

DPS Blade V100R001C50 Configuration Manual

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Change History

Date	Version	Change History	Author
2019-06-30	V1.0	Released the first version.	Zhang Jianye (employee ID: 00485354)
2019-09-30	V1.1	Add export control instructions Refresh certification status	Zhang Jianye (employee ID: 00485354)
2019-12-24	V1.2	<ol style="list-style-type: none">1. Revise the communication connect diagram for lithium battery2. Update certification state3. Add plastic shell of the lithium battery 21205308 into auxiliary material package 02233AGK、02233AGL4. Change Universal Lightning proof & Earthing Clip from PN: 27150143 to 271501115. Change minimum cable size of AC input from 1.5 mm² to 2 mm²6. Add 50Ah lithium battery prohibition sale list7. Modify the number of extended load ports to the number of input load	Zhang Jianye (employee ID: 00485354)
2020-4-03	V1.3	<ol style="list-style-type: none">1. Algorithm revise for load port extend	Zhang Jianye (employee ID: 00485354)

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1 Overview

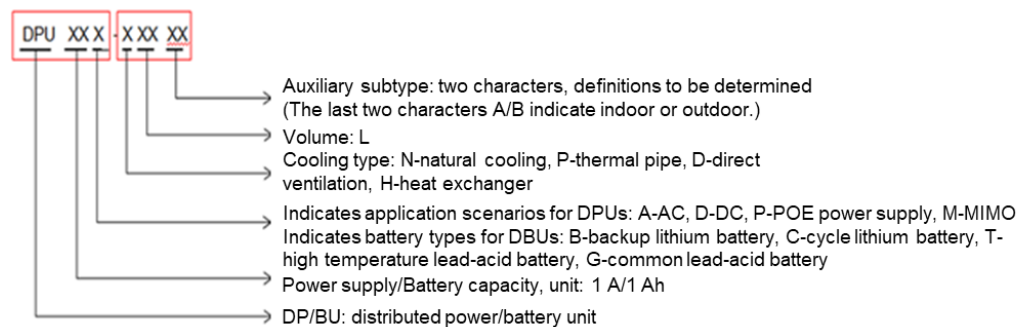
1.1 Purpose

This document is for internal use only. It aims to guide relative personnel to perform product selection, commercial configuration, and sales of the DPS Blade V100R001C50. It is a technical disclosure document for the marketing department and describes the components, configuration list, configuration rules, actual conditions, and technical limitations of the DPS Blade V100R001C50.

1.2 Naming Conventions

1.2.1 Naming Description

The internal and external model numbers are consistent, and they are named based on the following conventions.



2 Configuration Overview

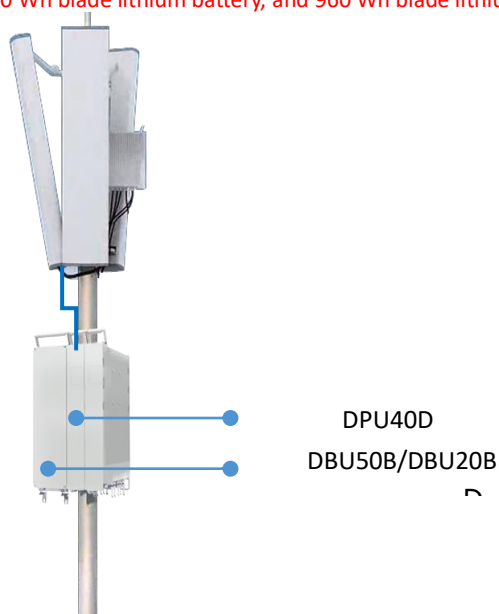
2.1 Product Overview

The DPS Blade V100R001C50 is an outdoor and indoor wall-mounted power supply solution designed for wireless micro base stations. It integrates the functions of power supply, energy storage, power distribution, monitoring, cooling, surge protection, and grounding, meeting the requirements for fast site deployment.

When deploying DPS Blade V100R001C50 products, pay attention to the distance between the DPS and other products at the site.

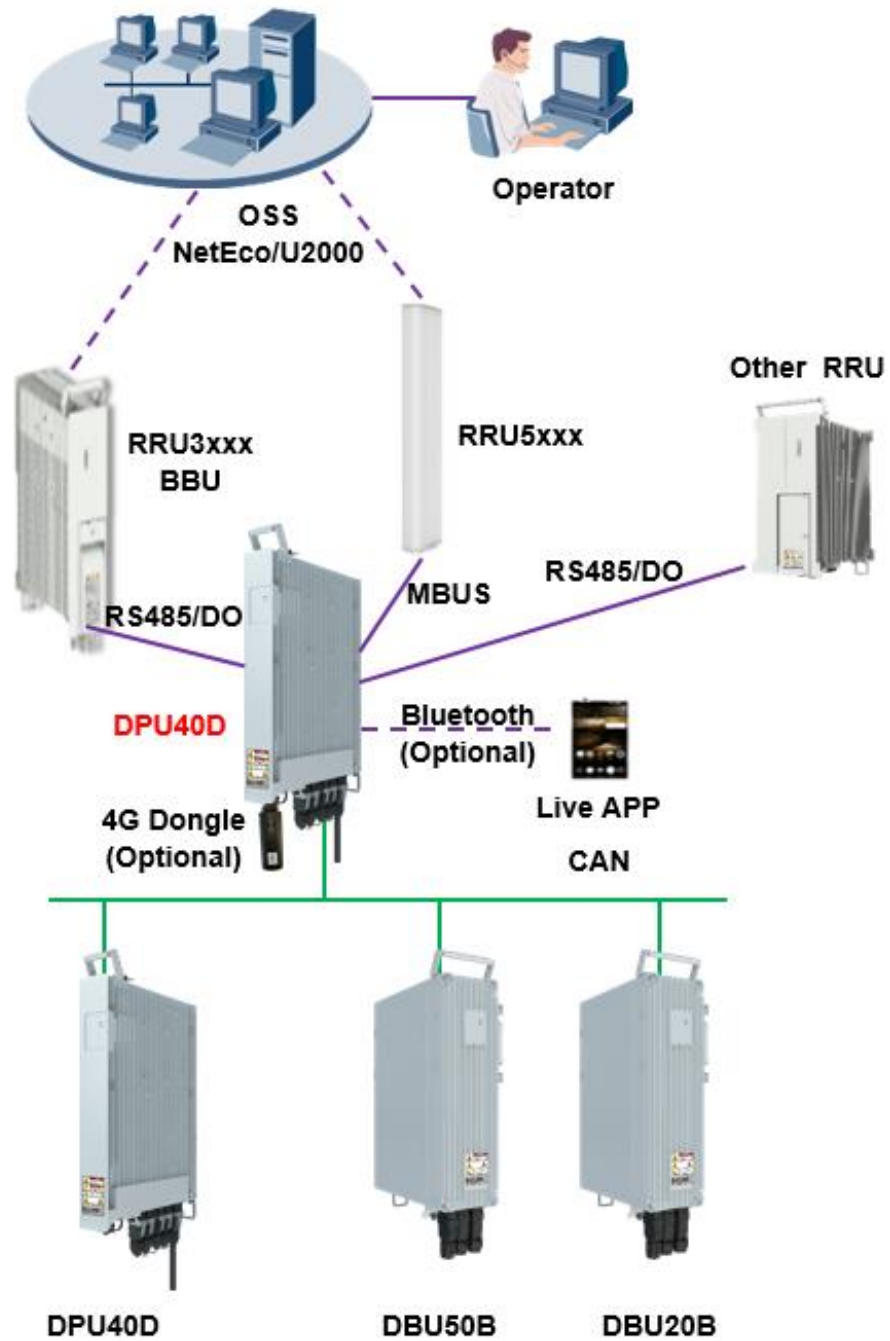
NOTE

Compared with the DPS Blade V100R001C30, the DPS Blade V100R001C50 changes in product specifications and ports. For details, see the V100R001C30 Product Change Notice (PCN). This document also describes configuration methods and quantities of the newly developed 2 kW blade power system, 2400 Wh blade lithium battery, and 960 Wh blade lithium battery.



Application scenario

Figure 2-1 Typical networking of the DC DPS system




NOTE

The DPS Blade series does not support networking with different Huawei equipment and third-party equipment at the same time, only support choose one type (one RS485 cable or MBUS).

2.2 Product Composition

DPS Blade V100R001C50 products include the power module DPU40D-N06A3, lithium battery module DBU50B-N12A1, and DBU20B-N12A3, and they all meet Business Continuity Management requirements.

Table 2-1 DPS Blade V100R001C50 products and components

No.	BOM Code	Description	Remarks
1	02312NGM-001	Function Module,DPU40D-N06A3,DPU40D-N06A3-001,2000W Distributed Power DC Unit-Support AC/HVDC Input	Standard Product; The master/slave protocol is used by northbound default.
2	01074764	Lithium Battery,DBU50B-N12A1,120mm(W)*300mm(D)*420mm(H),48V,50Ah, Type(0C8920A0809F)	Rated discharge capacity: 3 kW
3	01074797	Lithium Battery,DBU20B-N12A3,120mm(W)*300mm(D)*420mm(H),48V,20Ah, type(0x05091798807F)-XX	Rated discharge capacity: 2.2 kW·
4	88033QKW	Software Charge,Intelligent telecom energy control and management software-Basic management software.,Electronic	The basic software.
5	04152542 	Power Cable,0.2,3*4mm^2,Black,Four-way connector,Electronic Electric Cable,600V/1000V,ZA-RVV,3x4mm^2,Black(3Cores:Brown,Blue,Yellow/Green),32A,Outdoor Cable,Power supply	Load port expand cable,1 to 3 port

2.3 Installation and Maintenance Modes

The DPS Blade V100R001C50 can be mounted on a wall, against a wall, or on a pole, a channel steel, or angle steel tower. Cables can be routed from the bottom. The following table lists the installation and maintenance modes of the DPS Blade V100R001C50.

Table 2-2 Installation and maintenance modes

Item	Description
Installation mode	Wall-mounting (flush mounting), pole-mounting (flush mounting and side mounting), mounting on a channel steel (flush mounting), and mounting on an angle steel tower
Cabling mode	Bottom cabling
PSU replacement	Hot-swappable
Lithium battery replacement	Hot-swappable

2.3.1 Cabling Rules for Cascading Multiple Modules

General Rules

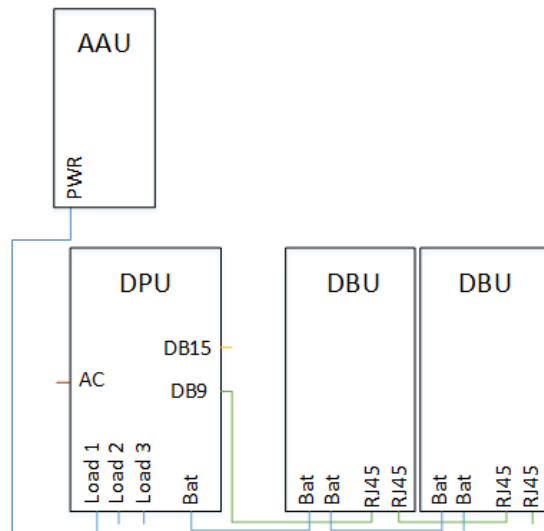
- A maximum of four PSUs can be cascaded, and a maximum of eight lithium batteries can be cascaded.
- If multiple PSUs are configured, you are advised to allocate DC loads evenly to the PSUs.
- Power cable cascading: The PSU and lithium battery are cascaded through the BAT port (preferred) or LOAD port.
- Signal cable cascading:
 - PSUs are interconnected using DB9–DB15 cables.
 - PSUs are connected to lithium batteries using DB9–RJ45 cables.
 - Lithium batteries are interconnected using RJ45–RJ45 cables.
- Network management system (NMS) cable connection:
 - PSUs communicate with a Tianshan AAU/Wuyi RRU over the MBUS, and no communications cable is required.
 - PSUs are connected to an RRU using DB15-DB15 cables.
 - PSUs are connected to an RRU using DB15-RJ45 cables.
 - The third-party equipment monitors PSUs over dry contacts, YDN protocol, or MODBUS protocol using DB15- cables.

Typical Installation Scenarios of a DC Blade Power Supply System

Scenario 1: 1500 W, one PSU

In this scenario, the power supply system supplies power to one AAU, three RRUs, or other DC devices (such as BBUs).

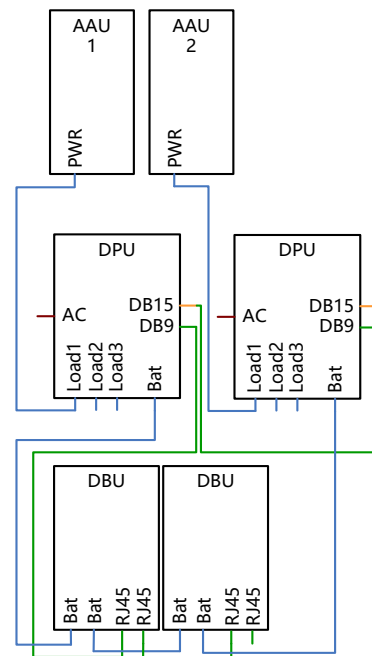
Figure 2-2 Cable connection of scenario 1



Scenario 2: 3200 W, two PSUs

In this scenario, the power supply system supplies power to dual-sector AAUs, one-band RRU, or other DC devices (such as BBUs).

Figure 2-3 Cable connection of scenario 2

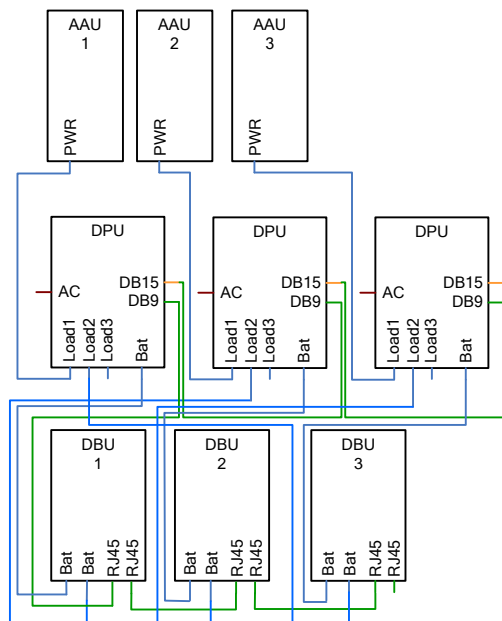


Scenario 3: 4800 W, three PSUs

NOTE

The load ports are occupied. Each blade PSU remains two load ports.

Figure 2-4 Cable connection of scenario 3



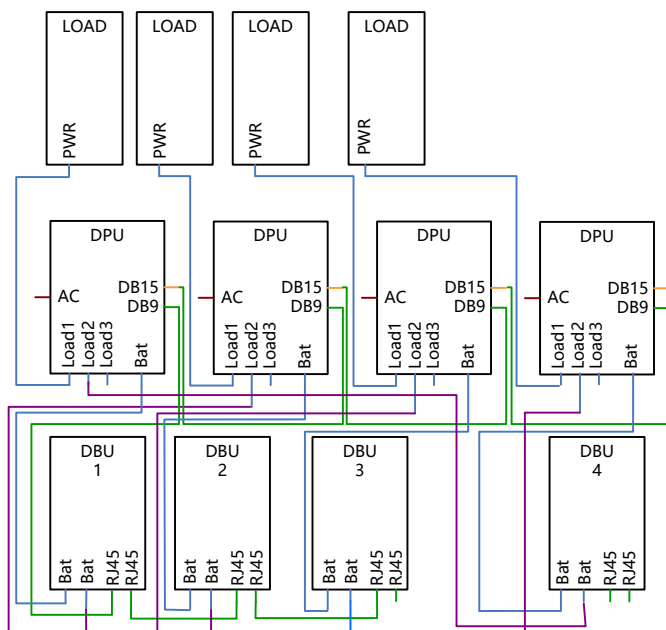
Scenario 4: 6400 W, four PSUs



NOTE

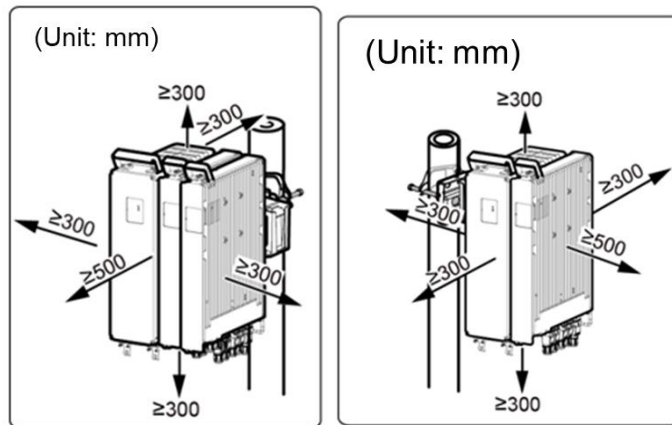
The load ports are occupied. Each blade PSU remains two load ports.

Figure 2-5 Cable connection of scenario 4



2.3.2 Typical Installation Modes

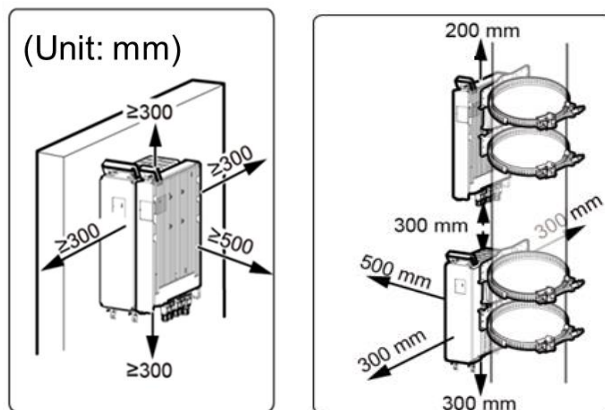
Figure 2-6 Side mounting or flush mounting on a small pole



NOTE

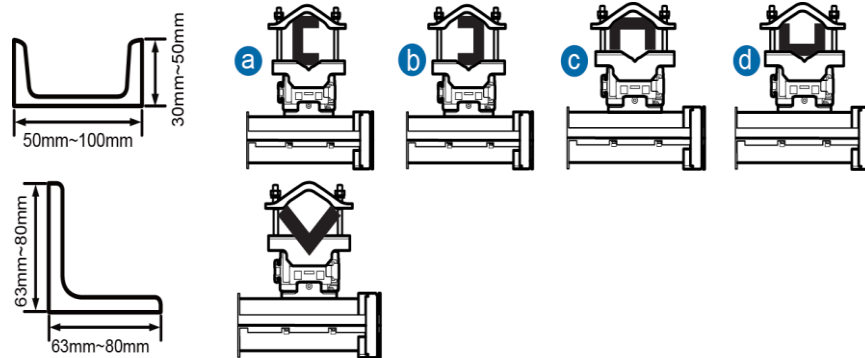
Small poles refer to poles with a diameter of 60–114 mm.

Figure 2-7 Flush mounting on a wall and on a large pole



NOTE

Large poles refer to poles with a diameter of 114–400 mm.

Figure 2-8 Specifications and installation modes for channel steels and angle steels

2.3.3 Installation Rules

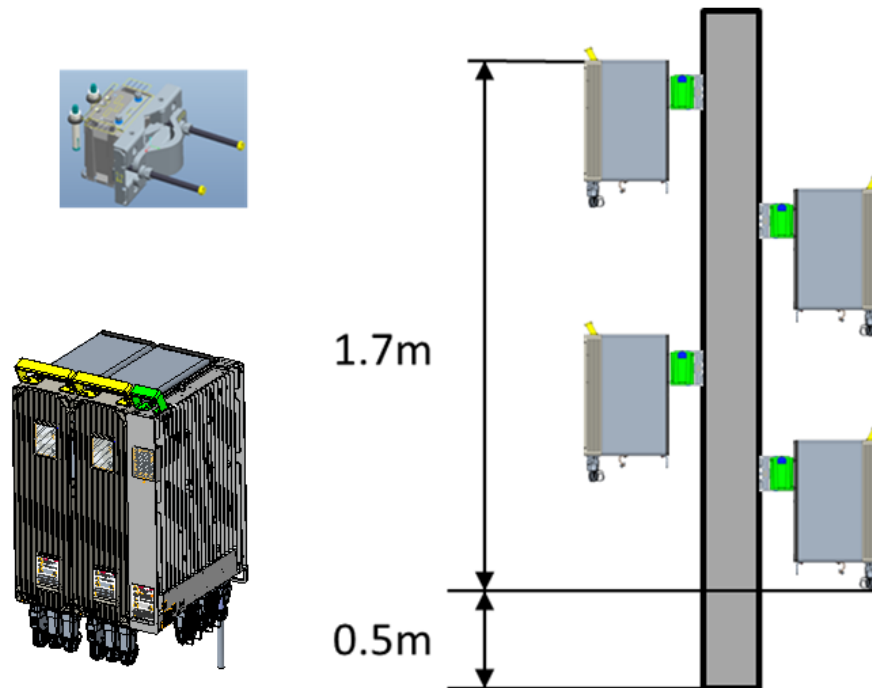
Table 2-3 Installation rules

Installation Scenario	Installation Mode	Maximum Configuration for One Layer	Maximum System Configuration
Small pole	Side mounting	Two PSUs + Two 20 Ah lithium batteries or three 20 Ah lithium batteries or Two PSUs + Two 50 Ah lithium batteries	1. Four PSUs + Eight lithium batteries 2. If the system configuration exceeds the maximum capacity for one layer, install the devices on different layers. 3. Hose clamps are required for large poles.
	Flush mounting	One PSU + One lithium battery or two PSUs	
Wall mounting	Flush mounting	One PSU + One lithium battery or two PSUs	
Large pole	Flush mounting	One lithium battery + One PSU or two PSUs	
Channel steel			
Angle steel			

NOTE

1. Large poles do not support side mounting because of hose clamps. If side mounting on large poles is required, submit an OR ticket to customize mounting kits.
2. The load-bearing capacity of a pole mounting kit is limited. If three or more than three 50 Ah lithium batteries need to be installed, you are advised to install them on different layers, as shown in the following figure.

Figure 2-9 Installing batteries on different layers on a small pole



2.4 Application Environment

Table 2-4 Operating environments of the DPS Blade V100R001C50

Environment Parameter			Operating Environment	Transportation Environment	Storage Environment	Remarks	
Category	Item	Unit					
Climate	Temperature	Low temperature	°C	-40	N/A	-40	1. Solar radiation is not included. 2. The upper limit of the storage temperature for a blade power supply is 70°C.
		High temperature	°C	+55	N/A	+60	

Environment Parameter			Operating Environment	Transportation Environment	Storage Environment	Remarks	
Category	Item	Unit					
	Humidity	Low relative humidity	%	5	N/A	5	N/A
		High relative humidity	%	95	N/A	95	
		Condensation	Yes/No	No	N/A	No	
	Altitude	Low altitude	m	0	0	0	The power system operates properly in the altitude range of 0–2000 m. When the altitude exceeds 2000 m, the maximum operating temperature decreases by 1°C for each additional 200 m.
		High altitude	m	4000	4000	4000	

**NOTE**

The operating temperature of a DPS meets the following requirements: –40°C to +55°C excluding solar radiation, –40°C to +50°C with 1120 W/mm² solar radiation. Batteries support high temperature derating and protection.

2.5 Application Limitations

2.5.1 Application Area and ECCN

The export control of this version is as follows:

1. This version of the product meets business continuity requirements
2. This version of the product does not support encryption. It does not need to apply for Hong Kong pre-classification.
3. The ECCN classification information of this version of the product is as follows:

Part Number	Description	ECCN
-------------	-------------	------

05022SBY	Board Software,ENJD00031,Module Equipt Test Software,Load	EAR99
05022SBL	Board Software,ENJC0000H,System Difference File,Load	EAR99
05022SBK	Board Software,ENJA0000P,Site Monitor Unit Controlling Software,Load	5A991(OAM)
03025MJV	Manufactured Board,EN11PWRBK	5A991(OAM)

The target markets of the DPS Blade V100R001C50 power system include China, Asia Pacific, Europe, Latin America, Canada, and Commonwealth of Independent States (CIS). It cannot be directly sold in Japan, South Korea, and North America. Submit an OR ticket before selling in these states or regions.

The blade power supply needs to acquire the following certificates: CE, TUV, RCM, FCC, IC, ETL, Certificates of nine countries. **KCC certification (requires local activation in Korea).**

Nine countries refer to Algeria, Saudi Arabia, Qatar, Egypt, Nigeria, Kuwait, Uganda, Botswana, and Tanzania.

The blade lithium battery needs to acquire the following certificates: CE, FCC, IC, and UN 38.3. **KCC certification (requires local activation in Korea, time to be determined), ETL certification (time to be determined).**

For regions that require other network access licensing, the local representative offices need to apply for it by themselves.

Prohibit sale list:

Part Number	Description	Prohibit country
01074764	Lithium Battery,DBU50B-N12A1,120mm(W)*300mm(D)*420mm(H),48V,50Ah,Type(OC8920A0809F)),CFG(FFFFFFFFFFFF)	USA, UK, Canada, New Zealand, Australia

2.5.2 System Configuration

Table 2-5 Typical specifications for capacity expansion by parallel connection

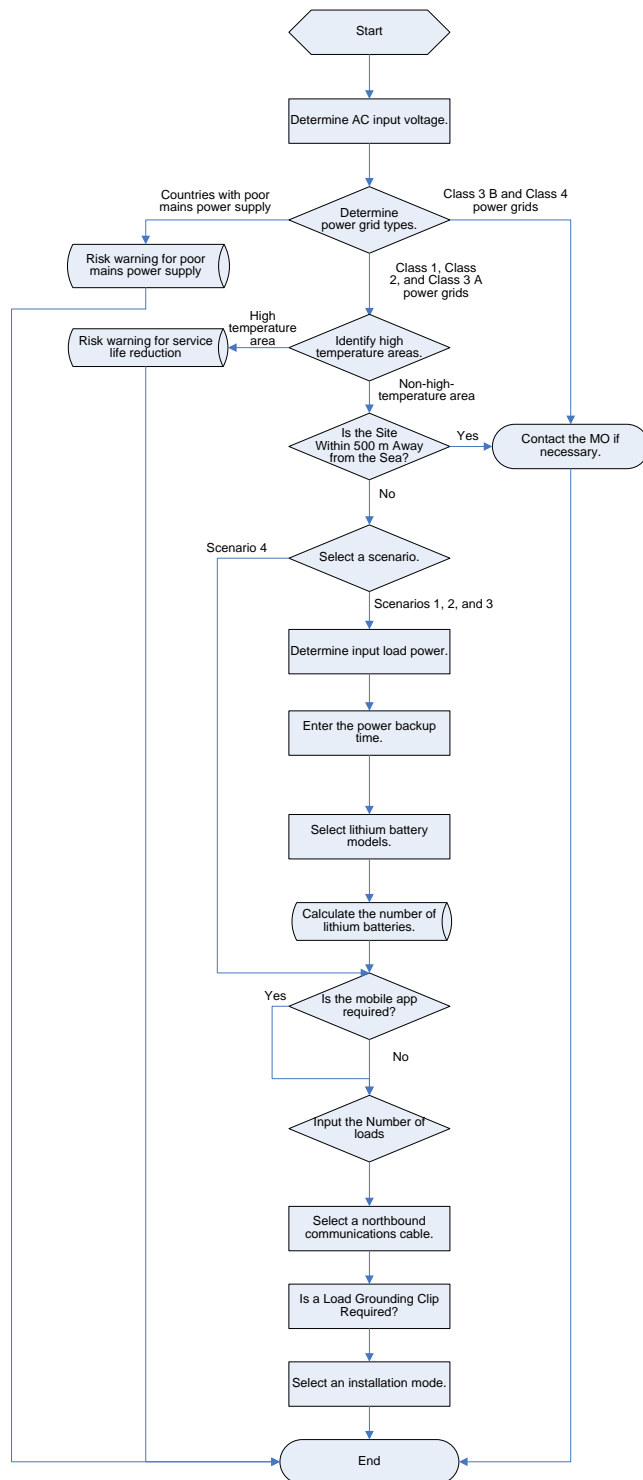
Number of Load Routes DPU40D-N06A3	Number of PSUs	Number of Lithium Batteries	Backup Power Capacity (Wh) (DBU20B)	Backup Power Capacity (Wh) (DBU50B)
3	1	0	0	0
6	2	0	0	0
3	1	1	960	2400
3	1	2	1920	4800
3	1	3	2880	7200

Number of Load Routes DPU40D-N06A3	Number of PSUs	Number of Lithium Batteries	Backup Power Capacity (Wh) (DBU20B)	Backup Power Capacity (Wh) (DBU50B)
6	2	1	960	2400
6	2	2	1920	4800
6	2	3	2880	7200
12	4	4	3840	9600

- PSU (DPU40D-N06A3):
 - When one PSU is configured, the maximum output power of the PSU is 2000 W.
 - When two PSUs are configured, the maximum output power of the PSUs is 3800 W.
 - When three or four PSUs are configured, the maximum output power of the PSUs is 2000 W x Number of PSUs x 0.8.
- Lithium battery (DBU20B-N12A3):
 - When one lithium battery is configured, the maximum output power of the lithium battery is 2200 W.
 - When two lithium batteries are configured, the maximum output power of the lithium batteries is 4180 W.
 - When three to eight lithium batteries are configured, the maximum output power of the lithium batteries is 2200 W x Number of lithium batteries x 0.8.
- Lithium battery (DBU50B-N12A1):
 - When one lithium battery is configured, the maximum output power of the lithium battery is 3000 W.
 - When two lithium batteries are configured, the maximum output power of the lithium batteries is 5700 W.
 - When three to eight lithium batteries are configured, the maximum output power of the lithium batteries is 3000 W x Number of lithium batteries x 0.8.

2.6 Configuration Procedure

Configuration procedures for a DC blade power system



Configuration procedures for a DC blade power system

2.6.1 Determining AC Input Voltage

By default, **Single-phase 220 V AC/Dual-live wire 110 V AC** is selected. No optional item is available.

**NOTE**

When a blade power supply works in the input mode of single-phase 110 V AC, the power is derated by 50%.

2.6.2 Determining Power Grid Types

The following alarm will be generated for Class 3B and Class 4 grids: Contact the MO to determine the power grid types if necessary.

In scenarios where the mains quality is poor and the mains AC voltage has high voltage risk (phase voltage is higher than 320 V), the modules may be damaged and the failure rate may be high. In **Pakistan, Bangladesh, India, Nepal, Sri Lanka**, the following error message will be displayed: The mains power quality is poor in this area, and the module failure rate may be high.

Power Grid Types:

1. Class 1 power grid: The average AC input power failure duration for communications equipment is less than 10 hours per month.
2. Class 2 power grid: The average AC input power failure duration for communications equipment is less than 10 hours per week.
3. Class 3A power grid: The average AC input power failure duration for communications equipment is greater than or equal to two hours and less than four hours per day.
4. Class 3B power grid: The average AC input power failure duration for communications equipment is greater than or equal to four hours and less than eight hours per day.
5. Class 4 power grid: The average AC input power failure duration per day is greater than or equal to 8 hours, including the no mains power scenario.

2.6.3 Identifying High Temperature Areas

For countries in high-temperature areas (for details, see the list of areas where the highest ambient temperature is over 45°C), the following service life risk warning needs to be provided: In high-temperature areas, lithium batteries cannot be assembled with RRUs, because this will greatly shorten the battery service life.

Figure 2-10 Areas where the highest ambient temperature is over 45°C

Region	Country	Area	Duration When the Temperature Is $\geq 40^{\circ}$	Maximum Temperature ($^{\circ}$ C)	High Temperature Area or Not
Middle East	UAE	Eastern area	633	46.4	Yes
		Western area	500	47.2	Yes
		Northeastern area	580	45.1	Yes
		Capital (Abu Dhabi)	391	46.8	Yes
	Qatar	Southern area	390	45.7	Yes
		Northern area	357	45.5	Yes
		Central area	402	47.2	Yes
		Capital (Kabul)	353	46.8	Yes
	Kuwait	Western area	1058	50	Yes
		Southern area	1145	50.2	Yes
		Northern area	1014	49.3	Yes
		Capital (Kuwait)	1124	50.1	Yes
	Saudi Arabia	Eastern area	882	47.2	Yes
		Northern area	416	45.7	Yes
		Northeastern area	982	49.5	Yes
		Southeastern area	1226	48	Yes
Capital (Riyadh)		718	46	Yes	
Northern Africa	Iran	Eastern area	511	47.9	Yes
		Southern area	675	48.7	Yes
		Southeastern area	918	49.4	Yes
		Western area	488	46.5	Yes
	Algeria	Southwestern area	967	48.8	Yes
		Southern area	398	45.7	Yes
	Egypt	Southern area	360	45.6	Yes
		Southwestern area	360	45.6	Yes
	Libya	Eastern area	299	45.5	Yes
		Southeastern area	457	45.3	Yes
Southern area		357	47.6	Yes	
Central Africa	Niger	Eastern area	358	46.7	Yes
		Central area	295	45.1	Yes
	Sudan	Eastern area	348	45.6	Yes
		Western area	357	46.4	Yes
		Central area	371	46.3	Yes

2.6.4 Is the Site Within 500 m Away from the Sea

No is chosen by default. You can choose **Yes**. If this parameter is set to **Yes**, a warning needs to be provided: Contact the MO if necessary.

If the blade power supply system is installed within 500 m away from the sea, connectors and cables may be corroded.

2.6.5 Selecting a Scenario

Scenario 1: 1500 W, one PSU

Scenario 2: 3200 W, two PSUs

Scenario 3: 4800 W, three PSUs

Scenario 4: Manual select

The blade here refers to the blade power supply, and the blade lithium battery is not included.

Scenario 1 is selected by default, and **Scenario 2**, **Scenario 3**, and **Scenario 4** are optional.

- Scenario 1: $N_{psu} = 1$
- Scenario 2: $N_{psu} = 2$
- Scenario 3: $N_{psu} = 3$
- Scenario 4: $N_{psu} = 4$. The value range is 1 to 4. $N_{bat} = 4$. The value range is 0 to 4.

If you select scenario 4, directly go to section 2.6.10 Whether Need the Live-C App.

2.6.6 Determining Input Load Power

The maximum load power is P_{max1} , the average load power is P_{avg1} , and the default value of the maximum line loss rate P_{ratio} is 10%.

The minimum power is 120 W, and the maximum power is 1500 W/3200 W/4800 W (the upper limit varies in different scenarios). If scenarios 2, 3, or 4 is selected, the following message needs to be displayed: The maximum loading capability of a single output is 1500 W (including line loss).

The maximum line loss rate can be set to 0%–15%, and the following message is displayed: For details about how to calculate the line loss, see *DC Remote Power Supply Configuration Calculation Tools*.

P_{avg1} should be less than or equal to P_{max1} . Otherwise, the following alarm is generated: The average power cannot be higher than the maximum power.

$$P_{max} = P_{max1} \times (1 + P_{ratio}), P_{avg} = P_{avg1} \times (1 + P_{ratio})$$

2.6.7 Entering the Power Backup Time

The default power backup time is **0.5 hours**. The value can be set to **No backup** or 0.5 hours–4 hours.

2.6.8 Selecting Lithium Battery Models

The **DBU50B-N12A1** is selected by default. $C_{bat} = 2400$ Wh

The **DBU20B-N12A3** is optional. $C_{bat} = 960$ Wh

2.6.9 Calculating the Number of Lithium Batteries

When no backup power is required: $N_{bat} = 0$

Step 1 Calculate and determine the battery capacity C_N .

The calculating method is as follows. The blade power system uses only lithium batteries.

Lithium battery capacity calculation formula:

Where: C_w : capacity of a single battery in a 48 V system (**Wh**)

P_{avg} : average load power (W)

t: battery backup time (h)

K_a : aging coefficient. The value is 0.8.

K_c : capacity coefficient. The longer the discharge time, the larger the value of K_c is.

DOD: depth of discharge of the lithium battery

BOM Code	Product	Discharge Capability (W) K_{dischg}	Charging Coefficient K_{chg}	Battery Capacity (Wh) C_{bat}	Aging Coefficient K_a	Capacity Coefficient K_c		DOD	Remarks
						Backup Time (h)	k_c		
01074797	DBU20B-N1 2A3	2200	0.2 C (4 A)	960	0.8	0.5–4	0.95	1	20 Ah
01074764	DBU50B-N1 2A1	3000	0.2 C (10 A)	2400	0.8	0.5–4	1	1	50 Ah

$$N_{bat} = \text{Roundup}(C_w/C_{bat}, 0), C_N = N_{bat} \times C_{bat}$$

Step 2 Verify parallel capacity of lithium batteries.

- If N_{bat} is greater than 4, the following alarm is generated: The number of lithium batteries exceeds the specified value, and the installation space is limited. Contact the MO in the headquarters.
- If N_{bat} is greater than 2 and $N_{bat} \times K_{dischg} \times 0.8$ is less than P_{max} , the following alarm is generated: The discharge capability of the lithium battery does not match the maximum load power.
- If $N_{bat} = 2$ and $N_{bat} \times K_{dischg} \times 0.95$ is less than P_{max} , the following alarm is generated: The discharge capability of the lithium battery does not match the maximum load power.

Step 3 Calculate the charge power.

$$\text{Lithium battery charge power } P_{bat} = V_{chg} \times K_{chg} \times C_N / 48$$

The value of the lithium battery charge voltage V_{chg} is 57 V.

The value of the lithium battery charging coefficient K_{chg} is 0.2.

$$P_{\Sigma} = P_{avg} + P_{bat}$$

Scene 1: If $P_{\Sigma} > N_{psu} * 2000W$, prompt: Lithium battery charging time may be longer than the preset value of 0.2C

Scene 2: If $P_{\Sigma} > N_{psu} * 2000W * 0.95$, prompt: Lithium battery charging time may be longer than the preset value of 0.2C

Scene 3, 4: If $P_{\Sigma} > N_{psu} * 2000W * 0.8$, prompt: Lithium battery charging time may be longer than the preset value of 0.2C

----End

2.6.10 Whether Need the Live-C App

No is chosen by default for products in global markets.

- If you choose **No**, 02312NGM-001 will be configured.

2.6.11 Input the Number of loads

Scenario 1: $N_{load}=3$, $Range_{load}=9$

Scenario 2: $N_{load}=6$, $Range_{load}=16$


Scenario 3: $N_{load}=6$, $Range_{load}=16$

Scenario 4: $N_{load}=8$, $Range_{load}=16$

Input the Numbers of Loads: Load1, Default value 3, Range: 1~Range_{load}

The Number of 04152542: $N_{load2} = \text{Roundup}((N_{load1} - N_{load}) / 2, 0)$

BOM code of the optional component: 04152542

<p>04152542</p> 	<p>Power Cable, 0.2, 3*4mm², Black, Four-way connector, Electronic Electric Cable, 600V/1000V, ZA-RVV, 3x4mm², Black(3Cores: Brown, Blue, Yellow/Green), 32A, Outdoor Cable, Power supply</p>	<p>DC power distribution 1-to-3 cable, optional, quotation item</p>
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2.6.12 Selecting a Northbound Communications Cable

For details, see section 3.2.2 Configuration Rules of Northbound Communication Cables.

2.6.13 Is a Load Grounding Clip Required

Yes is chosen by default and cannot be changed to **No** if the northbound communication mode is set to MBUS. When the northbound communication modes are set to other modes, **No** is chosen by default and you can choose **Yes**. The number of grounding clips is $0-3 \times N_{psu}$. The default value is $3 \times N_{psu}$.

Note: Each of the three load ports of a blade power supply can be connected to one grounding clip. This item is required when the power supply distance for RRUs exceeds 5 m.

<p>27150111</p>	<p>Antenna Parts, Universal Lightningproof & Earthing Clip for Power Cable, Copper Sheet (Fixed by Cable Tie), M8 Earthing Screw, Adapted for 3.3mm²~16mm² Shielding Power Cable</p>	<p>PCS</p>	<p>DC load shielding layer grounding clip Configure 1 PCS for each route of DC load; optional, quotation item</p>
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2.6.14 Selecting an Installation Mode

For details, see section 3.1 Configuration Rules for Accessories.

3 Configuration Description

3.1 Configuration Rules for Accessories


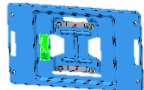
The installation modes of the DPS Blade V100R001C50 are listed as follows:

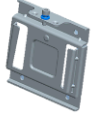
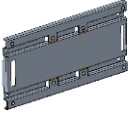

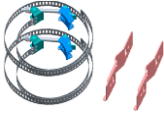

- Flush mounting on a small pole
- Side mounting on a small pole
- Flush mounting on a large pole
- Flush mounting on a wall
- Flush mounting on an angle steel

Comply with the following rules when configuring mounting accessories.

When $N_{psu} = 1$ and $N_{bat} = 0$, only the small-pole flush mounting mode is supported. In other scenarios, the small-pole side mounting mode is selected by default. If components that are not in *Configuration Table for DPS Blade V100R001C50 Mounting Kits and Internal Cables* are needed, the following alarm is generated: The component is not included in the standard configuration list. Contact the MO for support.

Table 3-1 Quotation list of mounting accessories

No.	BOM Code	Description	Quantity	Configuration Description	Remarks
1	21150763 	Engineering Installation Kit,DKBA4.070.2852,Integrated Mount Kit,SRRU,Multifunctional Installation,Wall and Pole	PCS	Pole mounting kit, quotation item	Applicable to small poles, channel steel, angle steel, and large poles
2	21152571-00 3 	Network Energy,Engineering installation Parts,DKBA41509941.AS M,Installation Parts,M6*12 Screws ,DPS Blade,Sheetmetal,Screw	PCS	6 L connecting kit, quotation item	Used to assemble two DPUs.

No.	BOM Code	Description	Quantity	Configuration Description	Remarks
3	21150765-004 	Engineering Installation Kit,DKBA41509257.ASM, Bracket,Fasting Screw Demand,Multifunctional Installation,Wall and Pole-DPS Blade	PCS	12 L hanging kit , quotation item	Used to mount DPUs and DBUs, and can be used with 21150763, 21153226, and 21154590.
4	21154832 	Accessories of Cabinet or Chassis, DKBA40718849, Other, Sheetmetal, Telecom Energy-Blade Lithium Battery Assembly Board, DBU50B-N12A1	PCS	Lithium battery bracket for flush mounting V100R001C50 lithium batteries, quotation item	Used to assemble DPUs and DBUs or flush mount a single DBU. Each lithium battery is delivered with 1 PCS of this item.
5	21205308 	Plastic-DKBA41279316.as m- 50AH plastic shell of the lithium battery-Telecom energy-DPS Blade	PCS	C50 lithium battery sunshield , quotation item	Can be installed on both sides
6	21150692 	Engineering installaion,DKBA4.070.20 46,Big Pole Installation Kit,DBS3900,Pole Installation Kit,Bolt	PCS	Large-pole mounting kit , quotation item	Used together with 21150763.
7	21153226 	Engineering Installation Kit,DKBA41273984.ASM, Telecom Energy,Wall mount, DPS Blade	PCS	Wall-mounting hanging kit , quotation item	This item is optional and is used when flush-mounting a module on a wall. When this item is configured, the small pole mounting kit (21150763) and large pole mounting kit (21150692) are not configured.

3.2 Configuration Rules of Cables and Terminals

3.2.1 Power Cable Configuration Rules

- The type and length of AC input power cables listed in the quotation template are used for quotation only. The delivery configuration depends on the site survey data. If no site

survey is available or site survey data cannot be provided, the default configuration can be used for delivery.

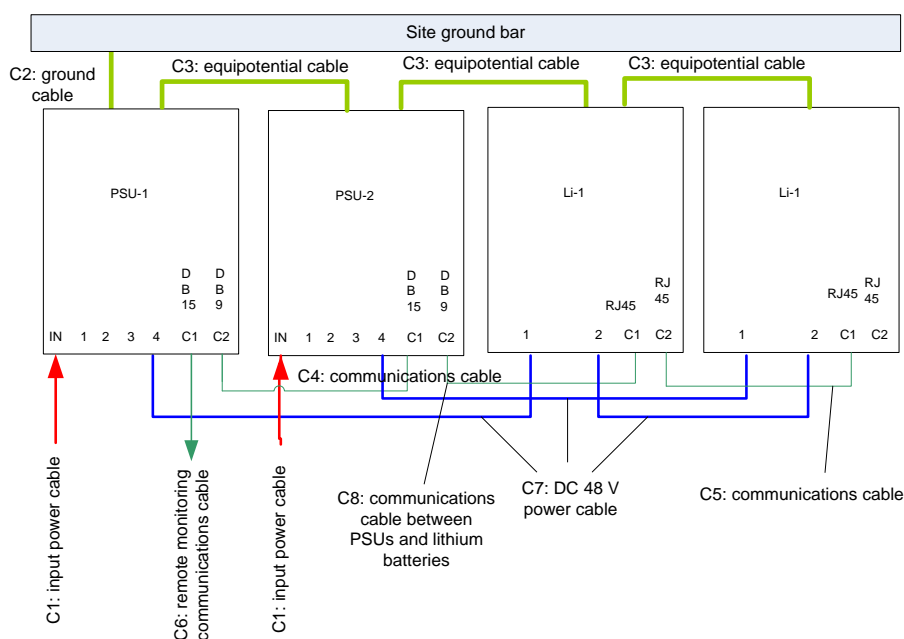
For versions in China, AC power cables and ground cables are not configured by default. Only devices are delivered. All cables are optional.

For versions outside China, AC input power cables and ground cables are configured by default.

For countries with special requirements such as European countries (for details, see the latest *Country Information and Technology Table*), cables should be purchased locally and the cable specifications should meet the local requirements.

- The cables configured for the power system include AC power cables (power cables and auxiliary materials between the AC power distribution in the equipment room and the PSUs) and DC power cables. These two types of cables need to be quoted.

Figure 3-1 Cables configured for a power system



The following table lists the configured cables and terminals.

Table 3-2 Quotation list for AC input power cables

BOM Code	Code Description	Quantity	Configuration Description	Remarks
25030386	Electronic Electric Cable, 300V/500V, 60227 IEC 53(RVV), 3x2.5m m ² , Black(3Cores: Brown, Blue, Yellow)	10 m x N _{psu}	C1 AC input power cable; delivered to European-standard non-LSZH countries; each PSU is configured with one cable; 10 m is	Input power cable of the PSU Cable specifications: Conductor cross-sectional

BOM Code	Code Description	Quantity	Configuration Description	Remarks
	w/Green),27A,Outdoor Cable,CCC,CE		delivered by default if no site survey data is provided; the specific length is determined based on site survey data; for countries that use 110 V dual-live wire input system, purchase this item locally; quotation item	area: 2–4 mm ² Outer diameter: 9–14.5 mm
25030429 / 25030640	Electronic Electric Cable,450V/750V,60227 IEC 02(RV),16mm ² , Yellow/Green,85 A,CCC,CE	10 m	C2 ground cable, color: yellow and green The 25030429 is a non-LSZH cable, which is delivered to countries that do not require LSZH cables. The 25030640 cable is an LSZH cable and is delivered to countries that require LSZH cables. 10 m is delivered by default if no site survey data is provided; the specific length is determined based on site survey data; quotation item	Ground cable between the power system and the site ground bar Cable specifications: 16 mm ²

**NOTE**

The following warning needs to be displayed when cables are configured: The cable length is set by default. The actual length of the configured cables is based on the site requirement.

Table 3-3 Quotation list for equipotential cables, interconnection power cables, and interconnection signal cables

BOM Code	Code Description	Quantity	Configuration Description	Remarks
04151857	Power	PCS	C3 equipotential	Equipotenti

BOM Code	Code Description	Quantity	Configuration Description	Remarks
	Cable,650mm,10mm ² ,Yellow/Green,OT-10mm ² -M6,H07Z-K-10 ² G&Y,OT-10mm ² -M6,LSZH		cable, 0.65 m, quotation item	al cable, 0.65 m
04151857-001	Power Cable,1.6M,10mm ² ,Yellow/Green,OT-10mm ² -M6,H07Z-K-10 ² G&Y,OT-10mm ² -M6,LSZH	PCS	C3 equipotential cable, 1.6 m, quotation item	Equipotential cable, 1.6 m
04151856	Power Cable,650mm,6mm ² ,Black,PConnect2PIN01,ROV-K 2x6mm ² BELX,PConnect2PIN01	PCS	Power cable between DPUs, 0.65 m, quotation item	4040-0.65
04151856-001	Power Cable,1600mm,6mm ² ,Black,PConnect2PIN01,ROV-K 2x6mm ² BELX,PConnect2PIN01	PCS	Power cable between DPUs, 1.6 m, quotation item	4040-1.6
04152816	Power Cable,650mm,6mm ² ,Black,14191521,ROV-K 2x6mm ² BELX,PConnect2PIN02	PCS	Power cable between DPUs and DBUs, 0.65 m, quotation item	4080-0.65
04152816-001	Power Cable,1600mm,6mm ² ,Black,PConnect2PIN02,ROV-K 2x6mm ² BELX,PConnect2PIN01,XX	PCS	Power cable between DPUs and DBUs, 1.6 m, quotation item	4080-1.6
04152817	Power Cable,650mm,16mm ² ,Black,PConnect2PIN02,N2XCY & ZRJYVP-2x16mm ² -D,PConnect2PIN02,XX	PCS	Power cable between DPUs and DBUs, 1.6 m, quotation item	8080-0.65
04152817-001	Power Cable,1600mm,16mm ² ,Black,PConnect2PI	PCS	Power cable between DBUs and DBUs, 1.6 m,	8080-1.6

BOM Code	Code Description	Quantity	Configuration Description	Remarks
	N02,N2XCY & ZRJYVP-2x16mm ² -D, PConnect2PIN02,XX		quotation item	
04080454	Monitor&Alarm Cable,DBU20B-N12A2 Blade Li-battery series communication wire,1.6M,8-Bit 8PIN,Shielded,Crystal Model Connector,CAT5E SFTP 4PR 24AWG,8-Bit 8PIN,Shielded,Crystal Model Connector	PCS	C5: RJ45-RJ45 Quotation item	Communications cable between cascaded lithium batteries
04080441	Monitor&Alarm Cable,Li Battery DBU20B-N12A2 RS485&CAN Comm.with DPS PSU,1.6M,8-Bit 8PIN,Shielded,Crystal Model Connector,CAT5E SFTP 4PR 24AWG,DB9 Connector Waterproof Cap Seal(Side Waterproof)	PCS	C8: DB9-RJ45 Communications cable between lithium batteries and PSUs, quotation item	Communications cable between DPU and DBUs
04080335	Monitor&Alarm Cable,DPU30D-N06A1 Comm. series wire,1.6M,(DB15M+D15Waterproof Cap Seal(Side Waterproof)),CAT5E SFTP 4PR 24AWG,(DB9M+DB9 Waterproof Cap Seal(Side Waterproof),NO	PCS	C4: DB9-DB15 Communications cable between cascaded PSUs, quotation item	Communications cable between cascaded PSUs

According to the number of blade PSUs (N_{psu}), number of blade lithium batteries (N_{bat}), and installation mode, refer to *Configuration Table for DPS Blade V100R001C50 Mounting Kits and Internal Cables* to get the lists of mounting kits, internal power cables, and internal signal cables. You are advised to get the BOM code list by referring to the typical

configuration auxiliary material package description in the configuration table. If the typical configuration auxiliary material package description is empty, get the BOM code list according to the detailed configuration description. If there are scenarios that require materials not included in *Configuration Table for DPS Blade V100R001C50 Mounting Kits and Internal Cables*, the following alarm is generated: This is not the common configuration. Contact the HQ MO if necessary.

Configuration table for DPS Blade V100R001C50 mounting kits and internal cables



Configuration
Table for DPS Bla

Table 3-4 AC and DC power cables specifications

Type	Cross-Sectional Area	Cable Diameter
	Bare wire	
3-core AC input power cable	2–4 mm ²	9–14.5 mm
2-core DC power cable	3.3–6 mm ²	9.0–15.0 mm
2-core DC power cable	8.2–10 mm ² type-D cable	9.0–15.0 mm; cord end terminals are required.

3.2.2 Configuration Rules of Northbound Communication Cables

- Configuration rule: **Communications cables are not delivered by default** if the DPS Blade V100R001C50 power system is used as auxiliary equipment.
- If the main equipment of the DPS Blade V100R001C50 is Huawei RRUs, you can select appropriate communications cables by referring to the following table.

Table 3-5 Northbound communications cable list

BOM Code	Code Description	Quantity	Configuration Description	Remarks
040803 36	Monitor&Alarm Cable,DPU30D-N06A1 comm. with RRU wire,5M,(DB15M+D15Waterproof Cap Seal(Side Waterproof)),(CC8P0.5PB(S)),(DB15M+D15Waterproof of Cap Seal(Side Waterproof)),with DB connector waterproof cap	PCS	C6: quotation item	Used for communicating with Huawei FDD RRUs through in-band and dry contact networking.

BOM Code	Code Description	Quantity	Configuration Description	Remarks
	seal,NO			
040804 19	Monitor&Alarm Cable,DPU Comm. with TDD RRU wire,5M,D9 Male-I+D9 Waterproof Plastic Shell,CAT5E SFTP 4PR 24AWG,DB15 Connector Waterproof Cap Seal(Side Waterproof)	PCS	C6: quotation item	Used for communicating with Huawei TDD RRUs through in-band and dry contact networking.
040804 20	Monitor&Alarm Cable,DPU comm. with BBU3900 wire,5M,CAT6 Crystal Model Connector,CAT5E SFTP 4PR 24AWG,DB15 Connector Waterproof Cap Seal(Side Waterproof),Power supply	PCS	C6: quotation item	Used for communicating with Huawei BBU3900 through in-band networking.
040804 21	Monitor&Alarm Cable,DPU and BBU3910A contactor alarm wire,5M,DB15 Connector Waterproof Cap Seal(Side Waterproof),CAT5E SFTP 4PR 24AWG,DB15 Connector Waterproof Cap Seal(Side Waterproof)	PCS	C6: quotation item	Used for communicating with Huawei BBU3910A through in-band networking.
040803 42	Monitor&Alarm Cable,DPU30D-N06A1 Dry contact alarm wire,5m,DB15 Connector Waterproof Cap Seal(Side Waterproof),Symmetry Twist Cable,Conductor Cross Section 0.25mm ²	PCS	C6: quotation item	Used for dry contact connection to non-Huawei RRUs or for RS485 connection to a third-party power and environment management system.

Table 3-6 Monitoring cables for Huawei RRUs

BOM Code	Main Equipment	Transmission Type	Length	Remarks
04080336	FDD RRU	Dry contact + RS485	5M	
04080419	TDD RRU (DC)	Dry contact + RS485	5 m	Two cables in standard configuration
04080336		Dry contact + RS485	5 m	
04080416	BBU3900	Dry contact	5 m	Two cables in standard configuration
04080420		RS485	5 m	
04080421	BBU3910A	RS485	5 m	
04080342	Third-party monitoring	Dry contact	5 m	

**NOTE**

The TDD RRU southbound monitoring ports have two types: DB9 and DB15. Since RRUs have many types, it takes great effort for the configurator to identify monitoring port types. Therefore, the TDD RRU is configured with two monitoring cables by default.

The BBU3900 and BBU3910A monitoring scenarios are minor scenarios and not configured with monitoring cables.

Selecting a Northbound Communications Cable**Table 3-7** Northbound communications cable configuration table

Load Type	Main Equipment Type	Cable BOM Code	
DC system	Not needed	N/A	By default, no communications cables are selected. You need to manually choose a cable. Otherwise, the following message will be displayed: Northbound communications will be affected if you do not choose
	Used for in-band networking with Huawei 5xxx RRUs or AAU (MBUS)	N/A	
	Third-party monitoring	04080342, 1 PCS	
	Used for in-band networking with Huawei 3xxx RRUs	04080336, 1 PCS 04080419, 1 PCS	
	Used for in-band networking with Huawei BBU3910A	04080421, 1 PCS	

Load Type	Main Equipment Type	Cable BOM Code	
	Used for in-band networking with Huawei BBU3900	04080420, 1 PCS	communications cable. If 3xxx RRUs and 5xxx AAUs are used together, you need to select cables based on requirements of 3xxx RRUs.

3.3 Configuration Rules of Auxiliary Material Packages

The 02231YSG is the auxiliary material package for the DPS Blade power system. It is a **quotation item**. The configuration method of the typical configuration auxiliary material package is described in *Configuration Table for DPS Blade V100R001C50 Mounting Kits and Internal Cables*. There are two cases: Internal cables are packaged and internal cables are not packaged.

The 02233AGK is a typical 1+1 auxiliary material package. It includes internal power cables, signal cables, mechanical mounting kits, and 02231YSG auxiliary material package.

The 02233AGL is a typical 2+2 auxiliary material package. It includes internal power cables, signal cables, mechanical mounting kits, and 02231YSG auxiliary material package.

The following table lists the materials in the 02231YSG system auxiliary material package.

Table 3-8 Materials in the 02231YSG auxiliary material package

BOM Code	Description	Quantity	Remarks
63200065	Plastic,DKBA0.480.0457,Cable Tie,300*7.6mm,Black,PA66,Anti-Ultraviolet and Cold Resistance	50 PCS	Cable tie
28040010	Heat shrinkage tube/10/radial contraction rate>50%/black	20 cm	Heat shrink tube, used on OT terminals of the ground cable
29041060	Engineering/Blank label,Engineering label,Signal Cable label,30 Groups,10 Array,3 Row,Height 24.0,Width 84.0,White,1Pcs/Group	12 PCS	Cable label
29041061	Engineering/Blank label,Engineering label,Power Cable label,60 Groups,6 Array,10 Row,Height 11.0,Width 25.0,White,1Pcs/Group	12 PCS	Cable label

BOM Code	Description	Quantity	Remarks
14170020	Naked Crimping Terminal,OT,16mm ² ,M6,Tin Plating,Naked Ring Terminal	3 PCS	Terminal for the main ground cable
30037609	30037609_DRAen,Inner cardboard,310mm-215mm, for all products	1 PCS	
14170024	Naked Crimping Terminal,OT,16mm ² ,M8,Tin Plating,Naked Ring Terminal	3 PCS	Terminal for the main ground cable
30040567	30040567_DRAen,Plastic Flim Bag, All Products,400*230*0.08	1 PCS	Installation bag
14170016	Naked Crimping Terminal,OT,10mm ² ,M6,Tin Plating,Naked Ring Terminal	12 PCS	

Note: The preceding auxiliary material package is configured based on the default cable specifications. If the actual cable specifications are not included in the list, frontline personnel need to purchase auxiliary materials such as terminals and heat shrink tubes by themselves.

4 Spare Parts List and Manual

Site spare part list and spare parts manual



DPS Blade
V100R001C50 Spä



NOTE

Product managers need to confirm the quantity of loose parts and then quote.

5 License Configuration

The license software quotation is not involved in the DPS Blade V100R001C50.

6 Appendix

None