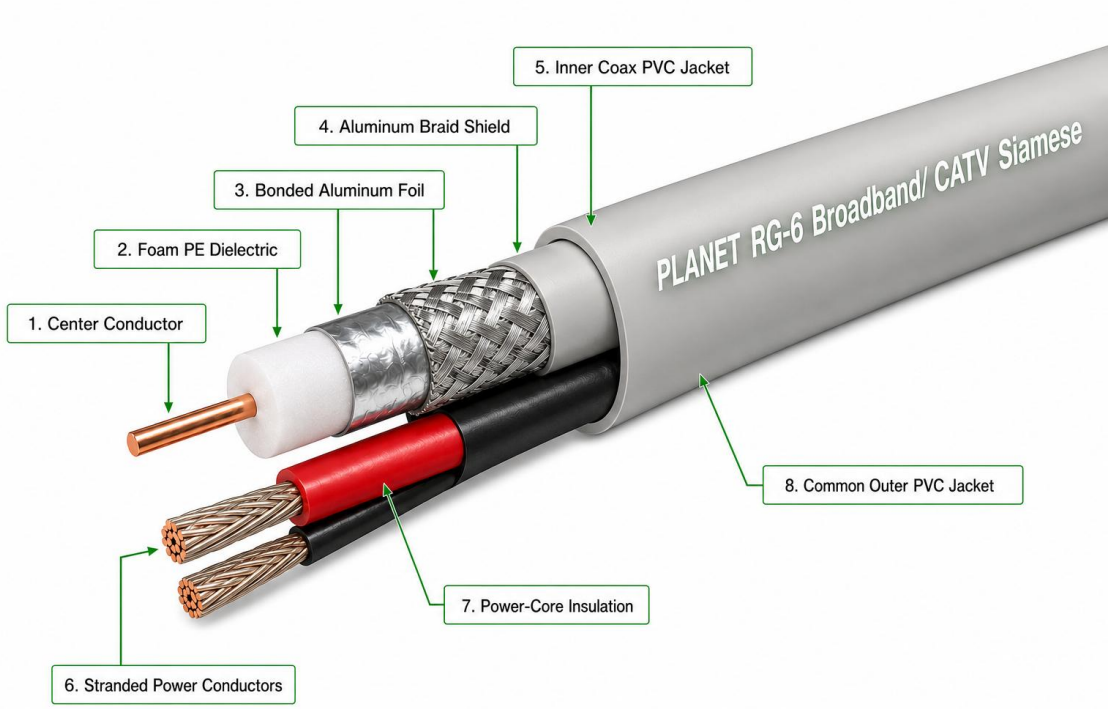
Planet
Structure Cabling Systems

Category : RG-6 coaxial cable With 2C Power

Coaxial Cable

3D PRODUCT VIEW



1. GENERAL DESCRIPTION

Round, non-separable composite cable containing an inner-jacketed IEC 75-5S, 75-ohm Class C RG-6 coaxial subunit and two separately insulated low-voltage DC power cores under one common PVC jacket. The coaxial subunit supports CATV, MATV/SMATV, satellite IF, broadband video and surveillance signals from 5 MHz to 3000 MHz. IEC 61196-6-3 applies to the coaxial subunit only; power-core materials, insulation and the common outer jacket are controlled separately by the complete part number and acceptance records.

75 OHM **CATV / satellite**	**18 AWG** **1.02 mm solid**	**5-3000 MHz** **Published RF range**	**2-CORE POWER** **16 x 0.18 mm each**

2. INDEX BY PART NUMBER

Part Number	Coax Center Conductor	Power Conductors
PL-RGD6WP3	Bare Copper (BC) - IEC 75-5S, Class C	Bare Copper (BC)
PL-RGD6WP3BA	Bare Copper (BC) - IEC 75-5S, Class C	Copper-Clad Aluminum (CCA)
PL-RGD6WP3SB	Copper-Clad Steel (CCS) - IEC 75-5S, Class C	Bare Copper (BC)
PL-RGD6WP3SA	Copper-Clad Steel (CCS) - IEC 75-5S, Class C	Copper-Clad Aluminum (CCA)

PRODUCT HIGHLIGHTS

- IEC 75-5S coaxial subunit: 75 ± 3 ohm, foamed-PE dielectric and ALT+A dual shield, Screening Class C.
- Two color-coded 16 x 0.18 mm stranded power conductors and the jacketed coax subunit are enclosed by one common outer jacket.
- IEC Annex B attenuation, return-loss and post-flex Class C screening limits through 3000 MHz.
- Exact jacket marking: PLANET RG-6 Broadband/ CATV Siamese.

TECHNICAL SPECIFICATIONS | RG-6 DOUBLE JACKET | 75 OHM

3. CONSTRUCTION

Component	Material / Construction	Dimension / Requirement
Coax center conductor	Solid BC or CCS, controlled by complete part number	1.02 ± 0.02 mm (18 AWG nominal)
Coax dielectric	Foamed polyethylene (Foam PE)	4.57 ± 0.13 mm diameter
Foil shield	Bonded aluminum-polymeric laminated tape (ALT)	100% coverage; 18-35% overlap; inner-shield OD 4.78 ± 0.13 mm
Braid shield	Aluminum-alloy wire braid (A)	112 ends × 0.12 mm nominal; construction verified by coverage and Class C tests
Braid coverage	IEC 75-5S standard-shield construction	≥ 59% IEC minimum; PLANET acceptance ≥ 60%
Inner coax jacket	Light-grey polyvinyl chloride (PVC), RAL 7035	0.60 mm minimum wall; 6.93 ± 0.20 mm finished diameter
Power conductors	2 stranded cores; BC or CCA by part number	16 × 0.18 mm per core; 0.407 mm² metallic area (0.40 mm² commercial designation)
Power-core insulation	Red and black polyethylene (PE)	1.80 ± 0.15 mm finished diameter per core
Common outer jacket	Light-grey polyvinyl chloride (PVC), RAL 7035	0.70 mm nominal wall; compound controlled by the ordered construction
Overall cable diameter	Round, non-separable composite profile	11.0 ± 0.5 mm
Composite construction	Inner-jacketed RG-6 plus two insulated power cores	All elements under one common outer jacket; no separable web
Cable marking	Brand, type, complete part number, lot and length	PLANET RG-6 Broadband/ CATV Siamese

4. MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Parameter	Value / Requirement
Installation temperature	-5 °C to +50 °C; avoid impact or bending below the stated limit
Operating temperature	-20 °C to +70 °C for the base double-PVC construction
Storage temperature	-20 °C to +70 °C
Composite bend radius during installation / under load	≥ 15 × overall diameter; approximately 165 mm for 11 mm OD
Composite bend radius after installation / no load	≥ 10 × overall diameter; approximately 110 mm for 11 mm OD
Coaxial-subunit flex qualification	10 × coax OD, 5 N tension, ≤ 1 m/s, 3 cycles; post-flex Class C limits shall be met
Standard commercial length	305 m (1,000 ft), subject to order confirmation
Base double-PVC construction	No UV, direct-burial, plenum, LSZH or flame-classification claim unless separately ordered and documented

5. ELECTRICAL CHARACTERISTICS

Parameter	Requirement / Nominal Value
Published RF range	5-3000 MHz
Characteristic impedance	75 ± 3 ohm, measured at 200 MHz
Capacitance / NVP / propagation delay	53 pF/m nominal at 1 kHz; 85% nominal NVP; approximately 3.92 ns/m
Coax-center DCR at 20 °C	BC: ≤ 21.10 ohm/km; CCS: ≤ 102.00 ohm/km
Outer-conductor DCR at 20 °C	≤ 33.00 ohm/km for ALT+A standard shield
Coax insulation / dielectric withstand	IR ≥ 10,000 MOhm-km; 1.5 kV AC or 2.1 kV DC for 1 min, conductor-to-shield
Inner coax-jacket withstand / spark	2.5 kV AC or 3.5 kV DC for 1 min; spark: 2.5 kV AC 50 Hz, 3.0 kV AC 15 kHz or 3.75 kV DC
BC power-conductor DCR at 20 °C	PLANET acceptance: ≤ 45.0 ohm/km for 16 × 0.18 mm
CCA power-conductor DCR at 20 °C	PLANET acceptance: ≤ 75.0 ohm/km for 16 × 0.18 mm; no IEC 60228 copper claim
Power insulation / withstand	Specified acceptance: IR ≥ 200 MOhm-km; 1.0 kV AC for 1 min core-to-core; common-jacket spark 2.5 kV AC
Power-circuit limitation	12/24 V DC SELV/PELV only; not mains-rated; verify voltage drop, thermal loading and circuit protection

6. MAXIMUM PUBLISHED ATTENUATION AT 20 °C

Frequency (MHz)	Maximum (dB/100 m)	Qualification basis
5	2.0	IEC Annex B maximum at 20 °C
50	5.1	IEC Annex B maximum at 20 °C
100	6.7	IEC Annex B maximum at 20 °C
200	9.5	IEC Annex B maximum at 20 °C
400	13.9	IEC Annex B maximum at 20 °C
700	18.5	IEC Annex B maximum at 20 °C
900 / 1000	21.2 / 22.3	IEC Annex B maximum at 20 °C
1450	26.9	IEC Annex B maximum at 20 °C
1800 / 2100 / 2250	30.2 / 32.3 / 33.5	IEC Annex B maximum at 20 °C
3000	39.4	IEC Annex B maximum at 20 °C

7. SCREENING AND RETURN-LOSS TARGETS

Parameter	Frequency Range	Minimum / Maximum Requirement
Transfer impedance after flex	5-30 MHz	≤ 50 mOhm/m (Class C maximum)
Screening attenuation after flex	30-1000 MHz	≥ 75 dB (Class C minimum)
Screening attenuation after flex	1000-2000 MHz	≥ 65 dB (Class C minimum)
Screening attenuation after flex	2000-3000 MHz	≥ 55 dB (Class C minimum)
Structural return loss	5-1000 MHz	≥ 20 dB
Structural return loss	1000-2000 MHz	≥ 18 dB
Structural return loss	2000-3000 MHz	≥ 16 dB

8. APPLICATIONS

- CATV, MATV and SMATV distribution within the published 5-3000 MHz frequency and attenuation limits.
- Satellite IF, broadband video, analog/digital television and surveillance-video interconnections.
- Combined RF/video and 12/24 V DC SELV/PELV power routing after documented voltage-drop, thermal and installation verification.

9. STANDARDS AND REGULATORY STATUS

Standard / Classification	Status
IEC 61196-6-3:2020 with IEC 61196-6:2009	Primary detail and sectional design/acceptance basis for the inner 75-5S Class C coaxial subunit only
IEC 61196-1:2005; IEC 62153-4-3 / IEC 62153-4-4	Applicable coaxial electrical, transfer-impedance and screening-attenuation test methods
IEC 60728 series	CATV/MATV system application reference; not a standalone product certificate
IEC 60228:2023	No conformity claim for the 16 × 0.18 mm power cores: 0.407 mm² is below the standard 0.50 mm² minimum nominal size; CCA is not claimed as copper
RoHS / REACH	Material declarations only for the exact ordered construction and only when supported by current supplier/manufacturer records
Quality-management certification	Not a product-compliance claim; a current manufacturing-site certificate may be supplied upon request when valid
CE / CPR	No claim without the applicable declaration and reaction-to-fire documentation for the exact ordered construction
UL / ETL / flame / UV / direct burial / LSZH	No base-product claim; optional only when stated on the complete part number and supported by a valid exact-construction report

10. UALITY ASSURANCE AND TESTING

- Routine controls include dimensions, continuity/open-short, coax and power-conductor DCR, outer-conductor DCR, insulation resistance, inner/common-jacket spark tests and marking inspection.
- Coax qualification shall verify impedance, Annex B attenuation, structural return loss, capacitance/NVP, braid coverage, transfer impedance and screening attenuation after flex for the exact coax variant.
- Power-section validation shall verify conductor construction, DCR, insulation resistance, dielectric withstand and common-jacket spark test for the ordered material; voltage-drop and thermal design remain project-specific.
- Mechanical/environmental validation shall cover the stated flex, bend and temperature limits; ageing, UV and flame tests apply only when specifically claimed for the exact ordered construction.
- All reports shall identify the complete part number, coax and power-conductor materials, shield construction, insulation/jacket compounds, lot and dated test method.

11. ORDE ING AND ACCEPTANCE REQUIREMENTS

Requirement	Acceptance Basis
Part-number control	PL-RGD6WP3 / 3BA use BC coax; 3SB / 3SA use CCS coax. BA / SA use CCA power conductors; substitutions require written approval.
Construction control	Round non-separable composite: one inner-jacketed IEC 75-5S Class C coaxial subunit plus two insulated power cores under one common jacket.
Power-conductor control	16 × 0.18 mm (0.407 mm² metallic area) and BC/CCA material shall appear on the order, reel label and acceptance records.
Cable and reel marking	PLANET RG-6 Broadband/ CATV Siamese, complete part number, lot, sequential length and production identification.
Project-specific options	Color, packaging, extended temperature, UV/direct-burial, LSZH, flame class or third-party listing must be separately ordered and verified.
Consultant submittal	Datasheet plus requested coax type-test report, power-section routine certificate and material declaration for the exact ordered variant.