

FPV Drones Optical Fiber Drum (Inner Winding)

Description:

This fiber optic drum is specially designed for FPV drones. It adopts the inner winding method to effectively reduce the fiber loss and ensure clear transmission images. At the same time, the new material technology is used to prevent the fiber from crossing the line and making the line release smooth, which improves the user experience. It can support fiber signal transmission up to 80km.



Features:

- ✓ Compared with the traditional winding method, the inner winding method can significantly reduce the loss of optical fiber during winding and releasing, and ensure the stability and efficiency of signal transmission.
- ✓ The use of advanced new materials can effectively prevent the fiber from crossing the line, making the line smooth during use, and avoid signal interruption or transmission quality degradation caused by poor line release.
- ✓ By optimizing the design and material selection, the fiber loss is reduced to an extremely low level, ensuring that the images taken by the drone can be clearly and stably transmitted to the ground control end, providing pilots with a high-quality visual experience.

Compare winding method:



Inner Winding Fiber:

No friction force, the fiber don't break apart, the fiber attenuation is very low. The fiber drum can be place at any angle.

Outer Winding Fiber:

Big frictional force, fiber easy break apart, fiber attenuation very high. The fiber drum only can only placed horizontally.

Technical Data:

Items	Value
fiber attenuation	≤0.21dB/km
fiber diameter	0.239mm
fiber tension	>70N (new technical pull out tension only 2-3N)
fiber wavelength	1310/1550nm
fiber drum length	5km, 10km, 15km, 20km, 30km...80km

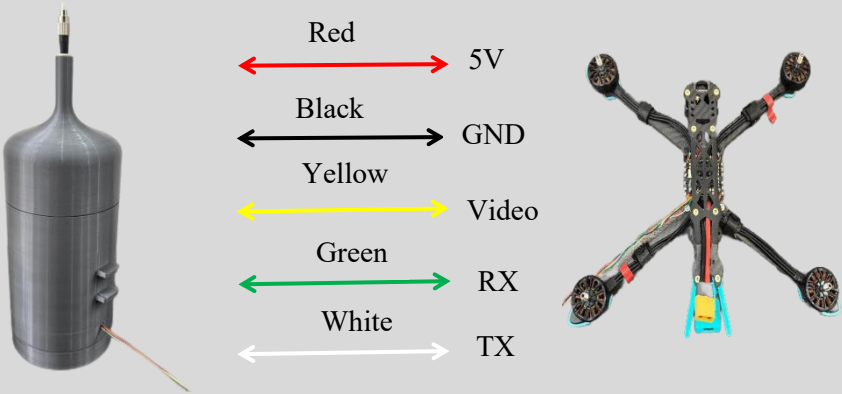
The Fiber Drum Data:

Fiber Drum Length	Drum Size (mm)	Each Drum Weight (g)
5km	OD94x H350	431
10km	OD110x H365	1096
15km	OD120 x H375	1445
20km	OD120 x H425	1830
30km	OD136 x H505	2650

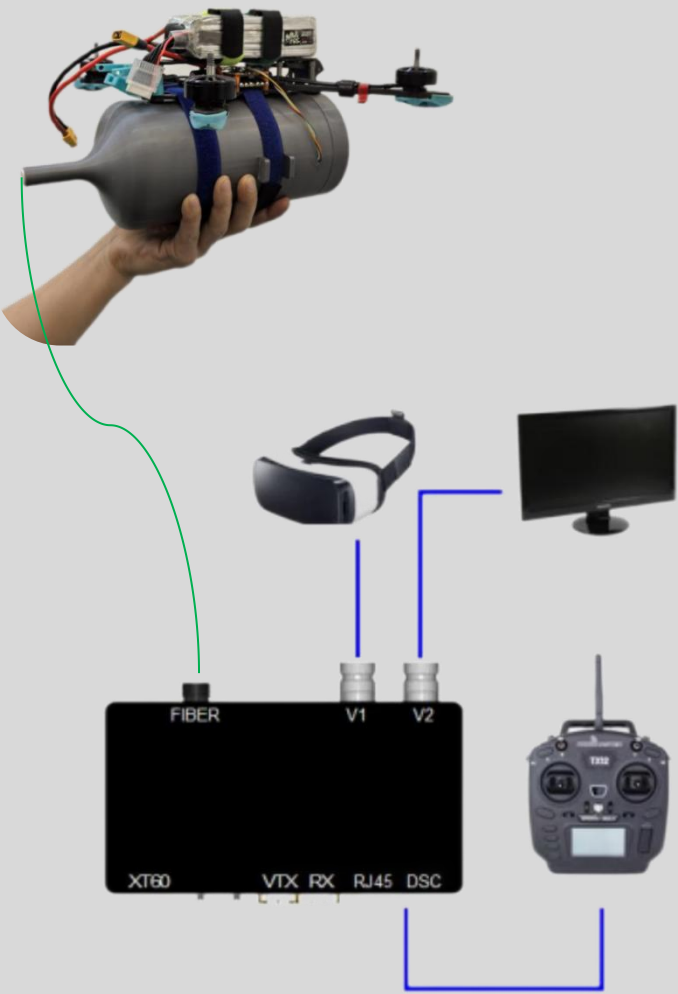
Application:

During use the fiber optic drum to the image transmission system of the drone to achieve real-time transmission of high-definition video signals. When pull out the fiber, the fiber optic tube will automatically release the optical fiber without manual intervention.

Sky Module Connection Topology Diagram:



Ground Module Connection Topology Diagram:



Advantages:



ANTI-INTERFERENCE



STABLE AND RELIABLE



1-80KM LONG
DISTANCE COMMUNICATION



HIGH-SPEED TRANSMISSION
OF BIG DATA



EAVESDROPPING AND TAPPING
PREVENTION



IGNORE TERRAIN
OBSTRUCTIONS

- ❖ Pipe Crawling Robot Newsletter.
- ❖ Indoor inspection drones.
- ❖ Underwater Robotics Newsletter.
- ❖ Remote monitoring.

Tips:

- ◆ During flight, check whether the fiber output is smooth and make sure that the fiber cable outlet is away from the propellers.
- ◆ Avoid rapid deceleration and rapid descent. Avoid small angle turns when descending. Avoid rapid descent when turning. These operations may cause the fiber to be cut by propellers easily.
- ◆ Avoid winding at small bending angles when the fiber is output.
- ◆ Flight speed to be controlled within 180km/h.
- ◆ Before flying, please put FC connector ground module of FC interface .
- ◆ When taking off, please pull the fiber out 2-3 meters and use hands hold it 2-3 meters away, accelerate slowly, avoid too fast accelerating and turning at small angles during the entire flight. Otherwise, fiber is easily entangled into propeller.