SmartLink

Rugged Connection System for Permanent Downhole Optical Sensors

- **HPHT capability**
- **All metal sealing**
- **Seals fully testable**
- **Low profile design**

Smart Fibres have developed a range of low-cost, downhole optical P/T gauges for permanent reservoir monitoring. Many tens of these gauges can be deployed in a well from a single main cable. In order to make such a multi-drop P/T deployment viable, an inter-sensor connection system is required which itself is low-cost, requires minimal rig time to deploy, and provides a long-term reliable protection of the optical connections from the extreme wellhole environment. The SmartLink system satisfies these requirements.

Two SmartLink systems are available – using fusion splices or (in the case of low temperature applications) miniature connectors. The spliced SmartLink system allows a string of P/T gauges to be pre-assembled either in the factory or in a workshop container at the field. Then this string can be rapidly run in hole over a cable sheave, so minimising rig time.

The connectorised SmartLink system offers increased flexibility to accommodate changes in deployment configurations. It employs miniature optical connectors that can be safely and quickly mated on the rig floor.

HPHT SmartLink Specifications

Parameter	Spliced SmartLink
Max pressure rating (psi /bar)	15,000 / 1,000
Max temperature rating (°F/°C)	400 / 200
Materials	Stainless, alloy or superalloy steel to suit application and well chemistry
Sealing	All metal seals, pressure tested
Dimensions (in)	3/4 x 18.3
Assembly and seal testing time	~ 2 hrs

LPLT SmartLink Specifications (preliminary)

Parameter	Spliced SmartLink	Connectorised SmartLink
Max pressure rating (psi /bar)	5,000 / 350	
Max temperature rating (°F/°C)	300 / 150	
Materials	Stainless, alloy or superalloy steel to suit application and well chemistry	
Sealing	All metal seals, pressure tested	
Dimensions (in)	3/4 x 18.3	1 x 19
Assembly and seal testing time	~ 2 hrs	~ 1 hr

Smart Fibres maintains a policy of continuous improvement so specifications may change without notice.

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