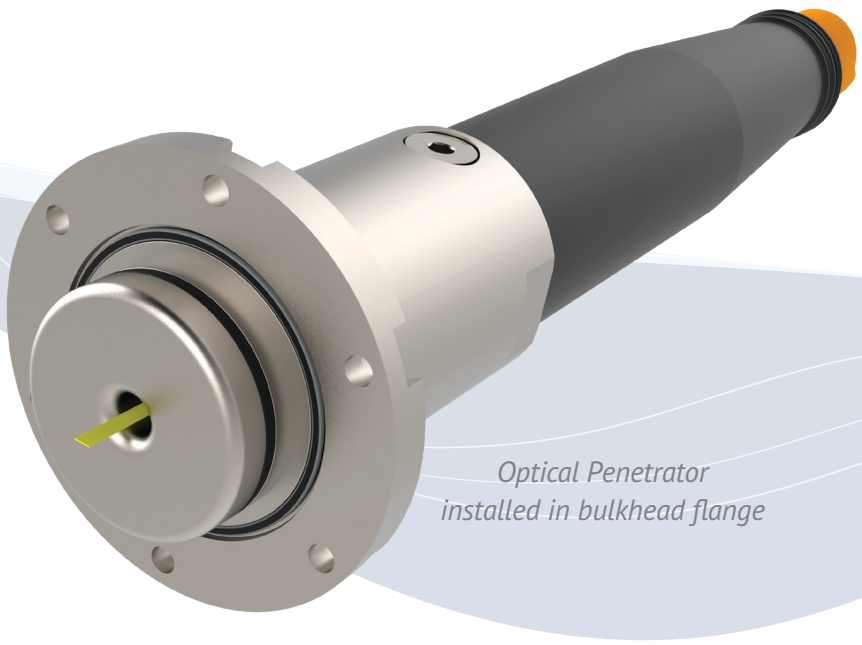
Optical Penetrator

High-Pressure Hermetic Optical Penetrator developed to enable reliable fiber transmission through a bulkhead – Up to 12 optical fibers

Optical fiber is a proven technology in offshore and harsh environment applications, satisfying the demands for increased bandwidth, distance and data transmission speed. Teledyne ODI is a pioneer in subsea connector solutions, providing interface solutions for the commercial, defense and ocean science markets. Building on our understanding of harsh environment challenges, the optical penetrator offers a reliable and flexible solution for the next generation of multichannel fiber optic applications in subsea control arrays, downhole sensors, optical amplifiers, oceanographic monitoring, and defense equipment.



Optical Penetrator installed in bulkhead flange

The Teledyne ODI Optical Penetrator resides at the wall or bulkhead of the vessel in which the equipment is located, providing a differential pressure barrier, fluid isolation and reliable optical feed-through. The penetrator is primarily installed into a customer's subsea atmospheric pressure vessel, although its adaptable design allows it to be integrated into Teledyne ODI Field Assembled Cable Terminations (FACT) and Modular Connectorized Distribution Units (MCDU). With a working pressure certification of 9,100 psi, the Teledyne ODI optical penetrator meets or exceeds industry standard applications. Since the introduction to the market in 2008, over 2,000 Optical Penetrators have been delivered with zero reported field failures..

RELATED PRODUCTS

- **Rolling Seal Connectors**
- **APC Rolling Seal Connectors**
- **Modular Connectorized Distribution Unit (MCDU)**
- **Field Assembled Cable Termination (FACT)**
- **Pressure Balanced Oil Filled (PBOF) Hose**
- **Dry-Mate Optical Connectors**

TELEDYNE MARINE
Everywhereyoulook™

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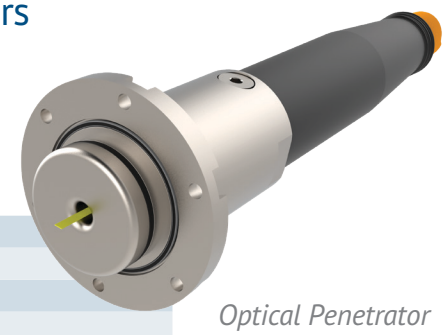
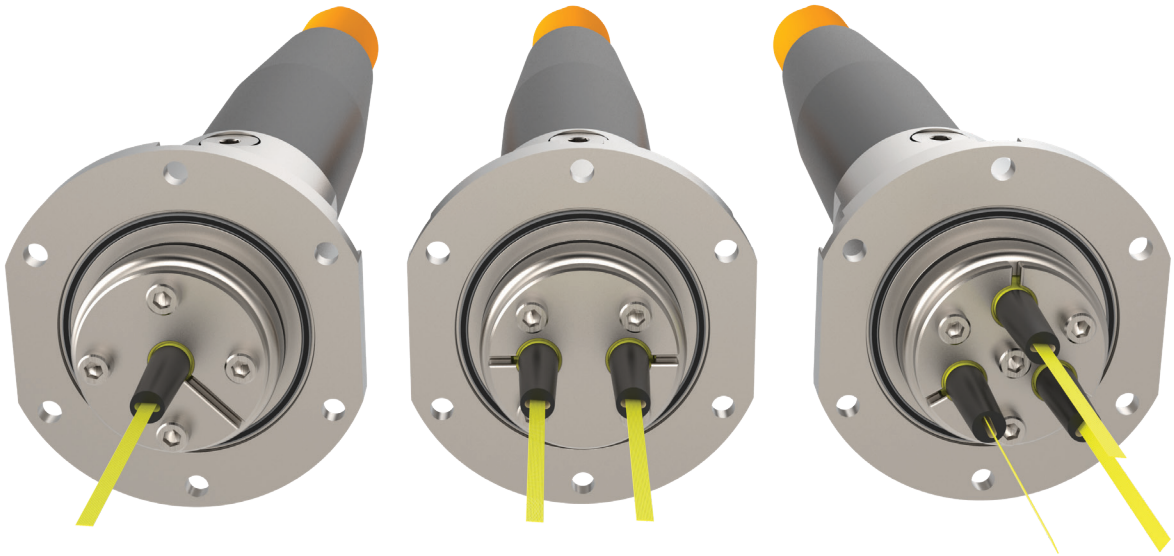


Optical Penetrator installed in bulkhead flange

TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS	Operational Temperature	32˚F to 122˚F (0˚C to +50˚C)
	Storage Temperature	-40˚F to 140˚F (-40˚C to +60˚C)
	Working Pressure	9,100 psi (627 bar)
	Test Pressure	10,000 psi (689 bar)
	Material Compatibility	Sea Water, DC200 Silicone Oil
	Design Life	30 Years
	Hermeticity (He leak)	⩽ 10-7 STD cc/sec @ 1 atm Pressure Differential
OPTICAL SPECIFICATIONS	Optical Fiber Type	Corning 12-fiber ribbon, single mode (SMF-28E) or multimode (50 or 62.5 µm) (OM2)
	Insertion Loss	⩽0.25 dB per channel @ 1550/1625 nm (Single-Mode) ⩽0.40 dB per channel @ 850/1300 nm (Multi-Mode)
	Return Loss	⩾50 dB per channel @ 1310/1550/1625 nm



Multiple Optical Penetrators installed into bulkhead flanges

TELEDYNE MARINE
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