

Photonic Lantern

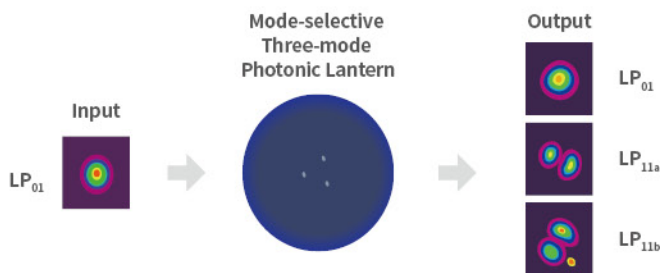
The photonic lantern is a mode multiplexer/ demultiplexer used to improve the transmission capacity. The SMF cluster is embedded into a low refractive index capillary for adiabatic tapering, and then the tapered end is spliced with a few-mode fibre, fundamental mode in SMF is converted into the specific modes in FMF to realize a mode conversion and multiplexing ,The photonic lantern utilizes the orthogonality among various modes arising in few-mode fibres to greatly increase the number of data transmission channels and improve the transmission capacity.

Characteristics

- Low insertion loss
- Small crosstalk
- Excellent electromagnetic interference free characteristics

Applications

- Space division multiplexing optical transmission system
- Mode division multiplexer/demultiplexer



Transmission Matrix

Input (dBm) \ Output (dBm)	LP ₀₁	LP _{11a}	LP _{11b}
LP ₀₁	1.08	-13.36	-17.42
LP _{11a}	-10.3	-1.7	-22.8
LP _{11b}	-28.8	-17.5	-1.85

Specifications

Product Type	Mode-selective Three-mode Photonic Lantern
Number of Input SMF	3
Operating Wavelength (nm)	1530 - 1600
Fibre Type	
Typical Input Fibre	PH 1010-A (G.652)
Typical Output Fibre	FM2010-A or FM SI-2-ULL
Optical Properties	
Insertion Loss (dB)	<5.0
Mode-dependent Loss (dB)	<3.0
Polarization-dependent Loss (dB)	<0.5
Appearance	
Dimensions (mm)	200.0×10.0×7.5
Pigtail Length (m)	1.0 or Customized