



GENERAL DESCRIPTION

Combining mono-crystal micro sensing elements with corrosion and HPHT resistant protective casing that can fit in the palm of your hand, OpenField™ sensors are unique in making microchip technology work in the harshest environments, giving well operators superior data on downhole pressure and temperature.

IDEAL FOR HYDRAULIC FRACTURING MONITORING

The OpenField™ data acquisition system automatically changes between 'slow' and 'quick' modes (2a) based on user-defined criteria to provide high frequency data on the most critical periods of fracture formations.

THE BENEFITS OF MINIATURIZED TECHNOLOGY

The small size of our revolutionary pressure and temperature gauges offers key advantages to well operators, including easy deployment with slickline operations or as a dummy gas lift valve, immediate responses to changing conditions, and low power consumption for up to 24 months of downhole monitoring. All of this with data quality superior even to Quartz technology.

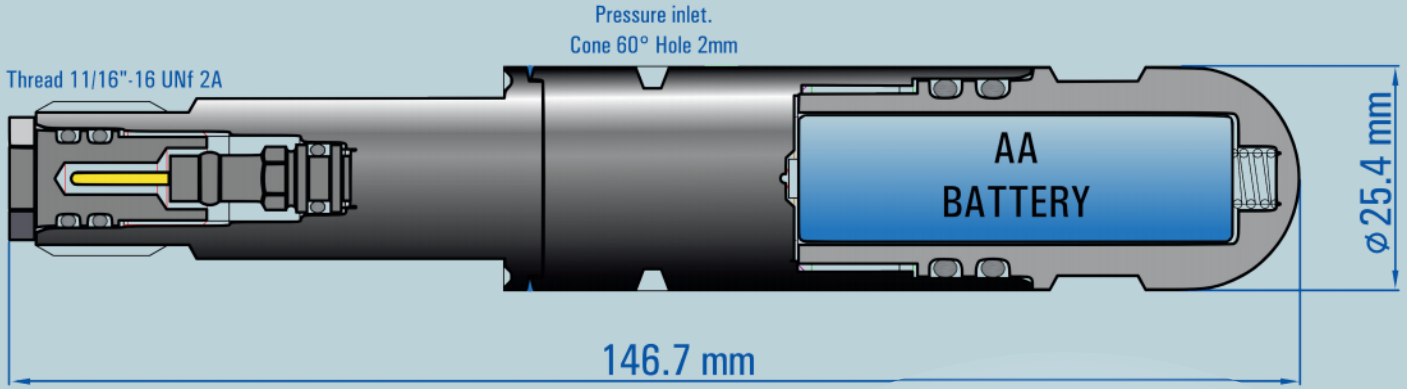
FEATURES

OD	25.4mm (1")
Length	146.7mm
Battery	1 single AA lithium battery
Memory	1.4 million data sets (Time, Pressure, Temperature) 2.8 million in option
Pressure range	10/15/20 kPsi
Temperature range	125/150/170°C (257/302/338°F)
Pressure Accuracy	+/-0.01% FS
Pressure Resolution	0.00005% FS
Temperature Resolution	1 mK at 1 Hz
Measurement period	From 128Hz to 1 data every 64sec
Deployment	DST Mandrel Slickline Surface
Interface	Plug and Play USB

APPLICATIONS

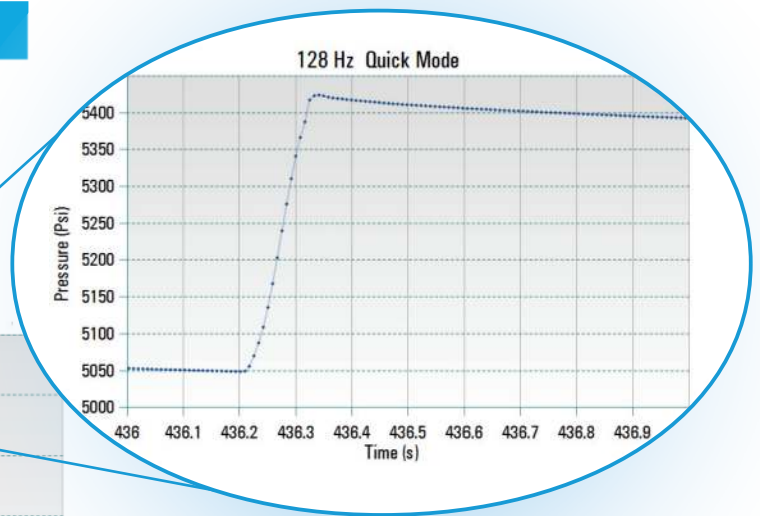
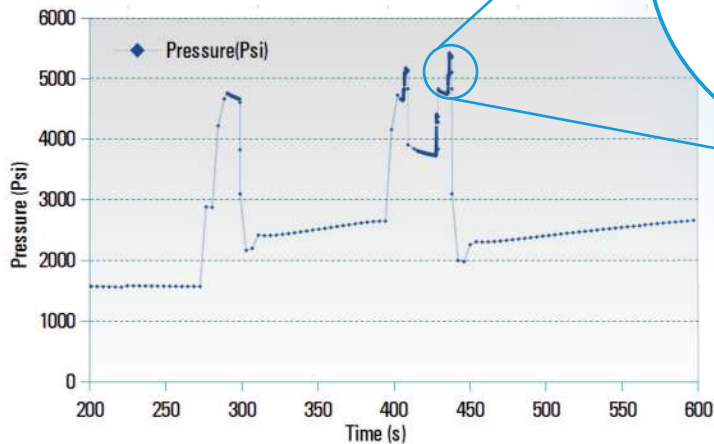
- Fracturing jobs
- Well monitoring
- Reservoir evaluation
- Build-up analysis
- Flow assurance
- Water injection monitoring
- Perforation jobs
- Gradient logging

HIGH ACCURACY - HIGH RESOLUTION MEMS MICRO-RECORDER FOR PRESSURE AND TEMPERATURE



RECORDING MODES

Fracture formation monitoring is made easy with automatic transitions between 'quick' and 'slow' modes according to user-defined criterion. Quick mode measurement frequency can be set between 1 and 128 Hz and slow mode acquisition rate between 1 and 64 seconds.

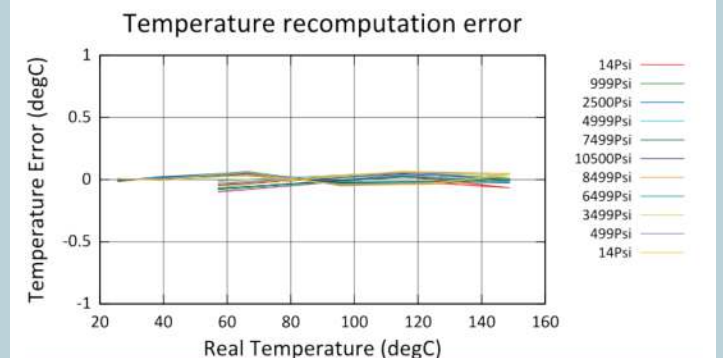
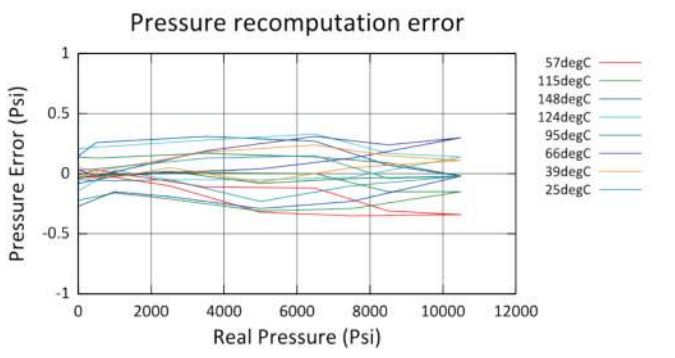


The transition back to 'slow mode' is triggered according to user-defined criterion :

- Low pressure variation rate
- Absolute pressure threshold
- Fixed elapsed time

2a Data from a frac job with build-ups. 'Quick mode' threshold set at 3000 Psi.

METROLOGY



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www.openfield-technology.com

13 rue de Limoges - 78000 Versailles - France

Tel: +33 (9) 8242 8309 Fax: +33 (9) 8243 8309

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