

CT-HUB DLB-T1 Installation and Operation Guide

Important

Read this User Manual before you start using the device!
Failure to comply with these instructions may result in injury, damage to the device, harm to the environment, or other serious issues.

Keep this User Manual in a safe place together with the charging equipment.

Safety Information

- Use the CT-HUB only within the specified operating parameters.
- Installation with electricity is prohibited, Read the instructions carefully before installation.
- Do not attempt to open, disassemble, repair, tamper with, or modify the device. The Device is not user serviceable. Please contact TIMXON for any issues.

Product Introduction

1.Application

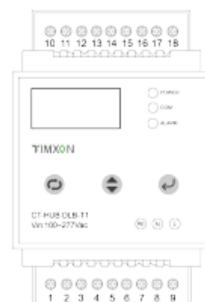
The CT-HUB DLB controller maximizes the usage of grid, it will distribute the current into each and every charger equally in multi-chargers scenario under the limit of maximum current of grid and maximum of charging requirements.

Besides the distribution current function, it also has the advantages like: adjusting parameter via physical button or APP, combining wiring equipment , controlling 16pcs chargers in maximum, sampling from both 3 phase grid, sampling from both CT and meter, monitoring in real time via multiple protection functions.

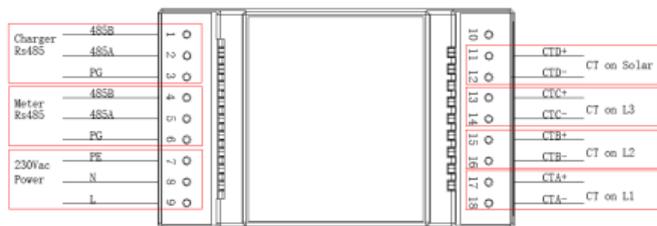
2.Specification

Input current	0~300A
Rated Voltage	230VAC
Voltage Range	100-277V
Rated Frequency	50/60Hz
Power consumption	2W
Max length of wire	200m
Display	0.96 inch OLED
Terminal	KF128-5.00
Interface	WLAN BLE(to be opened)
Communication	RS485
Rated quantity of charger	16
Dimension(H x W x D)	88mm x 59mm x 53mm

3.Product Diagram



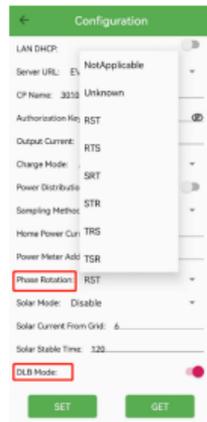
2.Interface introduction



Pin	1	2	3	4	5	6	7	8	9
Name	485B	485A	PG	485B	485A	PG	PE	N	L
Func	Charger RS485			Meter RS485			Input Voltage		
Pin	10	11	12	13	14	15	16	17	18
Name		CT+	CT-	CT+	CT-	CT+	CT-	CT+	CT-
Func		Solar CT		L3 CT		L2 CT		L1 CT	

3.Configuration of the charger

The charger station must be set into DLB mode, and choose phase line if single phase.



Config steps:

- ① Open and close DLB Mode parameters in CP tool to control the opening and closing of DLB function.
- ② Select the value of Phase Rotation in the CP tool to determine the incoming line phase.
- ③ R is L1 of the power grid, S is L2 of the power grid, and T is L3 of the power grid.

④Not Applicable and unknown are equivalent to RST.

⑤The setting method is as follows:

Three phase charging station:Select RST/RTS/SRT/STR

TRS/TSR according to actual wiring

Single phase charging station:

Connect to Grid L1 : Select RST/RTS;

Connect to Grid L2 : Select SRT/STR;

Connect to Grid L3 : Select TRS/TSR;

Download newest revision CP Tool from Goolge APP store.



4.Install notice

- ① The RS485 wire link chargers one by one in one line, and suggested not longer than 200m.
- ② The end of RS485 wire should parallel 120ohm resistance.
- ③ The max charger number is suggested not more than 16.
- ④ Check the installation of current transformer (arrow direction).
- ⑤ Try to have an average number of charging stations per phase.

Usage instruction

1.Interface introduce

Main page:

3-phase

Grid current

L1:60.5A

L2:60.5A

L3:60.5A

Limit current

L1-set:6A

L2-set:6A

L3-set:6A

1-phase

Grid current

L:60.5A

L-set:6A

Item: Gird current

Function:Display grid current and limit current

The main page display grid current, and limit current, if three phase, it will switch between two pages.

Set page:

Set current	← Item: Set current
Max current: 120A	← Function: Modify the max limit current of grid. Range: 0~300A

Set phase	← Item: Set phase
Sample from: three	← Function: Modify the phase number of grid. Range: one/three

Set method	← Item: Set method
Sample by: CT	← Function: Modify the sample method
CT rate: 3000	← choice: CT Range: 0~3000

Set method	← Item: Set method
Sample by: METER	← Function: Modify the sample method
Meter baud: 9600	← choice: METER Range: 1200~57600

Alarm page

WARNING	← Item: Show error
L1 exceed 150%	← Function: Error content
ignore	← Button : ignore the error

WARNING	← Item: Show warning
L1 exceed	← Function: Warning content
Recover	
ignore	← Button : ignore the error

Button:

-  Switching Button: Click to switch pages or switch items.
-  Adjusting Button : Change the item content or value.
-  Confirming Button: Enter or exit set mode, and confirm the modified item.

LEDs:



Power Led (Green) : Flash when powers on

Com Led (Blue) : Flash while sending messages

Alarm Led (Red) : Flash when fails

2.How to use

When the screen has no operation, the sampling current value is displayed as default. Switch the page through the switch button, and click the ENTER button to select the interface. Select the setting item through the switch again, click the adjust button to the parameter value, click the ENTER key to ensure and exit the setting.

For example: Change the CT rate

- ① Click Switch button to switch to SET_METHOD page, then press ENTER button to enter set mode.
- ② Click Switch button to switch to the modified item.
- ③ Click Adjust button to modify the ct rate value, then click enter to ensure and exit.



3.Usage Steps

- ① Choose if it is three phase or single phase according to grid.
- ② After installation, set the max home current firstly according to real demand.
- ③ Choose if it is sampled by CT or Meter, if by CT, set ct rate from 0 to 9999, else if by meter, select the baudrate from 1200bps/2400bps/4800bps/9600bps/19200bps /38400bps/56000bps/57600bps.
- ④ Check the wires again before start to work.

4.Usage note

- ① Before CT-HUB start work, make sure all chargers in DLB mode, and connect to RS485 networks. If the charger is offline for one minute, the charge will ring 3 times, and display fault code 13.

- ② Once the modified para is confirmed, it takes effect immediately, so make sure the parameter is correct before click Enter button.
- ③ If mistake occurs, the device will limit set current to 6A, and give an alarm by both screen and beep with an interval of 1.5s, if the mistake disappear, the device go back normal work, but the alarm will maintain 10 minutes with an interval of 5s until user click Enter button .
- ④ If user choose one phase mode, only L1 take effect defaultly.

Troubleshooting

1.Error code

If there is a fault, the device will limit 3-phase set current to 6A. Recover again after checking and clearing the fault.

LED status	LED status	LED status	LED status
Flash 1 time	L1 limit current 6A, but L1 real current >1.1*max_current	L1 overflow 150%	L1 current drop less than 0.9*max_current
Flash 2 time	L2 limit current 6A, but L2 real current >1.1*max_current	L2 overflow 150%	L2 current drop less than 0.9*max_current
Flash 3 time	L3 limit current 6A, but L3 real current >1.1*max_current	L3 overflow 150%	L3 current drop less than 0.9*max_current
Flash 4 time	Communication fail	Sample fail	Communication recover

2.Error handling

If one phase current exceed max_home_current continuously, it might be following reasons:

- ① The max home current is too small, or the phase mounts too many chargers.

Action: Increase the max home current, or decrease the charger number.

- ② The CT clamp isn't closed well, or malfunction.

Action: Close the CT clamp again, or replace a new one.

- ③ The charger didn't configure phase position correctly.

Action: Config the phase position based on the real phase.

- ④ The CT rate is not correct, higher than real value.

Action: Modify the ct rate based on the real value.

If charger is offline, there may be following reasons:

- ① There are more than 16pcs chargers online.

Action: Decrease the quantity of chargers.

- ② The whole RS485 wire length is longer than 200m.

Action: Decrease the length of wire .

- ③ The 485A and 485B are shorted.

Action: Find the shorted point, and fix it.

- ④ The charger's RS485 function is damaged.

Action: Replace one new charger.

- ⑤ There is no 120ohm resistance in the end of wire.

Action: Parallel a 120ohm resistance in the end of R485 wire.

Troubleshooting

To ensure the long-term stable operation of the equipment, please maintain the equipment regularly (usually every month) according to the operating environment.

- ① Ensure that the equipment operates in a dry and ventilated environment, regularly inspect the cables, and install and disassemble the equipment when powers off.
- ② Check whether the join point of the input terminal is in good contact and whether there is any abnormality.
- ③ The equipment is maintained by professionals.

Materials and Package

1.Scope of supply

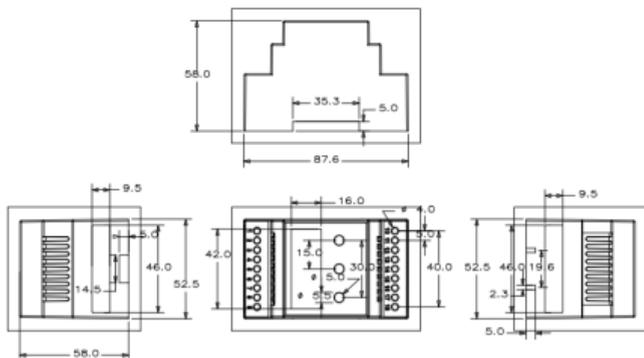
CT-HUB DLB-T1 Controller *1

120ohm Resistance *1

CT clamp *1 or 3 (optional)

100m Twisted-pair cabling *(optional)

2.Dimension and size



生产要求

尺寸：130mm宽x90mm长，（册子装订对折后宽为65mm）

材质：普通木浆纸

上下各一颗骑马订装订