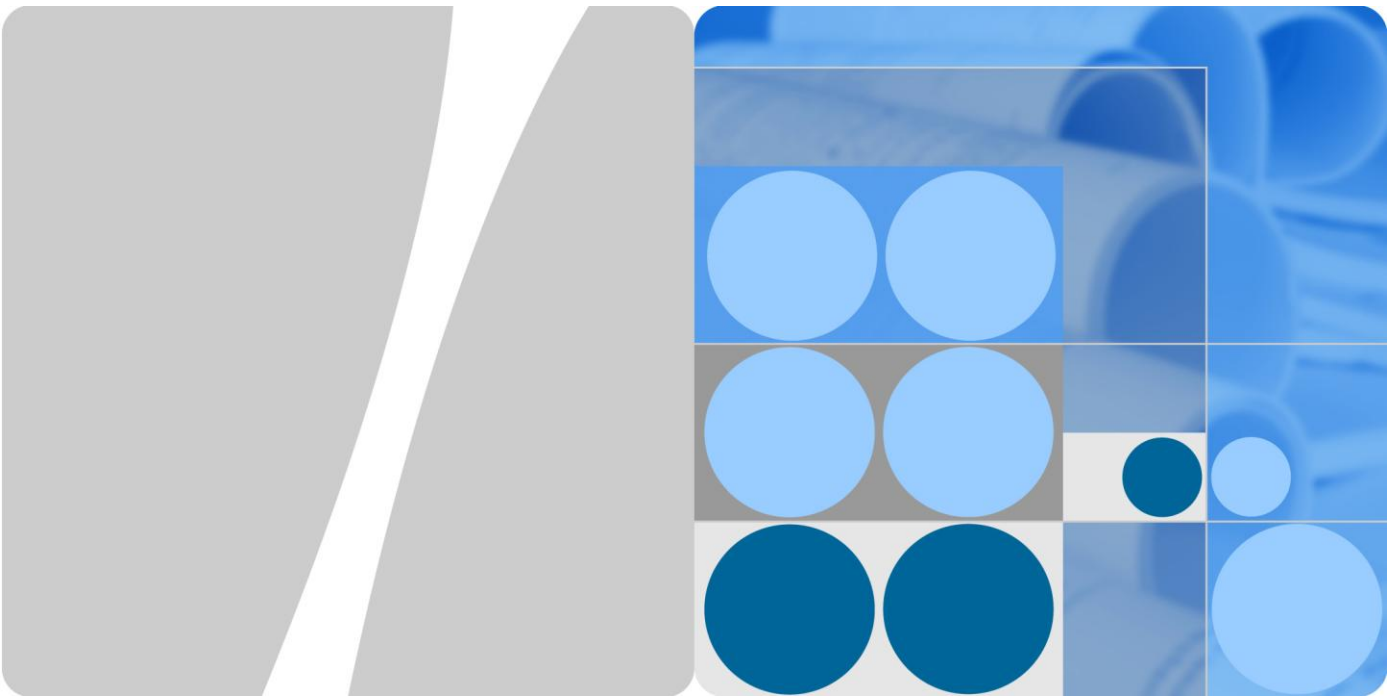


SmartLogger1000

Quick Installation Guide

Issue 08

Date 2015-09-10

HUAWEI TECHNOLOGIES CO., LTD.

Copyright © Huawei Technologies Co., Ltd. 2015. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions

and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

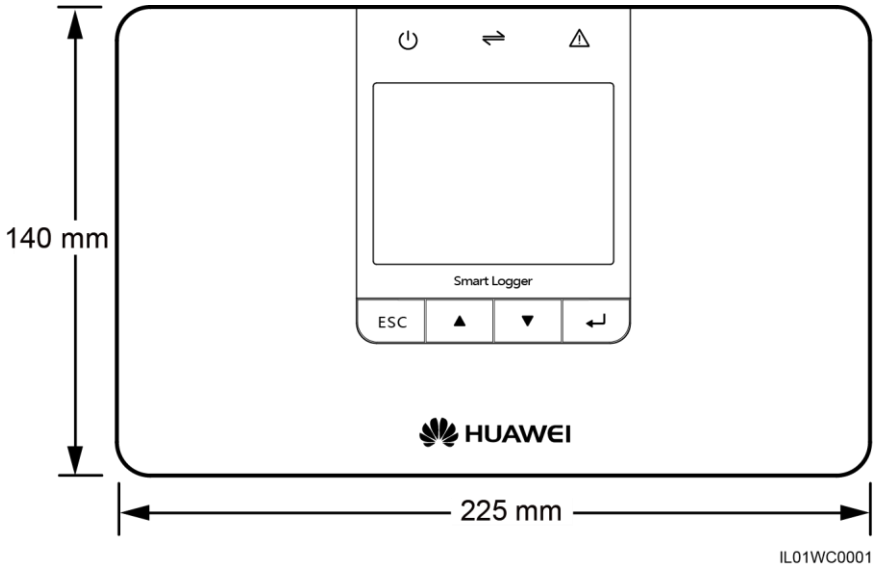
Website: http://www.huawei.com

Email: support@huawei.com

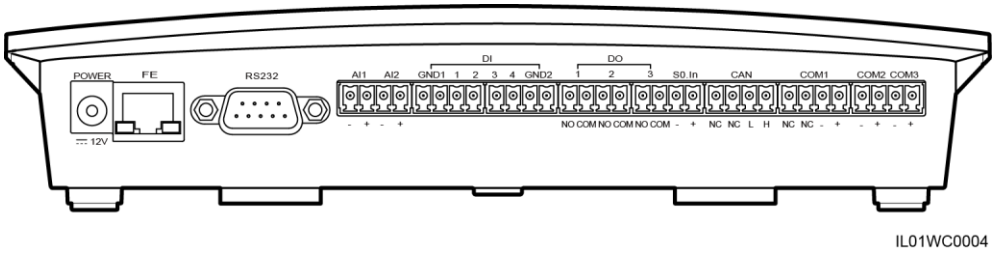
The quick installation guide introduces the SmartLogger1000 (**SmartLogger**) in terms of installation, electrical connections, and initialization parameters. For more detailed information, see the related user manual. You can download the latest documents from **http://support.huawei.com**.

Appearance

- Front View of the Shell



- Bottom of the Shell



The following table describes functions of each port of the SmartLogger, as shown in Table 1-1.

Table 1-1 Port description

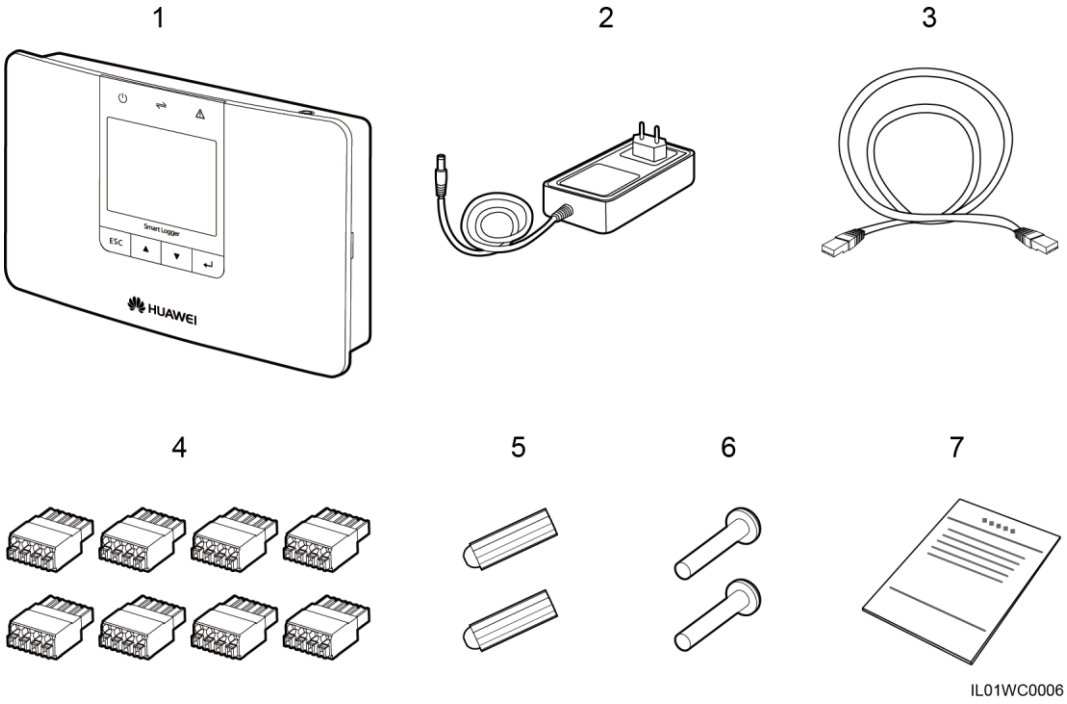
Port	Function	Description
POWER	Power supply	12 V DC.
FE	Ethernet	Connects to PC or routers.
RS232	RS232	Connects to external RS232 devices (reserved).
AI	Analog input	12 V current-type signal (reserved).

Copyright © Huawei Technologies Co., Ltd.

Port	Function	Description
DI	Digital parameter input	Connects to the power grid scheduling signal controlled by dry contacts.
DO	Digital parameter output	Relay output.
S0.In	Connects to pulse output power meters	Reserved.
CAN	CAN	Reserved.
COM1-COM3	RS485	Supports three RS485 ports and connects to inverters and environmental monitoring instruments.

Checking Deliverables

After unpacking the SmartLogger, check whether deliverables are intact and complete. If any damage is found or any component is missing, contact the dealer.



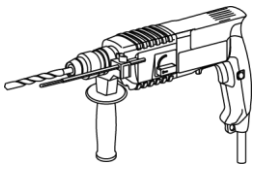
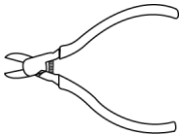
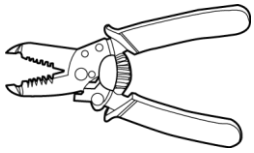
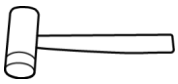
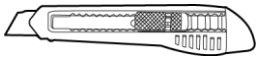
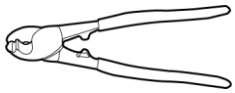
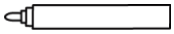
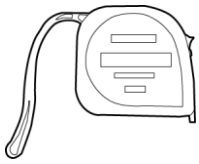
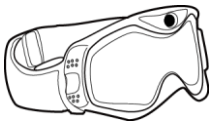
No.	Quantity	Description
1	1	SmartLogger
2	1	Adapter (adapter type depends on the country specified in the order)
3	1	Network cable (2.2 meters long)

Copyright © Huawei Technologies Co., Ltd.

No.	Quantity	Description
4	8	Terminal block
5	2	Expansion tube
6	2	Screws (used to secure the SmartLogger to the wall)
7	1	Auxiliary document

Tools

Prepare tools required for installation and electrical connections.

Hammer drill 	Diagonal pliers 	Wire stripper 
Rubber mallet 	Guarded blade utility knife 	Cable cutter 
Vacuum cleaner	Marker 	Measuring tape 
Plumb line	Safety goggles 	Anti-dust respirator

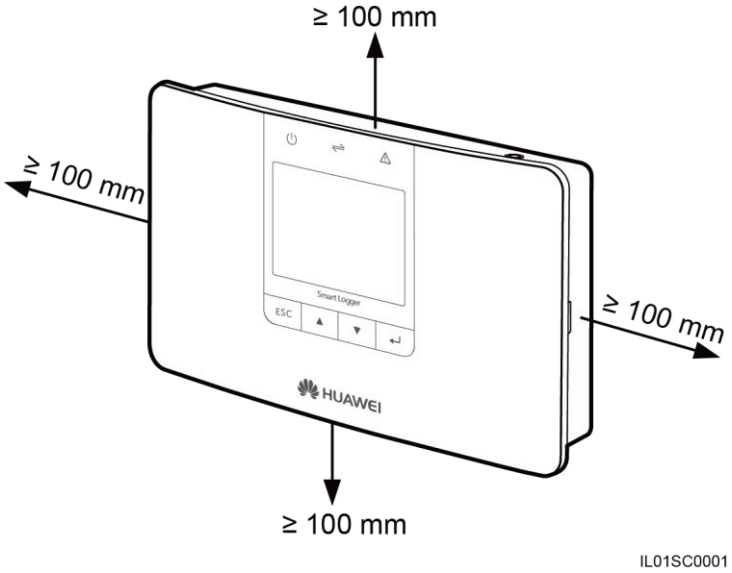
Determining the Installation Position

Comply with the following requirements when determining the installation position for the SmartLogger:

- Do not install the SmartLogger outdoors because it is protected to IP20.
- Install the SmartLogger in a dry environment to protect it against water.
- The ambient temperature should range from -20 ℃ to +60 ℃.
- The communication distance for the RS485 port should be less than 1000 m and for the Ethernet less than 100 m.

Copyright © Huawei Technologies Co., Ltd.

- Install the SmartLogger at an appropriate height for the user's ease to view and operate on the monitoring panel.
- Do not place the SmartLogger upside down. Ensure that the heat dissipation holes are facing upwards, preventing dust from entering the SmartLogger and reducing its service life.
- If you install the SmartLogger on a wall or along a guide rail, the area for connecting cables should be downwards.
- The SmartLogger is at least 100 mm away from the neighboring objects on both sides, the top side, and the bottom side respectively.



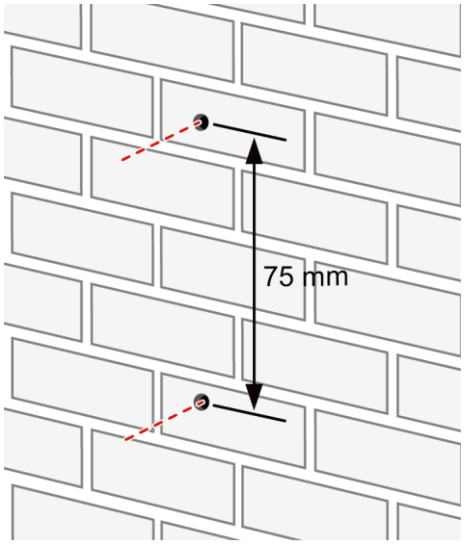
Installing the SmartLogger on a Desk

1. Take the SmartLogger out of the package.
2. Place the SmartLogger on a horizontal desk.

Mounting the SmartLogger on a Wall

1. The following figure shows the position of the installation holes. Use a plumb line to ensure that the centric line of the hole is vertical to the ground.

Copyright © Huawei Technologies Co., Ltd.



2. Drill holes by using a hammer drill and install expansion tubes and screws.

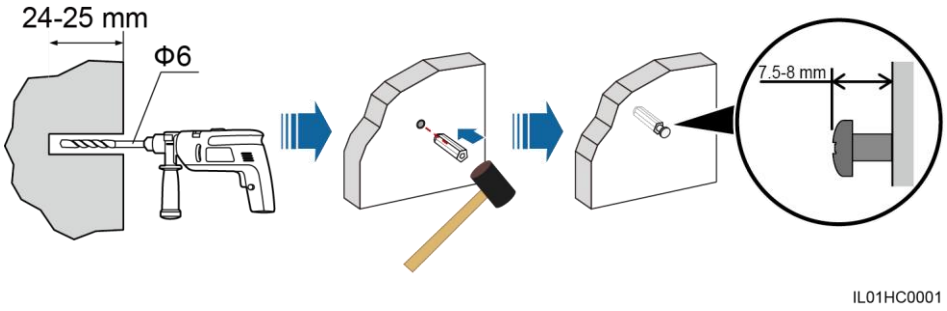


Table 1-2 describes the operations shown in the preceding figure.

Table 1-2 Drilling holes and installing expansion tubes and screws

Step	Operation
1	Put a hammer drill with a Φ6 drill bit on a marked hole position perpendicularly against the wall and drill holes with a depth of 24-25 mm.
2	Vertically insert an expansion bolt into a hole, and knock the expansion bolt completely into the hole using a rubber mallet.
3	Insert the screw into the expansion tube until the screw heads are 7.5 mm to 8 mm away from the wall.

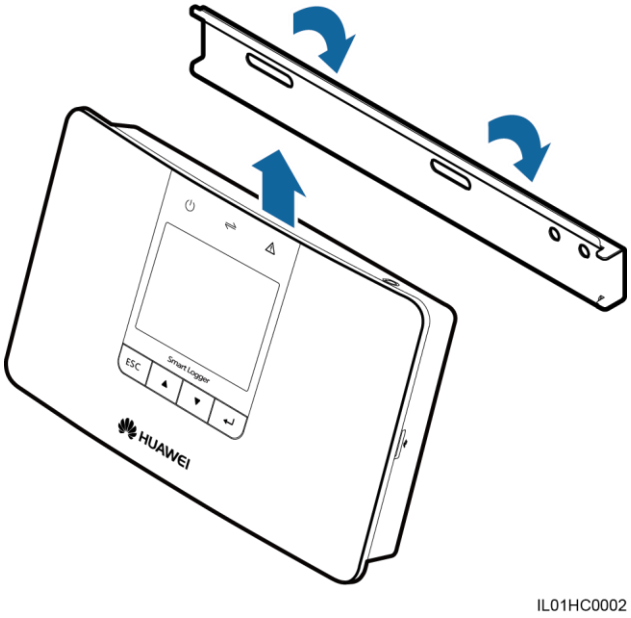
3. Hang the SmartLogger onto the secured screws by the mounting holes on the rear of the SmartLogger.

Copyright © Huawei Technologies Co., Ltd.

Install the expansion tubes and screws

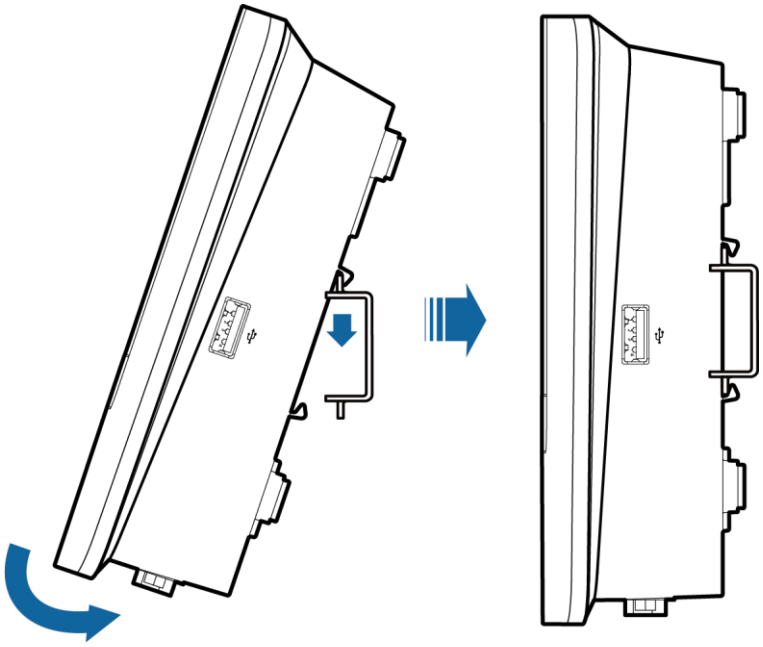
The guide rails are not delivered together with the SmartLogger. If you need to mount the SmartLogger along a guide rail, prepare a 35 mm wide guide rail.

1. Hold both sides of the SmartLogger, keep it parallel with the guide rail, and then tilt it slightly to insert its upper hooks into the guide rail.



IL01HC0002

2. Hold the two lower corners of the SmartLogger, pull it downwards appropriately, and then push it towards the guide rail. When you hear a click sound, the SmartLogger is successfully mounted along the guide rail.

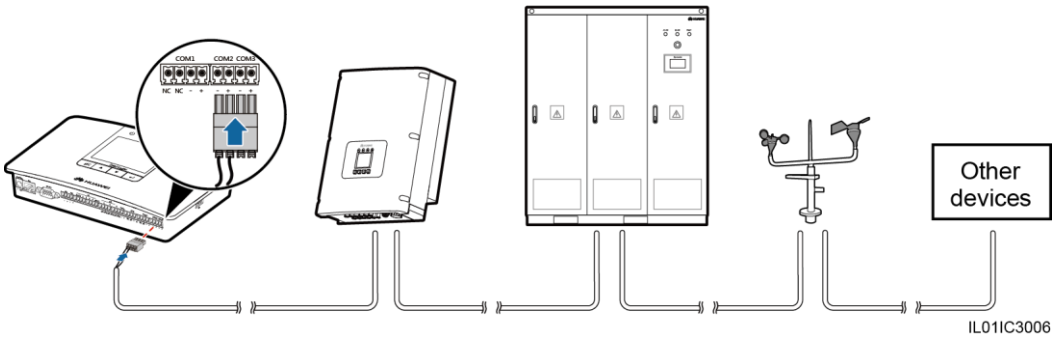


IL01HC0003

Copyright © Huawei Technologies Co., Ltd.

Electrical Connections

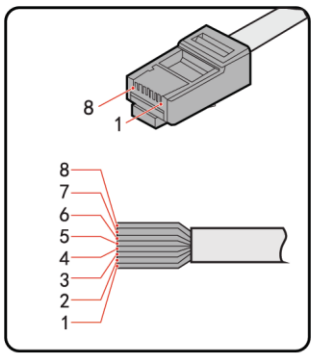
- This section describes how to connect the SUN2000, SUN8000, an EMI, and other devices to the COM port of the SmartLogger.



NOTICE

- The other devices can be the power meter, AC combiner box, PLC, PID, or third-party devices.
- The preceding figure shows only devices such as the SUN2000, SUN8000, EMI, and power meter, which need to be connected to the COM ports of the SmartLogger. The device connection sequence may be different from the sequence shown in the figure.

  - The RS485 communications port for the SUN2000 is an RJ45 port, which is connected over a crystal plug.

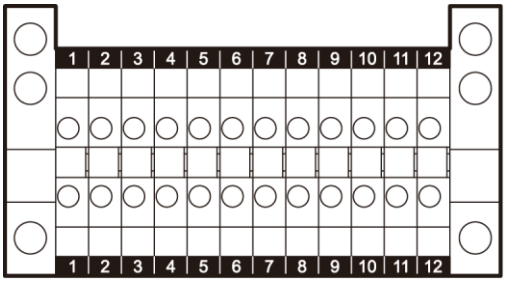


No.	Color	Function
1	White and orange	RS485A, RS485 differential signal +
2	Orange	RS485B, RS485 differential signal -
3	White and green	PGND
4	Blue	RS485A, RS485 differential signal +
5	White and blue	RS485B, RS485 differential signal -
6	Green	PGND
7	White and brown	PGND
8	Brown	PGND

IL01IC3015

  - The following figure shows the RS485 wiring terminals of the SUN8000.

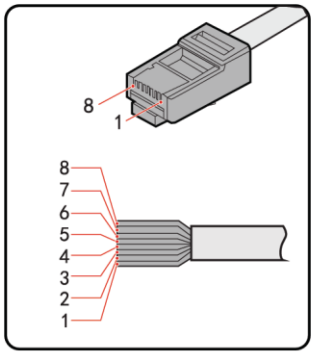
Copyright © Huawei Technologies Co., Ltd.



No.	Function	Description
07	Reserved	Reserved
08	Reserved	Reserved
09	N485A_OUT	RS485A, RS485 differential signal +
10	N485A_IN	RS485A, RS485 differential signal +
11	N485B_OUT	RS485B, RS485 differential signal -
12	N485B_IN	RS485B, RS485 differential signal -

IL01IC3016

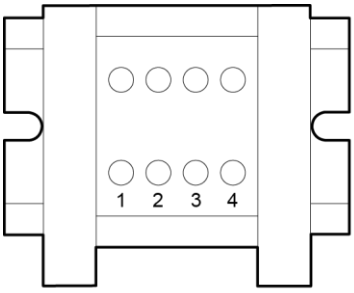
- The RS485 communications port for the PLC is an RJ45 port, which is connected over a crystal plug.



No.	Color	Function
1	White and orange	Reserved
2	Orange	Reserved
3	White and green	12 Vin, power
4	Blue	RS485A, RS485 differential signal +
5	White and blue	RS485B, RS485 differential signal -
6	Green	Reserved
7	White and brown	Reserved
8	Brown	PGND

IL01IC3017

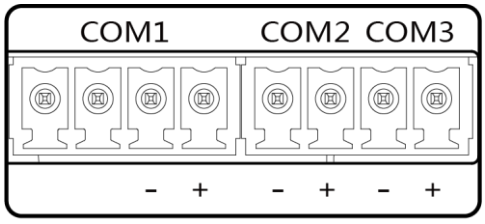
- The RS485 terminals for the AC combiner box provided by Huawei are shown in the following figure.



No.	Function	Description
1	RS485A	RS485A，RS485 differential signal +
2	RS485B	RS485B，RS485 differential signal -
3	RS485A	RS485A，RS485 differential signal +
4	RS485B	RS485B，RS485 differential signal -

IL01IC3019

- There are three COM ports for the RS485 communications of the SmartLogger: COM1, COM2, and COM3.



IL01WC0007

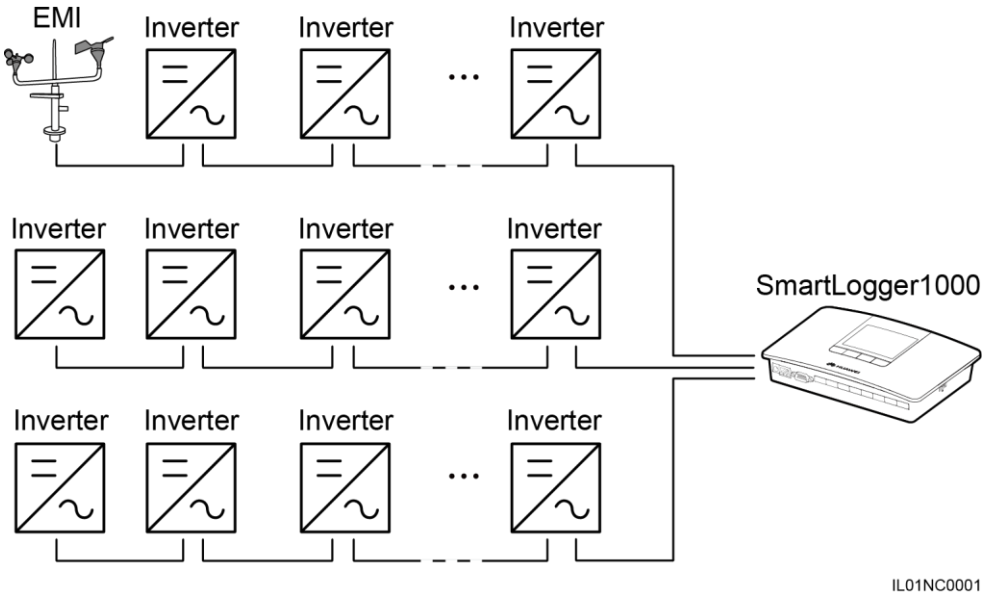
Copyright © Huawei Technologies Co., Ltd.

Table 1-3 describes the definition of the COM ports.

Table 1-3 COM port description

Port	Identifier	Function
COM1 port	NC	NC: Reserved
	NC	NC: Reserved
	-	-: RS485 differential signal -
	+	+: RS485 differential signal +
COM2 port	-	-: RS485 differential signal -
	+	+: RS485 differential signal +
COM3 port	-	-: RS485 differential signal -
	+	+: RS485 differential signal +

- Connect the SmartLogger to multiple inverters in daisy chain, that is, first connect the RS485 OUT port of one inverter to the RS485 IN port of another inverter and then connect the RS485 port of the first inverter to the COM port of the SmartLogger.



NOTE

- Each SmartLogger can connect to a maximum of 80 devices.
- If an environmental monitoring instrument is to be connected, connect it at the end of the chain. Set the address for the environmental monitoring instrument to 1.
- Set **Match Resistance** of every inverter at the end of the daisy chain to **Connect** in **Comm. Param.**. For details about this, see the *SUN2000 (8KTL-28KTL) User Manual*.
- The addresses for all devices in the daisy chain should be within the searching scope set in the SmartLogger and they must differ from each other. Otherwise, the communications would fail between the device and the SmartLogger.

Copyright © Huawei Technologies Co., Ltd.

- **Baud rate** of all the devices in one daisy chain should stay consistent with those of the SmartLogger.

Connecting the SmartLogger to a Ripple Control Receiver

In Germany and some European areas, a ripple control receiver is used to convert a power grid scheduling signal to a dry contact signal, in which a dry contact is required.

The following figure shows the DI ports on the SmartLogger.

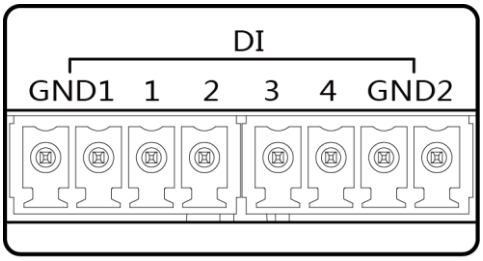
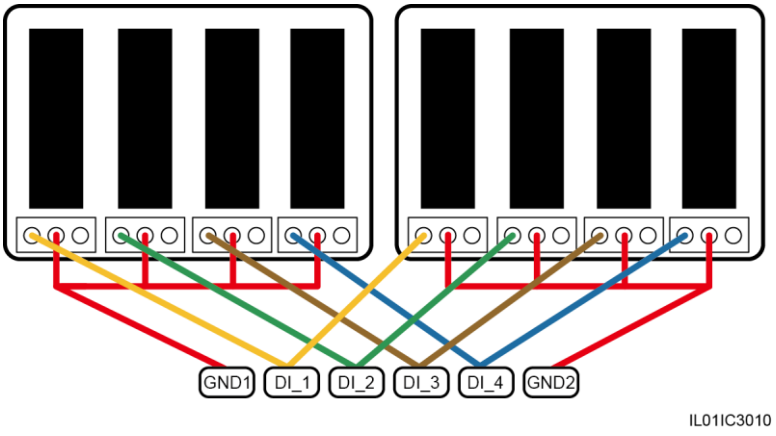


Table 1-4 describes the definition of the DI ports.

Table 1-4 DI port description

Port	Functions
GND1	Active power reduction
1	DI_1
2	DI_2
3	DI_3
4	DI_4
GND2	Reactive power compensation

The following figure shows how to connect the Smart Logger to the ripple control receiver.



Copyright © Huawei Technologies Co., Ltd.

NOTICE

When active power remote control and reactive power remote control are supported, only one out of the four outputs of each ripple control receiver can be closed.

Power-on Process

Power on the devices in the following sequence: Inverter > SmartLogger > Monitoring terminal.

NOTE

The monitoring terminal refers to a PC where the NetEco1000 is installed.

Step	Operation
1	Check and ensure all cables are correctly connected and secured before powering on the SmartLogger.
2	Start the inverter and correctly set the communications parameters (including **Address**, and **Baudrate**) on the monitoring panel. For details about how to set the communications parameters, refer to **Setting Communications Parameters** in the *SUN2000 (8KTL-28KTL) User Manual* and *SUN8000-500KTL User Manual*. **NOTE** The RS485 addresses of inverters are set the same from factory. The SmartLogger can automatically assign new addresses to inverters, and no local operations are required. For details, see *SmartLogger1000 User Manual*.
3	Connect the output terminal of the power adapter for the SmartLogger to the power port **POWER** and the input terminal to the AC socket.
4	Set the search address segment and baud rate for the RS485 port on the SmartLogger monitoring panel. If the SmartLogger is powered on for the first time, set the search address segment and baud rate for the RS485 port in the Wizard. If it is not powered on for the first time, set the parameters in the **Comm. Param.** under the **Settings**.
5	Wait for the SmartLogger to search for inverters. After the search is completed, the SmartLogger automatically connects to all inverters. Alternatively, you can skip this operation and manually search for, add, or delete inverters in follow-up operations.
6	(Optional) Add the EMI, power meter, PLC or third-party devices manually. For details, see Managing Devices. **NOTICE** Before you add the EMI or power meter, log in to the WebUI and set related parameters correctly. Before you add the third-party devices, import the correct configuration file. For details, see *SmartLogger1000 User Manual*.
7	(Optional) Start the monitoring terminal and set Ethernet and NetEco parameters on the SmartLogger.

Copyright © Huawei Technologies Co., Ltd.

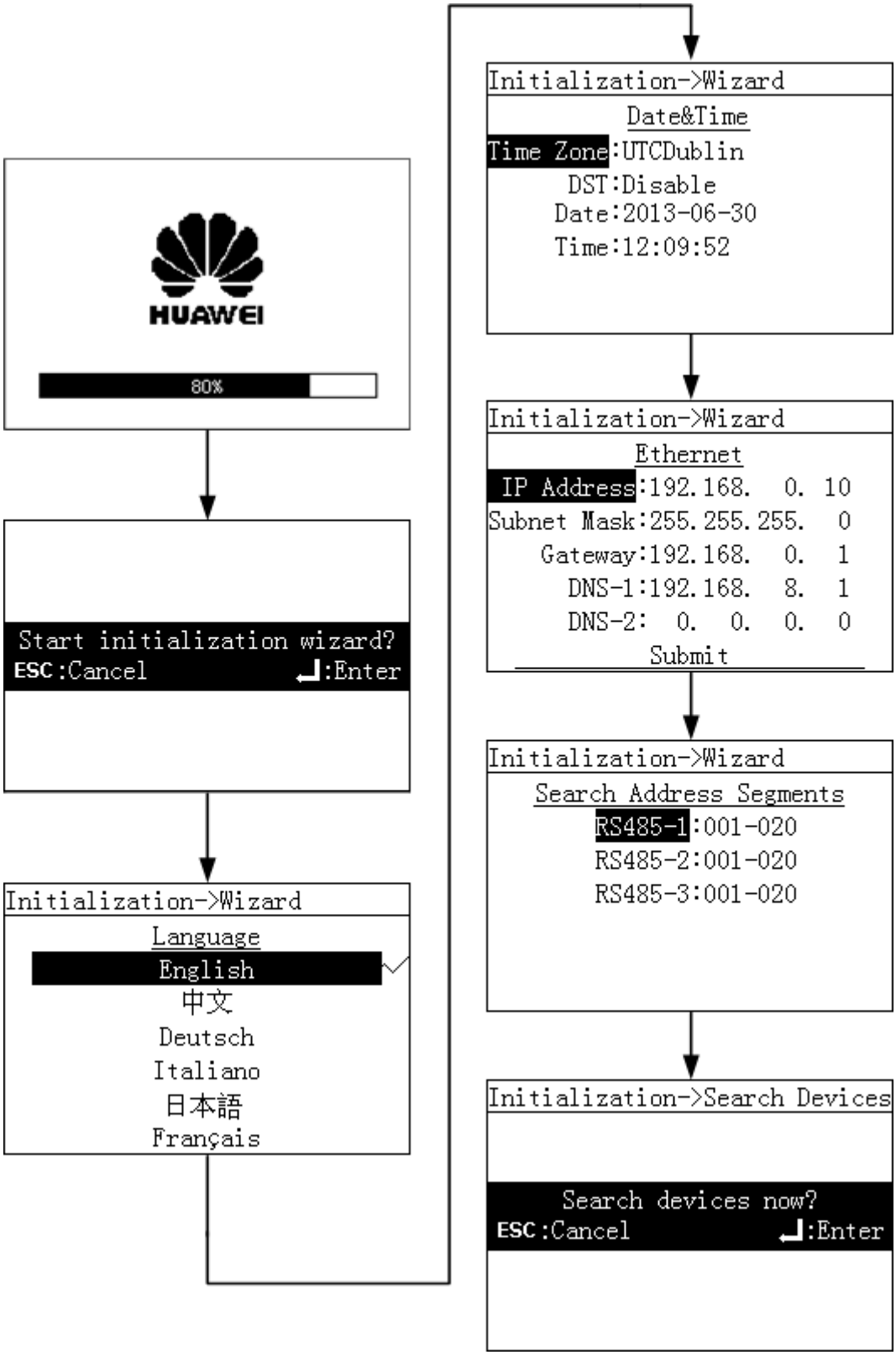
NOTICE

- When starting the SmartLogger, use only the 12 V power adapter shipped along with the shell. If adapters of other models are used, the SmartLogger may be damaged.
- Log into the SmartLogger on the monitoring panel. When you log in to the **Settings** page or **Maintenance** page, an identity authentication is required. The initial password is *000001*. Change the password as soon as possible to ensure the security of the user account. For details about how to change the password, refer to *SmartLogger1000 User Manual*.

Setting the Initialization Parameters for the SmartLogger

The following figure shows how to set the initialization parameters for the SmartLogger.

Copyright © Huawei Technologies Co., Ltd.



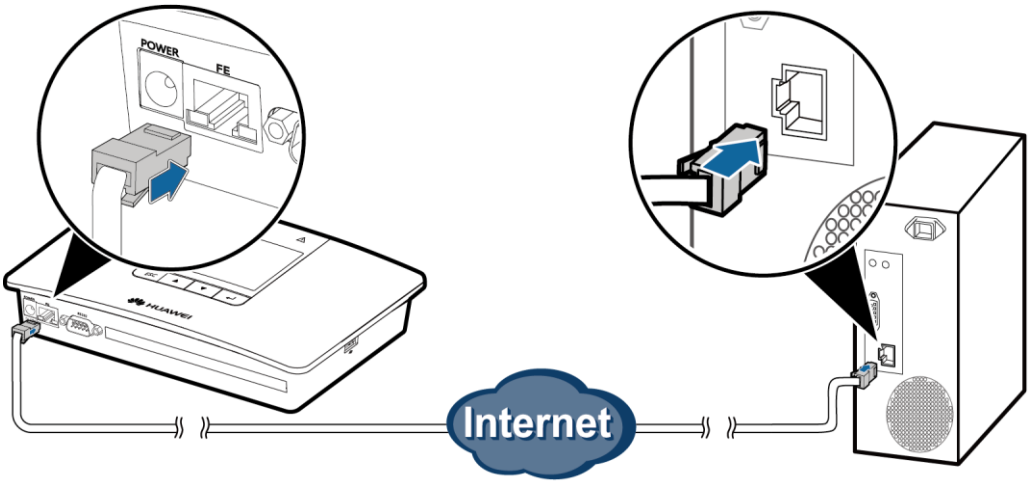
NOTE

Set the IP address of the SmartLogger based on the uniform rules for the power stations to avoid conflicts with the adresses of other devices.

Copyright © Huawei Technologies Co., Ltd.

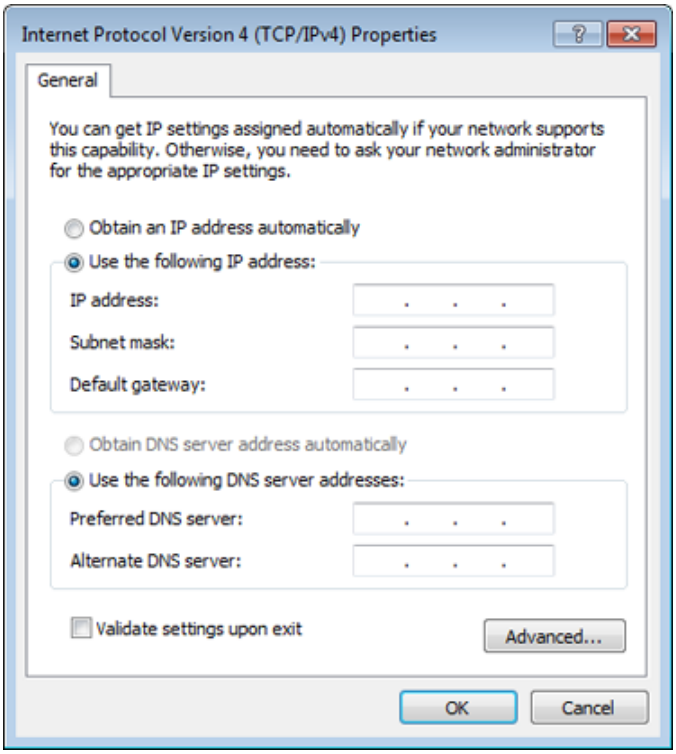
Connect a PC to the SmartLogger

You can connect a PC to the SmartLogger by a network cable or through network devices, such as a hub or a router.



1. When setting the Internet protocol, set the IP addresses of the PC and the SmartLogger in the same network segment.

   For example, if the IP address for the SmartLogger is 192.168.0.10, the IP address for the PC can be 192.168.0.11. The subnet mask and the gateway of the PC should stay consistent with those of the SmartLogger.



2. Open the Internet Explorer or Firefox browser, enter **https://XX.XX.XX.XX**, and press **Enter** to log in to the embedded WebUI.

   XX.XX.XX.XX indicates the SmartLogger IP address. For example, enter **https://192.168.0.10**.

Copyright © Huawei Technologies Co., Ltd.