



COM100D_E-UEN-Ver12-202111

COM100D/COM100E

Smart Communication Box

User Manual

SUNGROW

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1 About This Manual

1.1 Validity

This manual is valid for the smart communication box researched and manufactured by Sungrow Power Supply Co., Ltd.

- COM100D
- COM100E

The foregoing smart communication boxes are referred to as the "COM100" for short unless otherwise specified.

1.2 Type Description

Type	Configuration	Communication manner
COM100D	Includes the Logger1000A, switch-mode power supply, surge protection device, micro circuit breaker, and lighting device inside	Support of 4G, WLAN and Ethernet communication
COM100E	Includes the Logger1000B, switch-mode power supply, surge protection device, miniature circuit breaker, and lighting device inside	Support of WLAN and Ethernet communication



The magnetic base antenna and I/O module are optional components. If you want to purchase them, please contact SUNGROW.

1.3 Intended Use

This manual is intended to provide the reader with detailed information on the COM 100 and describe how to install and operate the device.

1.4 Target Group

This manual is intended for technically qualified persons who need to install, operate, and maintain the COM100 and users who need to perform daily operations.

1.5 How to Use This Manual

Read this manual carefully before performing operation on the device. Keep the manual in a convenient place for future reference.

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The content of the manual will be periodically updated or revised as per the product development. It is probably that there are changes in manuals for the subsequent module edition. If there any inconsistency, the actual product shall prevail.

1.6 Symbol Explanation

This manual contains important safety and operational instructions that must be accurately understood and respected during the installation and maintenance of the equipment.

To ensure the optimum use of this manual, note the following explanations of the symbols used.

DANGER

DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE indicates a situation which, if not avoided, could result in equipment or property damage.



NOTE indicates additional information, emphasized contents or tips to help you solve problems or save time.

2 Safety Instruction

This chapter mainly introduces safety instructions that need to be respected during the operation of COM100.

The COM100 has been designed and tested strictly according to international safety regulations. As electrical and electronic equipment, the COM100 must be installed, commissioned, operated, and maintained in strict accordance with related safety instructions.

Incorrect operation or work may cause:

- injury or death to the operator or a third party;
- damage to the COM100 and other properties.

Therefore, the following safety instructions must be read and always kept in mind prior to any work. All detailed work-related safety warnings and notes will be specified at the critical points in corresponding chapter.

WARNING

All operation and electrical work must only be performed by qualified personnel.

Before Installation

NOTICE

After receiving the device, please check if there is damage caused during transport. Contact SUNGROW or the logistic company once any problem is detected.

The related operators must be familiar with the safety instructions in this manual and other safety regulations about the installation, operation and maintenance of the COM100.

Correct moving, transport, installation, operation and maintenance are important for the long-term operation of the COM100.

During Installation

NOTICE

The COM100 can only be used as described in this manual. Altering the product without authorization or using spare parts not sold or recommended by SUNGROW may lead to fire, electric shock or other damages.

NOTICE

Disconnect all electrical connections and the upstream input switch and make sure the COM100 is voltage-free during installation.

Maintenance and Replacement** WARNING**

The maintenance of the COM100 can only be performed by qualified personnel from service dept. of SUNGROW or other qualified personnel.

End user can never maintain or replace the modules and other parts. Serious personal injury or property loss may follow if otherwise.

NOTICE

Never replace the internal components of the COM100 without authorization. SUNGROW shall not be held liable for any possible damage caused by ignorance of this warning.

3 Product Introduction

3.1 Function Description

3.1.1 Brief Introduction

COM100 integrates the hardware and software functions of the data acquisition Logger1000 which applies to grid-connected scenarios below 540V, mainly including industrial, commercial, and household scenarios. It supports various networking modes and installation forms as well as the protection function. It features flexible networking, auxiliary maintenance, and easy operations.

Flexible networking

- Support of RS485, Ethernet and WLAN communication
- Support of access by various environment sensors, Smart Energy Meters, and Meteo Stations
- Support of IV curve online diagnosis with iSolarCloud

Auxiliary maintenance

- Support of batch inverter parameter setting and software upgrading
- Support of remote desktop function
- Support of grid control instruction and power factor control
- Support of local real-time monitoring
- Support of automatic search and allocation of inverter address

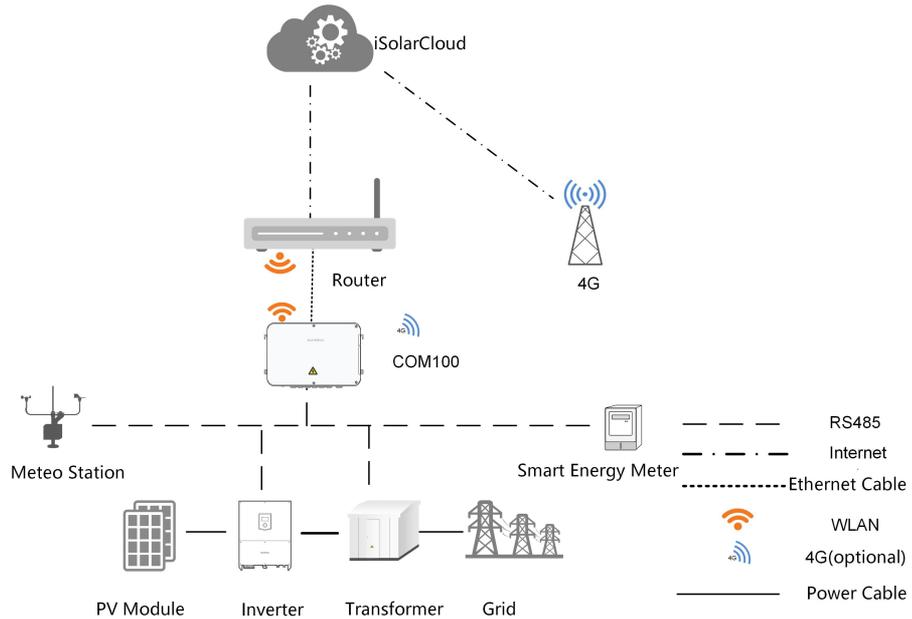
Easy operation

- Equipped with lighting device for ease of night maintenance
- Plastic enclosure, lighter weight and easier installation

3.1.2 Networking Application

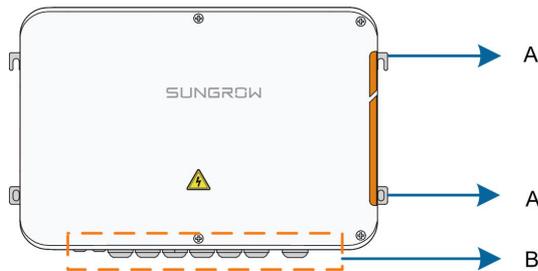
The COM100 can monitor running information of the PV system in real time and transfer the information to the background.

The COM100 can be connected to iSolarCloud via Ethernet, WLAN or 4G network.



⚠ WARNING
 The equipment is a professional product.
 Non-professionals are strictly prohibited to install and operate this equipment.

3.2 Appearance



Item	Name	Description
A	Mounting ear	4, for ease of installation
B	Waterproof terminal	For details about the definition, refer to section 5.1 "Waterproof Terminal Description."

3.3 Dimensions

The dimensions of the COM100 are as follows:

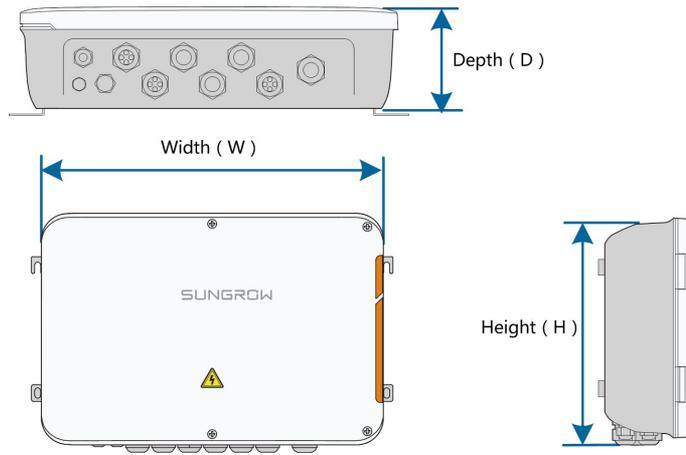


figure 3-1 COM100 dimensions

Width (W)	Height (H)	Depth (D)
460mm	315mm	126mm

4 Mechanical Installation

4.1 Unpacking and Inspection

Check the scope of delivery for completeness according to the packing list. The following items should be included:

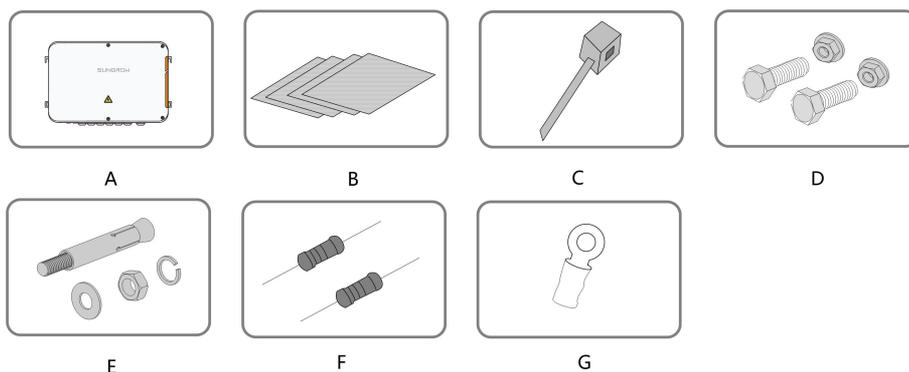


figure 4-1 Scope of delivery

Item	Name	Description
A	COM100	-
B	Documents	Quick user manual, delivery inspection report, packing list, warranty card, and certificate
C	Cable tie	12, used for binding the cables
D	Hexagon bolt assembly	4, M6 x 45, used for wall-mounting to fasten the device on the metal surface
E	Expansion bolt	4, M6 x 60, used for wall-mounting to fasten the device on the concrete wall
F	Terminal resistor	6x120Ω Note: if there are more than 15 devices connected on the RS485 bus, it is recommended to connect a 120Ω terminal resistor in parallel on the A and B lines at the head of the bus
G	OT terminal	M4x10, used for grounding connection

4.2 Location Requirements

- With the ingress of protection IP66, the COM100 can be installed both indoors and outdoors (more often).
- Operating temperature : -30°C to +60°C; and ambient humidity: 5% to 95%, without condensation. If otherwise, the internal components will be damaged.
- Take anti-moisture and anti-corrosion measures.

4.3 Installation Tools

Installation tools include but are not limited to the following recommended ones. If necessary, use other auxiliary tools on site.



4.4 Installation Method

COM100 can be installed on a wall or mounted on a pole.

WARNING

Be aware of the weight of the COM100 throughout the installation process!
Tip over or fall of the device due to inappropriate operation can cause personal injury!

4.4.1 Wall-Mounting



Mount the COM100 onto the concrete wall or metal surface according to onsite conditions.

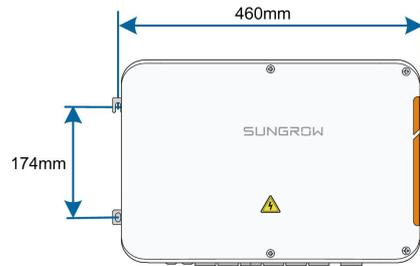
⚠ DANGER

Avoid drilling holes in the utility pipes and/or cables attached to back of the wall!

NOTICE

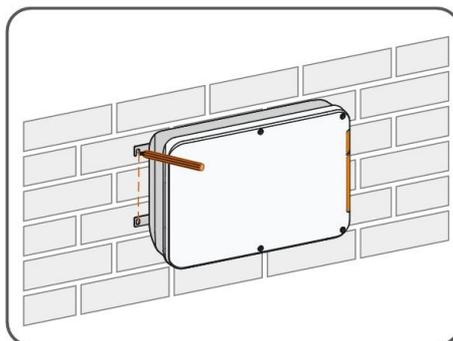
Operation personnel should wear goggles and dust mask throughout the drilling process to avoid dust inhalation or contact with eyes.

The following figure shows the installation dimensions of the COM100.

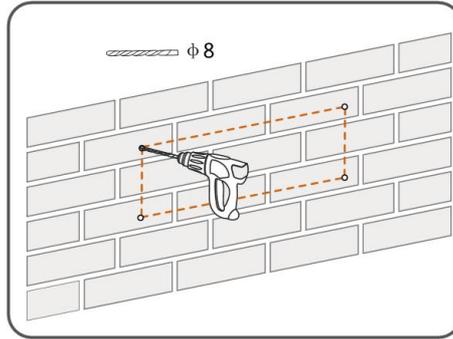


4.4.1.1 Concrete Wall

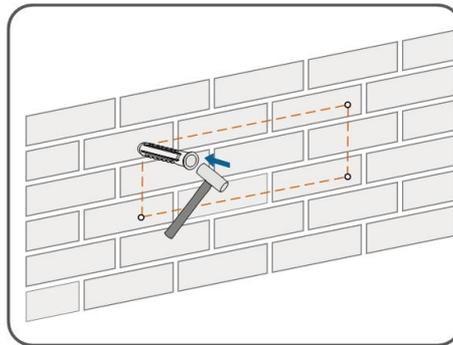
- step 1 Select an appropriate installation surface.
- step 2 Mark positions for drilling holes with a marker.



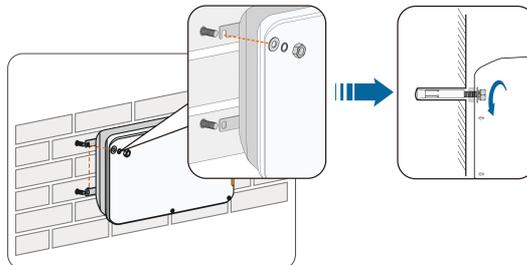
- step 3 Drill the holes with a drill according to the marks made before.



step 4 Use a rubber hammer to secure all the expansion bolts in the delivery accessories to the holes.



step 5 Use the nuts, flat washers, and spring washers in the delivery accessories to fix COM100 on the installation surface.

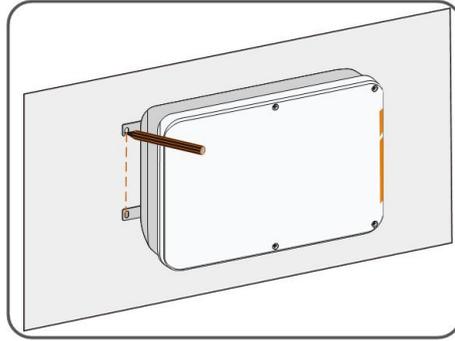


-- End

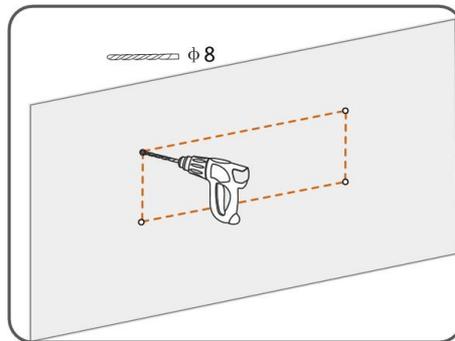
4.4.1.2 Metal Surface

step 1 Select an appropriate installation surface.

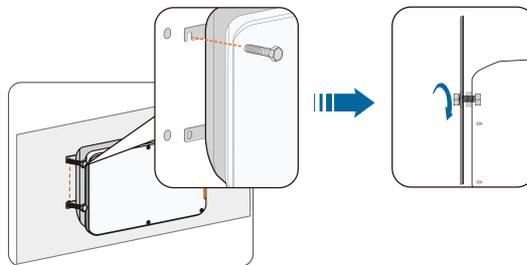
step 2 Mark positions for drilling holes with a marker.



step 3 Drill the holes with a drill according to the marks made before.



step 4 Use the hexagon bolts and nuts in the delivery accessories to fix COM100 on the installation surface.



step 5 Check and ensure that the COM100 is firmly in place.

-- End

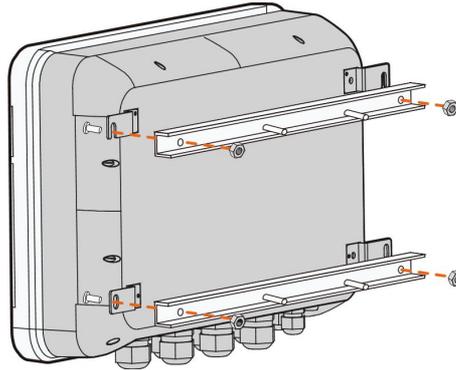
4.4.2 Pole-Mounting (Optional)

COM100 can be mounted on a pole. If you need to purchase this scheme, contact SUNGROW who will provide the design drawings.

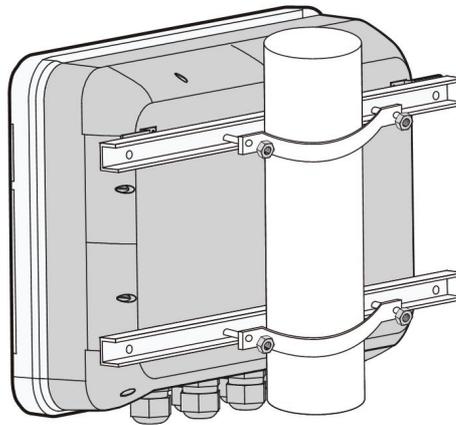
Accessories supplied with the COM100 include matching screw assembly, nuts, brackets, clamps, etc.

The installation procedure is as follows:

step 1 Anchor the COM100 to the mounting-brackets by using the screw assembly via the mounting ears, as shown in the figure below.



step 2 Fix the mounting-brackets with the clamps by using the nuts.

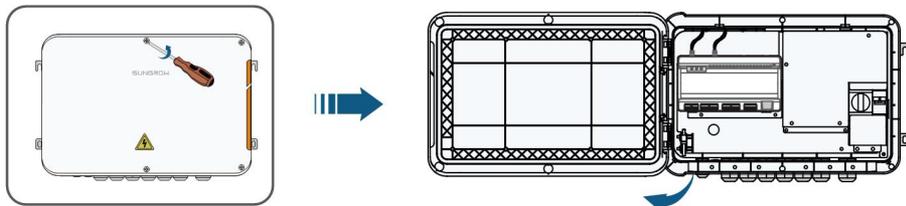


-- End

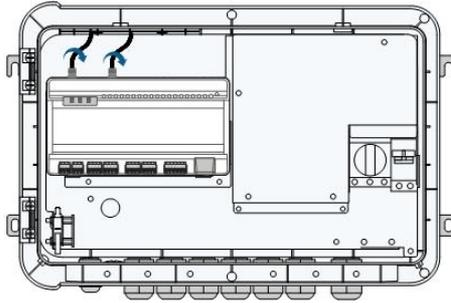
4.5 Magnetic Base Antenna Connection (Optional)

COM100 has a built-in antenna. If COM100 is installed in a container, a magnetic base antenna must be purchased to remove signal shielding.

step 1 Release the 4 screws on the front side of the COM100 and open the front cover of the cabinet.

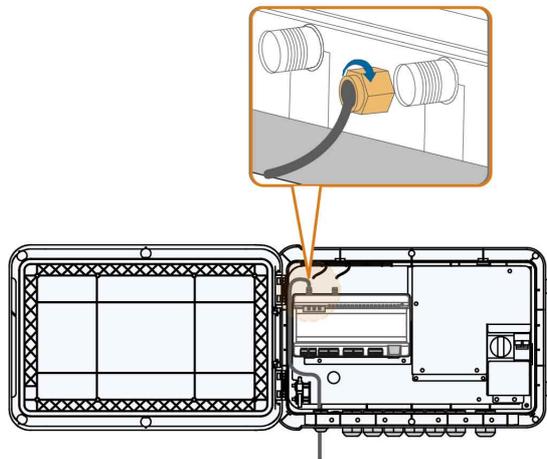


step 2 Unscrew the built-in antenna of COM100.

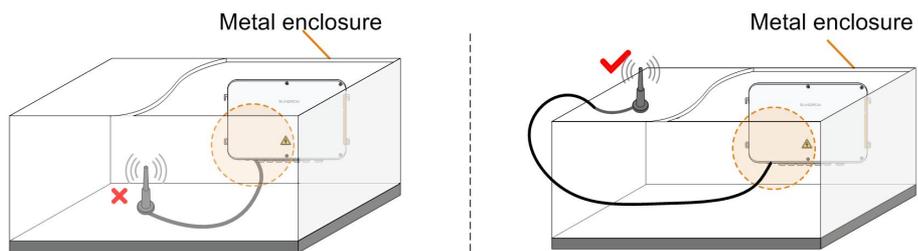


step 3 Loosen the "RF" waterproof terminal on the bottom of the COM100.

step 4 Lead the antenna through the "RF" waterproof terminal, and secure clockwise the nut at the end of the antenna to the corresponding terminal on the bottom of the Logger1000.



step 5 Place the sucker antenna base on a metal surface outside the container.



-- End

5 Electrical Connection

5.1 Waterproof Terminal Description

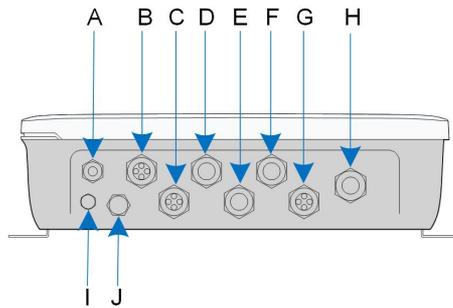


figure 5-1 Waterproof terminals on the bottom of COM100

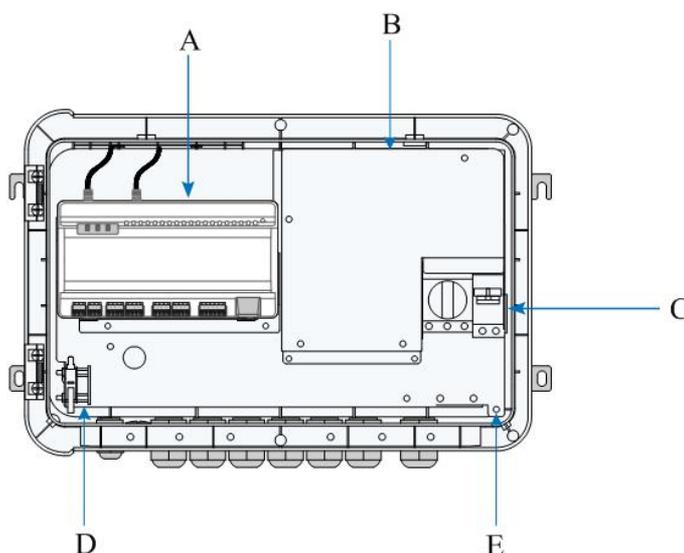
table 5-1 Description of waterproof terminals

No.	Tag	Description	Recommended cable specifications	Cable type
A	RF	Reserved, antenna waterproof terminal	-	-
B	AI/DI	AI/DI waterproof terminal	2 x (1-1.5) mm ²	Outdoor UV rated twisted pair with a shielding layer
C	DI/DRM	DI/DRM waterproof terminal		
D	RS485-1	RS485 waterproof terminal	2 x (0.75-1.5) mm ²	
E	ETH	Ethernet waterproof terminal	-	CAT5 outdoor UV rated cable with a shielding layer
F	RS485-2/ IOM	RS485/IO waterproof terminal	2 x (0.75-1.5) mm ²	Outdoor UV rated twisted pair with a shielding layer
G	-	Reserved	-	-
H	AC (100~277- V)	Waterproof terminal for 100VAC~277VAC power supply	2 x (1-1.5) mm ²	Outdoor UV rated wire

No.	Tag	Description	Recommended cable specifications	Cable type
I	-	Waterproof and dustproof ventilation valve	-	-
J	-	Reserved	-	-

5.2 Internal Structure

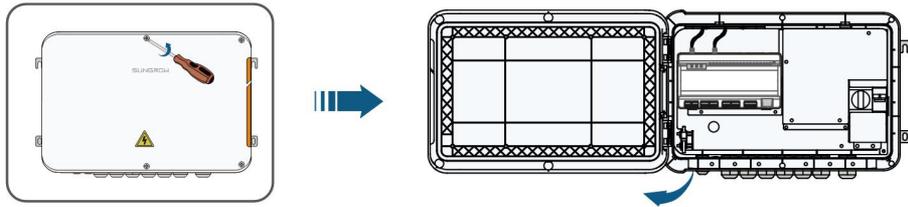
The internal structure of the COM100 is shown in the following figure.



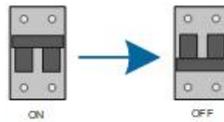
No.	Description
A	Logger1000A or Logger1000B
B	I/O module, switch-mode power supply, surge protection device, and 24VDC power supply
C	Miniature circuit breaker, used to connect/disconnect the external 220VAC power supply
D	Lighting device, turn on the light before opening the front cover of the cabinet for ease of night maintenance
E	Grounding terminal

5.3 Preparation Before Cable Connection

step 1 Release the 4 screws on the front side of the COM100 and open the front cover of the cabinet, as shown in the figure below.



step 2 Turn off the COM100 power supply switch.

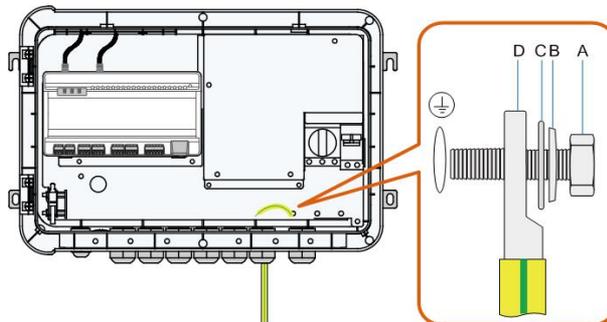


-- End

5.4 Grounding

step 1 Strip the insulation cover of the grounding cable and crimp the stripped cable to the OT terminal.

step 2 Fasten the grounding cable in the sequence of cross recessed fastener assembly, OT terminal, and grounding hole.



Item	Description
A	M4 x 10 cross recessed fastener assembly
B	Flat washer
C	Spring washer
D	OT terminal

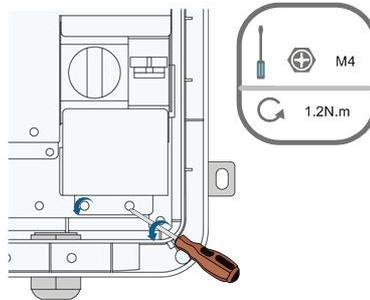
-- End

5.5 External AC Power Supply Cable

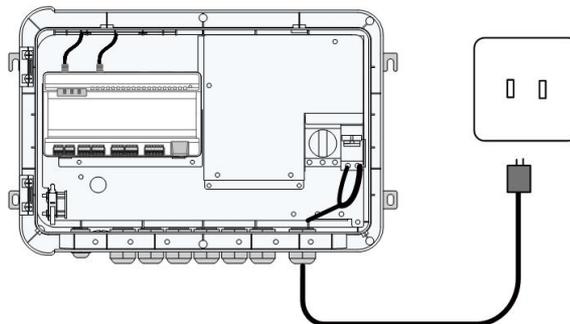
COM100 is designed with an external AC power port at the bottom of the external 220 V AC power breaker, as shown in the figure below.



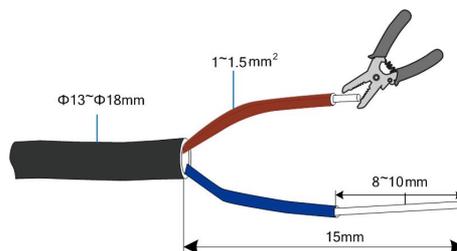
step 1 Loosen the two screws in the figure below and open the baffle.



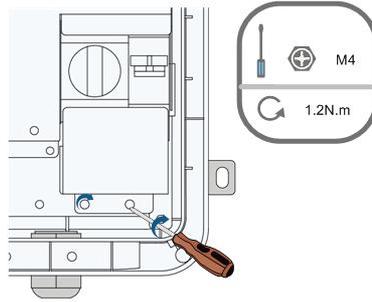
step 2 Loosen the "AC (100~277V)" waterproof terminal, and insert the external power supply cable through the waterproof terminal into the corresponding terminal of the miniature circuit breaker inside the COM100.



step 3 Strip and connect the cable to the corresponding terminal inside the COM100.



step 4 Cover the baffle and use a screwdriver to fasten the screws.



step 5 Fasten the "AC (100~277V)" waterproof terminal.

-- End

5.6 RS485 Port

For details about the wiring mode of the RS485 port, refer to the user manual of the data collector Logger1000.



NOTICE

When connecting the inverter to external devices with the RS485 communication cable, make sure that the external devices are protected against lightning.

5.7 Ethernet Port

The COM100 can be connected to the background of the PV system via the Ethernet port, and the communication protocol is standard Modbus TCP or IEC104.

step 1 Prepare a suitable length of Ethernet cable.

step 2 Insert one end of the cable into the port of the Ethernet switch and the other end to the "ETH" port of the Logger1000 inside the COM100.

step 3 Set IP address of the ETH port to be within the same network segment as that of the background monitoring system.

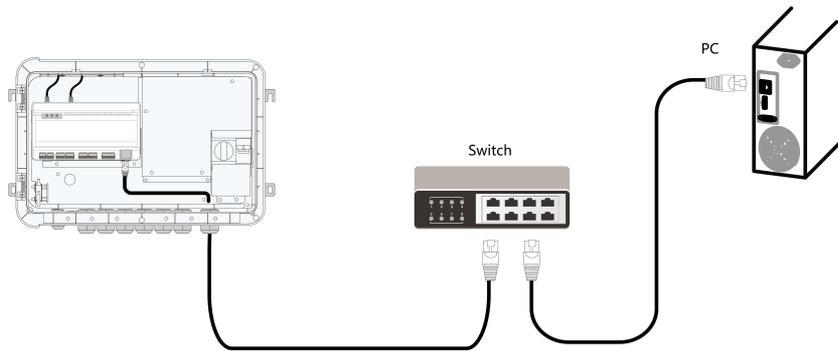


figure 5-2 Connection to PV background system

NOTICE

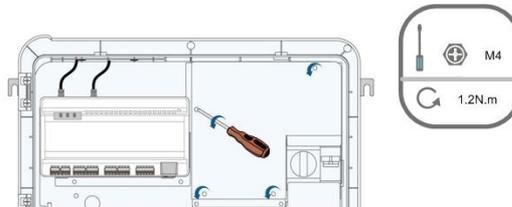
Default IP of the "ETH": IP12.12.12.12.

-- End

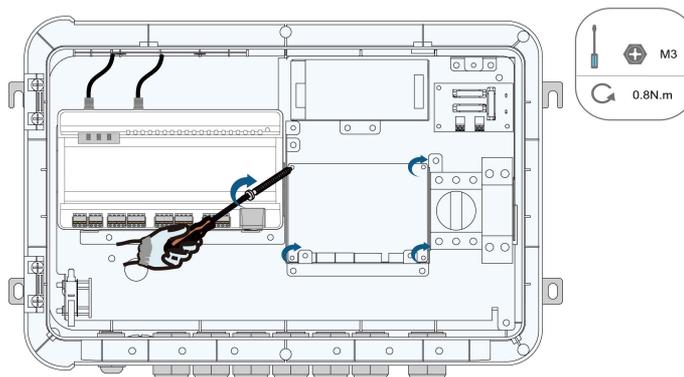
5.8 I/O Module (Optional)

COM100 supports extension of the I/O module. If you want to purchase the I/O module, please contact SUNGROW.

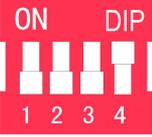
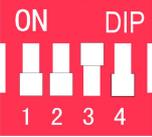
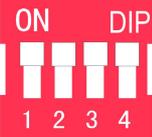
step 1 Loosen the four screws on the I/O module baffle and open the baffle.



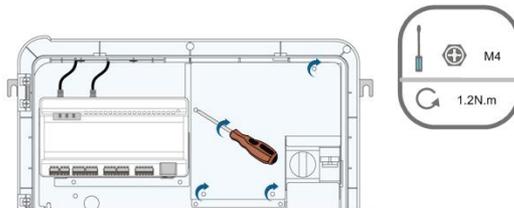
step 2 Use screws to fasten the PCB.



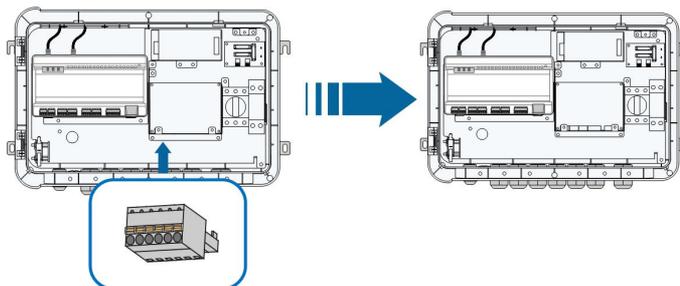
step 3 Use the dip switch to set the communication address to a value ranging from 1 to 15.

Communication address setup illustration	Binary address	Decimal address
	0001	1 ($1 \times 2^0=1$)
	0010	2 ($1 \times 2^1+0 \times 2^0=2$)
	0011	3 ($1 \times 2^1+1 \times 2^0=3$)
⋮	⋮	⋮
	1111	$1 \times 2^3 + 1 \times 2^2 + 1 \times 2^1 + 1 \times 2^0 = 15$

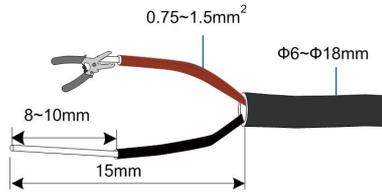
step 4 Install the I/O module baffle and fasten the four screws on it.



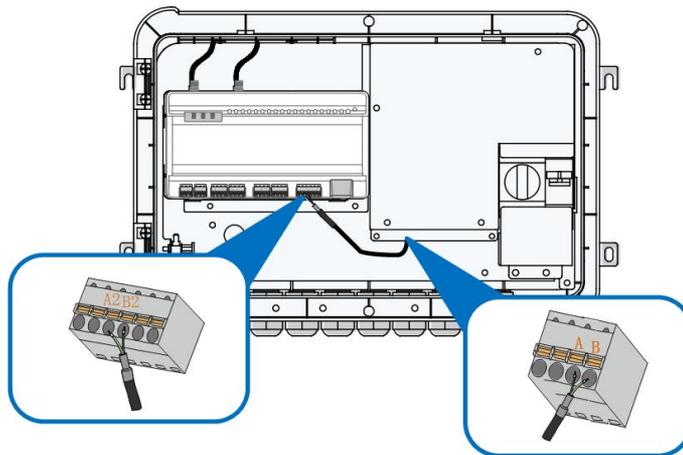
step 5 Insert the terminal to the position shown in the following figure.



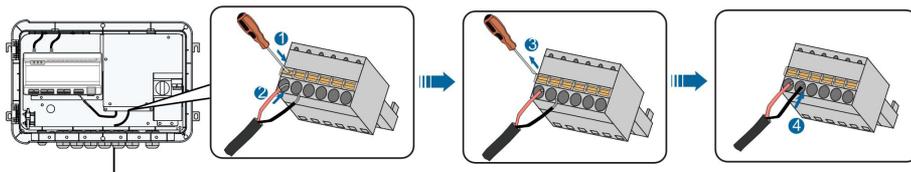
step 6 Use a wire stripper to strip off the protective layer and insulation layer on the two sides of the communication cable, as shown in the figure below.



step 7 Connect one side of the cable to the "A2B2" port at the bottom of the data collector Logger1000, and the other side of the cable to the "AB" port on the I/O module.



step 8 Pass the external communication cable through the "RS485 - 2/IOM" waterproof terminal at the bottom of COM100 and connect the cable to the AI/DI port on the I/O module.



step 9 Fasten the "RS485 - 2/IOM" waterproof terminal.

-- End

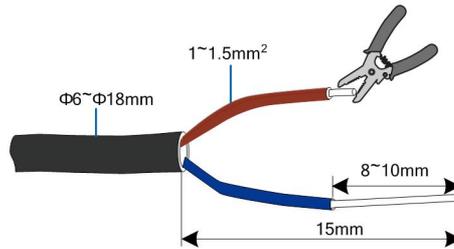
5.9 External DC Power Supply Cable

The 24V DC power supply port inside the COM100 is the "24V IN" and "24V OUT" port on the bottom of the Logger. The rated power is 10W and the max. power is 12W.

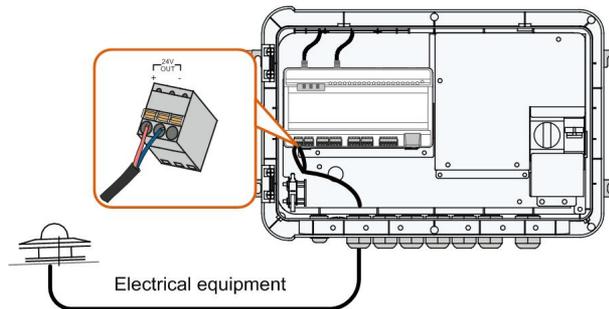
The COM100 can supply the connected external device with 24V DC power.

step 1 Loosen an unused waterproof terminal on the bottom of the COM100.

step 2 Lead the DC cable through the waterproof terminal. Strip the cable jacket and insulation layer of the DC cable by appropriate length with a wire stripper.



step 3 Insert the stripped DC cable into the port "24V OUT +" and "24V OUT -" of the Logger1000.



step 4 Fasten the waterproof terminal.

-- End

5.10 Inspection after Cable Connection

Conduct the following operations after finishing electrical cable connection:

- Check that all cables are correctly connected.
- Gently pull the cables backwards to ensure they are firmly in place.
- Fasten all the waterproof terminals and seal gaps at the bottom of the terminals with fireproofing mud.
- Close the front cover of the COM100 and tighten the screws.

6 Commissioning

6.1 Check before Commissioning

No.	Item	Result
1	All cables are intact, well insulated, and appropriately dimensioned	<input type="checkbox"/>
2	All cables are connected correctly and firmly	<input type="checkbox"/>
3	The polarity of the power supply cable is correct. The ground cable is reliably grounded	<input type="checkbox"/>
4	Seal the gaps at the bottom of the waterproof terminals with fireproof mud	<input type="checkbox"/>

6.2 Commissioning Steps

When all the foregoing items meet requirements, commission the COM100 for the first time.

No.	Step	Result
1	Inspection before commissioning	<input type="checkbox"/>
2	Turn the miniature circuit breaker inside the COM100 to the ON position.	<input type="checkbox"/>
3	Check whether the indicators of Logger1000 inside the COM100 normally flash.	<input type="checkbox"/>
4	Connect the debugging PC to the "ETH" port of the Logger1000 via the network cable (default IP address of "ETH": 12.12.12.12). Log in the Web at 12.12.12.12 through the IE or Chrome browser.	<input type="checkbox"/>
5	Make sure the communication cable connecting the device and the Logger1000 inside the COM100 is firmly in place, and connect the DC circuit breaker of the inverter to ensure the inverter is supplied with power.	<input type="checkbox"/>
6	Configure related parameters referring to the user manual of Logger1000.	<input type="checkbox"/>
7	Enable the DHCP service of the router.	<input type="checkbox"/>

No.	Step	Result
8	<p>Set the iSolarCloud address if data needs to be uploaded to cloud server.</p> <p>The default iSolarCloud station is "China Station".</p> <ul style="list-style-type: none"> • Users in mainland China access the "China Station". • Users in Europe access the "Europe Station". • Users in other regions access the "International station". 	<input type="checkbox"/>
9	Check the data of SUNGROW string inverter for correctness on the real-time information interface.	<input type="checkbox"/>
10	Create new plant via the iSolarCloud App and check the iSolarCloud data for correctness.	<input type="checkbox"/>



The auto search function is available for SUNGROW residential inverters and string inverters only whose addresses are automatically allocated.

Devices of other types, such as Smart Energy Meter and transformer, can be connected to Logger1000 with the adding device function.

Addresses of the devices connected to the same communication port should be different from each other.

Save the settings after operation, and otherwise the settings will not take effect.



Use the iSolarCloud App to create a new plant. Users can directly scan the QR code on the front label of the Logger1000 or manually input the S/N to add communication equipment. For details, refer to the Quick Guidance of iSolarCloud App. Scan the bottom QR Code to view or obtain the Quick Guidance of iSolarCloud App.



7 Grid Dispatching Function



Only installation personnel with some communication knowledge can perform operations described in this chapter.

7.1 Function Description

The COM100 not only serves as a communication management device of a single PV array/plant, but also has the power regulation function. Multiple regulation manners can meet different regulation requirements. The COM100 can regulate the power output of the SUNGROW inverter, and the regulation mainly includes active power control and reactive power control.

The COM100 can control device power output according to the local preset instructions. In addition, it can receive dispatch instructions via the remote communication (IEC104, MODBUS, and TCP), AI, and dry contact (DI).

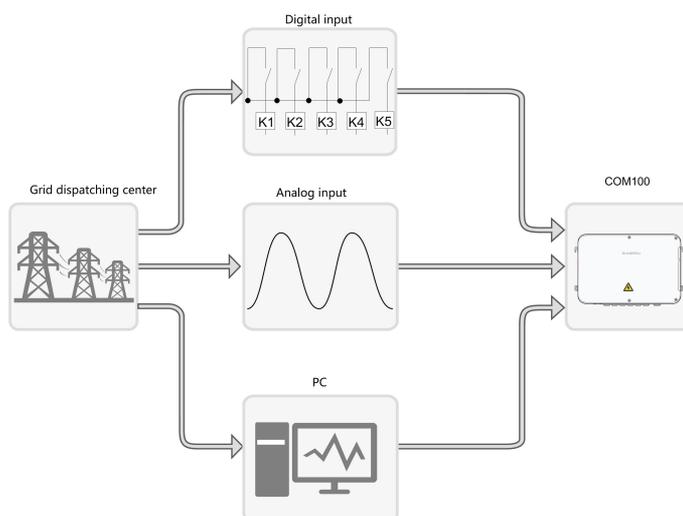


figure 7-1 Overall frame of power control function

The COM100 supports closed-loop power regulation. The regulation accuracy and real-time performance can be further improved by adding the Smart Energy Meter.

The COM100 supports fast instruction transfer channels (ms-level processing delay) while ensuring that the dispatching instructions are correctly transmitted to all inverters.

NOTICE

The corresponding power dispatching function is available only when the inverter supports active power control, power factor control, and reactive power regulation!

For details, refer to the inverter user manual or consult the local retailers.

7.2 Interface Description

The COM100 is equipped with digital control ports and analog control ports for receiving digital instructions and analog instructions sent from the grid dispatching center.

7.2.1 Digital Control Interface

Digital control interface is located at the bottom of the Logger1000 inside the COM100.

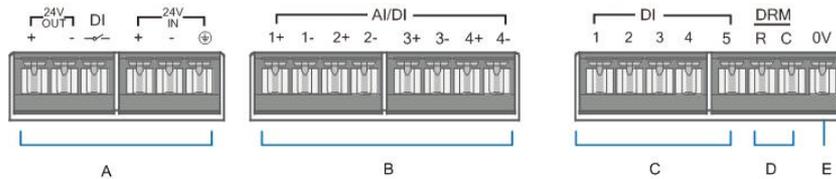
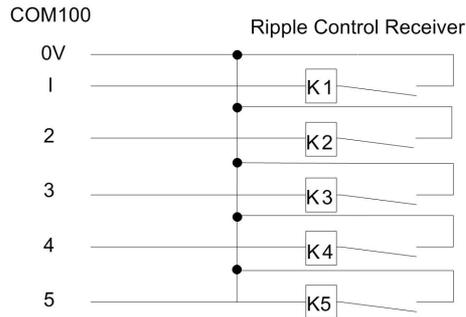


table 7-1 Digital control interface signal definition

Item	Signal	Definition
A	DI	Switch for enabling the AI/DI function
B	AI/DI (1+, 1-, 2+, 2- 3+, 3-, 4+, 4-)	4 analog input channels, and can be switched to 4 dry contact signal channels.
C	DI (1, 2, 3, 4, 5)	5 independent input dry contact signal channel
D	DRM (R, C)	Works together with the DI1 to DI4 to achieve the DRM function
E	0V	Input dry contact signal ground

Wireless receiver controller (Ripple Control Receiver)

Wiring between the COM100 and the Ripple Control Receiver is as follows:



In Germany and some other European countries, the grid company uses the Ripple Control Receiver to convert the grid dispatching signal and send it in a dry contact manner. In this case, the plant needs to receive the grid dispatching signal in the dry contact communication manner.

Reactive power dry contact

Wiring of the reactive power dry contact is shown in the figure below:

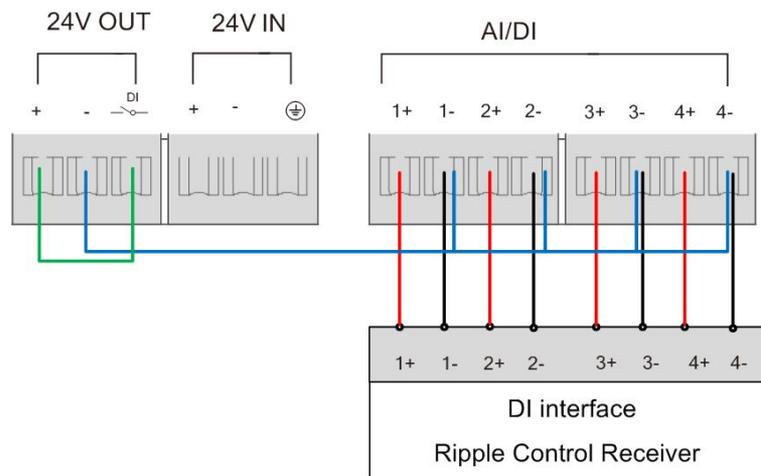


figure 7-2 Wiring of the reactive power dry contact

AI/DI function

On the bottom of the Logger1000, there are 4 groups of ports (1+, 1-, 1+, 1-, 2+, 2-, 3+, 3-, 4+, 4-) compatible with the AI/DI function.

When enabling the AI/DI function, use a power cable to connect the "24V OUT+" port and the DI port, shown by the green line in the "figure 7-2 Wiring of the reactive power dry contact".

Active power dry contact

Wiring of the active power dry contact is shown in the figure below:

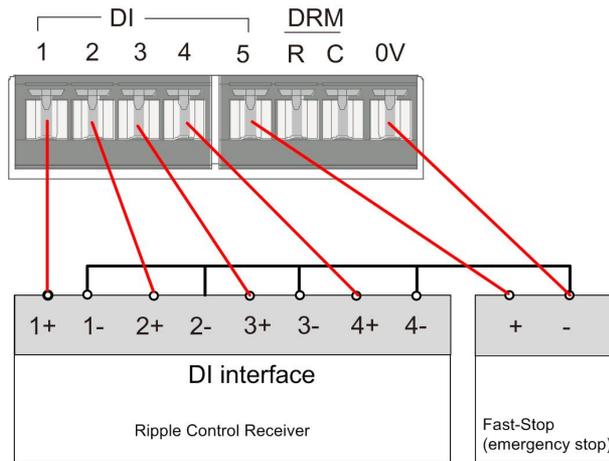


figure 7-3 Wiring of the active power dry contact

7.2.2 Analog Control Interface

The analog control interface is at the bottom of the COM100, and a sum of 4 analog input ports are provided, as shown in the figure below.

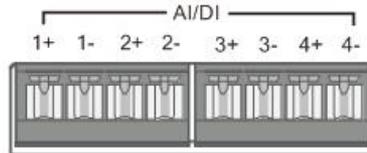


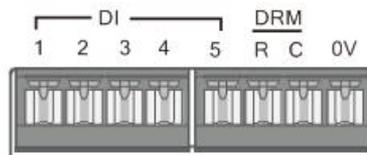
table 7-2 Analog control interface signal definition

Signal	Definition
1+, 1-, 2+, 2-, 3+, 3-, 4+, 4-	4 analog input channels

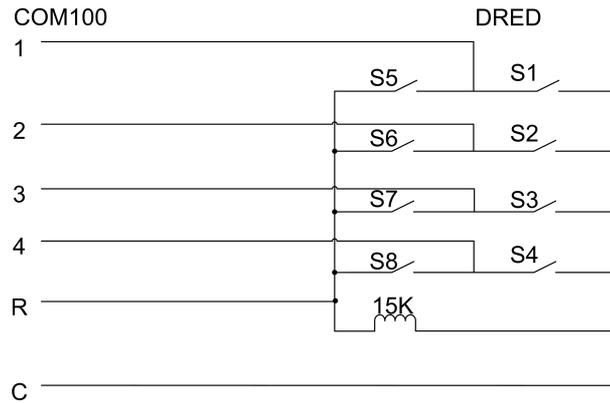
The COM100 supports 4 inputs of 4 ~ 20mA analog currents or 4 inputs of 0 ~ 10V analog voltage.

7.2.3 DRM Control Interface

The Demand Respond Modes (Demand Respond Modes, DRM for short) control interface is located at the bottom of the Logger1000 inside the COM100, as shown in the figure below.



The DRM interface works together with DI1 ~DI4 to achieve the DRM function. Wiring between the COM100 and the DRED is as follows:



The DRM interface requires that the COM100 can be connected to the DRED via the corresponding wiring terminal or RJ45 connector.

8 WEB Interface

8.1 Running Requirements

Item	Parameter
System	WIN7, WIN8, WIN10, or Mac OS
Browser	IE10 or later, Chrome45 or later, Safari11 or later
Min. resolution	1366 x 768
CPU	CPU frequency higher than 2.5GHz

8.2 Configure PC Network Parameters

The COM100 and the PC can communication via the Ethernet or WLAN. Corresponding configuration of network parameters is as follows:

Communication manner	Configuration	WEB address
(ETH) Ethernet	Set the IP address of the PC and COM100 to the same network segment. The IP address of the COM100 is 12.12.12.12. Therefore, the IP address of the PC may set to 12.12.12.125, and the subnet mask is 255.255.255.0.	12.12.12.12
WLAN	Turn on the wireless network setting of the PC. Search for the wireless network name of the internal Logger1000 and connect to it.	11.11.11.1

Note: Access the WEB page in either of the manners according to actual conditions.

8.3 Login Steps

In this chapter, login steps are briefly described by using the WLAN login as an example.

step 1 Turn on the wireless network setting of the PC, and search for the wireless network name of the Logger1000, for example, "SG-A1234567890".



The format of the wireless network name is SG-X. "X" represents the serial number of the Logger1000 and can be obtained from the label attached to the front side.

The wireless network can be connected without a password.

step 2 Enter the IP address 11.11.11.1 of the COM100 in the PC address bar to enter the general user login interface.

step 3 Click the button "Login" in the upper right corner, enter the default password "pw1111", and click "Login", to enter the O&M user interface.

User type	Operation permission
General user	The general user can view basic information, real-time fault, and device monitoring information of the COM100.
O&M user	In addition to the permissions of the general user, the O&M user can set and modify parameters of the COM100 and devices connected to the COM100.



After login for the first time, it is recommended to change the password. Click "O&M user" -> "Modify password" to change the password.

In case the password is forgotten, contact SUNGROW to obtain a new one, with system time and Logger1000 S/N provided.

-- End

8.4 Interface Introduction

Users may perform the following operations after entering the WEB interface.

Operation	Path	Manual and website
Create new plant	<ol style="list-style-type: none"> 1. Click "About" on the WEB interface to obtain the QR code. 2. Scan the QR code with the iSolarCloud App and create new plants according to the prompt information. 	<p>Quick guidance of the iSolarCloud App</p> <p>http://support.sungrowpower.com/web/productList?f=3&directoryId=233</p> 
Logger configuration	-	<p>Logger1000 User Manual</p> <p>http://support.sungrowpower.com/web/productList?f=3&directoryId=307</p> <p>http://support.sungrowpower.com/web/productList?f=3&directoryId=307</p> 

9 Appendix

9.1 Technical Parameters

Configuration	
Data collector	Support of management on a maximum of 30 devices
I/O module	Optional; support for 2-way digital input, 2-way PT100 input, 2-way analog input (0 V - 10 V), and 4-way digital output
Antenna	Optional; magnetic base antenna, which is used for 4G and WLAN networks
Wireless communication	
Operator	Support of China Mobile/China Unicom/China Telecom, 4G / 3G / 2G
4G frequency band	Support of China Mobile/China Unicom/China Telecom, 3G / 4G / 2G LTE (FDD):B1, B3, B8 LTE (TDD):B38, B39, B40, B41 TD-SCDMA:B34, B39, B40 CDMA:BC0 GSM:900 MHz /1800 MHz WCDMA:B1, B8
WLAN communication	802.11 a / b/ g / n / ac HT20 / 40/ 80 MHz 2.4 GHz / 5 GHz
Power supply	
AC input	100 V AC - 277 V AC, 50 Hz or 60 Hz
Power consumption	≤ 40 W
Lighting device	< 1 W
Ambient parameter	
Operating temperature	-30 °C ~ +60 °C
Storage temperature	-40 °C ~ +70 °C
Operating humidity	5% to 95%, without condensation
Operating altitude	≤ 4000m
Ingress of protection	IP66

Mechanical parameters	
Dimensions (W x H x D)	460 mm x 315 mm x 126 mm
Weight	6 kg
Installation manner	Wall-mounted and pole-mounting (optional)
Enclosure material	Plastic (PC)
Inlet diameter	<p>AC 220 V: 1-1.5 mm² outdoor UV rated cable, with the outer diameter ranging from 13 mm to 18 mm</p> <p>RS485: 0.75-1.5 mm² outdoor UV rated twisted pair with a shielding layer, with the outer diameter ranging from 6 mm to 18 mm</p> <p>Ethernet: CAT5 outdoor UV rated cable with a shielding layer, with the outer diameter ranging from 6 mm to 18 mm</p> <p>AI and DI: 1-1.5 mm² outdoor anti-ultraviolet wire, with the outer diameter ranging from 4.5 mm to 6 mm</p>

9.2 Dry Contact Wiring Cable

The wiring cable used for each COM100 dry contact needs to meet the requirements in the following table.

Dry contacts	Specification requirements
RS485	<p>Use outdoor UV rated twisted pair with a shielding layer.</p> <p>The recommended cable diameter is 0.75~1.5mm².</p> <p>The maximum wiring distance should be less than 1000m.</p>
AI	<p>The recommended cable diameter is 0.75mm².</p> <p>The recommended maximum wiring distance is 10m.</p>
DI	<p>The recommended cable diameter is 0.75mm².</p> <p>The recommended maximum wiring distance is 10m.</p>
Ethernet	<p>Use cat5e or higher specification network cable.</p> <p>Communication distance should be less than 100m.</p>

9.3 Quality Guarantee

When product faults occur during the warranty period, SUNGROW will provide free service or replace the product with a new one.

Evidence

During the warranty period, the customer shall provide the product purchase invoice and date. In addition, the trademark on the product shall be undamaged and legible. Otherwise, SUNGROW has the right to refuse to honor the quality guarantee.

Conditions

- After replacement, unqualified products shall be processed by SUNGROW.
- The customer shall give SUNGROW a reasonable period to repair the faulty device.

Exclusion of Liability

In the following circumstances, SUNGROW has the right to refuse to honor the quality guarantee:

- The free warranty period for the whole machine/components has expired.
- The device is damaged during transport.
- The device is incorrectly installed, refitted, or used.
- The device operates in harsh environment, as described in this manual.
- The fault or damage is caused by installation, repairs, modification, or disassembly performed by a service provider or personnel not from SUNGROW.
- The fault or damage is caused by the use of non-standard or non-SUNGROW components or software.
- The installation and use range are beyond stipulations of relevant international standards.
- The damage is caused by unexpected natural factors.

For faulty products in any of above cases, if the customer requests maintenance, paid maintenance service may be provided based on the judgment of SUNGROW.

Software licenses

- It is prohibited to use data contained in firmware or software developed by SUNGROW, in part or in full, for commercial purposes by any means.
- It is prohibited to perform reverse engineering, cracking, or any other operations that compromise the original program design of the software developed by SUNGROW.

9.4 Contact Information

Should you have any question about this product, please contact us.

We need the following information to provide you the best assistance:

- Model of the device
- Serial number of the device
- Date of the device
- Fault code/name

- Brief description of the problem

<p>China (HQ) Sungrow Power Supply Co., Ltd Hefei +86 551 65327834 service@sungrowpower.com</p>	<p>Australia Sungrow Australia Group Pty. Ltd. Sydney +61 2 9922 1522 service@sungrowpower.com.au</p>
<p>Brazil Sungrow Do Brasil Sao Paulo +55 0800 677 6000 latam.service@sungrowamericas.com</p>	<p>France Sungrow France Lyon +33420102107 service@sungrow-emea.com</p>
<p>Germany, Austria, Switzerland Sungrow Deutschland GmbH Munich +49 (0)89 1307 2620 service@sungrow-emea.com</p>	<p>Greece Service Partner – Survey Digital +30 2391052757 service@sungrow-emea.com</p>
<p>India Sungrow (India) Private Limited Gurgaon +91 080 41201350 service@in.sungrowpower.com</p>	<p>Italy Sungrow Italy Verona +39 0800 974739 (Residential) +39 045 4752117 (Others) service@sungrow-emea.com</p>
<p>Japan Sungrow Japan K.K. Tokyo + 81 3 6262 9917 service@jp.sungrowpower.com</p>	<p>Korea Sungrow Power Korea Limited Seoul +82 70 7719 1889 service@kr.sungrowpower.com</p>
<p>Malaysia Sungrow SEA Selangor Darul Ehsan +60 19 897 3360 service@my.sungrowpower.com</p>	<p>Philippines Sungrow Power Supply Co., Ltd Mandaluyong City +63 9173022769 service@ph.sungrowpower.com</p>

<p>Thailand</p> <p>Sungrow Thailand Co., Ltd.</p> <p>Bangkok</p> <p>+66 891 246053</p> <p>service@th.sungrowpower.com</p>	<p>Spain</p> <p>Sungrow Ib é rica S.A.U.</p> <p>Mutilva</p> <p>+34 948 05 22 04</p> <p>service@sungrow-emea.com</p>
<p>Romania</p> <p>Service Partner - Elerex</p> <p>service@sungrow-emea.com</p>	<p>Turkey</p> <p>Sungrow Deutschland GmbH Turkey</p> <p>Istanbul</p> <p>+90 216 663 61 80</p> <p>service@sungrow-emea.com</p>
<p>UK</p> <p>Sungrow Power UK Ltd.</p> <p>Milton Keynes</p> <p>+44 (0) 01908 414127</p> <p>service@sungrow-emea.com</p>	<p>U.S.A, Mexico</p> <p>Sungrow USA Corporation</p> <p>Phoenix</p> <p>+1 833 747 6937</p> <p>techsupport@sungrow-na.com</p>
<p>Vietnam</p> <p>Sungrow Vietnam</p> <p>Hanoi</p> <p>+84 918 402 140</p> <p>service@vn.sungrowpower.com</p>	<p>Belgium, Netherlands and Luxembourg (Benelus)</p> <p>+31 853 018 234 (only for Netherlands)</p> <p>service@sungrow-emea.com</p>
<p>Poland</p> <p>+48 221530484</p> <p>service@sungrow-emea.com</p>	-

SUNGROW

Sungrow Power Supply Co., Ltd.

Add: No.1699 Xiyou Rd.,New & High Technology Industrial Development Zone, 230088,Hefei, P. R. China.

Web: www.sungrowpower.com

E-mail: info@sungrow.cn

Tel: +86 551 6532 7834 / 6532 7845