

Well Flow Management

Wireless Well Solutions



The next generation of downhole wireless gauges.

Expro's Cableless Telemetry System (CaTS) is a field-proven, battery powered wireless transmission system that provides operators with valuable data from new or existing wells that can reduce reservoir uncertainty, allow reserves to be exploited optimally, maximize production and offer improved safety throughout the well lifecycle.

The third-generation system uses the same established duplex electromagnetic (EM) technology but with increased operating range, enhanced system life, improved flexible architecture and greater number of sensor nodes.

Features

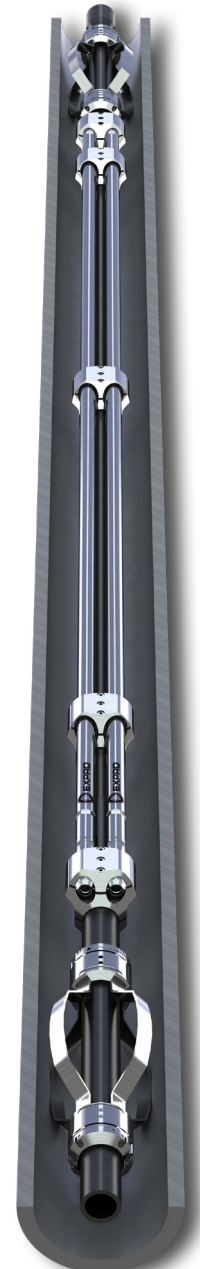
- Increased operating envelope with pressure rating of 20,000 psi and working temperature of 150°C.
- Increased data volume delivery and battery longevity.
- Flexible system architecture for greater number of downhole tools.
- Duplex Communications
- Request historical data for periods of interest.
- Request on-demand readings.
- Compatible with third party test strings, completion components and acoustic SRO systems.
- Diagnostic functionality to check tool performance and EM well contact, saving rig time.
- Does not require a dedicated tubing or completion string to be deployed in the well.
- Signal is not attenuated by cement or bridge plugs making it ideal where a well is to be abandoned or suspended.
- Uses the industry leading quartz crystal sensor and world leading acoustic through-seawater communication system

Benefits

- Converts throwaway wells into high value observation assets
- Data supports validation of subsurface models
- Increases depth of investigation into reservoir and provides more accurate assessment of connected volumes, far boundaries and faults beyond conventional DST
- System can help optimise development well placement and reduce appraisal well count
- Shortens the time a rig is required to be on location to monitor PBU, while still recovering all critical data
- Alternative solution to extended well testing
- Complies with local abandonment and suspension guidelines/regulations
- Optimises real-time operations and long-term development plans to reduce CO₂ emissions
- Pressure and temperature data from the EMX gauge can be real-time or accessed from the onboard memory using both the acoustic SRO system during the DST and CaTS EM telemetry after the test.
- Provides a seamless pressure profile, using the same sensors during the DST and long-term monitoring post well suspension or abandonment.

Applications

- Reservoir surveillance
- Cross-field interference monitoring
- Zonal interference monitoring
- Long-term pressure build-up monitoring
- Extended well testing
- Greener / flare-free testing
- Abandoned pilot holes and sidetracks
- Inter-block equity determination / unitisation
- Lower Completion Monitoring
- Monitoring of Multilaterals



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| Specifications | | |
|--------------------------------|-----------------------------|---|
| Pressure rating | | 20,000 psi |
| Temperature rating | | 150°C (302°F) |
| Transmission parameters | Medium | Metallic tubing or casing or short-range open hole communication (subject to well parameters) |
| | Range | No limit with use of repeaters |
| | Signal | Electromagnetic (EM) |
| CaTS EMX | Length | From 3.8m to 12.8m depending on battery configuration |
| | Outside diameter | 1-11/16" or 2-1/8" (depending on battery pack selection) |
| | On-board memory | 5.25 M data sets |
| | Memory logging rate | 1s to 1 week |
| | Max. data transmission rate | Depends on well parameters and monitoring objectives |
| | Max. data transmissions | Up to 150,000 data points (depending on well parameters and monitoring objectives) |
| | Battery life | Up to 10 years (depending on well parameters & transmission schedule) |
| | Material | Designed and manufactured to NACE MR0175 suitable for Sour Service |
| | Sensor type | Quartz Crystal |
| | Pressure resolution | 2d.p @ 1s or 2s logging rate. 4d.p @ 3s and above logging rate |
| | Pressure accuracy | 0.015% FS (0.012% FS typical) |
| | Pressure drift | <0.02 % FS per year at max pressure & temperature |
| | Temperature resolution | 2d.p @ 1s or 2s logging rate. 4d.p @ 3s and above logging rate |
| Temperature accuracy | 0.5°C (0.15°C typical) | |
| Temperature drift | <0.1°C (per year) | |
| Deployment methods | | |
| | | Wireline (Slickline, E-line, Slick E-line) |
| | | Coiled tubing (retrofit) |
| | | Tubing/Casing (Clamped-on externally mounted) |

Note: Specifications subject to change without notice.