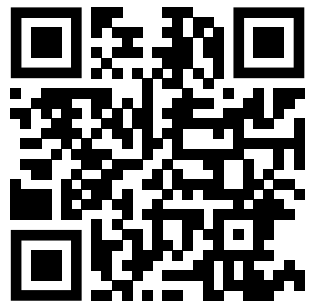


User manual

Tibber Pulse CT

1. Download the Tibber app

Search for Tibber in the App Store/Google Play Store or scan the QR code.



2. Create your Tibber account

Create an account or log in if you have one already.

3. Pair the Pulse CT & Pulse Bridge*

Look for Tibber Pulse in the Power-ups section of the Tibber app and get started!

** The Pulse CT needs a Pulse Bridge to communicate with Tibber.*

1. IMPORTANT SAFETY INSTRUCTIONS



Read these instructions carefully and keep them for future reference. If this product is passed to a third party, then these instructions must be included.

When using electrical devices, make sure to always follow basic safety precautions to reduce the risk of fire, electric shock, and/or injury to persons, including the following:

- Children should be supervised to ensure that they do not play with the product.
- Use approved, compatible accessories only.
- Avoid the product to be in contact with water or any other liquids.
- Do not expose the product to heat, flames, humid conditions or extreme cold.
- Do not open the product or touch any of its electronic circuitry.
- Do not use this product for any purpose other than for which it was intended.
- Please ensure to review not only this manual but also the Pulse Clamps manual, as well as any other manuals accompanying products bundled with the Pulse.

⚠ WARNING Risk of injury or damage!

Read the Pulse Clamps manual on how the clamps should be attached to your cables. This needs to be done by a qualified electrician.

When accessing your fuse or meter cabinet, make sure to inspect the meter and its surroundings to ensure there are no loose cables, exposed copper or other objects that could cause an electric shock. If you encounter any of these, stop the installation process immediately and contact a qualified electrician. Make sure to also inspect the Pulse CT before use. If you spot any physical damage, stop the installation process immediately and reach out to us via the chat in our app/on our website or via hello@tibber.com.

CAUTION Risk of damage!

Avoid placing the Pulse CT in an environment that's humid or outside of the specified temperature range (-20 °C to 50 °C); this might reduce its life span or cause malfunctions. The Pulse CT is not waterproof; never place it outdoors in the rain or snow. Don't open the Pulse CT (except for the battery lid), drop it or expose it to any other type of shock to avoid damage.

BATTERY WARNINGS

- Exhausted batteries should immediately be removed from the product and properly disposed off.
- If the product appears to be bulging or shows other undesirable phenomena (e.g. excess noise), stop using the product immediately.
- If the product becomes too hot to touch, switch the product off and unplug immediately.
- If the battery leaks, avoid contact with skin and eyes. Rinse affected areas immediately with plenty of clean water, then consult a doctor.

2. Intended use

The intended use of the Pulse CT is to measure currents flowing through wires and to send this data to the Tibber app. This product is intended to be used in dry indoor areas only. This product is intended for household use only. It's not intended for commercial use.

2.1 Before first use

DANGER Risk of suffocation! Keep any packaging materials away from children

- These materials are a potential source of danger, e.g. suffocation.
- Check the product for transport damages.
- Remove all the packing materials.
- Before connecting the product to the supply voltage, check that the supply voltage and current rating correspond with the power supply details shown on the product rating label.

2.2 Latest version and comments

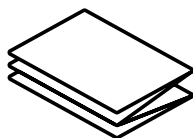
In case you're reading this in a different time and age, you can find the latest version of this manual at https://pulse.tibber.com/pulse_ct_manual.pdf (available in multiple languages). If you have any comments or questions, you can always reach out to us via the chat in our app/on our website or via hello@tibber.com.

3. Description of the product

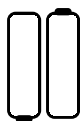
3.1 What's in the box



Pulse CT

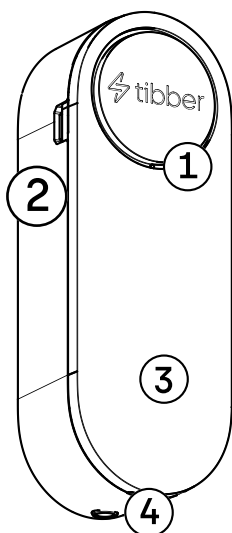


User manual



Batteries

3.2 Product overview



- ① LED light
- ② Mini-USB port
- ③ Battery lid
- ④ 3.5 mm connector for clamps

3.3 Technical details

The Pulse CT uses current transformers (clamps) to measure current flowing through wires. The clamps can be attached to either a 1-phase or a 3-phase system. The measurement data is sent wirelessly to the Tibber cloud and app via the bridge.

For instructions on attaching the clamps, see the Pulse Clamps manual.

If you love diving into data, check out our API at <https://developer.tibber.com>.

3.4 Product compliance



Hereby Tibber AS declares that the radio equipment type ITEM No. Pulse CT & Pulse Bridge is in compliance with Directive 2014/53/ EU and 2014/30/EU.

The full text of the EU declaration of conformity is available at https://pulse.tibber.com/pulse_ct_conformity and https://pulse.tibber.com/bridge_conformity.

3.5 Technical data

Pulse CT

Device name: Pulse

Model: CT/TBF01

Technical life span: > 5 years

Power usage: 1500 mAh/year*

Frequency band: 863-870 MHz

Maximum power transmitted: 20 dBm @ 1% duty cycle

Dimensions (HxWxD): 100 x 36 x 25 mm

Supported measurements: 1-phase, 3-phase

Ingress protection (IP): IP40 (not waterproof)

Temperature range: -20 °C to 50 °C

Battery voltage range: 2.5-3.6 VDC

Battery type(s): 2x 1.5 V (AA) lithium or alkaline**

USB supply voltage: 5.5-4.5 VDC

Directives: RED: 2014/53/EU
RoHS: 2011/65/EU

Approvals: CE

* The expected power usage depends on the signal quality to the bridge. The distance between the bridge and Pulse CT increases consumption.

** The expected battery life using lithium batteries is 2 years. Using alkaline batteries will significantly reduce battery life.

4. Installation and setup

To install the Pulse CT, follow the instructions on the first page of this manual. You'll be guided through the pairing process in the Tibber app. After that, it's time to play around! Turn on your toaster or coffee machine and check the effect on your energy consumption.

5. Troubleshooting

5.1 Explanation of LED signals on the Pulse CT

Signal	Meaning
Continuous light	Ready to pair with bridge
Short blinks*	Normal operation

*The light on your Pulse CT is blinking when it's sending data to Tibber. The frequency depends on how often the data is updated.

5.2 Problem solving from LED signals

LED signals during errors

	Problem No communication with bridge.
3 successive blinks every 10 seconds	Solution Try moving your Pulse CT and bridge closer together. If that doesn't work, restart your Pulse CT and bridge. If the problem persists, try to reset your Pulse CT (see 4.3).

If you see any other LED signals or if you're experiencing any problems, please have a look at https://pulse.tibber.com/pulse_ct_troubleshoot. If you're experiencing any problems during the pairing process, it's worth giving it another try first. If the problem persists, you can always reach out to us via the chat in our app/on our website or via hello@tibber.com

5.3 Resetting the Pulse CT

To reset your Pulse CT, remove one of the batteries for 5 seconds, insert it for 5 seconds and repeat this 3 times. If there's continuous light, your Pulse CT is reset and ready to be paired with your bridge again.

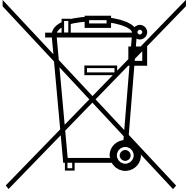
5.4 Cleaning and maintenance

Handle your Pulse CT with care to let it last longer (we'll be happy too, because we're quite fond of every Pulse we manufacture!). If you want to clean your Pulse CT, refrain from using any liquid and use a dry tissue or cloth instead.

Any other servicing than mentioned in this manual should be performed by a professional repair center.

6. Disposal

6.1 Disposal of electronic components



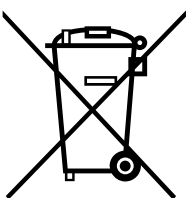
The Waste Electrical and Electronic Equipment (WEEE) Directive aims to minimize the impact of electrical and electronic goods on the environment, by increasing re-use and recycling and by reducing the amount of WEEE going to landfill.

The symbol on this product or its packaging signifies that this product must be disposed separately from ordinary household wastes at its end of life. Be aware that it's your responsibility to dispose of electronic equipment at recycling centers in order to conserve natural resources. Each country should have its collection centers for electrical and electronic equipment recycling. For information about your recycling drop off area, please contact your related electrical and electronic equipment waste management authority, your local city office, or your household waste disposal service.

6.2 Disposal of packaging waste

The packaging is made of environmentally friendly materials, which you can dispose of at your local recycling facility. By properly disposing of the packaging and packaging waste, you help avoid possible environmental and public health hazards. Nature will be thankful!

6.3 Disposal of batteries



Do not dispose of used batteries with your household waste. Take them to an appropriate disposal/collection site.



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