

3D PRODUCT VIEW



1. PRODUCT OVERVIEW

A 75-ohm RG-59 / 75-4 type coaxial subunit and a two-core low-voltage power sub-cable joined by a separable Siamese web. The foamed-PE coaxial construction is specified for CCTV, surveillance, broadband and CATV distribution from 5 to 3000 MHz. Electrical values in this datasheet are controlled design and acceptance requirements for the complete ordered part number.

75 OHM CATV impedance	20 AWG 0.81 mm solid	5-3000 MHz Published range	BC / CCS Coax variants
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2. INDEX BY PART NUMBER

Part Number	Coax Center Conductor	Power Conductors
PL-RG5WP3	Bare Copper (BC)	Bare Copper (BC)
PL-RG5WP3BA	Bare Copper (BC)	Copper-Clad Aluminum (CCA)
PL-RG5WP3SB	Copper-Clad Steel (CCS)	Bare Copper (BC)
PL-RG5WP3SA	Copper-Clad Steel (CCS)	Copper-Clad Aluminum (CCA)

KEY FEATURES

- 20 AWG solid coax center conductor with Bare Copper or Copper-Clad Steel variants.
- Foamed-PE dielectric, bonded aluminum laminated tape and aluminum-alloy braid forming an IEC 75-4S standard dual shield.
- Two stranded, color-coded power cores in a separately jacketed, separable figure-eight section.
- BC, CCS and CCA materials are positively identified; material substitution is not permitted.

3. CONSTRUCTION SPECIFICATIONS

Component	Material / Construction	Specified Dimension / Requirement
Coax center conductor	Solid BC or CCS, selected by complete part number	0.81 +/- 0.01 mm (20 AWG nominal)
Dielectric	Gas-injected foamed polyethylene (Foam PE)	3.66 +/- 0.15 mm diameter
Foil shield	Bonded aluminum/polyester laminated tape (ALT)	100% coverage; longitudinal overlap 18% to 35%
Braid shield	Aluminum-alloy wire braid (A)	112 ends x 0.12 +/- 0.005 mm; coverage >= 60% (IEC minimum >= 59%)
Coax jacket	Black polyvinyl chloride (PVC)	6.10 +/- 0.20 mm finished diameter; minimum thickness 0.60 mm
Power conductors	2 stranded cores; BC or CCA by complete part number	-05: 16 x 0.20 mm; -075: 24 x 0.20 mm; -10: 32 x 0.20 mm
Power conductor area	Nominal metallic cross-section per core	0.50 / 0.75 / 1.00 mm ² , selected by suffix
Power insulation	Red PE and black PE	1.8 / 2.0 / 2.2 mm nominal insulated-core OD by size
Power sub-jacket	Black PVC, oval twin-core profile	5.0 +/- 0.2 mm nominal major dimension; not a circular diameter
Composite construction	Separable Siamese / figure-eight web	11.5 +/- 0.3 x 6.1 +/- 0.2 mm overall envelope
Cable marking	Brand, type, complete part number, batch and sequential length	PLANET RG-59 Broadband

4. ELECTRICAL CHARACTERISTICS

Parameter	Specified Requirement
Published RF range	5 to 3000 MHz
Characteristic impedance	75 +/- 3 ohm, measured at 200 MHz
Nominal transmission values	Capacitance: 52 pF/m nominal at 1 kHz; NVP: 85% nominal; propagation delay: approximately 3.92 ns/m
Return loss	>= 20 dB: 5-1000 MHz; >= 18 dB: 1000-2000 MHz; >= 16 dB: 2000-3000 MHz
Regularity of impedance	>= 40 dB or <= 1%; test from both cable ends in accordance with IEC 61196-1-115
Transfer impedance after flex	IEC screening Class C dual shield: <= 50 mOhm/m from 5 to 30 MHz
Screening attenuation after flex	IEC Class C: >= 75 dB at 30-1000 MHz; >= 65 dB at 1000-2000 MHz; >= 55 dB at 2000-3000 MHz
BC coax-center DCR at 20 deg C	<= 33.46 ohm/km
CCS coax-center DCR at 20 deg C	<= 159.32 ohm/km
Outer-conductor DCR at 20 deg C	ALT+A standard shield: <= 40.38 ohm/km
Power-conductor DCR at 20 deg C	BC: <= 39.0 / 26.0 / 19.5 ohm/km; CCA: <= 65 / 43 / 32 ohm/km for 0.50 / 0.75 / 1.00 mm ²
Insulation resistance	Coax center-to-shield: >= 10,000 MOhm-km; power core-to-core/core-to-shield: >= 500 MOhm-km
Dielectric withstand	Coax: 1.5 kVAC for 1 min; power: 1.0 kVAC for 1 min, with no breakdown
Coax sheath withstand / spark test	Sheath: 2.5 kVAC for 1 min. In-process spark: 2.5 kVAC at 50 Hz, or 3.0 kVAC at 15 kHz, or 3.75 kVDC
Power-circuit working voltage	Maximum 30 VAC or 60 VDC; SELV/PELV low-voltage circuits only; not approved for mains wiring
Attenuation constant at 20 deg C	Shall not exceed IEC 61196-6-2:2020 Annex B for the exact ordered BC or CCS variant; see Section 5

5. ATTENUATION REQUIREMENT AT 20 deg C

Coax Variant	Normative Maximum Attenuation	Acceptance Evidence
BC center conductor	Shall not exceed IEC 61196-6-2:2020 Annex B for the applicable 75-4S BC construction at 20 deg C.	Type-test report and measured attenuation table available upon request.
CCS center conductor	Shall not exceed IEC 61196-6-2:2020 Annex B for the applicable 75-4S CCS construction at 20 deg C.	Type-test report and measured attenuation table available upon request.
Frequency coverage	5 to 3000 MHz; compliance applies at the frequencies and by the method specified in IEC Annex B.	Report shall identify the complete part number, center-conductor material, batch and test method.

6. MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Item	Specified Requirement
Standard jacket	Black PVC; indoor base construction
Operating temperature	-20 deg C to +70 deg C
Installation temperature	0 deg C to +50 deg C
Storage temperature	-20 deg C to +70 deg C
Minimum bend radius	Coax subunit: $\geq 10 \times$ nominal coax diameter during and after installation. While joined: avoid bends tighter than $10 \times$ the overall composite major dimension.
Maximum pulling tension	200 N for the composite cable; do not pull from the power section or Siamese web alone
Connector compatibility	75-ohm RG-59 / 75-4 connectors suitable for 0.81 mm center conductor and 6.10 mm coax jacket
Packaging	305 m (1,000 ft) nominal reel length, unless otherwise ordered

7. APPLICATIONS

- CCTV and surveillance-video interconnections with low-voltage camera power.
- CATV, MATV/SMATV and broadband distribution within the published RF limits.
- Combined video/RF and SELV/PELV power routing after documented voltage-drop verification.

8. STANDARDS AND REGULATORY STATUS

Standard / Classification	Application to This Datasheet
IEC 61196-6-2:2020	Primary 75-4 type CATV drop-cable detail specification, 5-3000 MHz; applies to the coaxial subunit only
IEC 61196-6:2009 / IEC 61196-6:2021	The 2009 edition is the dated sectional reference cited by IEC 61196-6-2:2020; the 2021 edition is the current sectional standard for project review
IEC 61196-1:2005 and applicable test-method parts	Generic coaxial requirements and electrical, mechanical and environmental test methods, including regularity and flex testing
IEC 62153-4-3 / IEC 62153-4-4	Transfer-impedance and screening-attenuation test methods for the coaxial shield
IEC 60228:2023	Resistance and cross-section reference for BC power conductors only; CCA is excluded and controlled by separate manufacturer limits
IEC 60728 series	CATV/MATV system-application reference; not a standalone product certificate
RoHS	Material declaration for the exact ordered part number is available upon request
CE / CPR	No base claim. Any Declaration of Conformity or Declaration of Performance shall apply to the exact ordered construction and intended use
ISO 9001	Manufacturer quality-management-system certificate available upon request; ISO 9001 is not a product certificate
UL / ETL / flame / UV / direct burial / LSZH	No claim unless separately ordered and supported by a valid report or certificate for the complete part number

9. QUALITY ASSURANCE AND TESTING

- Routine controls: dimensions, conductor continuity, open/short circuit, center and shield DCR, power-core DCR, jacket spark test and marking inspection.
- RF qualification: impedance, attenuation, return loss, regularity of impedance, capacitance, NVP/delay, transfer impedance after flex and screening attenuation after flex.
- Power-circuit qualification: DCR, insulation resistance and dielectric withstand for the ordered material and size.
- Mechanical/environmental qualification: bend, pulling tension, ageing and low-temperature tests; UV and flame tests only for separately ordered constructions.
- All reports shall identify the exact part number, materials, power size, batch and applicable test method.

10. ORDERING AND ACCEPTANCE REQUIREMENTS

Requirement	Acceptance Basis
Complete part number	Base code identifies BC/CCS and BC/CCA materials; suffix -05, -075 or -10 identifies power size
Cable and reel marking	PLANET RG-59 Broadband, complete part number, batch/lot, sequential length and production identification
Material control	BC, CCS and CCA substitutions are prohibited without written approval and revised acceptance documents
Consultant submittal	Datasheet plus requested type-test report, routine certificate and material declaration for the exact ordered variant