




TBS Omnicharge OC12-90 Omnicharge XL Parallel Kit Instruction Manual

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TBS Omnicharge OC12-90 Omnicharge XL Parallel Kit



Product Information

Omnicharge 40A-90A Parallel Kit

Installation and Operating Manual

Specifications:

- Maximum number of chargers in parallel system: 6 (1 master and 5 slaves)
- Address options for slave chargers: 0, 1, 2, 3, and 4
- Communication cable connectors: 2

Product Usage Instructions

Setting up Slave Chargers:

When setting up a slave battery charger, follow these steps:

1. Set the slide switch to 'SLAVE'.
2. Select a unique address number for each slave charger using the rotary selector switch. Available addresses are 0, 1, 2, 3, and 4.

Refer to the image below for the location of the rotary selector switch for a slave charger set to address '0'.

Wiring for Parallel Operation:

Before making AC and DC connections, connect the parallel communication cables. Follow these steps:

1. Use one parallel communication cable for each additional charger in parallel.
2. Connect the communication cables to any of the two communication cable connectors on each charger.

Note: The communication cable connectors are wired in parallel on the PCB.

Refer to the image below for the location of the communication cable connectors.

AC and DC Cabling:

Once the parallel communication cables are installed, proceed with the AC and DC cabling. Follow these steps:

1. Ensure that each AC circuit breaker is set to OFF before proceeding.
2. Do not place the DC (battery-) fuse yet.
3. Refer to the image below for the AC and DC cabling setup for a typical installation with three battery chargers in parallel.

Connecting Remote Control and Battery Temperature Sensor:

If the charger system is controlled by a Universal Remote Control, a Basic Remote Control, or configured/monitored by TBS Dashboard, ensure the following connections are made to the master battery charger:

- Universal Remote Control
- Basic Remote Control
- TBS Dashboard
- Battery Temperature Sensor

Refer to the image below for more details on these connections.

Activating the Parallel System:

Follow the power-up sequence below to activate the parallel system:

1. Install the battery fuse and/or activate the main DC bus switch to connect the batteries to the battery chargers.
2. Sequentially switch all AC circuit breakers from OFF to ON to connect AC mains to each charger. This prevents the main AC circuit breaker from tripping due to a large startup current peak.
3. Activate all chargers by pushing the front panel switch of each charger to position 'I'. Start with the master charger, followed by slave '0', slave '1', and so on. The 'charger on' LED of the slave chargers may blink orange for a short while during initialization of the communication bus.
4. If you want to set the parallel system into 'forced float mode', set only the front panel switch of the master charger to position 'II'.

The parallel system is now up and running. To turn off the complete system, set only the front panel switch of the master charger to '0'.

FAQ:

- **Q: How many chargers can be used in a parallel system?**

A: A maximum of 6 chargers can be used in a parallel system, including 1 master and 5 slaves.

- **Q: Can I use any address number for the slave chargers?**

A: Yes, you can select addresses 0, 1, 2, 3, and 4 for the slave chargers.

- **Q: How many communication cable connectors are there?**

A: There are two communication cable connectors on each charger, which are wired in parallel on the PCB.

• **Q: How should I activate the parallel system?**

A: Follow the power-up sequence mentioned in the user manual to activate the parallel system. Make sure to install the battery fuse, connect AC mains sequentially, and activate each charger starting with the master.

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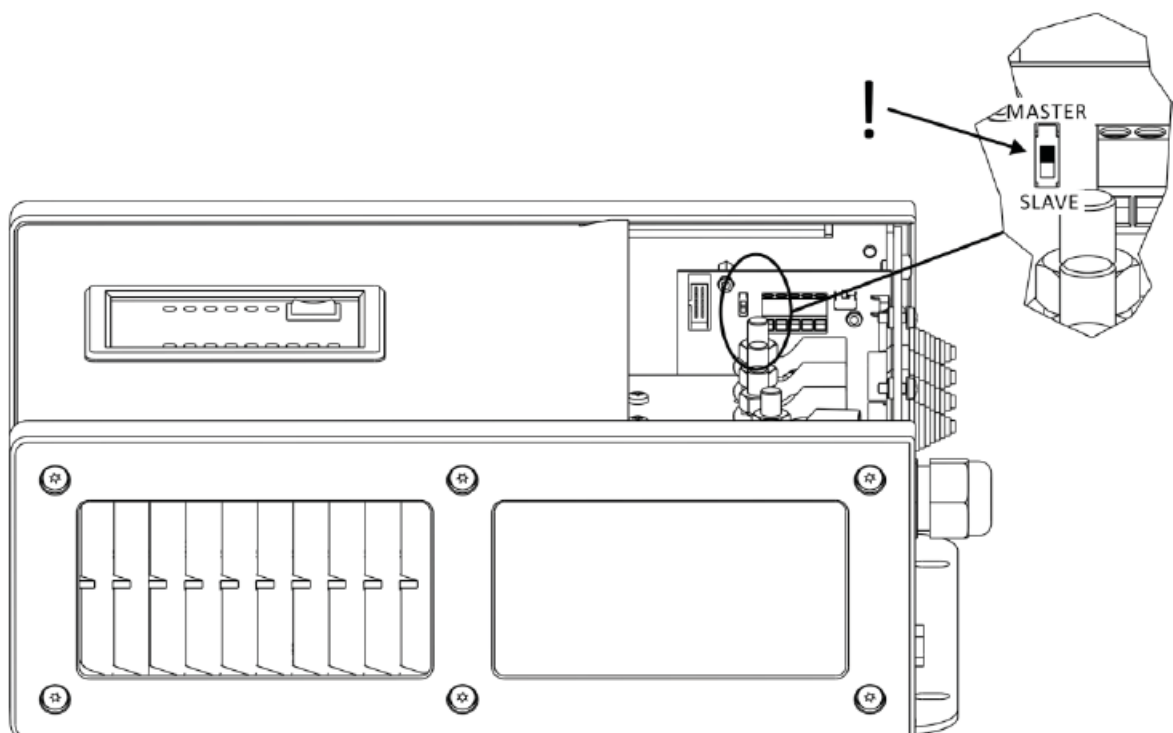
WARNING

This manual is an addition to the main owner's manual that is supplied with each battery charger. Only the information relevant for parallel connection of multiple battery chargers, is provided by this manual. For all other installation and operating information, please consult the main owner's manual!

- Connecting multiple battery chargers in parallel to a single battery bank, enables charging at very high current levels. Up to 6 battery chargers of the following models can be connected in parallel:
 - Omnicharge OC12-9 0
 - Omnicharge OC24-5 0
 - Omnicharge OC24-8 0
 - Omnicharge OC48-4 0
- The parallel feature only works when 6 battery chargers of the same model are connected to each other. Each parallel system consists of one master charger and one or more slave chargers. The slaves are controlled by the master, through the communication cable provided in this kit.

Setting up the chargers for parallel operation

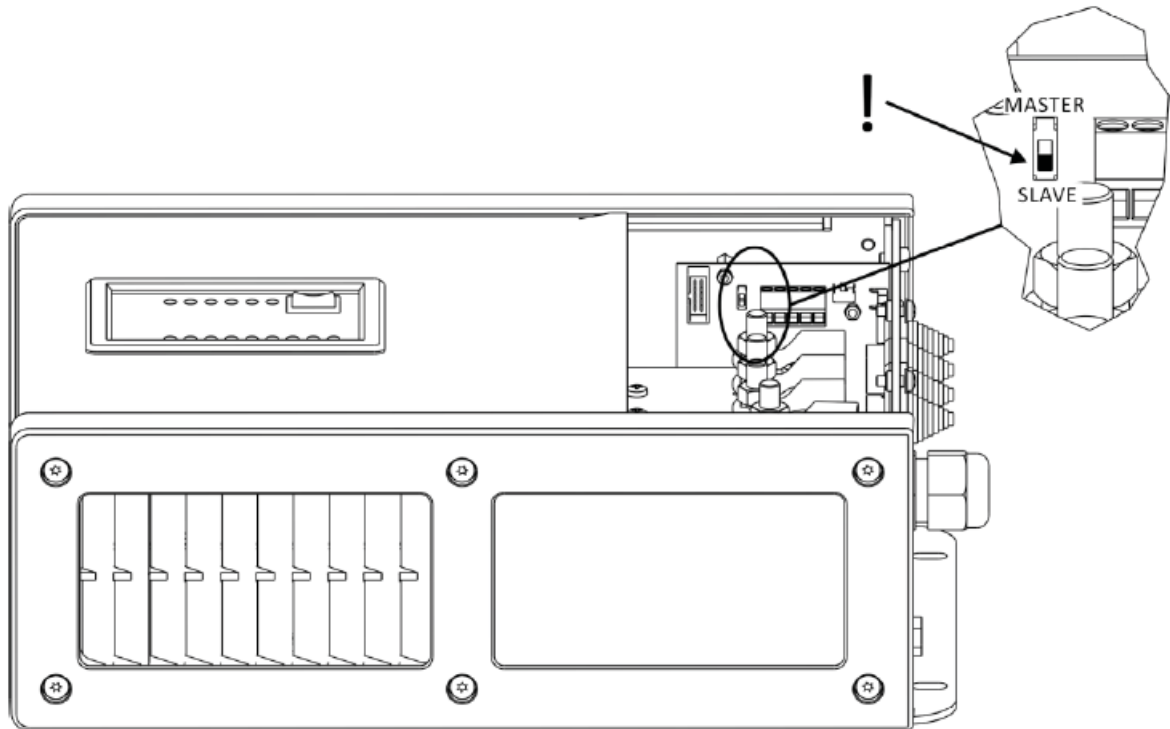
- Before connecting the chargers to the mains supply and the batteries, some internal switches need to be set up correctly. Two switches inside the battery charger are important for parallel operation, the rotary selector switch and the master/slave slide switch.
- In the master battery charger, the slide switch should be set to 'MASTER' as indicated below:



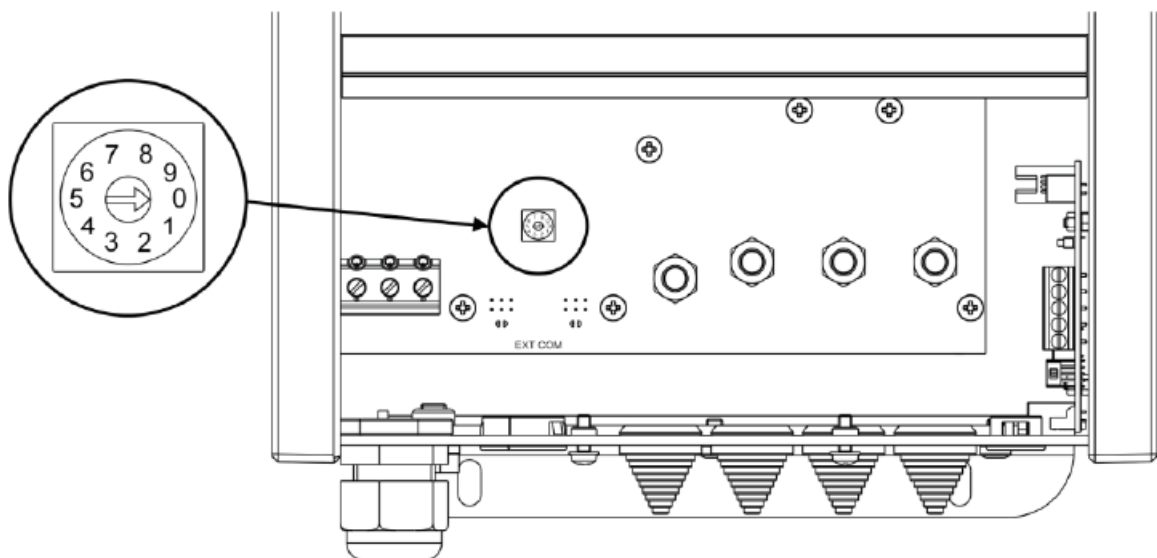
- The rotary selector switch of the master battery charger has the same functionality as when used in a stand-

alone installation. It just selects the right charge program for your battery.

- In a slave battery charger, the slide switch should be set to 'SLAVE' as indicated below:

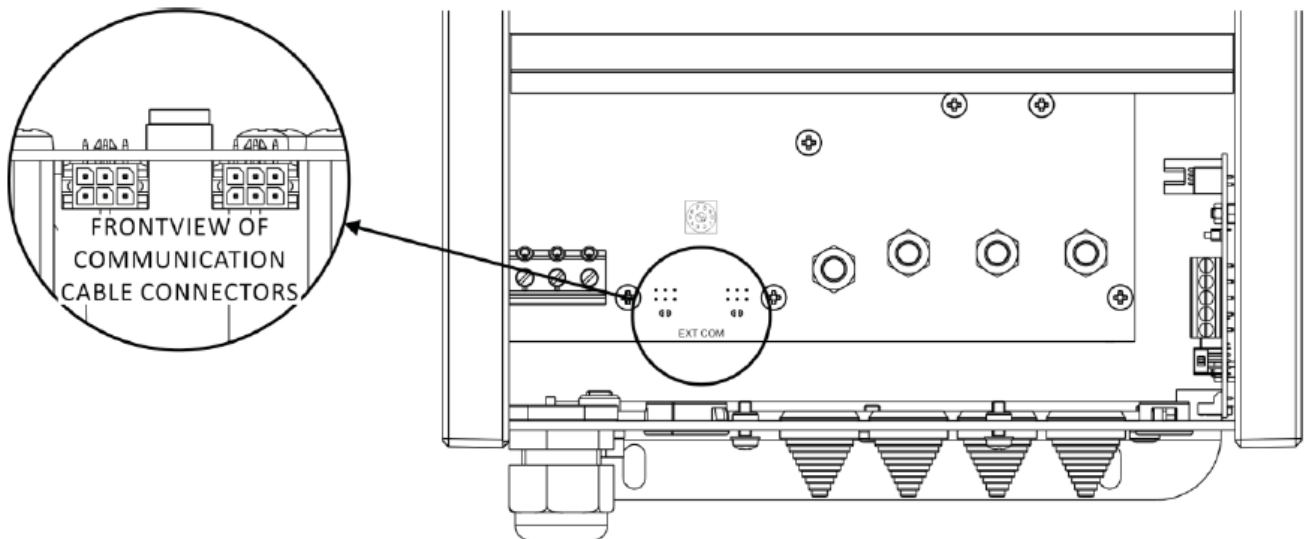


- The rotary selector switch of a slave acts as an 'address' selector now. Each slave should use a unique address number. Since a maximum of 6 chargers (1 master and 5 slaves) are allowed in a parallel system, addresses 0, 1, 2, 3 and 4 can be selected. So when a parallel system of 3 battery chargers is installed, slave 1 should be set to address '0' and slave 2 to address '1'. Please see the image below for the location of the rotary selector switch of a slave charger set to '0'.



Wiring the chargers for parallel operation

- First, we will explain the connection of the parallel communication cable. One cable is needed for each additional charger that will be placed in parallel. So for a system containing three chargers in parallel, two parallel communication cables are needed. Please see the image below for the location of the communication cable connectors:

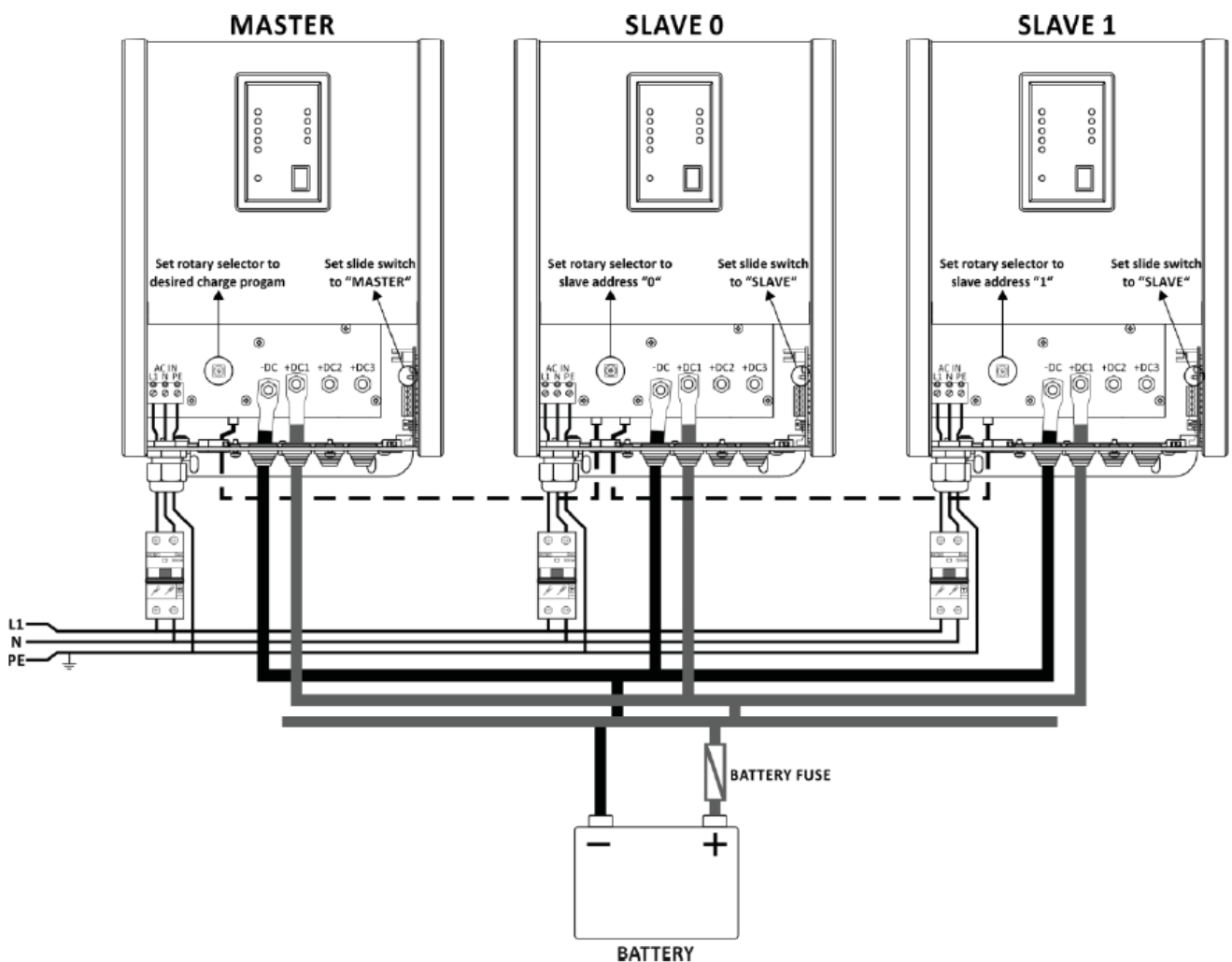


- You are allowed to use any of the two communication cable connectors, since these are wired in parallel on the PCB anyway. Once the parallel communication cables are installed, we can start making the AC and DC connections.

WARNING

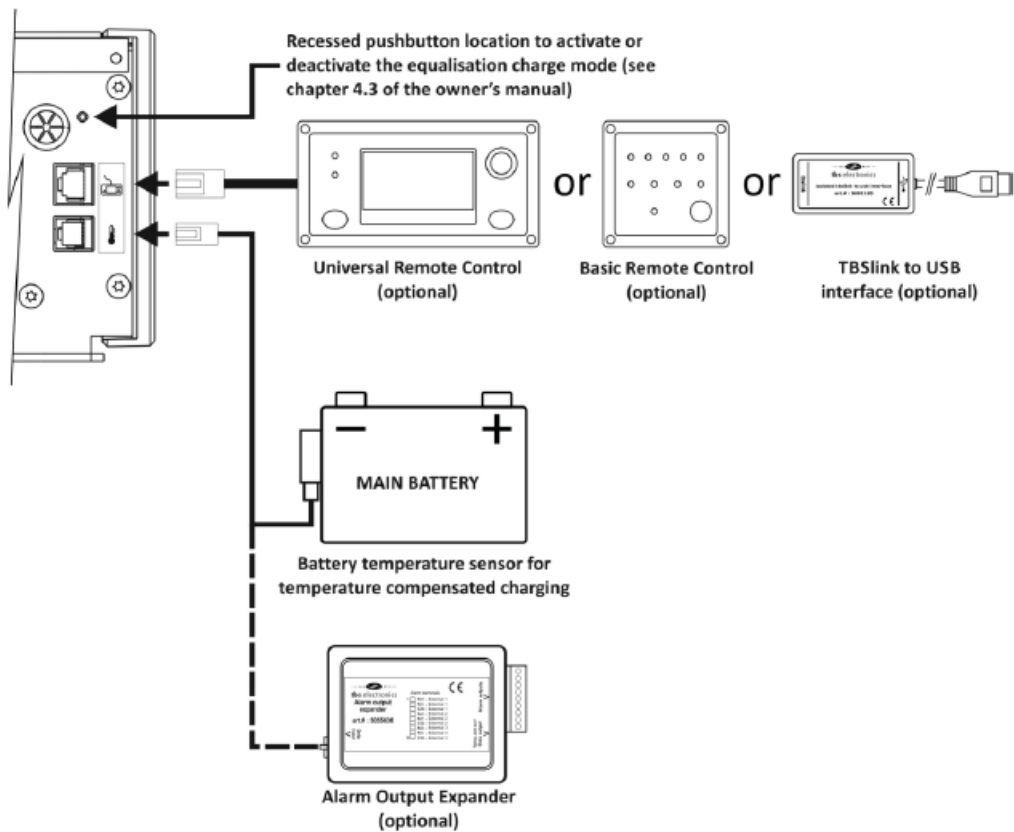
Please make sure that each AC circuit breaker is set to OFF and that the DC (battery-) fuse is not placed yet!

- The image below shows the AC and DC cabling for a typical installation containing three battery chargers in parallel:



- When the charger system is controlled by a Universal Remote Control, a Basic Remote Control or is

configured/monitored by TBS Dashboard, please make sure that these connections are always made to the master battery charger. The same applies to the battery temperature sensor. Please see the image below for details:



Activating the parallel system

When all connections are made and carefully checked, the connection bay cover plates can be re-installed again. The following power up sequence should be followed:

1. Install the battery fuse (and/or activate a main DC bus switch) to make sure that the batteries are connected to the battery chargers.
2. Connect AC mains to each charger by sequentially switching all AC circuit breakers from OFF to ON. Switching all AC circuit breakers ON sequentially, avoids the main AC circuit breaker to trip due to a too large startup current peak.
3. Activate all chargers by pushing the front panel switch of each charger to position 'I', preferably starting by the master, followed by slave '0', slave '1' etc.. The 'charger on' LED of the slave chargers, may blink orange colored for a short while, indicating that the communication bus is being initialized. If you wish to set the parallel system into 'forced float mode', only the front panel switch of the master should be set to position 'II'.


Now the parallel system is up and running. If you wish to turn off the complete system, only the front panel switch of the master charger should be set to '0'.

Troubleshooting

Please see the table below in case you experience any problems with the parallel system:

Problem	Possible cause	Remedy
Main AC circuit breaker trips when connecting all chargers at once to the AC mains.	The initial startup current of all chargers combined, is too high.	Try connecting each charger to the AC mains individually, by sequentially activating the circuit breaker at each charger AC input.
One or more chargers in the parallel system keep on showing a blinking orange 'charger on' LED	There are more than one slaves carrying the same address number.	Check if the rotary selector switch of each slave charger carries a unique number.
	Master charger is not connected to AC mains or still switched off at the front panel.	Make sure AC mains is connected to the AC input of the master charger and that the front panel switch is in position 'I' or 'II'.
	Parallel communication cable is not properly installed or damaged.	Make sure that the communication cable is installed correctly and that there is no visible damage to the cable or connector.
	Incorrect system startup	Disconnect all chargers from the AC mains, wait for 10 seconds and reconnect each charger to the AC mains again in a sequential order.

Documents / Resources

	TBS Omnicharge OC12-90 Omnicharge XL Parallel Kit [pdf] Instruction Manual OC12-90 Omnicharge XL Parallel Kit, OC12-90, Omnicharge XL Parallel Kit, XL Parallel Kit, Parallel Kit
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References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)