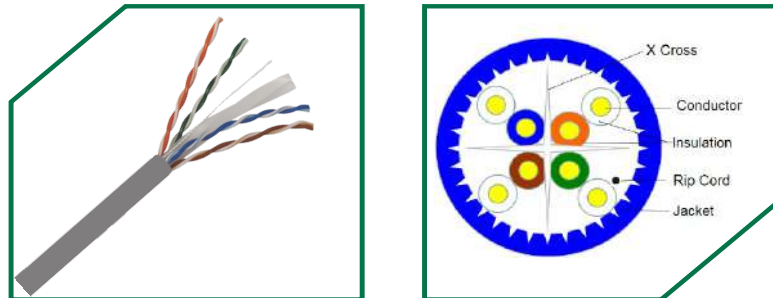


Part Number:

LSZH : PL-CA6AUTL

PVC : PL-CA6AUTP



Category 6A U/UTP cable for structured cabling systems. The base PL-CA6AUTP model uses a PVC jacket, 23 AWG solid bare-copper conductors, and Category 6A acceptance limits through 500 MHz.

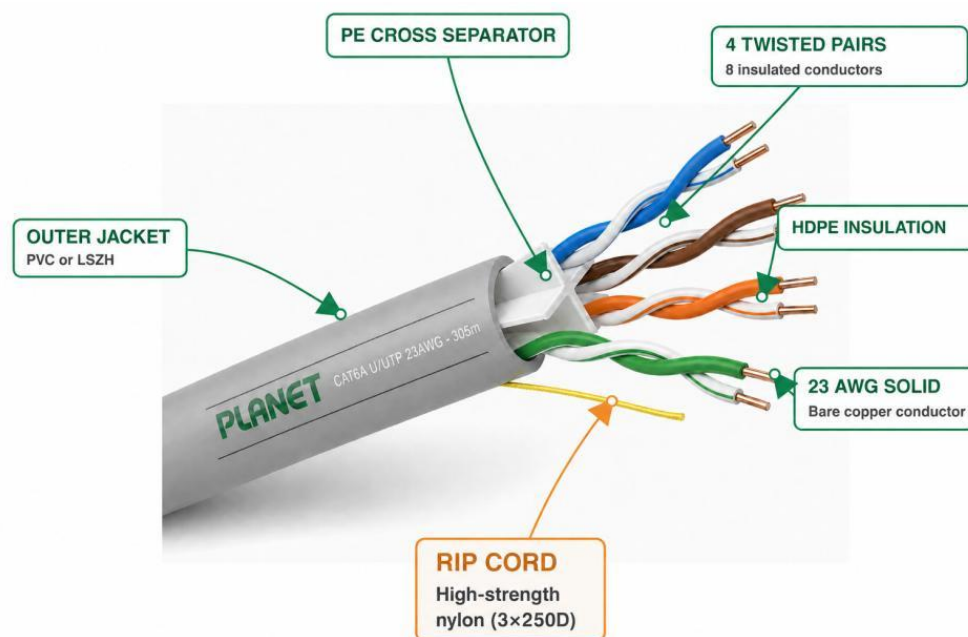
Designed for stable high-speed transmission in commercial, enterprise, and data-centre environments, with enhanced applications available subject to project verification.

10G 10GBASE-T Ready	23 AWG Solid Bare Copper	500 MHz Category 6A	PoE++ Optional Validation
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"Engineered for Performance. Built for Reliability."

1. General Description

Category 6A U/UTP cable designed to the ANSI/TIA-568.2-E performance reference. Final compliance requires factory test evidence, including all applicable balance and alien-crosstalk requirements.



CAT6A U/UTP Cable Construction - Annotated 3D View

Base design includes a 3x250D nylon rip cord; a certified high-strength material grade is optional.

Part Number: **LSZH** : PL-CA6AUTL **PVC** : PL-CA6AUTP

2. Construction

Parameter	Specification
Conductor	23 AWG solid bare copper; 0.570 ± 0.005 mm
Number of Conductors	8 conductors / 4 twisted pairs
Insulation	HDPE; nominal O.D. 1.01 ± 0.10 mm; average thickness 0.22 mm
Pair Colours	White/Blue-Blue; White/Green-Green; White/Orange-Orange; White/Brown-Brown
Pair Separator	PE cross separator
Rip Cord	Included; nylon, 3×250D
Shielding	U/UTP - unshielded; no tape, drain wire, or braid
Outer Jacket	Standard PVC model: PL-CA6AUTP, Optional LSZH model PL-CA6AUTL
Jacket Thickness	0.55 ± 0.05 mm
Overall Diameter	7.00 ± 0.40 mm
Jacket Colour	Grey, RAL 7035

TECHNICAL SPECIFICATIONS

CAT6A U/UTP | PVC BASE

3. Electrical Characteristics - Base

Parameter	Specification
Frequency Range	1-500 MHz
Characteristic Impedance	100 ± 15 Ω over 1-500 MHz
Propagation Delay (max.)	≤ 538 ns/100 m
Propagation Delay Skew (max.)	≤ 45 ns/100 m
DC Resistance, Single Conductor (max.)	≤ 9.0 Ω/100 m at 20°C
DC Resistance Unbalance (max.)	Within pair ≤ 2%; between pairs ≤ 4%
Insulation Resistance (min.)	≥ 5000 MΩ·km at 20°C; test voltage 100-500 V DC
Wire-to-Ground Capacitance Unbalance (max.)	≤ 160 pF/100 m at 0.8 or 1 kHz
Enhanced DC Resistance	≤ 8.5 Ω/100 m
Mutual Capacitance	≤ 5.6 nF/100 m at 1 kHz.
Loop Resistance	≤ 17.0 Ω/100 m
Propagation Delay	≤ 538 ns/100 m at 100 MHz.
Mutual Capacitance	≤ 5.2 nF/100 m
Operating Voltage / PoE	Up to 57 V DC; PoE validation requires test evidence
Nominal Velocity of Propagation (NVP)	Nominal 69%; validated 70% option upon request

Part Number: LSZH : PL-CA6AUTL PVC : PL-CA6AUTP

4. Mechanical Characteristics - Base

Parameter	Value
Sheath Tensile Strength	≥ 13.5 MPa
Sheath Elongation	≥ 150%
Insulation Tensile Strength	≥ 16.0 MPa
Insulation Elongation	≥ 300%
Ageing Condition	100°C ± 2°C for 7 days (168 h)
Sheath Tensile Strength After Ageing	≥ 12.5 MPa
Sheath Elongation After Ageing	≥ 125%
Temperature Rating	-20°C to +75°C
Cold Bend	-20°C ± 2°C × 4 h; 8× cable O.D.; no visible cracks

OPTIONAL INSTALLATION DECLARATIONS: Pulling force ≤ 110 N; 8× cable O.D. during installation and 4× after installation; IEC 60332-1 flame performance only when ordered and verified.

TRANSFER PERFORMANCE

CAT6A U/UTP | 500 MHz

5. Technical Performance

Category 6A cable acceptance limits through 500 MHz. Production compliance shall be demonstrated by applicable factory test evidence.

Category 6A Acceptance Limits - ANSI/TIA-568.2-E

Frequency (MHz)	RL min. (dB)	IL max. (dB/100 m)	NEXT min. (dB)	ACRF min. (dB)	PSNEXT min. (dB)	PSACRF min. (dB)
1	20	2.1	75.3	68	72.3	65
4	23	3.8	66.3	56	63.3	53
10	25	5.9	60.3	48	57.3	45
16	25	7.5	57.2	43.9	54.2	40.9
31.25	23.6	10.5	52.9	38.1	49.9	35.1
62.5	21.5	15	48.4	32.1	45.4	29.1
100	20.1	19.1	45.3	28	42.3	25
125	19.4	21.5	43.8	26.1	40.8	23.1
200	18	27.6	40.8	22	37.8	19
250	17.3	31.1	39.3	20	36.3	17
300	17.3	34.3	38.1	18.5	35.1	15.5
500	17.3	45.3	34.8	14	31.8	11

ACCEPTANCE CONDITION: Final Category 6A compliance requires factory evidence for the limits above and all applicable balance and alien-crosstalk parameters.

Part Number: LSZH : PL-CA6AUTL PVC : PL-CA6AUTP

APPLICATIONS, FEATURES & COMPLIANCE

CAT6A U/UTP | PVC

6. Typical Applications - Base

- 10GBASE-T (10 Gigabit Ethernet)
- 1000BASE-T Gigabit Ethernet
- 100BASE-TX and 10BASE-T Ethernet
- Data-centre and high-speed backbone links
- Commercial and enterprise structured cabling

7. Enhanced Applications - Optional Validation

- High-power PoE / PoE+ / PoE++ applications
- IP CCTV, wireless access points, and building-management devices with PoE
- 90 m Permanent Link / 100 m Channel verification
- LSZH and project-specific flame-performance configurations

8. Key Base Features

- 23 AWG solid bare-copper conductors
- Precision twisted pairs with a central cross separator
- U/UTP construction without tape, drain wire, or braid
- PVC jacket, grey RAL 7035, with black marking
- Category 6A acceptance limits through 500 MHz; final compliance requires test evidence

9. Standards and Compliance

Standard / Certification	Status
ANSI/TIA-568.2-E	Governing Category 6A performance reference; test evidence required
ISO/IEC 11801-1	Optional verification
EN 50173-1	Optional verification
EN 50288-11-1	Optional verification — unscreened 500 MHz cable
IEEE 802.3an	10GBASE-T application reference for compliant Category 6A channels
IEEE 802.3af/at/bt	Optional PoE application verification
RoHS / CE	Optional supporting documentation
CPR / UL / ETL	Upon request and certification

QUALITY, OPTIONS & WARRANTY

CAT6A U/UTP | 305 m

10. Quality and Identification

- Standard base length: 305 m
- Sequential jacket marking and reel-in-box packaging require order confirmation
- Sample Fluke 90 m Permanent Link and 100 m Channel reports are optional documented services

11. Warranty - Optional

25-Year System Warranty

Subject to proper installation and certified components usage.