

INTELLIPULSAR

Extended-reach tool with downhole sensors enhances coiled-tubing performance

The INTELLIPULSAR incorporates downhole sensors that continuously record tubing pressure, annulus pressure, weight-on-bit, torque, temperature, gravity toolface, vibration and inclination. The downhole tool can be programmed to transmit measurement data from any or all sensors at specified intervals. Pulse signals can be reliably transmitted and decoded in coiled-tubing strings longer than 30,000 ft. All data is stored in the tool's memory for post-well analysis.

The system's pulser performs dual functions of developing force to extend the reach of coiled tubing and creates coded pressure pulses transmitting sensor readings to the surface. Rapid operation of the system's pulser generates pressure signals delivering axial thrust, advancing the BHA in horizontal sections of the well while simultaneously propagating a pressure wave to the surface, significantly increasing reach.

Real-time measurement and surface display of downhole weight-on-bit improves ability to time-drill plugs and generate smaller cuttings that are easier to circulate out of the hole.

In annular frac applications, the INTELLIPULSAR provides reverse circulation capability in the event of a screenout. The downhole tool is compatible with use of hydrochloric (HCl) and hydrofluoric (HF) acids which allows for sand-jet perforating.

INTELLIPULSAR data gives operators and service companies the ability to reduce risks and improve operating efficiencies by making informed decisions. Downhole weight-on-bit and differential pressure measurements eliminate costly actions based on the inference and guesswork inherent with using surface measurements without downhole data. Pulling out of the hole only when needed and avoiding unnecessary trips to change out downhole tools can save tens of thousands of dollars in completions costs.

The INTELLIPULSAR is made up in the bottomhole assembly directly above the downhole motor during plug millout operations so measurements are taken as close to the bit as possible.

DOWNHOLE SENSORS

- Weight-on-bit
- Torque
- Annular pressure
- Tubing pressure
- Inclination
- Temperature
- Gravity toolface
- Vibration

APPLICATIONS

- Milling
- Annular frac
- Fishing
- Cleanout

FEATURES

- Real-time and recorded data
- Surface data display
- Toggle pulser on/off from surface
- Programmable data transmission
- Real-time, adjustable thrusting force
- Reverse circulate
- Low pressure drop
- Post-well analysis

BENEFITS

- Better decisions
- Lower-risk extended-reach operations
- Superior hole cleaning
- Reduced operating cost



With unique knowledge in downhole sensor and pressure pulse technology, Teledrill develops and deploys innovative solutions to extend the reach and enhance efficiency of coiled-tubing operations.

INTELLIPULSAR



Tool Specifications

Outside diameter	2 ⁷ / ₈ in. and 3 ¹ / ₈ in.
Tool joints	2 ³ / ₈ in. PAC box up, pin down 2 ³ / ₈ in. REG box up, pin down ¹
Internal connections	2 ¹ / ₂ -in. 12-TPI Stub ACME
Length	111.5 in. (9.3 ft)
Weight	105 lb _m
Min. flow rate	1 BPM
Max. flow rate	7 BPM
Max. temperature	347°F [175°C]
Max. pressure	16,000 psi
Min. battery life ²	100 hr
Preserve Drop @ 5 BPM	400 psi

Extended Reach Performance

Adjustable up to 8,000 lb_f

Toggle On/Off while downhole

Adjust force while downhole

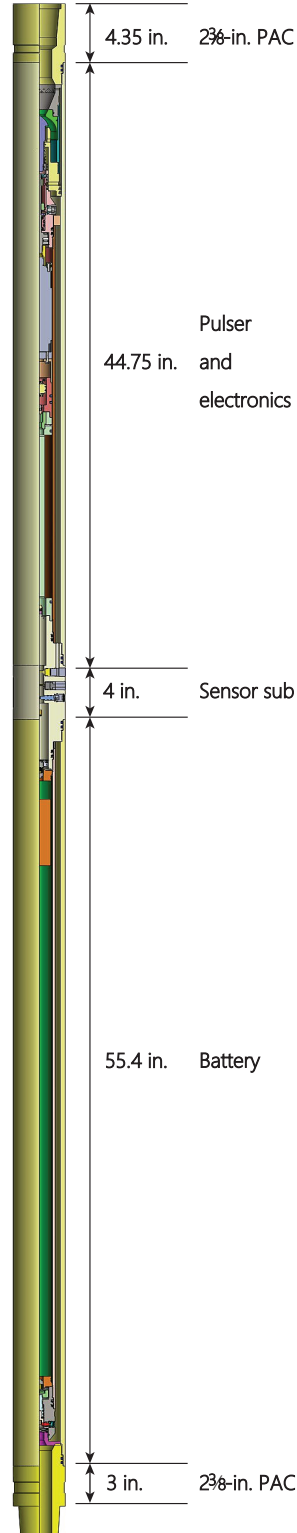
Sensor Specifications

Tubing pressure (P_b) ³	0–15,000 psi
Annular pressure (P_a) ³	0–15,000 psi
Compression/tension	–10,000 to 10,000 lb _f
Torque	0 to 5,000 ft-lbf
Inclination	0–180°
Temperature	–40°F to 347°F [–40°C to 175°C]
Gravity toolface	–180° to +180°
Vibration	±55 g, 2 axis (X,Z) ±6 g, 3 axis

¹3¹/₈-in. BHA configuration

²Under normal operating conditions

³Differential pressure: $DP = P_b - P_a$



Running the INTELLIPULSAR on every descent delivers data that wellsite teams can rely on to reduce the total cost of completion operations.

Why risk the completion by deploying coil blind?