



# SUNSYNK INVERTER GUIDE

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- + SETTINGS
- + COMMUNICATION
- + TROUBLESHOOTING



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## HUBBLE ENERGY & SUNSYNK

The Sunsynk inverters are fully compatible with the Hubble Cloudlink and full range of batteries. The following guide will assist with the correct battery settings you should use.

For further detailed information ensure you read the manual of the supplied battery regarding setup and installation instructions.

<https://www.hubbleenergy.com/> for the latest version of this manual.

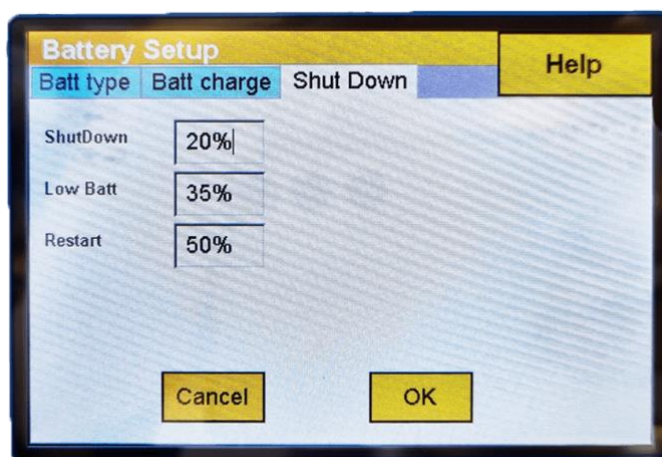
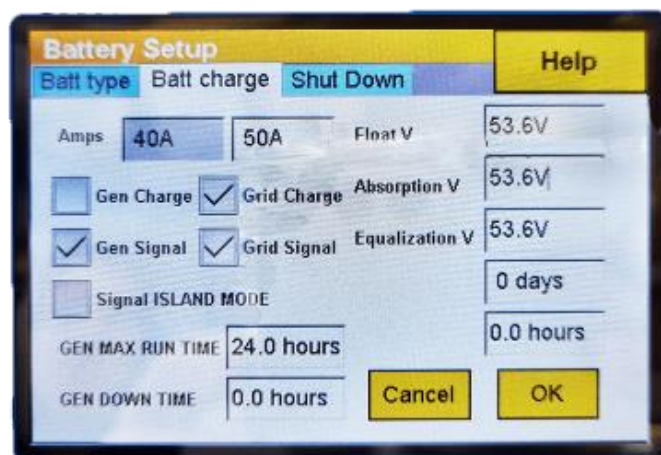
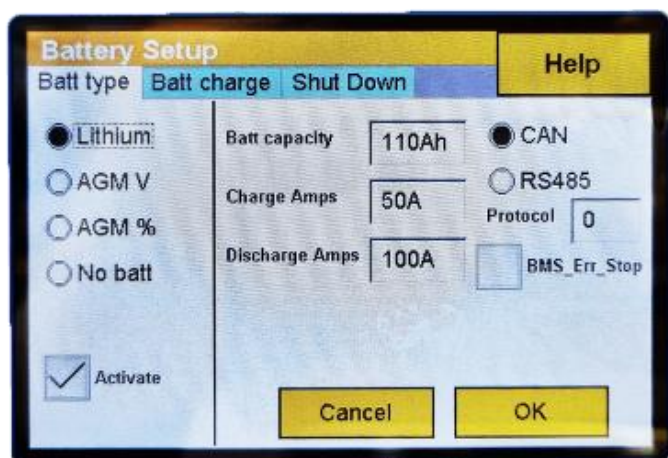
### WARNING

*Working with high-voltage systems is dangerous. Do not attempt to modify your inverter and battery setup unless you are certain you understand the risk. Speak to a qualified electrician if you are unsure.*

# INVERTER SETTINGS

Model	Voltage	Equalised	Float	Cutoff	Charge Amps	Max Discharge Current
S-SERIES	12V	14	14	12	30A	100A
X-100	48V	52.8	52.8	44	30A	100A
X-101	48V	53.8	53.8	44	30A	100A
X-200	36V	41.5	41.5	34	30A	100A
AM-2	48V	53.8	53.8	44	30A	100A
AM-3	48V	53.8	53.8	44	20A	50A
AM-4	24V	29	28.5	22	30A	100A
AM-5	48V	55.2	55.2	47	30A	100A
AM-10	48V	55.2	55.2	47	60A	150A
BLADE	48V	55.2	55.2	47	50A	200A

The below settings are the recommended settings to use for the corresponding Hubble Energy battery, as seen on the Sunsynk display. AC and normal lights should appear green. Shutdown settings under your discretion.



## PIN LAYOUTS & CLOUDLINK

### CLOUDLINK

The battery serial cable will go between the Cloudlink's "S" port (I.E. Serial port) and the battery's serial port (RS232). The BMS CAN cable will go between the Cloudlink's CAN port and the Sunsynk's BMS\_CAN port. The RS485 cable will go between the Cloudlink's MUL (Multi) port and the Sunsynk's BMS\_485 port.

### CLOUDLINK CONFIGURATION

Under the Cloudlink's Device Settings set:

- CAN SPEED to 500k
- CAN MODE to Universal
- CANN CONN. TO Inverter
- RS485/MOD CONN. TO Inverter (Deye/SunSynk)
- SERIAL CONN TO Battery

The quick setup guide describes how to access the device settings. Note the device settings can also be accessed on the Cloudlink Portal, using the "Remote Console" feature, once the Cloudlink is online.

### RJ45 PIN LAYOUTS

The Sunsynk Inverter will connect to the Battery via:

Inverter (CAN Port) to Battery (CAN Port)

Straight RJ45 to RJ45 wire - 1500mm.

Ensure that the clip is pointed away from you when counting the pins.

## SUNSYNK – 5kW / 8kW / 16kW (DUAL PORT)

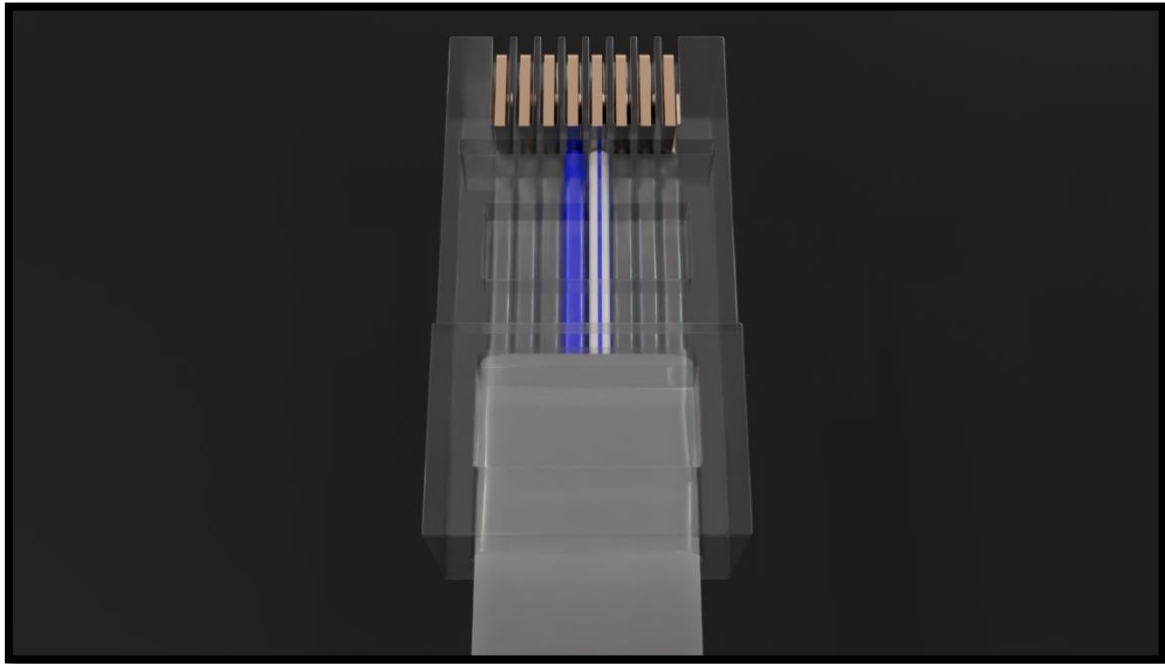
*\*Please note that Cloudlink communication with a DAUL PORT Inverter requires a second RJ45 cable that connects PIN 7 & 8 from Inverter (RS485) to Cloudlink (MUL/RS485).*

Pin	Inverter	X-101/AM-4/AM-2	AM-5/AM-10	Blade	Cloudlink
1	-	-	-	-	-
2	-	GROUND	-	-	-
3	-	-	-	-	-
4	CANH	CANH	CANH	CANH	CANH
5	CANL	CANL	CANL	CANL	CANL
6	-	-	-	-	-
7	-	-	-	-	RS485 A
8	-	-	-	-	RS485 B

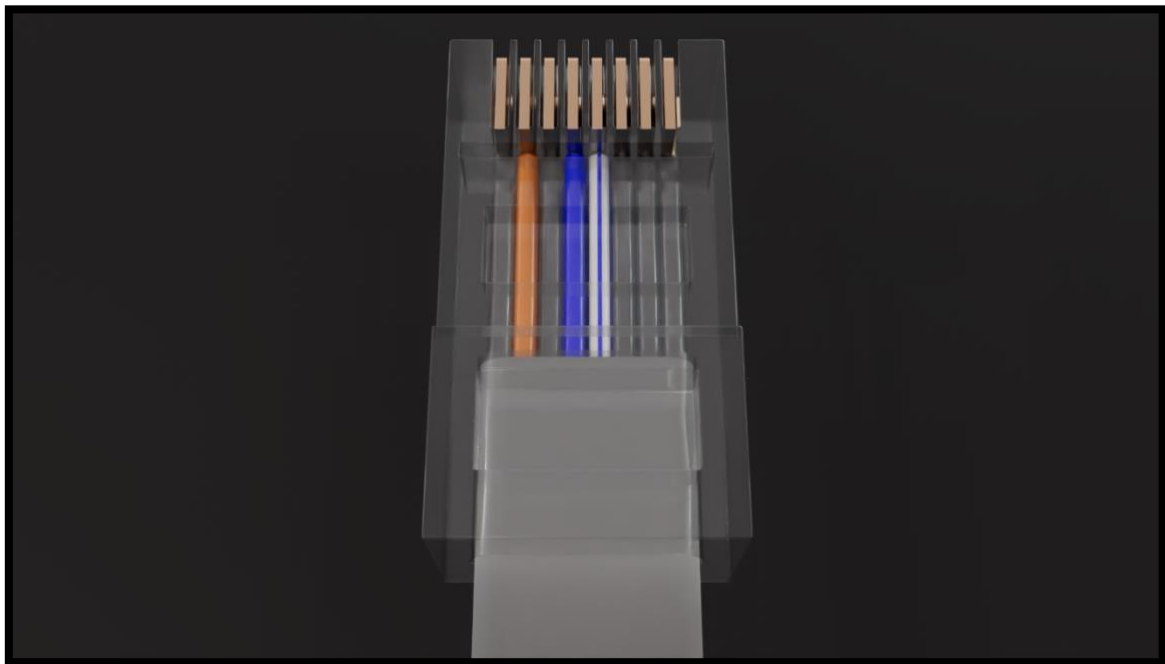
## SUNSYNK – 8kW / 10kW / 12kW (SINGLE PORT)

Pin	Inverter	X-101/AM-4/AM-2	AM-5/AM-10	Blade	Cloudlink
1	-	-	-	-	-
2	-	-	-	-	-
3	-	-	-	-	-
4	CANH	CANH	CANH	CANH	CANH
5	CANL	CANL	CANL	CANL	CANL
6	-	GROUND	-	-	ACTIVE
7	-	-	-	-	ACTIVE
8	-	-	-	-	ACTIVE

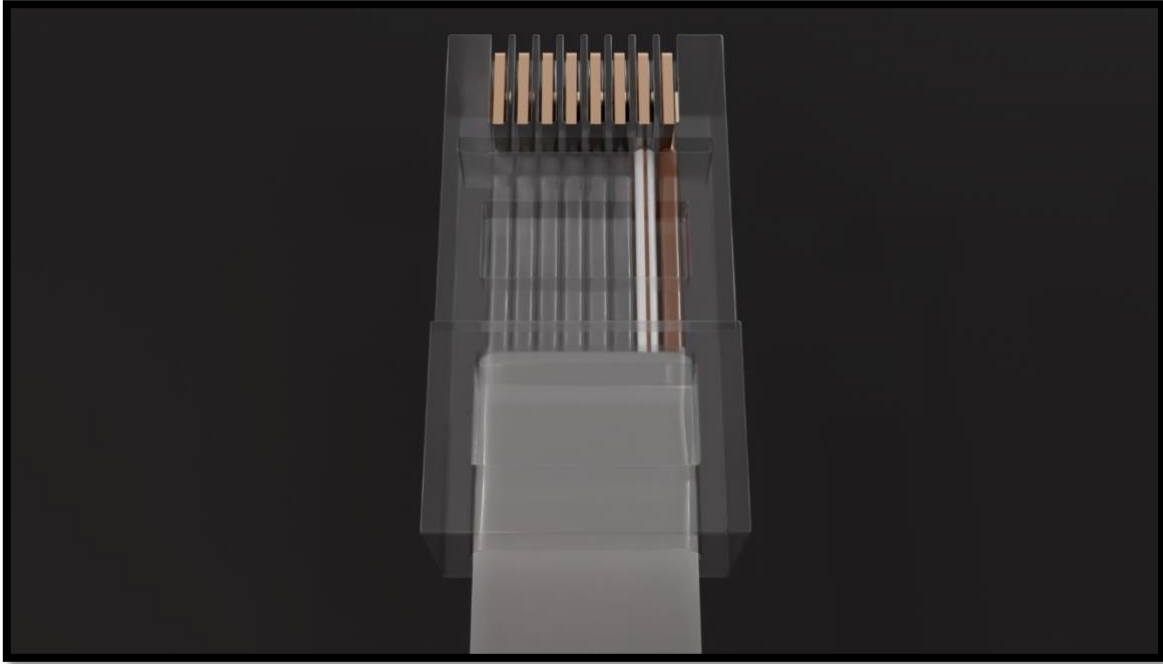
4 & 5 Pin Layout image reference seen below:



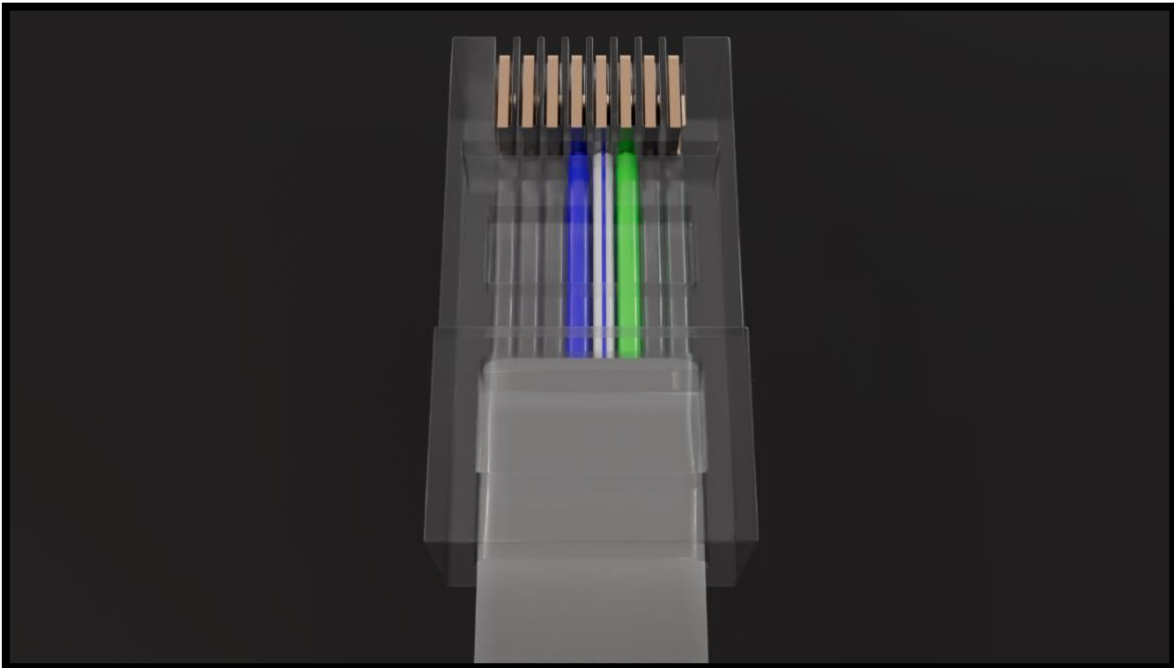
2, 4 & 5 Pin Layout image reference seen below:



7 & 8 Pin Layout image reference seen below:

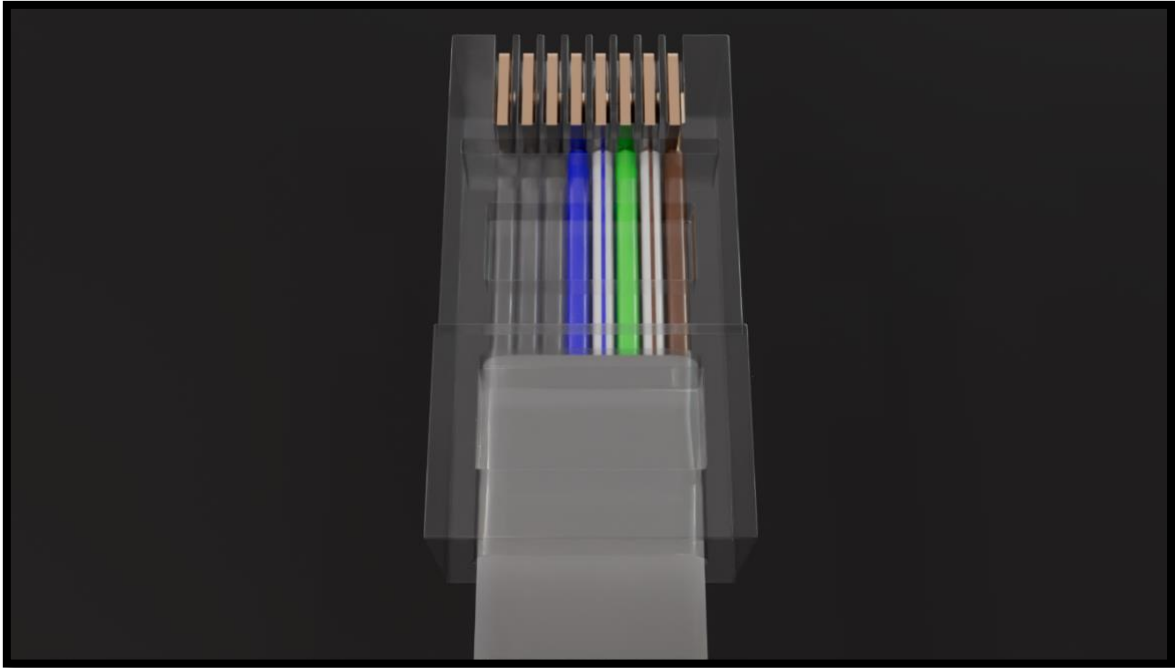


4, 5 & 6 Pin Layout image reference seen below:





4, 5, 6, 7 & 8 Pin Layout image reference seen below:



## HUBBLE DIP SWITCH SETTINGS

### FOR MULTIPLE BATTERY INSTALLATION

For correct setup and communication, each battery needs a unique serial address to communicate. If you are only using one battery in your setup, consider this the master battery and ensure you set it to address 1.

### AM-2, AM- 4 & BLADE DIP SWITCHES

ADDRESS	SWITCH POSITIONS			
	#1	#2	#3	#4
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

## AM-5 & AM-10 DIP SWITCHES (4-DIP VERSION)

ADDRESS	SWITCH POSITIONS			
	#1	#2	#3	#4
1	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF
3	OFF	ON	OFF	OFF
4	ON	ON	OFF	OFF
5	OFF	OFF	ON	OFF
6	ON	OFF	ON	OFF
7	OFF	ON	ON	OFF
8	ON	ON	ON	OFF
9	OFF	OFF	OFF	ON
10	ON	OFF	OFF	ON
11	OFF	ON	OFF	ON
12	ON	ON	OFF	ON
13	OFF	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

## AM-10 (8-DIP VERSION)

ADDRESS	SWITCH POSITIONS						
	#1	#2	#3	#4	#5	#6	Mark (#7 & #8)
0	ON	ON	OFF	OFF	OFF	OFF	Mastery Battery/Enable CAN BUS Port - ON
1	OFF	OFF	OFF	OFF	OFF	OFF	Slave 2 - OFF
2	OFF	ON	OFF	OFF	OFF	OFF	Slave 3 - OFF
3	OFF	OFF	ON	OFF	OFF	OFF	Slave 4 - OFF
4	OFF	ON	ON	OFF	OFF	OFF	Slave 5 - OFF
5	OFF	OFF	OFF	ON	OFF	OFF	Slave 6 - OFF
6	OFF	ON	OFF	ON	OFF	OFF	Slave 7 - OFF
7	OFF	OFF	ON	ON	OFF	OFF	Slave 8 - OFF
8	OFF	ON	ON	ON	OFF	OFF	Slave 9 - OFF
9	OFF	OFF	OFF	OFF	ON	OFF	Slave 10 - OFF
10	OFF	ON	OFF	OFF	ON	OFF	Slave 11 - OFF
11	OFF	OFF	ON	OFF	ON	OFF	Slave 12 - OFF
12	OFF	ON	ON	OFF	ON	OFF	Slave 13 - OFF
13	OFF	OFF	OFF	ON	ON	OFF	Slave 14 - OFF
14	OFF	ON	OFF	ON	ON	OFF	Slave 15 - OFF

## FREQUENTLY ASKED QUESTIONS

### Sunsynk Setup Queries

The inverter RS485 address not configured.

Solution: Set the inverter to "slave" and configure address 1 to enable the port.

Inverters may have older firmware. It takes more than 2.5 sec to respond to RS485 commands, which then cause timeouts on the bus.

Solution: Ensure the firmware is up to date.

In some early firmware versions Sunsynk/Cloudlink firmware, not all the data was available via Modbus. This has been rectified in the newer firmware versions.

On some inverter hardware versions if you use both CAN bus and RS485 at the same time and use 8 core straight CAT5 then RS485 pin A is short-circuited to GND and comms won't work.

Solution: Only use the needed pins or wires on the CAT 5 cable, do not use a straight cable.

Required pins for CAN bus: 2, 4 and 5 only.

Required pins for RS485: 7 and 8 only - as illustrated above.

Older Cloudlink models need to be checked for hardware compatibility with Technical Support.

Incompatible models need to be updated with Support directly.

### How do you set up multiple batteries?

See table above and check your product manual for a more detailed explanation. You will have to set dip switch settings per battery to give them a unique address. You also must connect the included RJ45 battery link cables into the "Battery Link" port of each battery. Ensure your master battery dip switch 1 is on, 2,3,4 is OFF. Only the master battery CAN Bus will be enabled. You can then connect the Hubble Cloudlink into the CAN port of the master battery for communications to work.

### Do I have to use the communication battery link cables if I don't want to monitor or have communications?

Yes.