Optical Sensing Instrumentation for Oil and Gas

Applications
- T/P measurements in conventional wells
- Steam injection monitoring in SAGD wells
- Production riser strain monitoring

Features
- 1 pm NIST traceable accuracy and repeatability
- Up to 16 160nm channels for simultaneous multiple parameter sensing
- Dual static and dynamic measurements of FBG, Fabry-Perot, and other sensors
- Rugged fanless operation over wide -20 to 60 degree temperature range
- Simple, reliable Ethernet data acquisition
- Deep, continuous dynamic range for long sensor life in hydrogen darkened environments

Company Highlights
- Market leader for over 25 years
- Field-proven reliability with 1000s of optical systems in service
**Optical Sensing Instrumentation for Oil and Gas**

1. **T/P measurement in conventional wells**
   - FP and FBG sensor measurements for simultaneous temperature and pressure
   - 16 parallel channels support multiple full spectrum pressure channels
   - 10-100x higher gauge accuracy than other interrogator technologies
   - 160 nm range offers superior FP gage resolution
   - 1 pm accuracy enables absolute pressure measurements
   - ATEX certified, intrinsically safe

2. **Steam injection monitoring SAGD wells**
   - Highly accurate multipoint temperature measurements
   - Rapid time response for realtime monitoring of injection rates
   - Large optical dynamic range for system survival through hydrogen darkening
   - Wide 160nm wavelength range over 16 channels competes with DTS reach
   - 1 pm absolute accuracy and ms time response far superior to DTS

3. **Production riser strain monitoring**
   - 100’s to 1000’s of strain/temp measurement points
   - static and dynamic measurements for rise shape and damage detection
   - Wide 160 nm range for high strain resolution and long riser length coverage
   - 16 parallel channels for complete radial sensor coverage
   - Fanless -20 to 60 operation for deployment in ATEX Zone 1 compatible enclosures

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