

HYX-DMU-W/4G

DATA MANAGEMENT UNIT



Carefully read this inverter user instructions before using.
Read and save these instructions.



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Contents

Preface.....	1
Overview	1
Scope of Application.....	1
Safety Instructions	1
1. Product Overview	3
1.1 Product introduction.....	3
1.1.1 Microinverter.....	3
1.1.2 Data management unit (DMU)	3
1.2 Product model.....	3
1.3 Monitoring System.....	4
1.4 Product Appearance	4
1.4.1 Dimension of Device	4
1.4.2 Interface Layout.....	5
1.5 LED Indicator Panel.....	5
1.6 Anti-countercurrent Function (RS485 port)	6
1.6.1 Device list.....	6
1.6.2 Controlling type.....	6
1.7 DRM Function(Australia/New Zealand only)	6
2. Installation.....	7
2.1 Unpack and check	7
2.1.1 Packing list.....	7
2.2 Preparation.....	7
2.2.1 Installation environment requirements.....	7
2.3 Installation sequence	8
2.3.1 Installation Procedure	8
3. Human-Computer Interaction	12
3.1 Installing the App.....	12
3.2 APP User manual.....	12
3.3 System debugging.....	12
4. Appendix.....	13
4.1 Technical Parameter.....	13
4.2 Frequency range & transmitted power.....	14
4.3 Installation Map.....	15
4.4 Contact Information	15

Preface

Overview

This manual provides users with the product information of the data management unit (DMU) communication system device. Product information, detailed installation and usage, fault diagnosis and daily maintenance related precautions, does not include all information about the photovoltaic system.

To ensure the DMU communication system device can be correctly installed and used, and give full play to its superior performance. Before handling, installing, operating and maintaining the DMU, please read the instruction manual carefully and follow all safety precautions in the instruction manual.

Scope of Application

This manual is intended for the following devices:

- HYX-DMU-W
- HYX-DMU-4G

Hereinafter, unless otherwise specified, it is referred to as "DMU" for short.

Safety Instructions

In order to ensure the user's personal and property safety when using the product, and to use the product more efficiently and optimally, the manual provides relevant information and are highlighted using the following symbols.

The symbols that may be used in this manual are listed below, please read carefully to use this manual better.

DANGER

- This symbol indicates a hazardous situation which may present a risk of fatal electric shock, serious personal injury or fire.

CAUTION

- This symbol indicates that instructions must be followed strictly to avoid a potential safety hazard.

NOTICE

- This symbol indicates that the operation is prohibited and the person concerned should discontinue the operation.

Symbol	Description
	Do not dispose of the inverter as household waste.
	The symbol indicates DC voltage.

Note that only professionals should install or replace the DMU.

Do not attempt to repair the DMU without Hyxi's permission, otherwise it will affect the warranty of the device. If any DMU is damaged, please send the DMU back to Hyxi's dealer for repair or replacement.

Please read all instructions and warnings in this manual carefully.

Please use the device according to the installation or usage method described in this document, otherwise it may cause personal injury or equipment damage.

1. Product Overview

This chapter mainly introduces the DMU appearance, packaging accessories, technical parameters, etc.

1.1 Product introduction

PV microinverter system

1.1.1 Microinverter

Microinverter (hereinafter referred to as microinverter) converts the DC output of PV panels into AC power that meets the requirements of the grid and transmits it in the power grid, the DMU continuously collects the operating data of each microinverter port and sends it to the monitoring platform, which constitutes the module-level monitoring of the microinverter system hardware base.

1.1.2 Data management unit (DMU)

The DMU data management unit is a key component of the microinverter system. It is the power generation information transfer station of the microinverter system, which communicates through the Sub-1 communication module with the microinverter, collects the real-time operation data of the microinverter, and sends the collected microinverter operation data through Ethernet to Hyxi monitoring service system.

A single DMU data management unit can communicate up to 400 PV modules, i.e. it can communicate up to 400 1-in-1 series of microinverters or 200 2-in-1 series of microinverters or 100 4-in-1 series of microinverters. If the DMU data management unit is installed in a place with poor communication signal the environment may cause signal attenuation, resulting in the reduction of communication devices.

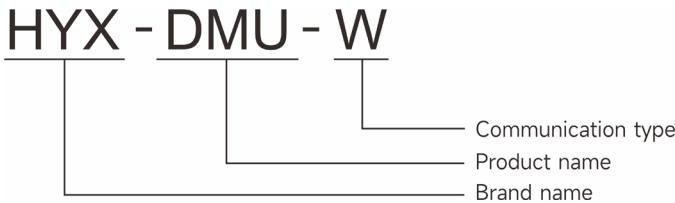
⚠ CAUTION

- If the DMU is required to monitor as many photovoltaic modules as possible, the on-site installation of the DMU and the microinverter should follow the requirements in the user manual. The execution is performed, and the distance between the microinverter and the DMU is as close as possible to reduce obstruction.

1.2 Product model

This article mainly involves the following product models:

- HYX-DMU-W
- HYX- DMU-4G

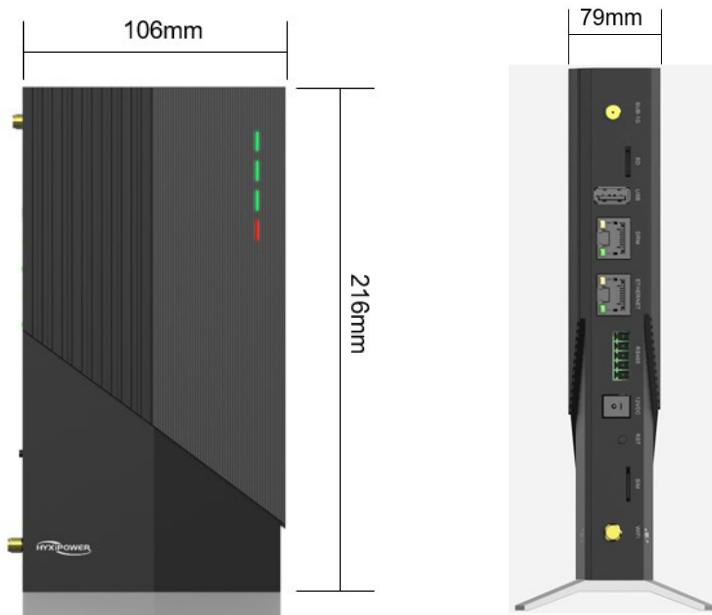


1.3 Monitoring System

The monitoring system collects the operating data and status of each microinverter in the system through the DMU data management unit, and uses the PC or APP to provide users with module-level monitoring to realize remote operation and maintenance. It is mainly composed of components, microinverters, DMU data management unit and other devices.

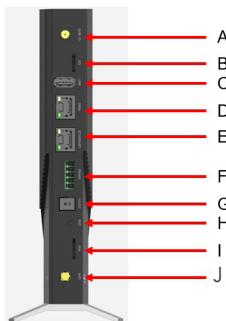
1.4 Product Appearance

1.4.1 Dimension of Device



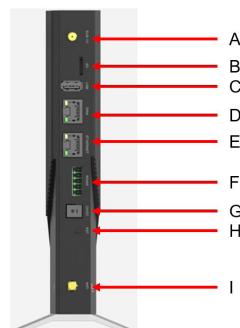
1.4.2 Interface Layout

HYX-DMU-4G (4G Version)



No.	Description
A	Sub-1G antenna interface
B	SD card slot
C	USB port (Software upgrades only)
D	DRM port
E	Ethernet port
F	RS485
G	Power port
H	Reset button
I	SIM card slot
J	4G antenna

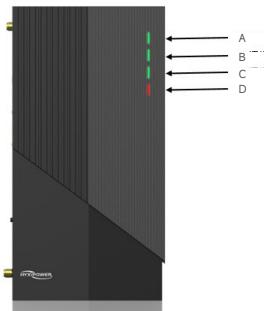
HYX-DMU-WIFI (WIFI Version)



No.	Description
A	Sub-1G antenna
B	SD card slot
C	USB port (Software upgrades only)
D	DRM port
E	Ethernet port
F	RS485
G	Power port
H	Reset button
I	WIFI antenna

1.5 LED Indicator Panel

The LED indicator is used as a human-computer interaction interface to indicate the current working status of the DMU.



No.	Light
A	POWER
B	NET
C	COM.
D	ALARM

LED Indicator Status Description:

No.	Description	LED status	Device status
A	Power indicator	ON	Power on
		OFF	Power off
B	Network communication (connecting to the server)	Solid	Normal
		Flashing	Abnormal
C	Microinverter communication (connecting to microinverter)	Solid	Normal
		Flashing	Abnormal
D	Fault condition	ON	Abnormal
		OFF	Normal

1.6 Anti-countercurrent Function (RS485 port)

1.6.1 Device list

- Microinverter 1-in-1, 2-in-1, 4-in-1 series.
- DMU : HYX-DMU-W / HYX-DMU-4G.
- Electricity meter: Single phase meter (DDSU666) / Three phase meter (DTSU666).

1.6.2 Controlling type

- Type 1: Self-generation and consumption: Limit feed-in power to zero to prevent generated power from being transmitted to the grid.
- Type 2: Restricted power grid connection: PV power generation can be connected to the grid, but within a certain range.
- Type 3: PV power generation and load power consumption display: Accurately display PV power generation and local power consumption.

1.7 DRM Function(Australia/New Zealand only)

The DMU is connected to external control device through the standard RJ-45 port, and the DRM port to support the following requirements response mode.

DRM 0/5/6/7/8 and other modes can be supported when the DMU is connected with microinverter.

No.	Description
DRM0	Disconnect the device
DRM1	Stop using electricity
DRM2	Do not use more than 50% of the rated power
DRM3	Do not use more than 75% of the rated power, and generate reactive power
DRM4	Increased electrical power usage (subject to other active DRMs)
DRM5	Stop power generation
DRM6	Generating power should not exceed 50% of rated power
DRM7	Generating power should not exceed 75% of rated power, and absorb reactive power
DRM8	Increased power generation (subject to other valid DRMs)

2. Installation

2.1 Unpack and check

The device has been fully tested and strictly inspected before leaving the factory, but damage may still occur during transportation, please conduct a detailed inspection before signing for the product.

- Check the box for damage.
- Check whether the goods are complete and in accordance with the order according to the packing list.
- Unpack and check that all device inside is intact.
- Check whether the products in the box are in accordance with the packing list (adapter, green terminal, installation map, fixed base (including screws), quick safety guide, etc.).

2.1.1 Packing list

Name	Quantity	Unit
Power adapter	1	Set
Green terminal	1	PC
Installation map	1	PC
Quick installation guide	1	PC
Fixed base	1	PC
Mount	1	PC
Screws	1	Set
M6*50 expansion screw	4	PC
ST3.5*9.5 Cross tapping screws	2	PC
ST4.8*16Cross tapping screws	2	PC

NOTICE

- If there is any damage or incomplete goods, please contact the shipping company or contact Zhejiang Hyxi Technology Co., Ltd. directly, and provide photos of the damage to facilitate service.
- Do not discard the original packaging of the device. It is best to store it in the original packing box after the device is out of service and disassembled.

2.2 Preparation

2.2.1 Installation environment requirements

Before installing the DMU, make sure the site meets the following requirements:

- Has a standard AC outlet
- Router/LAN/4G network with Ethernet interface.

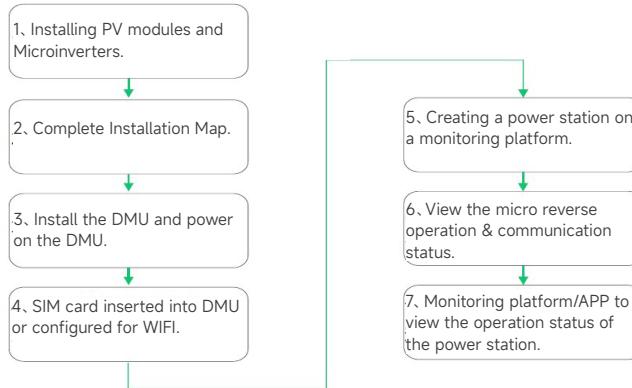
DMU installation environment requirements:

- Keep away from dust, liquid, acid or corrosive gas.
- Ambient temperature -20°C to + 65°C.

⚠ CAUTION

- It is forbidden to install it where children can reach it.

2.3 Installation sequence

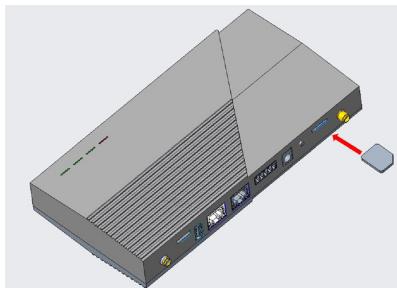


2.3.1 Installation Procedure

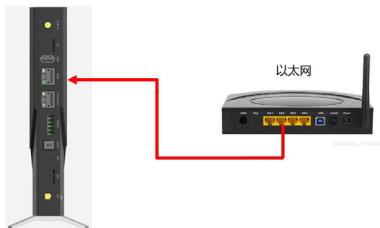
Step 1: Connect to a network

HYX-DMU-4G (4G Version)

Step 1: Using 4G: Insert the SIM card into the SIM card slot on the side of the DMU until you hear a sound of "click".



4G mode



Cable mode

NOTICE

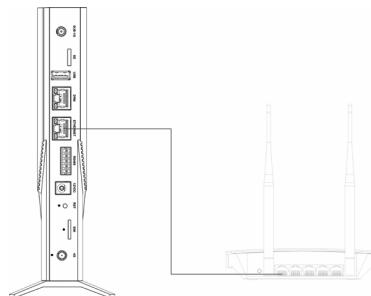
- One mode selection between Wi-Fi mode and cable mode is enough.

HYX-DMU-WIFI(WIFI version)

- Send the wireless network account password to the DMU through the APP, see chapter XX for details
- Cable mode: Insert one end of the cable into the Ethernet port of the DMU, and the other end into the broadband router port.



WIFI



Cable mode

NOTICE

- One mode selection between Wi-Fi mode and cable mode is enough.
- If the DMU data management unit is installed in a metal box or under a metal concrete roof, it is recommended to use a Sub-1G/4G RF extension cable or Sub-1G/4G suction cup antenna, the Wi-Fi version is recommended to use Sub-1G/Wi-Fi RF extension cable or Sub-1G/Wi-Fi sucker antenna, for suction cup antenna, please contact Hyxi or local distributors for purchase (please contact Hyxi technical support).
- For more information about the sucker antenna please email support@hyxipower.com.

Step 2: Installation location

- Installing on the roof can increase the signal strength.
- Installed in the center of the PV array.
- Install at least 0.5m from the ground and at least 0.8m from corners.

⚠ CAUTION

- Do not mount the DMU directly above metal or concrete to prevent signal attenuation.

Step 3: Installation method

Wall-mounted method

Wall-mounted installation method needs to be installed in a cool and dry indoor location. It should be kept away from heating equipment (wall heaters, ovens, etc.);

Note: You need to prepare yourself: marker pens, electric drills, screwdrivers and other tools.

- Hang the mount on the wall, adjust the angle, and mark it with a marker pen.
- Drill the hole at the mark using the corresponding specification drill.
- Align the mount with the hole, and put the expansion screw through the hanging plate into the hole to fix it.
- Use special screws to connect the base with the DMU device.
- Fix the installed device on the mount with the supplied screws.
- After connecting the power supply and the network, carry out debugging.



Desktop installation

Put the DMU on the table

- Use special screws to connect the base fixture with the DMU device and place it vertically on the table.
- After connecting the power supply and the network, carry out debugging.



3. Human-Computer Interaction

3.1 Installing the App

Method 1

Download and install the App through the following application stores:

- App Store (iOS).
- Google App market (Android, users other than mainland China ones).

Method 2

Scan the following QR code to download and install the App according to the prompt information:



3.2 APP User manual

For more information on using the HYXiPower APP, please refer to the user manual "HYXiPower APP".



3.3 System debugging

For system configuration and debugging, please refer to the user manual "HYXiPower Local Debugging APP".



4. Appendix

4.1 Technical Parameter

Product Model	HYX-DMU-W	HYX-DMU-4G
Communication to Microinverter		
Signal	Sub-1G	Sub-1G
Monitoring data limit from solar panels	400	400
Communication to Hyxi Cloud		
Ethernet	RJ45×1, 100Mbps	RJ45×1, 100Mbps
Wireless	WI-FI:802.11b/g/n	4G:TDD-LTE, FDD-LTE 3G:SCDMA
Data Acquisition Interval	Default: 5 mins (1-15 mins Configurable)	
Power Supply (Adapter)		
Type	External adapter	
Adapter input voltage/frequency	100-240V AC / 50-60Hz	
Adapter output voltage/current	12V/1A	
Power consumption	1.5W	2.5W
General Data		
Operating Ambient Temperature	- 20 to +65°C	
Dimensions (W*H*D)	106*79*216mm	
Weight	320g	
Cooling	Natural Cooling	
Enclosure Rating	IP20	
Installation method	Desktop mounting / Wall mounting	

4.2 Frequency range & transmitted power

	Frequency Range		Transmitted Power
LTE	B1	1920MHz--2170MHz	<24dBm
	B3	1710MHz--1880MHz	<24dBm
	B7	2500MHz--2690MHz	<24dBm
	B8	880MHz--960MHz	<24dBm
	B20	791MHz--862MHz	<24dBm
	B28	703MHz--803MHz	<24dBm
	B38	2570MHz--2620MHz	<24dBm
	B40	2300MHz--2400MHz	<24dBm
WCDMA	B1	1920MHz--2170MHz	<24.5dBm
	B8	880MHz--960MHz	<24.5dBm
Sub-1G	868MHz--868.58MHz		<15dBm
WiFi	2400MHz--2483MHz		<15dBm

4.3 Installation Map

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
A																	
B																	
C																	
D																	
Azimuth:					Panel type:					Customer Information: _____							
Tilt:					DMU Serial No.:												

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4.4 Contact Information

If you have any questions about this product, please contact us.

In order to provide you with faster and better after-sales service, we need your assistance in providing the following information.

- Equipment model: _____
- Serial number of the device: _____
- Fault code / name: _____
- A brief description of the fault phenomenon:

Version: v1.0 2023

The manual is subject to change without notice while the product is being improved.

Zhejiang Hyxi Technology Co., Ltd.

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Xihu District, Hangzhou, Zhejiang Province, China, 310008
support@hyxipower.com www.hyxipower.com



IC Warning

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

* RF warning for Mobile device:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Avertissements RF pour appareils mobiles:

L'appareil est conforme aux limites d'exposition au rayonnement IC spécifiées pour les environnements non contrôlés. La distance entre le radiateur et le corps doit être d'au moins 20 cm lors de l'installation et du fonctionnement de l'appareil.

FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.