

Laser & Laser Diode to Fiber Delivery Components

OZ Optics Limited

September 2024



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- **OZ Optics Canada**
- **OZ Optics Türkiye**
- **OZ Optics China**

Company Background



- **Founded in 1985**
- **Corporate Headquarter Located in Ottawa, Canada**
- **Manufacturing Facility in Ottawa / Canada, Izmir / Türkiye and Jiaxing / China**
- **Ten 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
 - OCT
 - BioPhotonics
 - Quantum
- **Sales Offices in Canada, USA, Europe, Türkiye 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 467 employees worldwide

OZ Canada



243+
Employees

OZ China



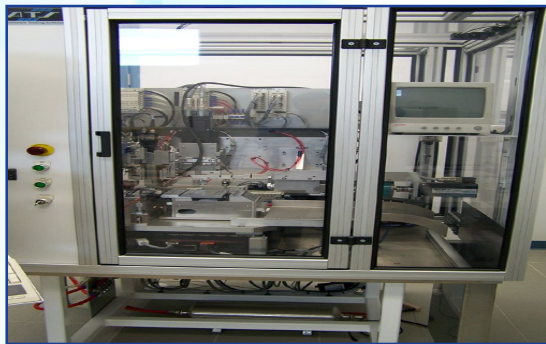
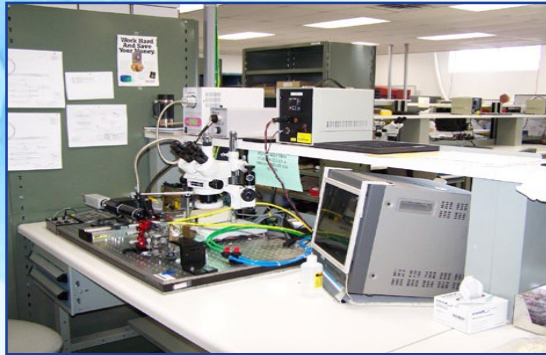
87+
Employees

OZ Türkiye



137+
Employees

Company Profile



Advanced Proprietary Processing Technology



**Canada
Certificate: FM 63463**



**China
Certificate: FM 577647**



**Turkey
Certificate: FM 601414**

ISO9001:2015 Certified



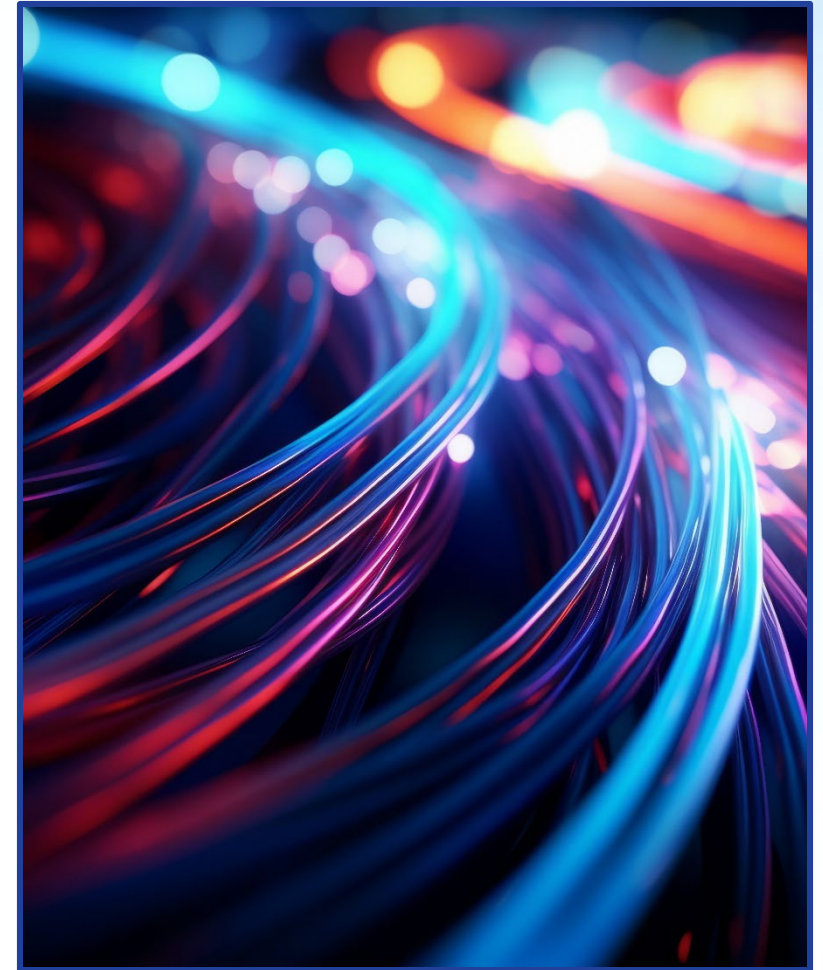
Broad Patent Portfolio



Company Profile

OZ Optics is Lead by an Experienced Team:

- **Ömür Sezerman, Chairman, President & CEO**
 - Founder and CEO since inception (40 years)
- **Zahide Sezerman, VP of Human Resources**
 - With OZ Optics since inception (40 years)
- **Garland Best, VP of Components Division**
 - 33 years at OZ Optics
- **Gordon Youle, VP of Test Equipment Division**
 - 26 years at OZ Optics
- **Saeed Pilevar, Senior VP of Business Development**
 - 3 months at OZ Optics
- **Onur Koca, General Manager of OZ Türkiye**
 - 3 year at OZ Optics
- **Bing Li, General Manager of OZ Optics China**
 - 21 years at OZ Optics



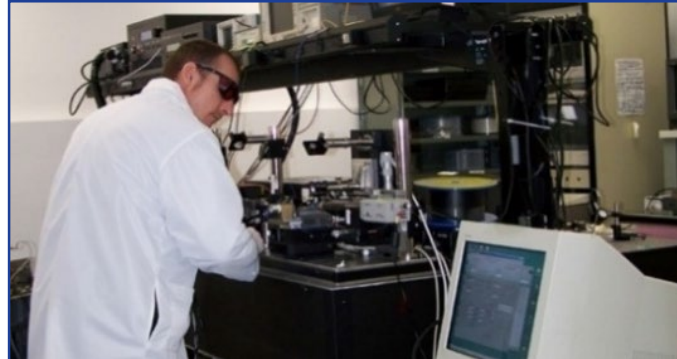
Company Profile

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

➤ CNC Machine Shop



➤ Femto-Second Laser Lab



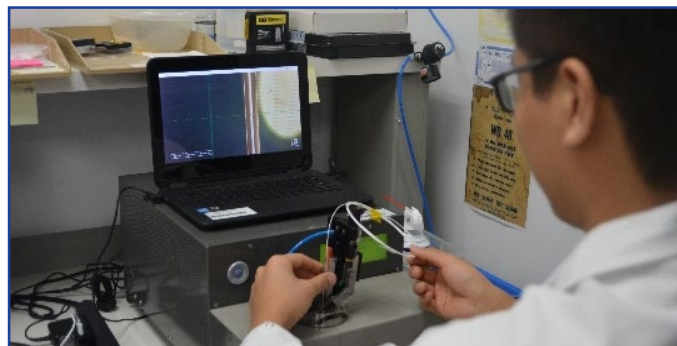
➤ AR Coating



➤ Clean Room



➤ Laser Conditioning / Cleaving





Core Competencies



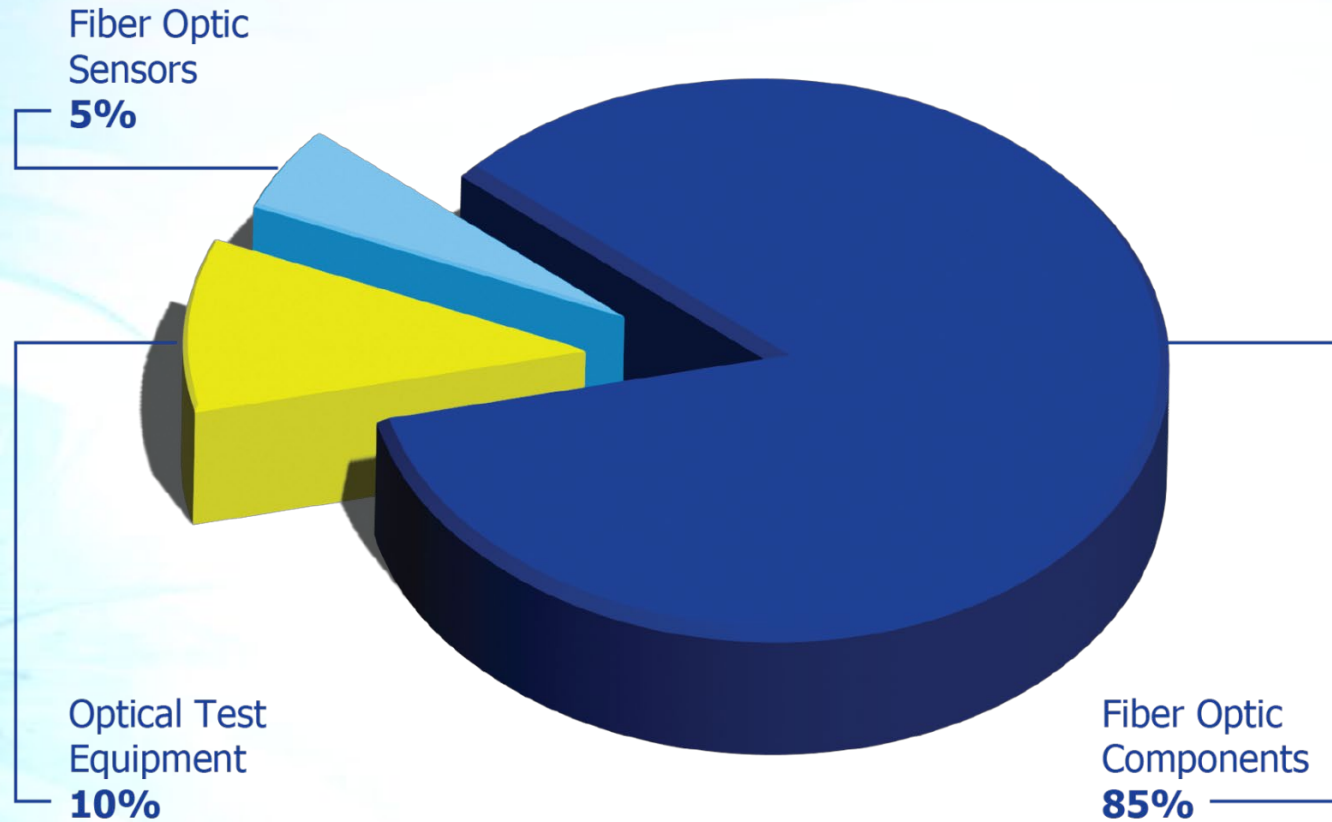
- **Pioneer in Polarization Maintaining (PM) Components & Custom Test Equipment, Including Polarization Test Equipment and FTTH Equipment**
- **Leader in Wavelength Flattened, High Power & Low PDL Components**
- **Leader in High Power Fiber Optic Delivery Systems**
- **Widest Range in Attenuator Product Offering**
- **Fiber Optic Distributed Strain and Temperature Sensors**
- **Complete product line for OCT, Gyroscope & BioPhotonics applications & 2 Micron**
- **Now available: Spectrometers and Quantum Light Sources**



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 / Serambers



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 RAB Combiners



OCT Modules and 2 micron Components



Evanesence 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™ CO-2 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

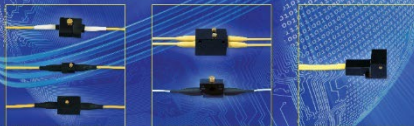
Variable Attenuators



Digital Variable Attenuators

Electrically Controlled Variable Attenuators

MEMS Variable Attenuators



PM, SM and MM Fiber Pigtailed Inline Variable Attenuators

Single and Multi Channel Miniature Variable Attenuators

Reflective Style Variable Attenuators



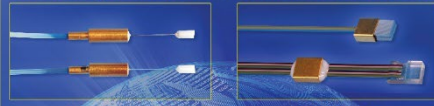
Air Gap Variable Attenuators

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



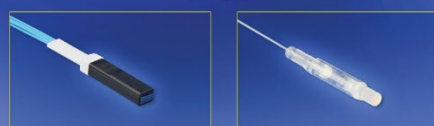
Metalized Fibers

PM, SM and MM Fiber Pigtailed V-Groove Arrays



Polarization Measurement System for V-Grooves

Tapered, Lensed 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

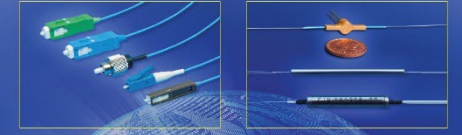


High Power Visual Fault Locators

Powermeters with Smart Detector Heads

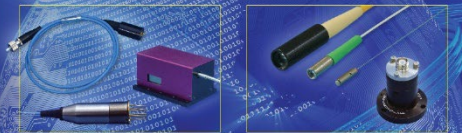
Laser Diode Stable Sources

Fiber Optic Components for 2 Micron Wavelengths



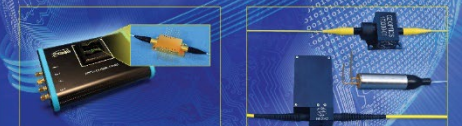
Fiber Optic Patchcords

Fused Couplers, Taps, Beam Splitters and Combiners



Fiber Pigtailed Laser Diode Sources

Pigtailed, Rectangular Style Collimators and Focusers



High Speed Electro-Optic Polarization Controllers and Scramblers

Manual and Electrically Controlled Variable Attenuators



Polarizers

Isolators



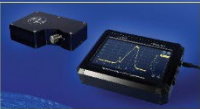
Leading Technology

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 Band Detection Systems for Pathogens



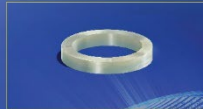
Motor Driven Polarization Dependent Loss Emulators



Detector Heads and Optical Power Monitors



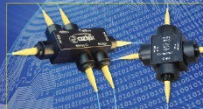
Fiber Optic Products for Gyroscopes



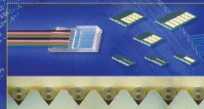
Fiber Optic Coils for Gyroscopes



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



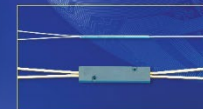
Manual and Electrically Controlled Polarization Controllers / Scramblers



Fiber Pigtailed Broadband SLED Sources



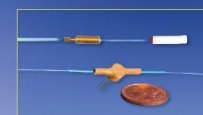
Fiber Collimators / Focusers



Broadband Fused Couplers



SM and PM Fiber Pigtailed Circulators





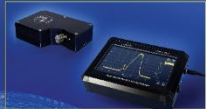
Leading Technology

Featured Products

Fiber Optic Products for Biophotonics Applications



Universal Optical DNA Rapid Detection Systems for Pathogens



High-Resolution Optical Spectrometers



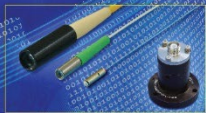
Fiber to Photodiode Couplers with Removable Filters



High and Low Power Patchcords



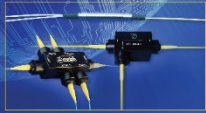
High Power Laser to Fiber Couplers



Pigtails, Rectenable Style Collimators and Focusers



Fiber Optic U-Bracket Assemblies



Wavelength Division Multiplexers and Beam Splitters



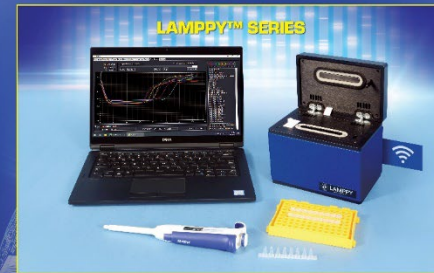
Turnkey, Ultra Stable Laser Modules



Pocket Optical Power Meter and Detectors

Universal Optical DNA Rapid Detection System

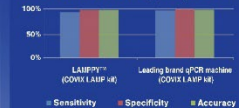
For Pathogens Including:
COVID-19, SARS, EBOLA, CHOLERA, SALMONELLA, ETC.



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: LAMPYY™ vs. Leading brand qPCR machine

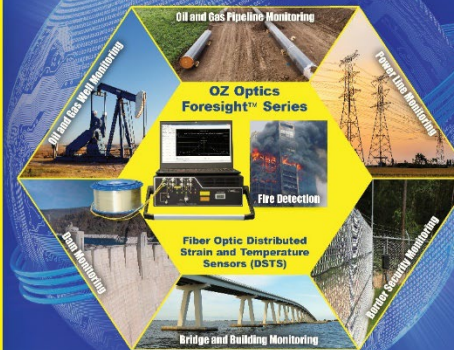


In a lab study done at Acibadem University using saliva samples taken from patients at the Acibadem Hospitals, LAMPYY was compared to a well-known conventional qPCR machine in performance and speed. The comparison study was carried out with a sample size of 262 using the COVID LAMP-based kit on both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

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



Fire Detection



Leading Technology

Featured Products



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



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 OPSW



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

Application Market

By leveraging the technology and expertise gained since its inception, OZ Optics has attracted a broad range of customers in the telecom / datacom, medical, military, security, industrial, construction, aerospace, power utilities, petrochemical and educational sectors.





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

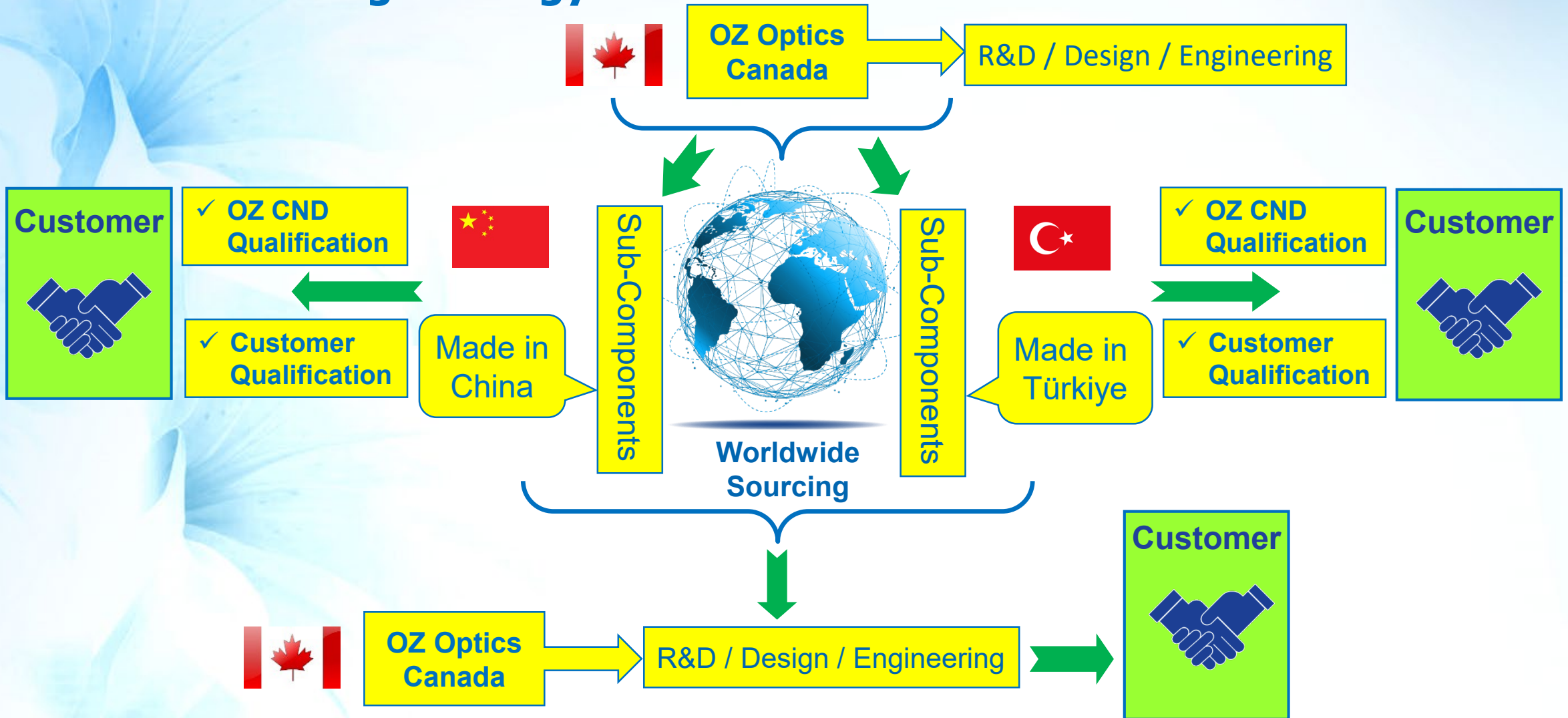


United States



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





Branch Network

Facility - Ottawa Headquarters

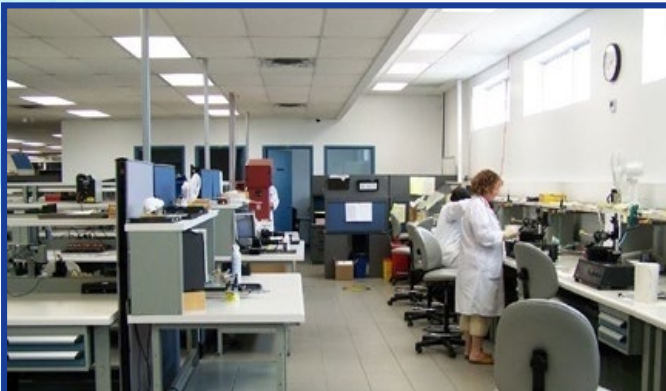
- 60,000 sq ft. - Manufacturing and R&D Facilities
- 15,000 sq ft. - Admin, Sales and Marketing
- 15,000 sq ft. - Training and Fitness Facilities





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 – Administration, Sales and Marketing
 - 3500 sq meters – Manufacturing Area
 - ✓ 500 sq meter – Class 10,000 Clean Room
 - ✓ 300 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





Laser & Laser Diode to Fiber Delivery Components



- **OZ Optics provides high quality, competitively priced fiber optic products based on a patented tilt alignment technique.**
- **Our products include a laser to fiber coupler with adjustable focus which allows >80% coupling into a singlemode fiber.**



Laser & Laser Diode to Fiber Delivery Components



Other Products Include:

- Turnkey Laser Diode to Fiber Delivery System
- High Power Laser to Fiber Couplers with Shutters, Attenuators and/or TE Coolers
- Laser to Fiber Delivery Systems for Flow Visualization
- Fiber Collimators & Focusers
- U-Brackets with Removable Optics
- Laser Diode to Fiber Couplers
- Laser Diode Collimators
- Laser Diode Power Combiners
- Fiber Optic Vacuum Feedthroughs



Laser to Fiber Couplers

DTS0049 and DTS0062: Laser to Fiber Coupler with Receptacle (Non-Contact style) and Pigtail Style Laser to Fiber Couplers

HPUC-23-400/700-P-10AC-11 and LPSC-03-780-5/125-P-11AS-14-40-3AF-3-3

- > 60% Coupling Efficiency for SMF & PMF
- Low / High Power Versions >10 W
- 240 nm to 2200 nm Wavelengths Available



[Laser to Fiber Delivery System Questionnaire](#)



[DTS0049 - Laser to Fiber Coupler with Receptacle \(Non-Contact Style\)](#)



[DTS0062 - Pigtail Style Laser to Fiber Couplers](#)

Laser to Fiber Couplers

DTS0049: Laser to Fiber Coupler with Receptacle (Non-Contact style)

- > 60% Coupling Efficiency for SMF & PMF
- Low / High Power Versions >10 W
- 240 nm to 2200 nm Wavelengths Available



[Laser to Fiber Delivery System Questionnaire](#)



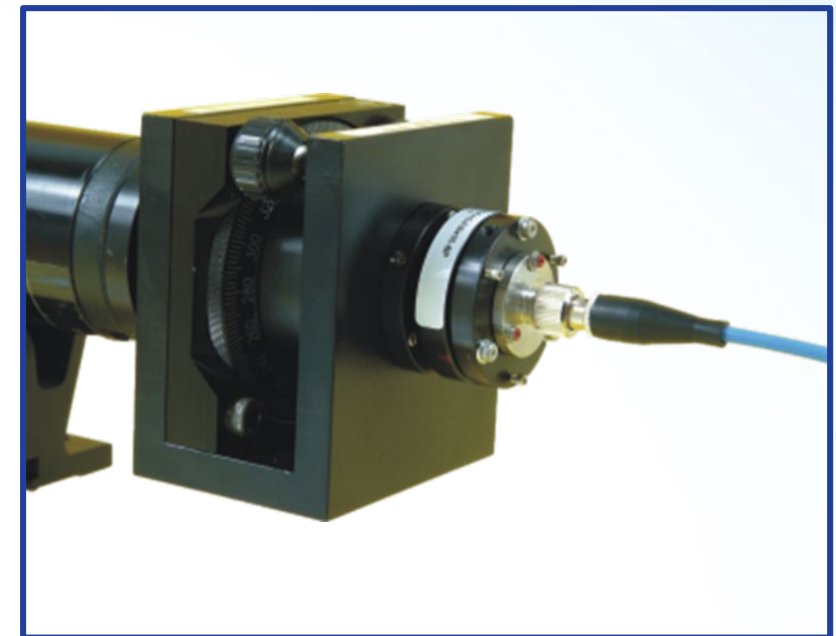
[DTS0049 - Laser to Fiber Coupler with Receptacle \(Non-Contact Style\)](#)

Laser to Fiber Couplers

DTS0049 and DTS0062: Laser to Fiber Coupler with Receptacle and Pigtail Style Laser to Fiber Couplers

HPUC-23AF-633-P-3.5AC-15-POL

- **> 60% Coupling Efficiency for SMF & PMF**
- **Low / High Power Versions >10 W**
- **240 nm to 2200 nm Wavelengths Available**



[Laser to Fiber Delivery System Questionnaire](#)



[DTS0049 - Laser to Fiber Coupler with Receptacle \(Non-Contact Style\)](#)



[DTS0062 - Pigtail Style Laser to Fiber Couplers](#)

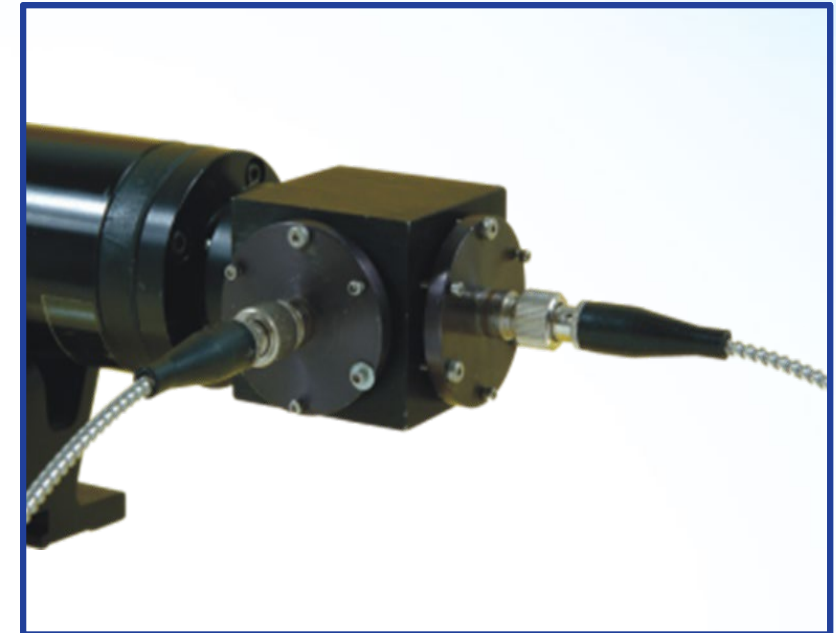


Laser to Fiber Couplers

DTS0095: Beam Splitters / Combiners

ULBS-12P-4/125-PP-633-90/10-3.9AS-20-40-3AF3AF-3-1

- > 60% Coupling Efficiency for SMF & PMF
- Low / High Power Versions >10 W
- 240 nm to 2200 nm Wavelengths Available



[Laser to Fiber Delivery System Questionnaire](#)



[DTS0095 - Beam Splitters / Combiners](#)



Laser to Fiber Couplers with Adjustable Focus

DTS0047: Laser to fiber Coupler with Adjustable Focus

HPUC-2A3A-400/700-P-3.5AC-1 and QPMJ-A3A3S-488-3.5/125-3AS-2-1

- > 80% Coupling Efficiency for SMF & PMF
- SMF, MMF & PMF Versions
- 0.1 Micron Resolution In Focus Adjustment



[Laser to Fiber Delivery System Questionnaire](#)



[DTS0047 - Laser to Fiber Coupler with Adjustable Focus](#)



Laser to Fiber Couplers with Adjustable Focus

DTS0047: Laser to fiber Coupler with Adjustable Focus

HPUC-2A3A-400/700-P-3.5AC-1 and QPMJ-A3A3S-488-3.5/125-3AS-2-1

- > 80% Coupling Efficiency for SMF & PMF
- SMF, MMF & PMF Versions
- 0.1 Micron Resolution In Focus Adjustment



[Laser to Fiber Delivery System Questionnaire](#)



[DTS0047 - Laser to Fiber Coupler with Adjustable Focus](#)



Adjustable Fiber Connectors

DTS0047: Laser to fiber Coupler with Adjustable Focus

HPUC-2,A3A-400/700-P-3.5AC-1 and QPMJ-A3A,3S-488-3.5/125-3AS-2-1

- Use for Adjustable Focusers & Couplers
- FC/PC, FC/APC and SMA 905 Compatible
- SMF, MMF & PMF Versions



[Laser to Fiber Delivery System Questionnaire](#)



[DTS0047 - Laser to Fiber Coupler with Adjustable Focus](#)

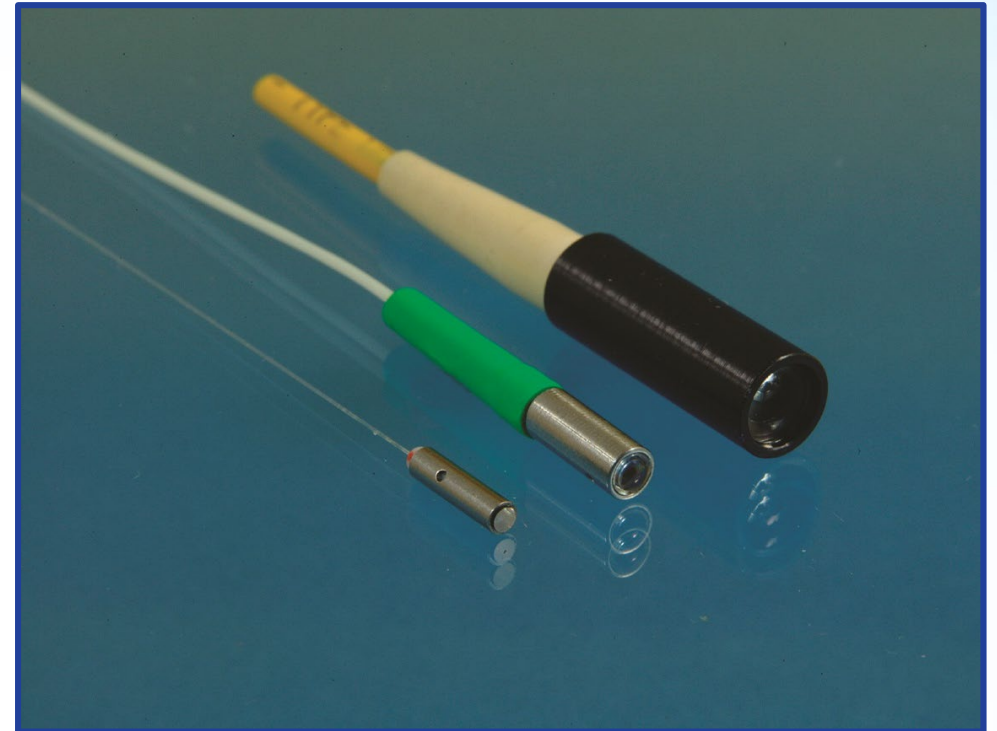


Pigtail Style Collimators / Focusers

DTS0060: Collimators / Focusers – Pigtail Style

LPC-03-1550-8/125-P-0.44-2AS-40-3A-3-2 and LPF-01-1550-8/125-P-3-19.4-5AS-60-3A-3-1

- 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



Pigtail Style Collimators / Focusers

DTS0157: Fused Fiber Collimator

DTS0145: High Power Collimators and Focusers – Pigtail Style

- **Standard Collimated Beam Diameter:
0.2 mm to 3.5 mm**
- **Standard Sizes:
1.6 mm, 2.5 mm, 4 mm, 8 mm, 11 mm,
12 mm & 25.4 mm Diameter Housing**
- **Up to 1 kW Power**



DTS0157 – Fused Fiber Collimator



DTS0145 – High Power Collimators and Focusers – Pigtail Style

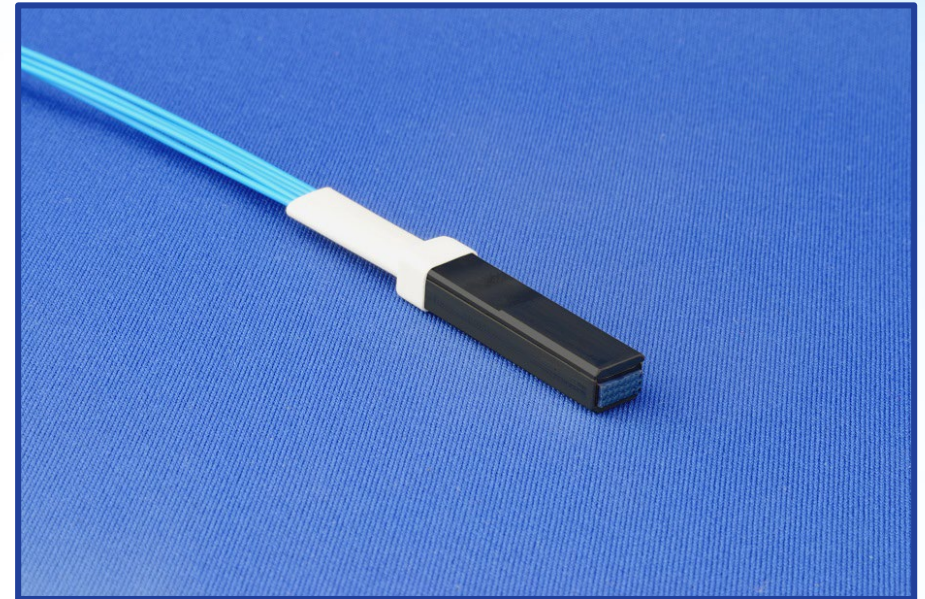


Precision Fiber Optic Collimator / Focuser Array



DTS0156: Precision Fiber Optic Collimator / Focuser Array

- High Density, Small Footprint
- Evenly Spaced Linear Configuration
- Generate a Precise Array of Collimated / Focused Spots



Receptacle Style Collimator / Focusers



DTS0094: Collimators and Focusers – Receptacle Style

HPUCO-23-400/700-P-50AC

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



DTS0094 – Collimators and Focusers – Receptacle Style

Receptacle Style Collimator / Focusers



DTS0094: Collimators and Focusers – Receptacle Style

HPUCO-23-400/700-P-50AC

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



DTS0094 – Collimators and Focusers – Receptacle Style

Delivery Systems for Flow Visualization



DTS0014: Delivery System for Flow Visualization – Fiber Optic

HPUC, FMJ and FOLM

- Uniform Intensity Along the Line
- Up to 1 mm Linewidths, 10° to 60° Fan Angles
- Cross Targets Also Available



DTS0014 – Delivery System for Flow Visualization

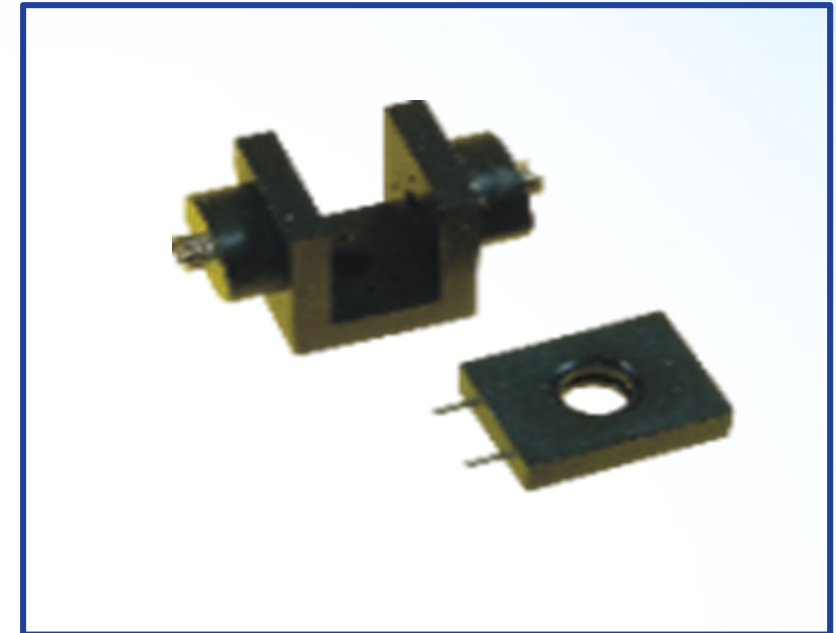


U-Brackets with Removable Optics

DTS0022: U-Bracket Assembly – Fiber Optic

UB-01-33-1550-S-S-3.03

- **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

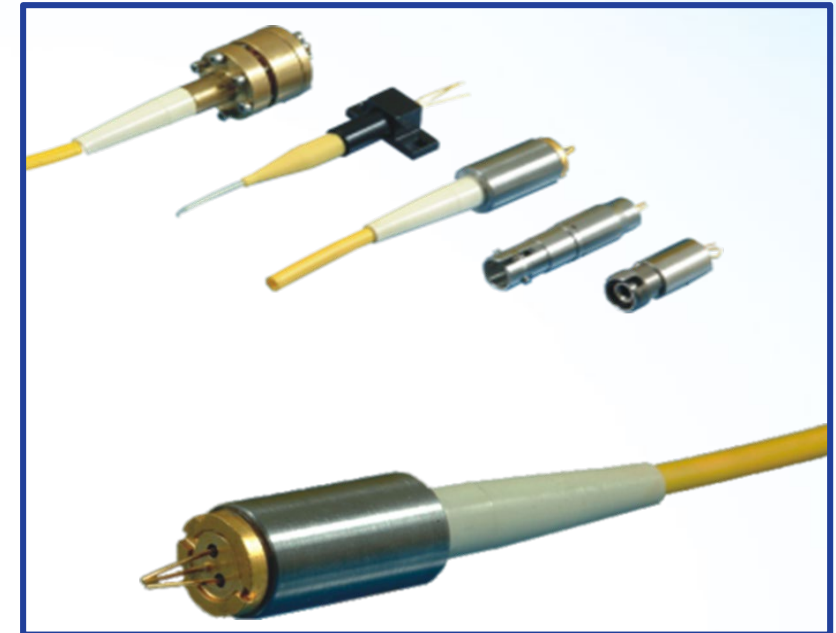


OEM Laser Diode to Fiber Couplers

DTS0063: Laser Diode to Fiber Coupler – Pigtail Style

LDPC-01-635-4/125-s-40-3S-3-1-35-5LD

- 375 nm to 2050 nm Wavelengths
- > 20% Coupling Into SMF, to > 60%
- Low Cost, Rugged & Compact Size



[Laser Diode / LED to Fiber Delivery System Questionnaire](#)



[DTS0063 - Laser Diode to Fiber Coupler – Pigtail Style](#)



OEM Laser Diode to Fiber Couplers

DTS0136: Laser Diode to Fiber Coupler – Receptacle Style

HULD-13-635-S-30-7LD

- 375 nm to 2050 nm Wavelengths
- Recommend MMF, > 20% Coupling Into SMF
- Low Cost, Rugged & Compact Size



[Laser Diode / LED to Fiber Delivery System Questionnaire](#)



[DTS0136 - Laser Diode to Fiber Coupler – Receptacle Style](#)



Lab-Style Laser to Fiber Couplers

DTS0136: Laser Diode to Fiber Coupler - Receptacle Style

LDPC-05-635-4/125-S-40-3S-3-1-20-7LD-DR

- 375 nm to 2050 nm Wavelengths
- Up to 50% Coupling Efficiency Into SMF & PMF
- PC Board Mountable, Reusable Optics



DTS0136 – Laser Diode to Fiber Coupler – Receptacle Style

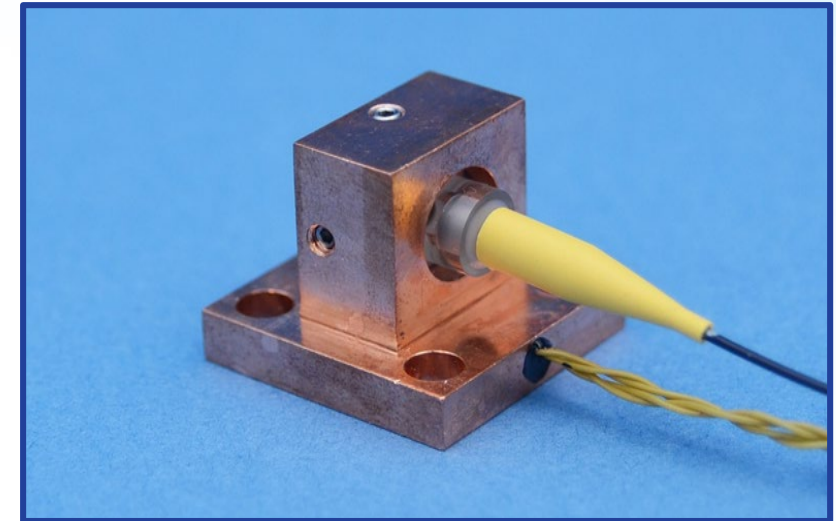


TE Controlled Laser Diode Housings

DTS0062: Pigtail Style Laser to Fiber Couplers

LDPC-T1-780-5/125-P-40-3A-3-1-40-1-CSP

- 0.01 dB Output Stability, SMF, PMF & MMF
- Built-in Temperature Sensor
- 0.1°C Temperature Control



[Laser Diode / LED to Fiber Delivery System Questionnaire](#)



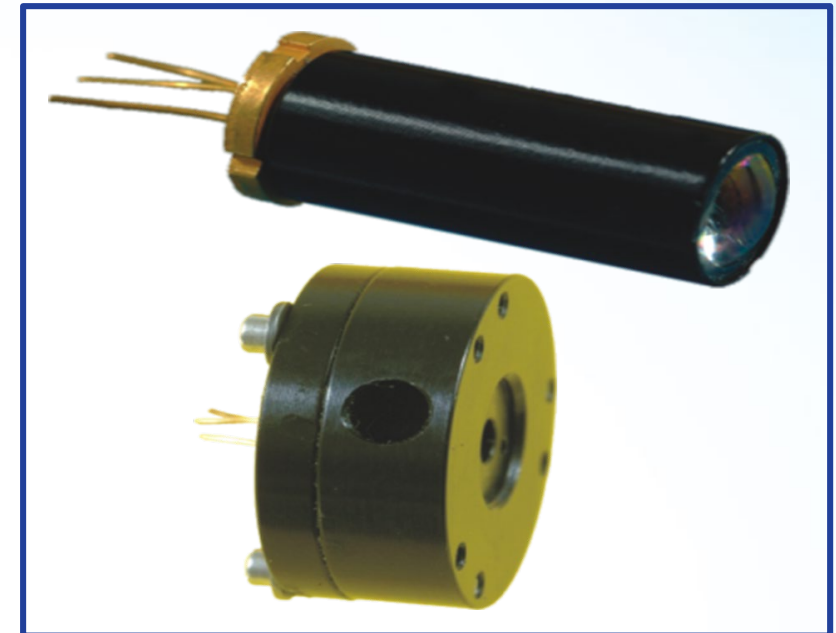
[DTS0062 – Pigtail Style Laser to Fiber Couplers](#)

Laser Diode Collimators

DTS0043: Laser Diode Collimators

HULDO-41-1310-2AS-PO-SP and HULDO-11-670-2AS-5LD

- 0.6 mm to 4.9 mm beam diameters
- Adjustable lens can be used as focusers
- Low cost, rugged & compact size



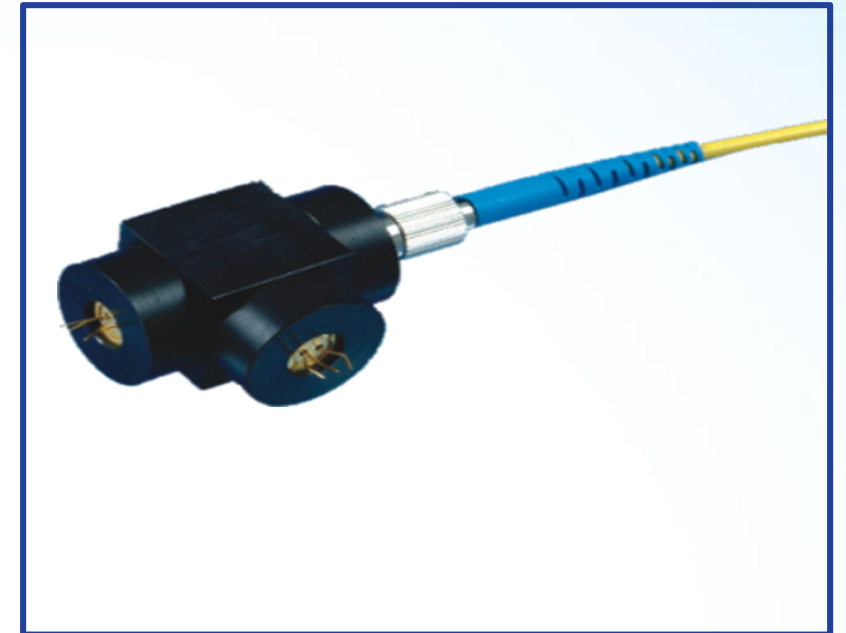


Laser Diode Power Combiners

DTS0044: Laser Diode Power Combiner

ULBS-11P-4/125-P-660/690-PBS-40-3S-3-1-SP

- Up to 45% Coupling from Each Diode
- -40, -50, -60 dB Back Reflection
SMF, PMF & MMF
- Can Combine Equal / Different Wavelengths



DTS0044 – Laser Diode Power Combiner



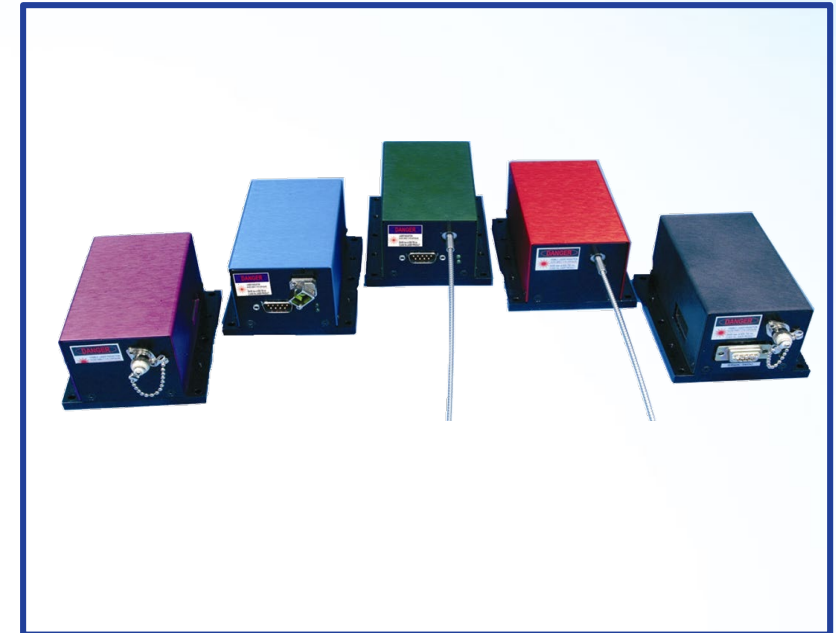
Turn-Key Free-Space or Fiber Pigtailed Laser Modules



DTS0081: Turnkey, Ultra Stable, OEM LD Source OZ-1000 & OZ-2000 Series

OZ-2000-405-3/125-S-40-3S-3A-1-1

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



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



Turn-Key Free-Space or Fiber Pigtailed Laser Modules



DTS0081: Turnkey, Ultra Stable, OEM LD Source OZ-1000 & OZ-2000 Series

OZ-2000-405-3/125-S-40-3S-3A-1-1

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



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

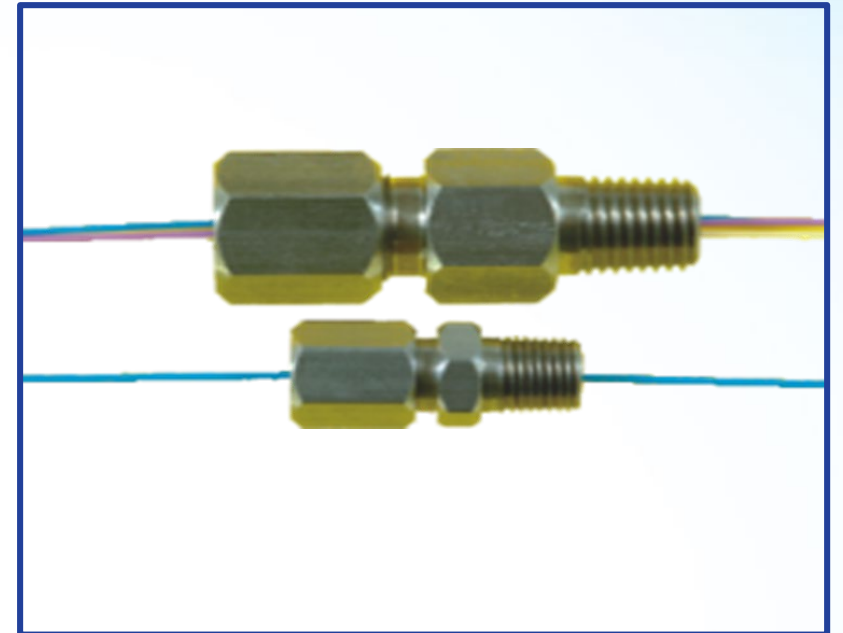


Penetrating Vacuum Feedthroughs

DTS0023: Vacuum Pressure Feedthrough – Fiber Optic

VAC-01-V-SMJ-3A3A-1300/1550-9/125-1-1.5

- No Intrinsic Insertion Loss or Back Reflection
- Low Cost, Rugged and Compact Size
- Gas Leak Rate 10^{-9} scc/sec



DTS0023 – Vacuum Pressure Feedthrough – Fiber Optic

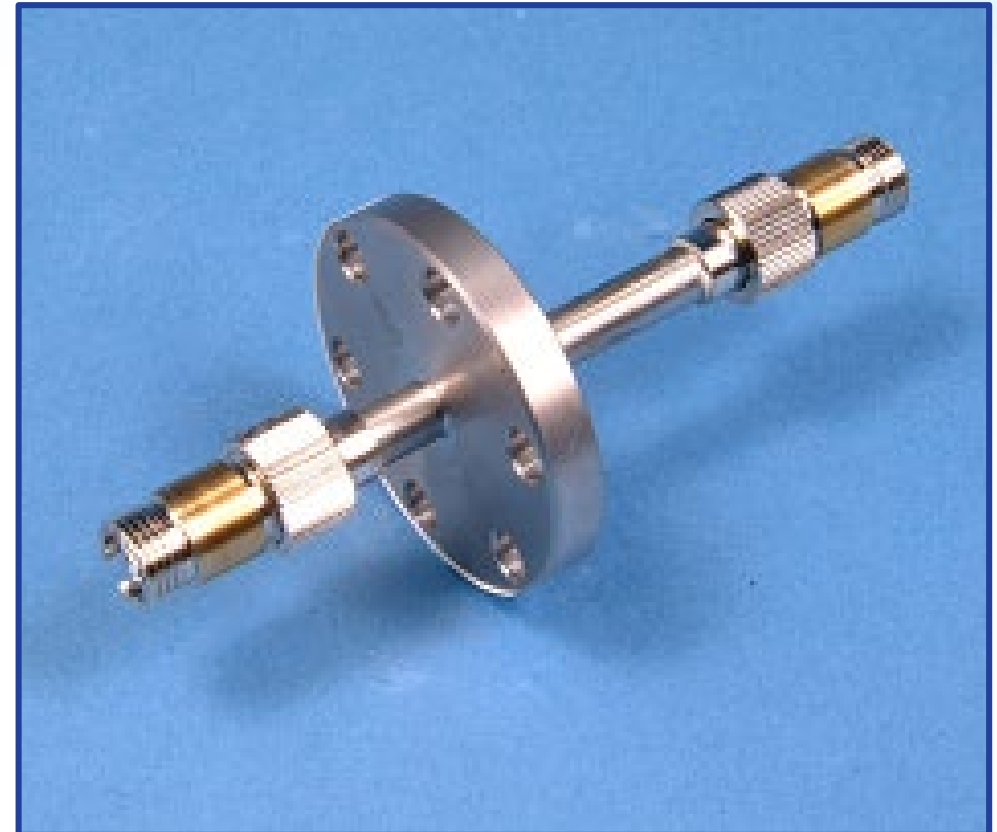


Vacuum Feedthroughs – Receptacle Style

DTS0023: Vacuum Pressure Feedthrough – Fiber Optic

VAC-3S3S-IRVIS-105/125-M

- **Single Mode, Polarization Maintaining and Multimode Versions**
- **Easy to Install & Use**
- **Rugged and Compact Size**
- **Gas leak rate 10^{-6} scc/sec**



DTS0023 – Vacuum Pressure Feedthrough – Fiber Optic

High Power Fiber Patchcords

DTS0037: High Power Fiber Optic Patchcords

QMMJ-A3AHP,2F-UVVIS-100/140-3-10

QMMJ-A3AHPM,3AF-IRVIS-50/125-3-2

QMMJ-A3AHPC,X-IRVIS-20/125-5AS-1-AR-CSP

QMMJ-A5HPL,5HPL-UVVIS-200/240-5AS-5

- **MMF, SMF & PMF Versions**
- **Armored Cable Available for Safety**
- **Near UV to Short-Wave Infrared Wavelengths**
- **Adjustable Connector Combination for Extra Flexibility**





High Power Fiber Patchcords

DTS0037: High Power Fiber Optic Patchcords

QMMJ-A3AHP,2F-UVVIS-100/140-3-10

QMMJ-A3AHPM,3AF-IRVIS-50/125-3-2

QMMJ-A3AHPC,X-IRVIS-20/125-5AS-1-AR-CSP

QMMJ-A5HPL,5HPL-UVVIS-200/240-5AS-5

Versions Offered:

- **HP:** High Power Polish, Air Gap Connector
- **HPM:** High Power Mechanical Cleave, Air Gap Connector
- **HPC:** High Power Coreless Fiber End Cap, Air Gap Connector
- **HPL:** High Power Laser Treated End Face, Air Gap Connector



DTS0037 – High Power Fiber Optic Patchcords



High Power Fiber Patchcords

DTS0037: High Power Fiber Optic Patchcords

QMMJ-A3AHP,2F-UVVIS-100/140-3-10
QMMJ-A3AHPM,3AF-IRVIS-50/125-3-2

QMMJ-A3AHPC,X-IRVIS-20/125-5AS-1-AR-CSP
QMMJ-A5HPL,5HPL-UVVIS-200/240-5AS-5

Versions Offered:

- **HP:** High Power Polish, Air Gap Connector
- **HPM:** High Power Mechanical Cleave, Air Gap Connector
- **HPC:** High Power Coreless Fiber End Cap, Air Gap Connector
- **HPL:** High Power Laser Treated End Face, Air Gap Connector



DTS0037 – High Power Fiber Optic Patchcords



High Power Fiber Patchcords

DTS0037: High Power Fiber Optic Patchcords

QMMJ-A3AHP,2F-UVVIS-100/140-3-10

QMMJ-A3AHPM,3AF-IRVIS-50/125-3-2

QMMJ-A3AHPC,X-IRVIS-20/125-5AS-1-AR-CSP

QMMJ-A5HPL,5HPL-UVVIS-200/240-5AS-5

Versions Offered:

- **HP:** High Power Polish, Air Gap Connector
- **HPM:** High Power Mechanical Cleave, Air Gap Connector
- **HPC:** High Power Coreless Fiber End Cap, Air Gap Connector
- **HPL:** High Power Laser Treated End Face, Air Gap Connector



DTS0037 – High Power Fiber Optic Patchcords

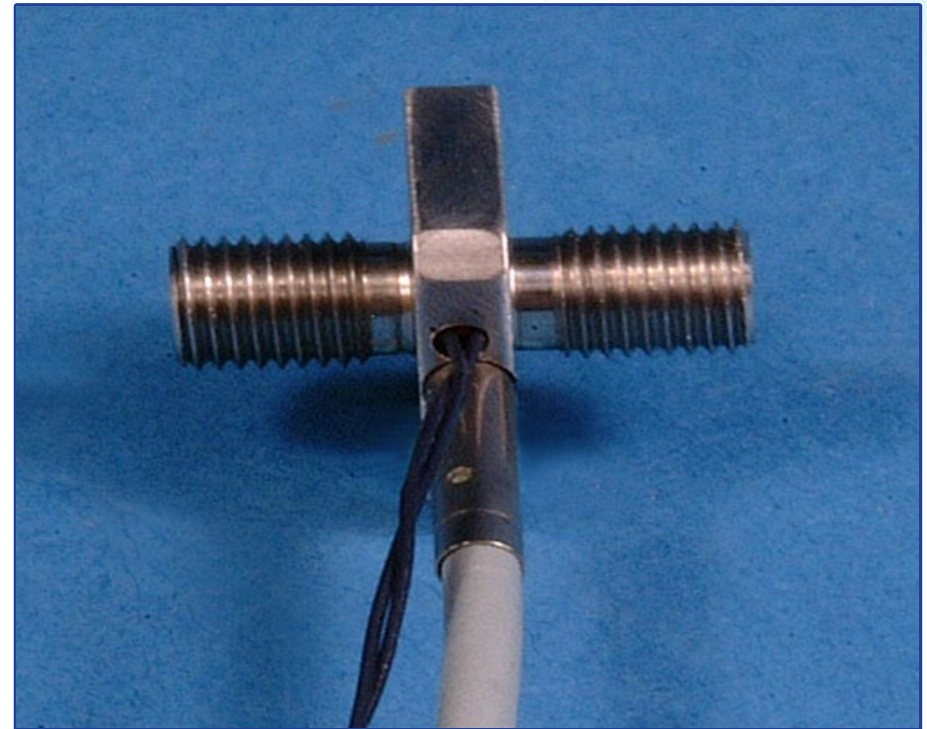


High Power Shutters / Bulkhead Receptacle with Safety Interlocks



DTS0120: High Power Shutters and Safety Interlocks

- Multiple Watt CW Power Handling
- Temperature, Contact or Proximity Sensors for Safety Interlock
- SMA 905 or FC Receptacles



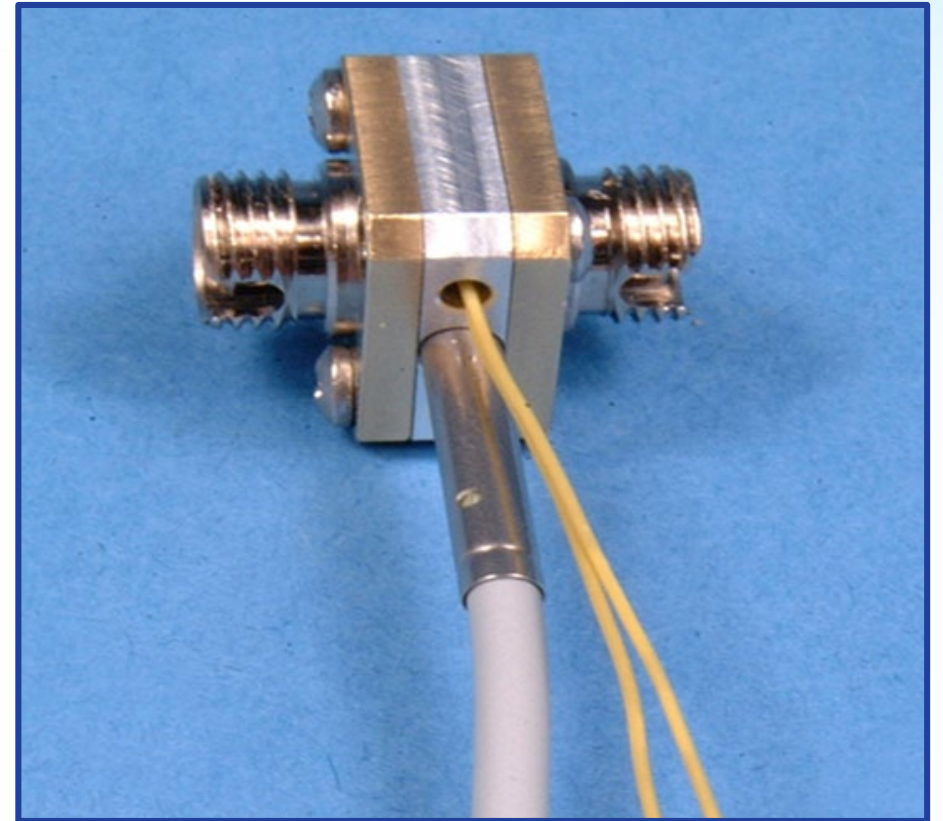


High Power Shutters / Bulkhead Receptacle with Safety Interlocks



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High Power Shutters / Bulkhead Receptacle with Safety Interlocks



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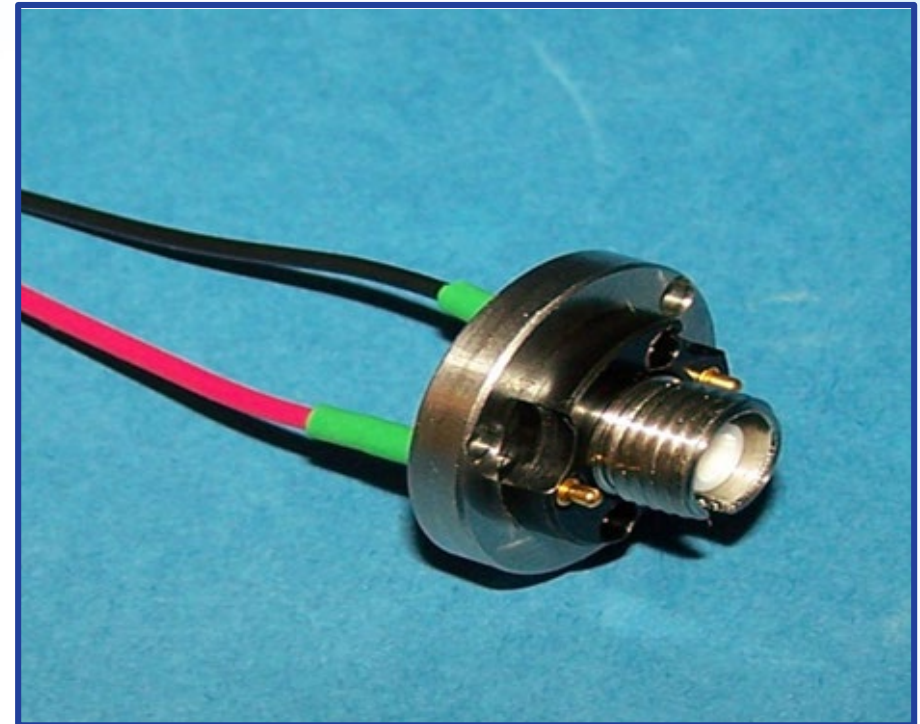


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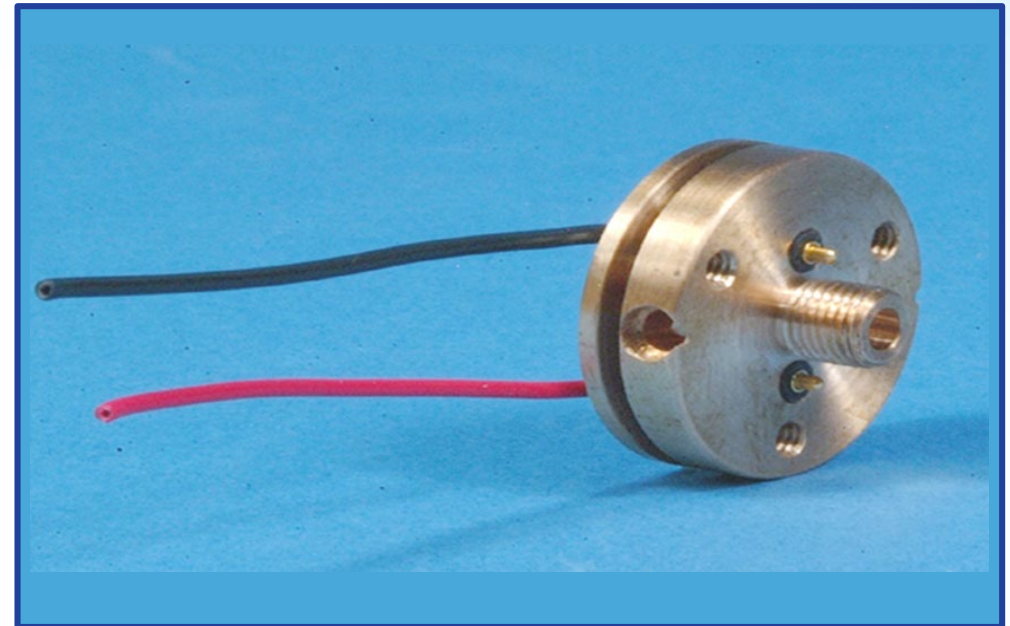


High Power Shutters / Bulkhead Receptacle with Safety Interlocks



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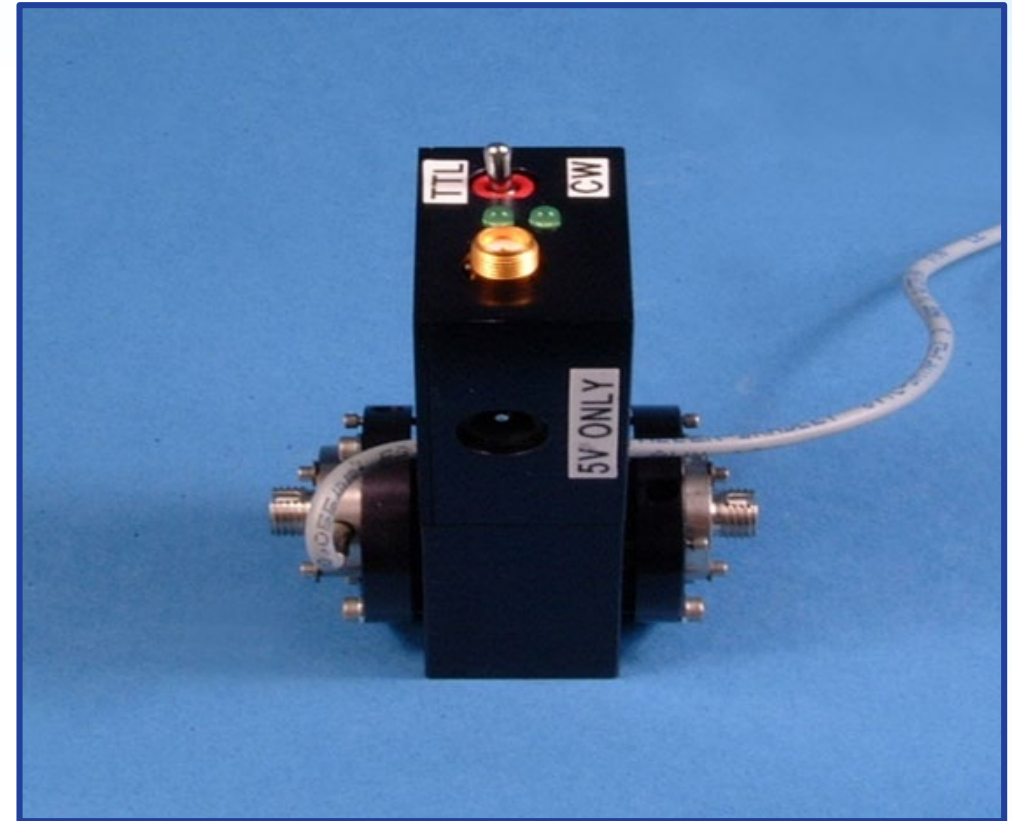


High Power Shutters / Bulkhead Receptacle with Safety Interlocks



DTS0120: High Power Shutters and Safety Interlocks

- Multiple Watt CW Power Handling
- Response Speed of < 30 ms
- Temperature, Contact or Proximity Sensors for Safety Interlock
- SMA 905 or FC Receptacles



DTS0120 – High Power Shutters and Safety Interlocks

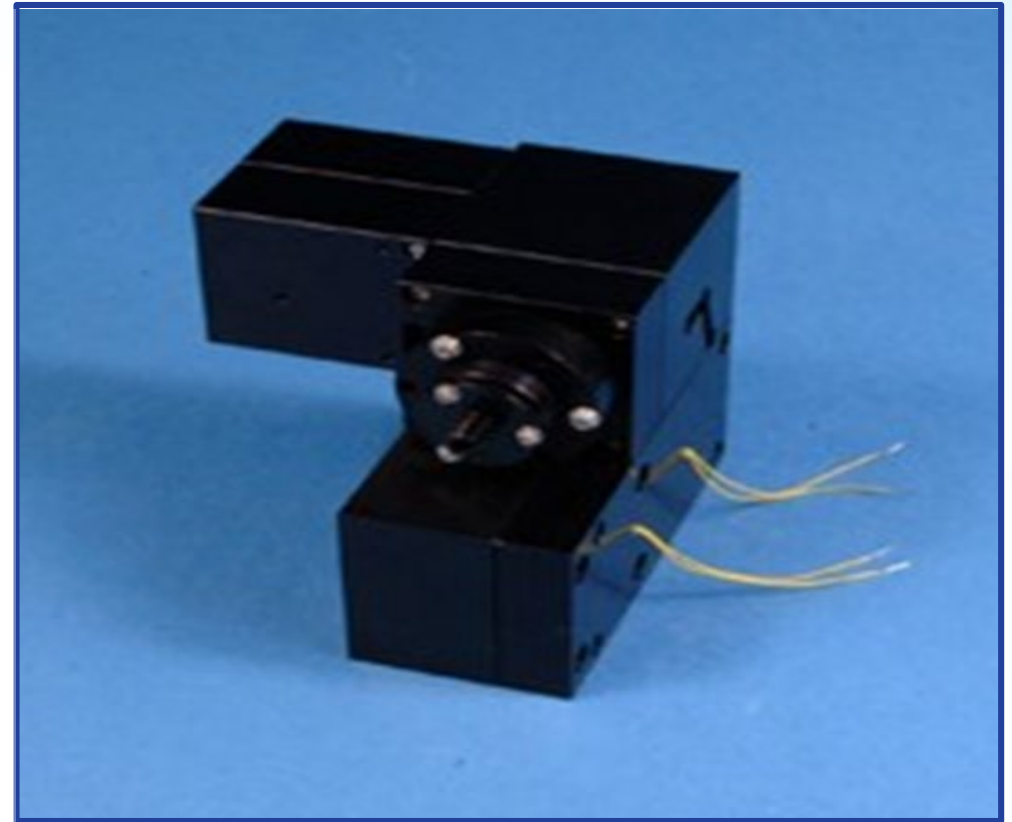


High Power Shutters / Bulkhead Receptacle with Safety Interlocks



DTS0120: High Power Shutters and Safety Interlocks

- Multiple Watt CW Power Handling
- Response Speed of < 30 ms
- Temperature, Contact or Proximity Sensors for Safety Interlock
- SMA 905 or FC Receptacles





Hybrid Patchcords

DTS0082: Universal Connectors and Hybrid Patchcords

AA-200-11-9/125-3A3S



- **Angled, Super, Ultra, FC/PC, ST, SC Connectors**
- **Male to Male, Male to Female Versions**
- **Low Cost, Rugged and Compact Size**



DTS0082 - Universal Connectors and Hybrid Patchcords



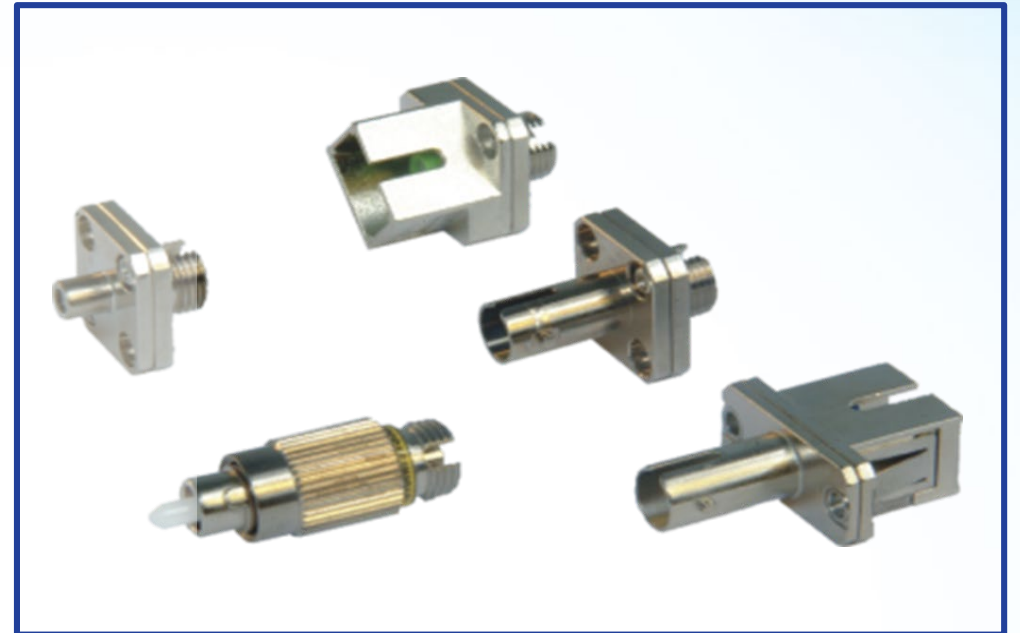
Universal Connectors

DTS0082: Universal Connectors and Hybrid Patchcords

AA-200-3SC



- Available for FC, ST, SMA, SC & LC
- Less than 0.3 dB Insertion Losses
- Patch Panel Mountable, Duplex Styles



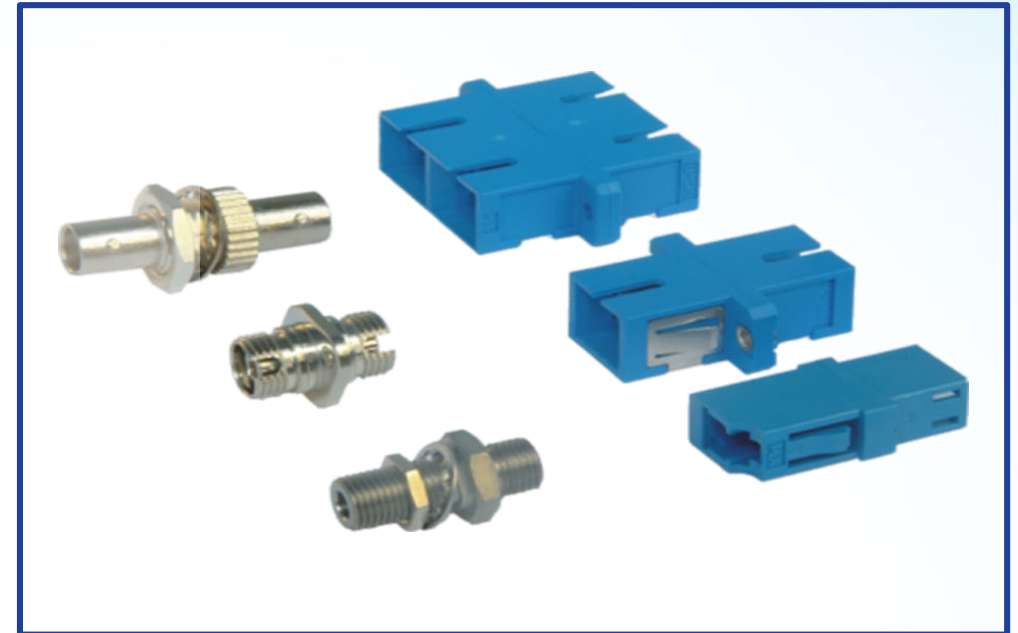
DTS0082 - Universal Connectors and Hybrid Patchcords



Sleeve Through Adaptors

DTS0131: Bulkhead Receptacles, Sleeve-Thru Adaptors, and Universal Sleeve-Thru Adaptors SMC-03 and PMC-03 and HLPC-SMA/M

- Available for FC, ST, SMA, SC & LC
- Less than 0.3 dB Insertion Losses
- Patch Panel Mountable, Duplex Styles





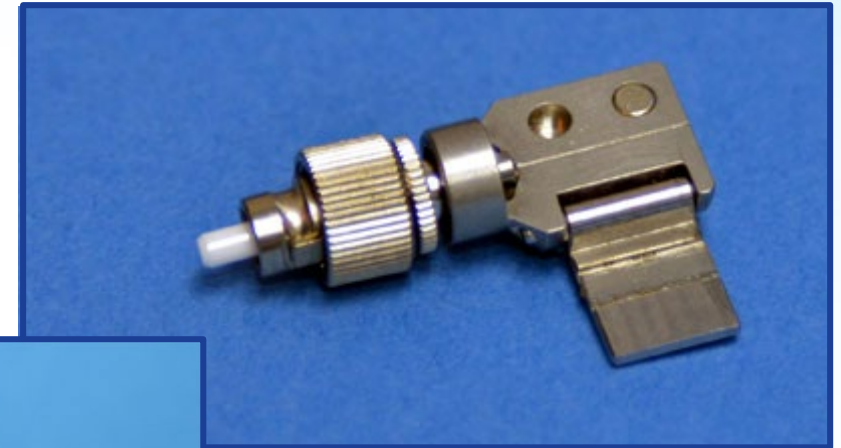
Bare Fiber Adaptors

DTS0003: Bare Fiber Adaptors

BARE-03-82-M



- Used to Hold Bare Fibers
- FC, SC, ST, SMA Connectors Available with Spring Loaded and Magnetic Clip Versions
- Reusable, Inexpensive

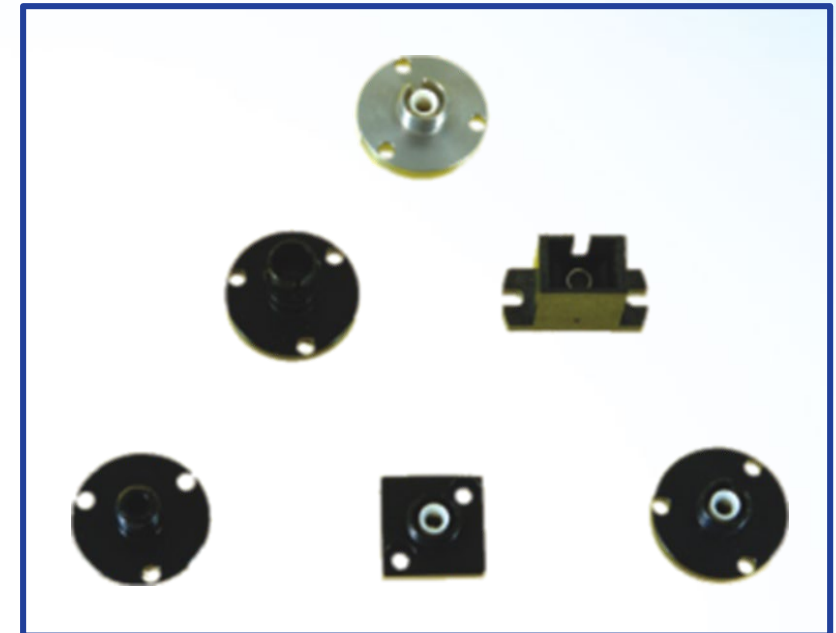


DTS0003 – Bare Fiber Adaptors

Bulkhead Receptacles

DTS0131: Bulkhead Receptacles, Sleeve-Thru Adaptors, and Universal Sleeve-Thru Adaptors HLPC-ATT/ST-SM and HLPC-NTT/FC-PM

- Available for FC, ST, SMA, SC, LC, E2000
- Angled FC, ST, SC, LC, E2000
- Designed for free space use, compact size



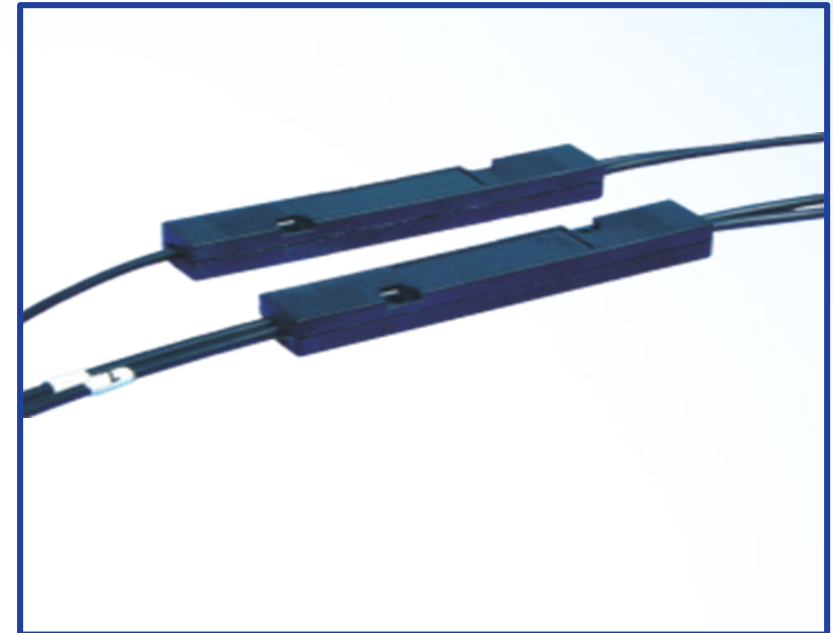


Fused Fiber Optic Couplers

DTS0033: Fused Couplers – Fiber Optic

FUSED-12-780-5/125-50/50-3A3A3A-3A-0.5-PM

- 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

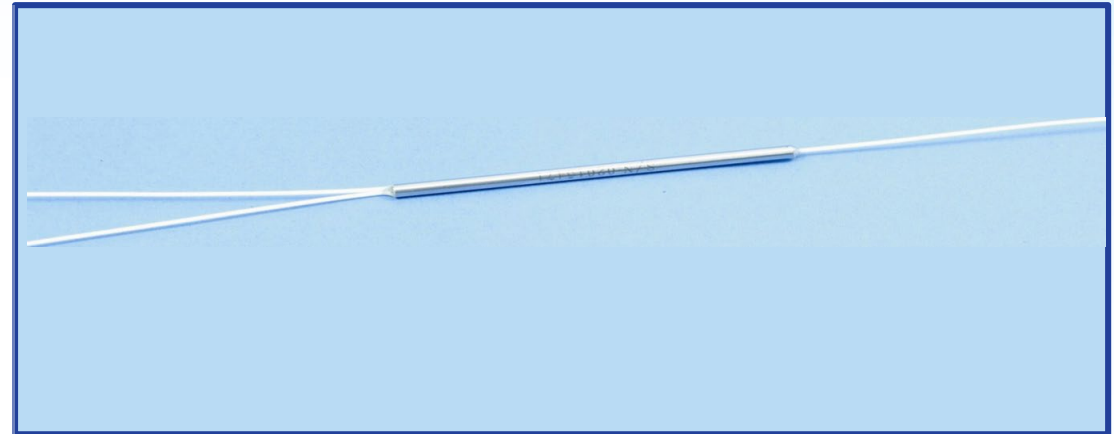


Fused Fiber Optic Couplers

DTS0033: Fused Couplers – Fiber Optic

FUSED-12-1550-8/125-50/50-3S3A3A-1-1-PM

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



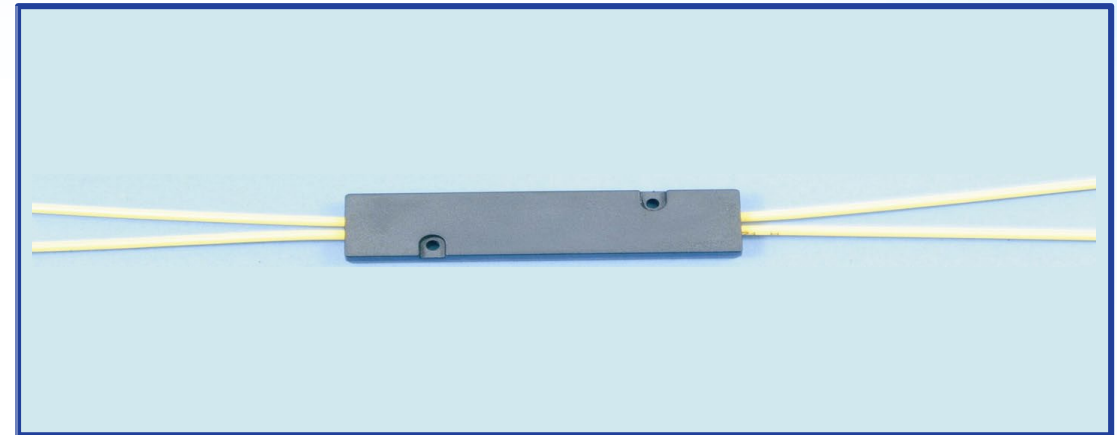


Fused Fiber Optic Couplers

DTS0033: Fused Couplers – Fiber Optic

FUSED-12-633-4/125-80/20-3A3A3A-3-1

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



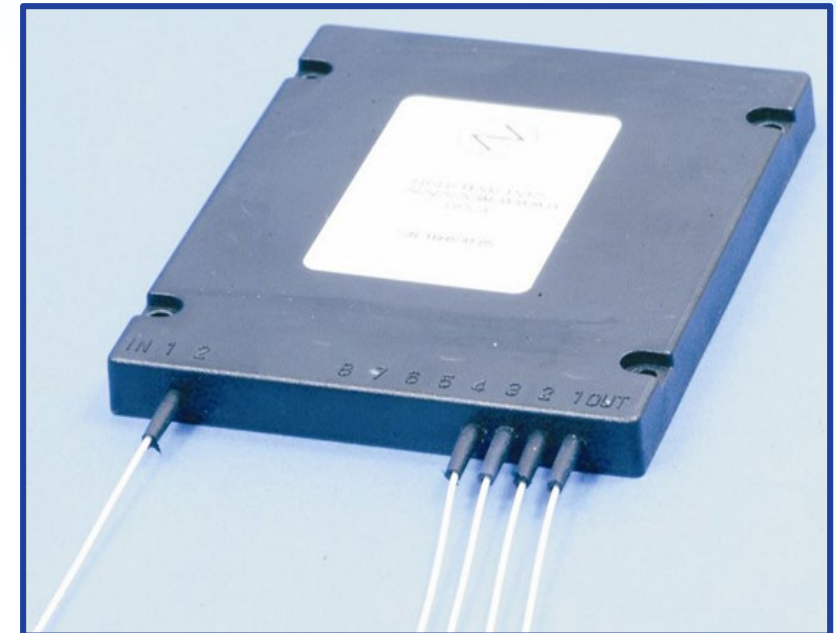


Fused Fiber Optic Couplers

DTS0033: Fused Couplers – Fiber Optic

FUSED-14-532-3.5/125-25/25/25/25-3A3A3A3A-1-0.5

- 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

Fiber Pigtailed Isolators

DTS0016: Fiber Optic Isolators

FOPI-21-11-1550-9/125-S-50-3A3A-1-1-55

- **< 0.8 dB IL, as Good as 60 dB Isolation**
- **-40 dB, -50 dB, -60 dB Back Reflection
SMF & PMF**
- **532 nm to 2050 nm Wavelengths**



Fiber Pigtailed Isolators

DTS0016: Fiber Optic Isolators

FOI-11-11-1064-6/125-P-40-3A3A-1-1-30-HP

- **< 0.8 dB IL, as Good as 60 dB Isolation**
- **-40 dB, -50 dB, -60 dB Back Reflection
SMF & PMF**
- **532 nm to 2050 nm Wavelengths**



Fiber Pigtailed Isolators

DTS0016: Isolators – Fiber Optic

FOI-11-11-633-4/125-P-40-3A3A-3-1-35

- **< 0.8 dB IL, as Good as 60 dB Isolation**
- **-40 dB, -50 dB, -60 dB Back Reflection
SMF & PMF**
- **532 nm to 2050 nm Wavelengths**

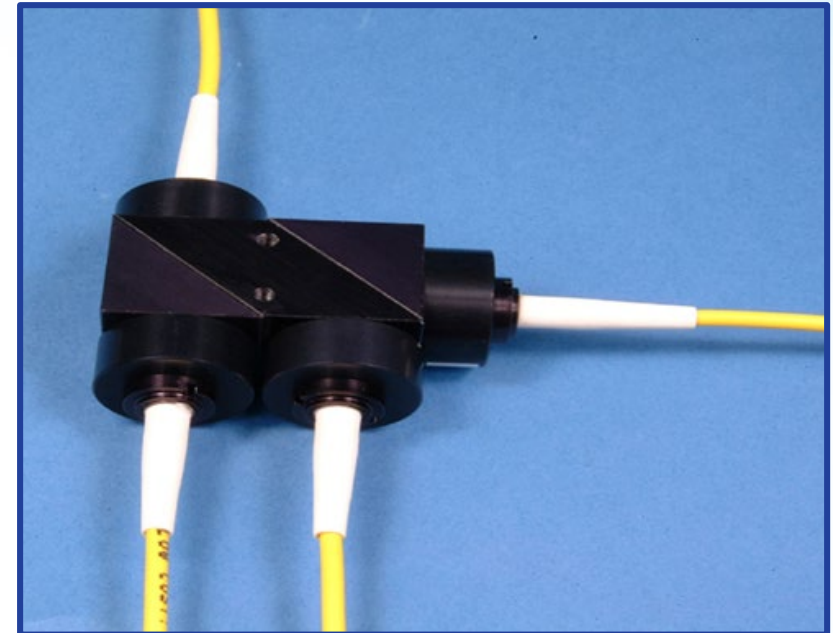
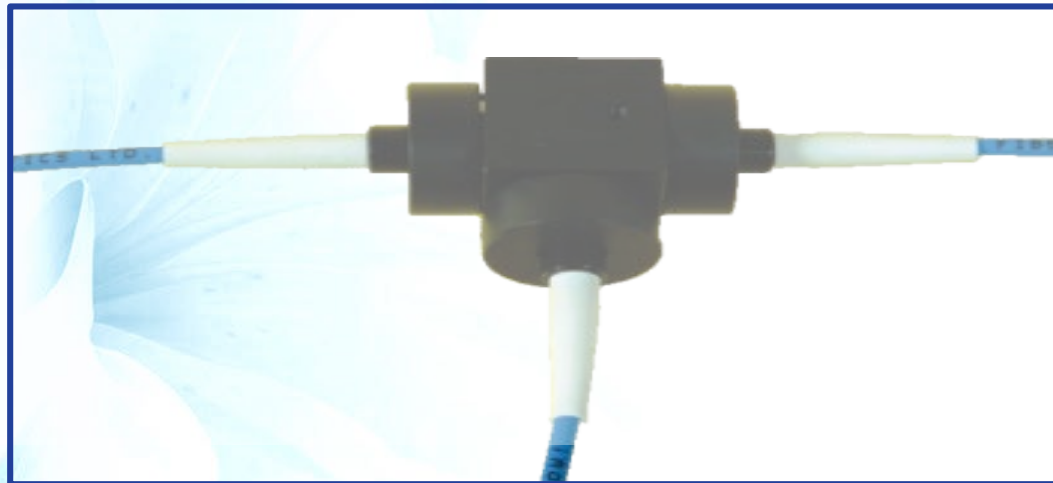


Wavelength Division Multiplexers

DTS0089: Wavelength Division Multiplexers

WDM-13P-1111-405/532/650-3.5/125-SSSS-40-3A3A3A3A-3-1

- < 0.8 dB Insertion Losses, 65 dB Isolation
- Up to 2 Watt Power Handling
- -40 dB, -50 dB, -60 dB Back Reflection



DTS0089 – Wavelength Division Multiplexers

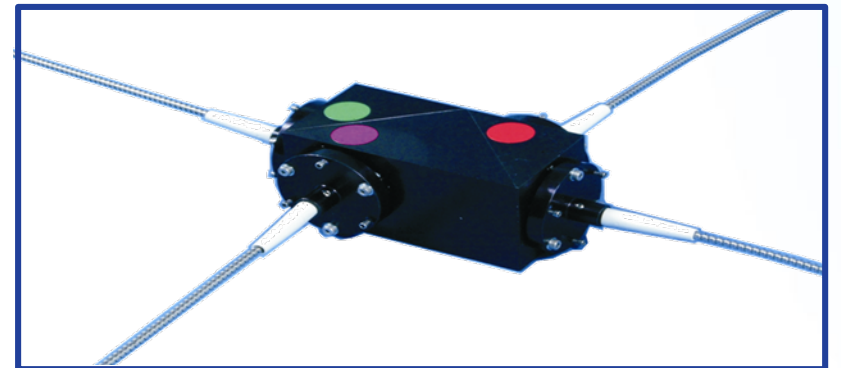
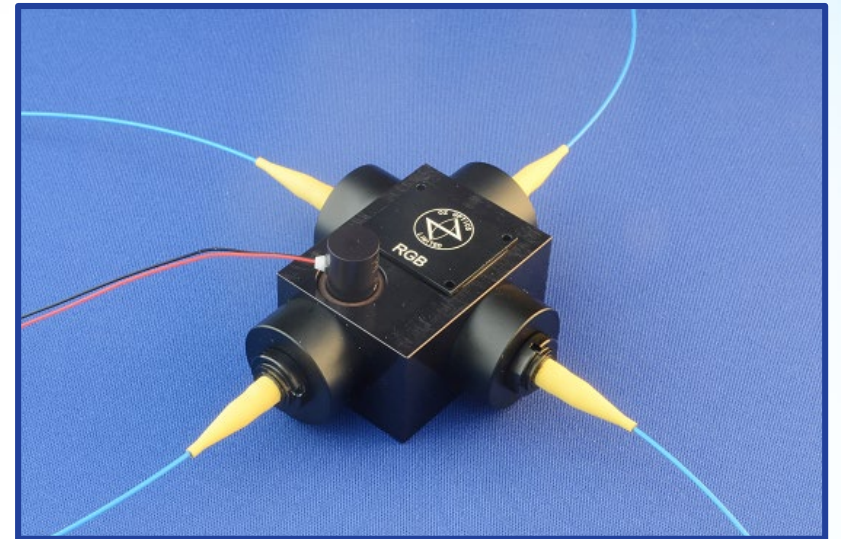
RGB Wavelength Division Multiplexers



DTS0089 and DTS0117: Wavelength Division Multiplexers, White Light (RGB) Laser Sources

WDM-14-33333-690/750/797/847-50/125-MMMMM and RGB-100-442/532/635-3.5/125-P-3A-3AS-1-15

- **Combines Red/Green/Blue Visible Wavelengths**
- **Two, Three, and Four Wavelength Versions**
- **MM, SM and PM Fiber Versions**



DTS0089 – Wavelength Division Multiplexers



DTS0117 – White Light (RGB) Laser Sources

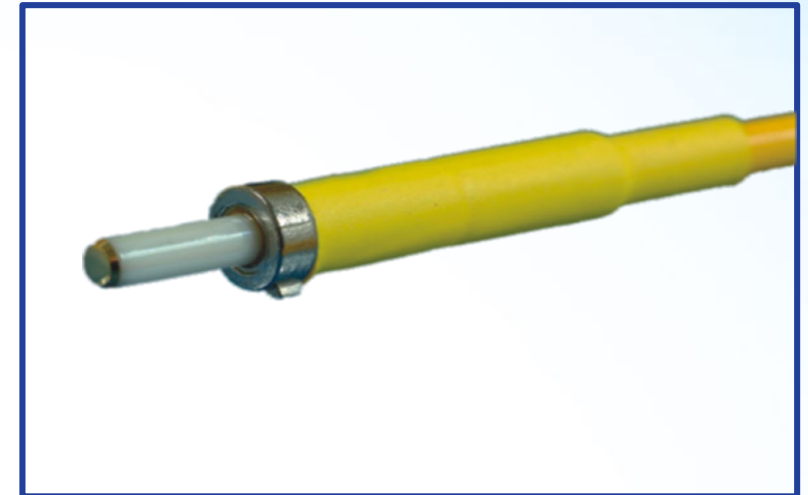


Gold / AR / HR Coated Fiber Ends

DTS0020: Reflectors - Fiber Optic (Fixed or Variable)

FORF-11P-1300/1550-9/125-S-3S-3A-1 and FORF-31P-1550-50/125-M-X-1-1-HR

- Gold over >96% , AR: < 0.1% Reflection Levels
- High Reflection Coating >99% Reflection
- 700 nm to 2000 nm Wavelengths
- SMF, MMF & PMF Versions



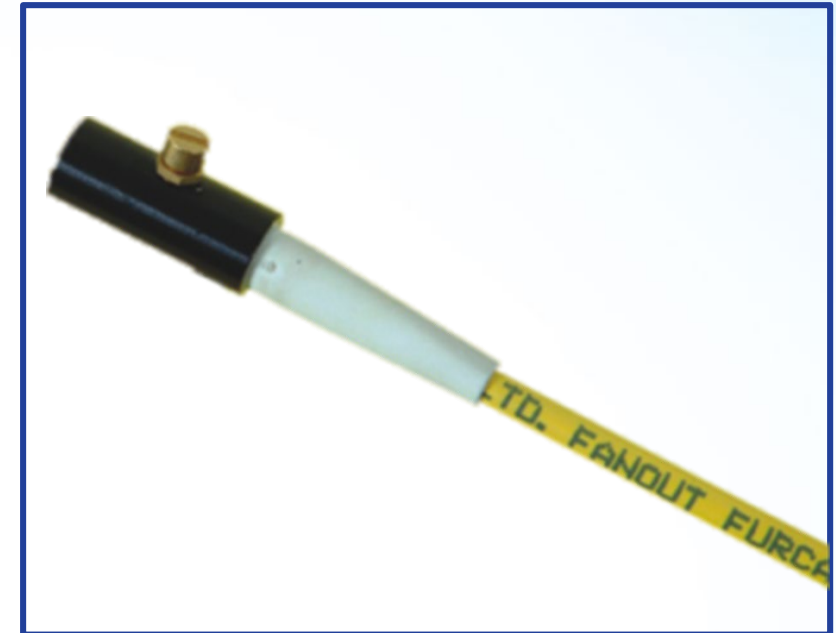
DTS0020: Reflectors - Fiber Optic (Fixed or Variable)

Variable Fiber Reflectors

DTS0020: Reflectors - Fiber Optic (Fixed or Variable)

FORF-21P-1550-9/125-S-60-50-3A3A-3-1

- Used for Back Reflection Measurements
- 0.6 dB Typical Insertion Losses, SMF, MMF & PMF
- Available from 400 nm to 2000 nm



DTS0020: Reflectors - Fiber Optic (Fixed or Variable)



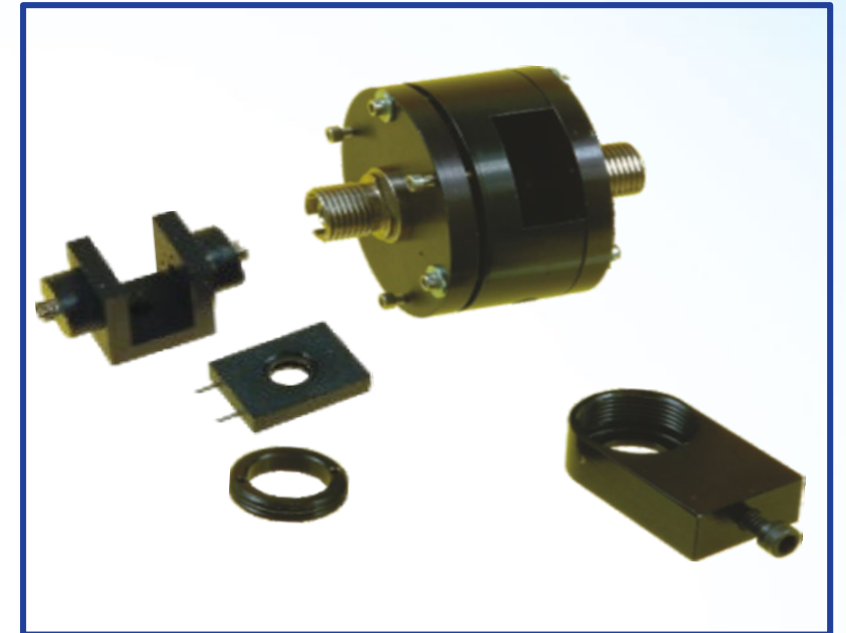
Fiber Optic Filters



DTS0031: Fixed and Removable Filters

FF-11-1064-6/125-P-40-XX-3-1-1.4-HP2 and RFF-11-1064-6/125-P-40-XX-1-1-CSP-HP

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



DTS0031 – Fixed Filters

Fiber Optic Educational Kits

DTS0015: Educational Kit - Fiber Optic

FOEK-03-1,2,3,4,5-633-M-11-NTSC

- **Teaches Basics of Fiber Optics**
- **Easy to Use, Affordable**
- **Wide Range of Labs Available**



DTS0015 – Educational Kit – Fiber Optic



Fiber Optic Termination Kits

DTS0021: Termination Kits - Fiber Optic

OFOC-01-3



- For FC, ST, SMA or SC Connectors
- Contains All the Necessary Polishing Films
- Tools, Epoxies & Accessories



DTS0021 – Termination Kits – Fiber Optic



Alignment Kits and Tools



DTS0097: Alignment Kits and Tools

START-03AF-USB-IRVIS

- Simplify alignment of laser to fiber couplers
- Available with video instructions on USB stick
- Polarization alignment tool simplifies polarization alignment
- Torque screwdriver



DTS0097 – Laser Diode Power Combiner

OZPEN™ CO₂ Fiber Optic Cleaning Unit



DTS0126: OZPEN™ CO₂ Fiber Optic Cleaning Unit for High Power Components

- Superior Removal of Contaminants on Fiber Optics and Other Components
- Quick and Dry Solvent Free Cleaning Process
- Cleans Variety of Substrates
- Designed to Clean Small Surface Area
- Ideal for High Power Applications



DTS0126 – OZPEN™ CO₂ Fiber Optic Cleaning Unit for High Power Components

Thank You for Choosing OZ Optics

Please Contact Our Sales Department:

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