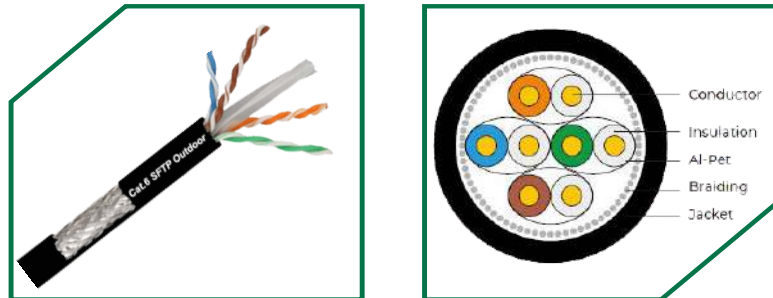


Part Number:

PE : PL-CA6STH



1. General Description

High-performance Category 6 S/FTP Outdoor cable engineered for advanced structured cabling systems, fully compliant with international standards. Designed to deliver superior shielding performance, stable high-speed data transmission, and enhanced EMI/RFI protection in harsh outdoor and industrial environments. The cable features a UV-resistant, waterproof outer jacket suitable for outdoor installations, direct burial (with optional water blocking), and duct applications, ensuring long-term reliability under extreme environmental conditions.

"Engineered for Performance. Built for Reliability."

2. Construction

Parameter	Specification
Conductor Material	100% Bare Copper (Cu)
Conductor Size	23 AWG (0.565 – 0.57 mm)
Number of Conductors	8 (4 Shielded Twisted Pairs)
Insulation Material	High-Density Polyethylene (HDPE)
Individual Pair Shield	Aluminium Foil (Al/Mylar)
Overall Shielding	Aluminum-magnesium wire braiding (Optional Tinned Copper Braiding)
Shielding Type	S/FTP (Screened Foiled Twisted Pair)
Cable Diameter	7.60±0.40mm
Drain Wire	Optional (Tinned Copper)
Water Blocking	Optional (Upon request)
Outer Jacket	UV Resistant PE / LLDPE
Jacket Type	Weatherproof Virgin Material (Non-Recycled)
Jacket Color	Black
Installation Type	Outdoor / Direct Burial / Duct
Rip Cord	Nylon Rip Cord

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3. Electrical Characteristics

Parameter	Specification
Characteristic Impedance	100 ± 15 Ω
DC Resistance	≤ 9.38 Ω/100m
Loop Resistance	≤ 18.76 Ω/100m
Resistance Unbalance	≤ 5%
Capacitance	≤ 5.6 nF/100m
Frequency Range	Up to 250 MHz
Operating Voltage	IEEE 802.3 PoE standard (up to 57V DC)

4. Mechanical Characteristics

Parameter	Value
Minimum Bend Radius	4 × Cable Diameter
Pulling Force	≤ 110 N
Operating Temperature	-40°C to +75°C
Installation Temperature	-20°C to +50°C
UV Resistance	UV Stabilized Outer Jacket
Water Resistance	Waterproof / Moisture Resistant
Flame Rating	Optional (IEC 60332-1 compliant upon request)

5. Applications

- Outdoor Structured Cabling Systems
- Gigabit Ethernet Networks (1000Base-T)
- Industrial & High EMI Environments
- Outdoor IP CCTV Systems
- Data Centres & Enterprise Networks
- PoE / PoE+ / PoE++ Systems & High-Definition Video Transmission
- Smart City & Campus Networks
- Direct Burial & Underground Installations
- Building-to-Building Connectivity
- Outdoor Wireless Access Points

Part Number: PE : PL-CA6STH

6. Technical Performance

The following table represents the baseline Cat6 S/FTP electrical performance at 100-meter channel. The outdoor-rated cable features a UV-resistant jacket for enhanced environmental protection while maintaining the same electrical performance as standard Cat6 S/FTP, with performance margins above standard requirements to ensure stable and reliable transmission.

Frequency (MHz)	RL (≥ dB)	ATT (≤ dB)	NEXT (≥ dB)	ACRF (≥ dB)	PS NEXT (≥ dB)	PS ACRF (≥ dB)
1	19	3	65	64	62	61
4	21	3.8	64	52	61	49
8	21	5.3	59	46	57	43
10	21	6	57	44	55	41
16	20	7.6	54	40	52	37
20	19	8.5	53	38	50	35
25	19	9.5	51	36	49	33
31.25	18	10.7	50	34	47	31
62.5	16	15	45	28	42	25
100	14	19	41	24	39	21
200	11	28	36	18	34	15
250	10	32	35	16	32	13

7. Transmission Performance

- Supports 10/100/1000 Mbps (Gigabit Ethernet)
- Bandwidth up to 250 MHz
- Designed for PoE / PoE+ / PoE++ applications
- Excellent NEXT, FEXT, and Return Loss performance
- Superior EMI/RFI shielding protection
- Reduced Alien Crosstalk (AXT) for stable transmission
- UV resistant and weatherproof performance for outdoor environments

8. Key Features

- 23AWG Solid Bare Copper Conductors for optimal conductivity
- Individual foil shielding on each pair for enhanced signal isolation
- Overall braided shielding for maximum EMI/RFI protection
- UV-resistant PE/LLDPE outer jacket for outdoor durability
- Waterproof and moisture-resistant construction
- Optional water-blocking gel/tape for direct burial protection
- Precision twisted pairs for reduced crosstalk
- Fully optimized for PoE / PoE+ / PoE++ applications
- High mechanical durability for harsh environments
- High performance verified through Fluke testing

Part Number: PE : PL-CA6STH

9. Standards Compliance

- ISO/IEC 11801 Class E
- ANSI/TIA-568.2-D
- EN 50173-1
- EN 50288-6-1
- RoHS Compliant
- CE Compliant
- CPR (EN 50575) – upon request
- UL / ETL Verified – upon request

10. Quality Assurance

Manufactured under strict quality control to ensure:

- Consistent electrical performance
- Reliable outdoor long-term operation
- UV and moisture resistance validation
- Enhanced shielding efficiency
- Full compliance with international standards

Testing:

- 100% Fluke Tested (Channel & Permanent Link)

11. Key Advantages

- Superior EMI/RFI shielding in outdoor environments
- UV-resistant and weatherproof construction
- High copper purity for maximum transmission efficiency
- Excellent mechanical durability for harsh conditions
- Ideal for industrial and enterprise outdoor installations
- Stable performance under PoE / PoE++ loads

12. Warranty

25-Year System Warranty

(Subject to proper installation and certified components usage)