Leading the Way with Passion.

WELL & RESERVOIR MONITORING

Distributed Temperature Sensing (DTS)
AP Sensing is your global Distributed Temperature Sensing (DTS) provider. Worldwide sales and service are provided through a network of regional sales offices and highly qualified partners. Unsurpassed product reliability brings you peace of mind and lower cost of ownership. With our experienced engineering team and global references, we are your ideal partner to design, commission and maintain a highly reliable and flexible monitoring solution.

The heart of our DTS instrument is based on key technologies developed by HP/Agilent Technologies, the world leader in optical test and measurement for over 25 years.

Building on our heritage, we have established a technically advanced opto-electronic manufacturing and production environment. AP Sensing is a leading DTS provider in a wide range of applications.
Our expertise: The perfect fit for you

AP Sensing’s DTS solutions give operators a reliable and cost-effective way to better manage reservoirs, wellbores, and completions. You can monitor temperature profiles along the entire well or at user-selected locations. Increase production and improve efficiency of oil and gas recovery, even in hazardous environments.

The continuous sensor element – an optical fiber – leaves no area unmonitored.

DTS technology is highly effective for determining differential reservoir depletion, cross-flow between reservoir layers and other near-wellbore effects.

DTS advantages
- Wellbore temperature data in real time
- Enhanced oil and gas recovery
- Increased production yields
- Tracking well production changes over time
- Sensor cables with high hydrogen ingress immunity with SM pure silica fibers
- High-temperature, high-pressure sensor cables (e.g. 300 °C, 25,000 psi)
- Data management, analysis and communication

Application areas
- Oil, gas, and geothermal wells
- Reservoir performance monitoring
- Temporary (slickline) services
- SAGD and horizontal wells
- Production and injection well optimization
- Electric submersible pump monitoring
- Steam flood management
- Artificial lift monitoring
Identify fluid entry points and steam, gas, or water breakthrough locations before problems occur. Fluid crossflows are kept to a minimum.

Continuously quantify production rates by zone and manage intelligent well completion systems.

Complement existing injection logging techniques with thousands of measurement points along the cable, without radioactive materials or tool movement during surveys.

“When I think of AP Sensing the first thing I think of is reliability. We completely trust and rely on their performance specifications and I know that their technical support team is dedicated and passionate about solving any problems that might come up.”

Paul Sanders, Petrospec Engineering

Downhole sensor cables suited for high temperature, pressure, and hydrogen environments.
Steam flood management

DTS data **monitors steam movement toward a producing well, improving** recovery and steam utilization. Identify steam breakthrough zones.

Completion integrity

**Minimize completion integrity problems:** early detection of flow behind casing, completion leaks, and underground blowouts.

Artificial lift monitoring

Optimize your well performance by **monitoring fluid levels** and the electric submersible pump. Monitor annular fluid column height and gas entry points. **All data is available to control systems.**

Horizontal well profiles

Identify steam breakthrough or gas entry locations with permanently or temporarily installed DTS systems.

**Instrument features**

- **Proven field reliability; industry’s lowest maintenance and warranty costs**
- **Outdoor/rugged/cost-effective/reliable**
- **Low power consumption (allows use of solar panels)**
- **Wide instrument operating range (-40 °C to +65 °C)**
- **Repeatable measurements over full instrument operating temperature range**
- **VxWorks: cyber security and real time operating system (no Windows OS)**
- **Eye-safe laser; ATEX certified**
- **Flexible measurement calibration for all fiber types**
- **Multimode (MM) and singlemode (SM) DTS instruments**
Smart calibration and reliable data

AP Sensing’s calibration tool corrects the most common sources of measurement error: fibers with varying refractive indices, splices, connectors, and strain. Our DTS systems automatically correct for chromatic dispersion and provide an easy-to-read loss trace.

The system continuously corrects for changes in the Stokes/Anti-Stokes ratio, ensuring accurate measurements over the life of the fiber.

Quality and reliability

It’s no accident that we have the industry’s lowest failure rate. With over 25 years of HP/Agilent’s optical test experience, we have continuously improved our design and production processes. We are passionate about delivering rugged and reliable DTS solutions.

“Knowing the technology and market, it is evident to me that AP Sensing is the forerunner in distributed optical sensing. Their solutions reflect a combination of experience and creativity. Experience comes from their HP/Agilent heritage, the leader in test and measurement equipment, with decades of experience in developing and manufacturing extremely reliable and high quality products. The creativity comes from their passion and commitment to solving real customer problems.”

David Orr, Protex Systems

Leading the Way with Passion.
AP Sensing is your reliable DTS partner. DTS technology has made vast improvements over the last decade, particularly for well and reservoir monitoring. State-of-the-art optical components, sensing fibers, and strict manufacturing processes deliver a long and dependable lifespan.

Our customers truly value our product engineering and support teams. Together with our global partner network, we are passionate about fulfilling your needs and helping you be successful.

Why choose AP Sensing?
- Proven field reliability with industry’s lowest maintenance and warranty costs
- Industry-leading vibration and shock robustness
- Best measurement performance using unique code correlation technology
- Highest measurement repeatability over the entire operating temperature range
- Patented single-receiver design: minimal drift, no calibration
- Low-power laser for safe use and longest product life (MTBF is 33 years)
- Best-in-class sensor cable partners
- Industry’s most tested and certified DTS system
- Global, multilingual project engineering specialists

SmartVision features
- Central SQL database
- Trace visualization, analysis, and statistics
- Post-measurement calibration
- Point history graphs
- 2D color map
- Record and playback functionality
Our mission is to ensure your success

Drawing on our HP/Agilent heritage in optical test, we have established ourselves as the leading solution provider for distributed optical sensing.

We remain committed to delivering well-designed, comprehensive solutions to our customers.

We have highly qualified and motivated employees and a network of expert regional partners.

At AP Sensing we recognize that we can only be successful when our customers and partners are successful. We take a respectful and proactive role in all our commitments.

With the industry’s most complete set of tests and certifications, AP Sensing helps you comply to all relevant security standards and ensures environmental and employee safety.

Contact us for more information!

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