

TACTICAL FIBER DRUM

CONTROL OVER FIBER

Description:

A fiber optic drum for drone use enables secure, high-bandwidth connection between the drone and the commander control station, allowing real-time transmission of video and data with minimal latency and immunity to electromagnetic interference. It enables real time bidirectional data transmission supporting Ethernet, serial, TTL and HDMI signals.





Illustrative picture

Features:

- Immune to EMI, jamming, and interception—perfect for contested environments
- Tactical-grade optical fiber for UAV, drones and UGV
- Field-proven solution, tested under real-world conditions
- Lightweight, rugged drum design optimized for airborne and mobile platforms
- FC or SC connectors

Optical Video & Signal Transmitting Modules

Item		
Microcontroller	User programmable	User programmable
Power supply	9-18 V	4S-6S or XT60
Interface	UART & Video	UART & Video (RCA & VTX)
Video Protocol	PAL / NTSC	PAL / NTSC
Control Protocol	CRSF / SBUS	CRSF / SBUS
COM Distance	> 25 km	> 25 km
Wavelength	1310 /1550 nm	1310 /1550 nm
Dimensions	110 x 75 mm	105 x 70 x 28 mm
Weight	95 g	220 g

Advantages:

- 0.15 mm ultra thin single mode bare fiber
- Fiber releasing speed up to 120 km/h
- Data transmission over 1 Gbps

Optical Fiber

Item		Transparent	Reinforced
Coating	O.D.	0.25-0.27 mm	0.34-0.36 mm
	Material	Polymer blend	Polymer blend
	Fiber color	Original	Original
	Tight Buffer	Transparent	Transparent
Tensile strength	Short term	50 N	95 N
Crush resistance	Short term	50 N/100 mm ¹	50 N/100 mm ¹
Weight (kg/km)		0.10	0.13

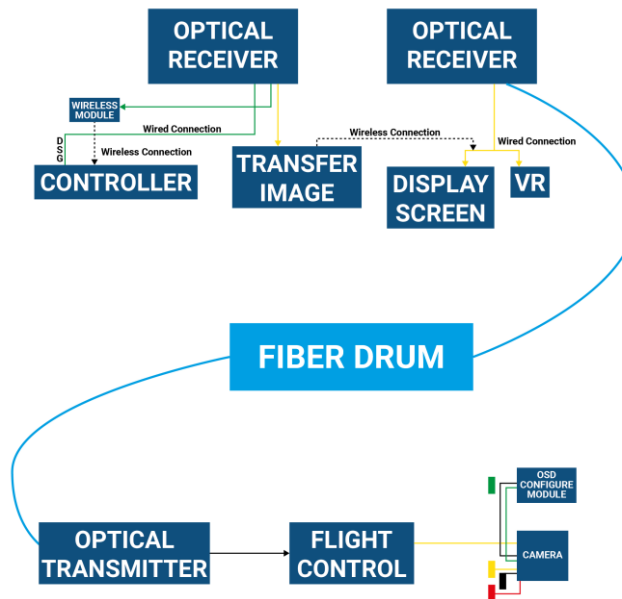
Note: 1) Attenuation increasing <0.1 dB

Optical cable drum²

Outside releasing			Inside releasing		
Length (km)	Weight (kg)	Dimension (mm)	Length (km)	Weight (kg)	Dimension (mm)
1-3	0.41-0.62	Ø101.6 x 274	2	0.78	Ø121x 246
5	0.59	Ø101.6 x 351	3	0.78	Ø121x 246
10	1	Ø101.6 x 351	5	0.78	Ø121x 246
15	1.4	Ø101.6 x 351	10	1.15	Ø121x 246
20	2	Ø137 x 390	15	1.65	Ø147 x 276
25	2.3	Ø137 x 390	20	1.94	Ø147 x 276
30	2.9	Ø130 x 460	25	2.35	Ø147 x 276
			30	2.7	Ø147 x 276

Note: 2) Transparent optical fiber 0.25-0.27 mm, transmitter included

Connection of Optical Receiver



Connection of Optical Transmitter