Technical Specification for RG316D Dual-Core Overall Shielded Coaxial Cable

1. Product Overview

The RG316D Dual-Core Overall Shielded Coaxial Cable is a high-performance radio frequency (RF) transmission cable featuring a dual-core structure and integrated overall shielding. It is designed to facilitate reliable multi-channel signal transmission in environments requiring stable impedance, strong anti-interference capabilities, and resistance to harsh conditions. The cable is suitable for a range of applications including aerospace electronics, defense systems, industrial instrumentation, RF modules, and other high-frequency signal transmission scenarios.

2. Basic Information

Item	Specification
Model	RG316D
Brand	hellosignal
Product Code	7101227
Category	Coaxial Cable
Characteristic Impedance	50 ± 3 Ω
Certifications	UL, ETL, CE, CPR, RoHS
Available Lengths	100m, 305m, 500m, 1000m, 500ft, 1000ft
Packaging Options	Roll, wooden spool, carton, pallet
Minimum Order Quantity (MOQ)	10KM
Delivery Time	Normally 25 working days

Port of Loading	NINGBO, SHANGHAI
Payment Terms	T/T, L/C at sight, D/P at sight

3. Cable Construction

Component	Material / Specification	Diameter
Inner Conductor	Silver-Plated Copper (SC), 7 × 0.175 mm	—
Dielectric	PTFE (Natural)	1.52 ± 0.05 mm
Shielding 1	Silver-Plated Copper Braid, 80 × 0.10 mm, ≥95% coverage	1.95 ± 0.10 mm
Shielding 2	Silver-Plated Copper Braid, 80 × 0.10 mm, ≥95% coverage	2.35 ± 0.10 mm
Inner Jacket	FEP (Blue / Green)	2.90 ± 0.10 mm
Filling	PE (Natural)	6.40 ± 0.20 mm
Overall Shield	Tinned Copper Braid, 120 × 0.13 mm, ＞85% coverage	6.95 ± 0.20 mm
Wrapping	PTFE Foil	7.10 ± 0.20 mm
Outer Sheath	TPU, Sky Blue (RAL5015)	9.20 ± 0.30 mm
Marking	ZION / RG316D*2C+FB / RoHS / Meter Marking	—

4. Electrical Characteristics (20 °C)

Parameter	Specification
Characteristic Impedance	50 ± 3 Ω

Capacitance	100 ± 5 pF/m
Velocity of Propagation	69 ± 1 %
Insulation Resistance	＞1000 MΩ·km
Operating Voltage	60 V
VSWR (Voltage Standing Wave Ratio)	≤ 1.3

5. Attenuation Performance

Frequency (GHz)	Attenuation (dB / 100 m)
0.4	54.9
1.0	93.8
1.5	121.7
2.0	145.6
3.0	174.7
5.0	258.9
6.0	289.5

6. Physical & Mechanical Characteristics

Item	Specification
Operating Temperature Range	−40 °C to +180 °C
Installation Temperature Range	−20 °C to +60 °C

Minimum Bending Radius (Single)	46.0 mm
Minimum Bending Radius (Repeated)	92.0 mm
Storage Temperature	Below 30 °C
Storage Humidity	20% – 65% RH
Recommended Storage Period	≤ 2 months
Insulation Shrinkage	≤ 0.5 mm
Sheath Shrinkage	≤ 0.6 mm

7. Standards & Compliance

- Oil Resistance: Complies with IEC 60811-404
- Flame Retardancy: Complies with IEC 60332-1-2
- UV Resistance: Complies with UL 1581-1200
- Environmental Compliance: RoHS II, REACH

8. Key Features

- Dual RG316D coaxial cores enable multi-channel RF transmission within a compact cable structure.
- Silver-plated copper conductors ensure low resistance, excellent skin-effect performance, and high-frequency stability.
- PTFE dielectric and wrapping provide outstanding thermal resistance (up to +180 °C) and low dielectric loss.
- Triple-level shielding design (individual silver-plated copper braid for each core, additional silver-plated copper braid layer, and overall tinned copper braid) offers strong EMI (Electromagnetic Interference) suppression.
- TPU outer sheath delivers oil, UV, and abrasion resistance, enhancing mechanical and environmental durability.
- Maintains stable RF performance with consistent characteristic impedance, low VSWR, and predictable attenuation.