

Document: Manual PiiGAB 820
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PiiGAB 820

Manual

English



PiiGAB

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1 Quick start with your 820

1.1 With DHCP

Connect your computer to the same network as the PiiGAB 820 and open a web browser. In the address bar, type piigab- followed by the serial number of your device, and end with .local.

Example: piigab-30100009.local

You will then be automatically redirected to the login page. Use the login credentials printed on the side of your device.

1.1 Without DHCP

Make sure your computer is set to obtain an IP address automatically, then connect it directly to the PiiGAB 820. Wait at least 3 minutes until both your computer and the PiiGAB 820 have stopped trying to obtain an IP address from a DHCP server. Open a web browser and type piigab- followed by the serial number of your device, and end with .local.

Example: piigab-30100009.local

You will then be automatically redirected to the login page. Use the login credentials printed on the side of your device.

1.2 Find IP with NFC

Make sure your smartphone is NFC-capable and unlocked. Hold the phone against the front of the PiiGAB 820 near the Ethernet connector. The phone will automatically read the NFC tag and open a URL on the phone. The URL contains the device's IP address — note this address. Configure your computer with a static IP address on the same subnet as the device (for example, if the device IP is 192.168.1.50, set your computer to 192.168.1.100/24). Then open a web browser and either enter the device IP or follow the instructions shown in the browser to continue with the login or setup process.

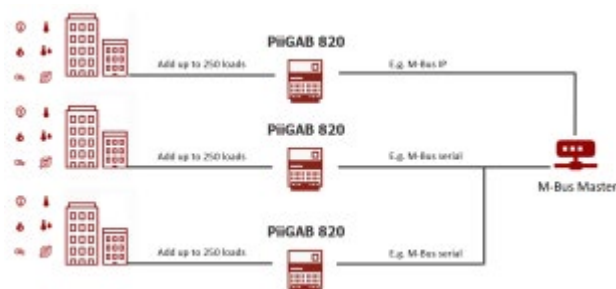
Location: The NFC location is between the Ethernet connector and the PiiGAB logo on the front of the device.

2 Applications

This section describes the applications of the PiiGAB 820. A few examples are provided to make it easier to understand the product. The product is versatile and can be used in many different solutions.

2.1 EXTENDER - Large Data Collection Projects

Streamline data collection by placing a PiiGAB 820 in each building, with the license level adapted to your specific needs. All PiiGAB 820 units are then read via the network or M-Bus Serial by the PiiGAB 900 Gateway, which subsequently distributes the meter data to the desired systems and integrations.



When combined with a PiiGAB 900 Gateway, the data collection system can be expanded with multiple PiiGAB 820 units, together handling up to 3,000 M-Bus loads.

2.2 EXTENDER - Growing Data Collection Projects:

Use the PiiGAB 820 as an Extender when the existing master can only drive a limited number of loads, or when the data collection system is expanding with additional meters and sensors



2.3 CONVERTER

PiiGAB 820 functions as a converter between M-Bus Serial and M-Bus IP. Through its M-Bus slave port, the device can also act as an M-Bus slave towards other masters, making it easy to integrate into existing systems and networks. Perfect for both new installations and expansion of existing systems.

Convert M-Bus Serial to M-Bus IP to enable reading from masters located on the network.



Transparent M-Bus Serial

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2.4 REPEATER

PiiGAB 820 makes it possible to extend wired M-Bus communication by up to 10 kilometers per unit, ensuring stable data collection even over long M-Bus lines. The PiiGAB 820 also features a built-in filter that eliminates communication disturbances on the M-Bus line.



2.5 COMPATIBLE WITH ALL MASTERS

PiiGAB 820 is compatible with all types of M-Bus masters available on the market. Thanks to its independence from any specific master, it also enables enhanced driving power in M-Bus systems connected to PLCs or DDCs

3 Overview

This manual provides guidance on how to install, connect, and configure the PiiGAB 820

3.1 Description

PiiGAB 820 is a flexible converter designed for data collection in building and properties. It supports up to 250 M-Bus loads. The converter enables seamless conversion, expansions and filtering of M-Bus communications.

PiiGAB 820 is easily configured through its web interface and communicate with external systems via M-Bus. This makes it ideal for integration in energy monitoring, building automation, and industrial control environments.

3.2 Security

The PiiGAB 820 converter is designed for secure operation in professional industrial and metering environments. To maintain a high level of data integrity and protection, especially when handling sensitive information such as consumption values used for billing, several security mechanisms and best practices must be followed.

3.3 Physical Access Control

All fieldbus interfaces such as M-Bus are considered physically secure interfaces. These ports must only be accessible within locked, tamper-proof technical enclosures. Unauthorized physical access to

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these ports could allow interception or manipulation of transmitted data. It is therefore essential that:

The device is installed in secured environments, such as locked electrical cabinets or metering stations.

M-Bus cabling must not be externally accessible or exposed to open public spaces.

Access to the device and its connectors should be limited to authorized personnel only.

3.4 Network Access Control

 Recommended to change credentials at first log in.

Network Installation Requirements

To ensure secure operation and compliance with cybersecurity best practices, the device must only be deployed within logically segmented and protected networks. The following installation requirements apply:

The device shall never be connected directly to public or untrusted networks, including the open Internet or flat LAN environments without segmentation.

All Ethernet-based deployments must use firewall protection, VLANs, or dedicated metering networks that restrict access to trusted systems only.

Inbound access from external networks must be blocked, unless explicitly required and protected by strong authentication and encryption.

Important: Exposing the device to open networks without adequate isolation poses significant security risks. It is the responsibility of the system integrator or end user to ensure proper network design, segmentation, and firewall policies.

4 Device Overview

PiiGAB 820 is developed to enable transparent communication with all types of meters that follow the M-Bus standard. By converting the electrical interface from M-Bus to Ethernet, measurement data can be easily retrieved by e.g. SCADA systems, acquisition systems or configuration tools.

The device supports both TCP/IP and UDP/IP and is connected via 10/100 Mbit Ethernet. It can be configured with fixed IP address or via DHCP, which provides flexibility in different network environments. Thanks to the PiiGAB 820 being operating system independent, it works with most MBus software on the market.

4.1 Flexible Load Capacity

The PiiGAB 820 is offered in several configurations and supports up to 250 M-Bus loads per unit:

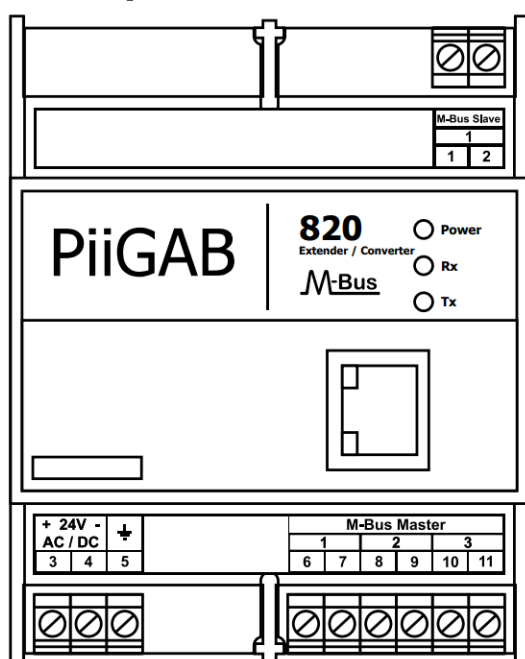
- 2 M-Bus loads
- 5 M-Bus loads
- 20 M-Bus loads
- 35 M-Bus loads

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- 70 M-Bus loads
- 120 M-Bus loads
- 170 M-Bus loads
- 250 M-Bus loads

The PiiGAB 820 supports scalable licensing, allowing seamless upgrades between different load capacity levels to accommodate expanding system requirements. License activation is performed directly through the integrated webinterface, eliminating the need for hardware replacement or firmware reinstallation. Similar to the PiiGAB 900 series, system expansion requires no rewiring or additional hardware components as the number of connected meters increases. New electronic licenses can be conveniently purchased and applied via the web interface to extend the unit's M-Bus load capacity. With this flexible architecture, a single PiiGAB 820 can manage up to 250 M-Bus loads within a compact 4-module enclosure.

4.2 Physical interfaces



RJ45 – Ethernet 10/100 Mbit/s (TCP/IP communication)

Power supply – 24 V AC/DC (+ PE)

M-Bus Master Ports – 3 independent M-Bus master channels

M-Bus Slave Port – 1 M-Bus slave interface for upstream communication

4.3 LED interface

Status Indication PiiGAB 820 is equipped with three multicolor LED indicators providing quick and clear information about device operation and communication on the M-Bus line.

- PWR indicates device operation and power status.

- RX indicates incoming communication on the M-Bus line
- TX indicates outgoing communication on the M-Bus line.

The LEDs simplify installation and troubleshooting by visually confirming normal startup, active data traffic, and possible faults.

LED	Blink pattern	Indicator	Meaning
PWR	● (Solid green)	Power on	Device in operation
	● (Off)	No power	Check power supply
	● (Solid blue)	Startup	Device is starting up
	● (Flashing red)	Error status	Short circuit
	● (Slow flashing red)	Error status	Overload
TX	● (Flashing green)	Outgoing traffic	Data transmitted
RX	● (Flashing green)	Incoming traffic	Data received

4.4 Network

From the factory, the device is set to DHCP and has an IP fallback to 192.254.xx.xx.

The easiest way to locate the device if you don't have DHCP is to connect it directly to your computer. Wait until the fallback activates after 3 minutes, then access the device by entering the URL piigab-[serial number].local, where [serial number] is replaced with the device's serial number.

4.5 Reset button

When the button is pressed, the PWR LED starts blinking blue. If the button is held for 10 seconds, the PWR LED turns solid blue, indicating that all settings have been restored to factory defaults and the device will restart automatically.

4.6 Installation

The PiiGAB 820 is designed to be installed in electrical cabinets, enclosures, or other closed spaces. The unit must always be mounted in a protected environment to ensure both operational reliability and security.

Ensure sufficient space around the unit to allow for proper heat dissipation. The recommended clearance is at least 5 cm (2 inches) over and under the device. Avoid installation in areas with poor airflow, direct sunlight, or in proximity to other heat-generating components without adequate cooling.

The PiiGAB 820 can be installed on DIN-rail or fixed inside an enclosure, depending on the application. All cables should be routed neatly and secured to avoid mechanical strain on the

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connectors. Verify that grounding and shielding are carried out according to local electrical installation standards.

Safety Notes

Do not power up the unit before it is securely mounted and all connections have been properly made. The installation environment should comply with the specified operating temperature and humidity limits. The installer is responsible for ensuring that all relevant electrical safety and EMC regulations are followed.

4.7 Power Supply Requirements

The PiiGAB 820 must be powered by an external power supply providing:

- 24 V AC or 24 V DC
- Maximum power consumption: 36 W

Only use a certified and reliable power supply to ensure safe and stable operation. The power source must be installed according to applicable electrical safety standards and should only be connected by authorized personnel.

It is recommended to place a fuse close to the power supply. Always connect the PE terminal to protective earth to ensure safety, reduce EMC disturbances, and provide stable operation.

4.8 Ethernet (RJ45)

Connect the RJ45 port to a LAN switch or router (Ethernet 10/100/1000). Use a STP cable (Cat5e or better). Keep Ethernet cables separated from power wiring to reduce EMC disturbances.

4.9 M-Bus (Master interface)

The Master ports are the terminals where you connect your M-Bus loops, i.e. the cables going to your meters.

The gateway provides three parallel master outputs (terminal 22–29), and you can use one or several of them depending on how many loops you need. It is recommended to split longer M-bus loops in several to easier troubleshooting.

All master ports deliver the same signal and are powered by a common M-Bus driver stage, so you can choose any port pair for each loop. The output voltage is normally around 39–40 V and is sufficient to supply the number of meters licensed for your gateway.

If the circuit is short-circuited, an electrical fuse will cut off the power and voltage to the loop and will turn it back on again every second. The short circuit can be seen as a rapidly blinking red light on the PWR LED.

Safety note:

Never connect two M-Bus masters to the same loop. Doing so can damage the equipment and cause communication errors. Always ensure that each M-Bus loop is powered and controlled by only one master.

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4.10 M-Bus (Slave interface)

Connect port 1&2 to your M-Bus loop to read values via serial Mbus as a slave device (bus topology).

M-Bus is non-polarized, but follow device labeling where indicated. Use a twisted pair cable for reliable communication.

4.11 Overheating

If any of the built-in temperature sensors detect that the device is overheating, the loop will be shut down to cool off before it is reactivated again.

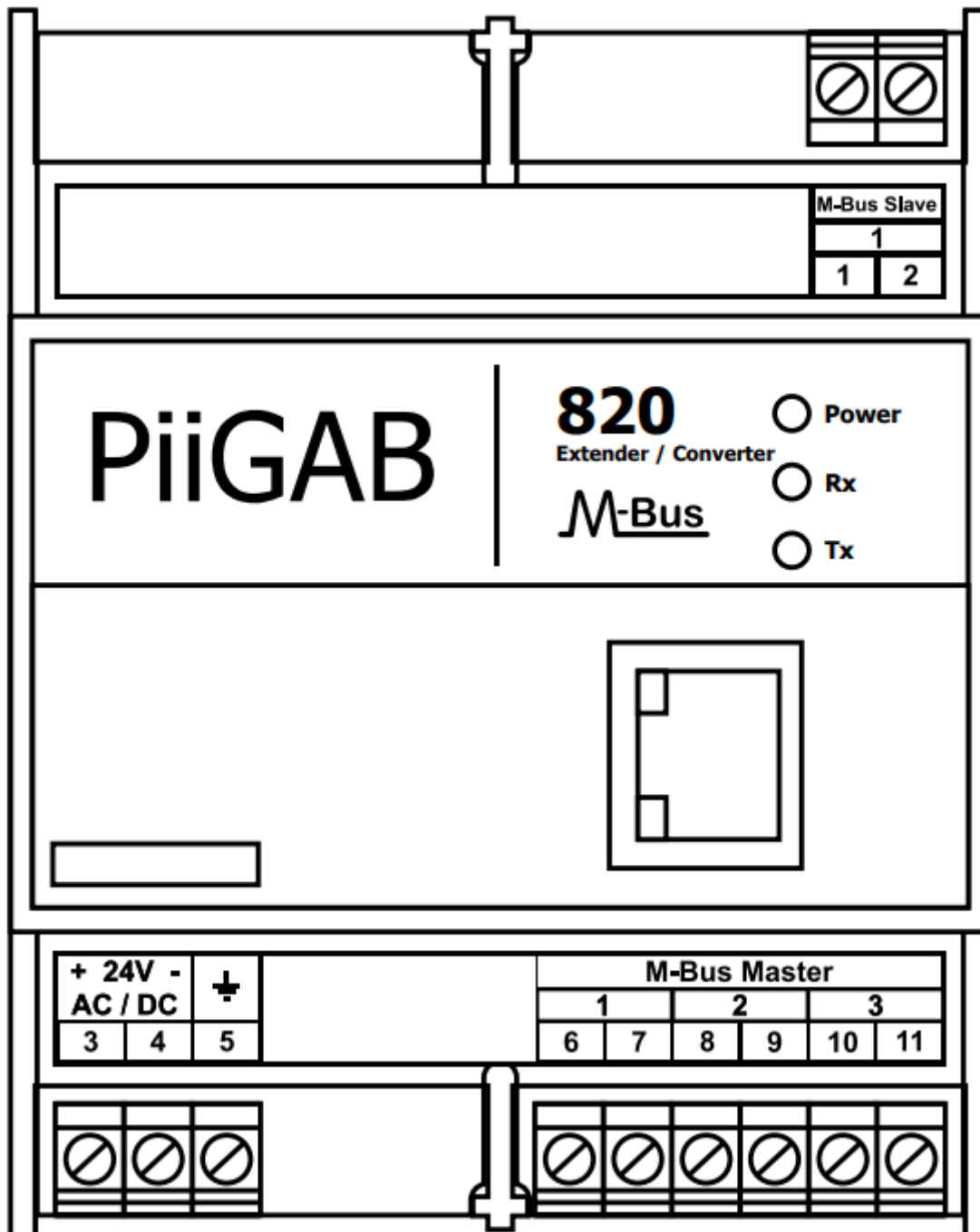
5 Wiring Instructions – PiiGAB 820

This section describes how to connect power supply, M-Bus master ports, and communication interfaces on the PiiGAB 820. Always ensure that all wiring is performed with the power disconnected.

5.1 Power Supply Connection

The PiiGAB 820 is powered using 24 V AC/DC.

Connect the power cables to the terminal block marked 24V AC/DC.



Terminal Description

- 3 Power supply, positive (+)
- 4 Power supply, negative (–) or neutral

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Terminal Description

5 PE , protective earth

5.2 M-Bus Master Connection

The PiiGAB 820 has one M-Bus Master interface for connecting M-Bus meters or slaves.
Use the lower terminal block marked M-Bus Master.

Terminal	Description
6	M-Bus Master (+)
7	M-Bus Master (-)
8	M-Bus Master (+)
9	M-Bus Master (-)
10	M-Bus Master (+)
11	M-Bus Master (-)

5.3 M-Bus Extender / Converter Port

The RJ45 connector on the front panel is the M-Bus Extender/Converter port.
It can be used for communication between multiple PiiGAB 820 units or between the PiiGAB 820 and another PiiGAB gateway.

5.4 Connector 5.5 Description

RJ45 M-Bus Extender/Converter interface

Example use:

Connect one PiiGAB 820 as an extender to a PiiGAB 900 gateway for extended M-Bus capacity.

6 Wizard Configuration

The M-Bus Wizard is a software that can be downloaded from the PiiGAB website. It helps locate the PiiGAB 900S/T on the network and test the M-Bus loop. Further configuration is done through the webinterface.

Note: In order for full functionality in PiiGAB M-Bus Wizard, download and launch version XXX of the software.

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6.1 Start PiiGAB M-Bus Setup Wizard

Upon launching the wizard for the first time, select your preferred language. This can be changed later.



6.2 Find the gateway on the network

If you know that the gateway has an IP address that can be found via the network, you will choose Find gateways on your network from the main menu.

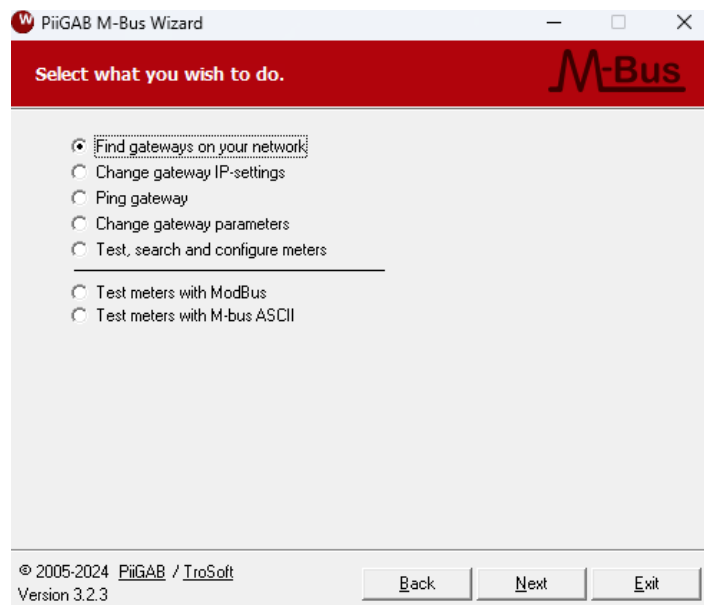
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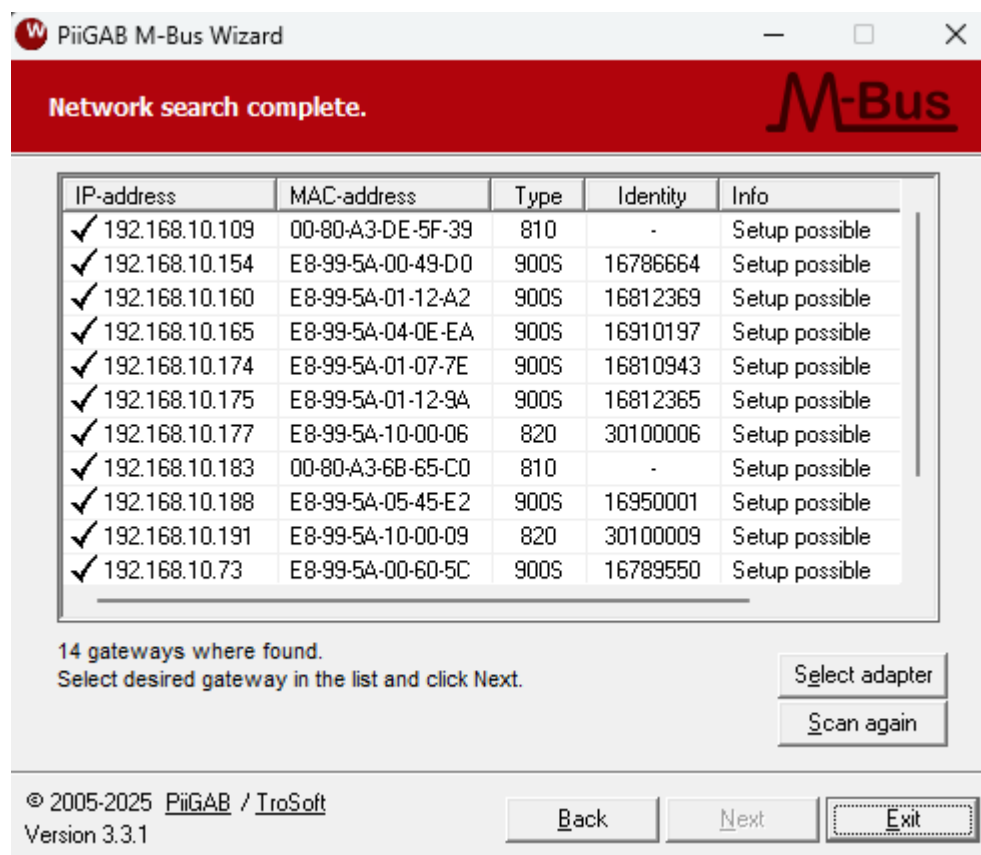
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By double clicking on type 820 alternatively on 'Next' a message box with the below text will appear.
If you choose Yes, your standard web browser will start and if you choose no you will continue to work in the PiiGAB M-Bus Setup Wizard.

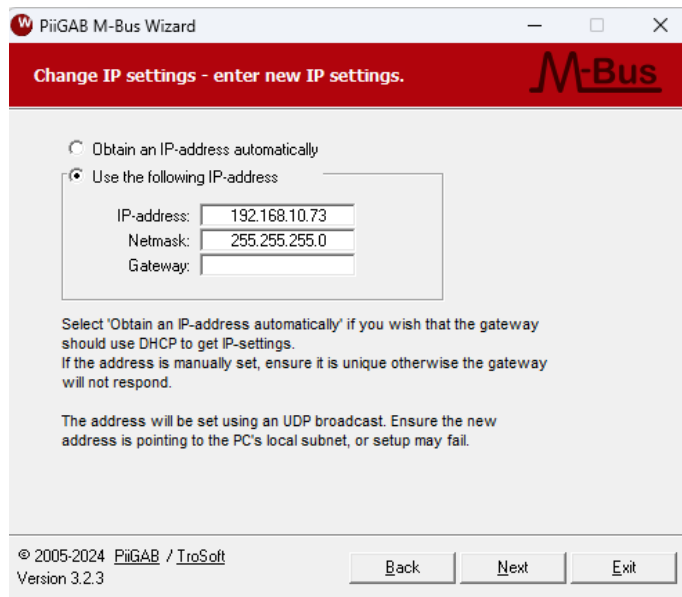


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6.3 Network settings via PiiGAB M-Bus Wizard

You can change the IP settings in PiiGAB 820 via the PiiGAB M-Bus Setup Wizard as well as the Web interface. Notice that PiiGAB M-Bus Setup Wizard doesn't support settings and changing of the netmask and gateway in PiiGAB 820.

Click "Next" to choose connection method. In the PiiGAB 820 it is only possible to set network parameters via IP. Set an IP-address and Netmask and gateway. Click next and apply.



7 First set up

7.1 Logging in

1. Open your web browser and enter the IP address of the gateway in the address bar.
2. Proceed past the security warning most browsers will display a security warning. Click "Advanced" (or equivalent, depending on your browser). Then select "Proceed to [IP address]" to continue to the login page.
3. Log in using the default credentials:
 - Username: Admin
 - Password: The default password is printed on a label on the side of the device. It may also be found in your order confirmation or shipping documents.
4. Important: Change the default password

For security reasons, we strongly recommend that you change the default password immediately after logging in. A strong, unique password helps protect your device from unauthorized access.

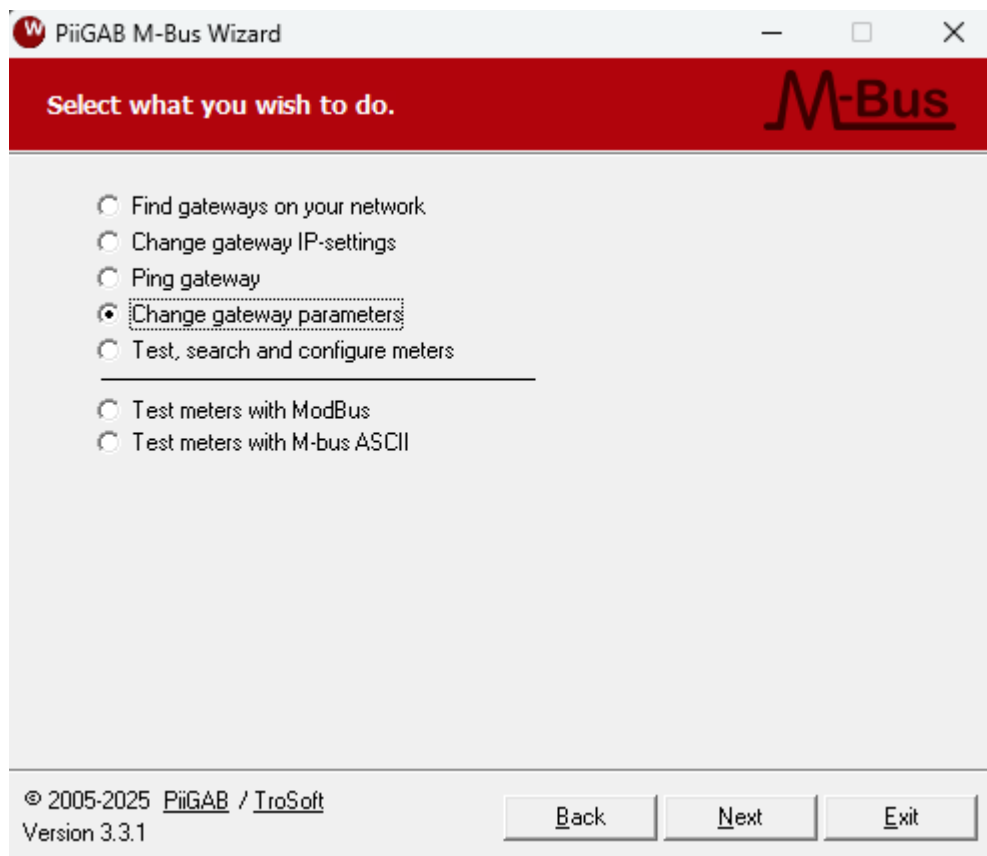
Tip: Save the password in PiiGAB Portal

To simplify future access and management of your devices, you can store the password securely in the PiiGAB Portal. This allows for easier login and configuration directly from the portal in the future.

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7.2 Change Baudrate

Choose change gateway parameters



Select Baudrate for the masterport. Select Local portnumber and protocol

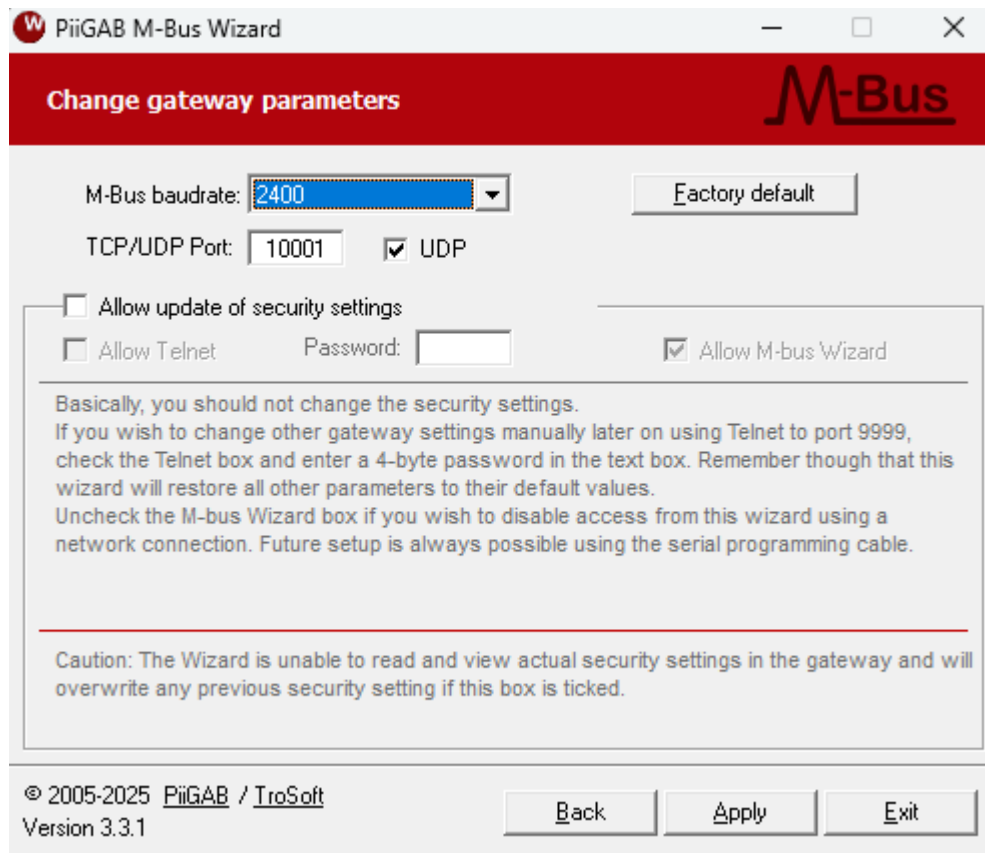
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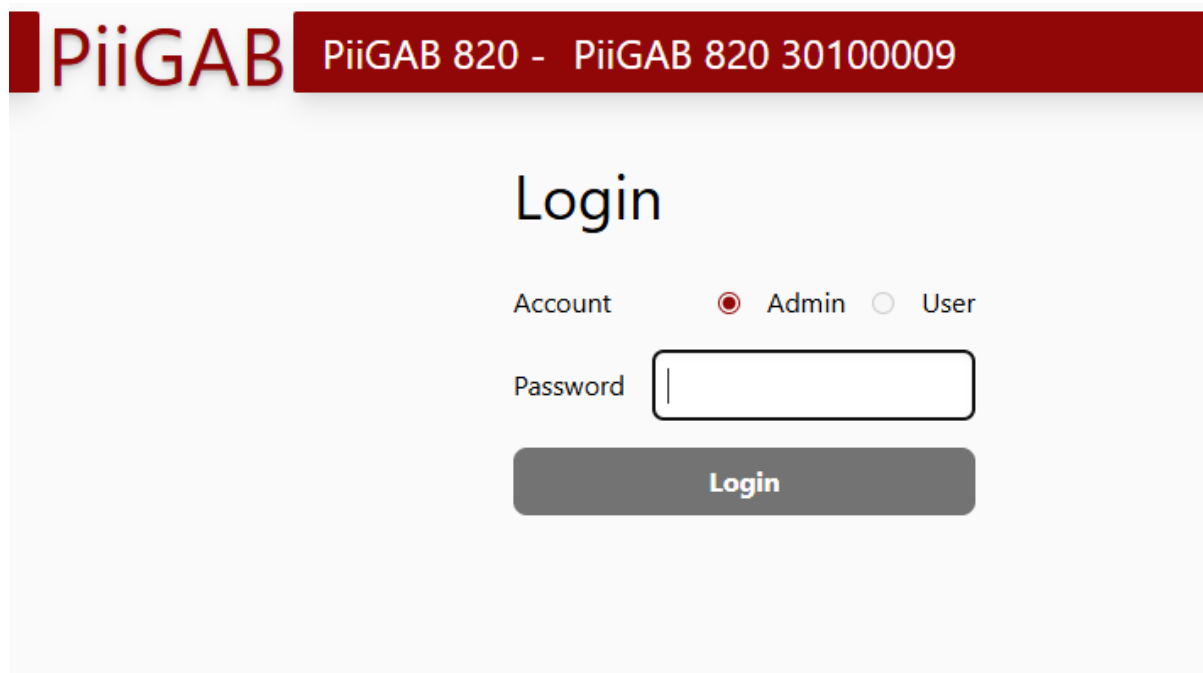


The screenshot shows the 'PiiGAB M-Bus Wizard' window with the title 'Change gateway parameters'. The interface includes a red header bar with the 'M-Bus' logo. The main configuration area contains the following elements:

- M-Bus baudrate:** A dropdown menu set to '2400' and a 'Factory default' button.
- TCP/UDP Port:** A text box containing '10001' and a checked checkbox for 'UDP'.
- Security settings:** A section with checkboxes for 'Allow update of security settings' (unchecked), 'Allow Telnet' (unchecked), and 'Allow M-bus Wizard' (checked). A password text box is located between 'Allow Telnet' and 'Allow M-bus Wizard'.
- Instructions:** A text box stating: 'Basically, you should not change the security settings. If you wish to change other gateway settings manually later on using Telnet to port 9999, check the Telnet box and enter a 4-byte password in the text box. Remember though that this wizard will restore all other parameters to their default values. Uncheck the M-bus Wizard box if you wish to disable access from this wizard using a network connection. Future setup is always possible using the serial programming cable.'
- Caution:** A red-bordered box with the text: 'Caution: The Wizard is unable to read and view actual security settings in the gateway and will overwrite any previous security setting if this box is ticked.'
- Footer:** Copyright information '© 2005-2025 PiiGAB / TroSoft Version 3.3.1' and three buttons: 'Back', 'Apply', and 'Exit'.

8 Configure with Webinterface

Go to the ip-address found in the PiiGAB M-bus Wizard software or type piigab-[serialnumber of your unit].local if your computer is located on the same network. Example: piigab-30100009.local



The screenshot shows the 'PiiGAB' web interface. The header bar is red and contains the 'PiiGAB' logo and the text 'PiiGAB 820 - PiiGAB 820 30100009'. The main content area is white and features a 'Login' section with the following elements:

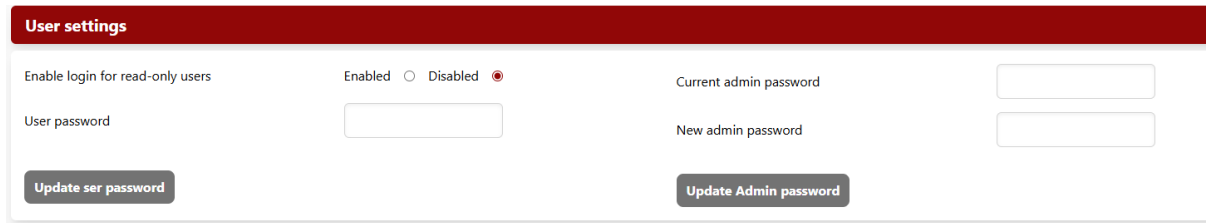
- Account:** Radio buttons for 'Admin' (selected) and 'User'.
- Password:** A text input field.
- Login Button:** A grey button labeled 'Login'.

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The login credentials for the device can be found on the side of the unit.

Change Admin/user password

Go to settings, and in the area of “user settings” paste the old password in “Current admin password” and you new password in “New admin password”, then press “Update Admin password”.



The screenshot shows the 'User settings' page. At the top is a red header with the text 'User settings'. Below this, the page is divided into two columns. The left column has a toggle switch for 'Enable login for read-only users' which is currently set to 'Enabled'. Below this is a text input field labeled 'User password'. At the bottom of this column is a button labeled 'Update ser password'. The right column has two text input fields: 'Current admin password' and 'New admin password'. At the bottom of this column is a button labeled 'Update Admin password'.

User account

The user account can be enabled or disabled. This user can only access the dashboard page of the device and therefore can only view the configuration and settings of the unit.

Device Settings

In this section, you can configure the basic settings of the device, such as the unit name, communication port, and baud rate. After making the desired changes, click **Save settings** to store them.

Network device name

Enter the name of the device here. The name is used to identify the unit through the webinterface

Example: PiiGAB 820 30100009

You can freely change the name, but it is recommended to include the device type and serial number for easier identification.

Primary address

This is the primary M-Bus address of the device. It is used by a supervisory or master system to communicate with the gateway over the M-Bus network. Only numbers between 0 and 251 are allowed.

Baudrate

Set the M-Bus communication speed here. Choose the desired baud rate from the drop-down list. The default value is usually **2400**, but it can be adjusted depending on the connected meters up to **38400 Baud**.

Note: The change of Baudrate effects both the Master and the Slav ports on the PiiGAB 820.

Client port type

Select which protocol should be used for client communication:

- **TCP** – Used for connections that require a stable, session-based link.

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- **UDP** – Used for simpler, connectionless data transfers.

Choose the option that best fits your application.

Client port number

Specify which port number to use for client communication.

The default port is **10001**, but this can be changed in order to match with receiving system's local port.

NFC

This setting enables or disables the NFC functionality:

Note: If changed, the device needs to be disconnected from the power supply in order for the changes to take place. The unit must go through a power-cycle.

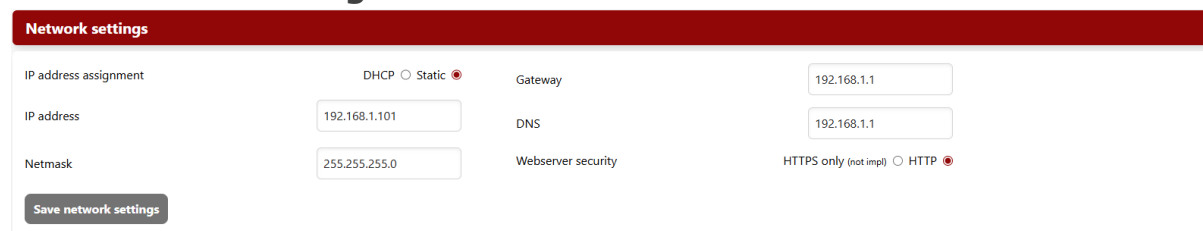
- **On** – NFC is active and can be used to read or configure settings with a mobile device.
- **Off** – NFC is deactivated.
- **NFC Readout** - When you scan the NFC tag, you will be presented with a URL in the format:**piigab.com[device serial number][device IP address]** This link can be read by your mobile phone.

Save settings

When all settings have been configured, click **Save settings** to apply the changes to the device. Reboot the unit in order for the changes to take place.

The new settings will take effect immediately or after a restart, depending on what has been modified.

8.1 Network settings



The screenshot shows a web interface for 'Network settings'. At the top, there's a red header bar with the title 'Network settings'. Below it, the interface is divided into two columns. The left column contains 'IP address assignment' with radio buttons for 'DHCP' (selected) and 'Static' (unselected), 'IP address' with a text input field containing '192.168.1.101', and 'Netmask' with a text input field containing '255.255.255.0'. The right column contains 'Gateway' with a text input field containing '192.168.1.1', 'DNS' with a text input field containing '192.168.1.1', and 'Webserver security' with radio buttons for 'HTTPS only (not impl)' (selected) and 'HTTP' (unselected). At the bottom left, there is a 'Save network settings' button.

In this section, you can configure how the device connects to the network. You can choose between using a **DHCP** address (automatically assigned) or setting a **Static IP** address manually.

IP address assignment

Select one of the following options:

- **DHCP** – The IP address, gateway, and DNS server are automatically assigned by the network's DHCP server.

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- **Static** – Allows you to manually configure all network parameters, such as IP address, netmask, gateway, and DNS.

IP address

Enter the IP address that the device will use on the network.

Example: 192.168.1.101

This address must be unique within your network to avoid IP conflicts.

Netmask

Defines the subnet mask used for the local network.

Example: 255.255.255.0

In most local networks, this value can remain unchanged.

Gateway

Specify the IP address of the network's gateway (router).

This address is used for communication outside the local network, for example, when the device needs to reach a remote server.

DNS

Enter the IP address of the DNS (Domain Name System) server.

This allows the device to resolve domain names into IP addresses.

Example: 8.8.8.8

Save network settings

After adjusting all network parameters, click **Save network settings** to apply the changes. Reboot the unit in order for the changes to take place.

If you changed the IP address, you may need to reconnect to the device using the new address.

8.2 Firmware Upgrade

Firmware update

Firmware version

v0.2.0.2 Oct 29 2025 10:30:42

Select file

Välj fil Ingen fil vald

Update Firmware

This section allows you to update the device's firmware to the latest version. Firmware updates may include new features, performance improvements, and security fixes.

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Firmware version

Displays the current firmware version installed on the device, along with the date and time of the build.

Example: v0.2.0

Select file

Click Select file to choose the firmware update file from your computer.

The file is always provided by PiiGAB and should have the correct format for your specific device model.

Update Firmware

After selecting the correct file, click Update Firmware to begin the update process.

The device will upload and verify the firmware file before installation.

Important:

Do not turn off the device or disconnect the power during the update process.

The device will restart automatically after the update is completed.

8.3 License

This section provides information about the current device license and allows you to update it if necessary. The license determines the number of active loads or functions available in the device.

License info

This area displays the current license status and related details, such as:

License is valid – Indicates that the license is active and functioning correctly.

Number of loads: Shows how many loads (or data points/devices) are supported by the current license. All units can be upgraded to 250 loads with just a new license. One meter is usually around 1 load (1.5 mA).

Update License

If you have received a new license string or an updated license from PiiGAB, click Update License to upload it to the device.

8.4 Troubleshooting

Troubleshooting

Masterport switch

☒ Port 1

☒ Port 2

☒ Port 3

Update Masterports

This section is used for diagnostic purposes and allows you to manually enable or disable the master ports on the device. It can be helpful during testing, maintenance, or troubleshooting of communication issues.

Masterport switch

Each port can be turned On or Off individually:

Port 1 – Controls the first master port.

Port 2 – Controls the second master port.

Port 3 – Controls the third master port.

Toggle the switch to enable or disable the selected port. When a port is active, the switch appears green.

Update Masterports

After making changes to the port status, click Update Masterports to apply the new settings. The device will update its configuration immediately.

9 Port Communication

The PiiGAB 820 is equipped with M-Bus slave ports that support serial communication. In this mode, the 820 operates as an extender, handling additional loads on the M-Bus line. It forwards requests transparently, so only one M-Bus load is required in the main master to communicate in this way.

Alternatively, communication can be established via UDP/TCP to the 820. In this configuration, the 820 converts IP-based M-Bus requests to serial M-Bus communication on the connected bus. The responses are then returned over IP using the M-Bus over IP protocol.

Since the 820 does not have client ports with switch functionality, simultaneous communication to both ports may cause message collisions. Therefore, it is not possible to use both communication interfaces at the same time.

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10 Device info on the M-Bus loop

To easily use the troubleshooting features in the PiiGAB 820 when it is connected to another master device that collects data, an internal meter has been created in the unit. This internal meter responds as if it were a meter on the M-Bus loop, using the same ID number as the serial number of the PiiGAB 820 unit.

The internal meter will report the current and voltage present on the loop.

#	Type Of Value	Value	Raw ☐	Datatype	Modbus register	Physical Quantity
-	Manufacturer specific			INT8	Reg 25000, INT16	StatusByte
-	Manufacturer specific	30100014		INT32	Reg 25001, INT32	MeterID
1	Instantaneous value	0		BCDB	Reg 25003, INT32	Fabrication No
2	Instantaneous value	820		LVAR	-	Model/Version
3	Instantaneous value	v0.4.2		LVAR	-	Metrology (firmware) version number
4	Instantaneous value	v1.0		LVAR	-	Other software version number
5	Instantaneous value	2400 baud		INT16	Reg 25005, INT16	Baud rate [baud]
6	Instantaneous value	39.5 V		INT16	Reg 25006, INT16	Voltage [V]
7	Instantaneous value	0.3356 A		INT16	Reg 25007, INT16	Current [A]
8	Instantaneous value	175301 second(s)		INT32	Reg 25008, INT32	Operating Time [seconds]
9	Instantaneous value	56 C		INT16	Reg 25010, INT16	External Temperature [C]
10	Instantaneous value	7		INT8	Reg 25011, INT16	Digital output (binary)
11	Instantaneous value	LkrLAYH6h8lp8rCDZl-		LVAR	-	Unknown VSF_FF 01 for manufacturer PII2031

The internal meter does not respond to 254 or FFFFFFFF.FFFF.FF.FF, which are wildcards. This is intentional, allowing the function to be used for locating individual meters on the loop without receiving a response from the PiiGAB 820 itself when searching for meters. If you set the manufacturer code to 4129, the internal meter will respond on the loop.