

# 3D MMux™ Photonic Lantern



## Spatial multiplexing and de-multiplexing







The 3D MMux™ Photonic Lantern series of products are a new class of glass components designed to interface Few Mode Fibers (FMFs) and Single Mode Fibers (SMF) in a monolithic, scalable, compact solution with best in class fiber alignment precision.

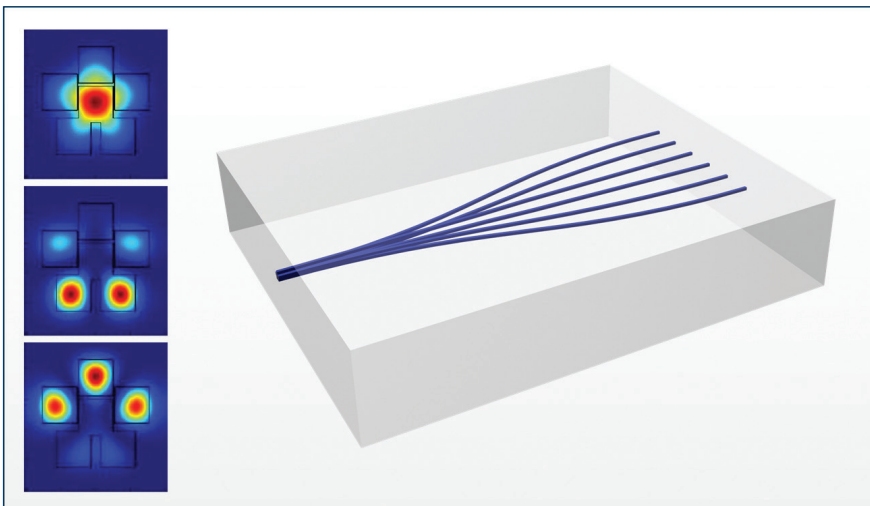
Our unique technology consists of laser scribed 3D waveguides which act as an interface between FMFs and SMFs. This compact and fully packaged solution easily integrates with existing technology to minimise disruption and maximise performance.

Optimised for the very latest OFS fiber, the Photonic lantern is available in 3 and 6 channel configurations. Other interface geometries are available on request.

Using the Photonic Lantern users can dramatically increase the amount of data transferred across an optical fiber whilst minimising space. Contact us to find out more.

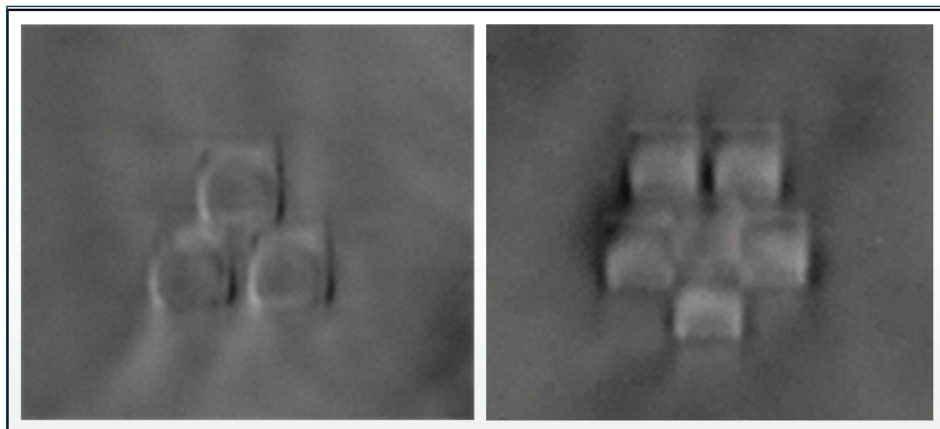
## Key Advantages

-  Accurate 3D embedded waveguide technologies
-  Broad flat spectral response
-  Low insertion loss
-  Scalable for high volume applications
-  Significantly smaller than alternative solutions
-  Provision for custom geometries



## 3D MMux™ Photonic Lantern Specifications

Parameter	3 Channel	6 Channel	Typical	Notes
Chip Insertion Loss	< 1.5 dB	< 1.5 dB	0.9 dB	
Fully Packaged Insertion Loss	<2.5 dB	<2.5 dB	1.7 dB	
Polarisation Dependant Loss	< 0.2 dB	< 0.2 dB	0.05 dB	Fully packaged with FMF
Return Loss	< - 60 dB	< - 60 dB		
Core Positioning Accuracy	< ± 50 nm	< ± 50 nm		
Operating Wavelength	1500 – 1600 nm	1500 – 1600 nm		Wider range available
Single Mode Fiber Type	G.657.A1 1.5 meters supplied	G.657.A1 1.5 meters supplied		Further length available on request
Few Mode Fiber Type	OFS 2 Mode Group Graded Index	OFS 2 Mode Group Graded Index		Step index optional.
SMF Connectors	SC/UPC or FC/APC			Other connectors may be available
Operating Temperature Range	0-80°C			
Package Dimensions	50 x 15 x 10 mm			



Example waveguide facet for 3 and 6 spot lanterns



Optoscribe Ltd.  
Unit 1, Rosebank Park  
Rosebank Road  
Livingston, West Lothian,  
UK. EH54 7EJ

**T:** +44 (0) 1506 536000  
**F:** +44 (0) 1506 691280  
**E:** sales@optoscribe.com  
**W:** www.optoscribe.com

