



OZ Optics
www.ozoptics.com

219 Westbrook Rd, Ottawa, ON, Canada, K0A 1L0 Toll Free: 1-800-361-5415 Tel: (613) 831-0981 Fax: (613) 836-5089 E-mail: sales@ozoptics.com

LASER TO FIBER COUPLER WITH ADJUSTABLE FOCUS

Features:

- Precision focus adjustment
- Excellent coupling efficiency
- Wide wavelength ranges
- Rugged, simple design
- Easy to install and adjust

Applications:

- Interferometric sensors
- Laboratory applications
- Education and training
- Visual laser alignment for manufacturing
- Medical, pharmaceutical, and chemical sensors
- Fluorescence measurements
- OEM laser systems
- Tunable lasers
- Laser shows and entertainment

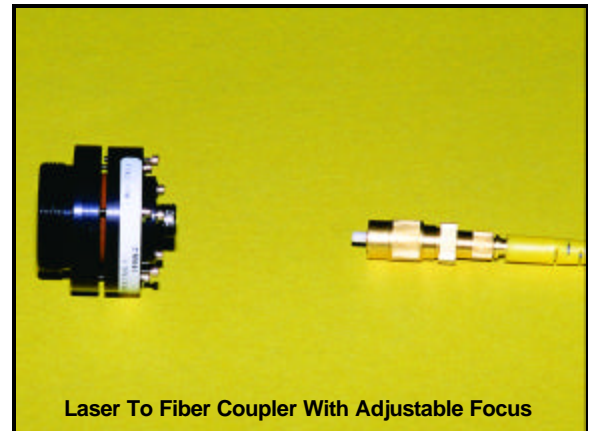
Specifications:

- Coupling Efficiency: Typically >70% for singlemode and polarization maintaining fibers, >90% for multimode fibers
- Backreflection Levels: >40dB
>60dB versions are also available
- Polarization Extinction Ratios: >20dB
25dB and 30dB versions are also available
- Available Wavelengths: 180 - 2000nm
- Power Handling: >1 Watt CW for GRIN lenses
>10 Watts CW for aspheric lenses
>5 Watts CW for achromats
>100 Watts CW for fused silica or sapphire plano-convex and biconvex lenses

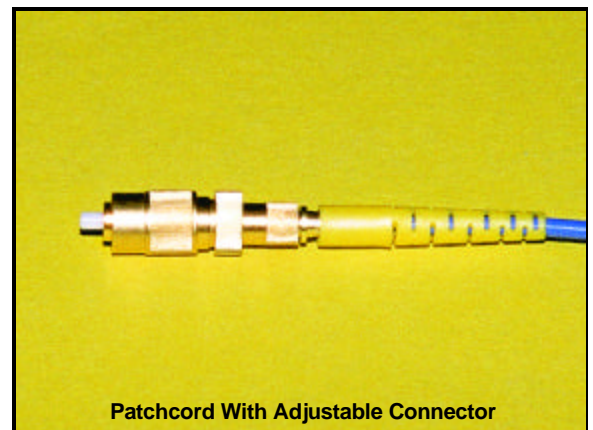
Product Description:

Adjustable focus source couplers are ideal for situations where optimum coupling efficiency is **critical**. A special connector allows the spacing between the fiber and lens to be precisely controlled without rotating the fiber. This allows one to compensate for any changes in wavelength or beam waist location, thus further optimizing the coupling efficiency.

Adjustable focus couplers are available with a variety of lens types and fiber types. Internal surfaces are angle polished and/or AR coated to minimize backreflection. Typical backreflection levels are -40dB. -60dB is available for certain options. OZ Optics also sells fiber patchcords with adjustable FC/PC connectors only. Contact OZ Optics for details.



Laser To Fiber Coupler With Adjustable Focus



Patchcord With Adjustable Connector

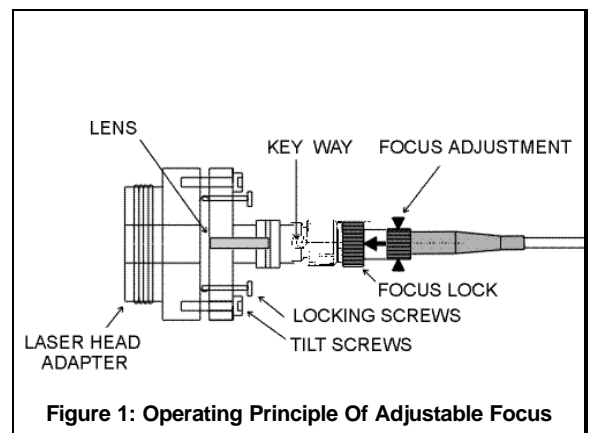


Figure 1: Operating Principle Of Adjustable Focus

Standard Product Specifications:

Ordering Information For Standard Parts:

Laser To Fiber Source Couplers with Adjustable Focus

Bar Code	Part Number	Description
8657	HPUC-2A3A-400/700-S-3.5AC-1	Non-Contact style laser to SM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=3.5mm achromatic lens and 1"-32 TPI male threaded adapter.
16254	HPUC-2A3A-400/700-S-3.5AC-11	Non-Contact style laser to SM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=3.5mm achromatic lens and post mount adapter.
16811	HPUC-2A3A-400/700-P-3.5AC-1	Non-Contact style laser to PM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=3.5mm achromatic lens and 1"-32 TPI male threaded adapter.
11623	HPUC-2A3A-400/700-S-6AC-1	Non-Contact style laser to SM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=6mm achromatic lens and 1"-32 TPI male threaded adapter.
14160	HPUC-2A3A-400/700-S-6AC-11	Non-Contact style laser to SM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=6mm achromatic lens and post mount adapter.
12070	HPUC-2A3A-400/700-P-6AC-11	Non-Contact style laser to PM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=6mm achromatic lens and post mount adapter.

Adjustable Patchcords

Bar Code	Part Number	Description
12538	QSMJ-A3A,3S-488-3.5/125-3-2	2 meter long, 3mm OD PVC jacketed 3.5/125µm 488nm high power SM fiber patchcord, terminated with an adjustable angled FC/APC connector on one end, and a Super FC/PC connector on the other end.
17546	QSMJ-A3A,3A-488-3.5/125-3A-2	2 meters long, 3mm OD armor cabled, 3.5/125µm 488nm high powered SM fiber patchcord, terminated with an adjustable angled FC/PC connector on one end and an angle FC/PC connector on the other end.
10152	SMJ-A3A,3A-633-4/125-3-1	1 meter long, 3mm OD PVC jacketed, 633nm 4/125 SM fiber patchcord, terminated with an adjustable angled FC/PC connector on one end, and an angled FC/PC connector on the other end.
10822	SMJ-A3A,3A-800-5/125-3-2	2 meter long, 3mm OD PVC jacketed, 800nm 5/125 SM fiber patchcord, terminated with an adjustable angled connector FC/PC on one end, and an angled FC/PC connector on the other end.
13091	SMJ-A3A,3S-1300/1550-9/125-3-2	2 meter long, 3mm OD PVC jacketed, 1300/1550nm 9/125 SM fiber patchcord, terminated with an adjustable angled connector FC/PC on one end, and a Super FC/PC connector on the other end.
16648	SMJ-A3A,3A-1300/1550-9/125-3-1	1 meter long, 3mm OD PVC jacketed, 1300/1550nm 9/125 SM fiber patchcord, terminated with an adjustable angled connector FC/PC on one end, and an angled FC/PC connector on the other end.
16898	QPMJ-A3A,3S-488-3.5/125-3AS-2-1	2 meter long, 3mm OD stainless steel armored 3.5/125µm 488nm high power polarization maintaining fiber patchcord, terminated with an adjustable angled FC/PC connector on one end, and a Super FC/PC connector on the other end. Both ends have the fiber slow axis pre-aligned and locked in line with the connector key.
15324	QPMJ-A3A,3A-488-3.5/125-3AS-2-1	2 meter long, 3mm OD stainless steel armored 3.5/125µm 488nm high power polarization maintaining fiber patchcord, terminated with an adjustable FC/PC connector on one end, and an Angled FC/PC connector on the other end. Both ends have the fiber slow axis pre-aligned and locked in line with the connector key.
9697	PMJ-A3A,3A-633-4/125-3A-3-1	3 meter long, 3mm OD armor cabled, 633nm 4/125µm polarization maintaining fiber patchcord terminated with an adjustable angled FC connector on one end and an angle FC/PC connector on the other end. Both ends have the fiber slow axis pre-aligned and locked in line with the connector key.
17409	PMJ-A3A,3A-800-5/125-3-1-1	1 meter long, 3mm OD PVC jacketed, 800nm 5/125µm polarization maintaining fiber patchcord, terminated with an adjustable angle FC/PC connector on one end and an angle FC/PC connector on the other end. Both ends have the fiber slow axis pre-aligned and locked in line with the connector key.

Alignment Kits

Bar Code	Part Number	Description
11671	START-0A3A-NTSC-IRVIS	Alignment kit for laser to fiber couplers with adjustable angle FC/APC compatible receptacles. The kit includes a MM patchcord and a instructional video (NTSC format). For 400-1600nm applications.
17631	START-0A3A-NTSC-UVVIS	Alignment kit for laser to fiber couplers with adjustable angle FC/APC compatible receptacles. The kit includes a MM patchcord and a instructional video (NTSC format). For 180-700nm applications.
13181	START-0A3A-PAL-IRVIS	Alignment kit for laser to fiber couplers with adjustable angle FC/APC compatible receptacles. The kit includes a MM patchcord and a instructional video (PAL format). For 400-1600nm applications.
11390	START-0,A3A-PAL-UVVIS	Alignment kit for laser to fiber couplers with adjustable angle FC/APC compatible receptacles. The kit includes a MM patchcord and a instructional video(PAL format). For 180-700nm applications.

Ordering Examples For Standard Parts:

A research lab in North America needs to launch light from a Argon-Ion laser, emitting light at 488 and 514nm, into a singlemode fiber. The laser beam diameter is 1mm. The laser does not have any provisions for mounting optics, so a post mount will be used in front of the laser. The patchcord needs to be at least, 2 meters long, and with an FC/PC connector on the other end. An alignment kit is ordered to help in aligning the optics.

Bar Code	Part Number	Description
14160	HPUC-2A3A-400/700-S-6AC-11	Non-Contact style laser to SM fiber coupler for 400-700nm, with an adjustable angle FC compatible receptacle, f=6mm achromatic lens and post mount adapter
12538	QSMJ-A3A,3S-488-3.5/125-3-2	2 meter long, 3mm OD PVC jacketed 3.5/125µm 488nm high power SM fiber patchcord, terminated with an adjustable FC/PC connector on one end, and a Super FC/PC connector on the other end.
11671	START-0A3A-NTSC-IRVIS	Alignment kit for laser to fiber couplers with adjustable angle FC/APC compatible receptacles. The kit includes a MM patchcord and a instructional video (NTSC format). For 400-1600nm applications.

Ordering Information:

Coupler With Adjustable Focus:

HPUC-2X-W-F-f-LH

Receptacle Code:

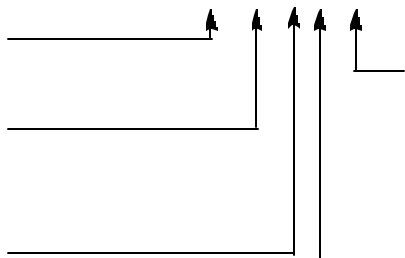
A3 for adjustable FC
A3A for adjustable FC/APC

Wavelength: Specify in nanometers

(Example: 1550 for 1550nm)
For achromats for wavelengths specify
400/700

Fiber Type:

M for Multimode
S for Singlemode
P for Polarization Maintaining



Laser Head Adapter

1 for 1"-32TPI Male Threaded Adapter
2 for Disk Adapter with 4 holes on 1" square
11 for Post Mount Adapter

See Table 8 of the Standard Tables for other adapters

Lens ID: See Lens Selection Guide 3 for Non - Contact couplers with receptacles in the Laser to Fiber Coupler Application Notes

Adjustable Patchcords:

FMJ-X, Y-W-a/b-JD-L(-A)

Fiber Type:

M for Multimode
S for Singlemode
P for Polarization Maintaining
QM for High Power Multimode
QS for High Power Singlemode
QP for High Power PM

Connector Code:

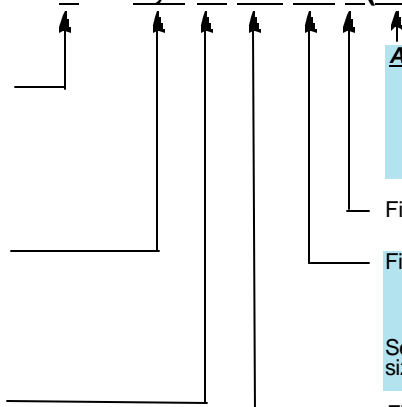
A3 = Adjustable Flat NTT-FC
A3S = Adjustable Super NTT-FC/PC
A3U = Adjustable Ultra NTT-FC/PC
A3A = Adjustable Angled NTT-FC/PC
X = Unterminated End

See table 6 of the standard tables for other connectors

Wavelength: Specify in nanometers

(Example: 633 for 633nm)

For Multimode fibers specify either UVVIS for ultraviolet/visible wavelengths or IRVIS for visible/infrared wavelengths.



A = Alignment (Polarization maintaining patchcords only)
0 = unaligned and rotatable
1 = slow axis of the fiber aligned with respect to the key and locked

Fiber Length in meters

Fiber Jacket Type: 1 = 900 micron OD hytel jacket
3 = 3mm OD Kevlar reinforced PVC cable

See Table 7 of the Standard Tables for other jacket sizes

Fiber Core/Cladding Sizes in Microns:
9/125 for 1300/1550nm SM fiber

See Tables 1 to 5 of the Standard Tables for other standard fiber sizes.

NOTE:

To determine the best laser to fiber source coupler for your application please complete a Laser to Fiber Delivery System Questionnaire. OZ Optics will then recommend a coupler system based on your response.

Unit prices for couplers are approximately \$450USD for typical applications with delivery being between 2 and 4 weeks after receiving your order (ARO). Unit prices for adjustable patchcords are \$190USD for each adjustable connector plus the fiber price. Delivery is 2 - 4 weeks, ARO. Quantity discounting and blanket orders can be arranged. Contact OZ for more information.

Ordering Examples For Custom Parts:

A customer in Europe want to couple light from a 1053nm laser into a 6/125 singlemode fiber. The laser has a beam diameter of 2mm, and a CW output power of 50mW. The laser has 4 M3 tapped holes on a 35mm bolt circle. The fiber has to be 1 meter long, cabled with standard PVC cabling, and terminated with an SC connector with an ultra PC finish. An alignment kit is requested.

Bar Code	Part Number	Description
New	HPUC-2A3A-1053-S-11AS-20	Non-Contact style laser to SM fiber coupler for 1053nm, with an adjustable angle FC compatible receptacle, f=11mm aspheric lens and a laser head adaptor with 4 M3 holes on a 35mm diameter bolt circle.
New	SMJ-A3A,SCU-1064-6/125-3-1	1 meter long, 3mm OD PVC jacketed 6/125µm 1064nm SM fiber patchcord, terminated with an adjustable FC/PC connector on one end, and a Ultra SC connector on the other end.
13181	START-0A3A-PAL-IRVIS	Alignment kit for laser to fiber couplers with adjustable angle FC/APC compatible receptacles. The kit includes a MM patchcord and a instructional video (PAL format). For 400-1600nm applications.