

General Description

The PDR Hybrid Fiber Optic Adapter is engineered to interconnect two dissimilar fiber optic connector types, providing seamless optical continuity between incompatible interfaces. Featuring a high-precision ceramic or phosphor bronze alignment sleeve, it ensures consistent low insertion loss and high return loss across repeated mating cycles. Compatible with both single-mode and multi-mode fibers, the adapter is available in simplex and duplex configurations with either flanged or flangeless mounting options. Its robust housing construction guarantees a service life exceeding 1000 mating cycles, making it ideal for telecom networks, data centers, and field installation environments.



Key Features

- Enables connection between different connector types — SC-FC, LC-SC, LC-FC, ST-FC, LC-ST, and more
- High-precision ceramic or phosphor bronze alignment sleeve for superior optical performance
- Low insertion loss ≤ 0.3 dB and high return loss ≥ 50 dB (single-mode)
- Compatible with both single-mode (SM) and multi-mode (MM) fibers
- Durable plastic or metal housing designed for long service life
- Available in simplex and duplex configurations to suit varied cabling requirements
- Flanged and flangeless mounting options for flexible panel integration
- Easy plug-and-play installation requiring no special tools
- Supports operating wavelengths of 1310 nm and 1550 nm
- Wide operating temperature range: -20°C to $+70^{\circ}\text{C}$

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Technical Specifications

Parameter	Specification
Adapter Type	Hybrid (SC-FC, SC-LC, LC-ST, ST-FC, LC-FC, etc.)
Fiber Type	Single-mode / Multi-mode
Insertion Loss	≤ 0.3 dB
Return Loss	≥ 50 dB (SM)
Alignment Sleeve	Ceramic / Phosphor Bronze
Housing Material	Plastic / Metal
Mounting Type	Flange / Flangeless
Operating Wavelength	1310 nm / 1550 nm
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +85°C
Durability	≥ 1000 mating cycles

Applications

- Fiber-to-the-Home (FTTH) and Fiber-to-the-Building (FTTB) network installations
- Telecommunications network upgrades requiring connector-type migration
- Cable TV (CATV) and broadband infrastructure interconnects
- Data center cross-connects and enterprise LAN cabling
- Test and measurement setups requiring interface bridging between equipment
- Field restoration and emergency repair of mixed-connector fiber optic links

Ordering Information

Standard Ordering Options

Part Number	Adapter Type	Fiber Type	Configuration	Description
HYA-SC-FC-SM-SX	SC-FC	Single-mode	Simplex	SC to FC Hybrid Adapter SM
HYA-SC-FC-MM-SX	SC-FC	Multi-mode	Simplex	SC to FC Hybrid Adapter MM
HYA-LC-SC-SM-SX	LC-SC	Single-mode	Simplex	LC to SC Hybrid Adapter SM
HYA-LC-SC-SM-DX	LC-SC	Single-mode	Duplex	LC to SC Hybrid Adapter SM Duplex
HYA-LC-SC-MM-SX	LC-SC	Multi-mode	Simplex	LC to SC Hybrid Adapter MM
HYA-LC-SC-MM-DX	LC-SC	Multi-mode	Duplex	LC to SC Hybrid Adapter MM Duplex
HYA-LC-FC-SM-SX	LC-FC	Single-mode	Simplex	LC to FC Hybrid Adapter SM
HYA-LC-FC-MM-SX	LC-FC	Multi-mode	Simplex	LC to FC Hybrid Adapter MM
HYA-LC-ST-SM-SX	LC-ST	Single-mode	Simplex	LC to ST Hybrid Adapter SM
HYA-LC-ST-MM-SX	LC-ST	Multi-mode	Simplex	LC to ST Hybrid Adapter MM
HYA-ST-FC-SM-SX	ST-FC	Single-mode	Simplex	ST to FC Hybrid Adapter SM
HYA-ST-FC-MM-SX	ST-FC	Multi-mode	Simplex	ST to FC Hybrid Adapter MM

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