

Fiber Optic Components for Quantum Applications

OZ Optics Limited

September 2026

Company Background



- **Founded in 1985**
- **Corporate headquarter located in Ottawa, Canada**
- **Manufacturing facility in
Ottawa / Canada, Izmir / Turkiye and Jiaxing / China**
- **13 Product Groups:**
 - Laser-to-Fiber Delivery Systems
 - High Power Fiber Optic Components
 - Polarization Maintaining Products
 - Attenuators
 - Opto-Electronic Packaging
 - Fiber Optic Test Equipment
 - Fiber Optic Sensor Systems
 - Fiber Optics Components for Gyroscope
 - Fiber Optics Components for OCT
 - Fiber Optics Components for BioPhotonics
 - Fiber Optics Components for Quantum
 - Fiber Optics Components for AI Optical Connectivity
 - Fiber Optics Components for Defense Industry
- **Sales offices in
Canada, USA, Europe, Turkiye and China**

➤ Ottawa, Canada



➤ Izmir, Türkiye



➤ Jiaxing, China



Corporate Statements and Quality Policy



Our Vision

- ✓ Capture and expand market share
- ✓ Be the preferred supplier of choice
- ✓ Maximize shareholder value

Our Mission

To become the leading provider of innovative optical products to telecom and non-telecom sectors

Our Core Values

- ✓ Leadership
- ✓ Teamwork
- ✓ Boldness
- ✓ Commitments
- ✓ Innovation
- ✓ Rewards

Our Quality Policy

Provide our Customers with a competitive advantage, leveraging performance, price and delivery, through a continuous process of Quality advancement in all areas of our Company.

Communicate effectively to our Customers, Suppliers and Shareholders our commitment to Quality, continuous improvement and to abide by any applicable requirements.

Promote opportunities of professional development for all members of our company through education, training and personal challenge.



Company Profile



Over 446 employees worldwide

OZ Canada



225+
Employees

OZ China



96+
Employees

OZ Türkiye



125+
Employees

Company Profile



**Advanced Proprietary
Processing Technology**



**Canada
Certificate: FM 63463**



**China
Certificate: FM 577647**



**Turkey
Certificate: FM 601414**

ISO9001:2015 Certified



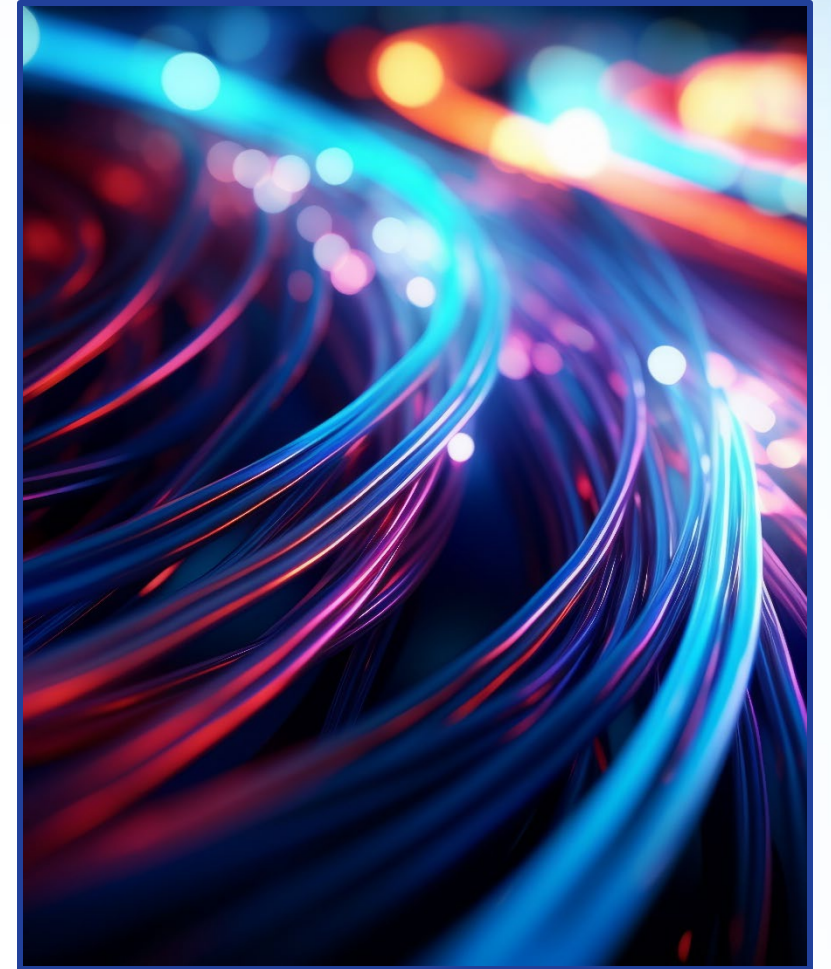
Broad Patent Portfolio



Company Profile

OZ Optics is Lead by an Experienced Team:

- **Ömür Sezerman, Chairman, President & CEO**
 - Founder and CEO since inception (41 years)
- **Zahide Sezerman, VP of Human Resources**
 - With OZ Optics since inception (41 years)
- **Garland Best, VP of Components Division**
 - 34 years at OZ Optics
- **Gordon Youle, VP of Test Equipment Division**
 - 27 years at OZ Optics
- **Saeed Pilevar, Senior VP of Business Development**
 - 2 year at OZ Optics
- **Onur Koca, General Manager of OZ Türkiye**
 - 4 year at OZ Optics
- **Bing Li, General Manager of OZ Optics China**
 - 22 years at OZ Optics



Company Profile

**Experienced and Well-Trained Staff in Following Fields:
Optical, Mechanical, Electronics & Software**

CNC Machine Shop



Femto-Second Laser Lab



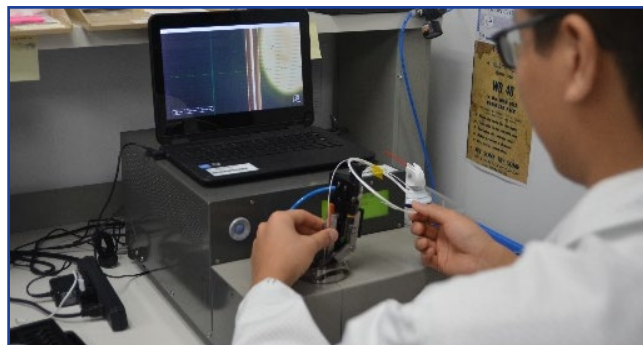
AR Coating



Clean Room



Laser Conditioning/Cleaving



Coiling Machine





Core Competencies

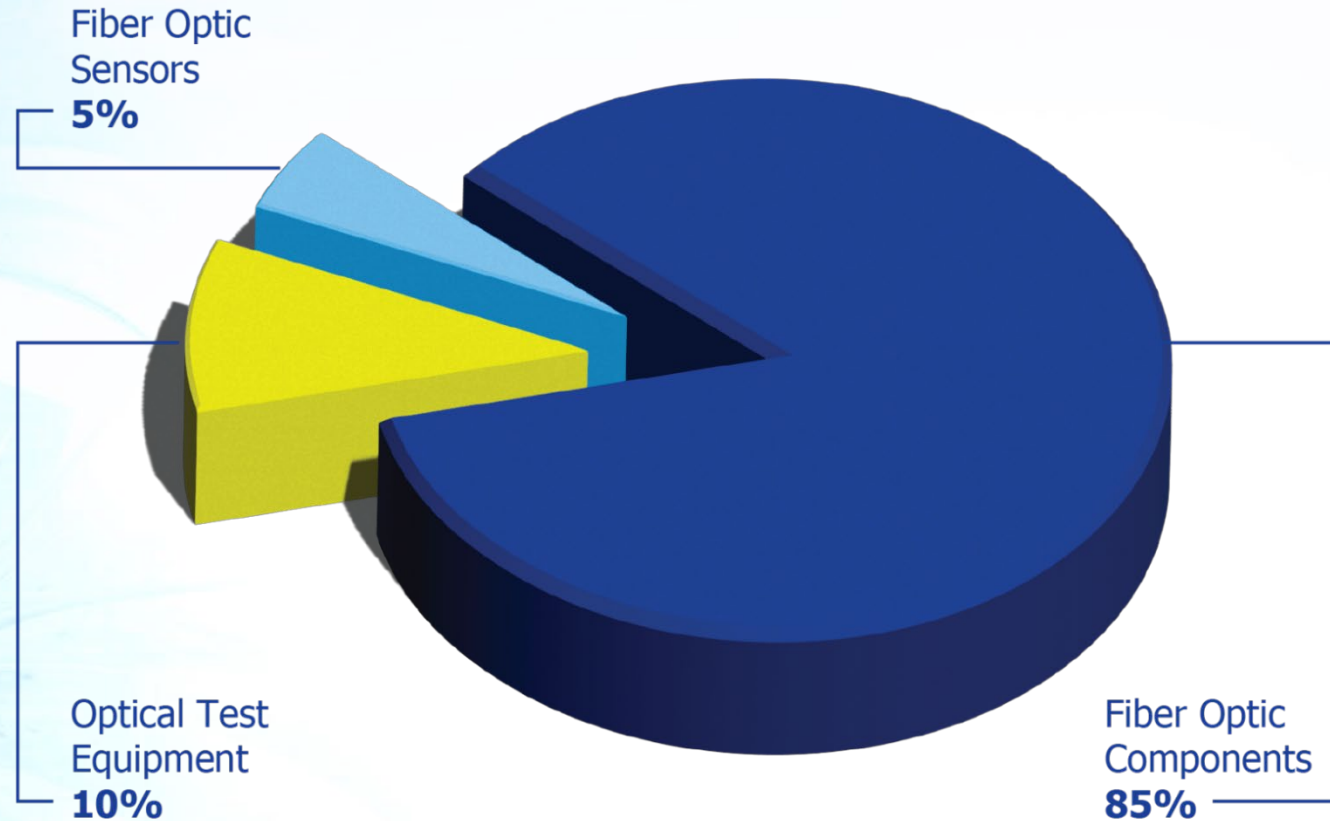
- **Pioneer in Polarization Maintaining (PM) Components, Custom Test Equipment Including Polarization Test Equipment and FTTH Equipment**
- **Leader in Wavelength Flattened, High Power and Low PDL Components**
- **Leader in High Power Fiber Optic Delivery Systems**
- **Widest Range in Attenuator Product Offering**
- **Fiber Optic Distributed Strain and Temperature Sensors**
- **Complete product line for AI Optical Connectivity, OCT, Quantum, Defense, Gyroscope, BioPhotonics applications and 2 Micron**
- **Now available: Spectrometers, MPO/MPT Patchcords, Polarization Extinction Ratio Measurement Test Set For V-Groove Assemblies, MPO/MTP® Patchcords and In-Line Multimode Fiber Speckle Homogenizers**



Leading Technology



➤ **Three Product Groups** ➤ **Over 1,000 Products** ➤ **Leading Edge R&D**





Leading Technology

Featured Products

World's Largest Online Fiber Optic Catalog

Most Products are in Stock



Quantum Light Sources

Fiber Optic Products for
Biophotonics Applications



Fiber Optic Products
for Gyroscopes

Polarization Maintaining
Components



Delivery Systems

High Power
Components

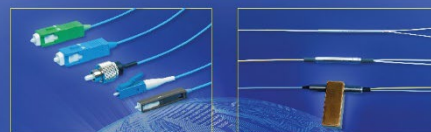


Test Equipment

High and Low Power
Patchcords

Polarization Maintaining Fiber Optic Components

Patent Numbers: USA 7058275, 7095931, 7295731, China 1672073



Polarization Maintaining
Connectors and Patchcords

Polarization Maintaining and
Polarizing Splitters / Combiners /
Fused Couplers / Switches



All Fiber Manual and Electrically Driven
Polarization Controllers / Seramblers



Polarization Dependent
Loss Emulators

Fiber Pigtailed Polarizers



PM Fiber
Directional Taps and
PLC Splitters

Isolators

PM Fiber Pigtailed
Circulators

Laser and Laser Diode to Fiber Delivery Systems



Laser to Fiber Couplers

Pigtail, Receptacle Style
Collimators and Focusers



Bulkhead Receptacles

Bare Fiber Adaptors with
Magnetic Clips



Wavelength Division Multiplexers (WDMs) and RBB Combiners



OCT Modules and
2 micron Components

Evanescent Based
Variable Split Ratio
Fiber Splitter/Coupler

OEM Laser Diode to
Fiber Couplers



High Power Fiber Optic Components

Patent Numbers: Canada 2494133, USA 7058275,
7095931, 7295731, China 1672073



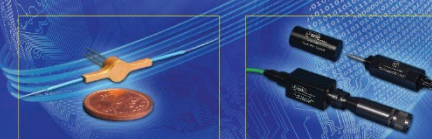
High Power, High Temperature
Connectors and Patchcords

OZPEN™ CO₂ Fiber Optics Cleaning
Unit for High Power Components



High Power Laser to Fiber
Couplers, Collimators and Focusers

High Power Mode Field Adapters



High Power Optical Taps and
Power Monitors

High Power Isolators



High Power Splitters and
Wavelength Division Multiplexers
(WDMs)

Shutters, Receptacles and
Sleeve Thru Adapters with Sensors



Leading Technology

Featured Products

Fiber Optic Attenuators

Polarization Maintaining, Single Mode and Multi-Mode Fibers



Benchtop Digital



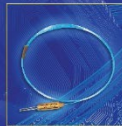
Variable Attenuators



Digital Variable Attenuators



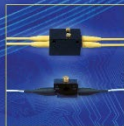
Electrically Controlled Variable Attenuators



MEMS Variable Attenuators



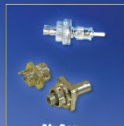
PM, SM and MM Fibers Pigtailed Inline Variable Attenuators



Single and Multi Channel Miniature Variable Attenuators



Reflective Style Variable Attenuators



Air Gap Variable Attenuators



Plug Type Fixed Attenuators



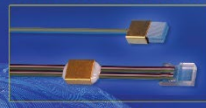
Attenuating Fiber Patchcords

Fiber Optic Components for Optoelectronic Packaging

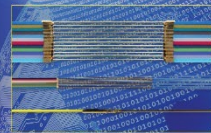
Hermetically Sealable Patchcords with Glass or Metal Solder



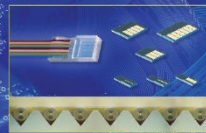
Single Channel



Multi Channel



Metalized Fibers



PM, SM and MM Fiber Pigtailed V-Groove Arrays



Polarization Measurement System for V-Grooves



Tapered, Lens Fiber, Polished and Laser Shaped



Precision Collimator and Focuser Array

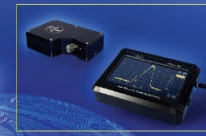


Fused Fiber Collimator

Fiber Optic Test Equipment



Quantum Entangled Photons Sources



High-Resolution Optical Spectrometers



Optical Fiber Length Meters



Back Reflection Meters



High-Speed Polarization Controller-Scrambler



Handheld and Benchtop Extinction Ratio Measurement Systems



Multichannel, Benchtop and Handheld Digital Variable Attenuators



High Power Visual Fault Locators



Powermeters with Smart Detector Heads



Laser Diode Stable Sources

Fiber Optic Components for 2 Micron Wavelengths



Fiber Optic Patchcords



Fused Couplers, Taps, Beam Splitters and Combiners



Fiber Pigtailed Laser Diode Sources



Pigtail, Receptacle Style Collimators and Focusers



High Speed Electro-Optic Polarization Controllers and Scramblers



Manual and Electrically Controlled Variable Attenuators



Polarizers



Isolators



Leading Technology

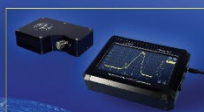
Featured Products



New Fiber Optic Products



Polarization Entangled Photon Sources



High-Resolution Optical Spectrometers



High Speed Electro-Optic Polarization Controllers and Scramblers



Polarization Entanglement Tomography Analyzers



Fiber Optic Coils for Gyroscopes



Universal Optical DNA Rapid Detection Systems for Pathogens



Motor Driven Polarization Dependent Loss Emulators



Detector Heads and Optical Power Monitors



Fiber Optic Products for Gyroscopes



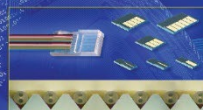
Fiber Optic Coils for Gyroscopes



ASE Sources



Wavelength Division Multiplexers



PM, SM and MM Fiber Pigtailed V-Groove Arrays



Fused Couplers, Taps, Beam Splitters and Combiners



Fiber Optic Polarizers



Fiber Optic Patchcords



SM and PM Fiber Pigtailed Circulators



Isolators

Quantum Entangled Photons Sources



Hyper-Entangled Photon Source Broadband Telecom



Polarization-Entangled Photon Source Broadband Telecom



Bright Polarization-Entangled Photon Source Broadband Telecom



Bright Polarization-Entangled Photon Source Narrowband Telecom



Correlated Photon Pair Sources



Polarization-Entangled Photon Source Narrowband at 610 nm



Polarization Entanglement Tomography Analyzer

Fiber Optic Products for OCT Applications



OCT Modules



Manual and Electrically Controlled Broadband Variable Attenuators



Manual and Electrically Controlled Fiber Optic Delay Lines



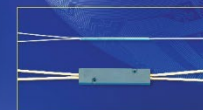
Manual and Electrically Controlled Polarization Controllers / Scramblers



Fiber Pigtailed Broadband SLED Sources



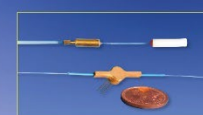
Fiber Collimators / Focusers



Broadband Fused Couplers



SM and PM Fiber Pigtailed Circulators





Leading Technology

Featured Products

Fiber Optic Products for AI Optical Connectivity

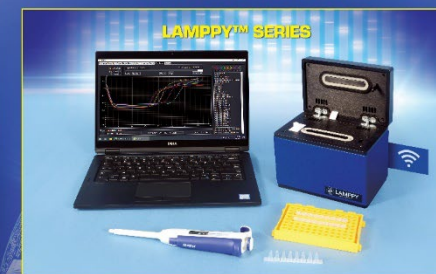


Fiber Optic Products for Biophotonics Applications



Universal Optical DNA Rapid Detection System

For Pathogens Including:
COVID-19, SARS, EBOLA, CHOLERA, SALMONELLA, ETC.



Features:

- Use to detect viral, fungal, and bacterial DNA/RNA
- Rapid DNA/RNA detection (as little as 20 minutes)
- Highly sensitive and specific detection of low viral levels
- Intuitive software displays real time data during testing
- Melt analysis available with the included software
- Lid heater prevents evaporation and condensation
- Compact modular design allows for easy cleaning and maintenance
- Pair with an external battery for a portable and field-deployable system
- Test up to 8 samples simultaneously (higher throughput systems with up to 96 samples available upon request)
- Wireless communication with dual-band Wi-Fi and Bluetooth connectivity
- A fraction of the cost of qPCR based systems
- OZ Optics also offers private labelling for volume OEM applications

Clinical trial: LAMPPIY™ vs. Leading brand qPCR machine



In a lab study done at Acibadem University using saliva samples taken from patients at the Acibadem Hospitals, LAMPPIY was compared to a well-known conventional qPCR machine in performance and speed. The comparison study was carried out with a sample size of 262 using the COVID LAMP-based kit on both instruments and then verified with the KrosQuant SARS-CoV-2 (2019 nCoV) Real Time PCR Diagnostic Kit on a leading brand conventional qPCR machine.



Leading Technology

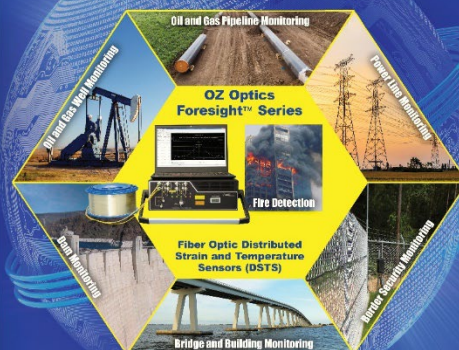
Featured Products



Fiber Optic Distributed Strain and Temperature Sensors

USA Patent Numbers: 7499151, 7599047, and 9568307

- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 200 km sensing range
- Uses standard telecommunications fibers to minimize costs



Fiber Optic Sensors for Pipeline Monitoring

USA Patent Numbers: 7499151, 7599047, and 9568307

- Pipeline leakage detection
- Sensitive detection of corrosion / erosion, cracks and buckling
- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 200 km sensing range
- Uses standard telecommunication fiber to minimize costs



Fiber Optic Sensors for Fire Detection

USA Patent Numbers: 7499151, 7599047, and 9568307

- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 200 km sensing range
- Uses standard telecommunications fiber to minimize costs





Leading Technology

Featured Products



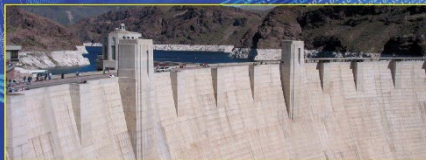
Fiber Optic Sensors for Bridges, Dams and Buildings

USA Patent Numbers: 7499151, 7599047, and 9568307

- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 200 km sensing range
- Uses standard telecommunications fibers to minimize costs



Bridge Monitoring



Dam Monitoring



Building Fire Detection

Fiber Optic Sensors for Power Line and Smart Power Generator Monitoring

USA Patent Numbers: 7499151, 7599047, and 9568307

- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 200 km sensing range
- Uses standard telecommunication fiber to minimize costs



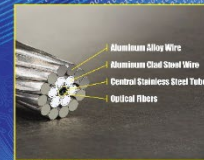
Underground Power Line Monitoring



Power Line Monitoring



Optical Ground Wire (OPGW)



Construction of OPGW



Gas Generator Monitoring

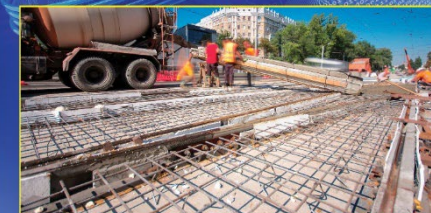
Fiber Optic Sensors for Security Monitoring

USA Patent Numbers: 7499151, 7599047, and 9568307

- BOTDA only, BOTDR only, or both BOTDA and BOTDR modules in one unit
- Simultaneous measurement of strain and temperature
- Fast, dynamic measurement of strain and/or temperature up to 200 km sensing range
- Uses standard telecommunication fiber to minimize costs



Border Security Monitoring



Highway Health Monitoring



Industry Standards

All Products Manufactured are in Strict Accordance with International Industry Standards:

- **ISO 9001:2015 Certified (Canada, China and Türkiye)**
- **REACH Compliance**
- **RoHS Compliance**
- **CE Compliance**
- **Telecordia Compliance**
- **Controlled Goods Directorate Registered**
- **Critical supplier for F35 and F18 Project**
- **TSCA (Toxic Substance Control Act) Compliance**
- **CHEMSHERPA Compliance**
- **IEC 61010 Compliance**



Marketing Strategy

Application Market

Using our strong direct sales and distributors, we address the following markets:

- **Energy – Oil and Gas**
- **Military and Homeland Security**
- **Educational**
- **Industrial**
- **Telecom / Datacom**
- **Medical & Pharmaceutical**





Marketing Strategy

Global Sales Network

OZ Optics has resellers and distributors in over 30 Countries and Regions with over 10,000 customers worldwide:



Austria



Germany



Luxembourg



Sweden



Belgium



Greece



Netherlands



Switzerland



Brazil



Hong Kong



Norway



Taiwan



Canada



India



Poland



Thailand



China



Ireland



Portugal



Türkiye



Denmark



Italy



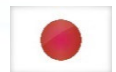
Singapore



United Kingdom



France



Japan



South Korea

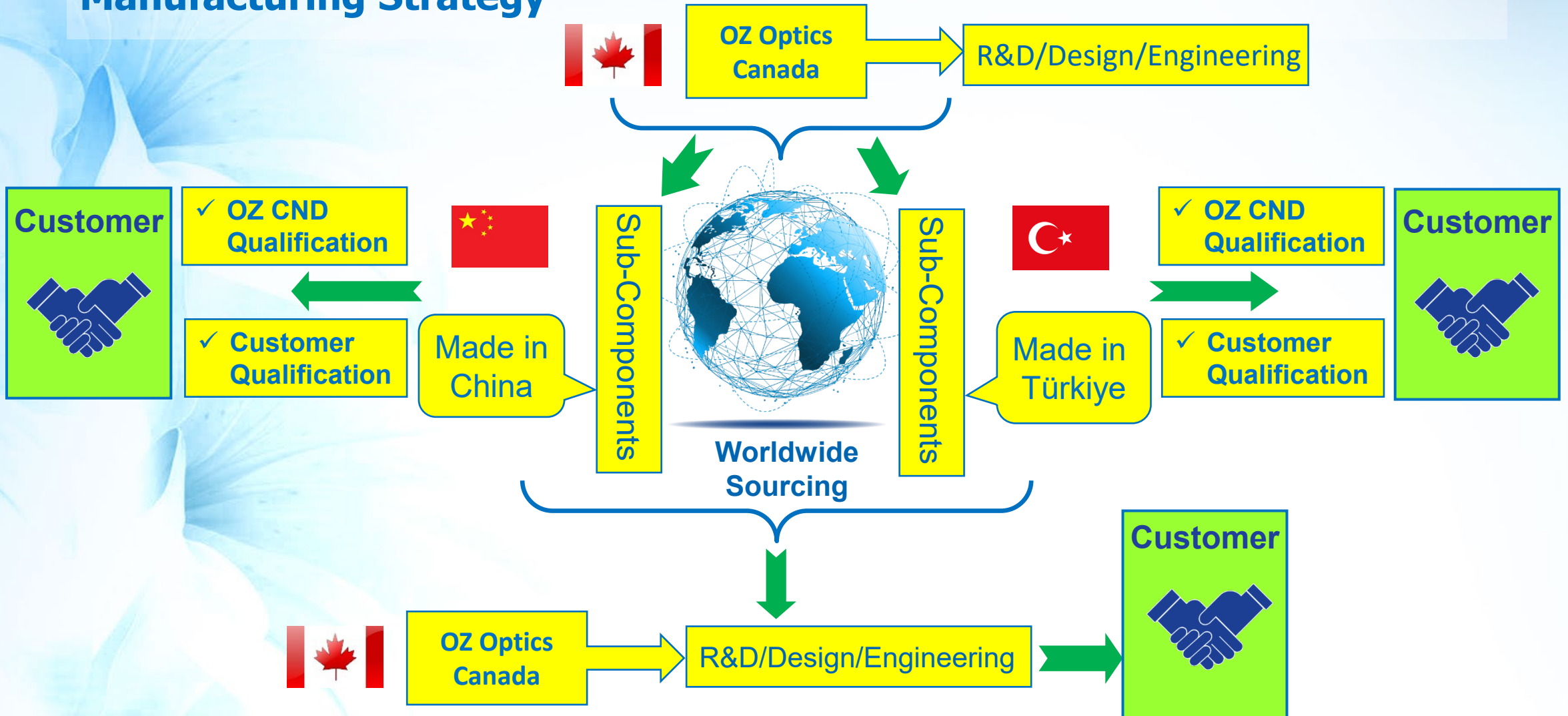


United States



Operation Strategy

Manufacturing Strategy



Marketing & Operation Strategy

Competitive Advantage

- Superior Technology
Innovative Engineering
- Competitive Pricing
- Global Presence
- Extensive Experience
in Fiber Optics Manufacturing
- Exceptional Quality and Service





Branch Network



OZ OPTICS CANADA (Headquarters)



OZ OPTICS TÜRKİYE (Türkiye Factory)



OZ OPTICS CHINA (Jiaxing Factory)



Branch Network

Facility - Ottawa Headquarters

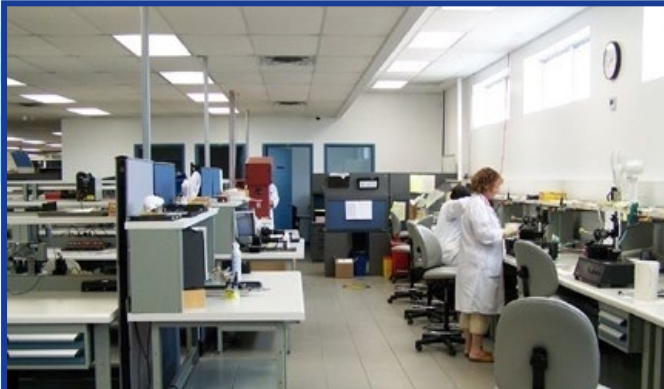
- 60,000 sq ft. - Manufacturing and R&D Facilities
- 15,000 sq ft. - Admin, Sales and Marketing
- 15,000 sq ft. - Training and Fitness Facilities





Branch Network

Facility - Ottawa Headquarters



Production Area



Training Centre Building



Meeting Room



Swimming Pool



Branch Network

Facility - Türkiye Factory (Izmir, Türkiye)

- Operational since 2000
- 33,000 sq ft. Manufacturing Facility
- Located in Free Trade Zone
- Low Tax Rates
- Sub Component Parts Manufacturing
- High Quality Labor
- AR Coating Machine & Clean Room onsite





Branch Network

Facility - China Factory (Jiaxing, China)

- Operational since June 2010
- Wholly Foreign Owned Enterprise
- Cost Effective Manufacturing
- High Quality Labor
- Supply Chain Integration





Branch Network

Facility - China Factory (Jiaxing, China)

- Located in Economic Development Zone
- 4000+ sq meters - Total Area
 - 500 sq meters – Admin, Sales and Marketing
 - 3500 sq meters – Manufacturing Area
 - ✓ 500 sq meter – Class 10,000 Clean Room
 - ✓ 500 sq meter – ESD Working Area





OZ Optics China

Zhejiang OZ Optics Technologies Co., Ltd



- Operational since June 2010
- Wholly Foreign Owned Enterprise
- NPI & Production Line Setup
- On-site Training by OZ CND
- Began Mass Production in September 2010
- Completed Main Facility Expansion in 2019





Bright Polarization Entangled Photon Sources

- Highest Counts/Coincidences Rate Available in The Market
- Highly-Stable Benchtop Device with Excellent Fidelity
- Rugged, Alignment Free, All-in-Fiber Proprietary Design
- Controllable Accidental Photons Rate
- Built-in Noise-Suppression Filters
- High Heralding Efficiency
- Hyperentangled Pairs Routed Deterministically Into Two Output Ports

NEW



DTS0198 - Bright Polarization-Entangled Photon Source Broadband Telecom



DTS0197 -Bright Polarization-Entangled Photon Sources Narrowband Telecom



Benchtop Polarization Entangled Photon Source



NEW

- High-Quality Turn-Key Polarization Entanglement
- Custom Wavelength Offerings
- Turn-Key and Room-Temperature Operation
- Rugged, Room Temperature Operation
- Two (Signal / Idler) Outputs or Single Output



DTS0200 - Polarization-Entangled Photon Source Narrowband 810 nm

Benchtop Correlated Photon Pair Sources



- High-Quality Turn-Key Polarization Entanglement
- Custom Wavelength Selection
- Turn-Key and Room-Temperature Operation
- Rugged Aluminum Housing
- Two (Signal / Idler) Outputs or Single Output



DTS0199- Correlated Photon Pair Sources

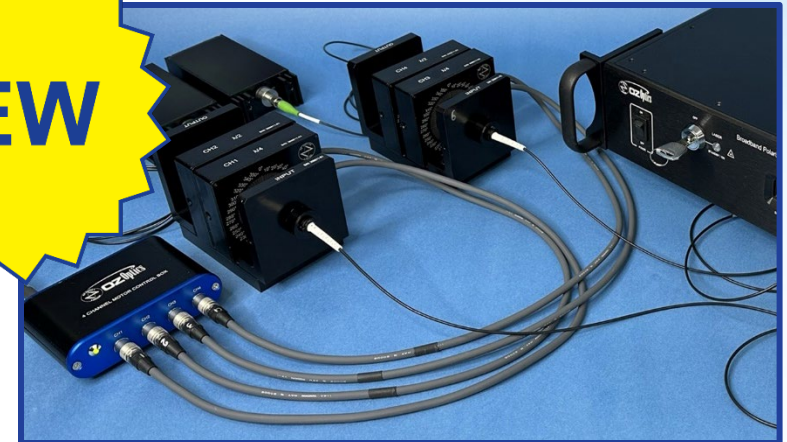
Polarization Entanglement Tomography Analyzer



- Plug-and-play Analyzer with a Controller Unit
- Customized Software and Intuitive GUI
- Quick and Precise Polarization State Rotators
- Compact Size and Small Footprint

Applications:

- Polarization State Tomography
- Automation of Multi-polarization State Analysis

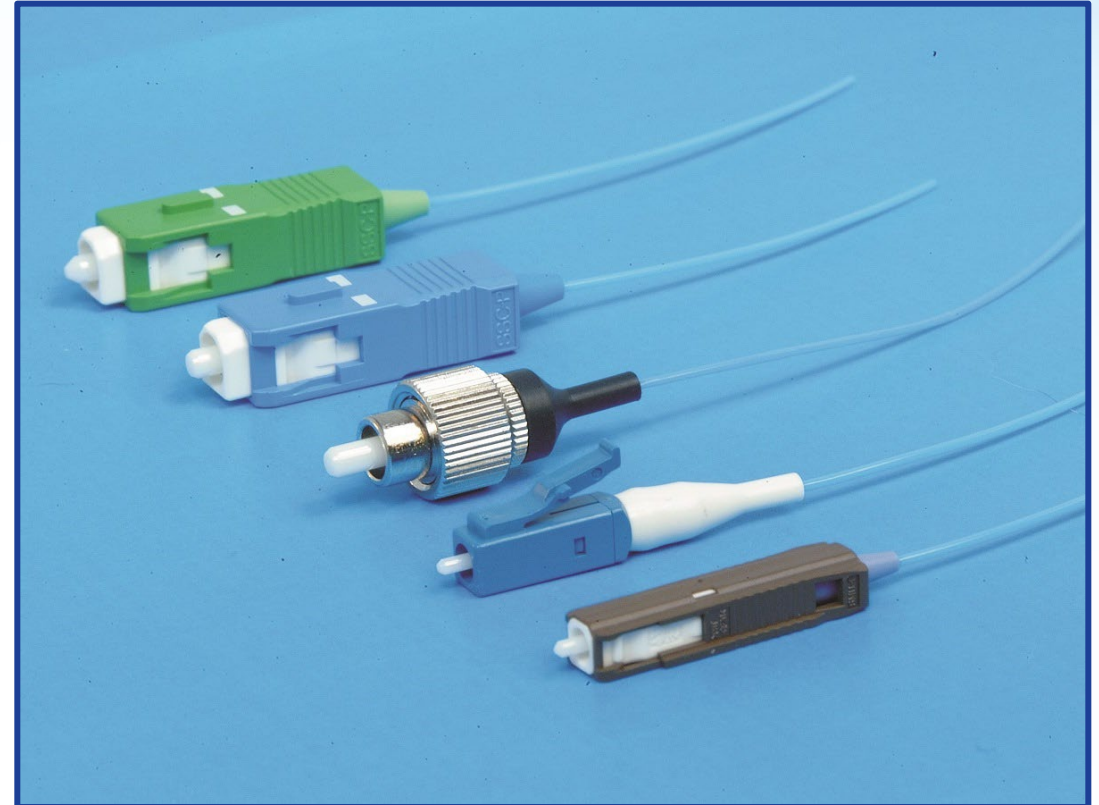


DTS0196-Polarization Entanglement Tomography Analyzer

Polarization Maintaining Patchcords



- Up to 30 dB Polarization Extinction Ratios
- <0.3 dB Insertion Loss, Up to 60 dB Backreflection
- FC/SPC, FC/UPC, FC/APC, SC, ST, LC, MU, E2000, DMI, MPO/MTP® and Custom Connectors,

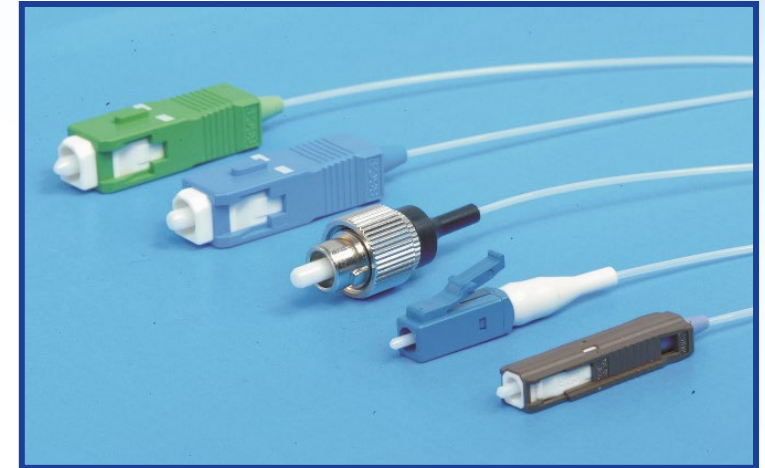


DTS0071 - Polarization Maintaining Fiber Patchcords and Connectors



Singlemode or Multimode Fiber Optic Patchcords

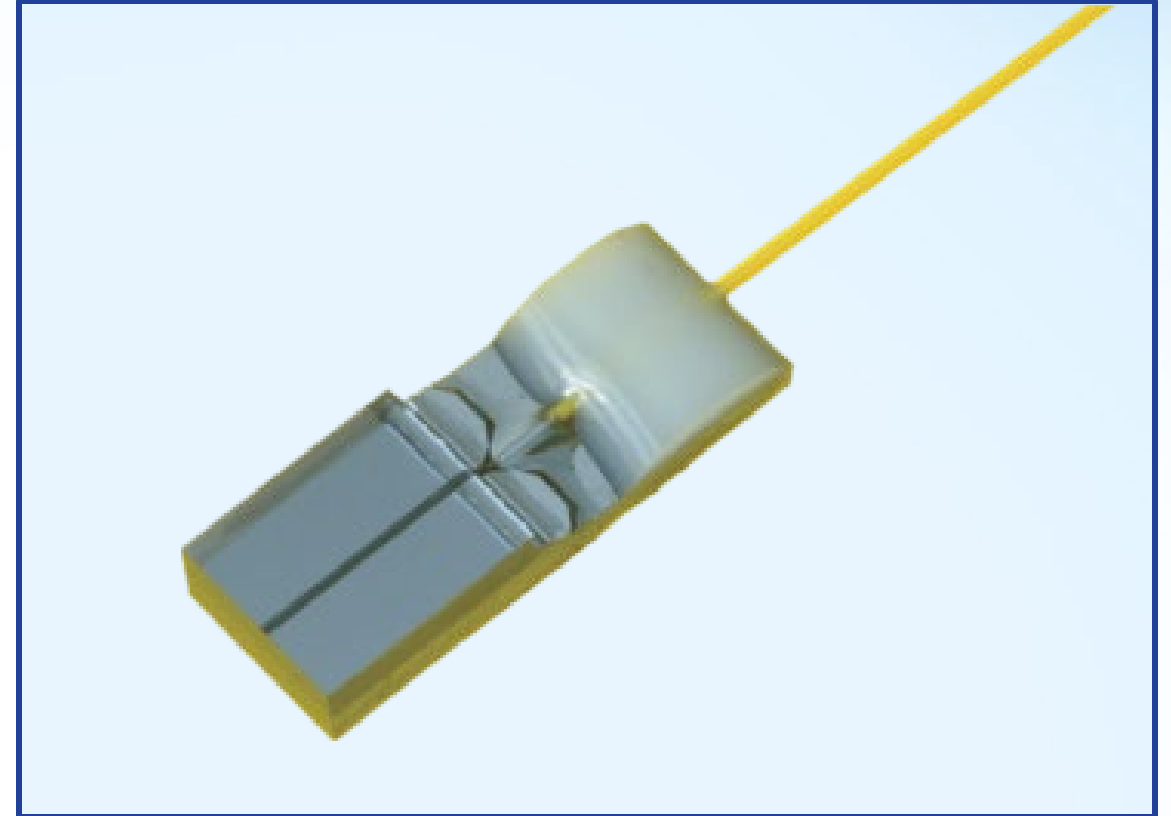
- Low Insertion Loss < 0.2 dB
- Excellent Repeatability
- FC/PC, SC, ST, LC, MU, E2000 Termination Available
- Custom Ferrule Termination Available
- Designed to Meet Telcordia Specification
- Large Selection of Cabling
- Operating Wavelengths From 200 nm to 2000 nm
- Two Micron to 1500 Micron Diameter Core Sizes Available



DTS0130 – singlemode or Multimode Fiber Optic Patchcords

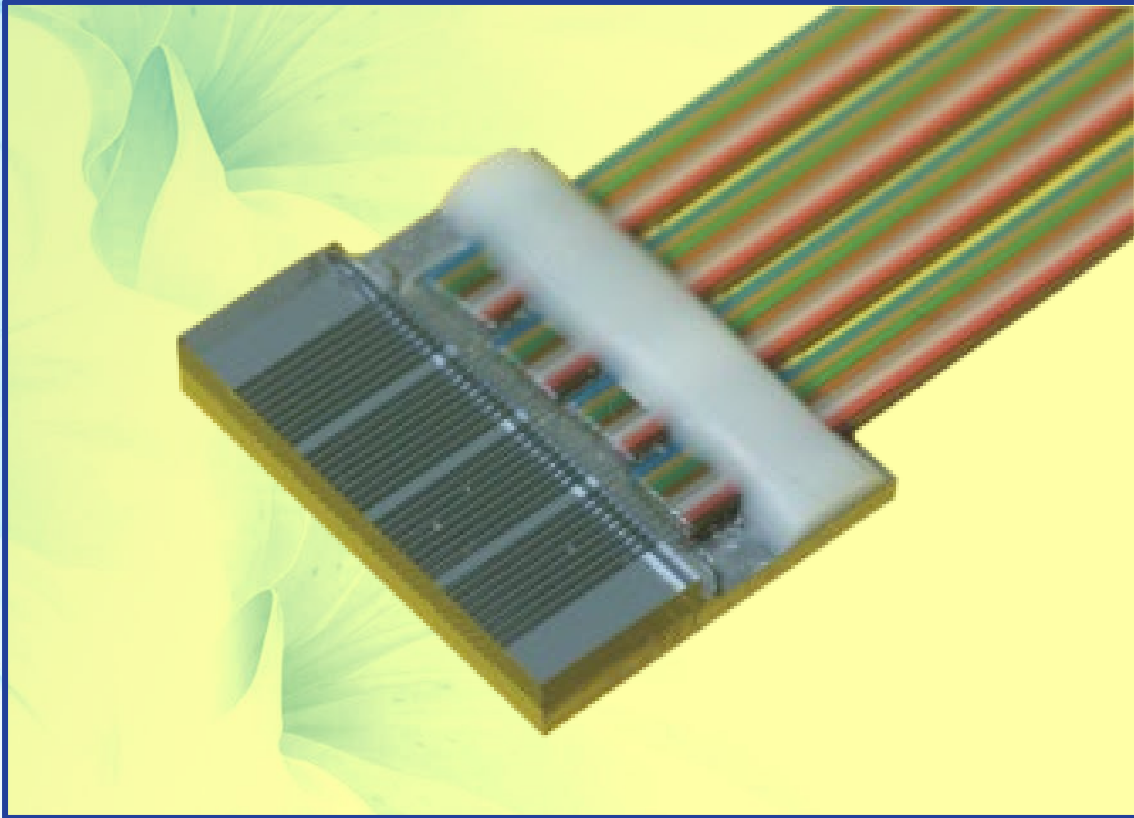
Fiber Pigtailed V-Groove Arrays

- Up to 96 Fibers in a Single Array for Standard Option (Custom Options Are Also Possible for 1D and 2D FMA Arrays)
- 127, 250, 500 Micron and Custom Spacing
- SMF, MMF & PMF
- Breakout Options per Customer Request
- Excellent Product for PLC Splitters, PIC, and Other High Density and AI Applications





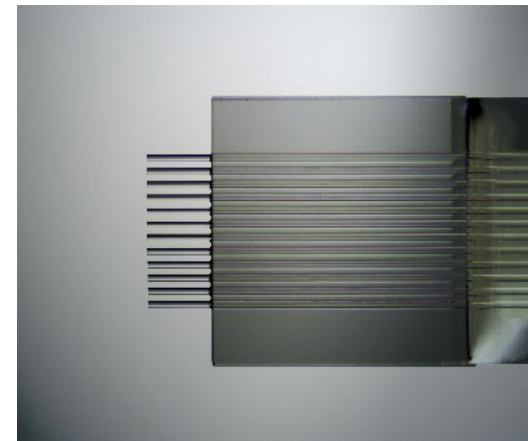
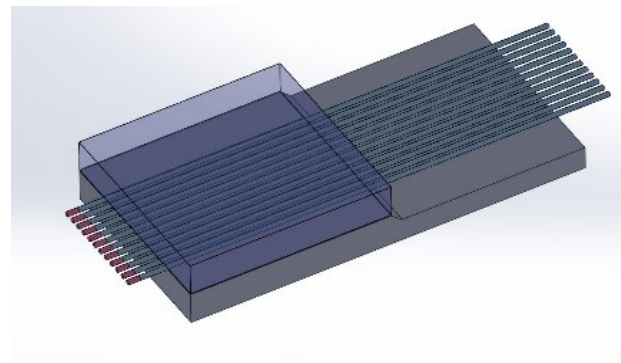
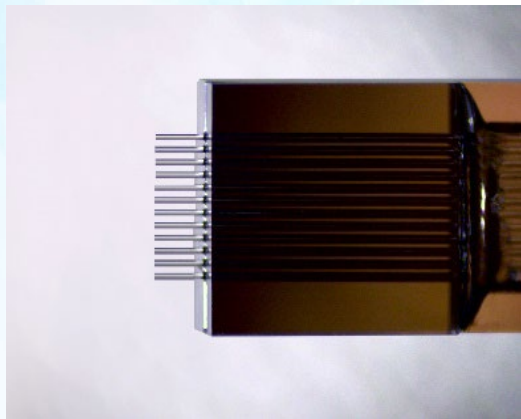
Fiber Pigtailed V-Groove Arrays





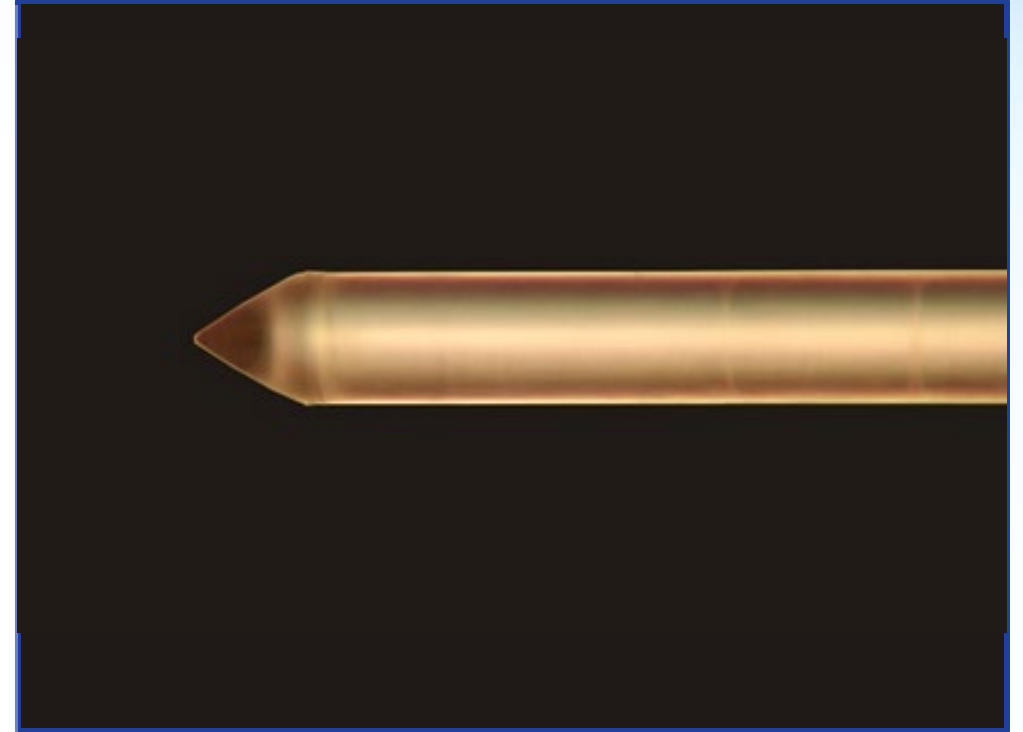
Fiber Pigtailed V-Groove Arrays

- New and Improved V-Groove Assemblies with Tapered, Lensed, Polished, Cleaved and High Power Endcaped Fibers for Optical Connectivity and Fiber Laser Solutions



Tapered/Lensed Fibers

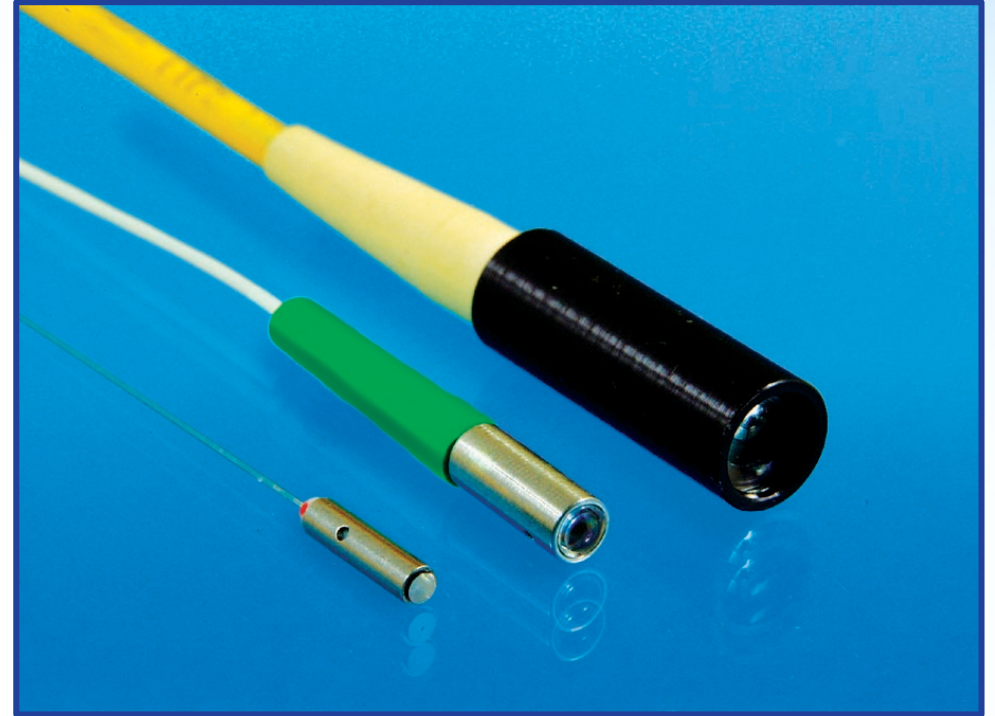
- Improve Coupling Between Optical Fibers and Waveguide Devices, Laser Diodes or Photo Diodes
- As Small As 2 Micron Spot Sizes
- SM & PM (tapered) and MM Fibers (polished) And Laser Shaping With AR Option for 10% Transmission Increase
- Circular and Oval Spot Profiles
- Custom OEM Designs, Metalized Versions





Pigtail Style Collimators / Focusers

- Collimators and Focusers Can Be Used As Matched Pair to Couple Light in & Out of Devices-PD,LD,AOM, etc.
- $BD(mm) = 2 \times f(mm) \times NA$;
 $DA(mrad) = a(\mu m) / f(mm)$
- As Small as 2 μm Waist Diameter
- Up to -60 dB Back Reflection SMF, PMF; 35 dB MMF
- 240 nm – 2200 nm Wavelengths Available



DTS0060 – Collimators and Focusers – Pigtail Style

Receptacle Style Collimator / Focusers



- 0.2 mm to > 15 mm Beam Diameters
- 240 nm to 2200 nm Wavelengths
- Achromatic Collimators Available



Receptacle Style Collimator / Focusers



- 0.2 mm to > 15 mm Beam Diameters
- 240 nm to 2200 nm Wavelengths
- Achromatic Collimators Available

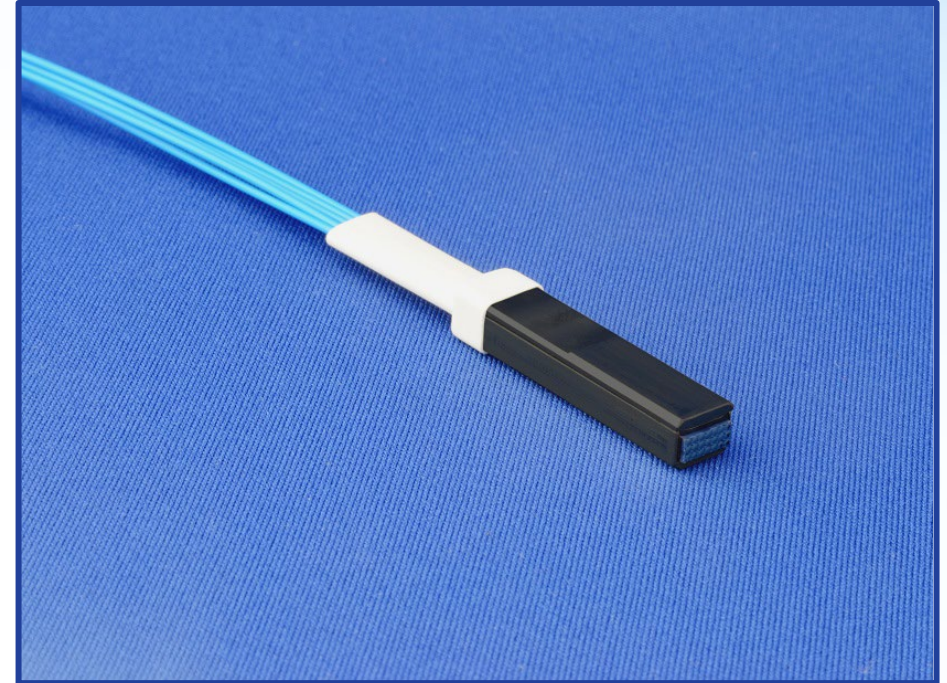




Precision Fiber Optic Collimator/Focuser Array



- High Density, Small Footprint
- Built Using Precision V-Groove With a Single Element Lens Arrays
- SM and PM Fiber Based For PIC, PLC, DWDM, MEMs and AWG Devices
- Evenly Spaced Linear Configuration
- Generate a Precise Array of Collimated/Focused Spots

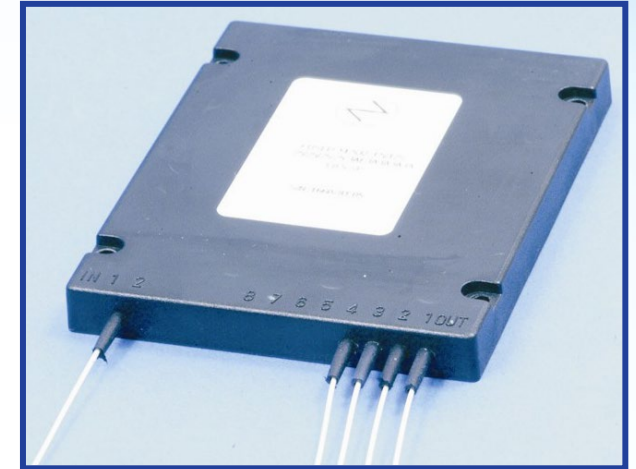


DTS0156 – Precision Fiber Optic Collimator/Focuser Array



Fused Fiber Optic Couplers

- 1x2, 2x2 & 1xN Couplers Available
- 0.5 dB Typical Excess Losses, SMF, PMF & MMF
- 488 nm to 2050 nm Wavelengths



DTS0033 - Fused Couplers - Fiber Optic

Polarization Maintaining Fused Couplers



- Splits Polarized Light Into 2 PM Fibers
- 50/50 to 99/1 Split Ratios
- -40 to -60 dB Backreflection
- 1x2 & 2x2 Versions Available
- 630 – 2050 nm Versions

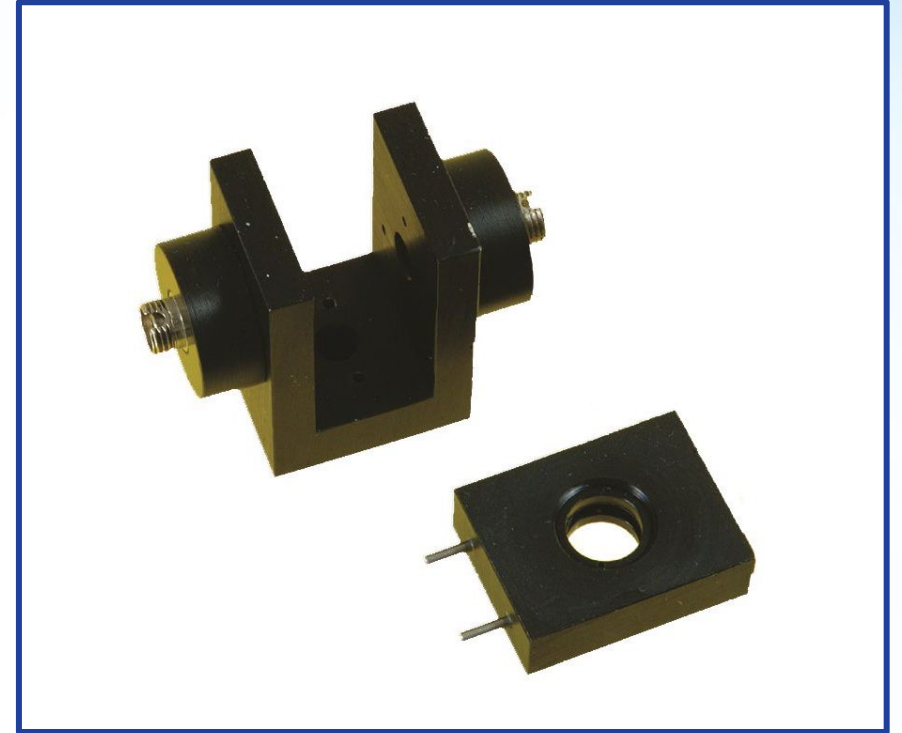


DTS0092 – Polarization Maintaining Fused Couplers



U-Brackets with Removable Optics

- Consist of 3 Parts: I/P Fiber Collimator + U-Bracket + O/P Fiber Focuser
- Pre-Aligned for Min. IL
- As Good as 0.6 dB Insertion Loss (Pigtail Style)
- -40, -50, -60 dB Back Reflection
- Use with A/O Modulators, Bulk Optics



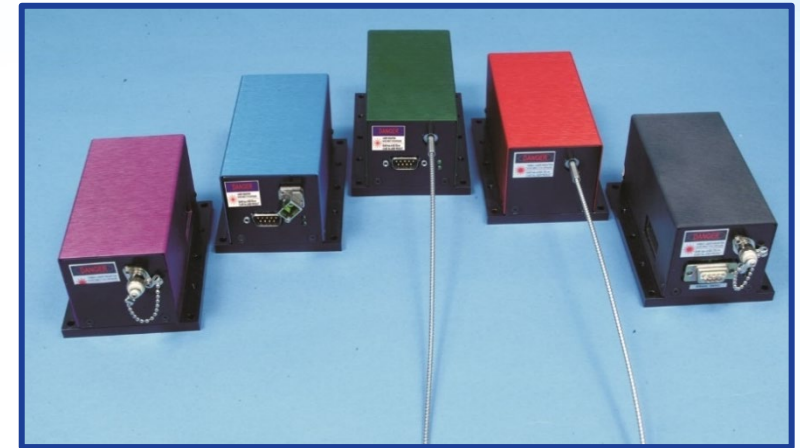
DTS0022 – U-Bracket Assembly – Fiber Optic



Turn-Key Free-Space or Fiber Pigtailed Laser Modules



- Wide Wavelength Range 375 nm – 2050 nm
- SM, MM, PM Fiber Pigtailed with Collimators
- Receptacle Versions Are Also Available
- Compact RGB Engine



DTS0081 – Fiber Pigtailed Ultra Stable Laser Module OZ-1000, OZ-2000 & OZ-3000 Series

Polarization Maintaining Sources



- As Good as 40 dB Extinction Ratio
- 40% Coupling for Laser Diodes
- Pigtail and Receptacle Versions
- 635 to 2050 nm Wavelengths
- Motorized Polarization Rotator Available as an Option





Fiber Optic Isolators

- **< 0.8 dB IL, As Good as 60 dB Isolation**
- **Polarization Sensitive (PM) and Insensitive (SM) Options Available**
- **-40 dB, -50 dB, -60 dB Back Reflection SMF & PMF**
- **532 nm to 2050 nm Wavelengths**

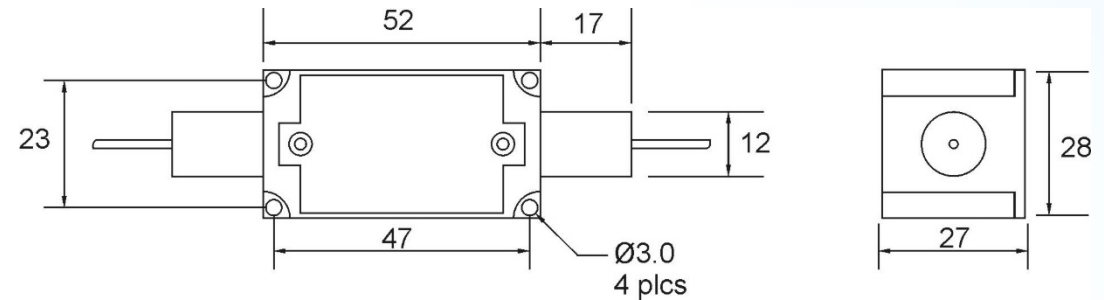


DTS0016 – Fiber Optic Isolators



Fiber Optic Isolators

- **Broadband Wavelength Operation, More Than ± 40 nm**
- **High Isolation over Wavelength and Temperature**
- **Low Insertion Loss over Wavelength and Temperature**
- **Compact Size**



Dimensions in mm

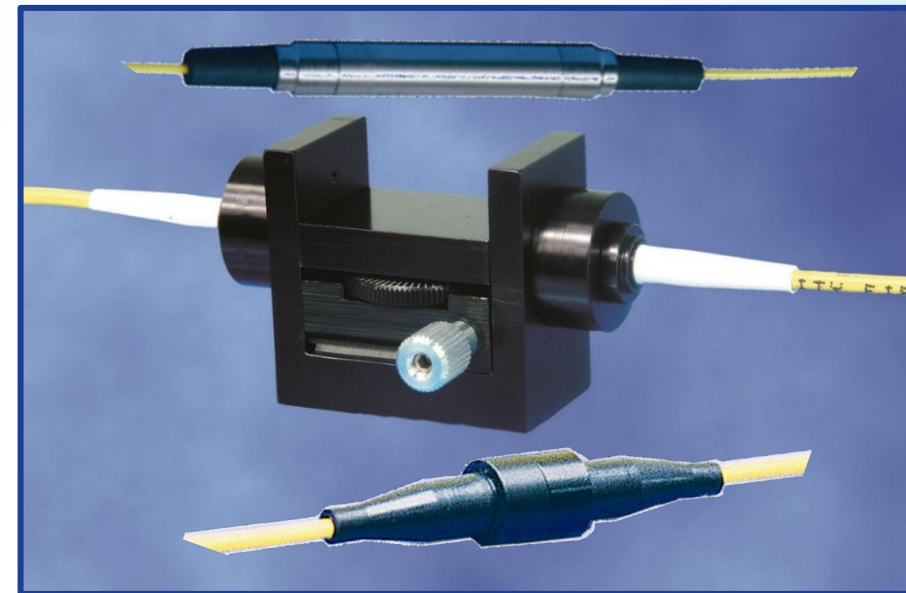


DTS0016 – Fiber Optic Isolators

Fixed Filters



- 400 nm to 2200 nm Wavelengths, SMF, PMF & MMF
- -40 dB, -50 dB, -60 dB Back Reflection
- Filters Can Be Fixed or Removable or Tunable

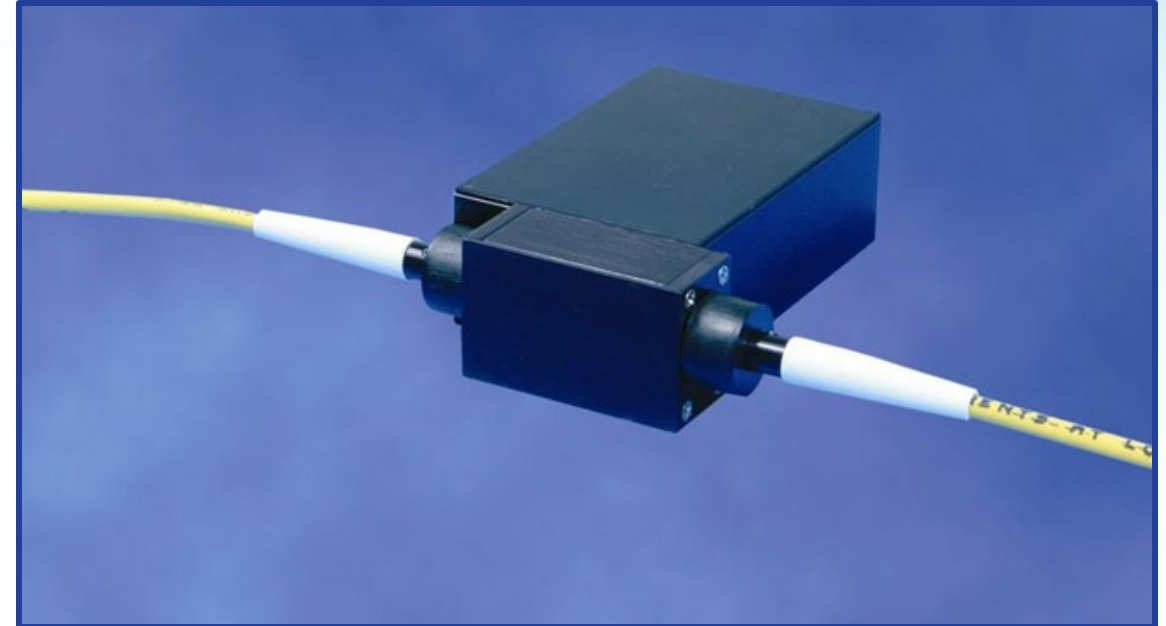


DTS0031 – Fixed Filters



Motor Driven Tunable Filters

- **< 1.2 nm Line Width, 0.1 nm Resolution**
- **50 nm Tuning Range**
- **Narrow Linewidth**
- **Polarization Insensitive**
- **Wide Wavelength Range**
- **Singlemode, Multimode, and Polarization Maintaining Fiber Versions**
- **High Resolution**
- **Built in Computer RS232 Interface and GPIB/RS232 Converter**

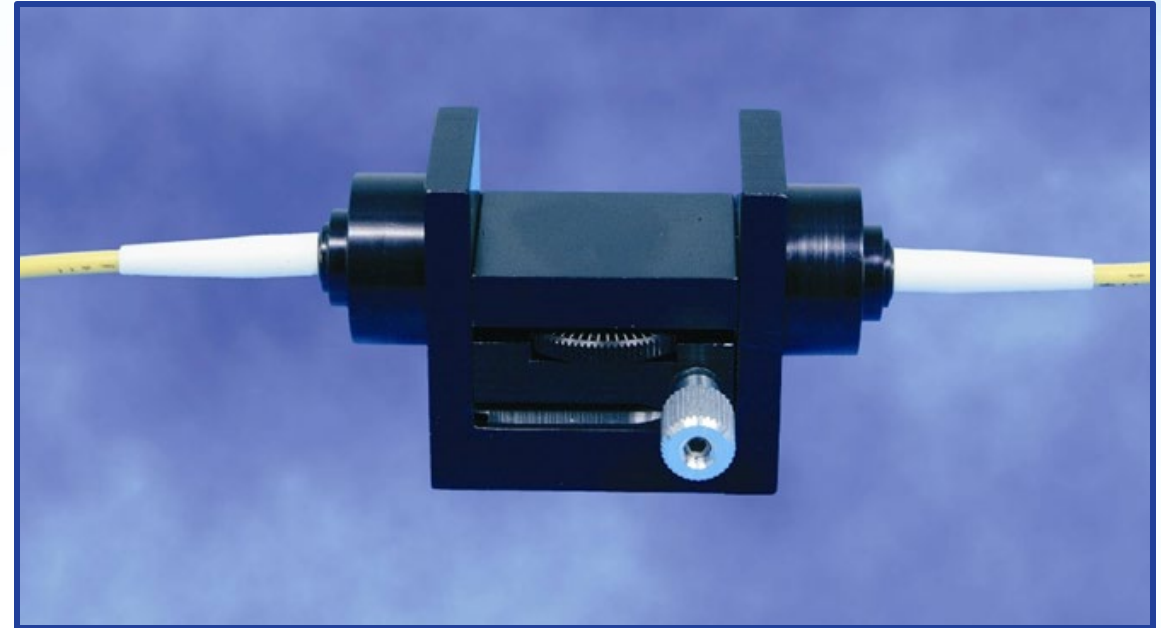


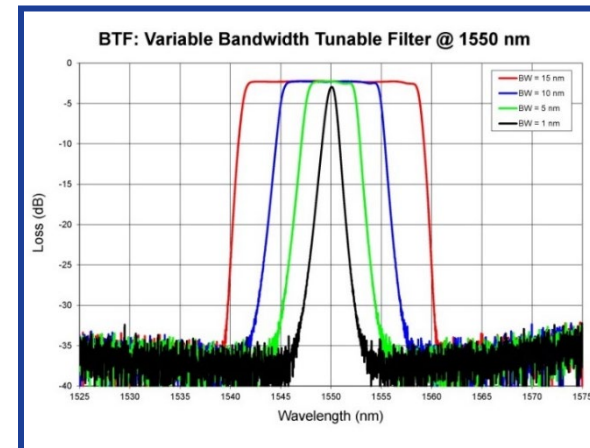
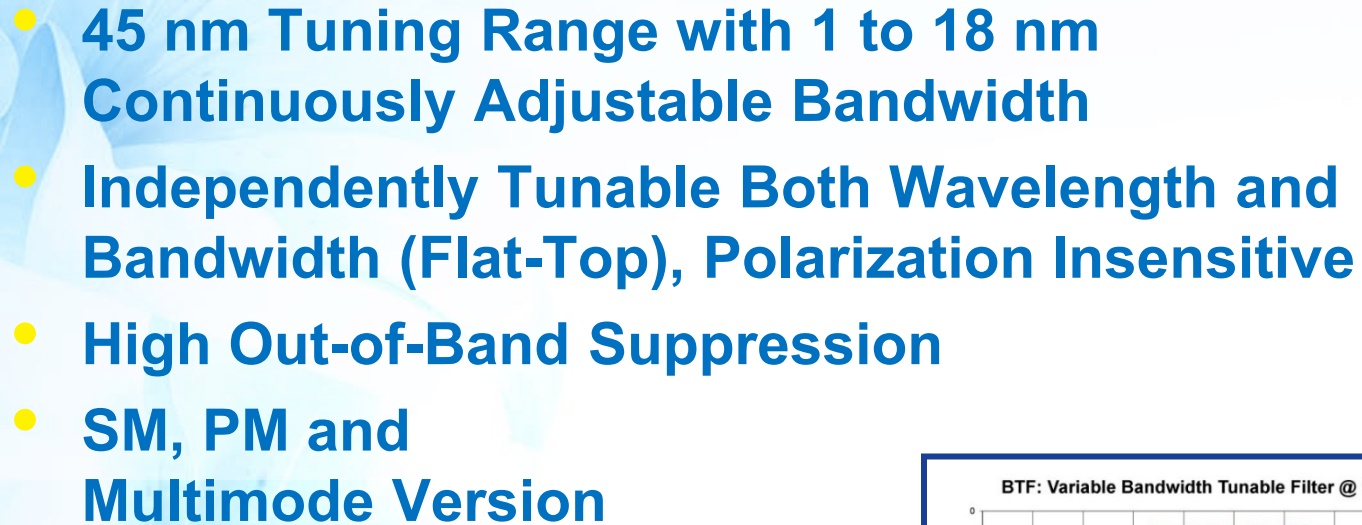
DTS0054 - Motor Driven Tunable Filters

Manually Adjustable Polarization Insensitive Tunable Filters



- < 1.2 nm Line Width, 0.1 nm Resolution
- 50 nm Tuning Range,
- Narrow Linewidth
- Polarization Insensitive
- Wide Wavelength Range
- Singlemode, Multimode, and Polarization Maintaining Fiber Versions
- High Resolution

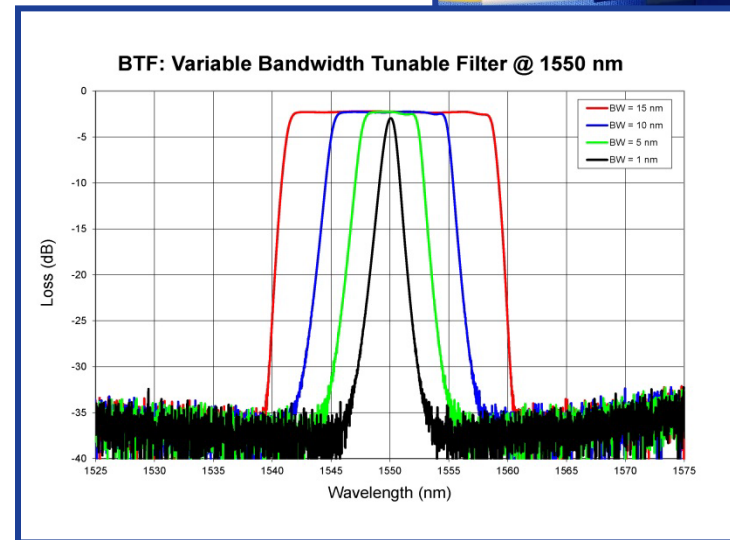
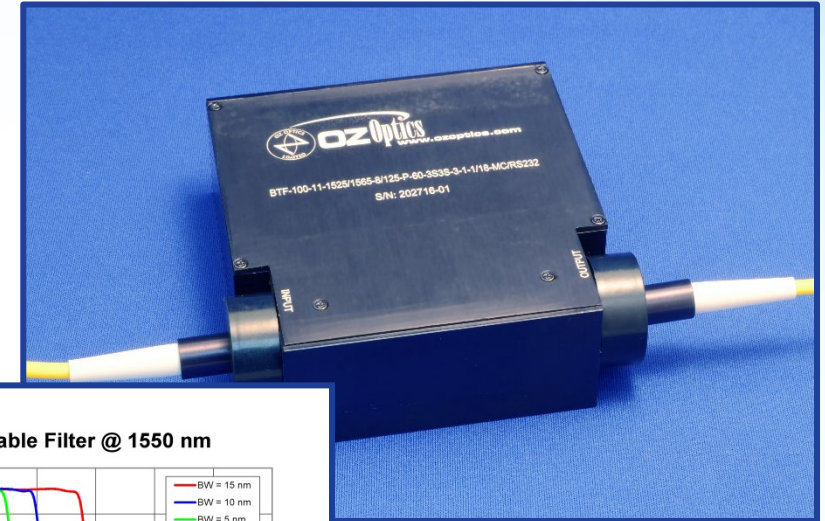




Motor Driven Adjustable Polarization Insensitive Variable Bandwidth Tunable Filters



- 45 nm Tuning Range with 1 to 18 nm Continuously Adjustable Bandwidth
- Independently Tunable Both Wavelength and Bandwidth (Flat-Top), Polarization Insensitive
- Built-in Microcontroller with RS-232, IIC, or SPI Interface
- High Out-of-Band Suppression
- SM and PM Version



Power Meter with Smart Detector Heads



- Full Function power meter in small housing except display
- 75 dB Dynamic Range, Fast Response Time
- 400 – 2050 nm Wavelengths (not calibrated for > 1650 nm), Built-in Attenuator
- Dual Detector Head Capability
- RS-232 or USB Interfaces available

Applications:

- Automatic Fiber Optical Alignment and Collimation Systems
- Multi-channel Optical Power Measurements
- General Optical Power Measurements Such as IL Measurement
- Multi-Channel Test Set
- Network Installation and Maintenance



DTS0057 – Optical Power Meter with Smart Detector Head



Low Cost Smart Detector Head/Optical Power Monitor



- Low Cost – OEM Module- No Display
- Slim and Compact
- Built-in InGaAs Detector for IR Range or Si Detector for Visible
- Interchangeable Optical Connectors Available
- Calibrated & Uncalibrated Versions Available
- Customer May Perform Their Own Calibration
- USB and RS232 interfaces



DTS0155 – Pocket Optical Power Meter



Reflective Style Variable Attenuators

- 0.8 dB to 60 dB Attenuation Range
- Available From 350 nm – 2000 nm Wavelengths
- 0.01 dB Resolution, SMF & MMF Versions
- -40 dB, -50 dB, -60 dB Backreflection

Applications:

- CATV, LAN and Telecom/Datacom, AI
- Receiver Padding
- Test and Measurement
- Optical Power Equalization

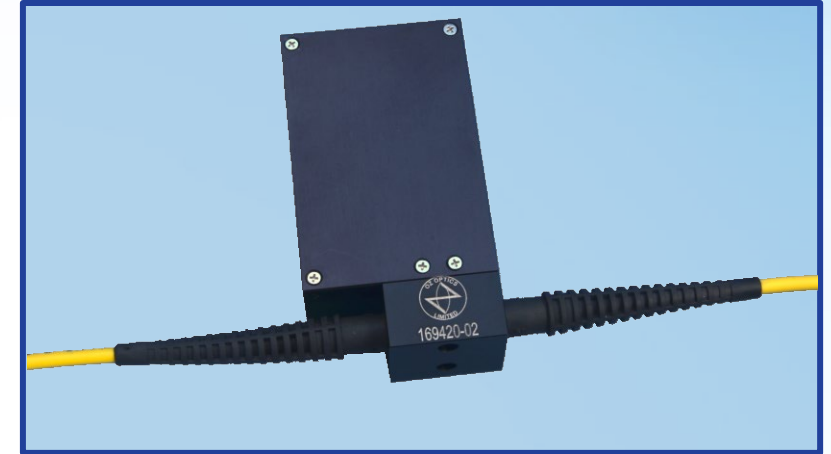


DTS0075 - Variable Fiber Optic Attenuator – Reflective Style

Electrically Controlled Attenuators



- 0.6 dB to 60 dB Attenuation Range SMF, PMF and MMF
- Available From 350 nm – 2000 nm wavelengths
- Maintains Attenuation With Power Off, Up to 2 W Power



- **Low Cost, High Speed, Rugged and Compact Size**
 - Active Gain Equalization in DWDM Systems
 - Local Power Monitoring and Feedback Attenuator Settings
- Applications**
- Testing
 - Trouble Shooting Receivers and Other Active Fiber Optic Components

- Simulating Long Distance Fiber Transmission
- Design of Fiber Optic Transmitter/Receiver Circuitry
- Power Meter Linearity Checks
- Power Setting and Power Control
- OCT Systems



APN0003 – Application Note DD-100



DTS0010 – Electrically Controlled Variable Fiber Optic Attenuator

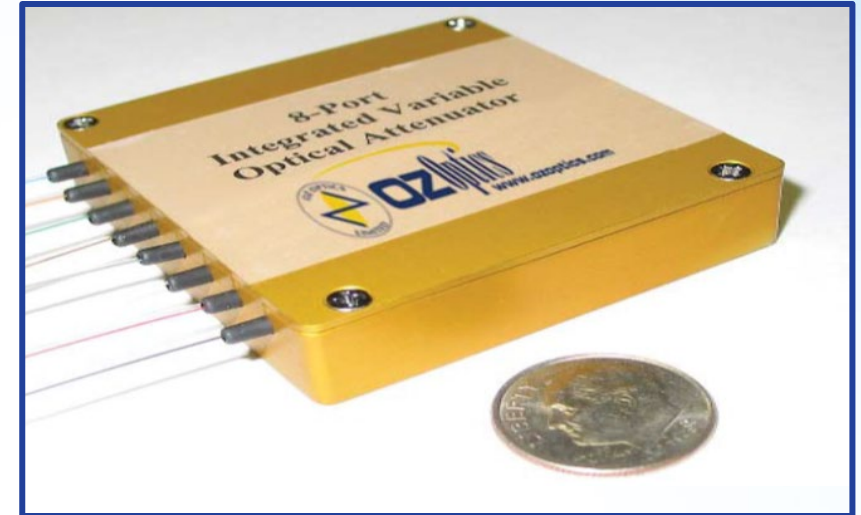
MEMS Based Variable Attenuators



- 0.8 dB – 40 dB Attenuation Range, Low Cost
- Available From 488 nm – 2000 nm Wavelengths
- Up to 24 Multi Channel Version Is Available
- Power Monitors at Input And/or Output End
 - Signal Power Management in Optical Networks
 - Dynamic Optical Power Control and Channel Equalization in WDM and DWDM Systems
- SM and PM fiber Versions
 - Power Balancing Before Modulation and Multiplexing
 - Active Gain Equalization in DWDM Systems

Applications

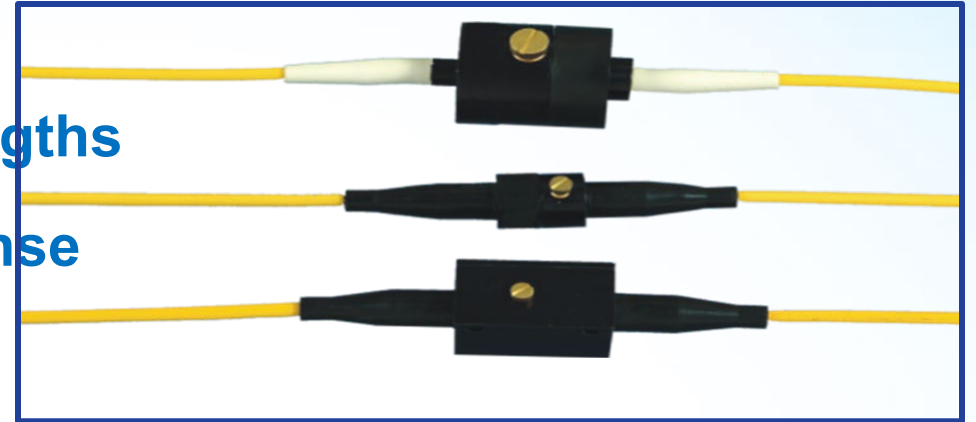
- Power Control Into Receivers
- Gain Tilt Control in EDFAs
- Channel Balancing for Optimizing Transmission Performance in Long-Haul and Metro Networks
- Test Equipment
- OCT Systems



DTS0078 - MEMS Variable Optical Attenuators: Single and Multi-Channel

Inline Variable Attenuators

- 0.6 dB to 80 dB Attenuation Range SMF, PMF and MMF
- Available From 350 nm – 2000 nm Wavelengths
- Up to 10 W Power, Flat Wavelength Response
- As low as 0.01 dB PDL
- High Power Version up to 10 Watts at 1550 nm
 - Optical Power Equalization and Power Control
- Meets Telcordia Specifications
 - For WDMs and Multi-channel Optically Amplified Networks
 - Telecom/Datacom, AI, CATV, LAN
- Applications:
 - Receiver Padding
 - Optical Sensors
 - OCT Systems
- Test and Measurement

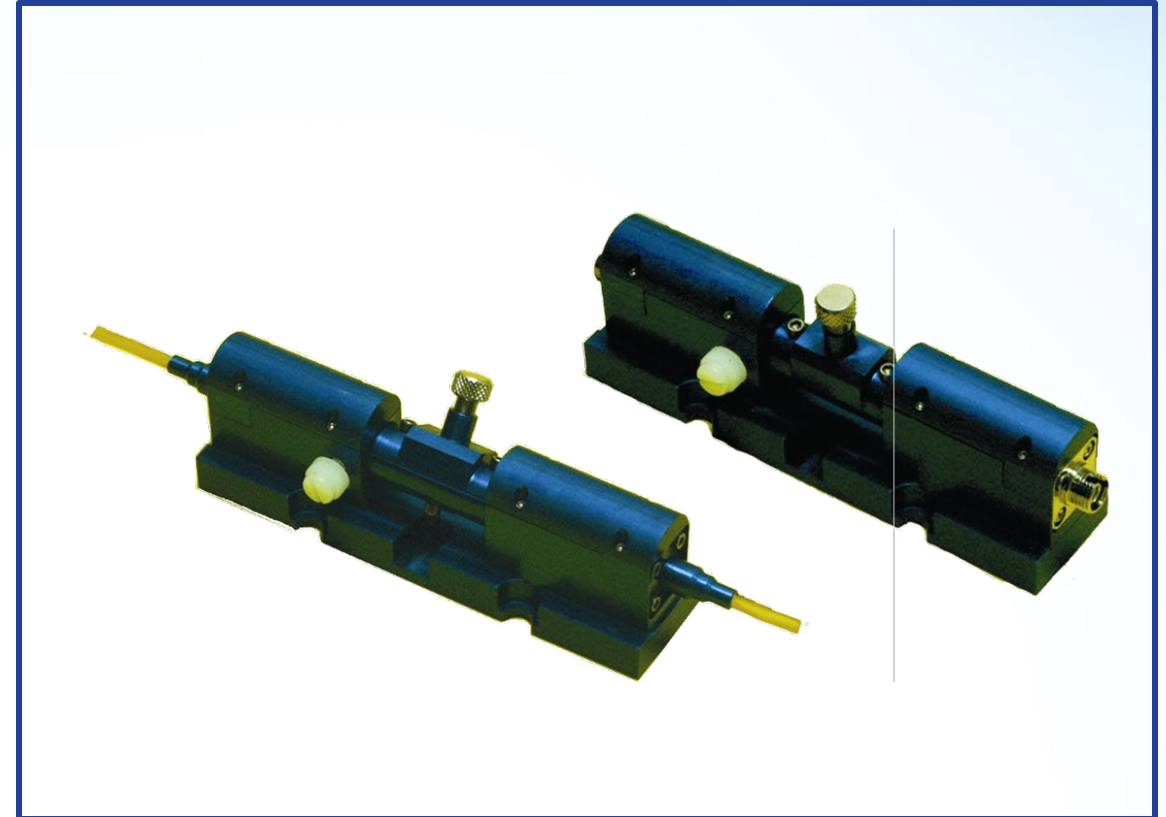




Manually Adjustable Polarization Controllers



- Designed to Control Polarization State
- All Fiber Version – No Intrinsic Loss
- Pigtail and Receptacle Versions



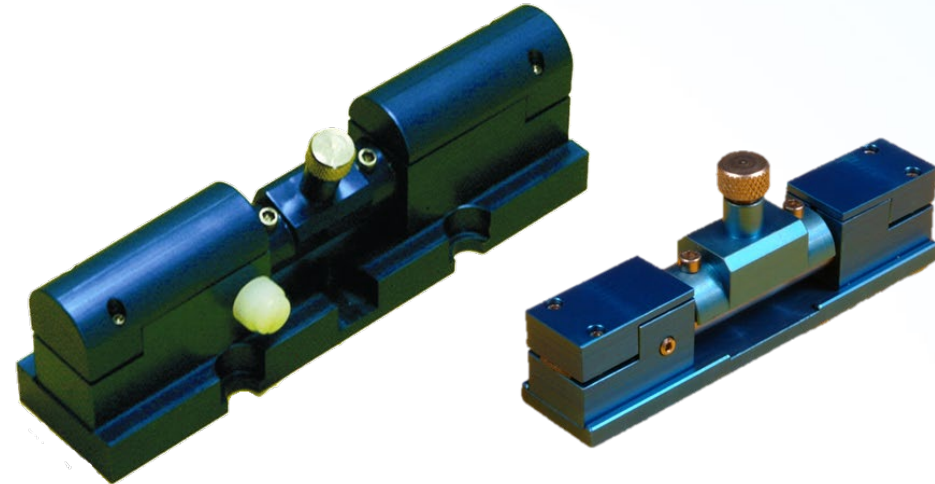
DTS0001 - All Fiber Polarization Controller



Manually Adjustable Polarization Controllers



- Designed to Control Polarization State
- All Fiber Version – No Intrinsic Loss
- Pigtail and Receptacle Versions



DTS0001 - All Fiber Polarization Controller



Electrically Driven Polarization Controllers

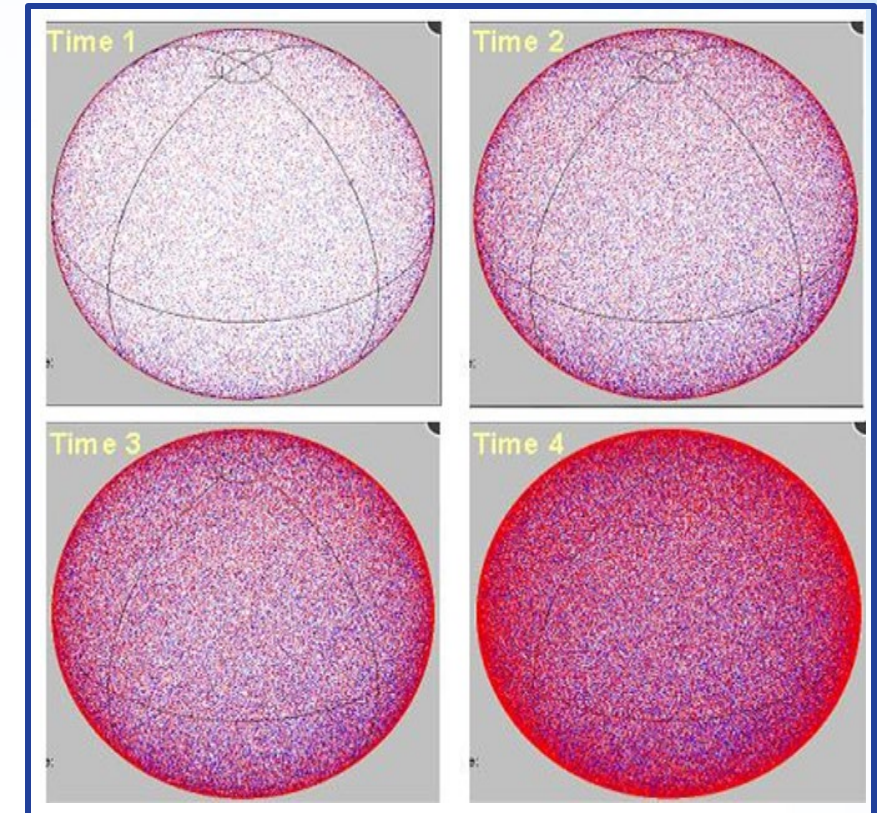
- Continuous Control of Polarization
- No Insertion Losses or Return Losses
- > 100 Hz Response Speed
- Low Activation Loss





High-Speed Polarization Controller-Scrambler Optical Module

- Continuous Control of Polarization
- Negligible Insertion Losses, Return Losses or PDL
- Up to 30 kHz Response Speed
- Inline and Low Activation Loss
- Compact and PCB Mountable



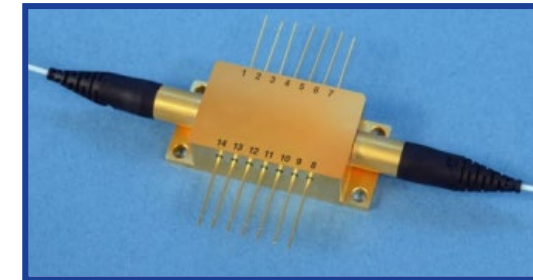
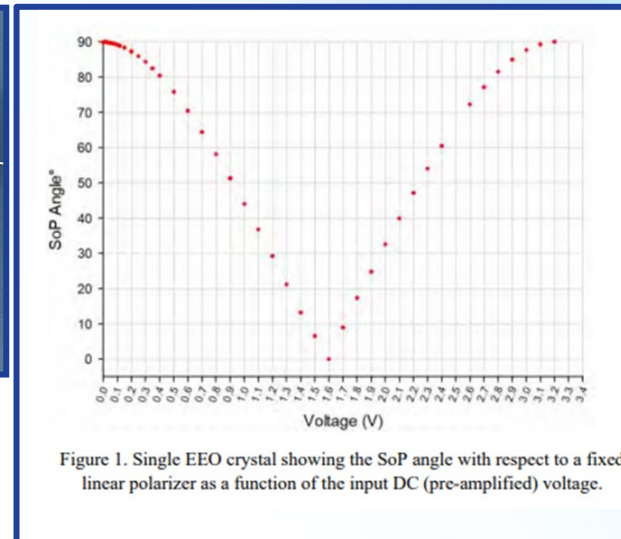
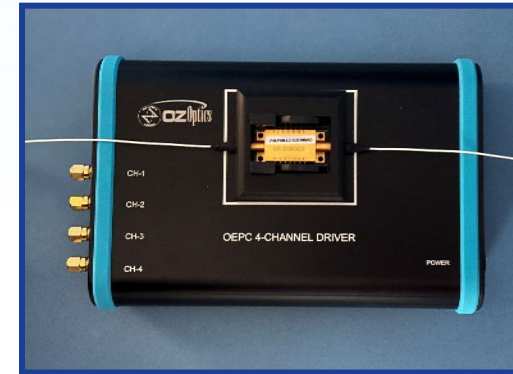
DTS0143 - High Speed Polarization Controller-Scrambler (OEM Version)



High-Speed Electro-Optics Polarization Controller-Scrambler



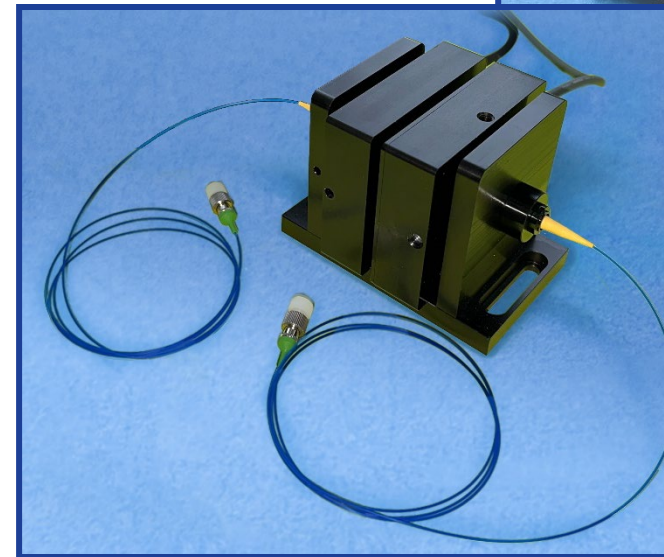
- Rapid Response Time ($< 10 \mu\text{s}$) and Linear Response
- Based on Solid State Crystals Design
- Long Operating Lifetime
- Low Activation Loss
- Compact and PCB Mountable





High Resolution Motorized Polarization Controller

- Precision Rotation with Built-in Encoder
- Compact, Plug-and-Play Device with Touch Screen and GUIs
- 0.1° Repeatability



DTS0191 - High Resolution Motorized Polarization Controller

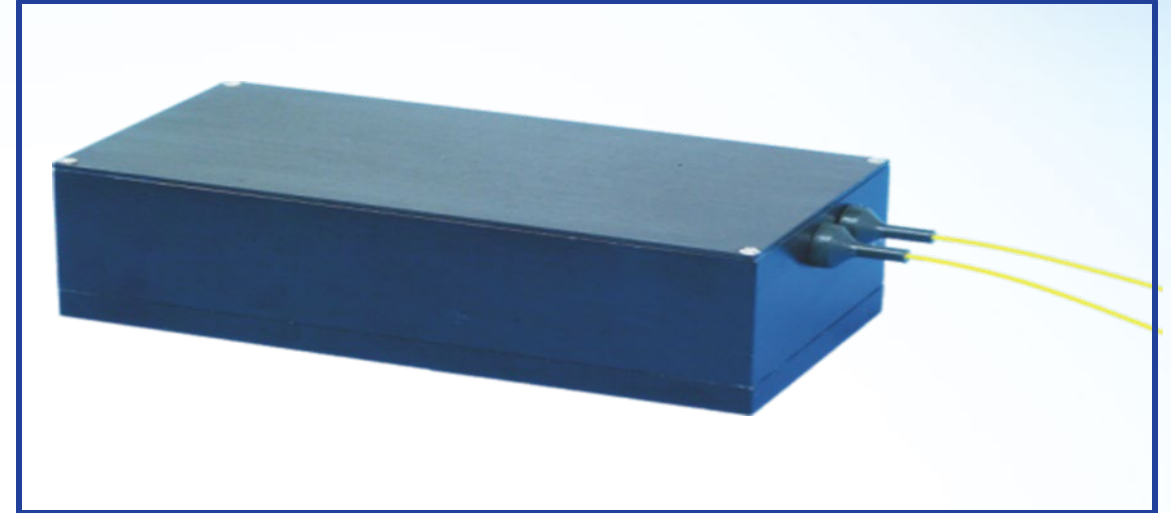


Differential Polarization Delay Lines

- **Varies the Delay Between Two Polarizations**
- **± 50 psec Delay, 0.1 psec Resolution**
- **< 1.2 dB Losses over the Delay Range**

Applications:

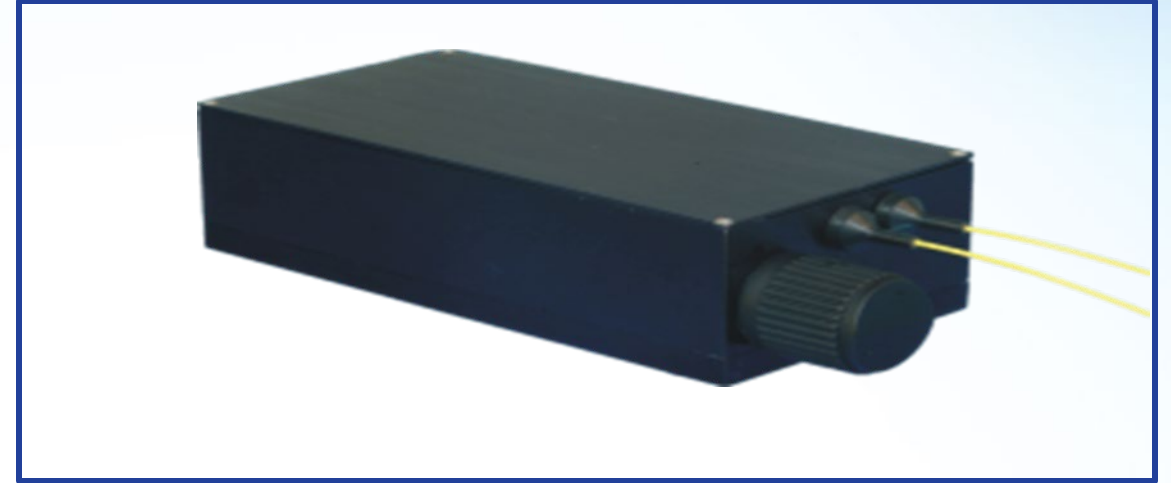
- **PMD Compensation in High Speed Communications Networks**
- **Interferometric Sensors**
- **Coherent Telecommunications**
- **Spectrum Analyzers**
- **OCT Systems**



DTS0005 - Optical Delay Lines

Variable Optical Delay Lines

- Motor Driven Version Is Available
- Over 600 ps Delay Range, < 1.5dB IL
- As Fine as 0.003 ps Resolution



Fiber Optic Coils for Gyroscopes

- High Performance for Tactical Grade, Navigation Grade and Strategic Grade Fiber Optic Gyroscopes (FOGS)
- Fully Customized Design And Manufacturing Capability
- High Symmetry High Stability and Reliability
- Low Polarization Crosstalk (PM Only)
- Low Temperature Sensitivity / Low Shupe Error
- Low Vibration Sensitivity
- Design, Testing and Integration Service Available



Visual Inspection of Fiber Coil while Winding





Directional Inline Optical Power Monitor/Smart Patchcord

- Wide Wavelength Range, up to 2 Watts Power Handling
- Single Channel
- Digital Display Version Used to Monitor and Measure Power Simultaneously
- Allows Optical Monitoring Without Disconnecting
- Can Be Locally or Remotely Accessed
- Ideal for FTTH Networks
- Minimal Insertion Loss
- Low Polarization-Dependent Loss/Response
- Exceptionally Low Return Loss
- Calibration for One or More Wavelengths



NEW

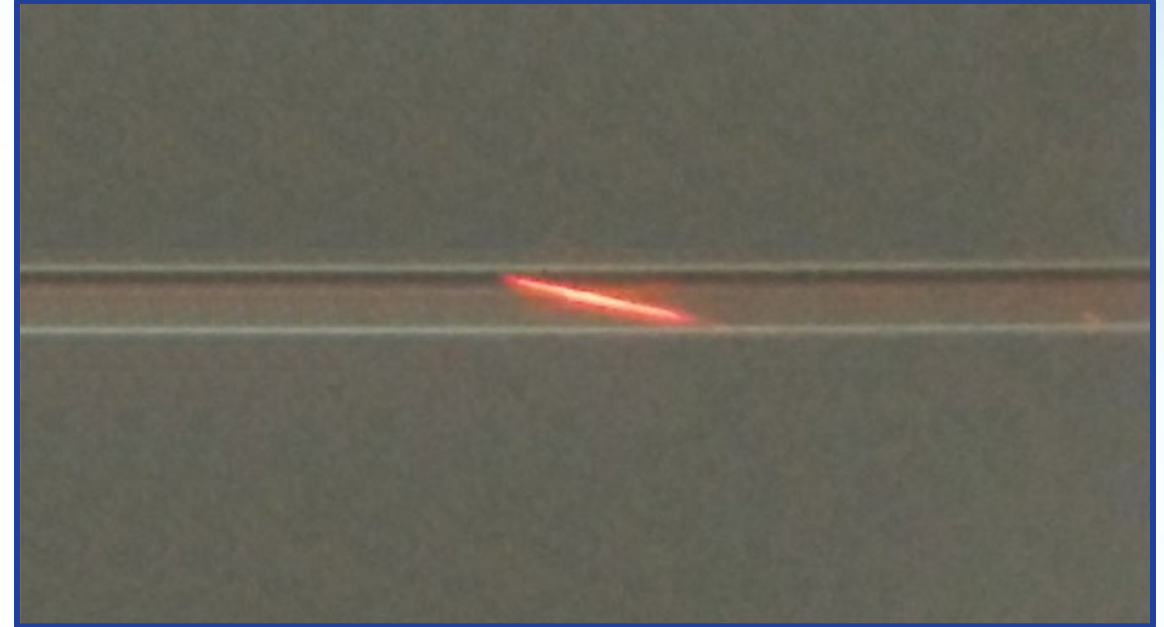


DTS0052 – Digital Directional Inline Optical Power Monitor/Smart Patchcord

Directional Fiber Optic Power Monitors (Taps/Photodiodes)



- No Interruptions to the Optical Path
- Can Be Integrated Into Assemblies and Packages
- Low Insertion Losses, Return Losses and PDL



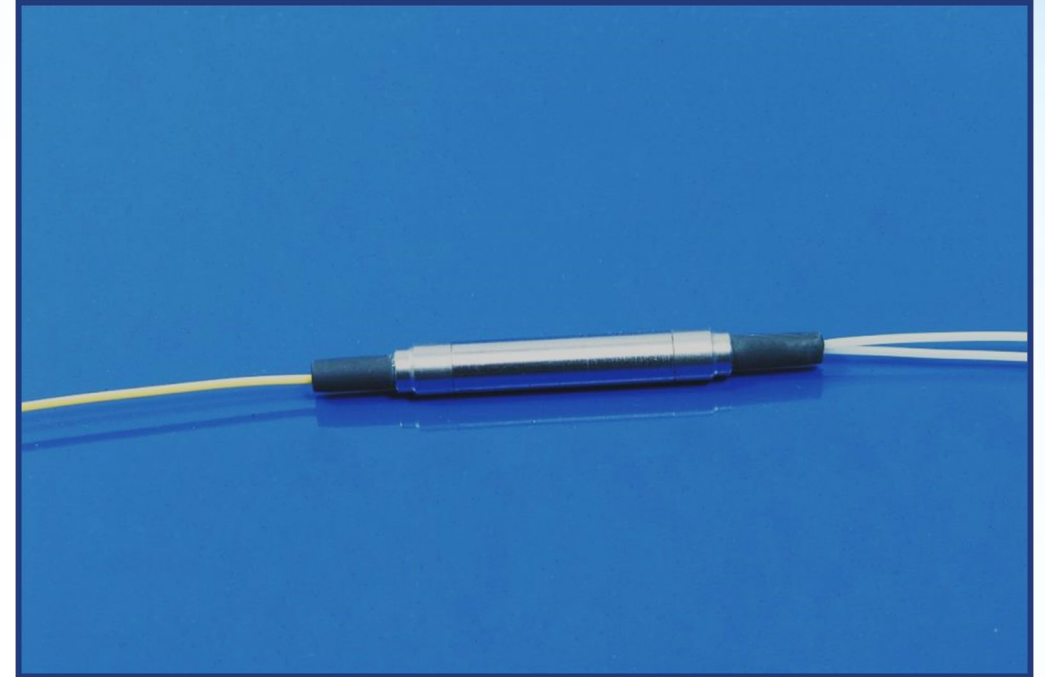
DTS0042 - Directional Fiber Optic Power Monitors (Taps/Photodiodes)



DTS0052 – Digital Directional Inline Optical Power Monitor/Meter (Taps/Photodiodes)

Miniature Inline Polarization Maintaining Splitters/Taps/Combiners

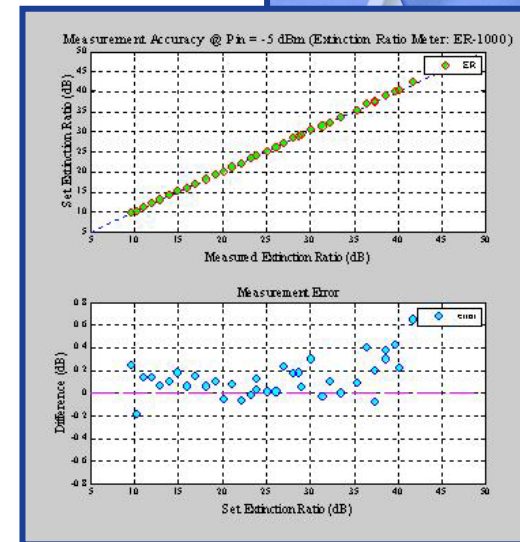
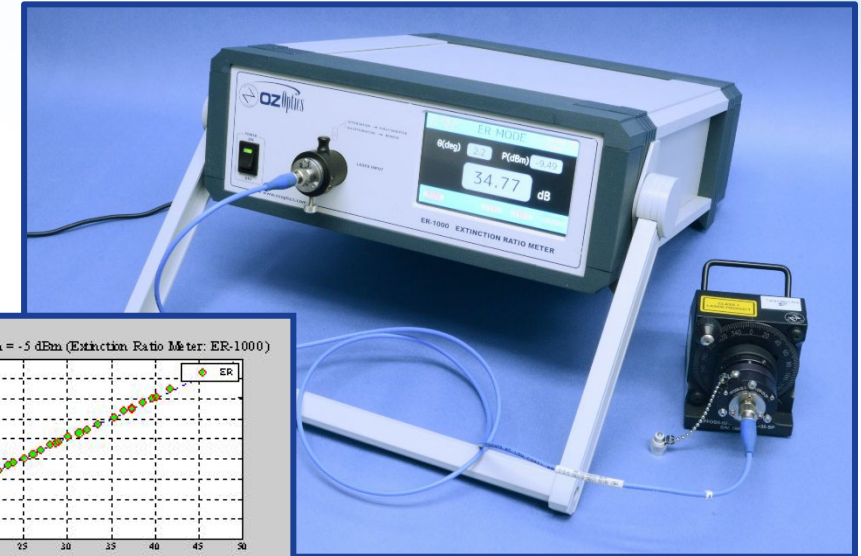
- Splits Polarized Light Into 2 PM or SM Fibers
- 0.6 dB IL, -40, -40 to -60 dB, -60 dB Backreflection
- 1x2 style Version
Standard version
- 600 – 2050 nm Versions



Benchtop Polarization Extinction Ratio Meter



- Automatically Positions Fiber for Optimum Power
- Measures Angles to Within 1°
- Measures up to 50 dB ER and up to 2 W
- Color Touch Screen
- Removable Receptacle





Polarizers



- Up to 30 dB Extinction Ratios
- Based on Free Space Optics
- 0.6 dB Insertion Loss, Low Cost, Compact
- -40, -50, -60 dB Backreflection Levels
- 400 – 2050 nm wavelengths





Polarizers



- **> 35 dB (Up to 50 dB) Extinction Ratios Possible**
- **< 0.5 dB Insertion Loss Achievable**
- **Low cost and compact size (3 mm OD housing)**
- **Broad operating wavelength**
- **-70 dB Backreflection Levels**

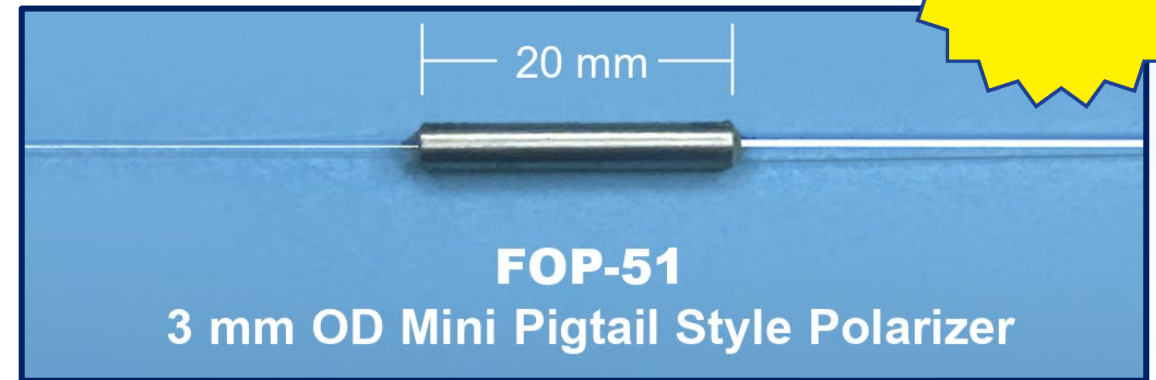




Miniature Fiber Polarizers



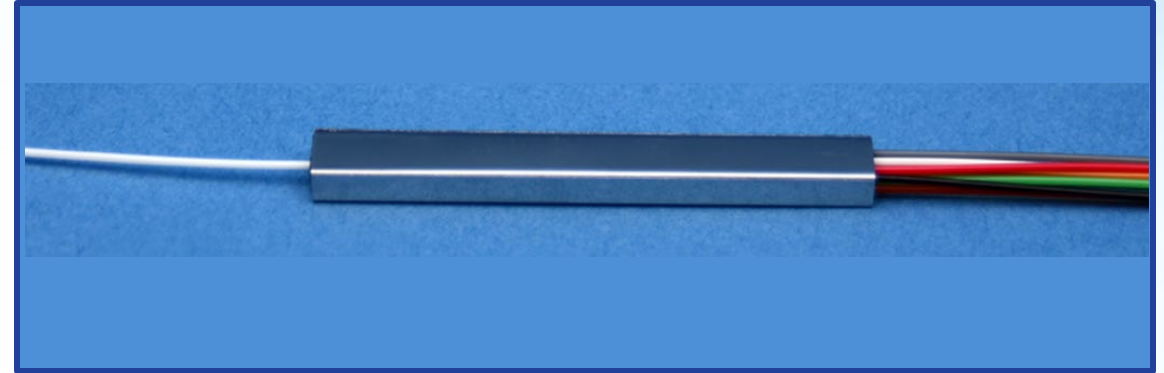
- **Ultra-Compact:** Ideal for High-Density, Space-Constrained Optical Systems, 3 mm OD
- **High Performance:** >30 dB Polarization Extinction Ratio
- **Low Loss:** < 0.7 dB Typical Insertion Loss
- **Excellent Isolation:** >60 dB Return Loss
- **Flexible Fiber Options:** Singlemode, PM, Bend-Insensitive and Reduced-Cladding Fibers
- **Application-Specific:** Different Input/Output Fibers Can Be Combined for Maximum Design Flexibility
- **Broad Wavelength Range:** Telecom 1550 nm and Custom Wavelengths From 600–2000 nm



PM Planar Light Circuit (PLC) Splitters



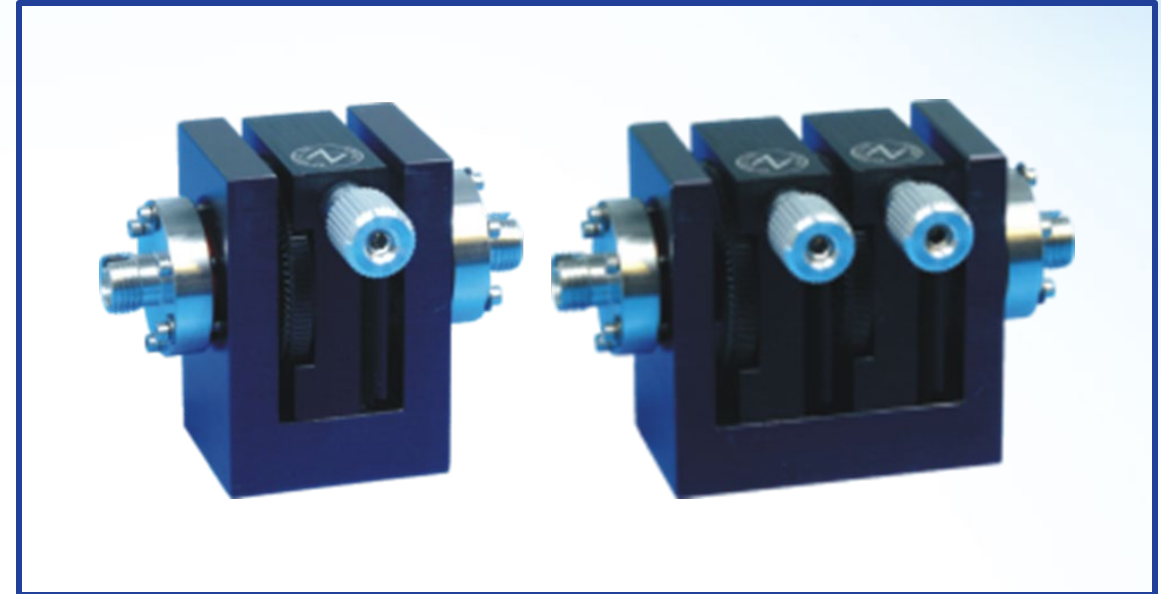
- 1x2 to 1x32 Splitter Configurations
- C, L and S Band Operation
- Miniature Package Size





Polarization Rotators / Analyzers

- Greater than 30 dB Extinction Ratios
- -40, -50, -60 dB Backreflection Levels, 1 dB IL
- Fiber-Fiber, Source-Fiber & Fiber-Photodiode Versions





Fiber Optic Circulators

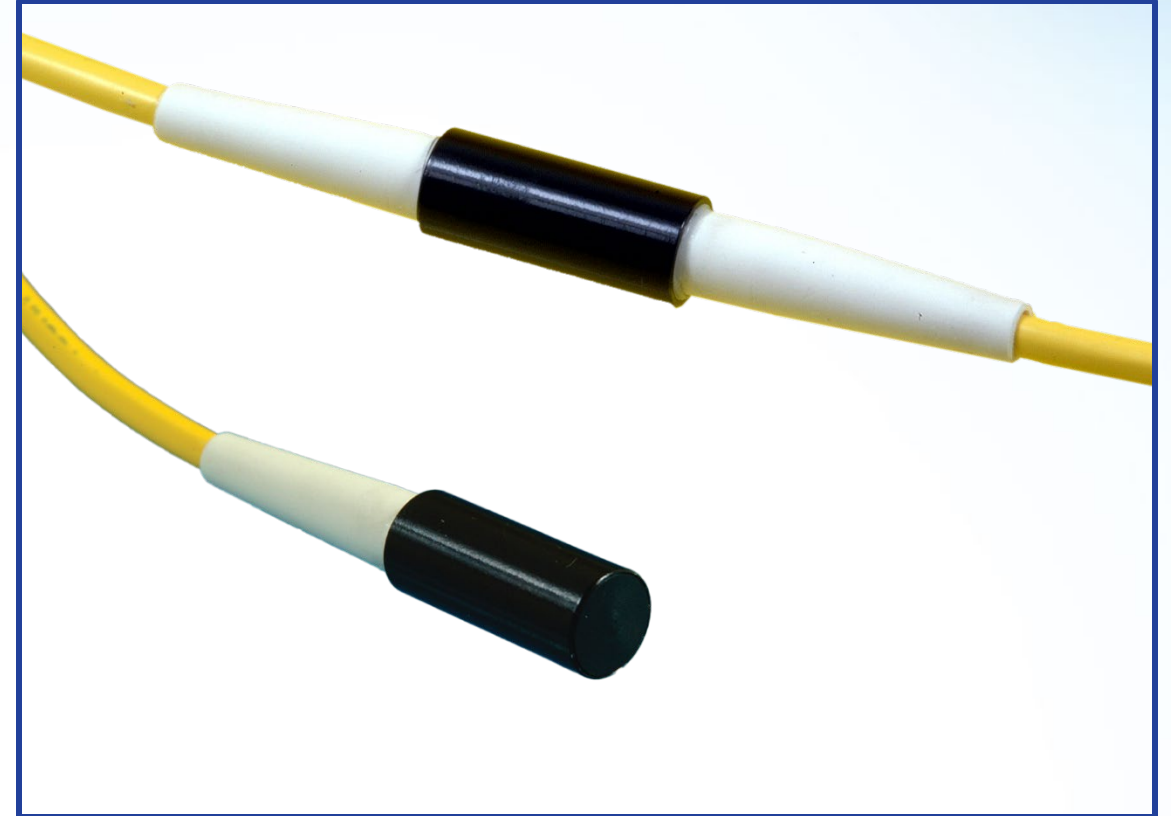
- 0.7 dB Typical Insertion Loss
- 532 – 1550 nm Wavelength Versions
- Up to 30 dB Extinction Ratios



DTS0070 - Fiber Optic Circulators

Faraday Mirrors and Rotators

- Used in EDFA, Tunable Lasers, Etc.
- 0.7 dB Typical Insertion Loss
- -40, -50, -60 dB Backreflection

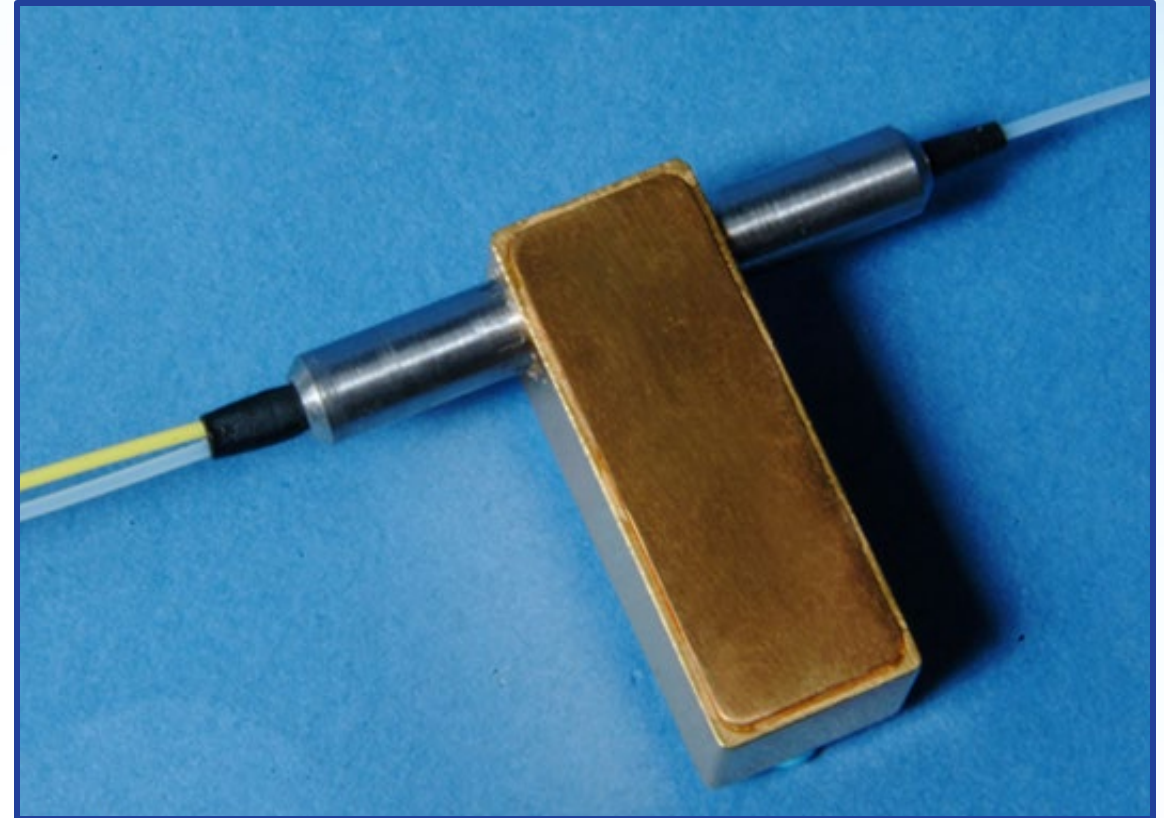




Polarization Maintaining and Singlemode Fiber Switch



- > 20 dB Polarization ER
- Latching and Non-Latching Versions
- < 0.6 dB Loss
- Now Offering MEMS Based 1 x N Optical Switches (Non-Latching)



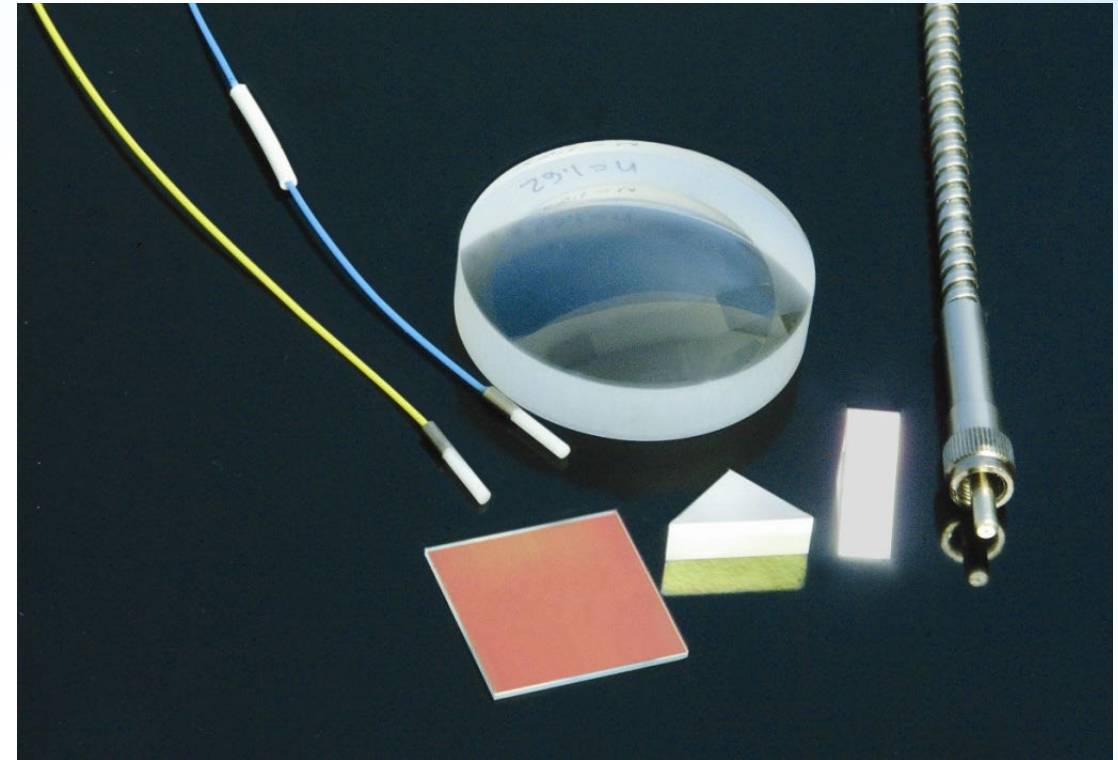
DTS0124 - Polarization Maintaining and Singlemode Fiber Optic Switches



Optical Coatings



- High Power AR, Beamsplitter, Dichroic Coatings
- Fibers, Micro Optics, Lenses, Plates, Prisms Etc.
- Low Temperature High Abrasion Resistant Coatings



Thank You for Choosing OZ Optics

Please Contact Our Sales Department:

Tel: 613-831-0981 ext. 3370

Toll Free: 1-800-361-5415

Email: sales@ozoptics.com

