

# Fiber Optic Focusing and Collimating Objectives for IR spectral range



## User Guide

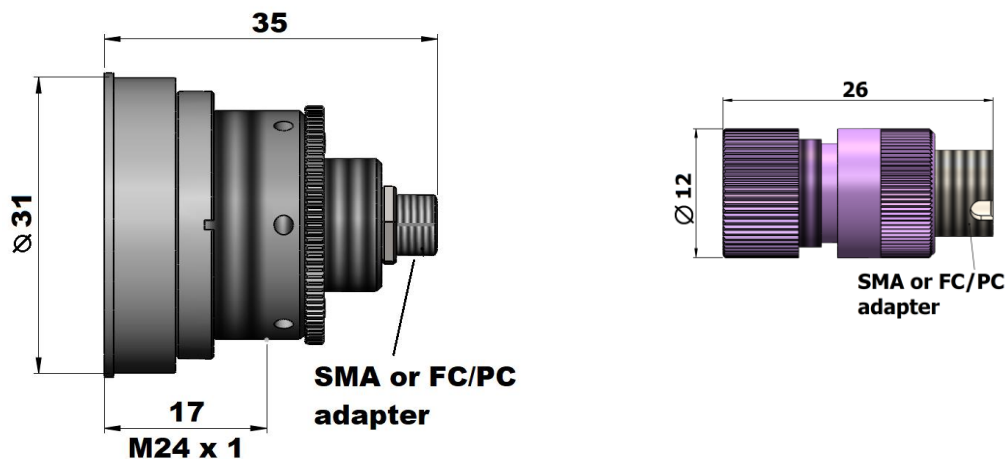
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Product	Fiber Optic Refocusing & Collimating Package
ID:	
Rev. No.:	v1.0
Type	Fiber Optic Focusing/Collimating Lens Packages with Z-axis alignment

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## 1. Introduction

Zinc Selenide Infrared Focusing and Collimating Objectives are designed by art photonics to provide maximum coupling efficiency with fiber optic cables. Each objective contains one ZnSe plano-convex or double-convex lens. Movable parts of the package allow the Z-axis alignment. All lenses have anti-reflection (AR) coating for 3-5 $\mu$ m or 8-12 $\mu$ m wavelength and are ideal for a range of fiber optics applications.

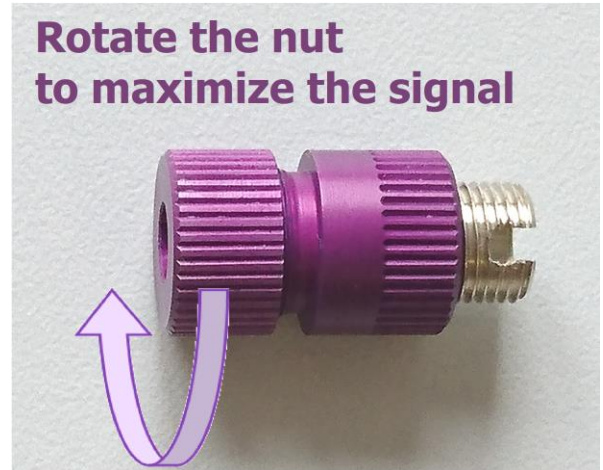
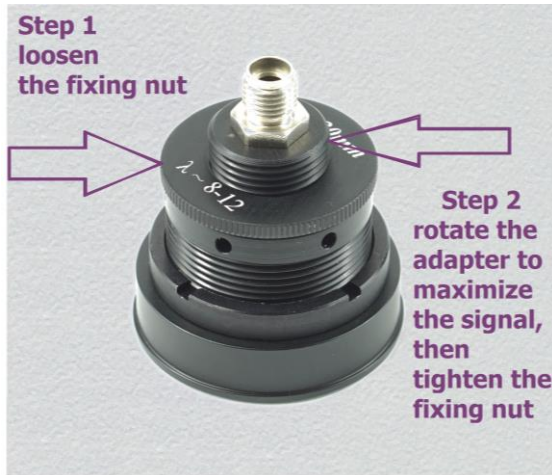


## 2. Set up and Operation

Collimation and Refocusing Objectives have movable parts to align the distance between the lens and fiber end. The lens position is pre-aligned. However, an additional Z-axis adjustment is available because the focal plane position may vary due to the difference of optical parameters of the system.

How to install the objective and align it for the maximum signal:

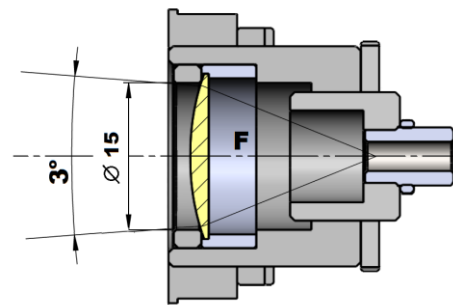
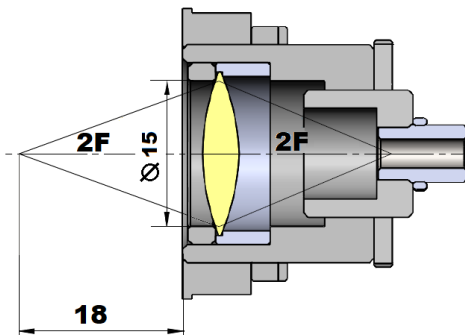
- Attach SMA connector of the cable into the fiber adapter and start the signal observing.
- The lens is pre-aligned. But the focus position can change because of working wavelength.
- Follow the instructions at the picture to align the focusing and get a better signal.



### 3. Specifications

Fiber Optic Refocusing Objective FORO-L

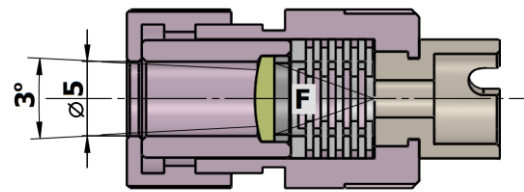
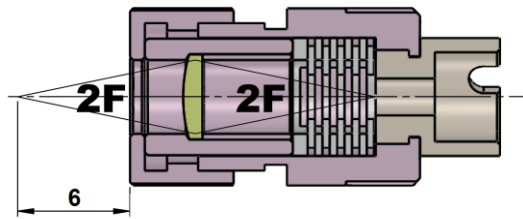
Fiber Optic Collimating Objective FOCO-L



Parameter	FORO-L-3/5-F10	FORO-L-8/12-F10	FOCO-L-3/5-F20	FOCO-L-8/12-F20
ZnSe Lens	Double-convex Ø 15	Double-convex Ø15	Plano-convex Ø15	Plano-convex Ø15
AR Spectral Range	3-5µm	8-12µm	3-5µm	8-12µm
Lens Focal Distance	10 mm	10 mm	20 mm	20 mm
Numerical Aperture	0,35	0,35	0,35	0,35
Outer Diameter	25 mm	25 mm	25 mm	25 mm
Connecting Thread	M24x1	M24x1	M24x1	M24x1
Length (approx.)	37 mm	37 mm	37 mm	37 mm
Alignment Options	Z-axis positioning	Z-axis positioning	Z-axis positioning	Z-axis positioning
SMA Adapter	YES	YES	YES	YES
FC/PC Adapter	On Request	On Request	On Request	On Request
Housing	Aluminium Black anodizing	Aluminium Black anodizing	Aluminium Black anodizing	Aluminium Black anodizing

Fiber Optic Refocusing Objective FORO-S

Fiber Optic Collimating Objective FOCO-S



Parameter	FORO-S-3/5-F5	FORO-S-8/12-F5	FOCO-S-3/5-F5	FOCO-S-8/12-F5
ZnSe Lens	Plano-convex Ø 5	Plano-convex Ø 5	Plano-convex Ø 5	Plano-convex Ø 5
AR Spectral Range	3-5µm	8-12µm	3-5µm	8-12µm
Lens Focal Distance	5 mm	5 mm	5 mm	5 mm
Numerical Aperture	0,25	0,25	0,4	0,4
Outer Diameter	14 mm	14 mm	14 mm	14 mm
Connecting Thread	no	no	no	no
Length (approx.)	25 mm	25 mm	25 mm	25 mm
Alignment Options	Z-axis positioning	Z-axis positioning	Z-axis positioning	Z-axis positioning
SMA Adapter	YES	YES	YES	YES
FC/PC Adapter	On Request	On Request	On Request	On Request
Housing	Aluminium Purple anodizing	Aluminium Purple anodizing	Aluminium Purple anodizing	Aluminium Purple anodizing

#### 4. Safety Instructions and Storage

These units are not designed for use in hazardous areas.

The units supplied should not be repaired by anyone other than **art photonics** engineers or technicians authorized by **art photonics**. In case of operation trouble please address to our Customer service department.

- Do not touch the lens surface with fingers/napkin/any tool! The surface can be easily scratched.
- **Do not de-assemble the lens package!**
- Do not rinse the lens package. Do not immerse it into liquids. The lens package is not sealed thus the penetration of water or chemicals inside will result in its damage. Ask the manufacturer for the advice if the lens needs to be cleaned.
- Be careful inserting the fiber cable into the fiber adapter.
- Put protective caps onto adapter and store in storage box when not in use.