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INTELLIGENT COMPLETIONS | PERMANENT MONITORING

DataSphere® DTS HT interrogator

Hydrogen-tolerant distributed temperature sensing (DTS) interrogator system

FEATURES

- Patented dual-laser design for hydrogen darkening tolerance (HT)
- Real-time and configurable temperature measurement interval
- High spatial resolution with support of up to 16 sensing fibers
- Data telemetry via standard industry communication protocols

BENEFITS

- Supports operation on standard and severely hydrogen-damaged fiber optics
- Augment well operation and optimization capability through continuous high-resolution temperature data in broad application range
- Plug-and-play system with intuitive interface to facilitate quick startup, data acquisition, and analysis



DataSphere® DTS HT interrogator

Overview

The service distributed temperature sensing hydrogen-tolerant (DTS HT) interrogator is designed to help provide DataSphere® DTS results in the harshest upstream environments. This system incorporates the Halliburton patented dual-laser technology to help mitigate effects of degradation to capture meaningful data on multi-mode fiber that might have previously been unusable.

The DTS HT interrogator is designed for long-term monitoring to assess life-of-well performance.

Applications

The DTS HT interrogator can be deployed in the following applications:

- Conventional, unconventional, and enhanced oil recovery (EOR) wells
  - » Temperature monitoring for well operation, production optimization, conformance, pump and gas-lift monitoring, and wellbore integrity
- Geothermal
  - » Flow assurance, heat flux, and recovery optimization
- CCUS
  - » Injection phase management, wellbore integrity, and containment monitoring

DATA SHEET

DataSphere® DTS HT interrogator specifications

PERFORMANCE	DESCRIPTION
Nominal range	5 km
Spatial resolution	1 m
Sampling resolution	0.5 m
Accuracy	± 2°C max. ± 0.75°C typical
Temperature resolution	< 0.1°C †
Measurement time per channel	10-second minimum

Temperature resolution varies based on measurement time, fiber length, fiber type, and other factors.

SPECIFICATIONS	DESCRIPTION
Operating temperature	0 to 40°C (32 to 104°F)
Storage temperature	-20 to 70°C (-4 to 158°F)
Data storage	200-GB SSD
Fiber compatibility	50-µm graded index multimode fiber
Optical channels	1, 2, 4, 8, 12, or 16 channels (single-ended) with E2000/APC connectors
Laser safety	Certified as Class 1M per IEC 60825-1:2014
Physical dimensions	482 × 508 × 89 mm (19 × 20 × 3.5 in.)
Packaging	2U Rackmount
Power options	110-240V AC or 18-36V DC
Power consumption	110 W peak, 85 W typical
Weight	9 kg (19.8 lb)

SOFTWARE AND COMMUNICATIONS	DESCRIPTION
Software	Microsoft® Windows® 10 IOT Enterprise (OS), DTS6 Commander™ software and DTS FiberView™ software
Communication ports	Ethernet, 4× USB 3.0, HDMI
Data protocols	Modbus (TCP/IP, RS232), DNP3 (TCP/IP, RS232), OPC (TCP/IP)
Remote access	Full operator remote control and data access capabilities
Diagnostics	Real-time diagnostics for remote support

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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