

Part Number: PL-RJ45UD6

PLANET PL-RJ45UD6 is an unshielded 8P8C RJ45 modular plug with direct-connection crimp termination for Cat.5e, Cat.6 and Cat.6A U/UTP copper cables and patch leads. The single-piece design eliminates separate load bars or inserts and provides fast, practical field or assembly termination.

The enhanced PLANET configuration uses 15 μ in hard-gold contact plating as standard, with 30 μ in and 50 μ in available as optional upgrades. Baseline transmission is specified for Category 6 / Gigabit Ethernet; Category 6A / 500 MHz / 10GBASE-T performance requires verified component or channel test evidence for the actual cable-and-plug combination.

8P8C RJ45 Modular Plug	15 μin Gold Standard	DIRECT Easy Connection	CAT6/6A UTP Cable Compatibility
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"Direct Termination. Reliable Contact. Professional Connectivity."

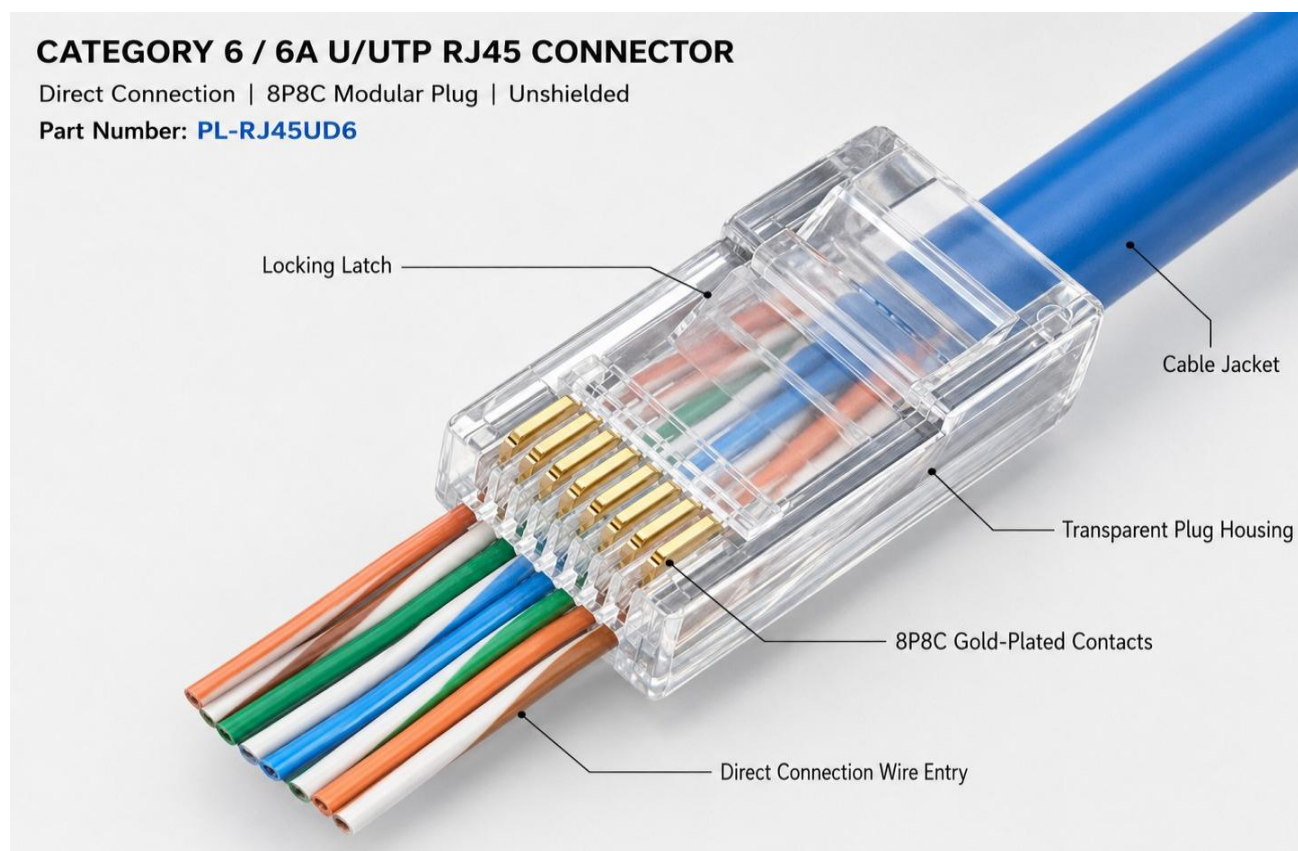
1. General Description

PLANET PL-RJ45UD6 is a transparent U/UTP RJ45 modular plug designed for direct termination of four-pair copper network cable. It accepts UTP solid-core network cable and patch-type leads, uses a single-piece construction with no separate load bar or insert, and incorporates an integral locking tab. The connector is intended for Cat.5e / Cat.6 / Cat.6A cable termination, with baseline network support from 10BASE-T through 1000BASE-T.

CATEGORY 6 / 6A U/UTP RJ45 CONNECTOR

Direct Connection | 8P8C Modular Plug | Unshielded

Part Number: **PL-RJ45UD6**



CAT6/6A U/UTP RJ45 Direct Connector - Annotated 3D View

2. Construction

Parameter	Specification
Product Type	Cat.6 / Cat.6A U/UTP RJ45 direct-connection modular plug
Part Number	PL-RJ45UD6
Interface	RJ45 / 8P8C male modular plug, unshielded
Housing	Transparent polycarbonate
Contact System	8 copper blade contacts with gold-plated mating area
Gold Contact Plating	15 µin hard gold standard; 30 µin and 50 µin optional
Termination	Single-piece direct crimp termination; no load bar or separate insert
Cable Compatibility	Cat.5e / Cat.6 / Cat.6A U/UTP solid-core network cable and patch-type leads, subject to dimensional compatibility
Wiring Scheme	T568A or T568B according to cable assembly requirement
Locking Mechanism	Integral resilient RJ45 locking tab

TECHNICAL SPECIFICATIONS

CAT6/6A U/UTP DIRECT RJ45 | PL-RJ45UD6

3. Electrical Characteristics

Parameter	Specification
Baseline Frequency Performance	Category 6 application up to 250 MHz
Cat.6A Performance	500 MHz / 10GBASE-T only when supported by verified component or channel test evidence
Rated Voltage	30 V
Insulation Resistance	10 GΩ (manufacturer reference value)
Contact Resistance	To applicable IEC 60603-7 qualification requirement when formally verified
Remote Powering	PoE / PoE+ / 4-Pair PoE application subject to compatible cable, termination and channel thermal limits
Pin Configuration: 8 positions / 8 contacts (8P8C)	

4. Mechanical Characteristics

Parameter	Value
Base Durability	200 mating cycles (manufacturer reference)
Enhanced Durability Option	≥ 750 mating cycles, subject to qualified production and supporting test evidence
Housing Material	Transparent polycarbonate
Locking Latch	Integral resilient locking tab
Termination Construction	Direct connection / single-piece plug; no load bar or insert

5. Technical Performance

The PL-RJ45UD6 product designation includes Cat.6 / Cat.6A cable compatibility. To avoid overstating performance, baseline electrical classification in this datasheet is Category 6 up to 250 MHz. Cat.6A / Class EA / 500 MHz and 10GBASE-T claims require verified test evidence for the actual connector and cable combination.

Performance Item	Requirement	Performance Item	Requirement	Application	Requirement	Status
Baseline Frequency	1-250 MHz	Insertion Loss / NEXT	Cat.6 compliant when verified	1000BASE-T	Supported	Baseline
Cable Compatibility	Cat.5e/6/6A UTP	Return Loss	Cat.6 compliant when verified	10GBASE-T	Verification required	Conditional
Cat.6A Frequency	Up to 500 MHz*	Alien Crosstalk / Balance	Project test evidence required	PoE / PoE+	Supported**	Application
Wire Map	8P8C correct	Contact Continuity	Production verified	T568A / T568B	Supported	QA

* Cat.6A / 500 MHz / 10GBASE-T is not inferred from cable compatibility alone; verified component/channel evidence is required. ** Remote powering depends on compatible conductor size, crimp quality and installed-channel thermal limits.

APPLICATIONS, FEATURES & COMPLIANCE

CAT6/6A U/UTP DIRECT RJ45 | PL-RJ45UD6

6. Applications

- Cat.5e / Cat.6 / Cat.6A U/UTP cable termination
- Gigabit Ethernet networks (10/100/1000BASE-T)
- Direct field termination and cable assembly
- Enterprise, commercial and data-center networks
- IP CCTV, VoIP and wireless access-point connections
- Patch leads and solid-core network cable assemblies
- PoE-powered network devices subject to qualified channel design

7. Transmission Performance

- Supports 10/100/1000 Mbps Ethernet applications as baseline
- Category 6 application performance up to 250 MHz when correctly terminated
- Cat.6A / 500 MHz / 10GBASE-T support requires verified component or channel test evidence
- Direct-connection contact geometry eliminates separate load bars and inserts for simplified termination

8. Key Features

- 8P8C unshielded RJ45 modular plug with direct-connection termination
- 15 µin hard-gold contact plating as standard
- 30 µin and 50 µin hard-gold plating available as optional upgrades
- Transparent polycarbonate housing with integral locking tab
- Single-piece design with no separate load bar or insert
- Suitable for UTP solid-core network cable and patch-type leads within approved dimensions
- Cat.5e / Cat.6 / Cat.6A cable compatibility with technically controlled performance claims

9. Standards Compliance

Standard / Certification	Status
ANSI/TIA-568.2-E	Category 6 baseline; Category 6A claim subject to verified test evidence
ISO/IEC 11801-1	Class E baseline; Class EA support subject to verified test evidence
IEC 60603-7-4	Reference for 8-way unshielded Category 6 connector performance up to 250 MHz
IEC 60603-7-41	Applicable reference for unshielded Category 6A connector performance up to 500 MHz when verified
IEEE 802.3 Ethernet / PoE	Application support subject to compliant channel and remote-power design
RoHS / REACH	Subject to applicable production declarations

QUALITY, OPTIONS & WARRANTY	PL-RJ45UD6 CAT6/6A U/UTP DIRECT
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10. Quality Assurance

Manufactured under controlled quality procedures to ensure:

- Consistent blade-contact alignment and direct-crimp geometry
- Stable continuity and locking-tab integrity
- Controlled gold-plating thickness according to the ordered configuration

Validation: Production inspection should include transparent-housing and locking-tab integrity, contact position, direct-crimp quality, plating-thickness verification, dimensional checks, and terminated-sample continuity / wire-map testing. Category 6A / 500 MHz or 10GBASE-T claims should only be used when supported by the applicable component or channel test evidence.

11. Gold Plating Options

- Standard: 15 µin (0.38 µm) hard gold over nickel
- Optional upgrade: 30 µin (0.76 µm) hard gold over nickel
- Premium option: 50 µin (1.27 µm) hard gold over nickel
- Optional plating upgrades improve contact-surface durability but do not by themselves establish Cat.6A / 500 MHz transmission compliance

12. Warranty

25-Year System Warranty

Subject to proper installation, use of approved PLANET system components and applicable warranty terms.

Packing

BOX	100 PCS
Carton	100 Box