



Pipeline Performance™



SmartTrack™ System

The SmartTrack™ electromagnetic communication system has been developed for tracking, positioning, controlling and monitoring the TDW SmartPlug® isolation tool, inline inspection tools and a wide range of pipeline pigs. It may be used subsea, topside or with underground pipelines located onshore. Its accuracy and reliability, combined with its ability to remotely activate and deactivate the transponder, make it the most flexible system on the market.

BENEFITS

- **High accuracy positioning** – Locating within 1 cm of transponder.
- **Multiple pig identification** – Up to 16 unique identities to locate pigs in a multiple pig train.
- **Versatility** – Signal strength, transponder speed and ID may be reconfigured during operation.
- **Real-time monitoring** – Keep track of any transponder.
- **Wireless** – Eliminates the need for subsea cables.
- **On-demand pressure monitoring** – Provides critical pressure data during usage.
- **Premium low-pressure isolation** – Allows pressure monitoring between high-friction pigs in low pressure isolation.
- **Modular** – New products and solutions can be added to the system, providing more features and possibilities.
- **Long range** – Detects and identifies pigs up to 10 m (30 ft) from the transceiver.
- **Operationally safe** – Mitigates risk during overhead lifting operations, while pre-set pressure alarms guarantee safety of personnel and monitor isolation integrity.
- **Cost-effectiveness** – Reduces vessel, ROV and dive time.
- **Environmentally safe** – Eliminates the use of radioactive isotopes for offshore pig tracking and locating.

FEATURES

- Accurate and reliable through-wall electromagnetic communication.
- Real-time internal pressure readings.
- Variable ping rates for higher pig speeds.
- Variable power settings for thicker wall sections to optimize battery life.
- Transponders are designed for pipeline pressures up to 300 bar (4350 PSI) and are available for pig body sizes from 8 in (203 mm) and above.
- The SmartTrack system includes a Remote Transceiver, Transponder, and Topside Transceiver with Personal Digital Assistant that are ATEX-certified for Zone 1, gas group B.

HOW IT WORKS

The SmartTrack system uses two-way (bi-directional), through-wall, electromagnetic communication between a transponder and a transceiver. Transponders are typically mounted on a pipeline pig and given an identification code. They transmit a unique electromagnetic signal pattern that enables the location of each individual pig in a multiple pig train to be readily identified. The remote transceivers are placed on or strapped to the pipeline, mounted on an ROV or held in an ROV arm. Cable or ROV umbilicals, as well as acoustic or radio links, facilitate the transmission of signals to a PC to monitor pressure differentials between pigs or locate, track and identify pigs.



The accurate, reliable and cost-saving SmartTrack™ system revolutionizes pig tracking by using remote, two-way, through-wall electromagnetic communication between a transponder and transceiver.

Efficient pig management in a wide range of scenarios

The strength, transmitting frequency, ping rate, and identification of each signal can be reconfigured while the transponder is in the pipeline. The SmartTrack system features a number of versatile elements, including:

The SmartTrack transponder – Sends a trackable signal in active mode. It can be set in dormant mode to save battery power, listening only for commands from a transceiver.

The SmartTrack remote transceiver – Used in combination with a topside PC to activate, deactivate or adjust operational parameters of the transponder.

The SmartTrack subsea communications unit – For use offshore an acoustic modem is utilized when cabled remote transceivers are logistically impossible to use.

The SmartTrack diver-held receiver – Enables a diver to locate, track and identify pigs.

The SmartTrack topside transceiver and SmartTrack PDA – Used together (linked wirelessly via Bluetooth®) to locate, track and identify pigs inside pipelines, both topside and onshore. Ideal for applications that require freedom of movement.





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