

# FP-00C-JS0

## Simplex Sealed Friction Plug, Light-Seal®



### Datasheet

#### DESCRIPTION

The Firecomms simplex sealed friction plug is used to implement easy-to-use and secure links using plastic optical fiber (POF). A key feature of the plug is the added rubber seal that provides protection against the ingress of external fluids or particulates that may contaminate the optical surfaces of the fiber facet and active components.

This sealed friction plug is appropriate for use in applications in which the POF transceiver and plug are coated with conformal coatings and potting compounds. <sup>[1]</sup>

The plug is compatible with horizontal, vertical and tilted housings.

*Note: 1. The performance of the sealed friction plug may vary depending upon the precise conditions, processes and materials used.*



#### FEATURES

- Cost-effective, rugged optical links
- Compatible with RedLink® and Versatile Link fiber optic transmitters and receivers
- Rubber seal provides added link protection from ingress of dirt, dust and fluids

#### Ordering Information

Part Number	Name	Description
FP-00C-JS0	RedLink® Simplex Sealed Friction Plug, Blue	2.2 mm blue simplex sealed friction plug and crimp ring with 1 mm core

Light-Seal® is a registered trademark of FiberFin, Inc.

## SPECIFICATIONS

### Plug Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Storage Temperature	$T_{stg}$	-25		+85	°C
Operating Temperature (Rubber Seal)	$T_{op}$	-25		+85	°C
Operating Temperature (Plug Retention)	$T_{op}$	-40		+85	°C
Installation Temperature	$T_i$	0		+70	°C
Retention Force, Plug to Transceiver (+25°C)	$F_R$		8		N
Retention Force, Plug to Transceiver (-40°C + 85°C)	$F_R$	3			N
Insertion Force, Plug to Transceiver (+25°C)	$F_R$		8		N
Durability, Mating Cycles		500			
Fixing Method	Crimp				

## MECHANICAL DIMENSIONS

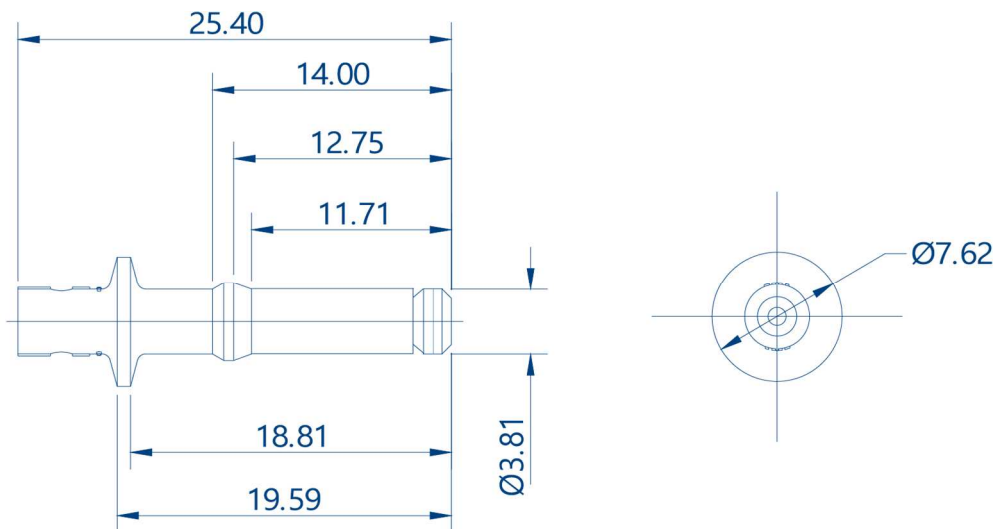


Figure 1. Mechanical Dimensions

## PLUG AND CABLE ASSEMBLY

### Cable Stripping

Strip off approximately 5 mm of the outer jacket from the 2.2 mm POF cable.



Figure 2. Jacket Strip Length

To strip the jacket from the POF, insert the cable into the hole at the bottom of the Firecomms POF cutter (PC-220F-410). After insertion, twist the cutter 360 degrees to cut the jacket and pull out the cable to reveal the exposed POF core.



Figure 3. Jacket Stripper on POF cutter

### POF Insertion

Insert the stripped POF cable into the backside of the plug until the mechanical stop is reached. Approximately 2 mm of the POF internal core should protrude from the top of the plug.



Figure 4. Cable and Plug Positioning

## Crimping Plug

Place the plug into a suitable crimp tool (e.g. FF-HTCRMP-1) with hexagonal crimp of 4.85 mm across flats. Use crimp tool to fasten the cable onto the plug. Ensure the crimp ring is tight and the simplex friction plug is undamaged after crimping.

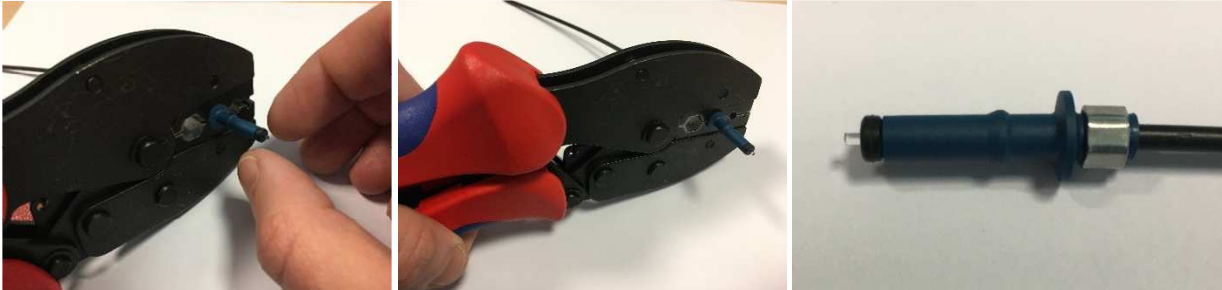


Figure 5. Secure Simplex Plug

## Polishing

Insert the plug fully into a polishing disc. Press the disc on polishing paper (600 grit) and polish the fiber until it is flush with the plug. Rotate in a figure of 8 format which will erode the core material of the cable. Use a hard and plain support plate (e.g. glass plate).

After polishing, wipe the plug with a clean tissue removing foreign particles. Using 3  $\mu\text{m}$  grit, polish again for a smooth surface and wipe clean again. Best attenuation values are achieved applying wet polishing.



Figure 6. Polishing Disc

*Note: Please ensure the O-ring seal is securely fastened to the plug prior to polishing with the disc*

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