Optical Fiber Transmission System

The ultra-fast laser transmission system developed by CASTECH is a high-power laser transmission system based on hollow core anti-resonance photonic crystal fiber. Picosecond or femtosecond pulses laser with high energy can be confined to the tiny hollow core structure of the fiber, transmitting with excellent beam quality. Compared with the commonly used space optical transmission, the system greatly simplifies the structure, which not only meets the flexible operation requirements of users, but also has the characteristics of high power endurance, low loss, low distortion, and near single-mode transmission.



For ultra-fast laser transmission, CASTECH provides automatic, manual pointing stable ultra-fast optical transmission system, or encapsulated optical cable with hollow-core photonic crystal fiber for customers choice.

Applications

• Industrial processing • Medical surgery • Experiment • Bio-imaging



Transmission path of ultra-fast system

Type(t)	Wavelength(w)	Fiber Type(a)
A Automatic pointing stable) M (Manual pointing stable)	980 nm 1030 nm 1064 nm 	30/250 45/250

Typical Specifications				
Туре	Wavelength	Maximum Pulse Energy	Maximum Optical Power	Transmission Efficiency
Automatic	1030 nm	500 μJ	500 W	90%
Manual	1030 nm	500 μJ	500 W	90%

Housing dimensions(mm):



Automatic pointing stable



Manual pointing stable