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CATALOG

AI Datacenter & Telecom

2026





COMPANY INTRODUCTION

Founded in 2000 and publicly listed in China in 2017, Advanced Fiber Resources (AFR) has expanded to over 6,000 employees, including 800 engineers and technicians. AFR designs and manufactures fiber optic components and lithium niobate modulators across 238,000 m² of global facilities, including AFR Zhuhai, AFR Jinding, AFR Wuhan, AFR Shenzhen, and B&A in China, AFR Milan in Italy, and AFR Thailand. Our products are widely applied in telecommunications, datacenters, fiber lasers, fiber sensing, autonomous driving, and biomedical equipment, and have been delivered to more than 600 customers in over 40 countries and regions worldwide.



26
Years of History



2017
IPO in China



6,000
Employees



238,000
m² Facility



364
IP



600
Customers



QUALITY

At AFR, quality is our top priority and an integral part of everything we do. The product quality management covers the entire lifecycle, from product development, to supply chain management, manufacturing, and after-sales. AFR's quality management system fulfills the requirements of ISO 9001:2015, ISO 14001:2015 and IATF 16949, and all products are qualified with Telcordia GR-468 and GR-1221-CORE reliability test.

The company currently has seven dedicated laboratories and is equipped with many high precision instruments, to ensure excellent reliability of our products. We have built an optical precision processing center and a machining center, manufacturing crystals, mirrors, PBS, other flat surface optics and mechanical components in-house, the key material production capability makes us more competitive.

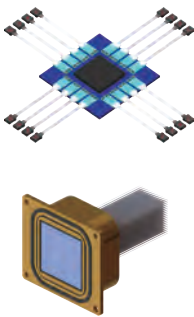
We strive to continuously improve our products with proactive, data driven, quality first systems and processes.



CONTENT

Components for AI Datacenter (P5-P9)

- Circulator
- 800G Multimode SR4/SR8
- 800G/1.6T FAU Assembly
- CPO FAU
- ELSFP PM Fiber Jumper
- 2D High Density Fiber Array



Passive Components for Telecom (P10-P14)

- Components for EDFA
- High Reliability Components
- Polarization Maintaining Components
- Electric Driven Components



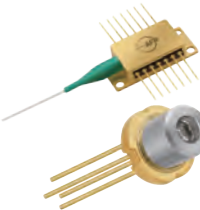
Fiber Assembly (P15-P16)

- Lensed Fiber
- Fiber Metallization
- Fiber Feedthrough



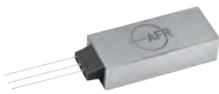
Active Components Packaging (P17)

- Butterfly Packaging
- TO-CAN Packaging



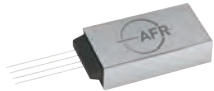
Circulator

- Reliable Circulator Products & Solutions for Leading Datacom Customers
- Scalable Supply Capacity: 100K Units/Month in 2026, 200K Units/Month in 2027
- In-house Core Components: PBS, Z-Block, etc.



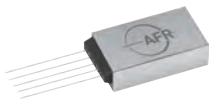
3-Port Circulator

Isolation	≥ 19 dB
Return Loss	≥ 52 dB
Insertion Loss	≤ 0.5 dB
Crosstalk	≥ 49 dB



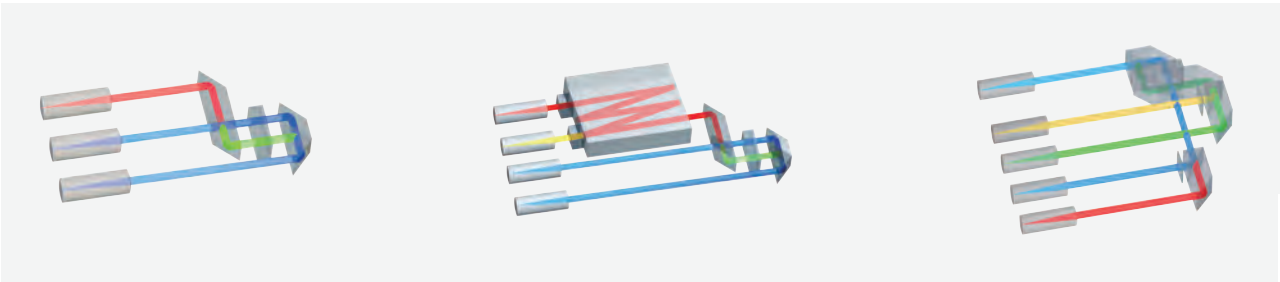
4-Port Circulator

Isolation	≥ 19 dB
Return Loss	≥ 52 dB
Insertion Loss	≤ 1.0 dB
Crosstalk	≥ 49 dB

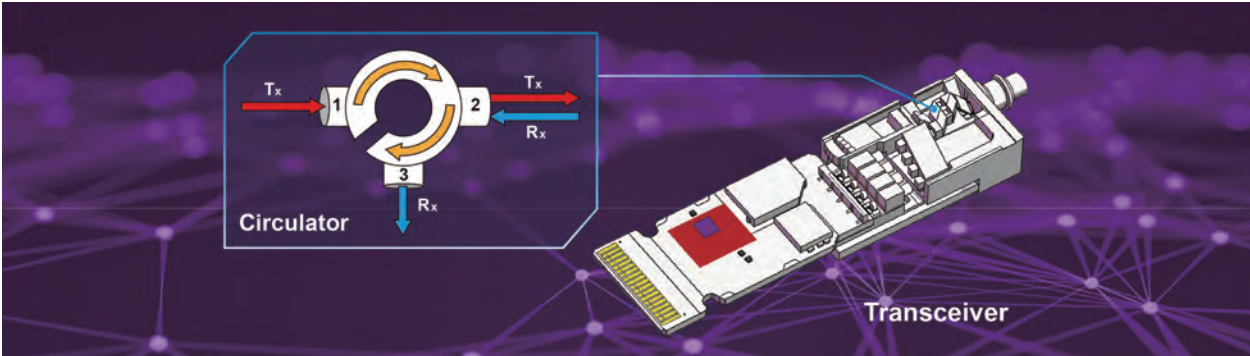


5-Port Circulator

Isolation	≥ 19 dB
Return Loss	≥ 52 dB
Insertion Loss	≤ 1.0 dB
Crosstalk	≥ 49 dB



Optical Schematic (Not to Scale)



800G Multimode SR4/SR8

Leveraging robust manufacturing processes and high-volume product capability, Vlink delivers precision short reach jumpers for SR4/SR8 modules, offering advanced MT polishing and laser cleaving process, with a fiber length tolerance of ± 0.1 mm.

Features

- 24-24 Channel or 24-16 Channel
- High Accuracy of Fiber Length Control

Applications

- 400G/800G Short Reach Solution (SR4/SR8)



800G/1.6T FAU Assembly

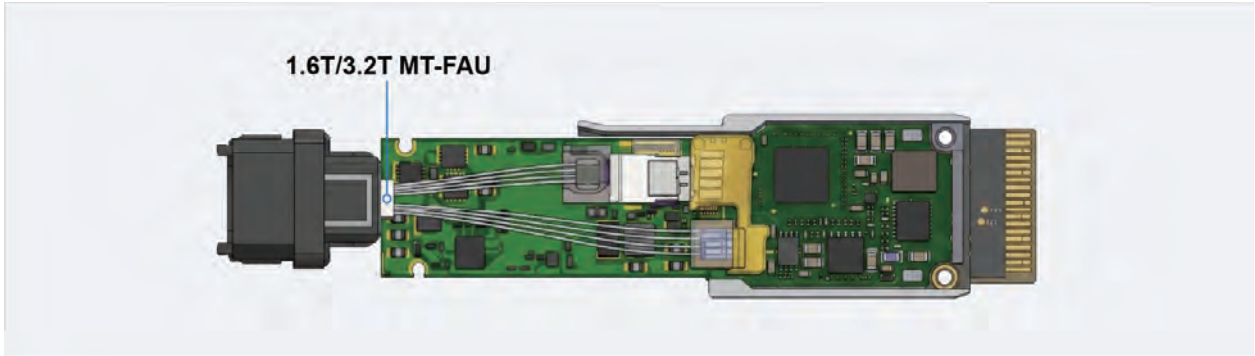
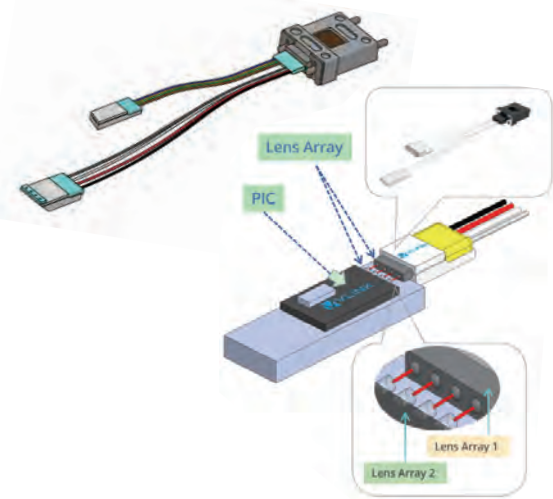
The 800G/1.6T jumper consists of MT and FAU integrated with isolators or lenses tested by automatic machines. Fiber length is accurately controlled by special fixtures. The products comply with GR-468-CORE requirements.

Features

- Fiber Array with Lens Array Packaging Fit to Small MFD PIC Application
- High Coupling Efficiency for Fiber Array to PIC Packaging
- High Power Handling Property

Applications

- 800G/1.6T Parallel Single Mode Solution



CPO FAU

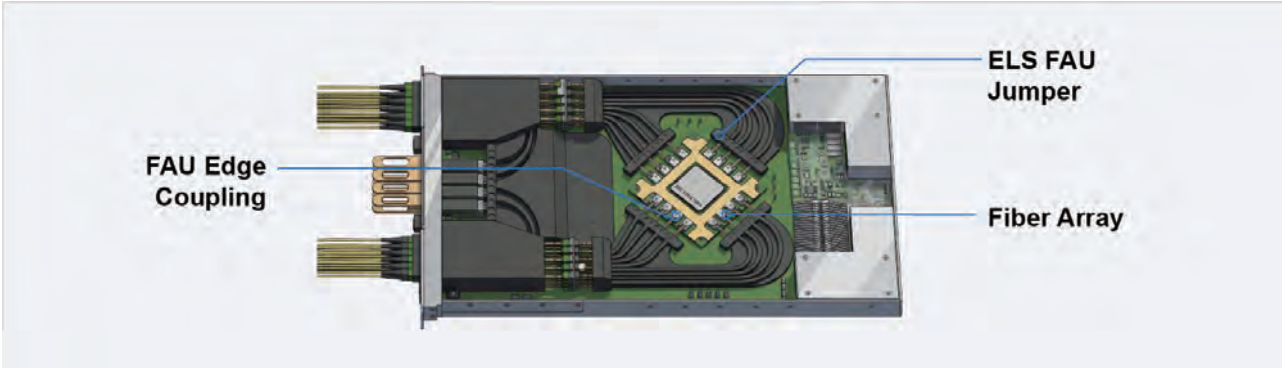
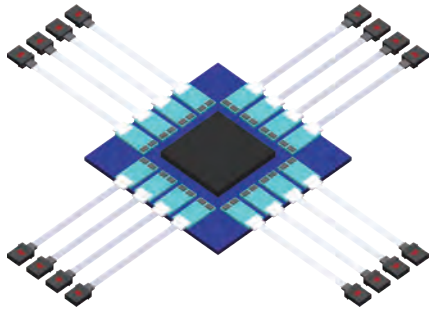
Vlink's CPO FAU is engineered to address the critical bottlenecks in Ultra-High-Bandwidth AI and Hyperscale Datacenter networks. As the industry transitions to 51.2T and 102.4T switching capacities, our FAU solutions provide the essential bridge between Photonic Integrated Circuits (PICs) and external fiber networks. Designed with Industry-Leading precision, Vlink ensures minimal insertion loss and maximum reliability for co-packaged architectures.

Features

- Ultra-Precise Core Pitch Control
- Advanced MFD Matching
- High-Density & Low-Profile Design
- Specialty Fiber Integration
- Robust Reliability

Applications

- CPO (Co-Packaged Optics)
- AI/ML Clusters and GPU-to-GPU Interconnects
- Silicon Photonics (SiPh) Chip-Level Packaging
- High-Performance Computing (HPC) Architectures



ELSFP PM Fiber Jumper

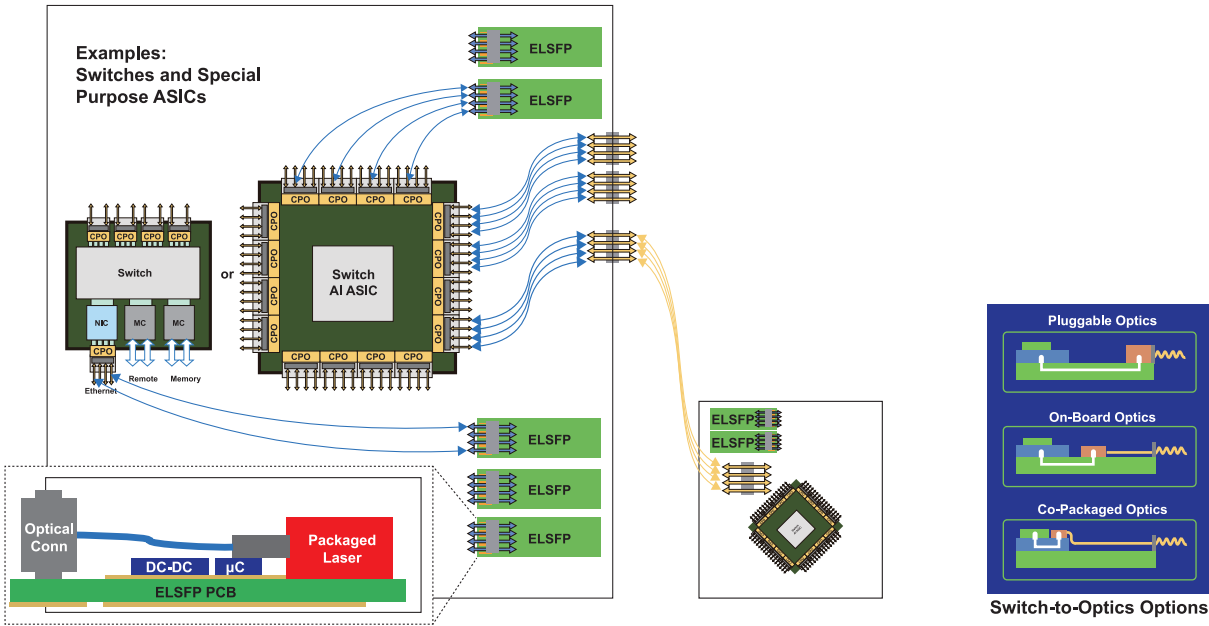
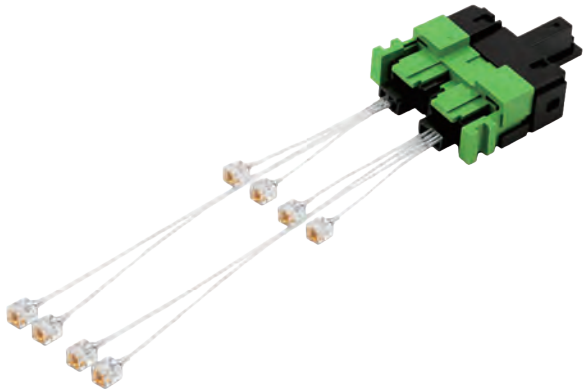
Vlink's ELSFP PM Fiber Jumper is specifically engineered to deliver a stable, high-fidelity polarization state under elevated optical power levels for ELSFP modules in CPO/NPO architectures. It serves as the critical high-power optical link between the external laser source and silicon photonic engines, combining precision alignment, premium PM fiber, and an innovative structural design to ensure minimal insertion loss, high extinction ratio, and reliable operation under high optical power for AI/ML clusters and hyperscale computing networks.

Features

- Special Structural Design for Enhanced High-Power Endurance
- Polarization-Maintaining Fiber with High Extinction Ratio
- Precision Fiber Core Alignment for ELSFP Optical Interface
- Robust Mechanical Reliability & Bend-Insensitive Design

Applications

- High-Power ELSFP (External Laser Source SFP) Modules
- CPO (Co-Packaged Optics) Systems
- NPO (Near-Package Optics) Architectures
- Silicon Photonics (SiPh) Chip-Level High-Power Packaging



Source: OIF, Co-Packaging Interoperability Demo at OFC 2022

Source: Acacia Communications, 2019

2D High Density Fiber Array

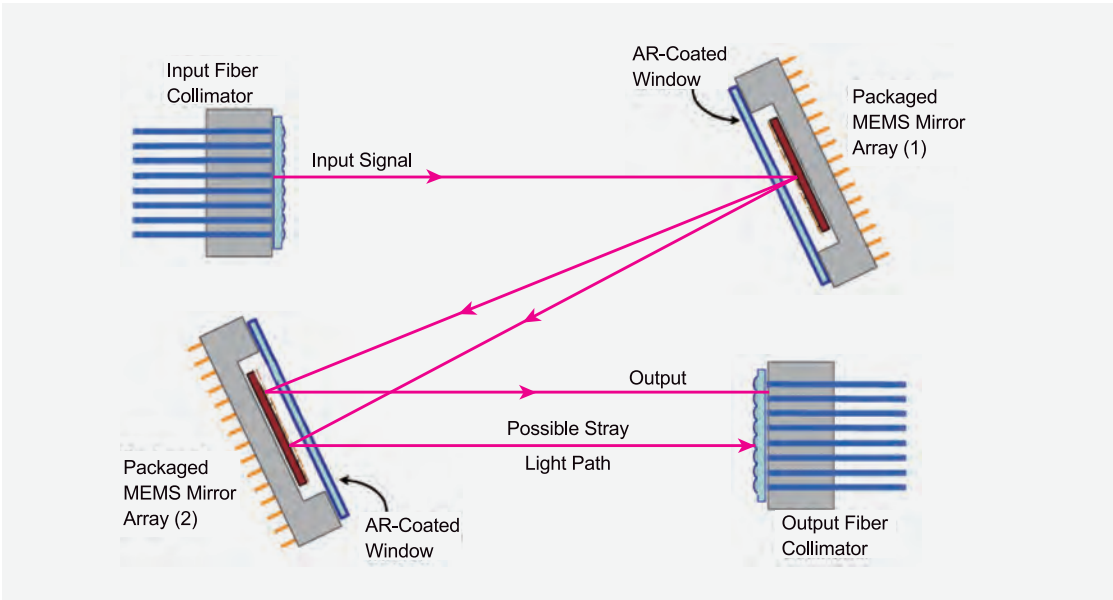
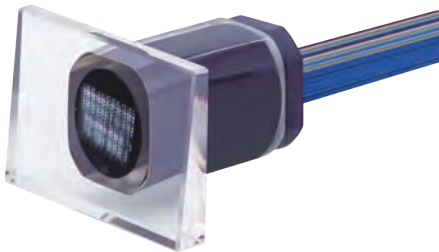
Vlink's 2D High Density Fiber Array are widely used in OCS systems and ROADM WSS modules. High-precision pitch control is achieved by V-Groove manufacturing and assembly processes. Pitch in the X or Y direction can be customized and asymmetrical. With AR coating and feedthrough assembly capabilities, Vlink provides a one-stop solution for customers.

Features

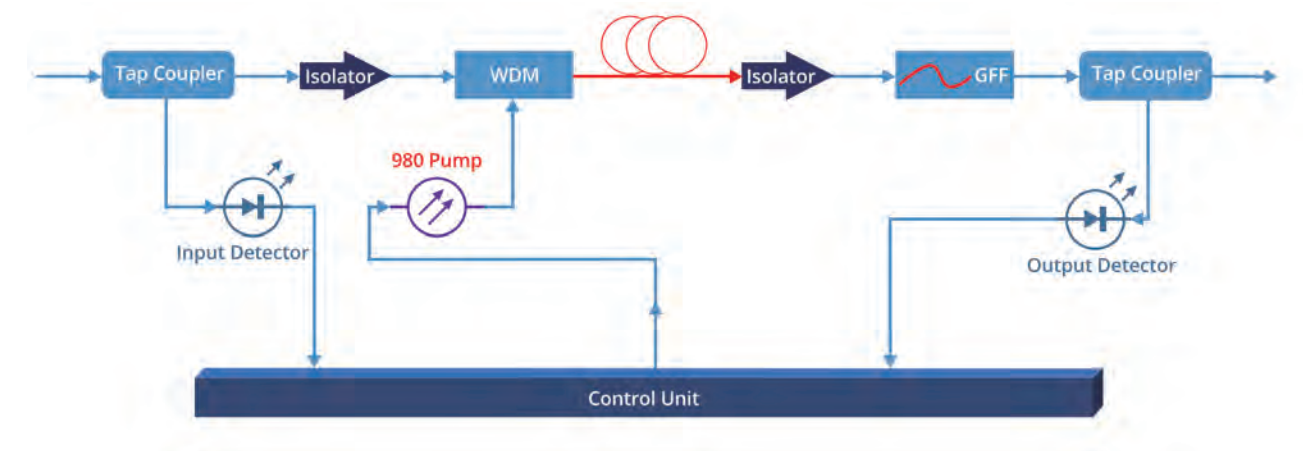
- M×N Multi-Channel Fiber Array up to 2500 Fibers
- Fiber Core Pitch 250 μm, 127 μm, 84 μm or Special
- Fiber Core Pitch Error ≤ 1.0 μm

Applications

- Application for OCS, WSS



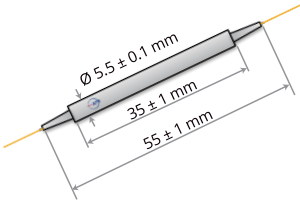
Typical Structure Of EDFA



Available Package

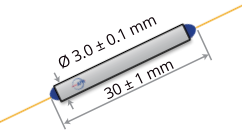
Standard Package

Can be used for single function or hybrid function
Isolator, WDM + Isolator, Tap + Isolator, GFF + Isolator
WDM + Tap + Isolator



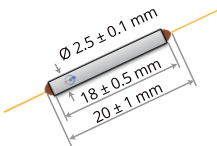
Mini-Package

Can be used for single function or hybrid function
Isolator, WDM + Isolator, Tap + Isolator, GFF + Isolator
WDM + Tap + Isolator



Ultra Mini-Package

Can be used for single function or limited choice of hybrid function
Isolator, WDM + Isolator, Tap + Isolator



Components for EDFA

Discrete Components for EDFA

- Tap Coupler
- Isolator
- WDM
- Photodiode

Hybrid Components for EDFA

- Tap + PD
- Isolator + GFF
- Tap + Isolator + WDM

MEMS Variable Optical Attenuators

- Compact Size
- Insertion Loss < 0.8 dB & PDL < 0.25 dB
- Wavelength Dependence < 0.15 dB
- Insensitive to Shock and Vibration

Gain Flattening Filters

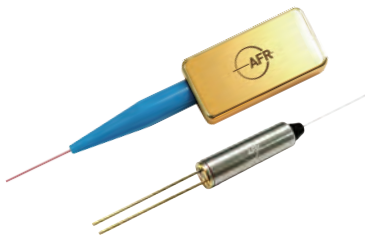
- Profile Depth > 20 dB
- Steep Profiles > 2.5 dB/nm
- Low Error Function
- Power Handling Up to 2 W

Wavelength Division Multiplexers

- PDL < 0.05 dB
- Insertion Loss < 0.8 dB
- Flat and Wide Passband
- High Demux Channel Isolation

Tap Photodiode

- Small Footprint Inline Monitor
- PDL < 0.01 dB
- Insertion Loss < 0.05 dB
- Low Backward Signal Responsivity



High-Reliability Components



Products

- Filter WDM
- Isolator
- GFF
- GFF + Isolator
- PBC/S
- Fiber Feedthrough

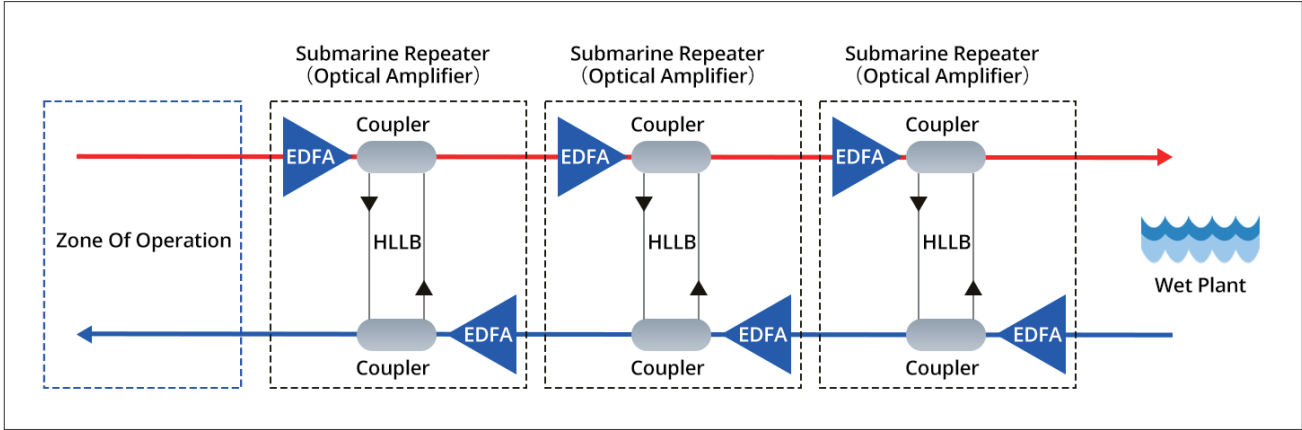
Performance of Hi-Rel Components

- Started Volume Shipping in 2013
- Shipped 50,000 + pcs to the US and Europe
- FIT < 0.1
- 25 Years Lifetime Warranty



Standards

- GR-1221-CORE
- GR-1209-CORE



Submarine Network System Structure Diagram

Polarization Maintaining Components

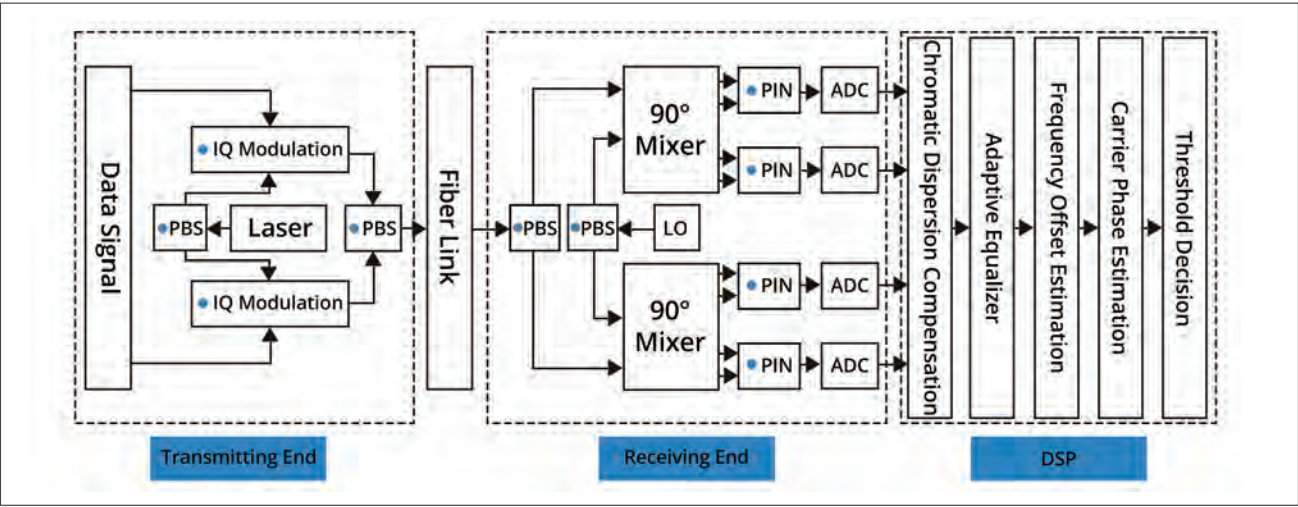


Products

- **PM Tap Coupler (PMTTC)**
- **PM Isolator**
- **Polarization Beam Combiner/Splitter (PBC/PBS)**
- **PM Circulator**
- **PM WDM (Fused/Filter)**
- **PM In-Line Polarizer**
- **Faraday Mirror**

Applications

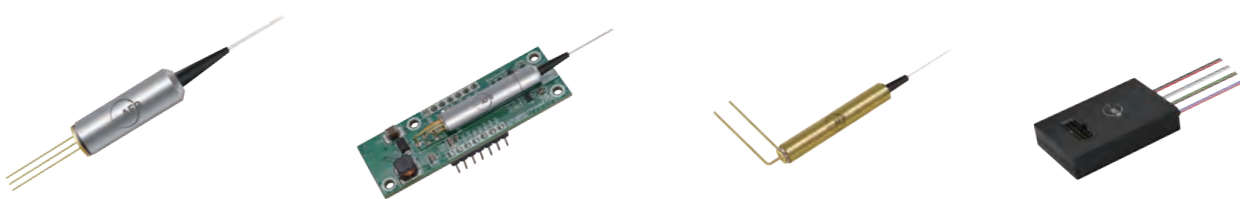
- Optical Amplifiers
- ACO/DCO
- ICR/ICT
- Coherent Module and Transponder



Coherent Optical Communication System Structure Diagram

Over 20 Years of Experience with PM Fiber Optic Components
Comprehensive Product Line Covering a Wide Range of Applications

Electric Driven Components



Products

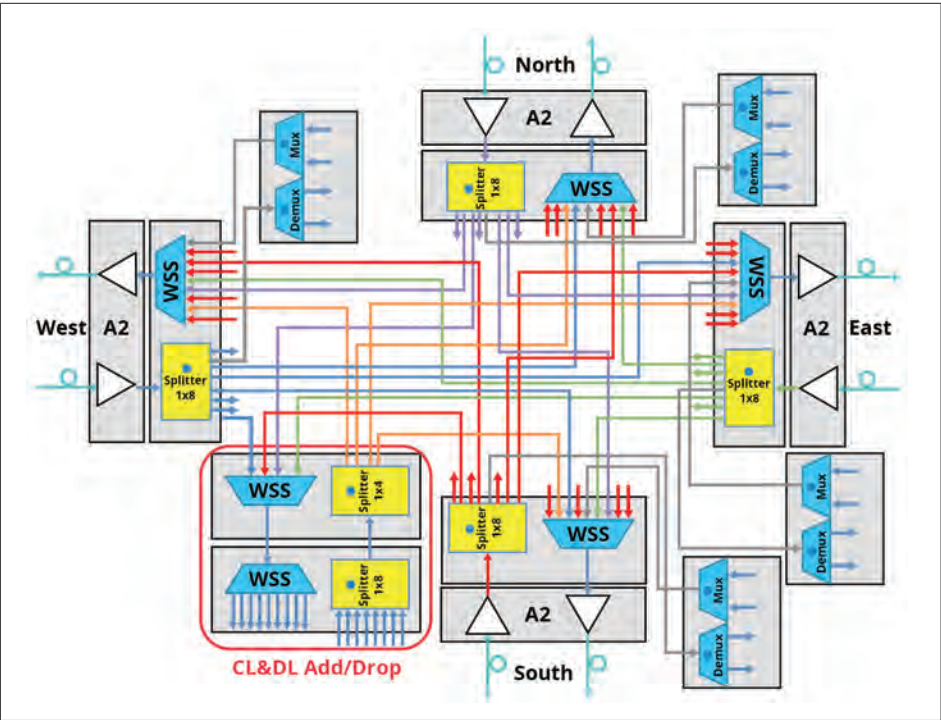
- **Low WDL MEMS VOA and Array**
- **PM MEMS Switch 1x2/2x2/1xN**
- **Unidirectional Tap PD and Array**
- **Fiber Pigtailed PD and Array**
- **TAP + Isolator + PD Hybrid**

Features

- Low WDL: < 0.5 dB (VOA)
- Low IL: < 0.7 dB (VOA/Switch)
- Fast Response: < 2 ms (VOA), < 10 ms (Switch)
- Low Dark Current: < 2 nA (PD)
- High Directivity: > 35 dB (PD)
- Compact Size

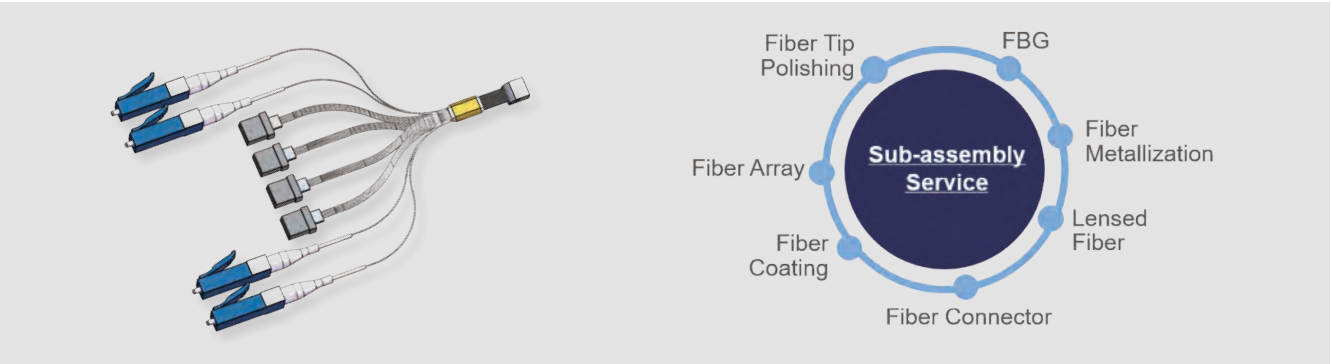
Applications

- Fiber Amplifiers
- WSS
- V-MUX
- MCS
- Optical Channel Monitoring



Optical Cross Connection

AFR can provide One-Stop Fiber Assembly Service according to the requirements of customers. Our products and services include Lensed Fiber, Fiber Metallization, Fiber Feedthrough, Fiber Coating, Fiber End Face Polishing, Fiber Array, Fiber Connector, Fiber Bragg Grating, etc.



- Applications**
- 400G, 800G System, WSS

Lensed Fiber

- Features**
- Wedge or Conical Lens Available
 - Customized Lens
 - High Coupling Efficiency
 - High Reliability in Hermetic Packaging

- Applications**
- Pump Lasers, SLEDs, etc.
 - DFB Laser
 - Optical Waveguide Coupling



Fiber Metallization

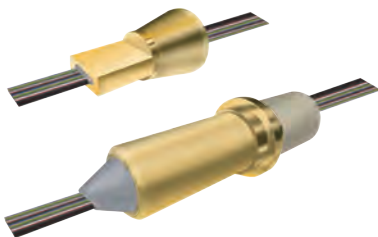
- Products**
- Metalized Single Fiber
 - Metalized Ribbon Fiber

- Features**
- Excellent Solderability
 - High Hermetic Sealing Guarantee
 - High Reliability



Fiber Feedthrough

- Features**
- Glass Solder and Metal Solder are Both Available
 - Single Fiber and Ribbon Fiber are Both Available
 - Passed 10000 m Hydraulic Press Test
 - Hermetic Sealing Guarantee



ACTIVE COMPONENTS PACKAGING

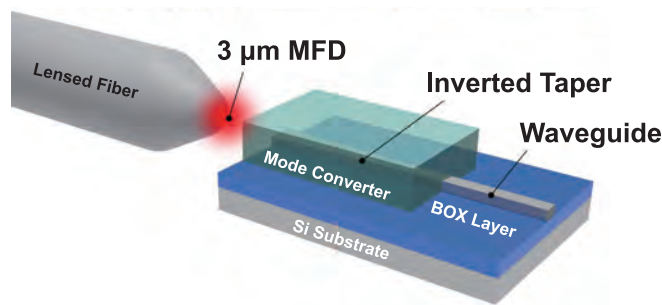
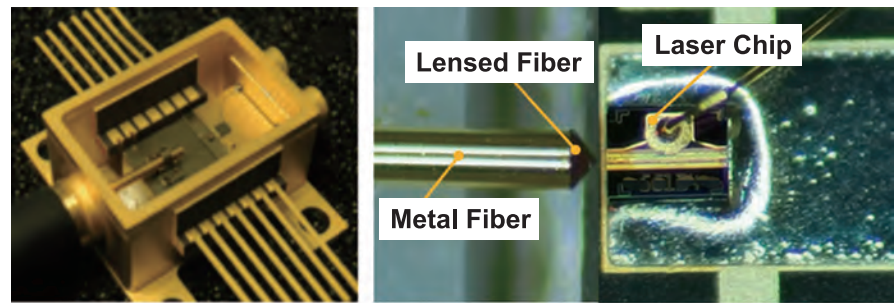
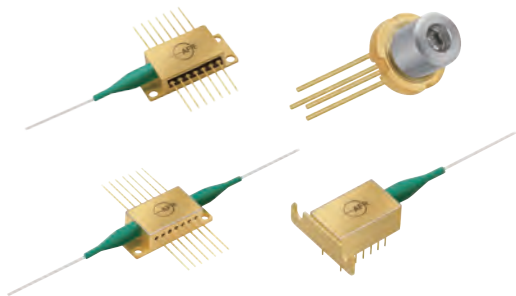
Laser Packaging

Products

- H8/14 Pin Butterfly Packaging
- TO-CAN Packaging

Features

- DFB, SLED, and Pump LD Packaging
- OEM Business Available
- Hermetic Sealing
- High Reliability



Brochure version: Sep 2026

Every effort has been made to ensure the accuracy of the information contained in this catalog at the time of publication. As part of our policy of continuous product improvement, we reserve the right to change specifications at any time. For the most up-to-date information, please refer to our website.

www.fiber-resources.com