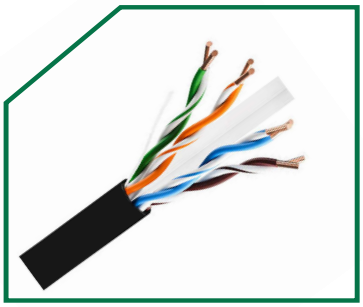
Planet
Structure Cabling Systems

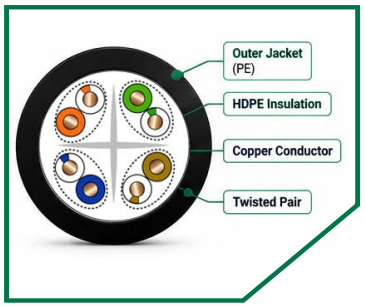
Category : 6 - U/UTP Outdoor

Network Cable

Part Number:

PE : PL-CA6UTH

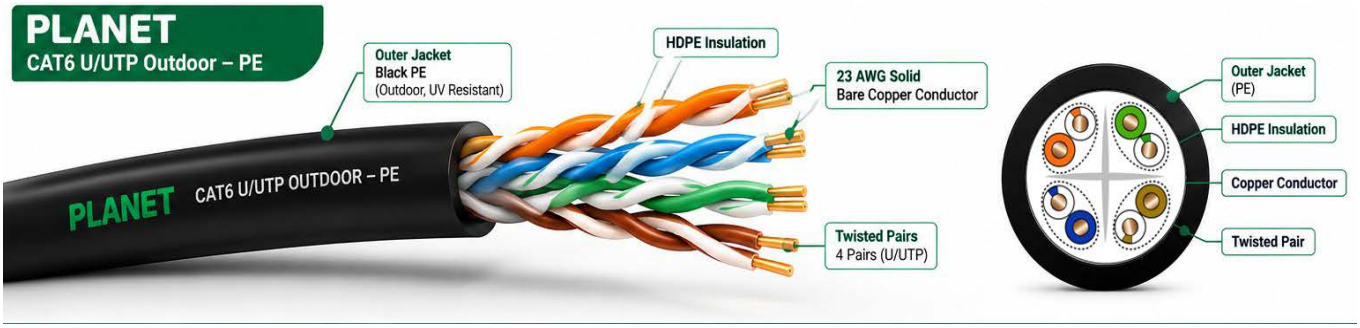




1. General Description

Category 6 U/UTP outdoor cable designed for structured cabling installations requiring an unshielded, four-pair construction. It uses 23 AWG solid bare copper conductors, HDPE insulation, a cross separator, and a black UV-resistant PE/LLDPE outer jacket for outdoor runs and duct installations. Direct burial requires an ordered water-blocking configuration and evaluation of the installation environment.

U/UTP	23 AWG	250 MHz	PoE 1–4
Unshielded	Solid Copper	Category 6	Subject to Limits



Planet
Structure Cabling Systems

Category : 6 - U/UTP Outdoor

Network Cable

Part Number: **PE** : PL-CA6UTH

2. Construction

Parameter	Specification
Conductor Material	100% solid bare annealed copper (Cu)
Conductor Size	23 AWG solid bare copper (0.570 ± 0.005 mm; target)
Number of Conductors	8 (4 unshielded, color-coded twisted pairs)
Insulation Material	High-density polyethylene (HDPE)
Pair Separator	PE cross filler / separator (subject to factory confirmation)
Individual Pair Shield	None - unshielded pairs
Overall Shielding	None - no overall foil or braid
Shielding Type	U/UTP - unshielded overall, unshielded twisted pairs
Cable Diameter	6.00 ± 0.30 mm (target; factory confirmation required)
Drain Wire	Not applicable
Water Blocking	Optional gel / water-blocking tape for ordered direct-burial version
Outer Jacket	Black UV-resistant PE/LLDPE outdoor jacket
Jacket Material	Weather-resistant virgin PE/LLDPE (non-recycled; target)
Jacket Colour	Black
Installation Type	Standard: outdoor / duct; optional water-blocked: direct burial
Rip Cord	Nylon rip cord (subject to ordered construction)

3. Electrical Characteristics

Parameter	Specification
Characteristic Impedance	100 ± 15 Ω
DC Resistance	≤ 9.38 Ω/100 m at 20°C
DC Loop Resistance	≤ 18.8 Ω/100 m at 20°C
Resistance Unbalance	≤ 5% within a pair (cable value; verify complete PoE channel)
Mutual Capacitance	≤ 5.6 nF/100 m
Frequency Range	Up to 250 MHz
Remote Powering Support	IEEE 802.3af / 802.3at / 802.3bt PoE (up to 57 V DC); subject to channel, bundle and temperature limits

4. Mechanical Characteristics

Parameter	Value
Minimum Bend Radius	≥ 4 × cable diameter after installation; avoid tighter bends during pulling
Maximum Pulling Force	≤ 110 N (target; verify with factory)
Operating Temperature	-40°C to +75°C (target; verify jacket performance)
Installation Temperature	-20°C to +50°C (target; verify jacket performance)
UV Resistance	UV-stabilized PE/LLDPE outer jacket
Outdoor / Water Exposure	Weather-resistant jacket; water ingress / direct burial require optional water-blocking
Flame Rating	No base flame-rating claim for standard PE jacket; verify any ordered variant

Part Number: **PE** : PL-CA6UTH

5. Applications

- Outdoor structured cabling for campus and enterprise installations
- Gigabit Ethernet networks (1000BASE-T) and outdoor IP CCTV
- Outdoor wireless access points and Smart City installations
- PoE, PoE+ and 4-pair PoE where electrical and thermal channel requirements are satisfied
- Duct installations; direct burial only in the ordered water-blocking version
- Outdoor-to-indoor transitions using appropriately rated cable and approved entrance protection

6. Technical Performance

Category 6 Permanent Link reference limits up to 250 MHz (maximum 90 m). The figures below are installed-link limits for the complete cabling link, not certified bulk-cable component measurements. A complete channel may be up to 100 m.

MHz	RL ≥dB	ATT ≤dB	NEXT ≥dB	ACRF ≥dB	PS NEXT ≥dB	PS ACRF ≥dB
1	19.1	3.0	65.0	64.2	62.0	61.2
4	21.0	3.5	64.1	52.1	61.8	49.1
8	21.0	5.0	59.4	46.1	57.0	43.1
10	21.0	5.5	57.8	44.2	55.5	41.2
16	20.0	7.0	54.6	40.1	52.2	37.1
20	19.5	7.9	53.1	38.2	50.7	35.2
25	19.0	8.9	51.5	36.2	49.1	33.2
31.25	18.5	10.0	50.0	34.3	47.5	31.3
62.5	16.0	14.4	45.1	28.3	42.7	25.3
100	14.0	18.6	41.8	24.2	39.3	21.2
200	11.0	27.4	36.9	18.2	34.3	15.2
250	10.0	31.1	35.3	16.2	32.7	13.2

7. Transmission Performance

- Supports 10/100/1000 Mbps Ethernet with Category 6 compliant components
- 250 MHz specified frequency range; target Class E / Category 6 cabling performance
- Suitable for IEEE 802.3af / at / bt remote powering when installation limits are respected
- Unshielded design: no foil, braid or drain wire; no shield bonding required at the cable
- In high electromagnetic interference areas, screened cabling or optical fiber may be preferable
- Outdoor UV-resistant jacket; water-blocked construction remains optional

8. Key Features

- 23 AWG solid bare copper conductors and precision-twisted, color-coded pairs
- Unshielded U/UTP design with PE cross separator (subject to final construction)
- Black UV-resistant PE/LLDPE jacket for outdoor and duct routing
- Optional water-blocking treatment for specified direct-burial projects
- Designed for PoE Types 1-4 subject to channel, bundling and temperature constraints
- No separate cable shield or drain wire grounding requirement

Part Number: **PE** : PL-CA6UTH

9. Standards & Certification Status

Standard / Certification	Status
ANSI/TIA-568.2-E	Target baseline for Category 6; factory test confirmation required
ISO/IEC 11801-1	Target support for Class E installed cabling
EN 50173-1	Target support for Class E installed cabling
EN 50288-6-1	Applicable unscreened cable specification up to 250 MHz; confirm conformance
RoHS	Confirm declaration for the ordered model
CE / EU conformity	Subject to applicable documentation and product / market requirements
CPR / EN 50575	Optional only where applicable; DoP and declared Euroclass required
UL / ETL Verified	No claim without a valid listing, file number or verification report

10. Quality Assurance

- Verify conductor diameter, insulation, cable OD and PE jacket formulation on production samples
- Test transmission against Category 6 bulk-cable component requirements and complete installed-link limits
- Validate outdoor UV/weathering and optional water-ingress protection for ordered constructions
- Retain representative Fluke 90 m Permanent Link / 100 m Channel reports where available

11. Key Advantages

- Cost-effective unshielded Category 6 outdoor connectivity where shielding is not required
- Slimmer target outside diameter than the comparable S/FTP outdoor construction
- Outdoor-rated jacket with optional direct-burial water-blocking treatment

12. Warranty

25-Year System Warranty	**Subject to proper installation and certified components usage.**