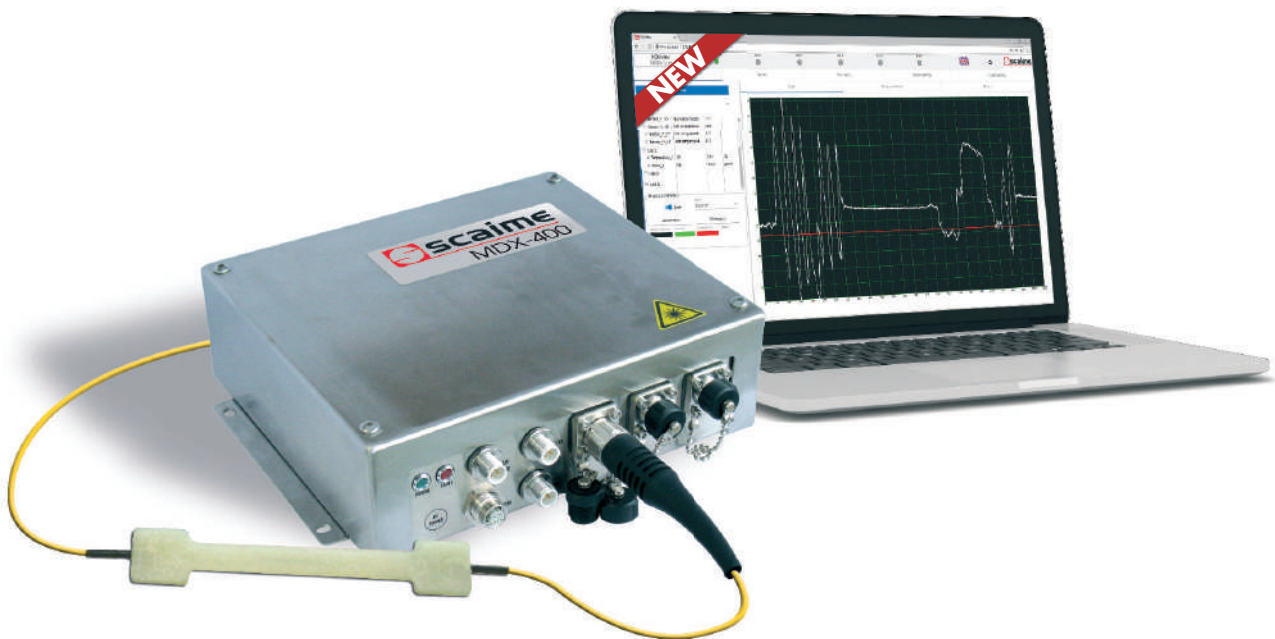




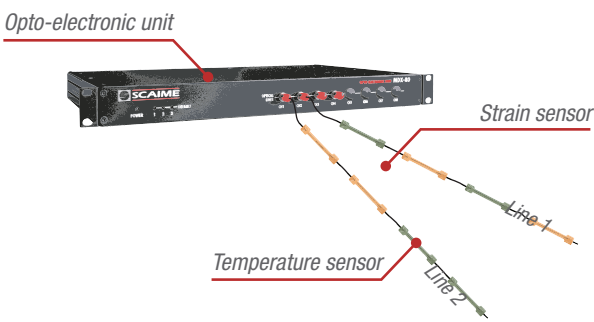
Fiber Optics Measurement

Sensors, Electronics



Overcome the sensing frontiers...

SCAIME has developed a measurement system based on Optical Fiber Bragg Grating. We offer technologically advanced technological solutions while ensuring innovation, quality and reliability.



New horizons for your measurements...

- > Easy and reliable handling of the optical fiber cable
- > High resistance to cyclic fatigue
- > Perfect load transfert
- > No sensitivity to EMI
- > Sensors in series
- > Measurement on long distances
- > Integrators and Sensors ATEX/IECEx certified



For all your applications...

SCAIME offers integrated fiber optics monitoring systems for the control of complex structures exposed to mechanical and thermal stresses. We provide:

- Optical fiber sensors for strain and temperature measurement
- Modular Opto-electronic acquisition units suited to their working environment
- Expertise in monitoring system design
- On-site installation and training, data acquisition as well as analysis with dedicated softwares

Civil engineering

Monitoring of civil engineering installations with temperature sensors, strain sensors and extensometers ready to be embedded or implemented directly on the structure.

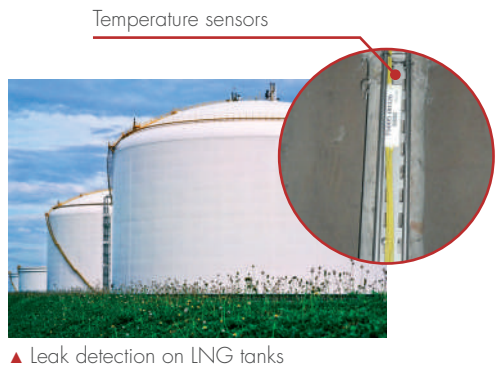


SENSORS

Model	OBSG	OBSGW	OBEG	OBLG	OBDI	OBTI	OBAC	OBTS
Type	Strain gauges for bonding or integration into composite	Strain gauges to be bolted/welded	Strain gauges for concrete or tar	Long base extensometers (0.5; 1 ; 1.5 m)	Displacement sensors	Tilt-meters	Accelerometers	Temperature sensors
Capacity	-5 000 ... 5 000 $\mu\text{m/m}$	-2 000 ... 2 000 $\mu\text{m/m}$	-5 000 ... 5 000 $\mu\text{m/m}$	-2 000 ... 2 000 $\mu\text{m/m}$	25/50/100 mm	-3 ... 3°	-2 ... +2 g	-30 ... +180 °C
Sensitivity	1.2 $\text{pm}/\mu\text{m/m}$	1.25 $\text{pm}/\mu\text{m/m}$	1.2 $\text{pm}/\mu\text{m/m}$	1.25 $\text{pm}/\mu\text{m/m}$	9/17/33 $\mu\text{m/pm}$	$2 \times 10^{-3} \text{ }^\circ/\text{pm}$	$\pm 3.3 \times 10^{-3} \text{ g/pm}$	10 ... 25 $\text{pm}/^\circ\text{C}$
Resolution	1 $\mu\text{m/m}$	1 $\mu\text{m/m}$	1 $\mu\text{m/m}$	1 $\mu\text{m/m}$	10/25/50 μm	0.002°	0.10 %	0.05 ... 0.1 °C
Combined Error (% N.R.)	0.25 %	1 %	0.25 %	1 %	0.5 %	0.5 %	0.5 %	0.3 ... 1 %

Petrochemical industry

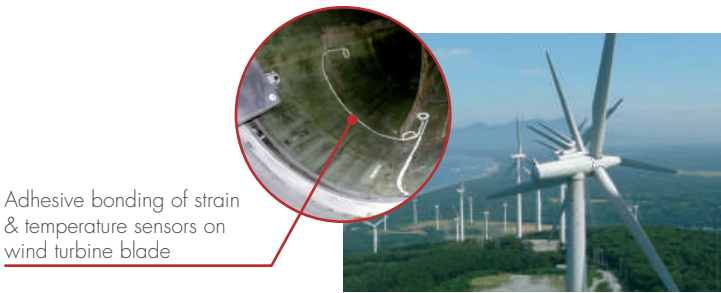
Thanks to its intrinsically none explosive specification, optical measurement system is the best choice for gas leak detection and temperature or strain monitoring in explosive areas.



▲ Leak detection on LNG tanks

Wind energy

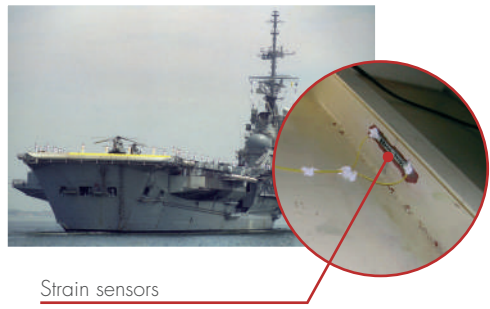
- > Real time monitoring of loads in the blades
- > Ice detection
- > Condition based maintenance
- > Optimization of energy production
- > Estimation of remaining lifetime



▼ Watercraft hull monitoring

Marine applications

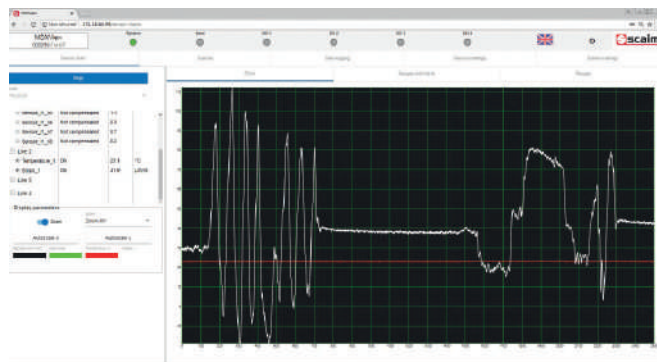
With hull monitoring, strain measurement allows to select the best route preventing the risk of mechanical failure in operation.



Softwares

Our new MDXView web interface has been developed specifically for our MDX100, 400 and 8000 series. User-friendly and intuitive, it is integrated into our acquisition units and allows you to configure the entire system and sensors directly from your PC:

- Adjustment of acquisition gains,
- Automatic detection and set up of connected sensors
- Detection of sensors defects,
- Sensors zero,
- Possibility to connect a GPS antenna or a NTP server for ultra-precise data dating,
- Data recording on internal memory, continuous or on event, with automatic system standby,
- Data transfer via TCP-IP or CANopen.



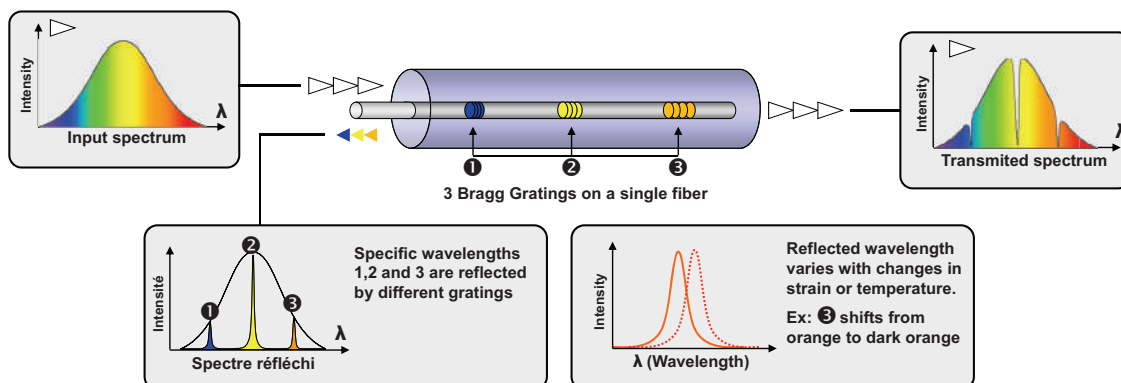
..... ACQUISITION UNITS



Model	MDX-100T	MDX-400T	MDX-8000
Number of optical lines	1, 3 or 4	3 or 4	4 or 8
Frequency	1 Hz	100 Hz	1 or 2 kHz
Resolution	< 1 pm	< 1 pm	2 pm
Repeatability	2 pm	2 pm	3 pm
Digital I/O	1 I / 4 O	1 I / 4 O	1 I / 4 O
GPS antenna connectivity	✓	✓	✓
Communication	Ethernet / CANopen®	Ethernet / CANopen®	Ethernet
Storage capacity	32 GB	32 GB	32 GB
Housing	Stainless steel IP 66 or Rack 19" IP30	Stainless steel IP 66 or Rack 19" IP30	Rack 19" IP30
Vibrations	IEC 60721-3-5 cat. 5M2*	IEC 60721-3-5 cat. 5M2*	N/A
Damp heat	IEC 60068-2-30*	IEC 60068-2-30*	N/A

* IP66 version

Bragg grating technology...



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