

Wave-Phire™ - DPT950

Optical Dynamic Pressure Transducer



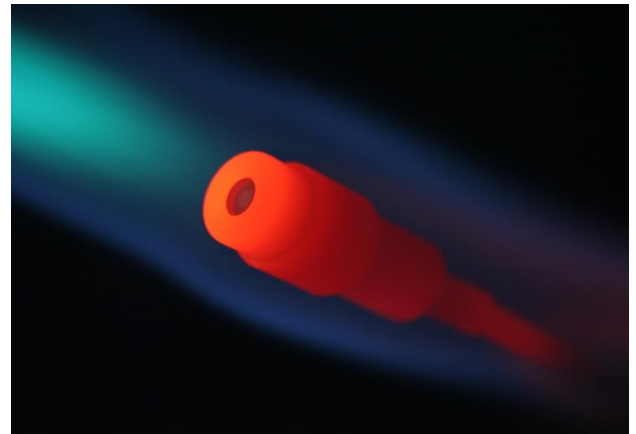
PRODUCT FEATURES

- **Extreme temperature operation in excess of 1000°C**
- **Resolution of 2×10^{-5} of full scale pressure**
- **Operates in harsh environments including high vibration and aggressive chemical atmosphere**
- **Immune to EMI**
- **Closer proximity to combustion events allows a large bandwidth to be reliably monitored and earlier detection of dynamic events**
- **Suitable for closed loop combustion dynamics control**

OVERVIEW

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

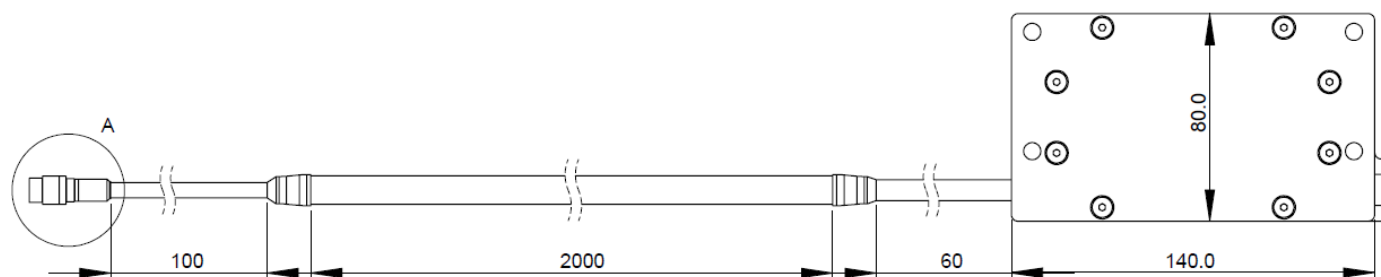
The properties of the Wave-Phire™ make it attractive for harsh environments such as gas turbines and other combustion applications. It can be deployed for in continuous combustion dynamic monitoring or as a design development tool.



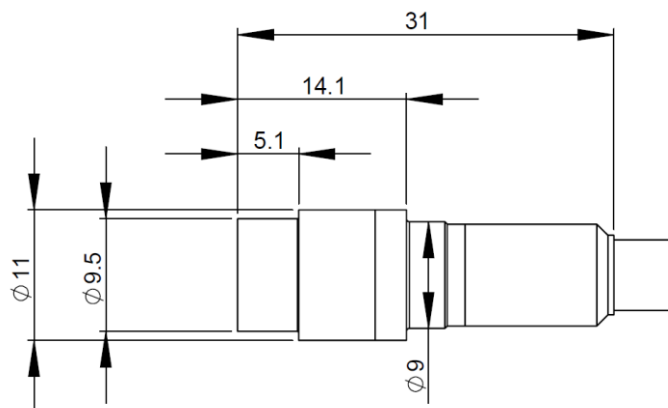
SPECIFICATIONS

- Full scale pressure ranges: 0 – 10bar, 0 – 25bar and 0 – 60bar. Other values available per customer request
- Dynamic Measurement Range: Up to full scale pressure
- System Resolution: 2×10^{-5} of full scale pressure
- Overload Capacity: > 3 times full scale pressure
- Operating Temperature Range:
 - -40 to 600°C (continuous use)
 - -40 to 1000°C (R&D use)
- System analogue Output: Scalable up to $\pm 4V$ p-p via programmable gain control
- Humidity: 0-100% RH
- Sensor immune to EMI

MECHANICAL DRAWING



The conduit lengths shown are default values, other lengths can be discussed when ordering



Detail A

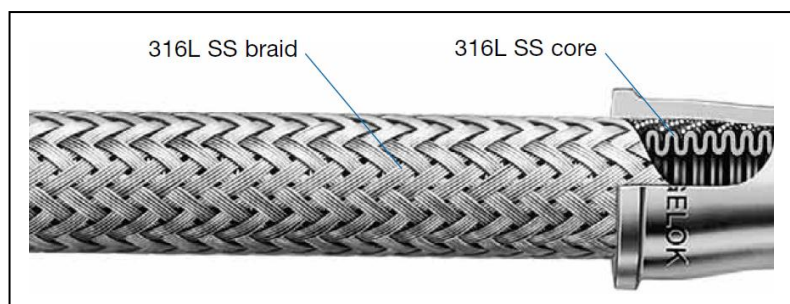
TARGET TEMPERATURE CAPABILITY

Location (Refer to mechanical drawing)	Maximum Temperature (°C)
Sensor Front Face	1000
Rear of Mounting Surface	600
Optical Connector Housing	85

TYPICAL INTEGRAL CABLE SPECIFICATIONS

- Temperature Range: -40 to +600°C
- Bend Radius: 50mm min
- Final Outer Ø: 12mm
- Available Lengths: 1m to 4m

Image of Conduit
(convoluted tube with over braid)



Note: Sensor conduit construction is application specific to be discussed when ordering, typical shown above.

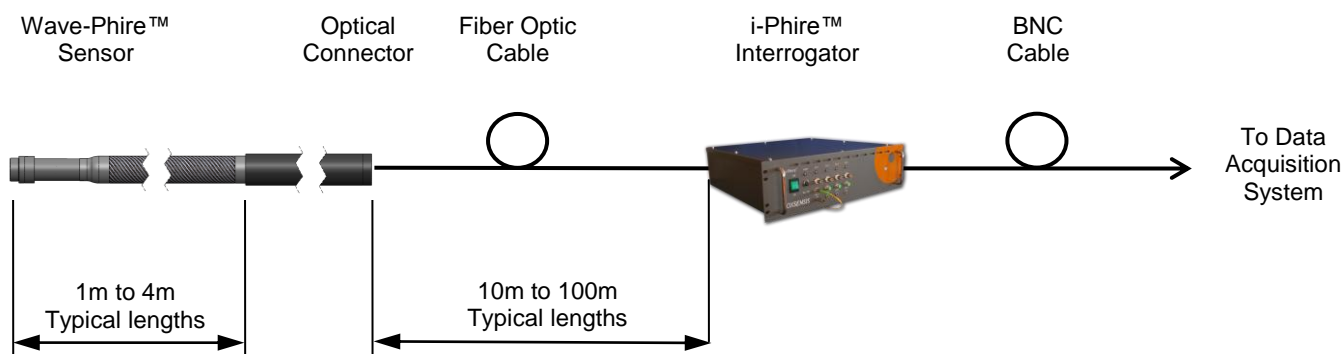
OPTICAL CONNECTOR

- FC/APC Connector
- Temperature Range: -45 to +85°C
- Rated for 500 mating cycles

Image of optical connector



COMPLETE SENSING SYSTEM



DESIGNATION SYSTEM

Order Number:

DPT950 – XX – XX

Pressure Range	
Code	Pressure
10	10 bar
25	25 bar
60	60 bar
Other pressures available on request	

Integral Cable Length	
Code	Length
10	1m
20	2m
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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