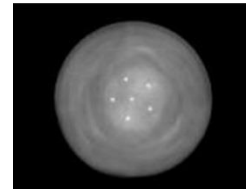


# All-Fiber Photonic Lantern

## Product Overview

The Photonic Lantern offers a single component multiplexer/demultiplexer for mode division multiplexing using Few Mode Fibers (FMFs). Unlike alternative approaches the fiber lantern is fabricated in the same medium as the fiber transmission and offers optimum performance in a single component, compact format. Phoenix utilizes in-house proprietary technology to fabricate the lantern to offer the best performance. Available in 3 or 6 fiber inputs the lantern is compatible with commercially available FMF.

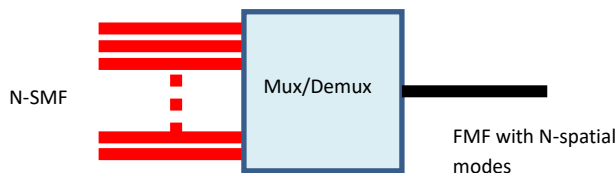


## Product Details

The all-fiber Lantern is an adiabatic taper that provides a low loss transition from the input fibers to the modes supported by the waveguide at its output. In general, the taper output FMF does not match that of the system FMF, which will create both insertion loss (IL) and mode dependent loss (MDL). Therefore, mode matching is important to optimize the performance from SMF's to system FMF. Incorporated within the Phoenix Photonic Lantern is matching between the multimode taper output to the transmission FMF.

## Features

- 3 or 6 input fibers
- Compact design
- Custom fiber design
- Good MDL
- Low loss



For more information please contact Phoenix sales:  
[sales@phoenixphotonics.com](mailto:sales@phoenixphotonics.com) or visit us at  
[www.phoenixphotonics.com](http://www.phoenixphotonics.com)

## All-Fiber Photonic Lantern

### 3-port fiber lantern

Parameter		Specification
No. of input fibers		3
Input fiber		Corning SMF28
Connectors		Optional – please specify
Output fiber <sup>1</sup>		OFS two mode graded index
Fiber coating		245mm acrylate
Insertion loss before FMF fanout <sup>2</sup>	dB	Typically 0.5, <0.8 (max)
Insertion loss after FMF fanout <sup>2</sup>	dB	Typically 2.0, <2.5(max)
Mode dependent loss (MDL) <sup>3</sup>	dB	<2.0 (max)
Polarization dependent loss	dB	<0.5 (max)
Wavelength range	nm	1450 - 1620

1 Alternative FMF fiber can be offered

2 Maximum across all fibers, excluding connectors – loss is fiber-in to fiber-out.

3 Maximum MDL across all fibers

### 6-port fiber lantern

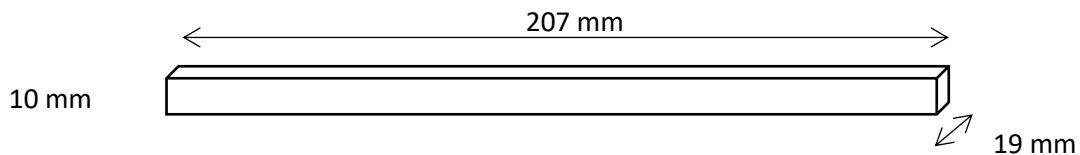
Parameter		Specification
No. of input fibers		6
Input fiber		Corning SMF28
Connectors		Optional – please specify
Output fiber <sup>1</sup>		OFS four mode graded index
Fiber coating		245mm acrylate
Insertion loss before FMF fanout <sup>2</sup>	dB	Typically 0.5, <0.8 (max)
Insertion loss after FMF fanout <sup>2</sup>	dB	Typically 3.0, <4.0 (max)
Mode dependent loss (MDL) <sup>3</sup>	dB	<3.0 (max)
Polarization dependent loss	dB	<0.5 (max)
Wavelength range	nm	1450 - 1620

1 Alternative FMF fiber can be offered

2 Maximum across all fibers, excluding connectors

3 Maximum MDL across all fibers

**Packaging:** Below is the component version. Also available in benchtop format. Please contact us for further information.



### Order code:

<div style="border: 1px solid black; padding: 2px; display: inline-block;">P</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">L</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">S</div>	-	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">5</div>	-	<div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div>	-	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>	-	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>
Modes: 3: 3 input fibers 6: 6 input fibers		Wavelength: 15 – 1530nm 14 – 1480 nm 13 – 1300 nm		Cable type: 0 – none 1 – 900um jacket		SMF Connectors: 0 – none 1 – FC/SPC 2 – FC/APC * Others available		FMF Connectors: 0 – none 1 – FC/SPC 2 – FC/APC * Others available

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