

Indoor Flat Dual-ended Photoelectric Composite Cable Datasheet

Building an Efficient Fiber Infrastructure.

Overview

A photoelectric composite cable is a composite cable that integrates fibers and copper wires to provide both data transmission and remote power supply functions for terminals.

Features & Benefits

- Photoelectric composite cable, providing data transmission and remote power supply
- Prefabricated XC/UPC photoelectric composite small and micro connectors at both ends
- Small outer diameter, lightweight, and small footprint
- Superior bending performance and flexibility, facilitating deployment

General Specifications

Photoelectric composite cable type	Branch cable
Installation environment	Indoor NOTE • Do not install the cable outdoors. • Do not install the cable in an indoor environment with water intrusion risks.
Packaging	Independent packaging
Port type	Prefabricated XC/UPC photoelectric composite small and micro connectors at both ends
Working temperature	-10°C to +60°C
Working humidity	0% to 95% (40°C)
Minimum installation temperature	-10°C
Transportation temperature	-15°C to +60°C
Rated operating voltage (DC)	48-56 V
Rated operating current (DC)	0.25 A
Maximum power	When the length of the feeder photoelectric composite cable is 20 m, the maximum length of the branch photoelectric composite cable is 80 m.

	When the length of the feeder photoelectric composite cable is 2 m, the maximum length of the branch photoelectric composite cable is 150 m.
Flame retardant rating	UL94-V0

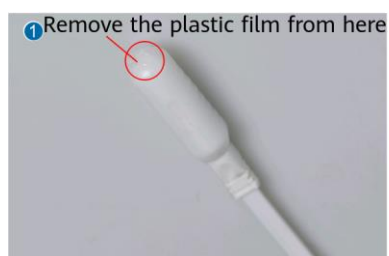
Structure

Indoor dual-ended prefabricated photoelectric composite cable assembly



NOTICE

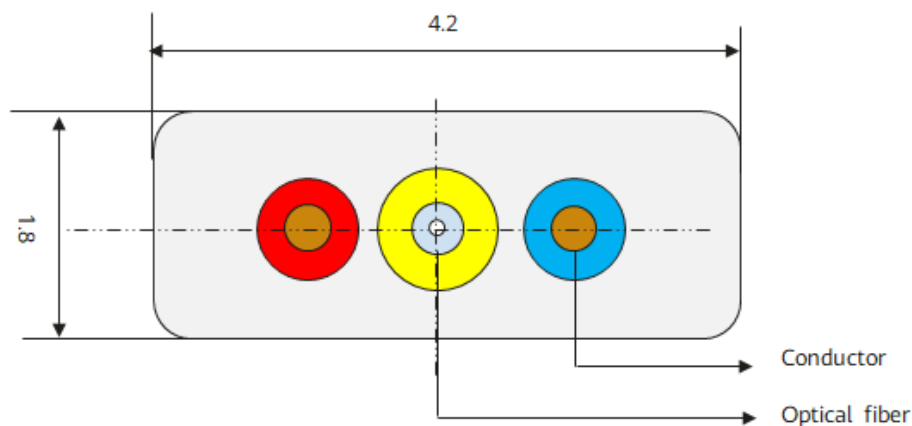
1. Before inserting a routed photoelectric composite cable to an active distribution unit, remove the plastic film from the large white dustproof cap.



2. Remove the large white dustproof cap.

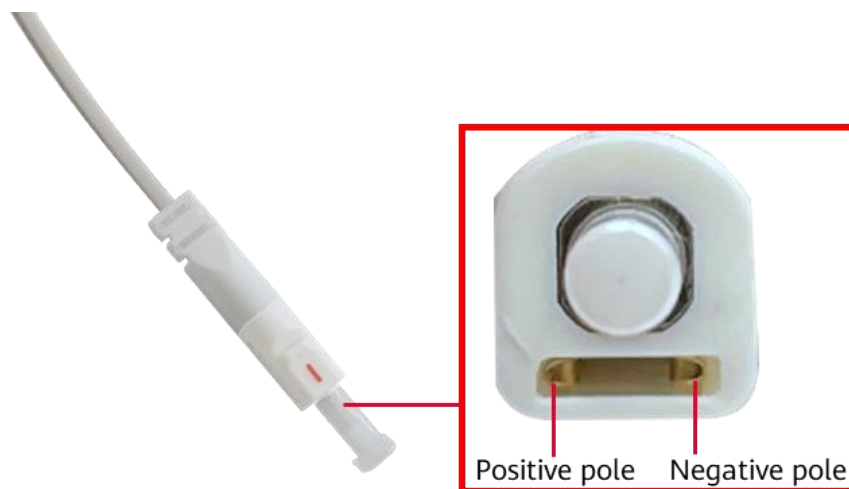


Cross section of a photoelectric composite cable



Pin assignment

Pins and connectors made by insert injection molding



Specifications

Dimensions and structure of a photoelectric composite cable

Fiber	Fiber cores	1
	Fiber type	G.657A2
Tight tube	Diameter	0.6 mm
	Material	LSZH
Conductor	Material	Copper
	Diameter	26 AWG

	Quantity	2
Insulation jacket	Material	PVC
	Color	Positive pole: red; Negative pole: blue
	Thickness	0.3 mm
Photoelectric composite cable sheath	Material	PVC
	Color	Ivory white
Dimensions of the photoelectric composite cable		1.8 mm x 4.2 mm
Weight of the photoelectric composite cable		12 kg/km
Length of the photoelectric composite cable		10/15/20/30/40/50//60/80 m
Minimum bending radius		Static: 18 mm Dynamic: 36 mm

Optical and mechanical specifications of connectors

Connector type	XC/UPC photoelectric composite connector
Dimensions (H x W x D)	6.5 mm x 6 mm x 27 mm
Insertion loss	≤ 0.50 dB
Return loss	≥ 50 dB
Tension	70 N
Insertion times	≥ 50 times

Note: The insertion loss in the table refers to the insertion loss of the connector. The insertion loss of the product includes the insertion losses of the connector and optical cable. Insertion loss of the product = Insertion loss (connector) + Insertion loss (1 km optical cable IL)/1000 x L (optical cable length).

Electrical specifications of cables

Insulation resistance	≥ 500 MΩ; tested using 500 V DC at normal temperature for 1 minute
Dielectric withstand voltage	Leakage current less than 0.5 mA at 1000 V for 1 minute
Connectivity test	No short circuit or open circuit at normal temperature
On resistance	$R_{test} \leq (R_{cable}) + 2 \times 50 \text{ M}\Omega$

Note: $R_{cable} = 140 \Omega/\text{km} \times L$ (km)

Mechanical specifications of the photoelectric composite cable

Tension (short-term/long-term)	150 N / 80 N
Crush (short-term/long-term)	(2200 N/100mm) / (1100 N/100mm)
Minimum bending radius (static/dynamic)	18 mm / 36 mm
Cable bending	After 8 times of ±90° bending, the cable does not crack under a 500 g load, and has no open or short circuit in composite withstand voltage and resistance tests.

Fiber specifications

Fiber mode	Single mode
Maximum attenuation	1310 nm: 0.35 dB/km 1550 nm: 0.21 dB/km
Color	Transparent

Standards

Optical standard	IEC 60794, ITU G.657
Electrical standard	GB/T 5023.2, IEC 61156-1-4
Flame retardant rating	IEC 60332-1
RoHS 2.0	Compliant

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