

Hybrid FACT

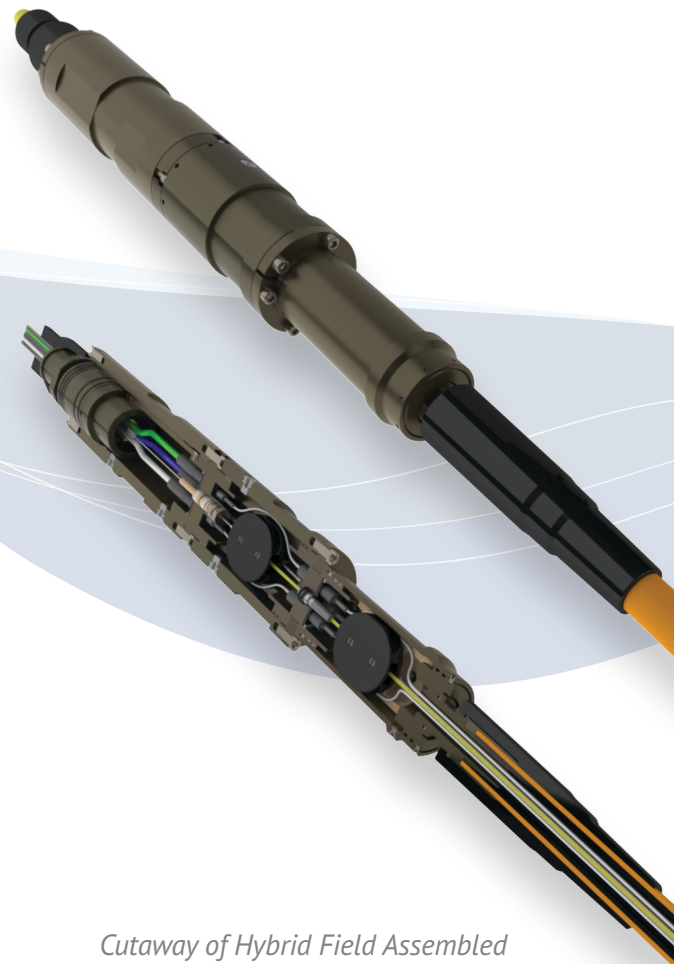
Hybrid Electro-Optical Field Assembled Cable Terminations for Subsea Applications – Maximum of 6 electrical and 12 optical circuits

The Hybrid Field Assembled Cable Termination (FACT) uses factory qualified and field proven technologies to completely isolate the optical and electrical cable internals from the ambient subsea environment and pressure-balanced dielectric fluid filled splice chamber, regardless of cable construction.

The FACT assemblies have been designed with modularity in mind and are ideally suited for a multitude of umbilical termination applications. The Hybrid FACT assembly consists of a cable end termination assembly and a high-pressure penetrator assembly that completely isolates the hybrid cable internals from the subsea environment and pressure-balanced splice chamber. The Hybrid FACT combines the elements of the Optical FACT and (Electrical) FACT in one cohesive unit for more compact space and enhanced mounting and operational handling. The FACT assemblies may be terminated directly to atmospheric enclosures or pressure-balanced dielectric fluid-filled splice canisters. The patented FACT approach to cable termination eliminates cable dependent design limitations and common mode/ single point failures. The major design elements used are based on fully qualified and field-proven Nautilus and fiber tube sealing technologies, drawing upon TOG's extensive experience in cable terminations. All new cables are tested in-house above use pressure to validate performance before field assembly.

In the field, the cable termination assembly is joined to a pressure-balanced, oil-filled (PBOF) assembly, already acceptance tested within the TOG factory. This assembly could comprise a wet-mate connector jumper, dry mate connector, or any possible combination of standard Teledyne hardware.

For more detailed information and design specifications contact Teledyne Oil & Gas at oilandgas@teledyne.com



Cutaway of Hybrid Field Assembled Cable Termination

RELATED PRODUCTS

- Rolling Seal Connector and Nautilus Rolling Seal Connector
- Dry-Mate Optical Connector
- Modular Connectorized Distribution Unit (MCDU)
- High-Pressure Feed-Through Optical Penetrator
- Pressure Balanced Oil Filled (PBOF) Hose



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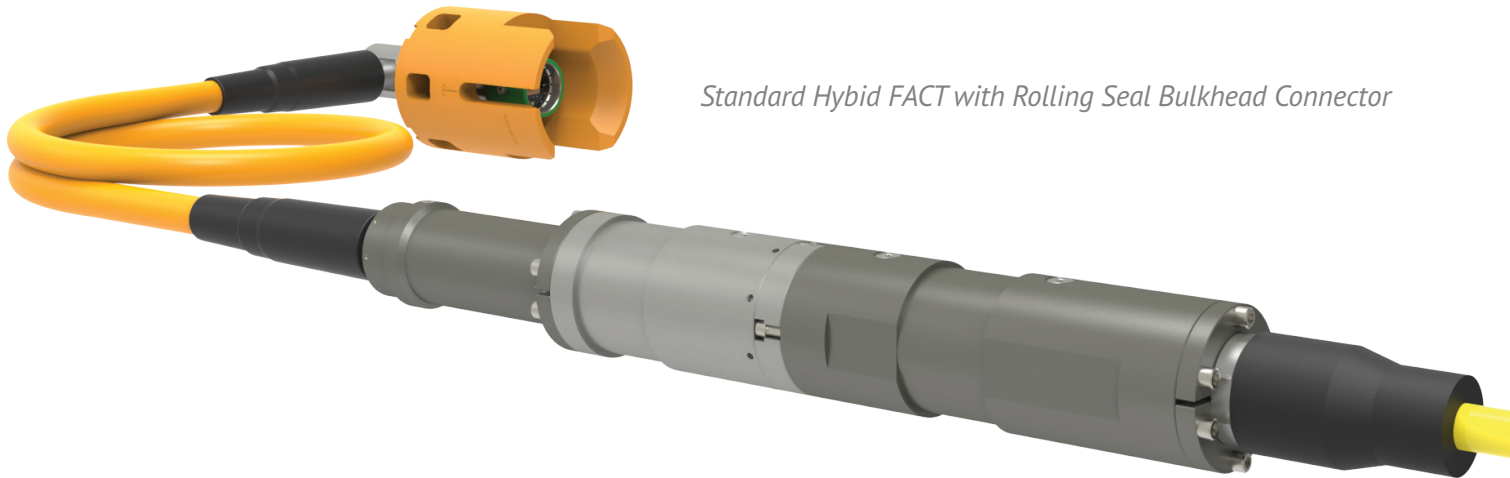
TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS	Operational Temperature	14°F to 122°F (-10°C to +50°C) *
	Storage Temperature	-40°F to 140°F (-40°C to +60°C) *
	Maximum Test Pressure	7,700 psi *
	Maximum Operational Pressure	6,600 psi *
	Material	Titanium GR2 or 316L Stainless Steel
	Design Life	25 Years
CONFIGURATION	Minimum Cable Diameter	0.625 in (15.8 mm)**
	Maximum Cable Diameter	1.27 in (32.3 mm)**
	Number of Circuits	6 electrical, 12 optical **
ELECTRICAL SPECIFICATIONS	Maximum Operational Current	30 amps per circuit*
	Maximum Operational Voltage	1.8 kVAC/3.3 kVDC (Higher voltage ranges may be investigated upon request)
	Insulation Resistance	≥ 10 GΩ @ 1 kVDC *
	Splice Resistance	≤ 0.1 Ω per circuit
OPTICAL SPECIFICATIONS	Insertion Loss	≤ 0.25 dB per penetrator @ 1310/1550/1625 nm
		≤ 0.1 dB per splice @ 1310/1550/1625 nm
	Return Loss	≥ 50 dB per channel @ 1310/1550/1625 nm (Excluding Connectors)
	Optical Fiber Type	Single Mode (SMF -28e) or Multimode (50 or 62.5 μm)

*Subject to cable performance

**Cable values outside these ranges can be investigated upon request.

***For reference only, see FDS - D/N 291496 for Official Values



Standard Hybrid FACT with Rolling Seal Bulkhead Connector