

# Devices for multi-core fiber

We provide optical devices for multi-core fiber (MCF) using free space optical coupling and highly reliable fixing technology by YAG laser welding. The features are low loss and low crosstalk. Various core numbers and core placements of MCF are available by our outstanding design and production technology.





#### Fan-in / Fan-out

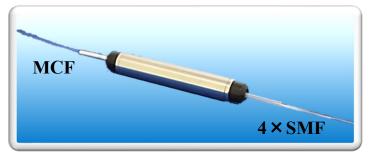
I/O device connecting MCF and bundled SMFs

• Number of cores: 4, 7

•Wavelength: 1.3μm, 1.55μm

•Insertion loss:  $\leq 0.6 dB$ 

•Crosstalk between cores:  $\leq$  -45dB



#### WDM coupler

3-port MCF device

• Number of cores: 4, 7, 12, 19, etc.

•Wavelength: 1.3µm, 1.55µm, etc.

•Insertion loss:  $\leq 0.8 dB$ 

•WDL:  $\leq 0.2 dB$ 

•WDM Crosstalk:  $\geq 20 dB$ 



### In-line isolator

2-port 1-way MCF device

• Number of cores: 4, 7, 12, 19, etc.

•Wavelength: 1.3μm, 1.55μm

•Insertion loss:  $\leq 0.8 dB$ 

•Isolation:  $\geq 45 dB (\lambda c)$ 



## TAP coupler

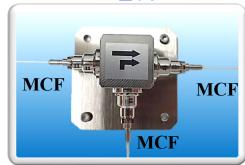
3-port MCF device with built-in Beam Splitter filter

•Number of cores: 4, 7, 12, 19, etc.

• Wavelength: 1.3μm, 1.55μm, etc.

Branch ratio: 50:50, 90:10, etc.

•Excess loss:  $\leq 0.5 dB$ 



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