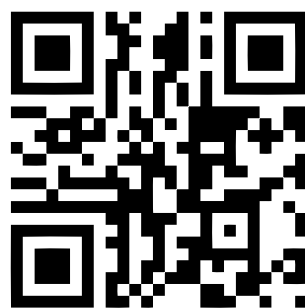


User manual

Tibber Pulse

1. Download the Tibber app

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



2. Create a Tibber account

Create an account or log in if you have one already. Adding the energy deal from Tibber is always optional.

3. Pair the Pulse

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

You need to contact your grid company to enable the data from your meter.

1. Intended use

Although we're sure there are many creative ways to use this product, the intended use of Tibber Pulse is to read data from your electricity meter and transfer it to the Tibber app. Depending on your smart meter, the refresh rate varies between 1 to 10 seconds. Tibber Pulse is intended for domestic use and will serve as a clever assistant to catch energy thieves at home.

1.1 How to use these instructions

Please read and understand this manual and its safety instructions before using Tibber Pulse. Failure to do so can result in severe injury or death (definitely not our favorite thing to say, but the law requires us to add it here). Therefore, please follow all instructions to avoid fire, explosions, electric shocks or other hazards that may damage property. Tibber Pulse should only be used by people who have fully read and understood the content of this user manual. You're well on your way, so please continue reading!

Make sure that every user of Tibber Pulse has read these instructions before use and follows them. Keep all safety information and instructions for future reference and pass them on to the ones using Tibber Pulse after you. As the manufacturer, we are not liable for cases of material damage or personal injury caused by incorrect handling or non-compliance with the safety instructions. In such cases, the warranty won't apply – so make sure to follow those instructions.

1.2 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/rj45_manual (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.

2. Description of the product

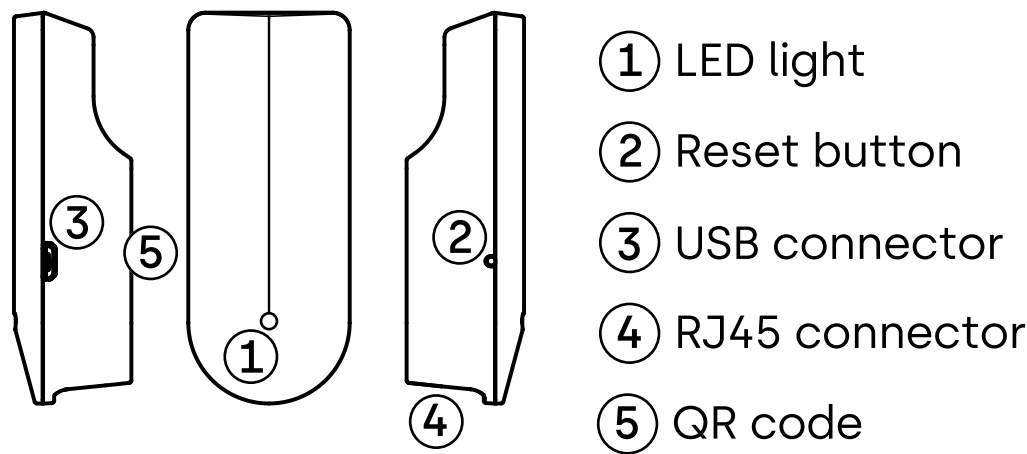
2.1 Technical details

Tibber Pulse is designed to work with energy meters that support the Norwegian AMS-HAN specifications. In which the hardware layer is a RJ45 M-BUS interface (EN 13757) and the data layer is based on DLMS/COSEM (IEC 62056) read more at <https://www.nek.no/info-ams-han-brukere/>

Naturally, we also designed Tibber Pulse to work with the Tibber app (App Store/Google Play Store or via the QR code on the first page of this manual). If you love diving into data, check out our API at <https://developer.tibber.com>.

Tibber Pulse may only be used with the cable included in the delivery. Using a different cable can cause damage.

2.2 Product overview

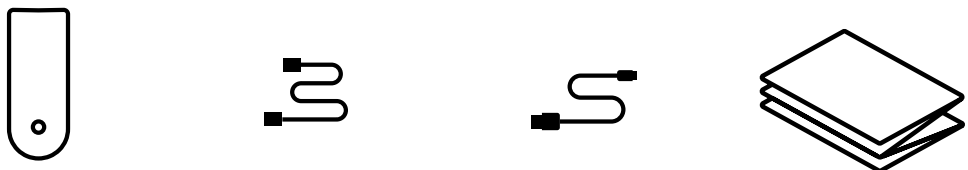


2.3 Product compliance

CE Hereby, we, Tibber AS, declare that the radio equipment type Tibber Pulse is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at https://pulse.tibber.com/rj45_conformity.

2.4 What's in the box



Tibber Pulse RJ45 cable USB cable User manual

2.5 Technical data

Device name:	Tibber Pulse
Model:	RJ45/HAN Solo edition
Technical life span:	> 5 years
Power usage:	525 mW pairing (USB) 120 mW active (USB) 275 mW active (HAN)
Frequency band:	2412 MHz to 2484 MHz
Maximum power transmitted:	20 dBm
Weight:	40.5 g
Dimensions (HxWxD):	33 x 80.5 x 24.5 mm
Physical interface:	RJ45
Supported protocols:	NEK EN 62056-1-0:2015, NEK EN 62056-7-5:2016 (DLMS/COSEM)
Cable length:	1 m
Cable connector:	RJ45
Cable wiring:	Normally wired: 1-1, 2-2, 3-3, 4-4, 5-5, 6-6, 7-7, 8-8
Ingress protection (IP):	IP20 (not waterproof)
Temperature range:	-20 °C to 50 °C

3. Installation

To install Tibber Pulse, follow the instructions on the first page of this manual. You'll be guided through the pairing process in the Tibber app, connecting Tibber Pulse to your smart meter and Wi-Fi network.

Due to the limited power from the HAN port on these meters a USB connection is required when pairing the unit to your home Wi-Fi. After that, it's time to play around! Turn on your toaster or coffee machine and check the effect on your energy consumption.

4. Troubleshooting

4.1 Explanation of LED signals on Tibber Pulse

LED signals during normal operation

White/white blinking:	Pulse is starting
Green:	Pulse is ready to be paired
Green blinking:	Pulse is connected to a phone (only during pairing)
Blue blinking:	Pulse is trying to connect to the Wi-Fi and the Tibber server
Weak blue:	Pulse is connected to the Tibber server
Weak blue/short blue blinking:	Pulse transfers data to the Tibber server
Yellow blinking:	Pulse is updating firmware, do not disconnect from the power

4.2 Problem solving from LED signals

LED signals during errors

Continuous red:

Problem

Pulse couldn't connect to the Wi-Fi. Your signal might be too weak, or you have changed SSID or router since first pairing the device. Usually, the light will switch between red and blue blinking when trying to connect to the Wi-Fi.

Solution

Try reorienting the device or move it closer to the router. If the problem persists, try to reset the Pulse, disconnect it in the Tibber app and pair it again.

Red blinking:

Problem

Pulse is connected to the Wi-Fi but unable to reach the Tibber server.

Solution

Try to restart your router. If the problem persists, try to reset the Pulse, disconnect it in the Tibber app and pair it again.

4.3 Resetting the Pulse HAN

To reset Tibber Pulse, keep it plugged into an external USB power source and look for a small round hole on the left side of the device. Insert the tip of a pen or paperclip into the hole and press for at least 5 seconds. The LED will first turn off and then light up white. Now release! When the LED turns green, Tibber Pulse is ready to be paired again. The LED will not light up green unless plugged into an external power source. If you're experiencing problems, please have a look at our troubleshooting guide at https://pulse.tibber.com/rj45_troubleshoot

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.

4.4 Maintenance

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

5. IMPORTANT SAFETY INSTRUCTIONS



Read these instructions carefully and keep them for future reference. Pass them on to the ones using Tibber Pulse after you.

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:

- Supervise children to ensure they don't play with the device.
- Use original accessories only.
- Avoid the device to be in contact with water or any other liquids.
- Avoid exposing the device to heat, flames, humid conditions or extreme cold.
- Avoid opening the device or touching any of its electronic circuitry.
- Avoid using the device for any purpose other than its intended use.

WARNING

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 Tibber Pulse 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.

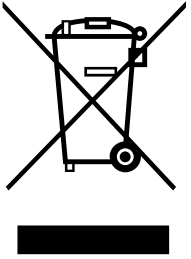
CAUTION

Only use the included cables to avoid damage to Tibber Pulse and/or your smart meter. If you spot any physical damage on the cables, reach out to us to receive a new one. Avoid placing Tibber Pulse 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.

Tibber Pulse is not waterproof; never place it outdoors in the rain or snow. Don't open Tibber Pulse as this might cause damage to the device.

6. Disposal

6.1 Disposal of electronic components



If you look closely, you see this symbol on Tibber Pulse. It means the device shouldn't be treated as unsorted municipal waste and that it should be disposed of separately.

If you live within the EU or another European country that collects electronic waste and equipment separately, we advise you to bring both Tibber Pulse and the cables to your local recycling facility at the end of their lifespan. By properly disposing of the device, you help avoid any environmental and public health hazards that could be caused by not handling waste equipment properly. The recycling of materials also contributes to the conservation of natural resources.

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. And again, nature will be thankful!

Tibber Pulse
HAN Solo Edition



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