

JTD-pHUB3630

Product Appearance



Product Overview

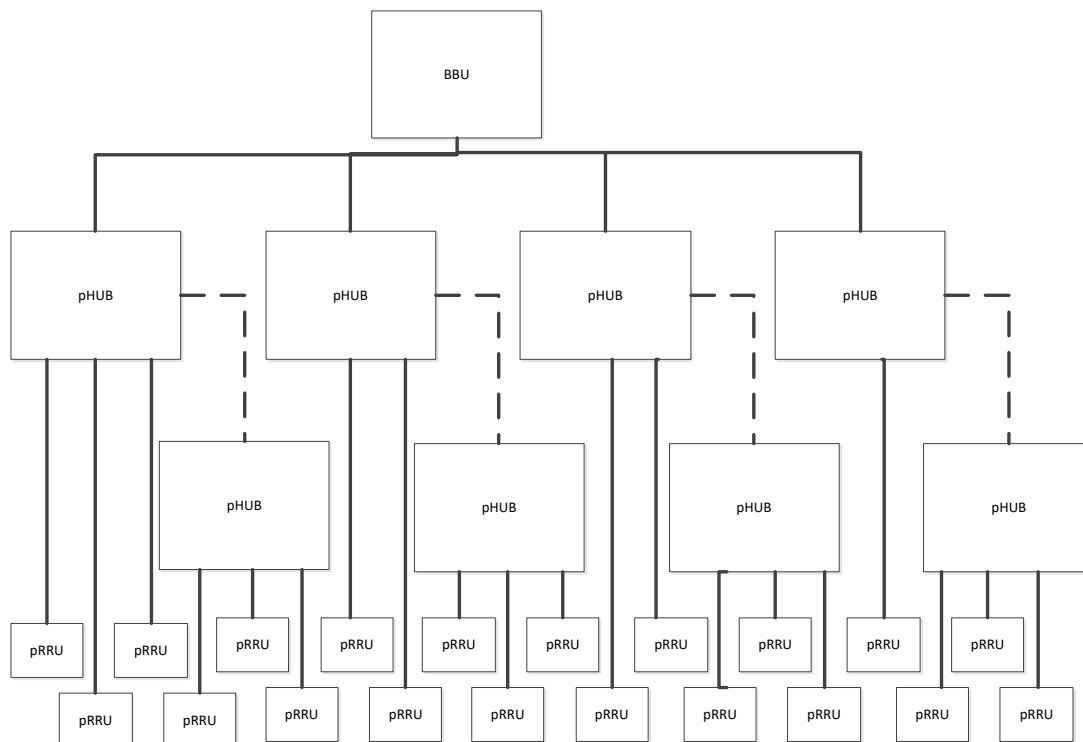
JTD-pHUB3630 is the pHUB of Jietong Small cell solution.

A 5G Small cell, also known as an extended Pico Small cell, is a Micro power indoor coverage solution that uses optical fibers or network cables to transmit and distribute wireless digital baseband signals based on digital technologies. It is one of the mainstream solutions for enhancing indoor coverage in the 5G era.

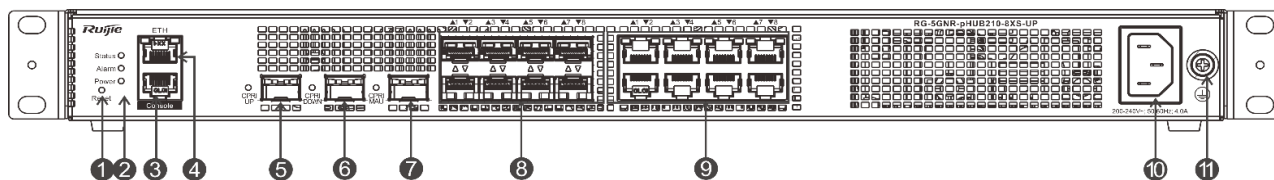
A Small cell consists of a main unit (CDU), an extended unit (pHUB), and a remote unit (pRRU).

The pHUB is the convergence unit of digital baseband signals from pRRUs. It receives and forwards downlink data of the CDU to pRRUs, converges uplink data of multiple pRRUs, and forwards the data to the CDU. It is used in indoor coverage scenarios. A built-in DC power supply circuit supplies power to pRRUs.

The following figure shows the network topology of a 5G Small cell.




Interfaces on JTD-pHUB3630



Description:	① Reset button	② Device status indicator
	③ Console port	④ 1000M Ethernet port
	⑤ CPRI UP (connected with the uplink CDU)	⑥ CPRI DOWN (connected with the cascaded pHUB)
	⑦ CPRI MAU (reserved)	⑧ CPRI downlink SPF ports I-8 (connected with the SPF ports on the pRRUs)
	⑨ RJ-45 electrical ports I-8 (connected with the electrical ports on the pRRUs)	⑩ AC suite (three-core AC power port)
	⑪ Grounding post	

The pHUB and pRRU are connected by using a photoelectric hybrid cable. The optical cable is connected with ⑧ CPRI downlink SPF ports I-8, and the power cable is connected with ⑨ RJ-45 electrical ports I-8.

For details about connection of the photoelectric hybrid cable, see Appendix A.

 ⑨ RJ45 electrical ports 1-8: Supply power to the downlink pRRUs, but not transmit data.

External Ports

JTD-pHUB3630 provides four types of external ports:

- SFP+ ports: The pHUB provides 11 SFP+ ports that support the maximum common public radio interface (CPRI) rate of 10.1376 Gbps. Their functions are as follows:
 - 1) CPRI MAU: reserved.
 - 2) CPRI UP: serve as the secondary CPRI to be connected with the uplink CDU.
 - 3) CPRI DOWN: serve as the primary CPRI to be connected with the level-2 pHUB.
 - 4) CPRI downlink SFP ports 1-8: to be connected with downlink pRRUs
- RJ-45 electrical ports 1-8: The device provides eight RJ-45 electrical ports to supply DC power to pRRUs.
- Console port: communication serial port, which uses the RS-232 interface level and a standard RJ-45 connector. This port is connected with a serial port of the back-end PC to conduct system commissioning, configuration, maintenance, management, and host software loading.
- 10/100/1000M ETH port: 10/100/1000BASE-T Ethernet port that uses an RJ-45 connector. This port is connected with an Ethernet port of the back-end PC to download programs. Use a standard network cable to connect it to an Ethernet port of the back-end PC.

| Product Features

a) Uplink and Cascading Ports

JTD-pHUB3630 provides:

One uplink port, connected with the CDU to transmit 5G or dual-mode signals

One cascading port, used for cascading between pHUBs

One MAU port, reserved

b) Dual-mode Carriers

The pHUB supports the maximum carrier specification of 100 MHz NR 4T4R + 20 MHz LTE (FDD) 2T2R and can work in 4G and 5G modes simultaneously.

c) Small cell Splitting

The pHUB can be connected with up to eight pRRUs. When it is connected with a 2T2R 5G Small cell, Small cell splitting is supported, and pRRUs can be configured for these two Small cells flexibly.

d) Cascading and Transmission Distance

The transmission distance between the pHUB and the CDU can be 10 km.

The pHUB supports two-level cascading, and the transmission distance between cascaded devices and the CDU is also 10 km.

e) Electrical Ports and Features

The downlink electrical ports comply with the 802.3bt standard. One port supports the maximum output of 90 W, and the eight ports support a maximum output of 8×60 W.

Electrical ports use photoelectric hybrid cables for power supply, with the maximum power supply distance of 200 m.

Technical Specifications

JTD-pHUB3630 Technical Parameters

Hardware	
Uplink port	1 x 10G SFP+ port, supporting CPRI-10.1376 Gbps and the maximum transmission distance of
Cascading port	10 km
Downlink port	1 x 10G SFP+ port, supporting CPRI-10.1376 Gbps
MAU port	8 x 10G SFP+ ports, supporting up to CPRI-10.1376 Gbps and the maximum transmission distance of 200 km 1 x 10G SFP+ port, supporting up to CPRI-10.1376 Gbps, reserved
Cascading	2-level cascading
Maximum Carrier Specifications	100MHz NR 4T4R + 20MHz LTE2T2R
Input Power	Input voltage range: 176–240 V AC Input frequency range: 45–65 Hz Input current: 4 A

Static Power Consumption ¹	≤ 50 W
Maximum Power Consumption	600 W
Dimensions	Dimensions (L x W x H): 440 mm x 310 mm x 44 mm Weight: 5.6 kg (net weight)
Indicator	Running indicator, alarm indicator, and power indicator
Power Supply	AT-pHUB3630 uses RJ-45 ports to supply power to pRRUs through photoelectric hybrid cables.
Power Supply Capability	One port supports a maximum output of 90 W, and the eight ports support a maximum output of 8 × 60 W.
Heat Dissipation Mode	Forcible air-cooled mode, front and rear air ducts
Installation Mode	19-inch cabinet, wall-mounted
Operating Environment	Operating temperature: -5°C to +55°C; Relative humidity: 5 % to 95 %
	Storage temperature: -40°C to +70°C Storage humidity: 5% to 95% (non-condensing)
	Operating humidity: 5% to 95% (non-condensing)
	Atmospheric pressure: 70–106 kPa
	IP rating: IP31
EMC and Safety	Electromagnetic compatibility (EMC): The pHUB complies with GB9254, 3GPP TS 38.113, YD/T 1082, and YD/T 2583.17.
	Grounding: The combined grounding method is adopted, and the pHUB works properly when the ground resistance is less than 10 ohms.
	Safety: The pHUB complies with GB4943.1-2011.

I. Test Condition for Static Power Consumption: Power consumption is tested when no power is supplied to the remote unit.

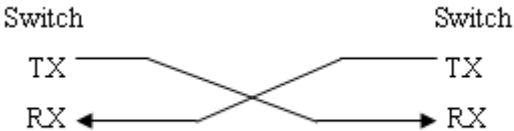
| Appendix

Appendix A – Photoelectric Hybrid Cable

Optical Connection

Select a single-mode or multi-mode optical fiber for connection based on the type of the optical module connected with the SPF port. Figure A-I shows the optical connection.

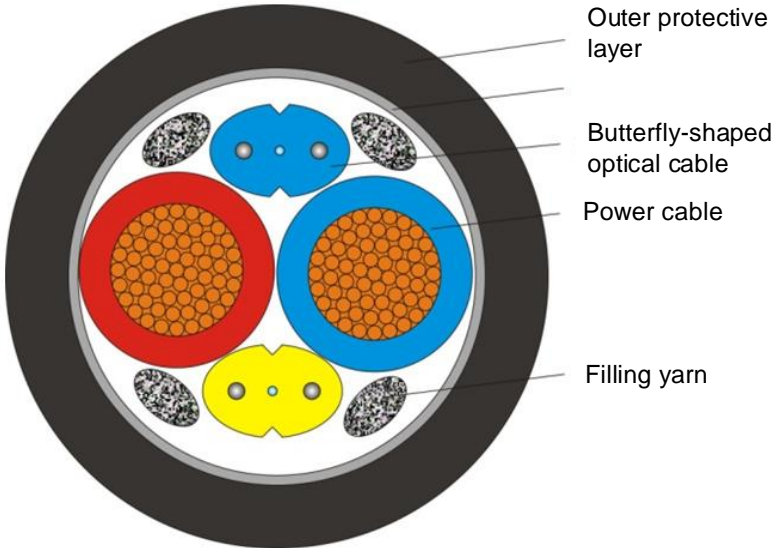
Figure A-I Optical Connection



Photoelectric Hybrid Cable Connection

The photoelectric hybrid cable consists of the optical cable and power cable, as shown in Figure A-2.

Figure A-2 Photoelectric Hybrid Cable



The red wire of the power cable is connected with the positive terminal of an RJ-45 connector, and the blue wire of the power cable with the negative terminal of the RJ-45 connector. Figure A-3 shows the connection of the power cable in the photoelectric hybrid cable.

Figure A-3 Connection of the Power Cable in the Photoelectric Hybrid Cable

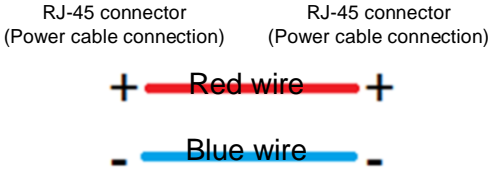
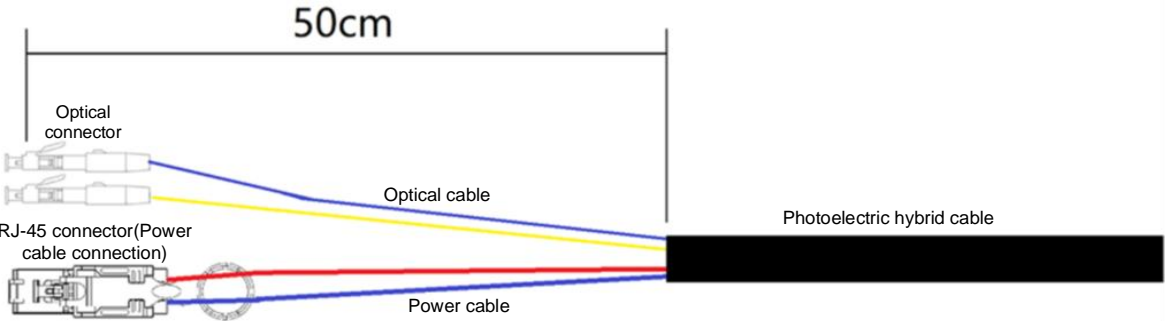


Figure A-4 shows the connector assembly of the optical cable and power cable in the photoelectric hybrid cable.

Figure A-4 Connector Assembly of the Photoelectric Hybrid Cable



| Ordering Information

Model	Product Description	Remarks
JTD-pHUB3630	JTD-pHUB3630 is the pHUB of a Small cell. This product is connected with an uplink 10G SPF port and eight downlink SFP combo ports. It supports two-level cascading and the maximum carrier specification of 100 MHz NR 4T4R + 20 MHz LTE (FDD) 2T2R.	Required