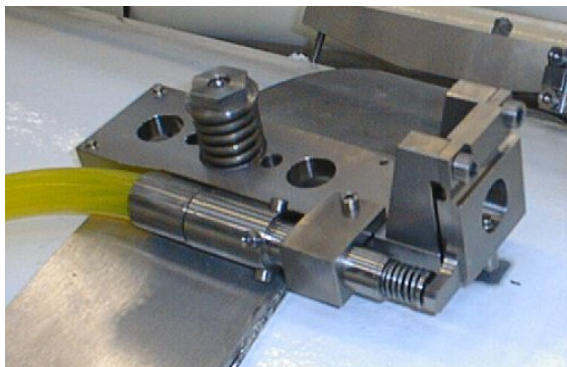


Hysens Strain Sensor

Features and Advantages

Hysens is a robust and re-usable strain sensor. It is suitable for a wide range of applications on metallic structures and can be used in harsh environments including subsea. The principle of operation is based upon measurement of the elongation between reference points at the surface of the object to be monitored. The reference points are established by the sensor either through sharp pins or by other friction contacts. A high precision displacement transducer measures the elongation.



Hysens with oil filled cable installed on deepwater riser joint

Fixation Arrangements

The sensor is pressed against the surface via a spring assembly for controlled contact force. A stud bolt attached to the surface is normally used to fixate the sensor. A wide range of custom-made arrangements including ROV operated arrangements is available.

Tension and Bending Bracelets

A monitoring system based upon four Hysens strain sensors integrated on a cylindrical bracelet has been used for many projects during the last decade. The four Hysens sensors measure in the axial direction at 90° intervals and provide data that can be turned into tension and bending components. The bracelet with sensors comes as one unit with an integrated DACOS data logger. Bracelets can be made for diameters from 75 mm and upwards.

Measurement Electronics

Interface electronics are available in DACOS data logger. One sensor occupies one input channel. A hand held digital readout is available.

Physical and Environment

- Material: Titanium or steel
- Depth rating: 3000 m
- Temperature range: -5°C to +55°C
- Contact force: 200 - 500 N
450 N for steel
- Reference pin surface penetration: ~ 0.5 mm
- Dimensions: L = 200 mm
H = 70 mm
W = 70 mm
Smaller dimensions are also available
- Weight: 1 kg in air

Measurements

- Gauge length: 180 mm
- Range: 5000 μ Strain
- Resolution: 1 μ Strain or better
- Freq. response: Better than 5 Hz



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