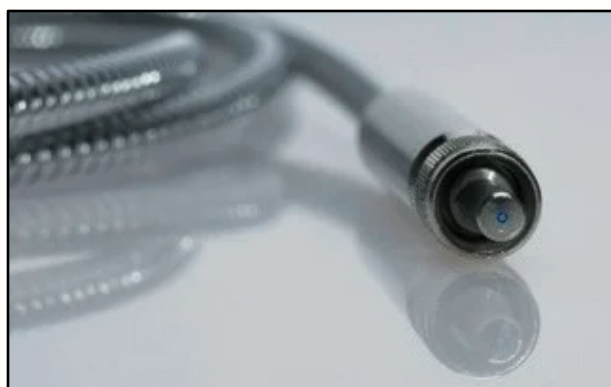


Fibre Bundle Imaging Lens

Introduction

A fibre optic bundle is defined as any fibre optic assembly that contains more than one fibre optic in a single cable.

While a single fibre cannot transmit an image, a large fibre bundle can as each individual fibre represents one pixel of the image. This is made possible due the minimal coupling between the fibres in the bundle. Being inherently flexible, fibre bundles are primarily used for imaging applications in remote or confined spaces where standard image sensors cannot be utilized.



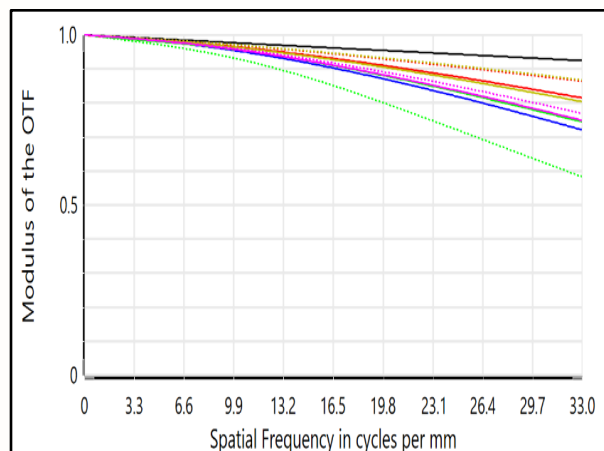
A single Fibre Bundle consisting of many individual fibre optics

Operation Principle

This assembly consists of a SMA 905 compatible housing which contains the 4mm diameter objective lenses. It can capture the image for objectives larger than 10 mm away to 1.5 mm diameter area, with FOV up to 40 degree. It has to work in noon day light or need extra lighting.

Key specifications of the Fibre Bundle Imaging Lens

Material	Optical glass
FFOV	35 degree
Spectral Range	400 nm to 900 nm
NA - Front Objective	0.015
NA - Rear Optical System	0.16
Lens Diameter	4 mm
Imaging Size	1.5 mm Diameter
Observation Range	> 10 mm
Fibre Bundle Connector	SMA 905



MTF curve with 33 lp/mm spatial resolution

Applications

The small size of the Fibre Bundle Imaging Lens assembly allows for use in a wide range of applications including:

- Medical diagnosis
- Agricultural imaging
- Industrial and Automotive inspection



Conclusion

Since 2002, Wavelength Opto-Electronic has built an innovation photonics engineering capability for precision optics used in measurement and inspection systems. The Fibre Bundle Imaging Lens introduced here is to meet the latest development in remote inspection technology. Our design is for high resolution operation at low light levels. The Imaging Lens also offers a superior image quality with greater observation range and performance. The wavelength range from 400 nm to 900 nm makes it be suitable for many applications

