

## B30126G2-640 - September 6, 2017

Item # B30126G2-640 was discontinued on September 6, 2017. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

### BARE FIBER OPTIC TERMINATOR

- ▶ Reusable Terminator for Single Mode and Multimode Fiber
- ▶ FC/PC, FC/APC, SMA905, ST<sup>®</sup>/PC, SC/PC, or LC/PC Compatible Connectors
- ▶ Terminator Accepts Bare Fiber up to Ø1400 µm

#### Application Idea

BFT1 Bare Fiber Terminator with a B10125A Multimode SMA905 Connector



**BFT1**  
Bare Fiber Terminator



**B30126B1**  
ST<sup>®</sup>/PC Connector



**B30126L9**  
LC/PC Connector



**B30126A9**  
FC/APC Connector



**B30125D1**  
FC/PC Connector  
with Adjustable Key  
for PM Fiber



**B30126G1**  
SC/PC Connector



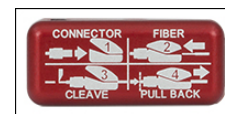
**BFT-FSSMA**  
FC/PC Fiber Stop

## OVERVIEW

### Features

- Use for the Temporary Termination of Single Mode or Multimode Optical Fiber
- Bare Fiber Terminator Holds Fiber and Connector without Epoxy
- Terminator Accepts Fiber Jacket Diameters from Ø125 µm to Ø1400 µm
- Compatible Only with the Fiber Connectors Sold Below
  - Single Mode Connectors with FC/PC, FC/APC, ST<sup>®</sup>/PC, SC/PC, or LC/PC Terminations
  - Multimode Connectors with SMA905, FC/PC, or ST/PC Terminations
- Rubber Grip Reduces Clamping Stress on Polarization-Maintaining Fiber, Minimizing Cross Coupling
- Fiber Stops for Aligning Fiber Tip within SMA905 and FC/PC Connectors Available
- Contact Tech Support for Custom Connectors with Different Bore Diameters

BFT1 Connector Selection Guide	
	Single Mode
	Multimode, SMA905
	Multimode, FC/PC
	Multimode, ST <sup>®</sup> /PC



Click for Details  
 See the *Usage Tips* Tab for Detailed Instructions



Click for Details  
 The BFT1 magnetically secures the connector while a bare fiber is

Thorlabs' BFT1 Bare Fiber Terminator and compatible connectors are used to temporarily terminate a bare fiber with common fiber connector styles. The reusable BFT1 is equipped with a magnet and alignment key to quickly attach and align the compatible connectors sold below; these connectors can be locked into place with a 0.50" (1.3 mm) hex key. Bare fiber, with jackets from Ø125 µm to Ø1400 µm, is secured on the other end of the BFT1 using a spring-loaded clamp with rubber grips to minimize stress on the fiber. The reduced clamping stress on the fiber makes the BFT1 ideal for use with polarization-maintaining fiber where environmental stresses can induce cross coupling. Reusable connectors for terminating single mode or multimode fibers are sold here and can be easily interchanged when used with the BFT1. SMA and FC/PC-terminated fiber stops, which are used to help align the stripped fiber end to the ferrule tip, can be purchased separately below.

held in place using a spring-loaded clamp. The BFT1 only accepts the connectors sold on this page; these connectors feature a  $\text{Ø}0.22''$  ( $\text{Ø}5.5$  mm) sleeve that is magnetically secured within the BFT1. The bare fiber adapter is reusable and can be easily cleaned out if the fiber breaks inside the connector by using WC100 clean out wires (sold separately below). As seen in the image above, instructions on how to terminate fibers are engraved on the bottom of the BFT1 for easy reference. We recommend attaching the desired connector and then feeding the stripped fiber through the connector. At this point, cleave the fiber using a fiber scribe and then pull the tip back so that it is flush with the ferrule end. For detailed instructions, please see the *Usage Tips* tab.

As the BFT1 is designed for temporary termination applications, sub-optimal centration or alignment can occur due to fiber movement within the connector. Thorlabs offers both single mode and multimode connectors for permanent or highly stable termination applications. Our fiber patch cables are sold with connectors on both ends and a protective jacket.

## USAGE TIPS

This tab contains step-by-step instructions on terminating a bare fiber using the BFT1 bare fiber terminator. The items in the images to the right are the BFT1, B10125A ( $\text{Ø}125$   $\mu\text{m}$ , multimode SMA905 connector), S90R fiber scribe, and BFT-FSSMA SMA905 fiber stop. These instructions are also engraved on the bottom surface of the BFT1. The animation to the right below illustrates the step-by-step usage of the BFT1.

**Step 1:** Insert the  $\text{Ø}0.22''$  ( $\text{Ø}5.5$  mm) metal sleeve end of the connector into the BFT1. Rotate the connector within the hole of the BFT1 until the key and connector align; the connector should now be magnetically secured. For additional support, the connector can be locked in place by tightening the setscrew on the side of the BFT1 using a 0.05" (1.3 mm) hex key.

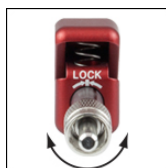
**Step 2:** Strip the fiber; for additional instructions on stripping and cleaning optical fiber, please see our connectorization guide.

**Step 3:** Use a cleaver (Item # XL411) or fiber scribe (Item # S90R) to cleave the fiber, following the instructions provided with your cleaver or scribe. After this, use a finger to break the fiber at the cleave point. Alternatively, tape the cleaved end of the fiber to a table and then gently pull on the fiber from the back side of the BFT1 to break it at the cleaving point. Then, while pressing the spring-activated lever, slowly feed the fiber through the BFT1 from the clamp side until the fiber passes through both the BFT1 and the connector ferrule. Release the clamp to secure the fiber in position. Because debris can accumulate on the rubber grips of the clamp, which in some cases can cause fiber damage, we recommend clamping the fiber jacket rather than bare glass.

**Step 4:** Finally, while pressing the lever, gently pull the fiber back until the tip of the fiber is flush with the ferrule end. Release the lever in order to secure the fiber in position. Thorlabs does not recommend polishing the fiber while secured within the BFT1 as the fiber may be misaligned during the process.

If precise alignment is required, the BFT-FSSMA or BFT-FSFC fiber stops can aid with the fiber alignment in step 4. For this process, pull the fiber until the fiber tip is inside the ferrule. Attach the appropriate fiber stop to the other end of the connector (as shown in the image to the right) and then gently push the fiber until the tip contacts the ferrule inside the fiber stop. At this point, release the lever to lock the fiber in position and then remove the fiber stop. Please note that spring-loaded ferrules may compress slightly and that fiber tip alignment may depend on the ferrule compression.

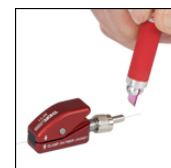
Step 1:



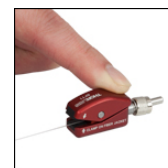
Click to Enlarge



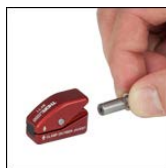
Click to Enlarge  
Step 2: Feed Fiber Through the Connector



Click to Enlarge  
Step 3: Cleave Fiber



Click to Enlarge  
Step 4: Align Fiber Tip with Ferrule End



Click to Enlarge

Insert Connector and Rotate Until Magnetic Lock Engages



Click for Details  
BFT-FSSMA Fiber Stop with the BFT1 and B10125A Connector

## Bare Fiber Terminator and Fiber Stops

- ▶ Bare Fiber Terminator Holds Fiber and Connector without Epoxy
- ▶ Compatible Only with the Fiber Connectors

Sold Below

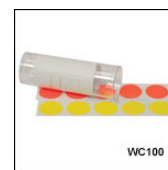
- ▶ Fiber Stops with SMA905 or FC/PC Connectors Available
- ▶ Rubber Grip Minimizes Stress on Polarization-Maintaining Fiber



Click for Details  
BFT-FSSMA Fiber Stop with the BFT1 and B10125A Connector



Click to Enlarge  
FC/PC and SMA905 Fiber Stops for Aligning Fiber Tips within Connectors



Click to Enlarge  
The WC100 Clean-Out Wires allow broken fibers to be pushed out from the BFT1 terminator and other connectors.

The BFT1 Bare Fiber Terminator is designed to temporarily terminate a bare fiber with the connectors sold below. The connector interface is equipped with a magnet and alignment key to quickly attach and align compatible connectors and can be locked into place with a 0.50" (1.3 mm) hex key. Bare fiber from  $\varnothing 125 \mu\text{m}$  to  $\varnothing 1400 \mu\text{m}$  can be secured using a spring-loaded clamp (indicated by the engraving in the image to the left). This clamp is equipped with rubber grips to minimize stress on the fiber and should be used to clamp the fiber jacket.

SMA and FC/PC-terminated fiber stops contain solid ferrules and are designed to aid in aligning a fiber tip with the end of an SMA905 or FC/PC ferrule, respectively. After feeding the stripped fiber through the ferrule and cleaving the fiber tip, recess the fiber tip from the ferrule end, and then attach the fiber stop. Once attached, gently move the fiber tip to touch the ferrule stop and then remove the fiber stop. Please note that spring-loaded ferrules may compress slightly and that fiber tip alignment may depend on the ferrule compression. Please see the *Usage Tips* tab for additional details.

The WC100 Clean-Out Wires allow the user to push broken fiber out from connectors with bore diameters larger than  $110 \mu\text{m}$ . Each vial includes eight pieces of 3" long wire along with colored sticker tabs that can be folded over the wire to improve grip.

Part Number	Description	Price	Availability
BFT1	Universal Bare Fiber Terminator (Connectors Not Included)	\$79.75	3-5 Days
BFT-FSSMA	SMA905 Fiber Stop for the BFT1	\$48.50	Today
BFT-FSFC	FC/PC Fiber Stop for the BFT1	\$30.75	Today
WC100	Clean-Out Wires, $\varnothing 110 \mu\text{m}$ (8 Per Vial)	\$12.90	Today

### Single Mode/Polarization-Maintaining Fiber Connectors

- ▶ Single Mode Connectors for the BFT1 Bare Fiber Terminator
- ▶ FC/PC, FC/APC, ST<sup>®</sup>/PC, SC/PC, or LC/PC Connectors Available
- ▶ FC/PC Connector with Adjustable Key for Polarization-Maintaining Fiber
- ▶  $\varnothing 2.5 \text{ mm}$  Ceramic Ferrules
- ▶ Engraved with Part Number for Easy Identification

Item #	Style	Bore	Concentricity	Permanent Connector <sup>a</sup>
B30126C3	FC/PC	$\varnothing 126 +1/-0 \mu\text{m}^b$	1 $\mu\text{m}$	30126C3
B30125D1	Adjustable FC/PC for PM Fiber	$\varnothing 125.5 +1/-0 \mu\text{m}$	<1 $\mu\text{m}$	30125D2
B30126A9	FC/APC	$\varnothing 126 +1/-0 \mu\text{m}$	1 $\mu\text{m}$	30126A9
B30126B1	ST/PC	$\varnothing 125 +1/-0 \mu\text{m}$	1 $\mu\text{m}$	30126B1
B30126G1	SC/PC	$\varnothing 126 +1/-0 \mu\text{m}$	1 $\mu\text{m}$	30126G1
B30126L9	LC/PC	$\varnothing 126 +1/-0 \mu\text{m}$	1 $\mu\text{m}$	30126L9

These single mode connectors are only compatible with the BFT1 sold above and are used to temporarily terminate a single mode bare fiber. The connector interface on the BFT1 has a magnet and alignment key to quickly snap these connectors in place. The rubber grip on the BFT1 clamp reduces clamping stress, which helps to minimize cross coupling in polarization-maintaining fiber.

- These connectors are suitable for permanent termination without the use of the BFT1.
- For a FC/PC connector with a  $\varnothing 127 \mu\text{m}$  bore, please see the B30128C3 sold below.

Part Number	Description	Price	Availability
B30126C3	FC/PC Single Mode Connector, $\varnothing 126 \mu\text{m}$ Bore, Ceramic Ferrule, for BFT1	\$15.30	Today
B30125D1	FC/PC Polarization-Maintaining Connector with Adjustable Key, $\varnothing 125.5 \mu\text{m}$ Bore, Ceramic Ferrule, for BFT1	\$25.50	Today
B30126A9	FC/APC Single Mode Connector, $\varnothing 126 \mu\text{m}$ Bore, Ceramic Ferrule, for BFT1	\$15.30	Today
B30126B1	ST <sup>®</sup> /PC Single Mode Connector, $\varnothing 125 \mu\text{m}$ Bore, Ceramic Ferrule, for BFT1	\$15.30	Today

B30126G1	SC/PC Single Mode Connector, Ø126 µm Bore, Ceramic Ferrule, for BFT1	\$15.30	Today
B30126L9	LC/PC Single Mode Connector, Ø126 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today

### Multimode Fiber Connectors: FC/PC

- ▶ Multimode Connectors for the BFT1 Bare Fiber Terminator
- ▶ FC/PC-Terminated Connectors
- ▶ Bore Diameters from Ø127 µm to Ø1050 µm
- ▶ Ø2.5 mm Ceramic or Stainless Steel Ferrules
- ▶ Engraved with Part Number for Easy Identification

Item #	Bore	Permanent Connector <sup>a</sup>	Item #	Bore	Permanent Connector <sup>a</sup>
B30128C3	127 +5/-0 µm	30128C3	B30440C	440 +10/-0 µm	30440C1
B30140E1	140 +2/-0 µm	30140E1	B30500C	500 +10/-0 µm	30500C1
B30230C	230 +10/-0 µm	30230C1	B30126G2-640	640 +20/-5 µm	30126G2-640
B30250C	250 +10/-0 µm	30250C1	B30126G2-670	670 +20/-5 µm	30126G2-670
B30270C	270 +10/-0 µm	30270C1	B30126G2-850	850 +30/-10 µm	30126G2-850
B30340C	340 +10/-0 µm	30340C1	B30126G2-1050	1050 +30/-10 µm	30126G2-1050

- These connectors are suitable for permanent termination without the use of the BFT1.

These multimode connectors are only compatible with the BFT1 sold above and are used to temporarily terminate a multimode bare fiber with an FC/PC connector. The connector interface on the BFT1 has a magnet and alignment key to quickly snap these connectors in place.

Part Number	Description	Price	Availability
B30128C3	FC/PC Multimode Connector, Ø127 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30140E1	FC/PC Multimode Connector, Ø140 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30230C	FC/PC Multimode Connector, Ø230 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30250C	FC/PC Multimode Connector, Ø250 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30270C	FC/PC Multimode Connector, Ø270 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30340C	FC/PC Multimode Connector, Ø340 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30440C	FC/PC Multimode Connector, Ø440 µm Bore, Ceramic Ferrule, for BFT1	\$20.40	Today
B30500C	FC/PC Multimode Connector, Ø500 µm Bore, Ceramic Ferrule, for BFT1	\$25.50	Today
B30126G2-640	FC/PC Multimode Connector, Ø640 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B30126G2-670	FC/PC Multimode Connector, Ø670 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B30126G2-850	FC/PC Multimode Connector, Ø850 µm Bore, SS Ferrule, for BFT1	\$25.50	Today
B30126G2-1050	FC/PC Multimode Connector, Ø1050 µm Bore, SS Ferrule, for BFT1	\$25.50	Today

### Multimode Fiber Connectors: SMA905

- ▶ Multimode Connectors for the BFT1 Bare Fiber Terminator
- ▶ SMA905-Terminated Connectors
- ▶ Bore Diameters from Ø128 µm to Ø1050 µm
- ▶ Ø3.2 mm Stainless Steel Ferrule
- ▶ Engraved with Part Number for Easy Identification

Item #	Bore	Permanent Connector <sup>a</sup>	Item #	Bore	Permanent Connector <sup>a</sup>
B10125A	128 +5/-0 µm	10125A	B10440A	440 +15/-0 µm	10440A
B10140A	144 +5/-0 µm	10140A	B10510A	510 +15/-0 µm	10510A
B10230A	231 +10/-0 µm	10230A	B10610A	612 +15/-0 µm	10610A
B10250A	250 +15/-0 µm	10250A	B10640A	641 +15/-0 µm	10640A
B10270A	270 +15/-0 µm	10270A	B10850A	850 +15/-0 µm	10850A
B10340A	340 +15/-0 µm	10340A	B11040A	1040 +15/-0 µm	11040A
B10410A	410 +15/-0 µm	10410A	B11050A	1050 +15/-0 µm	11050A

## Identification

These multimode connectors are only compatible with the BFT1 sold above and are used to temporarily terminate a multimode bare fiber with an SMA905 connector. The connector interface on the BFT1 has a magnet and alignment key to quickly snap these connectors in place.

- These connectors are suitable for permanent termination without the use of the BFT1.

Part Number	Description	Price	Availability
B10125A	SMA905 Multimode Connector, Ø128 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10140A	SMA905 Multimode Connector, Ø144 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10230A	SMA905 Multimode Connector, Ø231 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10250A	SMA905 Multimode Connector, Ø250 µm Bore, SS Ferrule, for BFT1	\$20.40	3-5 Days
B10270A	SMA905 Multimode Connector, Ø270 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10340A	SMA905 Multimode Connector, Ø340 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10410A	SMA905 Multimode Connector, Ø410 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10440A	SMA905 Multimode Connector, Ø440 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10510A	SMA905 Multimode Connector, Ø510 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10610A	SMA905 Multimode Connector, Ø612 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10640A	SMA905 Multimode Connector, Ø641 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B10850A	SMA905 Multimode Connector, Ø850 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B11040A	SMA905 Multimode Connector, Ø1040 µm Bore, SS Ferrule, for BFT1	\$20.40	Today
B11050A	SMA905 Multimode Connector, Ø1050 µm Bore, SS Ferrule, for BFT1	\$20.40	Today

### Multimode Fiber Connector: ST<sup>®</sup>/PC

- ▶ Multimode Connectors for the BFT1 Bare Fiber Terminator
- ▶ ST/PC-Terminated Connector
- ▶ Ø127 µm Bore Diameter
- ▶ Ø2.5 mm Ceramic Ferrule
- ▶ Engraved with Part Number for Easy Identification

This multimode connector is only compatible with the BFT1 sold above and is used to temporarily terminate a multimode bare fiber with an ST/PC connector. The connector interface on the BFT1 has a magnet and alignment key to quickly snap these connectors in place.

Item #	Bore	Permanent Connector <sup>a</sup>
B10127C	127 +4/-0 µm	10127C

- This connector is suitable for permanent termination without the use of the BFT1.

Part Number	Description	Price	Availability
B10127C	ST <sup>®</sup> /PC Multimode Connector, Ø127 µm Bore, Ceramic Ferrule, for BFT1	\$25.50	Today

