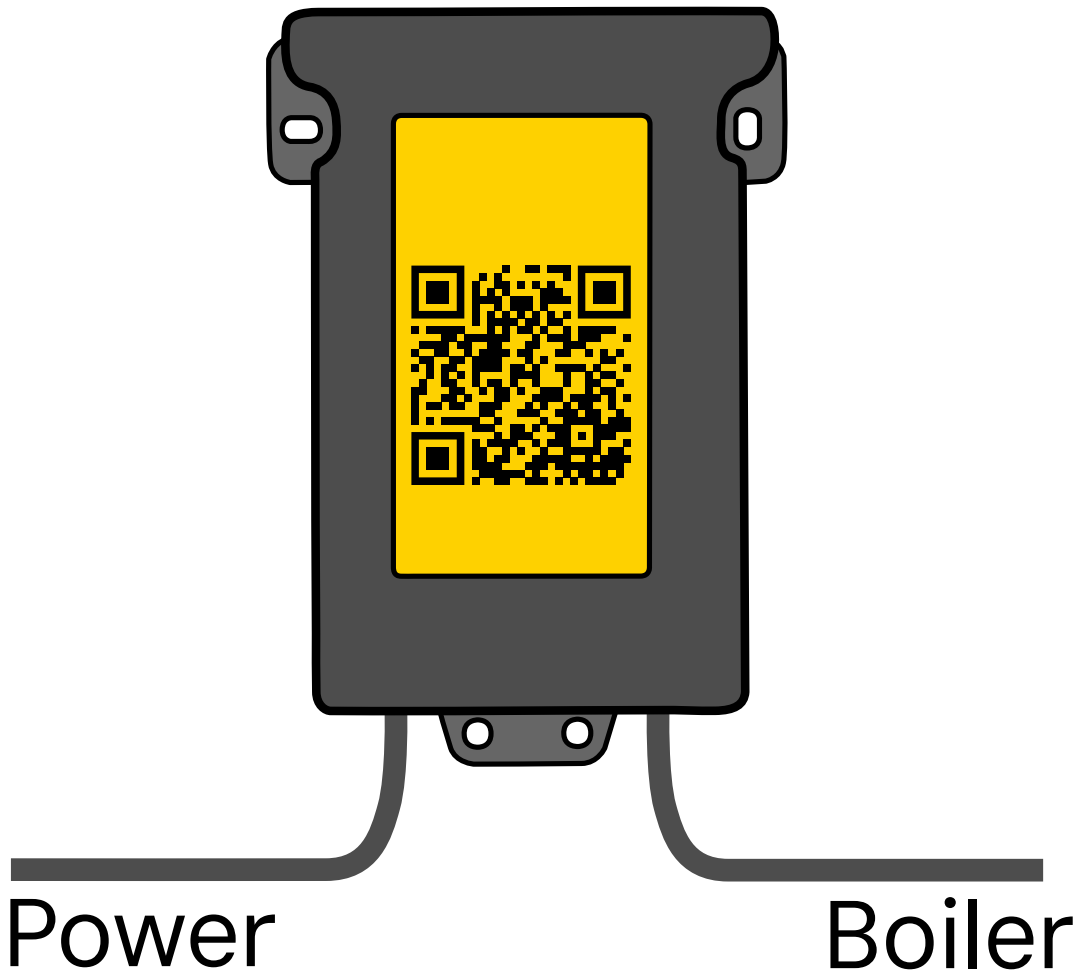
www.**Yellow-Grid**.eu

YG HEAT 2KZ
Quick Start



Introduction

Thank you for purchasing product of Yellow Grid a.s. Before using our product, please read this **User Manual** and the included **Quick Installation Guide** to avoid problems with incorrect installation or use.

Caution!

Please carefully read the following notice. The product works with mains voltage. Mishandling may damage it or result in injury or death. The YG Heat 2KZ is an electrical device. Mishandling may damage the device, void your warranty, or result in injury or death. Products are not intended for building into furniture, shelf etc. Products are considered to control exclusively electric tank water heater loads. They are to be installed **only by a licenced electrician**.

Safety notices

1. Never remove the device cover if the relay terminals are connected to the power grid! Do not operate the device without the cover.

2. The local electrical system must include a power switch or a circuit breaker and overcurrent protection.

3. The manufacturer is not liable for any damage caused by incorrect use of the device or by operating it in an unsuitable environment.

4. The device is not rated for outdoor use.

5. Do not expose the device to strong vibrations.

6. Unauthorized modifications may damage the device or cause a fire.

7. Protect the device from liquids and excessive temperatures.

8. Make sure the device does not fall.

9. Only electrical appliances approved for use with the electrical network may be connected to the device.

10. Do not connect multiple devices in series.

11. The device is completely switched off only when unplugged.

12. If the device malfunctions, disconnect it from the electrical grid and contact your vendor. Do not cover the device.

13. Do not use the device if it appears to be mechanically damaged.

14. Make sure that the input and output cables are rated for the respective current.

15. There is required to connect the protective earthing conductor of the device to the protective earthing conductor during the installation

General characteristics

- WiFi interface: 802.11 b/g/n; 2.4GHz (secured / unsecured) / WEP, WPA, WPA2
- AP mode for connecting the device to a local WiFi network (network selected from a list)
- Device exposes WiFi AP to connect and configure device to an existing WiFi network after being powered
- Operating temperature range: -20°C to +55°C
- Switched Power Outputs: 1
- Output Switching: ZCS (Zero Current Switching)
- Metered channels: 1
- Measurement accuracy: <1%
- DI (Digital Inputs): 2x + 12V DC power output
  (2 temperature probes or 1 temperature probe and S0 counter)
- Terminal block: 9x 2.5mm2

Specifications

Power	US/CAN: 100–125 Vac; 60 Hz; 12 A Other countries: 100-240Vac, 50/60Hz, 15A
Switched outputs	USA/ Canada: 1 x 100-125VAC, 50Hz, 12A max. total – 2x, 12 A total / 12 A per output Other countries: 1x 100-240Vac, 50/60Hz, 16A; total 2x, 16 A total / 16 A per output
Surge protection	Type 3 (CAT III)
Internal consumption	Max 2W
Output relay	Micro-disconnection (μ) (resistive load) 1E5 switching cycles, max. 1.5kV pulse voltage Switch heat and fire resistance class 1
Electrical load	ZCS (Zero Current Switching) Resistance load compatible Capacitive load compatible Inductive load compatible
Digital Input (DI)	1x Digital input (temperature probe) 1x Digital input / S0 counter Aux. DC power 12V/0,12A max (+12V, GND)
Interfaces	1x Wi-Fi 802.11b/g/n 2.4 GHz (internal antenna) with WEP/WPA/WPA2
Environment	IP20, protection rating = class 1 Operating temperature -20 .. 55°C Device rated for pollution degree 2. Designed for continuous operation in altitudes up to 2000m. No additional cooling required.
Caution	The device is not designed to power appliances with a high inrush current. Do not connect several devices in series. The device is safe only when completely disconnected from the electrical network.

Features

ZCS (Zero Current Switching)

ZCS (Zero Current Switching) function ensures that the relay contact is closed at the moment of zero voltage and opened at the moment when zero current flows through it.

Closing and opening at these exact moments has a number of advantages:

- The negative effects of inrush current on the lifetime of the relay in the NETIO device are significantly reduced.
- Reduced probability of a circuit breaker tripping in the circuit branch where the appliance with a high inrush current is connected.
- Significantly improved lifetime of switching supplies in appliances that are connected to the socket (especially in case of frequent switching on and off).
- Significantly reduced electromagnetic interference caused by repeated switching on and off.
- Zero current switching (ZCS) significantly improves the lifetime of the device and the connected end devices. This function is particularly important in case of frequent switching.

Quick WiFi connection setup (via AP mode)

- After being powered, YG Device creates a WiFi network that you connect to with your PC or mobile phone. WiFi AP is created only when LAN cable is not connected to the device.
- It then scans for WiFi networks in the area, and lets you choose from a list and type the password.
- YG Device then confirms the connection to the network and redirects you to your web interface to setup your device.
- YG Devices can be discovered in your local network usint the Yellow Grid Discover utility.
  (https://www.yellow-grid.eu/download)

3 day heating for high consumption bursts

By pressing *BUTTON_1* three times in quick succession, you activate a mode where for three days device defaults to continuously heating your boiler. After three days, normal normal operation is restored.

Setup process

Step by step WiFi setup:

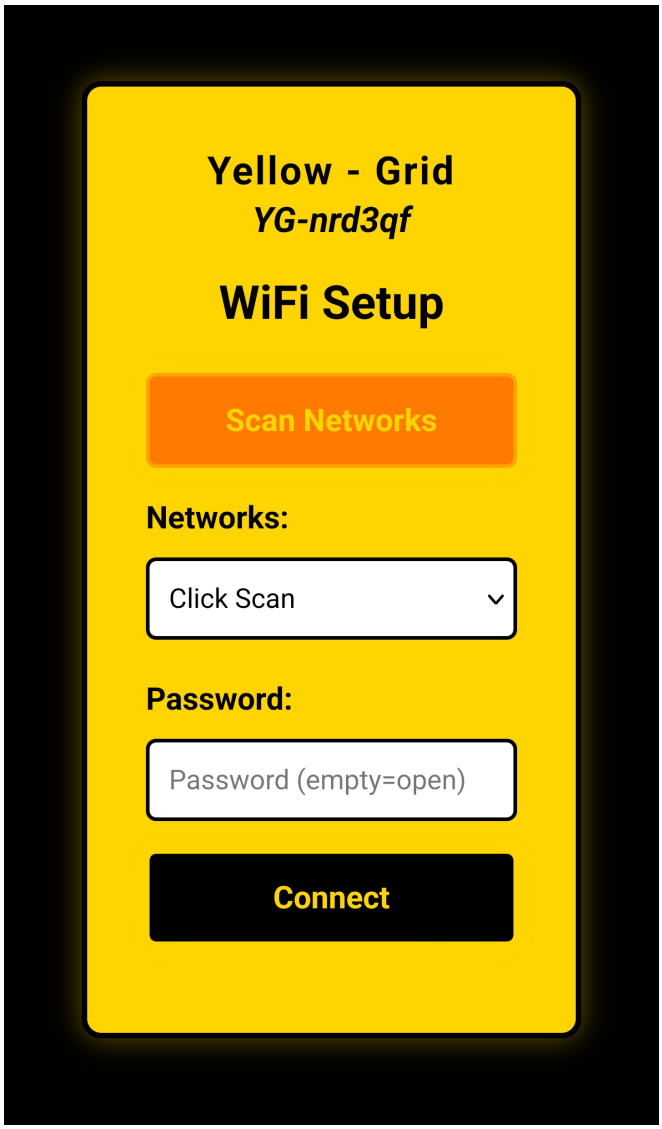
1) Connect device to power and to boiler as shown in wiring diagram.

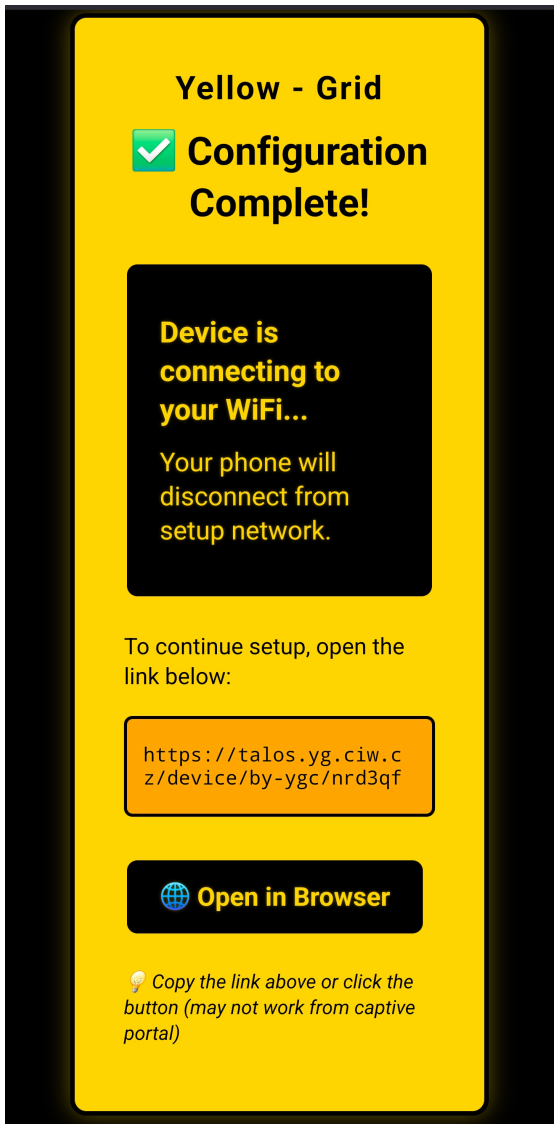
2) Connect your mobile phone / laptop to WiFi named **YG-XXXXXX**
(Includes your YG Code that identifies your device)

3) Navigate to *http://192.168.4.1*

4) Click **“Scan Networks”** and select your WiFi SSID (name). Enter your WiFi password and click **“Connect”**

5) Your device is now connected to your network. Continue setup by clicking **“Open in Browser”**, scan QR code on your device or visit *https://app.ygrid.eu/*
(same as LAN setup)



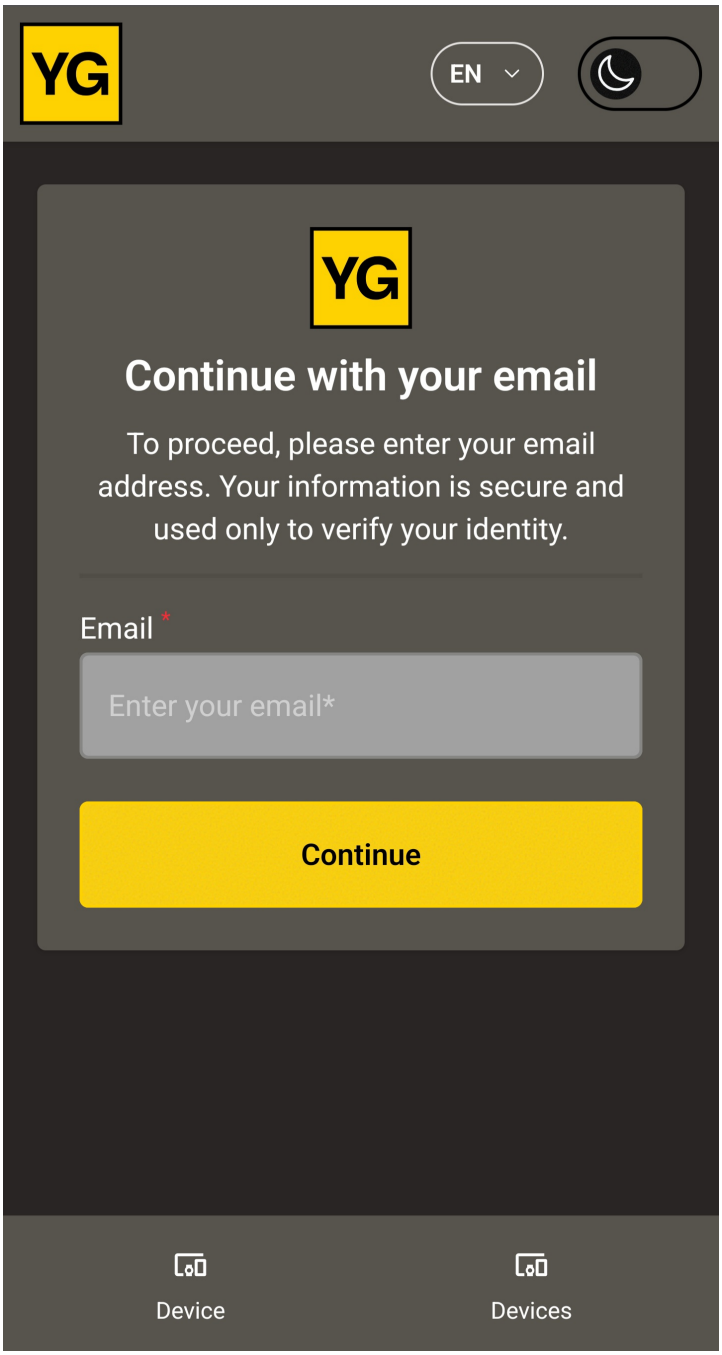


Step by step LAN setup:

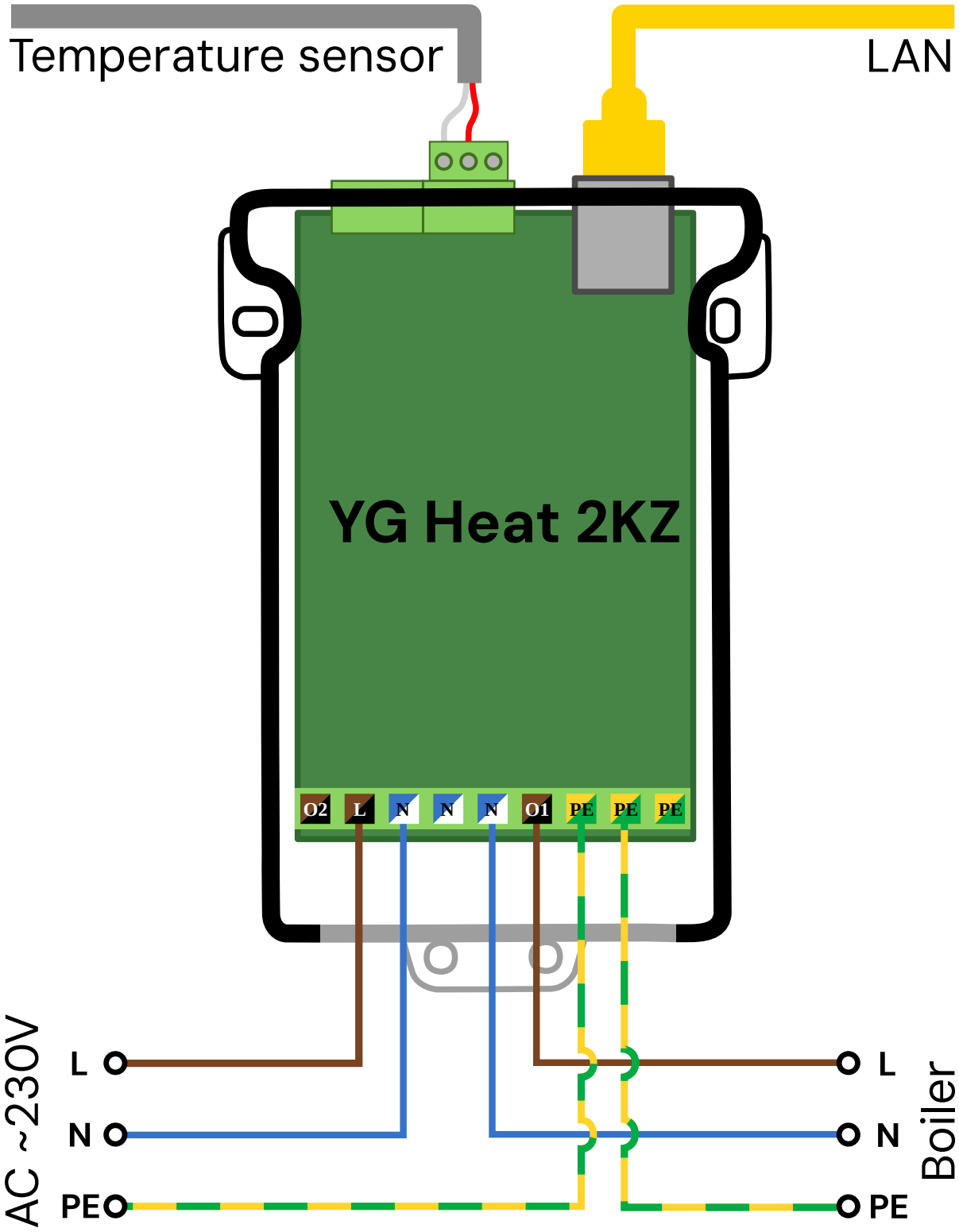
1) Connect device to local network via the RJ45 interface as shown on wiring diagram

2) Power on device

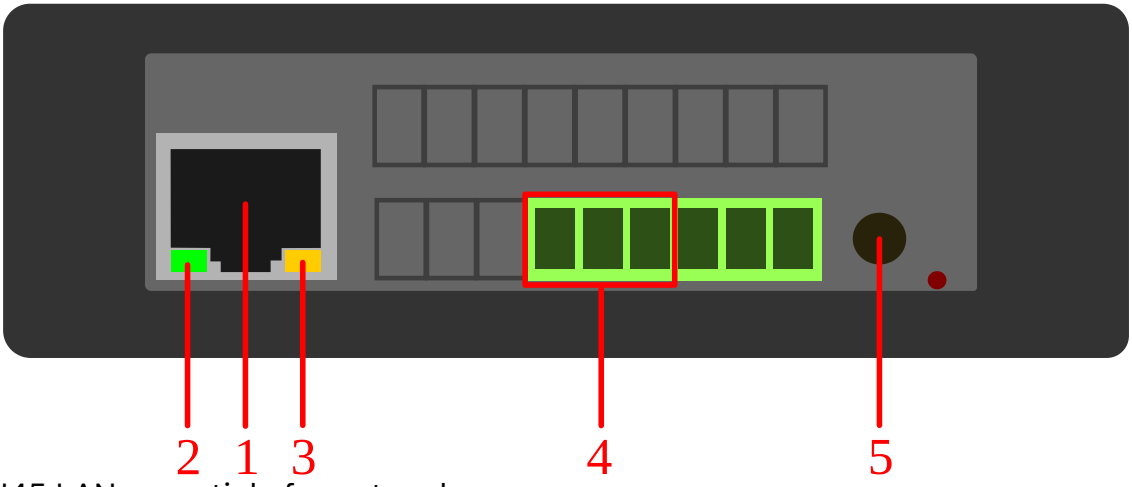
3) Once device stops flashing rapidly, connection with Yellow Grid servers have been established. Continue setup by scanning QR code on your device or visit website *https://app.ygrid.eu/*



Wiring diagram



Device face diagram



1 – RJ45 LAN recepticle for network

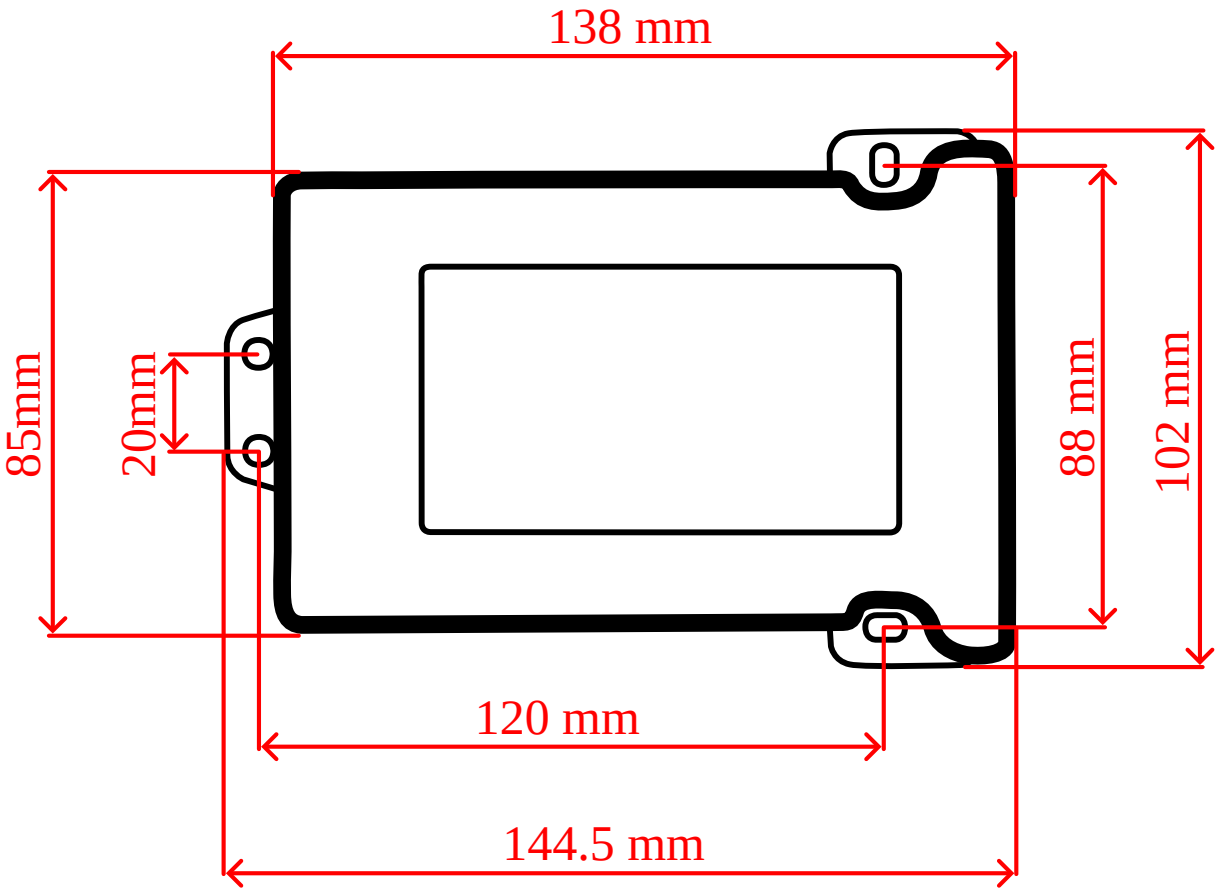
2 – LED diode showing network activity

3 – LED diode showing device state

4 – Temperature sensor recepticle

5 – Button 1

Dimensions drawing



Contacts:

If you require additional assistance with installation or have questions or concerns regarding our product, don't hesitate to reach us via email at info*@ygrid.eu* or via phone at +420 733 659 706.