLPI) signal conditioning technology (Patent # 7,259,862) and the inherent advantages of fiber optic, the OSP-SW delivers **outstanding repeatability and reliability** in the most adverse conditions such as those related to **subsea environment or offshore platform**.

It is completely **insensitive to transverse strains**. The robust design enables permanent monitoring deformation of immersed infrastructures, even under permanent pressure of 300 bar. A high temperature version is also available for **temperature environment up to 250°C**.

**ADVANTAGE:** The sensor can be installed very quickly in the field, when time is a constraint. The **“Quick Connect”** feature allows easy and fast installation: When the sensor is installed, the cable is easily coupled through the special adaptor to reach the signal conditioner. No hassle related to cable management during deployment and no need to prepare cable section with precise length. The **“Quick Connect”** feature provides fast and efficient deployment even in harsh conditions.

## APPLICATIONS

- Offshore platform
- Wind farms and hydroelectric infrastructures
- Marine and subsea conditions
- ATEX and Hazardous environment
- High voltage environments
- Aerospace and defense applications
- Structural health monitoring
- Civil engineering and geotechnical applications

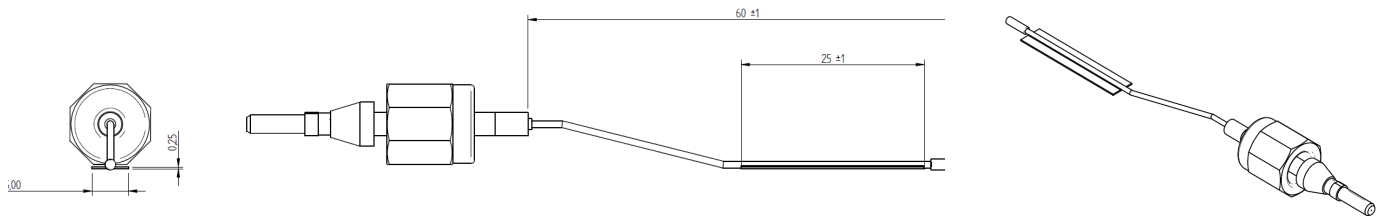
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Solutions

Enlightenment through smart measurements

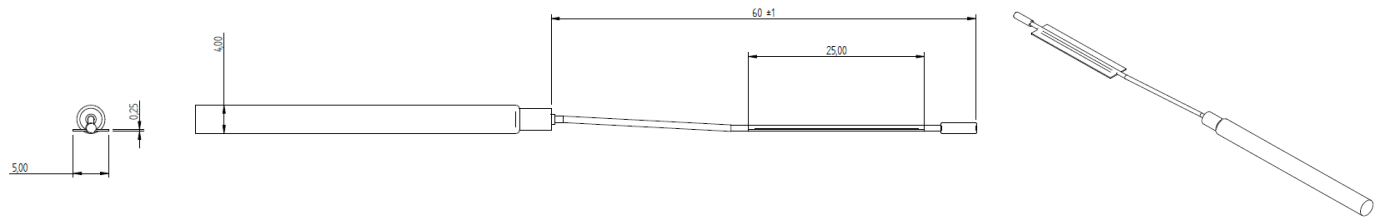
# OSP-SW

## SPOT-WELDABLE FIBER OPTIC STRAIN SENSOR

### “Quick Connect” Configuration



### Standard Configuration



## SPECIFICATIONS

MEASURING RANGE (Other ranges available on request)	-1,000 to +1,000 $\mu\epsilon$	-2,500 to +2,500 $\mu\epsilon$
RESOLUTION	0.15 $\mu\epsilon$	
TEMPERATURE SENSITIVITY	Depends on alloy used for weldable support	
TRANSVERSE STRAIN SENSITIVITY	Insensitive	
TEMPERATURE OPERATING RANGE	0°C to +90°C (Up to +250°C available on special request)	
EMI/RFI SUSCEPTIBILITY	Complete immunity	
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	
CABLE SHEATHING	From ruggedized flexible outdoor cable to robust stainless steel cable	
SIGNAL CONDITIONER COMPATIBILITY	All Opsens Solutions' WLPI signal conditioners	
MODEL AVAILABLE	Unsealed OSP-SW, sealed OSP-SW20 (Up to 20 bar), sealed OSP-SW300 (Up to 300 bar)	