

LoWi3, WiFi display of the digital meter



The LoWi3 web server is connected directly to the P1 port of the digital meter with the included RJ12 'cross' cable and then linked to the local WiFi network. For example, you get an overview of the total consumption of the house via the web browser on smartphone, tablet or PC, up to 2 years ago. LoWi3 is compatible with all Belgian* and Dutch digital meters from protocol version DSMR

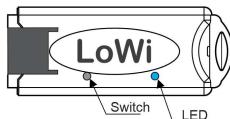
5.x. For the Dutch DSMR 4.x meters, the optional P1 adapter cable with extra USB connection is required for the power supply. LoWi3 is already pre-configured, the available measurement data are:

- Consumption import high tariff
- Consumption of low tariff imports
- Consumption export high tariff
- Consumption of low tariff exports
- Rate (high or low rate)
- Gas consumption (if measuring device is present)
- Water consumption (if measuring device is present)
- Consumption of imports high + low rate
- Consumption of exports high + low rate
- Consumption of imports – exports (positive or negative)

In addition to P1 meters, you can also link external meters with manual input of the meter readings, MQTT meters, plugs or THEOs. It is always possible to change the order of the meters, whether or not to show meters. Up to 16 measuring channels are provided in the LoWi3. Each measuring channel has a storage of the last 10 days for hourly consumption, with a resolution of 5 minutes. The daily consumptions have a storage of 12 months. The month consumption has a storage of 2 years. (*Activate Belgian meter **first**, see comments)

1. Connect:

LoWi **MUST be** in the receiving range of the **2.4GHz WiFi** network and that WiFi network **MUST be** connected to the Internet. Check any receiving strength with your smartphone. Preferably no metal objects near the LoWi, metal cabinets weaken WiFi.



2. Pairing with WiFi network

Connect LoWi to the **P1** port of your digital meter via the supplied RJ12 cable. The LED will first light up constantly, and after 3 seconds continuous flash (approx. 2x per second). This means that the LoWi is NOT yet linked to your WiFi network.

From here you can connect with WiFi in **3 different ways** and in this short manual we only explain the **REDIRECT** method:

REDIRECT method: long press, approx. 5 seconds until the LED is constantly lit to get into 'WiFi access point' mode and thus also on the **REDIRECT** page (see LoWi video tutorial: <https://www.2-wire.net/lowi-tutorial/>)

Note: Change existing WiFi link: If LoWi is already paired (slow heart rate LED every 5 seconds) and you still want to change this WiFi link, you can do this by restarting and then immediately pressing within 3 seconds after the first LED flash long (approx. 5 sec) until the LED lights up continuously, and then changing the network settings via the above method.

Note: Upgrade: Pressing for a lowi already paired with heart rate LED Long (approx. 5 sec. until the LED lights up continuously) results in a firmware upgrade.

Note: WiFi range: Make sure that during WiFi connection and also during firmware upgrade the distance between LoWi, router, smartphone or PC is as short as possible!!!

Once LoWi in 'access point' mode it says: Then choose 'network' on your laptop, smartphone or tablet and if it works correctly there must now be in the list: '2-WIRE-LOWI'. **Select this network**. If you are asked for a key (password): 'adminLOWI'.

Your web browser opens automatically and after a maximum of 1-2 minutes you will be redirected to a **REDIRECT** screen where you can then enter the IP settings.



Note: If this is not automatic, please surf to 8.8.8.8 yourself or try pairing via smartphone or tablet. Be sure to check wifi reception and review the video tutorial if necessary. If you are really not familiar with IP addresses or do not know how to determine a fixed IP address, check with someone with knowledge of networks.

REDIRECT page:

LoWi must be given a free and fix IP address from within your own network and you can enter this IP address together with your network settings via the **REDIRECT** web page.



Click on '**Configure WiFi**' and a list of networks will appear in your vicinity. You can now select your WiFi network from the list (SSID), and also enter the password of your network.

Default settings(Fig.2):



- IP address: 192.168.0.125 (your LoWi web page)
- Gateway: 192.168.0.1 (required for internet access!)
- Subnet mask: 255.255.255.0
- PortNr: 8082 (choose random number e.g. between 8000 and 9000), needed for port forwarding in remote control)

These default IP addresses must now be adjusted according to the settings of your own WiFi network, it is important that all IP addresses **are in the same 'range'**.

If necessary, you can take over IP address, subnetmask and gateway from the proposal from the IP server scanner tool. (Fig.2) or you can temporarily set LoWi to DHCP in order to get a free and fixed IP address and then read it out and secure it via the server scanner. See the extensive online manual for this.

Fig.2



Fig.3

After filling in SSID, password and IP address, SUBNETMASK, Gateway and port number(Fig.1),press **SAVE** and you will get confirmation of the set LoWi IP address. (Fig. 3)

Now the laptop has to go back to the existing WiFi network. To do this, go to WiFi networks and select your default WiFi network.

Once on your standard WiFi network, you can surf to the set **FIXED IP** address and port number (enter in address bar of your browser, e.g. 192.168.0.226:8082). **The port number must follow with a '!' decimal sign after the IP address!** And that's how you get to the homepage of your LoWi web server.

Note: In your browser you may need to check if 'SETTINGS - JAVASCRIPT' is on !

Note: It is best to make a shortcut on your PC, tablet or smartphone so that you have an immediate connection to your consumption.

2. Tablet or PC operation and configuration:

Home

The **homepage** (dashboard) gives an overview of current electricity and gas consumption together with a rolling daily graph of both.



Detail page

Via the button 'DETAILS' you get to the different measured, calculated, and manually entered meters. Via the scroll menu at the top you immediately get to the right meter.

Configuration page

Via the Button 'LOWI' you end up on the setup page and here you can:

- Setting up login and password, necessary for external access via port-forwarding (see [FAQ](#) on our website)
- Set MQTT broker/http client, set language version and clock. For MQTT functionality you need to subscribe to an MQTT broker.
- Upgrade LoWi via web server, set energy prices
- To customize configuration:
 - Via 'PROTOCOL' you set your type of meter



- The 10 measured and calculated meters from the P1 port are always logged, but per meter you can decide whether or not it is visible.
- Per meter you can add an icon by first clicking on the desired icon for the meter and afterwards.
- Per meter you can assign a name or choose a unit under 'NAME'.
- For manually entered meters you MUST set a 'NAME' and you can choose a unit under 'UNIT'

- With MQTT meters you enter a MAC address at device ID
- You can empty one log channel by typing the word "delete" into the name of that channel, then save, you no longer have to retype the name that will come back on its own. **Please note**, perform this action only channel by channel!
- You can change the order by pressing 'SORT' and dragging the meters to a new position.

After each change, press 'SAVE' and enter password 'adminLOWI'. Then press 'EXIT' to get back on the 'DASHBOARD'.

Table page

The "TABLE" button gives you a 2-year overview of all measured consumptions and energy costs calculated on the entered unit prices.

3. General note:

- Pre-activate the Belgian digital meters [on the Fluvius website](#) to open the power supply and data to the P1 port.
- Dutch digital meters with DSMR 4.x: use the optional [P1 power adapter](#) for LoWi here.
- The full current manual can be found on the 2-WIRE website at the product page of the LoWi webserver.
- A LoWi web server can log up to 16 energy channels : 7 measured P1 port values, 3 calculated meters, counters for manual input of counter readings, MQTT meters.
- A nice extension to the LoWi is the LeON (USB) and the THEo stick. It is connected to LoWi via WiFi (http or MQTT) and shows the current energy rate (RED= day rate, BLUE= night rate, GREEN= injection into the grid), setting thresholds via LoWi
- If you want to measure directly linked partial consumption in addition to total consumption, choose a ReMI, MiLo or the MEMo2 web server.
- The LoWi website is 'responsive' meaning that a smartphone, a tablet and a PC each get their own layout.
- With the **MQTT (optional subscription)** or the **HTTP client** function you can upload measurement data to a central

platform for backup or for comparison with other installations, see extensive manual.

- PRINT (for DETAILS), and HTTP both generate about the same CSV.
- Rebooting is possible by pulling the plug or by briefly pressing the switch.

4. Technical data:

General:

Wi-Fi network 802.11 b/g/n/e/i (2.4 GHz), which needs internet access. Built-in antenna.

Tx power: 802.11 b: +20 dBm 802.11 g: +17 dBm 802.11 n: +14 dBm

Rx Sensitivity: 802.11 b: -91 dbm (11 Mbps) 802.11 g: -75 dbm (54 Mbps) 802.11 n: -72 dbm (MCST)

Security: WPA/WPA2, Encryption: WEP/TKIP/AES

Network Protocol: IPv4, TCP/UDP/HTTP/FTP

Built-in time clock which is synchronized daily with an extremely precise NTP clock.

Supplied: [RJ12-6p6](#) cable (power supply via the digital meter)

Operating conditions:

Operating temperature range: 10 °C to 50 °C, indoor

Maximum humidity: 90 %, no condensation, Max.: 2000m

Physical properties:

Housing: plastic, self-extinguishing acc. UL94-VO

Degree of protection: IP20, EN 60529

Dimensions : approx. 70mm x30mm x 7mm, 33 grams

Connections:

Built-in P1 port (galvanically insulated) for the new generation of Belgian and Dutch digital meters from DSMR5.0

Power supply: via P1 Average consumption: 5V/ 100mA, peak up to 160mA

Labels:

RoHS: Non-toxic, acc. Guidelines WEEE/RoHS

CE: In accordance with EMC and low voltage guideline: HBES – EN 50090-2-2 and EN60950 – 1: 2006.

9. Installation prescription

The installation is preferably carried out by someone with **at least** a basic knowledge of PC/networks.

10. Support

Do you want to exchange the product in case of a defect? Please contact your wholesaler or the 2-wire support service. The contact details can be found on our website [www.2-wire.net/contact/](#)

11. Warranty

The warranty period is two years from the delivery date. The delivery date is the invoice date of purchase of the product by the consumer. If no invoice is available, the production date applies. The consumer is obliged to inform Qonnex bvba in writing about the lack of conformity, and this no later than two months after adoption. In the event of a lack of conformity, the consumer is only entitled to a free repair or replacement of the product, which is determined by Qonnex. Qonnex is not responsible for any defect or damage resulting from incorrect installation, improper or negligent use, improper operation, transformation of the product, maintenance in violation of maintenance regulations or an external cause such as moisture damage or damage due to overvoltage. The mandatory provisions in national legislation on the sale of consumer goods and the protection of consumers in countries where Qonnex sells directly or through distributors, agents or permanent representatives shall take precedence over the above provisions

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