

Xerafy Xplorer Downhole Tag EPCglobal Gen 2 UHF RFID Embedded-Metal Tag

Xerafy Xplorer is an ATEX certified downhole RFID UHF tag, designed while working closely with oil and gas service companies, end users and drill pipe manufacturers to meet pipe integrity and the rugged requirements for downhole drilling and sub-sea operations.

The Oil and Gas industry has invested billions of dollars in capital equipment and services operating in a hazardous environment that need accurate tracking and maintenance. The ability for the Xplorer RFID UHF tag to provide rapid automatic identification of pipes and critical assemblies (including length) can make a big difference between continuing or moving on to the next site where a decision just a few feet short of success can cost an operator millions of dollars in investment. The Xplorer also provides long-distance traceability of sub-sea equipment where tracking under low luminosity, during location movements and through algae growth can prove extremely challenging.



Features:

- EPCglobal® Gen 2 and ISO 18000-6C standard
- Survives continuous and simultaneous high temperatures, extreme pressure and severe vibrations
- Quick and secure “snap in” attachment
- Up to 5 feet (1.5m) in read range
- Withstands sandblasting and high pressure wash downs
- Facilitates compliance to procedures and compliances set forth by HSSE guidelines.

Traditional paper-based tracking is prone to human errors, operational inefficiencies and the chance of a costly catastrophe. On the other hand, LF and HF technologies produce slow data rates, and the need for workers to scan the pipe joints at a very short read range, makes them quite impractical.

From manufacturing to storage and from construction to production, the Xplorer enables a cost effective means to automate asset management from cradle to grave, retrieving information such as product specifications and maintenance history as well as store ongoing usage information such as inspection / testing and cumulative exposure time and depth records.

The Xplorer RFID UHF tag has been validated by tests simulating simultaneous high temperature, high pressure stresses as well as in an actual live well site for survivability and performance under the extreme conditions of pressure, vibration, temperature and chemicals of a well. Xerafy's patent-pending tag, the first tag of its kind, is uniquely constructed with a breakthrough RF design, high strength steel, polymer materials and advanced manufacturing techniques to meet the rigors required for a downhole tag solution. The Xplorer RFID tag is designed to for quick "snap in" attachment that is secure and will not become loose during the downhole operation.



Applications:

- Downhole and Surface Drill Pipes
- Sub-sea Oil Pipes
- BOPs and Wellheads

Xplorer

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Specifications:

EPC Class 1 Gen 2 (ISO 18000-6C)	512-bit user memory ¹
Passive UHF RFID transponders	96-EPC bits, 64 bits unique TID,
Frequency:	902-928 MHz (US), 865-868 MHz (EU)
Dimensions / tolerance (mm):	ø 28.3 x 8.5 (+/- 0.1)
Dimensions / tolerance (in):	ø 1.11 x 0.33 (+/- 0.004)
Weight:	0.89 oz (25.4 g)
Read range embedded in metal (2W ERP) ² :	Up to 5 ft (1.5 m)
Operating temperature:	-40°F to +185°F (-40°C to +85°C)
Application temperature:	-58°F to +482°F (-50°C to +250°C)
Application pressure:	30,000 psi (206 MPa)
Compliance	RoHS, CE, ATEX/IECEx, IP69K
Chemical resistance:	Withstands drilling fluids and hydraulic fluids including hydrogen sulphide

1. EPC and user memory reprogrammable, unique TID locked at point of manufacture.
 2. Stated performance based on standard testing, read range may vary dependent on hardware and power.

