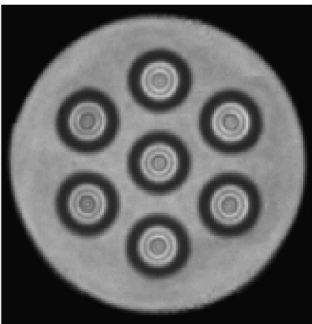


# Customized Single/Multi-mode Fibre

## Multi Core Fibre (MCF)

Multi core fibre(MCF) is a new kind of fibre with several separate fibre cores co-existed in the same cladding. YOFC MCF can achieve low inter-crosstalk in long SDM optical transmission by adopting the seven-core structure and F-doped caldding, which has a typical promising future in optical transmission field. Based on the concept of space division multiplexing (SDM), multi-core fibre can realize transmitting several light signals through different channels and is expected as a breakthrough technology against capacity crunch of optical transmission system over a single-mode fibre. With the development of SDM and multi-core fibre sensor technology, multi-core fibre would be a vital branch of fibre development. The level of crosstalk and fibre coating of MCF can also be customization to fulfill your use in transmission, sensor, industry, medical equipment fields and so on.



### Characteristics

- Single fibre with spatial superchannels
- Excellent fibre geometric consistency
- Ultra-low cross talk between cores
- Low fibre loss

### Applications

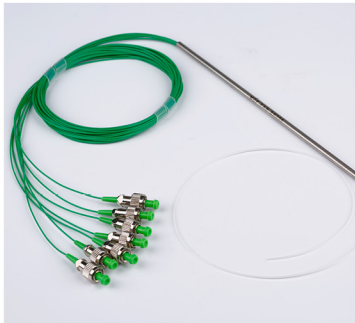
- Extremely large capacity transmission system
- Large-capacity multi-task access
- Distributed fibre sensors
- Medical equipments

### Specifications

Fibre Type	MCF 7-42/150/250(SM)	
Part No.	MC1010-A	
Type Description	Low Crosstalk Seven Core MCF	
Optical Properties	Value	Typical
Cross Talk (Adjacent Core) (dB/100km)	< -45	-50
Attenuation@ 1310nm (dB/km)	≤ 0.45	0.4
Attenuation@ 1550nm (dB/km)	≤ 0.30	0.25
Zero Dispersion Wavelength (nm)	1290 - 1330	1296
Dispersion@ 1550nm (ps/nm · km)	≤ 22.0	20.0
PMD (ps/km <sup>1/2</sup> )	≤ 2	1.5
Cable Cut off Wavelength λ <sub>cc</sub> (nm)	≤ 1300	1250
Mode Field Diameter @1310nm (μm)	8.5 ± 0.5	8.4
Mode Field Diameter @1550nm (μm)	9.5 ± 0.5	9.5
Geometrical Properties		
Core Diameter (μm)	8.0 ± 0.5	7.9
Core-to-core (adjacent) Distance (μm)	41.5 ± 1.5	-
Cladding Diameter (μm)	150.0 ± 2.0	-
Coating Diameter (μm)	245.0 ± 10.0	-
Coating Description		
Coating Type	UV-acylate	High temperature coating is available.
Operating Temperature Range (°C)	-40 to +70	-
Mechanical Properties		
Short Term Bend Radius (mm)	≥ 7.5	-
Long Term Bend Radius (mm)	≥ 15	-
Proof Test (kpsi)	≥ 50	-

## Multi-core Fibre Fan-in & Fan-out Module

Multi-core fibre fan-in and fan-out module is a module to realize the high coupling efficiency between the multi-core fibre and single-mode fibres, to realize the channel space division multiplexing and demultiplexing function in the applications. The optical fibre tapering technology is used to realize the optical power coupling between multi-core fibre and single mode fibres with low insertion loss, low core crosstalk and high return loss. YOFC multi-core fibre fan-in and fan-out module adopts seven channel structure, with YOFC's multi-core fibre(MCF), a complete communication and sensor system can be built, which means a broad application prospect.



## Characteristics

- Encapsulated in metal tube
- Low and consistent insertion loss
- Ultra low crosstalk
- FC/PC, FC/APC or bare fibre

## Specifications

Module Type	FAN-7-42	
Type Description	Seven Cores Fibre Fan-in & Fan-out Module	
Optical Properties	Value	Typical
Average Insertion Loss@1550nm (dB)	< 1.5	1.0
Max.Insertion Loss@1550nm (dB)	< 2.0	1.5
Return Loss (dB)	> 45	50
Crosstalk Index-Adjacent Core (dB)	< -50	-55
Geometrical Properties		
Multi-core Pigtail Length (m)	> 1.0	1.5
Single-mode Pigtail Length (Bare Fibre) (m)	> 1.0	2.0
Single-mode Pigtail Length (Patch-cord) (m)	> 0.5	1.0
Encapsulation Box Description		
Box Size (mm)	Φ4×180	
Operating Temperature (°C)	-40 to +70	