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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.

Features:

- Provides real-time data and video transmission between drone and ground control
- 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
- Enables high-speed communication with low latency and high reliability
- Optional integration with automatic retraction mechanism
- For 270 µm fiber

SPECIFICATIONS

G.657A2 0.27 mm

Characteristics	Conditions	Specified Values	Units
Optical Characteristics			
Attenuation	1310 nm	≤0.35	[dB/km]
	1383 nm (after H2-aging)	≤0.35	[dB/km]
	1460 nm	≤0.25	[dB/km]
	1490 nm	≤0.23	[dB/km]
	1550 nm	≤0.21	[dB/km]
	1625 nm	≤0.23	[dB/km]
Attenuation vs. Wavelength Max. α difference	1285～1330 nm	≤0.03	[dB/km]
	1525～1575 nm	≤0.02	[dB/km]
Zero dispersion slope		≤0.092	ps/(nm2·km)
PMD			
Maximum Individual Fibre		≤0.1	[ps/√ km]
Link Design Value (M=20,Q=0.01%)		≤0.06	[ps/√ km]
Typical value		0.04	[ps/√ km]
Cable cutoff wavelength		λcc ≤1260	[nm]
Mode field diameter (MFD)	1310 nm	8.4～9.2	[µm]
	1550 nm	9.3～10.3	[µm]
Effective group index of refraction (Neff)	1310 nm	1.466	
	1550 nm	1.467	
Point discontinuities	1310 nm	≤0.05	[dB]
	1550 nm	≤0.05	[dB]

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Geometrical Characteristics			
Cladding diameter		125.0±0.7	[µm]
Cladding non-circularity		≤0.7	[%]
Coating diameter		245±5	[µm]
Coating-cladding concentricity error		≤12.0	[µm]
Coating non-circularity		≤6.0	[%]
Core-cladding concentricity error		≤0.5	[µm]
Curl (radius)		≥4	[m]
Delivery length		2.1 to 50.4	[km/reel]
Environmental Characteristics (1310 nm, 1550 nm & 1625 nm)			
Temperature dependence Induced attenuation at	-60°C to +85°C	≤0.05	[dB/km]
Temperature-humidity cycling Induced attenuation at	-10°C to +85°C 98% RH	≤0.05	[dB/km]
Watersoak dependence Induced attenuation at	23°C For 30 days	≤0.05	[dB/km]
Damp heat dependence Induced attenuation at	85°C and 85% For 30 days	≤0.05	[dB/km]
Dry heat aging at	85°C For 30 days	≤0.05	[dB/km]
Mechanical Specification			
Proof test	off line	≥9.0 ≥1.0 ≥100	[N] [%] [kpsi]
Macro-bend induced attenuation			
10 turns around a mandrel of 15 mm radius	1550 nm	≤0.03	[dB]
10 turns around a mandrel of 15 mm radius	1625 nm	≤0.1	[dB]
1 turn around a mandrel of 10 mm radius	1550 nm	≤0.1	[dB]
1 turn around a mandrel of 10 mm radius	1625 nm	≤0.2	[dB]
1 turn around a mandrel of 7.5 mm radius	1550 nm	≤0.2	[dB]
1 turn around a mandrel of 7.5 mm radius	1625 nm	≤0.5	[dB]
Coating strip force	average force (typical) peak force	1.7 ≥1.3 ≤8.9	[N] [N]
Dynamic stress corrosion susceptibility parameter nd（typical）		27	

Reel Dimensions 10 km / 15 km Diameter: 120 mm Length: 325 mm
Reel Dimensions 20 km / 25 km Diameter: 140 mm Length: 360 mm
Reel Weight
10 km = 980 g / 15 km = 1250 g / 20 km = 1760 g / 25 km = 2210 g
Controller Boards Weight (TX) 12 g

Order code:

Bouncer-FO-10-(SC)[1]
Bouncer-FO-15-(SC)[1]
Bouncer-FO-20-(SC)[1]
Bouncer-FO-25-(SC)[1]

Accessories

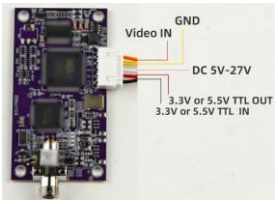
Standard

- Cable box with:
- Fiber with defined length
- Video transmitter

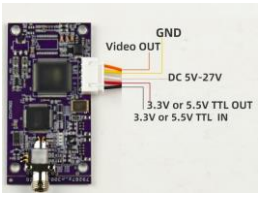
Option

- Video receiver[2]

TX-video transmitter



RX-video receiver



Note: 1) FC/UPC connectors standard, SC/UPC on request
2) If 10 pcs Tactical fiber drums are purchased, 1 pcs of Video transceiver is free