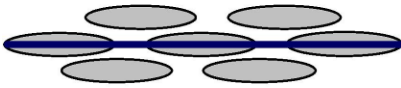


Oxsensis



multi parameter optical sensing

Wave-Phire™ Dynamic Pressure Transducer Type - DPT950



COMPETITIVE FEATURES

- **Ultra-harsh environment operation in excess of 1000°C**
- **Resolution of 10^{-5} of full scale static pressure**
- **Operates under aggressive chemical and mechanical atmospheres and immune to high levels of EMI**
- **Closer proximity to combustion events allows a much larger bandwidth to be reliably monitored and also earlier detection of dynamic events**
- **Ultimately aimed for closed loop combustion dynamics control and flame-out detection**

OVERVIEW

The Wave-Phire™ incorporates a micro-machined sapphire sensor head packaged with a high temperature fiber-optic lead-out to form a unique sensor configuration.

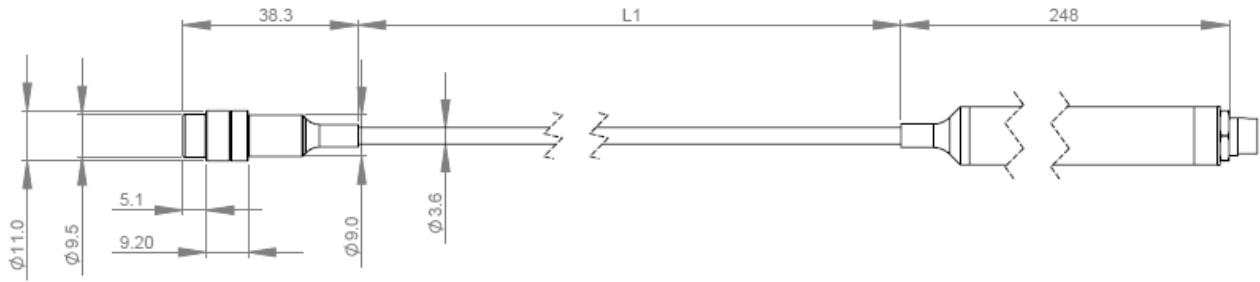
The properties of the Wave-Phire™ make it attractive for harsh atmospheres such as gas turbines and other combustion environments. It is aimed at usage in continuous combustion dynamic monitoring or as a design development tool.

A quasi-static signal is also available from the sensor, indicating sudden changes in background pressure. Please contact Oxsensis to discuss your application requirements.

TARGET SPECIFICATIONS

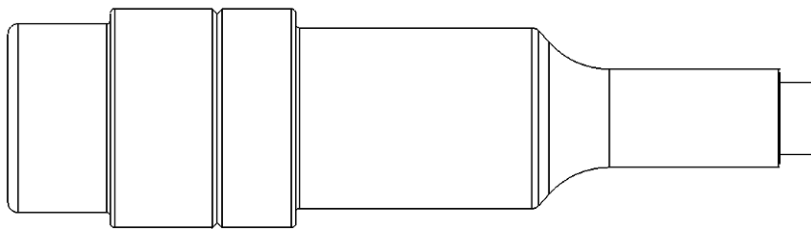
- Full scale pressure: 0 – 60 bar nominally
Other values available per customer request
- Dynamic measurement range: Up to full scale pressure
- Resolution: 10^{-5} of full scale static pressure
- Overload capacity: 3 times full scale pressure
- Combined uncertainty due to non-linearity, temperature, hysteresis and frequency: $< \pm 10\%$
- Continuous operating temperature range: -40 to 600°C
(Extended operation to 1000°C - see table overleaf)
- AC analogue output: Scalable to $\pm 7V$ p-p via 0.1, 1 and 10 gain control (when combined with i-Phire DWI 110)
- Humidity: 0-100% RH
- Optical components immune to EMI

MECHANICAL DRAWING



Note: Dimensions are in mm. To specify distance L1 please see the order designation system on page 3 of this data sheet.

Detailed view of sensor head



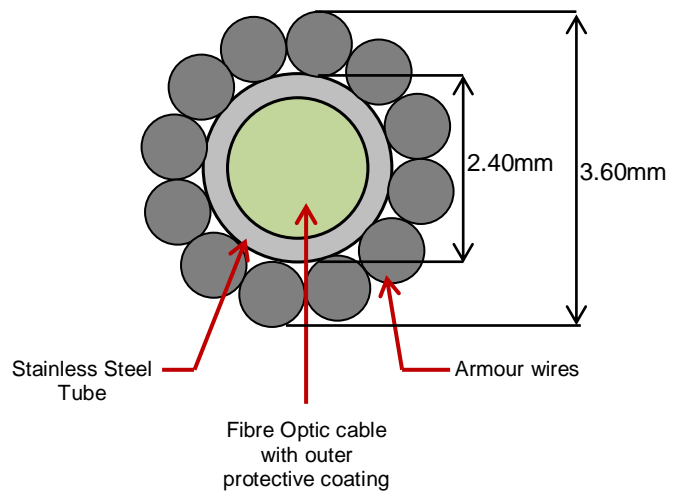
TARGET TEMPERATURE CAPABILITY

Location (Refer to mechanical drawing)	Continuous Operating Temperature (°C)	Ultra-Harsh Short Term Applications (°C)
Sensor Front Face	600	1000
Rear of Mounting Surface	600	600
Optical Connector Housing	85	85

INTEGRAL CABLE SPECIFICATIONS

- Temperature Range: -40 to +600°C
- Bend Radius: 240mm elastic limit of steel tube
50mm typical limit for fiber optic
- Final Outer Ø: 3.60mm
- Steel Tube Outer Ø: 2.40mm

Cross-Sectional View of Integral Cable



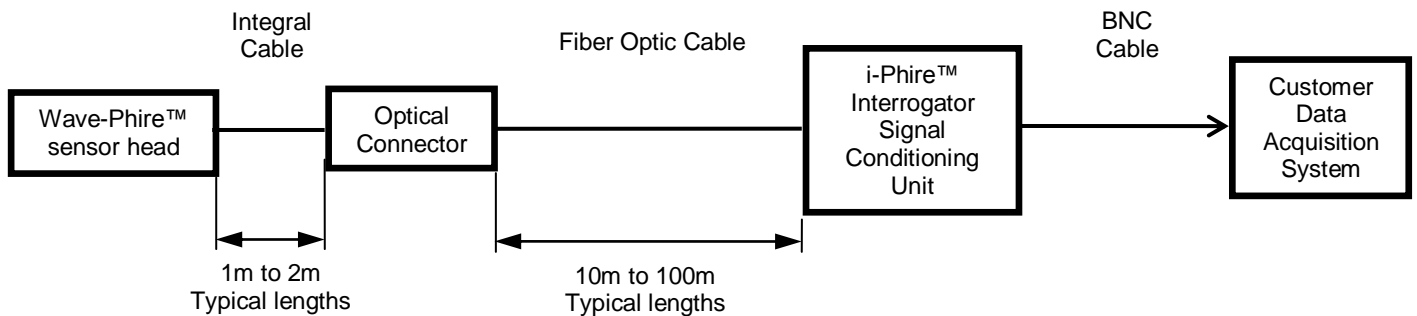
OPTICAL CONNECTOR

- Temperature Range: -45 to +85°C
- Ferrule rated for 500 mating cycles



Image of optical connector

COMPLETE SENSING SYSTEM – BLOCK DIAGRAM



DESIGNATION SYSTEM

Order Number:

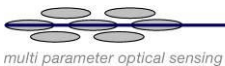
DPT950 – XX – XX

Pressure Range		Integral Cable Length (L1)	
Code	Pressure	Code	Length
10	10 bar	10	1m
25	25 bar	20	2m
60	60 bar		
Other pressures available on request		Other lengths available on request	

Examples:

Vac-25Bar DPT950 sensor with 1m integral cable: DPT950-25-10
 Vac-10Bar DPT950 sensor with 2m integral cable: DPT950-10-20

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As part of Oxsensis' commitment to ongoing improvements of our products, Oxsensis reserve the right to modify specifications without prior notification.