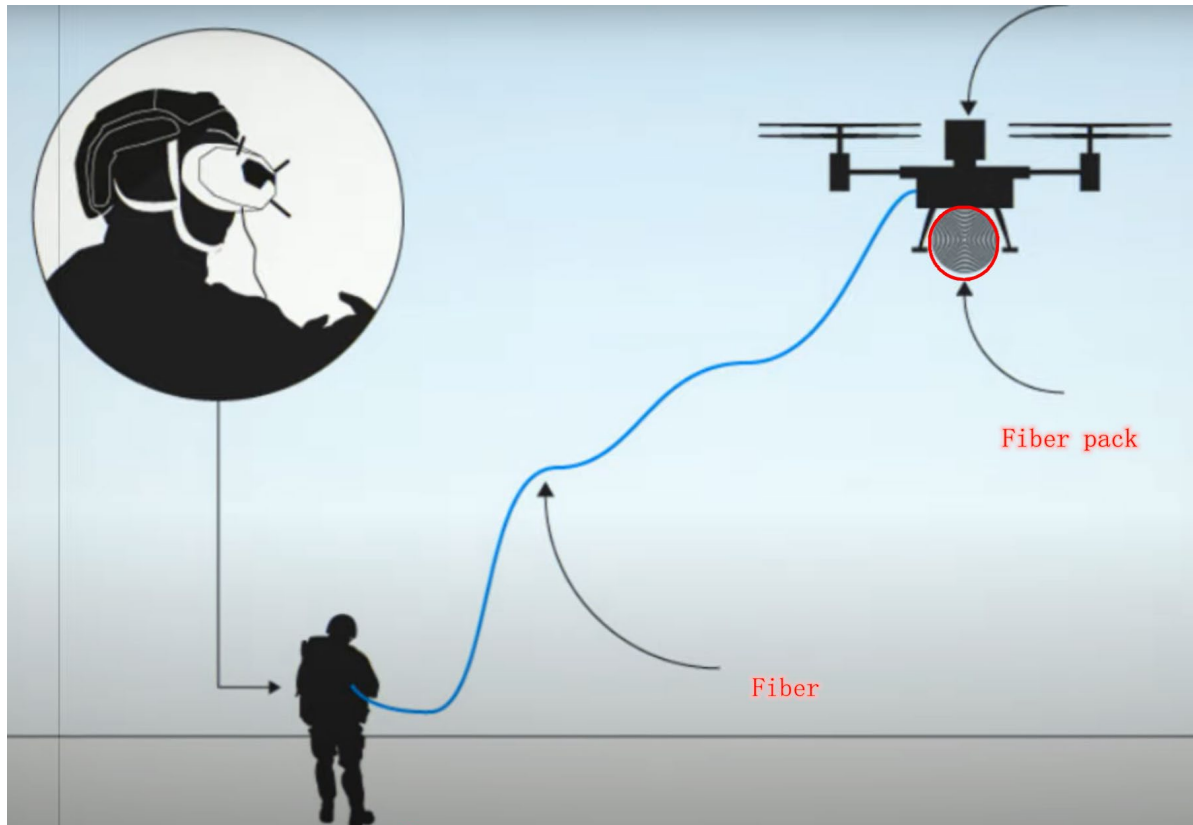




Since 2013



Fiberpack- Fiber Drone

PROSTAL LIMITED



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Fiberpack

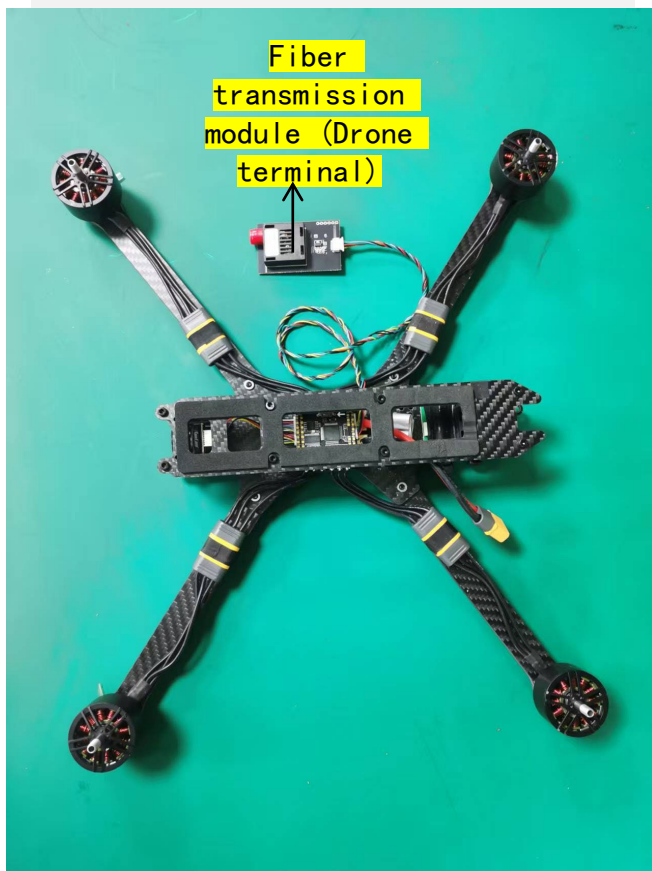
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1, Brief Introduction

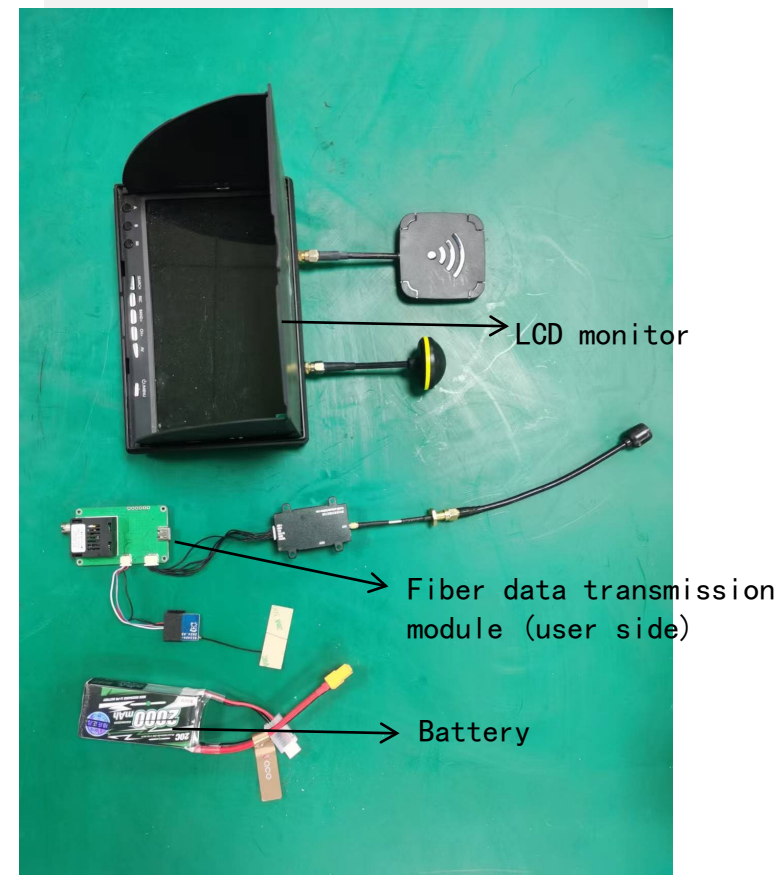
Drone fiber optic technology combines optical fiber with drone systems, leveraging its high speed, stability, and interference resistance to enhance drones' communication, navigation, and sensing capabilities.

It uses optical fiber as the transmission medium and optical signals for data transmission. Specifically, the video signal captured by the drone's camera is first converted into an optical signal and then transmitted to the ground via optical fiber. On the ground, the optical signal is converted back into an electrical signal and decoded into a video signal for display on a screen. This process is based on the phenomenon of total internal reflection of light. The optical signal is transmitted within the core of the optical fiber and protected by the outer fiber sheath, ensuring that the optical signal is not leaked or interfered with during transmission.



Drone terminal

Singlemode Fiber is using to connect the drone with user. High security and fast transmission between drone and user.



User terminal



1. Fast

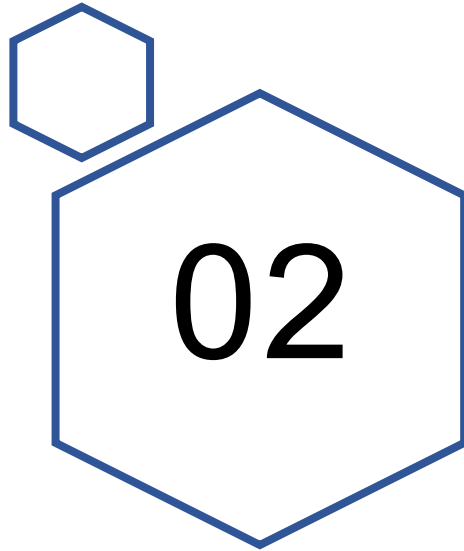
Fiber optic communication has ultra-large bandwidth, enabling ultra-high-speed data transmission and ensuring the instantaneous transmission of large-scale information flows such as high-definition video and real-time data.

2. Stable

Fiber-optic communication has super strong anti-interference capabilities and can work stably in complex electromagnetic environments, ensuring the reliability and security of data transmission.

3. Safe

Fiber optic transmission systems can effectively prevent information leakage and acquisition, and improve the confidentiality and security of drone data transmission.



Structure of fiberpack

Two main parts: Fiber and barrel

02

Three barrel types

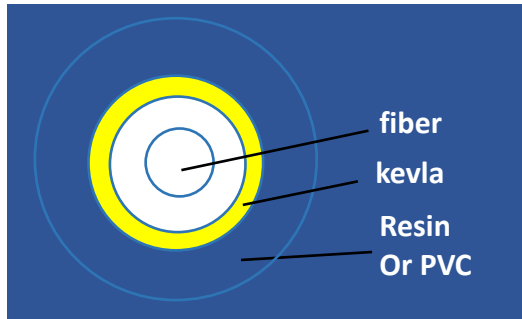
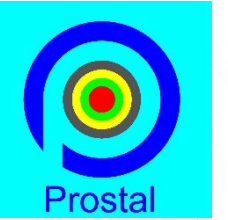


Material of barrel:
Carbon fiber

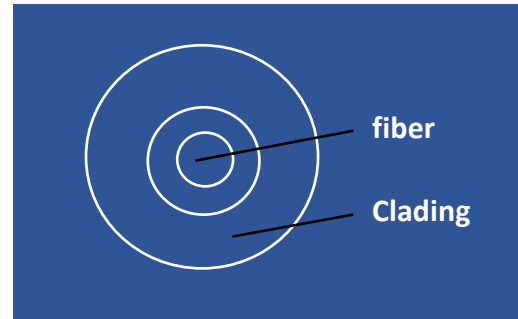


Three barrel according to length:

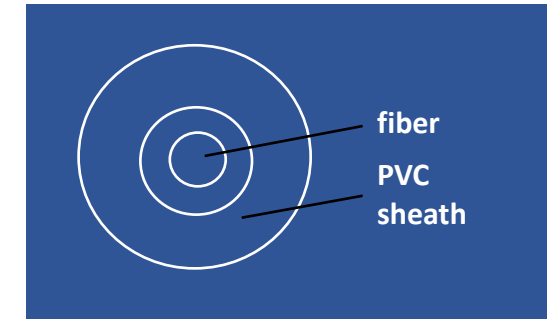
	5km	10km	15km
Size (mm)	102*312	120*400	140*400
Gross weight including fiber (kg)	1.1	2.2	3.2



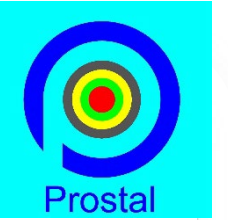
- A1C
 - Kevla as strength member
- Reinforced with aramid material, it features a lightweight design and high tensile strength. It is resistant to high and low temperatures and corrosion, making it ideal for drones' stable communication needs in complex environments. It supports long-distance data transmission and high-definition video backhaul, ensuring efficient drone operations.



- B1C
 - Resin cladding
- Resin-coated drone optical fiber uses a high-performance resin coating and has the characteristics of lightweight design, high-efficiency production, and low cost. It supports long-distance, high-speed data transmission and is suitable for communication needs in complex environments.



- C1C
 - PVC cladding
- The transparent PVC extruded drone optical fiber adopts a lightweight transparent sheath with a diameter of less than 0.5 mm. The internal optical signal transmission has no electromagnetic radiation and has strong anti-interference ability. It can ensure the instant return of high-definition images within the effective area. It is particularly suitable for covert surveillance and security in complex electromagnetic environments.



specs \ value	Outer Diameter (mm)	Strength	Net weight (kg/km)			Working Temp.	Reliability	Coating layer problem	General comments
			5km	10km	15km				
A1C With kevla	0.38-0.40	47N	0.95	2.3	3.2	-40°C~+85°C	Continuous uninterrupted image/video	No problem	High reliability
B1C Resin cladding	0.26	15N	0.31	0.62	0.93	-40°C~+60°C	Fiber easily broken, and no video or image	Coating layer easily peeling off	Low reliability
C1C PVC cladding	0.3	15N	0.47	0.94	1.41	-40°C~+60°C	Fiber easily broken, and no video or image	No coating layer	Low reliability

02

Fly test



