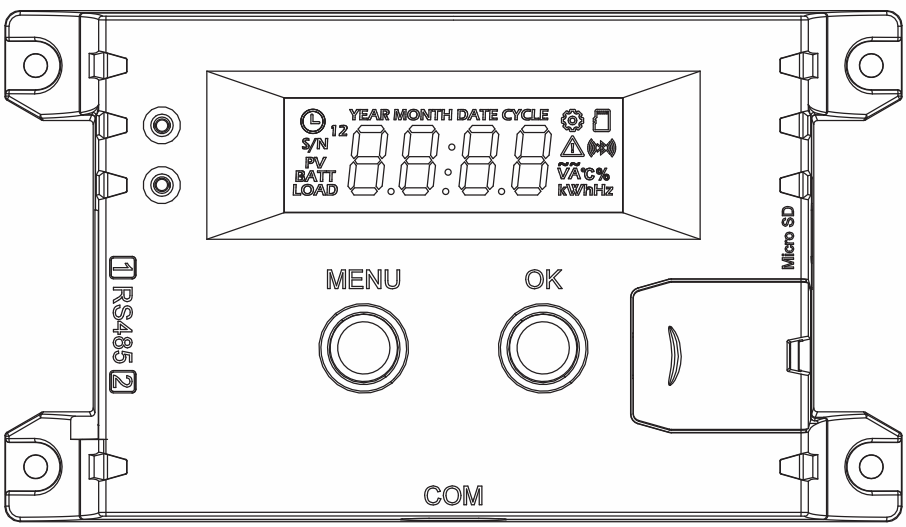
Data Logger

User manual



User_Cyber-DLog series _PD
ISO9001:2015
Subiect to change without notice!

Contents

1.Product safety instructions

■ Thank you for choosing our data logging device. Please read the instructions careful ly before using the product.

■ Please keep this user manual for future reference.

■ When receiving the product, please check whether the goods ore damaged during transportation. If any problem,s found, please contact ourcompany immediately.

■ Please read all instructions and precautions contained inthis manual before installation to ensure that the product can work properly.

■ Do not expose this product to rain, dust, vibration, anycorrosion agents or strong electromagnetic sources.

■ Do not open the housing of this product for any maintenace inside.

2.Technical parameters

Model	DLog-2
Applicable products	Solar controller and inverters with RS485 port
Input	5VDC(USB)、 8~65V(Solar controller communication interface power supply)、5VDC(Inverter communication interface power supply)
LCD backlight	Yes
Battery type	CR1220
Working environment	-20℃ ~ +65℃
Storing environment	-20℃ ~ +80℃
Dimensions	68.4*120*22.5mm
Net weight	85g

3.Product overview

DLog-2 is a data logging unit that can be connected to the sola charge controller to display and store the op erating values.
The display unit is simple in appearance and operation. The LCD screen displays system p arameters and various fault alarm information in real time for monitoring the operation status of the a complete system.

Characteristics:

- LCD screen, real-time display of the current system time,as well as PV, battery, load related parameters of the controller,and the output voltage ,output power of the inverter.

- Built in 1 GB memory card/socket, which can automatically save the collected operating data of the connected controller.Memory card supports maximum expansion up to 4GB.

- Automatically read the information of the connected solar controller and store it in the memory. The logging period can be set as required.

- The ID code identifying each Dlog is unique.The data of the solar controller is saved in the CTRLDATA folder on the memory card CSV, The data of the inverter is saved in the INVDATA file on the memory card CSV.

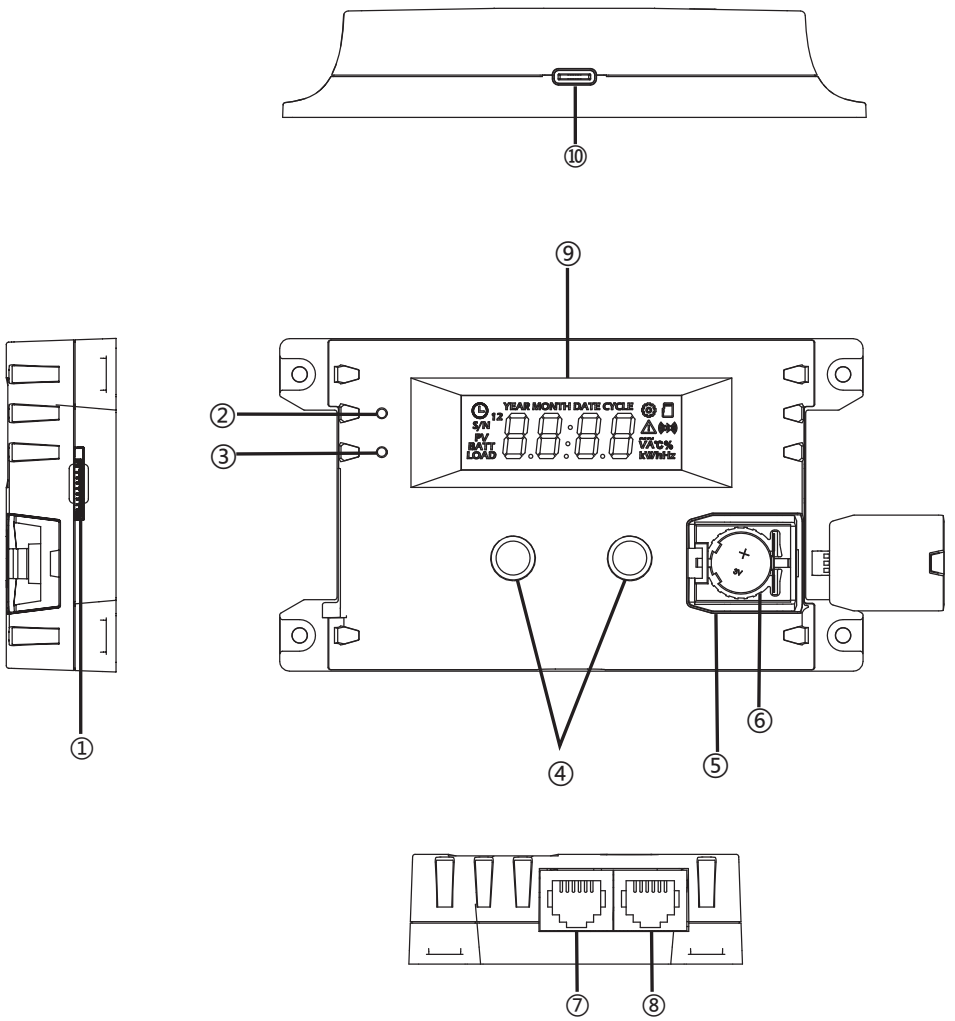
- The first time the Data Logger is switched on, the display will automatically synchronize to the connected charge controller, considering a 12:00 hour day, being the recording time continuously updated. (The connection inverter does not have automatic timing function, and the time set by DLog shall prevail)

- Button type cell battery is installed in the Data Logger.Any possible system power failure will not affect Data Logger actual recording time.

- Fault code display.Can be checked by pressing the key to display any fault or alarm information.

- Design of RJ11+RJ45 Dual Communication Interface.

4.Product appearance



①	Slot (micro SD/TF memory card)	⑥	Battery(CRl220)
②	Green LED indicator	⑦	RS485 communicatior interface1(RJ45)
③	Red LED indicator	⑧	RS485 communicatior interface2(RJ11)
④	Keys	⑨	LCD display
⑤	Battery holder	⑩	Type-C interface

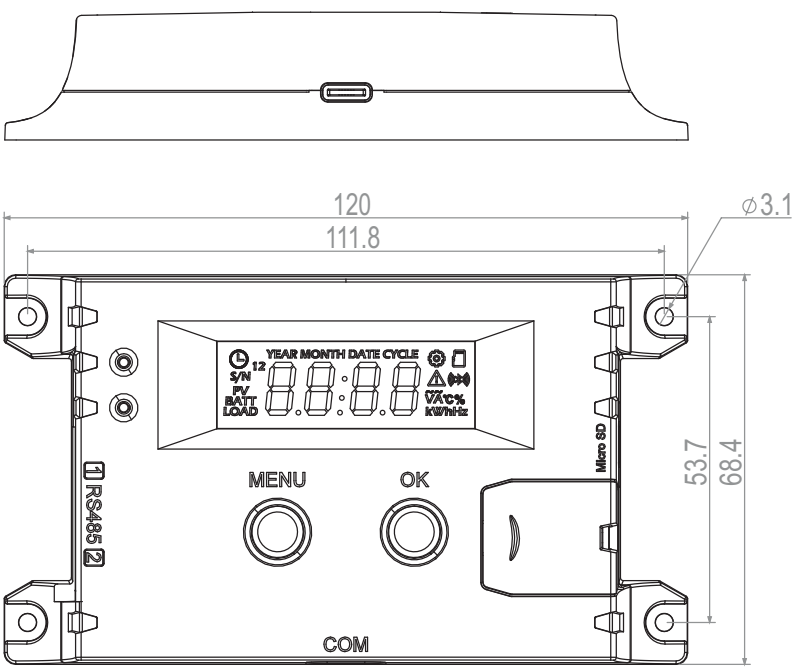
5. Optional and standard accessories

Item	Name	Quantity	Purpose
Standard acce-ssories	RS485 communi-cation	1	Connect the RJ11 interface of the controller
	memory card	1	Storage data (1G)*
	card reader	1	Read data
	RS485 communi-cation	1	Connect the RJ45 interface of the inverter
Optional	Type-C communi-cation	1	Conncet to PC
	Battery (CR1220)	1	For keeping real time

Note: If stored once every minute, a 1GB storage card can store data for 18 years.

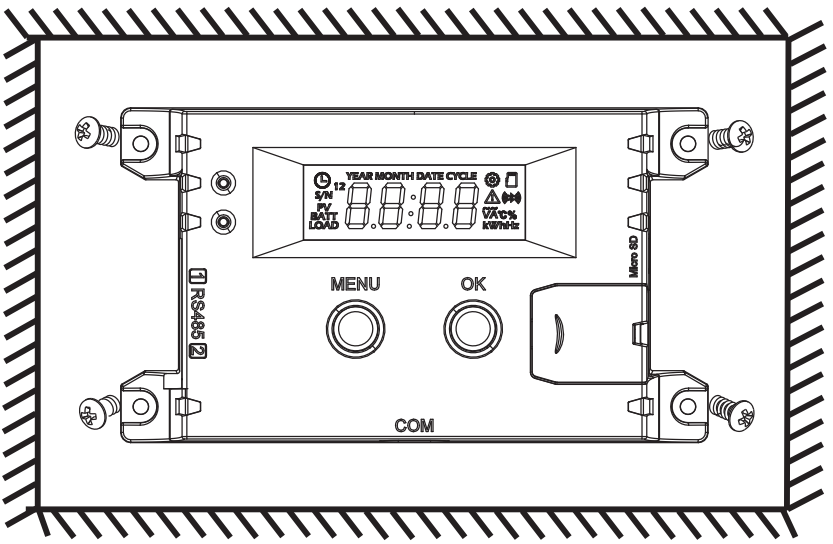
Warning: Power on insertion and removal of memory cards is not allowed!

6. Product dimensions(Unit: mm)



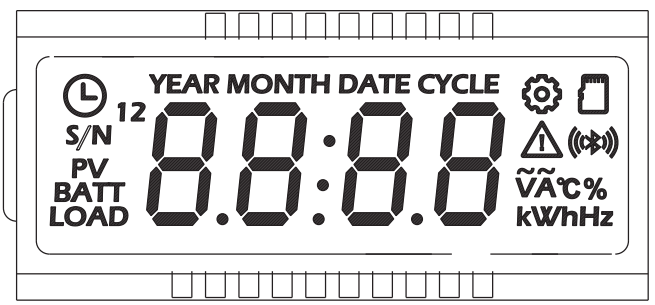
7. Installation instructions

Before installation, please mind that the Data Logger is a non waterproof device. For affixing the device, please mark 4 mounting holes on the mounting surface and attach it with the 4 screws.

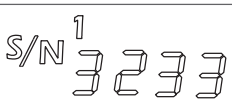
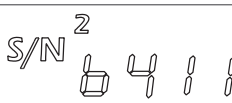
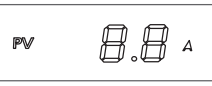
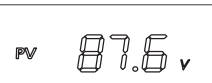
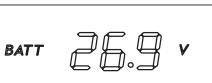
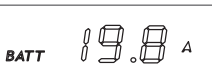
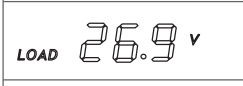
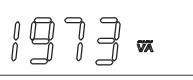
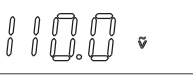


8.User interface description

8.1 LCD display



Item	Icon/Display	Indication
Equipment parameters	YEAR 2022	Current year(adjustable)
	MONTH DATE 12.8	Current month and date (adjustable)
	18:22	Current time(adjustable)

memory card		TF card display (icon flashes twice when storing data)
Data storage cycle*1		Data storage interval period (adjustable)
ID code 1*2		Device identification code 1 (i.e. the first 4 digits of the device ID)
ID code 2		Device identification code 2 (i.e. the last 4 digits of the device ID)
System parameter		PV current
		PV voltage
		Battery voltage
		Battery current
		Battery temperature
		Load voltage
		Load current
		Inverter output power
		Inverter output voltage
Set up		The current parameters can be set
Error		Fault indication
Unit		Controller voltage unit, volts
		Controller current unit, ampere
		Controller battery temperature unit,centigrade
		Inverter voltage unit, volts
		Inverter output power unit, watts

Note: Some of the displayed units/iconshave currently no application.

*1.Adjustable setting:1 - 30 minutes (default: save every 5 minutes) .

*2.The internal folder name DATA LOGGER NO. column of the TF card matches the display unit ID code, and the DLog-2 ID code is 32336411.

8.2 Key functions and mode settings

Mode	operation
Browse mode	Short press the OK key to browse various parameters.
Static mode	Press the MENU key and the OK key simultaneously to enter the static mode, that is, the current content will than be displayed statically To exit, press MENU and OK simultaneously to return "interface".
Set mode	When browsing various parameters, if the ⚙ icon appears, long press the MENU key to enter the setting mode, press the MENU key to decrease the setting value, press the OK key to increase the setting value, long press MENU to exit the setting or the system will automatically exit after 30 seconds.

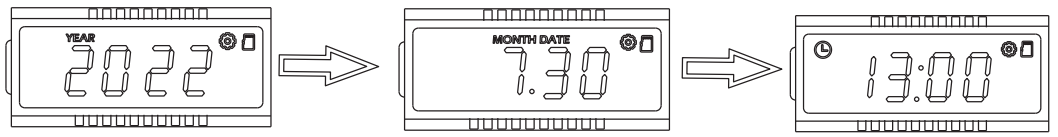
8.3 LED Indicators

LED Indicators	Colour	Status	Description
◉	Green	On	Power supply is normal
		Off	No power supply
◉	Red	Flash	Warning message
		Off	Normal

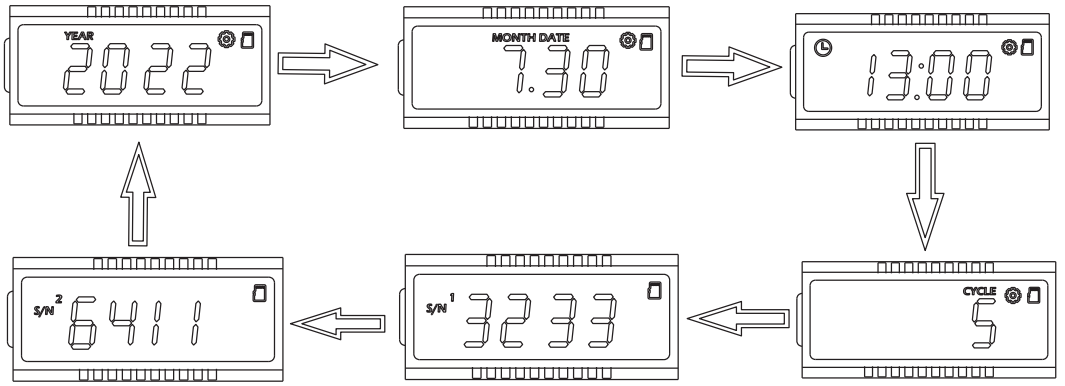
9.System parameter interface

9.1 System paramete

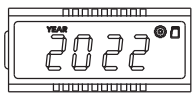
By default, the system enters the parameter interface upon startup, and the LCD screen automatically scrolls to display the current time information.



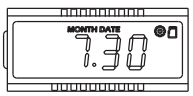
Short press the OK button to quickly view all system parameters.



Parameter setting operation



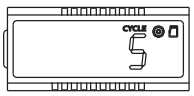
To indicate the current year, long press the MENU key, ⚙ flash, and short press the MENU or Ok keys to adjust the year.



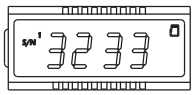
Indicates the current date, long press the MENU button, ⚙ flash, short press MENU.The OK button can adjust the date.

Indicates the current time, long press the MENU button, ⚙ flash, short press the MENU and OK buttons to adjust the current time.

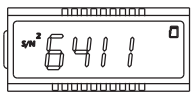
*At 12:00 noon, the data storage device is synchronized with the connected solar controller and automatically updated to the newer time of the two.



It means storing data every 5 minutes. Press and hold the MENU button ⚙ flash and adjust the current number of times. It can be set from 1 to 30 minutes. If data is stored once per minute, a 1GB memory card can store it for 18 years.



Indicates device identification code 1 (i.e. the first 4 digits of the device ID), and also indicates that the first 4 digits of the stored internal file are 3233.



Indicates device identification code 2 (i.e. the last 4 digits of the device ID), and also indicates that the last 4 digits of the stored internal file name are 6411.

Current identification code and memory card CTRLDATA The data in the DATA LOGGER NO. column of the CVS/INVDATA.CVS file is consistent.

The TF card will automatically create a CTRL folder for storing controller data or an CONVERTER folder for storing inverter data based on the current connected device type. The controller data is stored in the CTRLDATA folder CVS file. Inverter data exists INVDATA in the INVERTER folder CVS file. Usually opened in WORD or NOTE, EXCEL.

The controller stores the following data:

Category	Content
System parameter	Date, time, SN number
PV parameters	PV voltage、current、power
Battery parameters	Battery voltage、current、power、temperature
Load parameters	Load voltage、current、power

Other	Charging capacity of the day
	Discharge capacity of the day
	Accumulated charge
	Accumulated discharge
	Charging periods
	Over times
	Controller internal temperature

The inverter stores the following data:

Category	Content
System parameter	Date, time, SN number
Battery parameters	Battery voltage
Output parameters	Output voltage、current、power
Equipment parameters	Radiator temperature
Other	Accumulated electricity consumption
	Battery status
	Load status
	Short circuit detection
	Over temperature detection

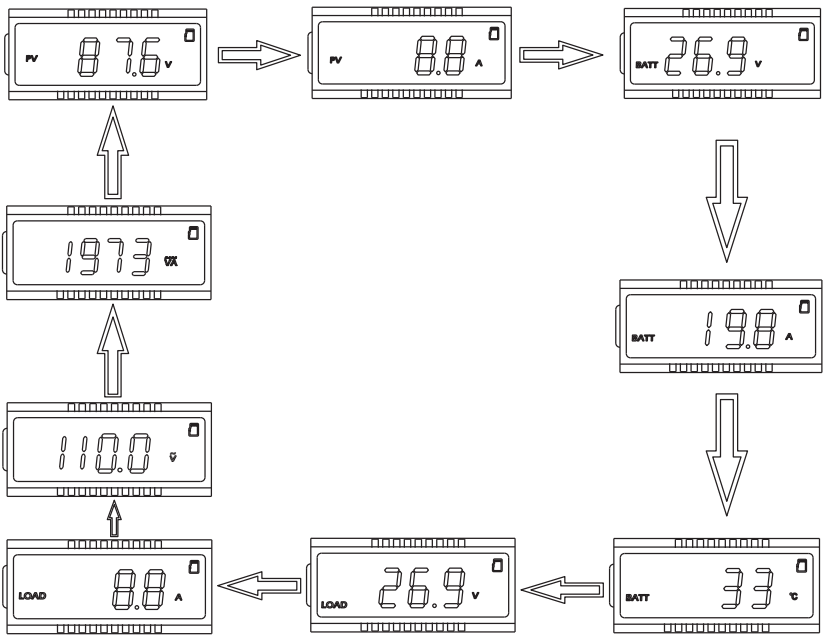
9.2 Buzzer

The data storage contains a buzzer inside, which emits a warning sound when a malfunction occurs.

9.3 Connection controller status

In the system parameter interface, short press the MENU button and then long press the OK button to enter the state.

The LCD screen scrolls to display PV, BATT, and LOAD parameters, and you can also quickly view various parameters by short pressing the OK button.



Press and hold the MENU key again, then press and hold the OK key to exit the state and enter the system parameter interface.

10.Fault information

10.1 Controller fault information description:

Fault	Icon	Fault information description
Short-circuit protection	⚠ E1	Controller in short circuit protection alarm, LCD shows E1
Overcurrent protection	⚠ E2	Controller in overcurrent protection alarm, LCD shows E2
Battery low voltage protection	⚠ E3	Controller in battery low voltage protection alarm, LCD shows E3
Battery over voltage protection	⚠ E4	Controller in battery over voltage protection alarm, LCD shows E4

Over temperature protection	⚠ ℃ E5	Controller in over temperature alarm condition and the LCD shows E5
Communicat-ion failure	⚠ E6	D-Log connection controller communication failure, LCD displays E6
The memory card is full or the format used is not supported	⚠ E7	Only FAT and FAT32 formats are supported. NTFS format not. In FAT32 format, when memory card is full, LCD shows E7
Memory card failure	⚠ E8	Check the memory card, LCD display shows E8
Button cell battery failure	⚠ E9	Button battery is not installed or battery voltage is too low. LCD indicates E9

Note: When there is an error, the buzzer will beep twice with a frequency of 2 seconds.

10.2 Inverter fault information description:

Fault	Icon	Fault information description
Over voltage protection	⚠ E21	Inverter in over voltage protection alarm, LCD shows E21
Low voltage protection	⚠ E22	Inverter in low voltage protection alarm, LCD shows E22
Over temperature protection	⚠ E23	Inverter in over temperature alarm, LCD shows E23
Short-circuit protection	⚠ E24	Inverter in short circuit protection protection alarm, LCD shows E24
Overload protection	⚠ E25	Inverter in overload protection alarm, LCD shows E25

Communicat-ion failure	⚠ E26	D-Log connection controller communication failure, LCD displays E26

Note: When there is an error, the buzzer will beep twice with a frequency of 2 seconds.

11.System application scheme

11.1 Basic application

11.1.1 Advantages

DLog-2 can monitor the operation and fault status of solar controllers or inverter,and store relevant data.

11.1.2 System components

Item	Name	Qty
1	Solar charge controller or inverter	1
2	DLog-2	1
3	RS485 communication cable (standard)	1
4	PV panels, battery, DC loads	Select according to the requirements

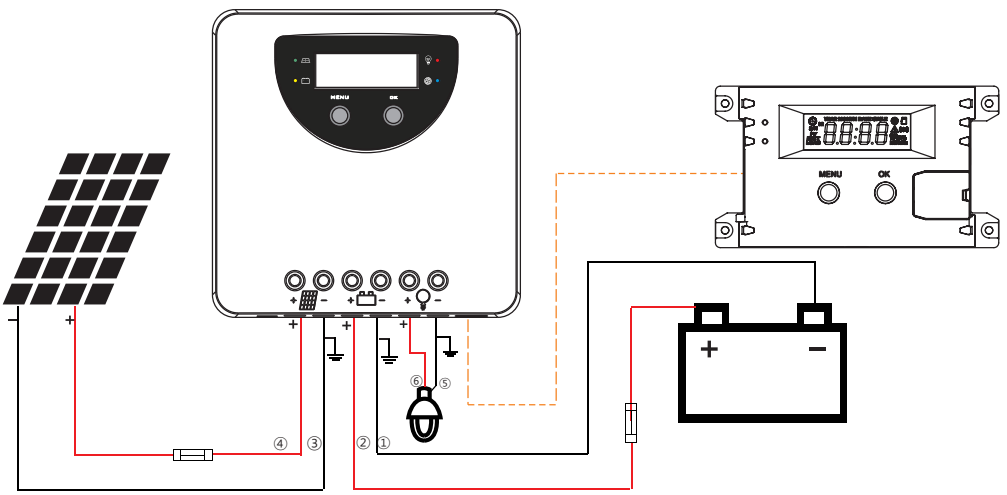
11.1.3 Connection Diagram

■ RS485 communication port of Dlog-2 is connected to the solar charge controller

——— Power cable

——— Power cable

---------- RS485 communication cable

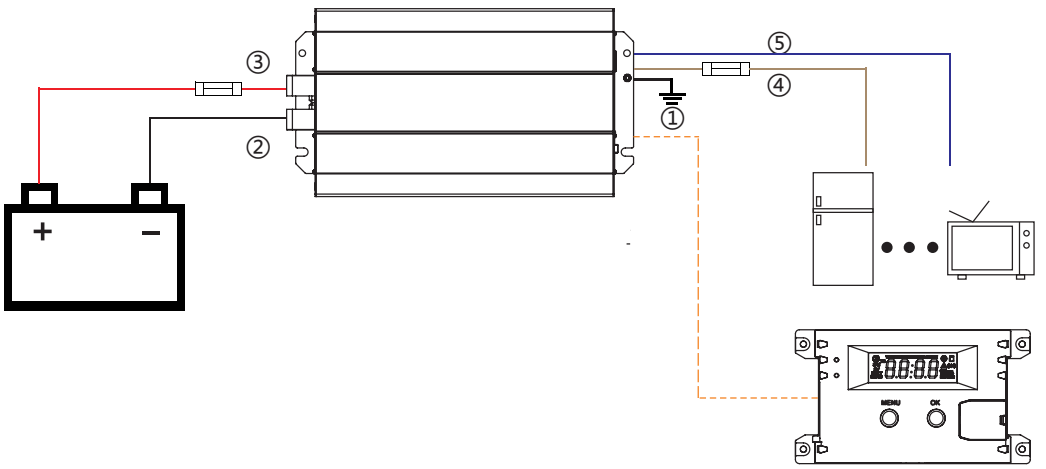


■ RS485 communication port of Dlog-2 is connected to the inverter

——— Power cable

——— Power cable

---------- RS485 communication cable



11.2 Application salutions upgrading

11.2.1 Schematic description

DLog-2 also allows PC software to set parameters and monitor the operating status of the solar charge controller or inverter.

11.2.2 System components

Item	Name	Qty
1	Solar charge controller or inverter	1
2	DLog-2	1
3	RS485 communication cable (standard)	1
4	PC+upper computer software	1
3	PV panels, battery, DC loads	Select according to the requirements
4	Type-C data cable	1

11.2.3 Connection Diagram

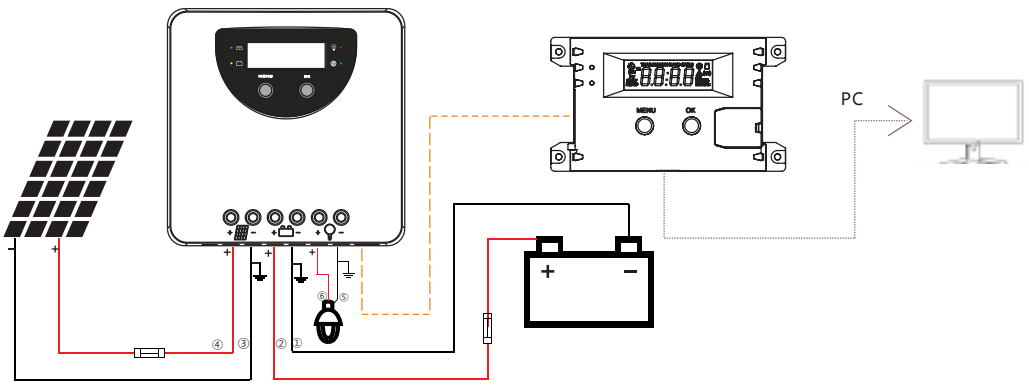
- RS485 communication port of Dlog-2 is connected to the solar charge controller.
- PC can set controller parameters and monitar the system operating status.

Power cable

Power cable

RS485 communication cable

Type-C data cable



- RS485 communication port of Dlog-2 is connected to the inverter.
- PC can set controller parameters and monitar the system operating status.

Power cable

Power cable

RS485 communication cable

Type-C data cable