PiiGAB
PROCESSINFORMATION

Startup Config PiiGAB M-Bus 900S/T

www.piigab.com

PiiGAB Processinformation i Göteborg AB • Kalkylvägen 1 • S-435 33 Mölnlycke • Sweden

Tel: +46(0)31 559977 • Fax: +46(0)31 227071 • email: info@piigab.se

Contents

1. Document Information 2
1.1 Versions....3
1.2 Requirements....3
2. Installation and connections 3
3. Start Page 3
4. Startup Config 5
4.1 Search 5
4.2 Overview 7
4.3 Template 10
4.4 My Meters....12
5. Setting up reporting 14
6. User Cases 15
6.1 Setting up easy reporting to a FTP with a meterlist 15
6.2 Setting up reporting with a custom template and without a meterlist....15
6.3 Setting up a modbus project....15
6.4 Setting a project for export to Piigab Explorer/OPC server 15
7. Appendix 17
7.1 Establishing a connection to Gateway through Mbus Wizard....18
7.2 File Formats Quickpost 22
7.3 Contacts 25

1. Document Information

This document refers to the release of system_2.5.0_900S/T in September 2021.

Release history for the new web interface:

- System_2.5.0, system_partial_2.5.0* – Fall 2021
- System_2.4.5 – Dec 2020
- System_2.4.3 – Fall 2020
- System_2.4.0 – Fall 2020
- System_20200406 – Spring 2020
- System_20191220 – Fall 2019
- System_20191101 – Fall 2019

*You can update your system with system_partial_2.5.0_900S/T, **only if** you have system_2.4.0_900S/T or later. **Do not** try to update system_partial_900S/T with older systems. System_partial is a web-interface update which size is only 350kB compared to system_2.5.0_900S/T which size is 10.5 MB. This is very beneficial when updating units on slow networks.

The web interface system_2.4.5_900S/T released 2020-10-19 included the following enhancements over previous configurations with PiiGAB Wizard and Explorer.

- All configuration in the web interface.
- Meter search in the web interface
- Automatic Tag names based on VIB
- Automatic Device names, based on secondary addresses
- Autoscaling of values to kWh and m^3
- Reading real-time values directly in the web interface.
- At least 10 times faster start-up for larger facilities.
- Dedicated ports in MBushub for Quickpost and web interface

Release system_2.5.0_900S/T 2021-09-06 improvements.

- Increased support for older Firefox browsers down to version 60.0 Quantum.
- PDF-writer for the meterlist. Gives a faster system overview.
- Timestamp and improved sorting in the Startup Config meterlist.
- Ability to edit registers in slaveport_Mbus2Modbus file under Mymeters.
- Ability to edit vif-names in the template creation.
- Function field status are shown at meter readout in Startup Config.
- Much faster readout for wired meters through “Read all meters” and “Test unverified meters”. Stop functionality to these functions are added.
- User feedback when uploading meterlist and encryption keys file.
- Restart MBusHub with masterport_Mbus2Modbus.csv in the masterport instead of myconfig.csv.
- Restart Quickpost with myconfig.csv at creation of configuration files.
- CI-field 0x70, General application Error, are shown to the user at occurrence.
- Secondary Search improved.
- Conversion of commonly used Latin-1 characters to ASCII characters when writing meterlist description field to configuration files. E.g åäö, will be, aao.
- A system_partial version is now available, which can be installed on system_2.4.0 and later.

If you see something that is not correct in this document, that misleads you or if you are missing something please contact us so we can improve this document continuously. See contact information at the end of the document.

1.1 Versions

Version	Modified by	Details
1.00.00	Johan Palm	Initial version
1.00.01	Mats Redman	Version for system 2.5.0

1.2 Requirements

Object	Details
900S or 900T	Gateway
System_2.5.0_900S/T	Software
mbushub_2.03.05_900S/T	Software
quickpost_1.03.07_900S/T	Software
wireless_2.01.16_900S/T	Software

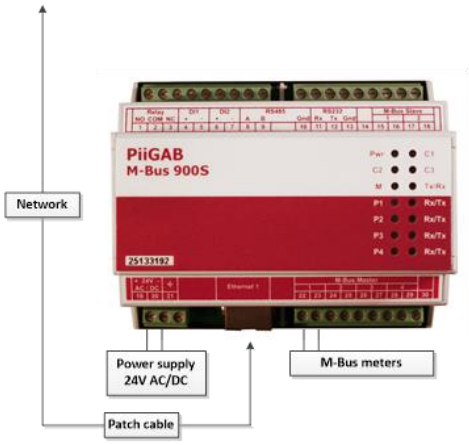
2. Installations and connections

Connect your device to the network

To connect your device to the network, first plug the ethernet cable into the 900 device. Then power up the unit.

Connect the M-bus network

Connect your M-bus network to the M-bus Master port according to figure below.
For easier troubleshooting, the network can be divided in to up to 4 different loops using plinth 22-29.
Make sure the total amount of load units on all loops do not exceed your license.



Log in to Web Interface

Configuration of the unit is performed through your browser. We recommend using Mozilla Firefox or Google Chrome.
To access your units web interface, enter the units IP in the browser. The default credentials are
Username: Admin , Password: Admin

If the units Ip is unknown, you can perform a search through *PiiGAB Wizard* which is available for download on https://www.piigab.com/en/produkt/piigab-m-bus-wizard/
Make sure you are on the same network as the device and select "Find a converter on the network" in the software and then press "Next".
For further information please see ***Appendix 8.1 Establishing a connection through Wizard***

3. Start

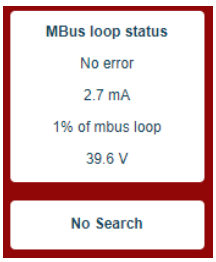
The Start page shows you information regarding your software, licenses, and settings.

Pi-900S	
Version	2.5.0
Serial Nr	16785800

Unit Info	
Loads	120 Loads
Clients	4 Clients
SlavePort1	MBUS Port:10001
SlavePort2	MODBUSTCP Port:502
SlavePort3	MBUSASCII Port:10003
SlavePort4	MBUS Port:10004
Protocols	MBus2MBus MBus2MBusAscii MBus2Modbus Han2MBus Wireless.1000 Modbus2MBus QuickPost.2500
Wireless meters license	1000
Quickpost tag license	2500
Quickpost port	9002
Number of meters	41
Wired Meters	3
Wireless Meters	34
Wireless Nodes	0

Gateway Status	
Digital I/O and Relay	
I/O	**State**
Digital Input 1	On
Digital Input 2	On
Relay	Off
M-Bus Master Output	
Loop #	**State**
1	On
2	On
3	On
4	On
Error Flag	00000000 0, No error
M-Bus current	5.5 mA
% of Max Current	3%
Temperature	
Board Temperature	35.84
M-Bus Stage Temperature	34.12
RS-485 Failsafe	
Port	**State**
RS-485	Off

An information box on the bottom left side of the browser window show you information regarding the mbus master port and its status. This box is always present regardless on which page you open in the browser.



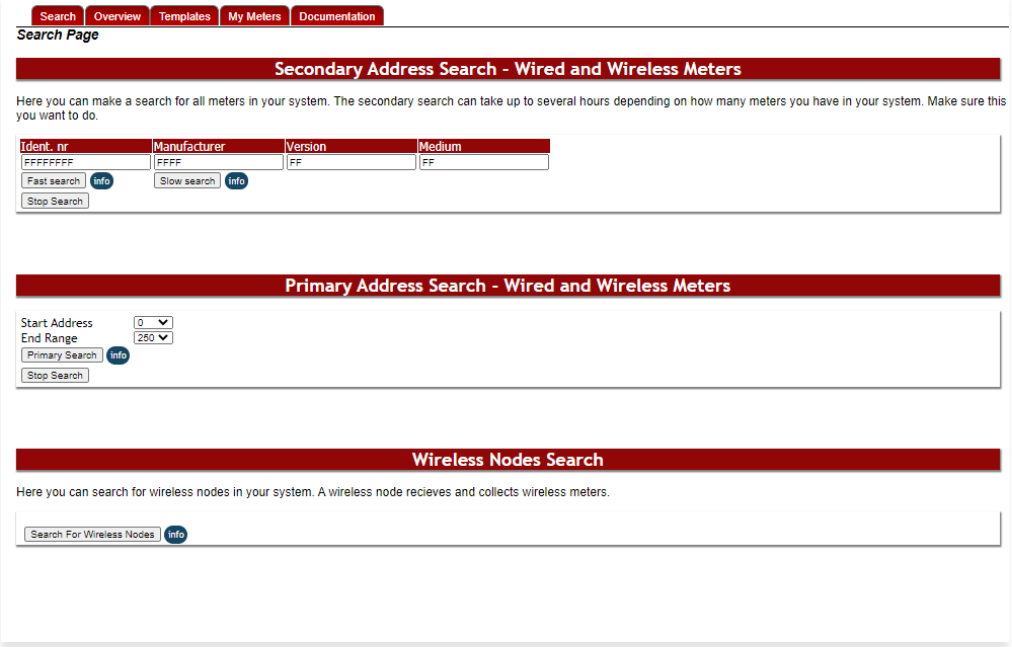
4. Startup Config

The Startup Config page allows you to search for and validate your connected meters, read real time data from the meters and to create configuration files for Quickpost and Mbus2Modbus.
It consists of 5 tabs

- Search
- Overview
- Templates
- My Meters
- Documentation

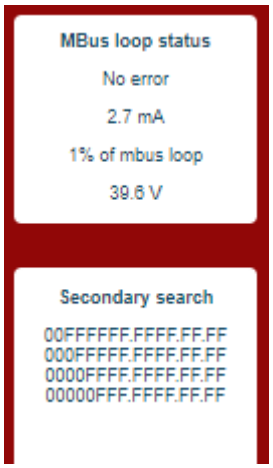
4.1 Search

The only meters that respond to a search are ***wired*** MBus meters connected to the wired MBus network. (If you have wireless nodes connected to the MBus network, the wireless meters from these will also respond.)

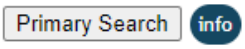


Secondary Address Search

There are two search buttons, Fast and Slow Search.
Usually, the Fast search finds all the expected meters, but if not use the Slow search which is performed with longer timeouts giving each meter a longer time to reply.
Press the preferred Search button. Depending on how many meters you have in your network and the type of performed search, the search will take between a few minutes and an hour.
The progress of the search is presented in the search window.
When the status shows "No Search is running ", the search is complete.
There is also possible to change the wildcards (FFFF) in the search fields to narrow down the search to just a certain manufacturer or to a smaller range search field.

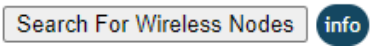


Primary Address Search



First set your search range. Set start address and end address.
Press the search button. Depending on how many meters you have in your network and the type of performed search, the search will take different lengths of time.
When the status shows "No Search is running ", the search is complete.

Wireless Nodes Search



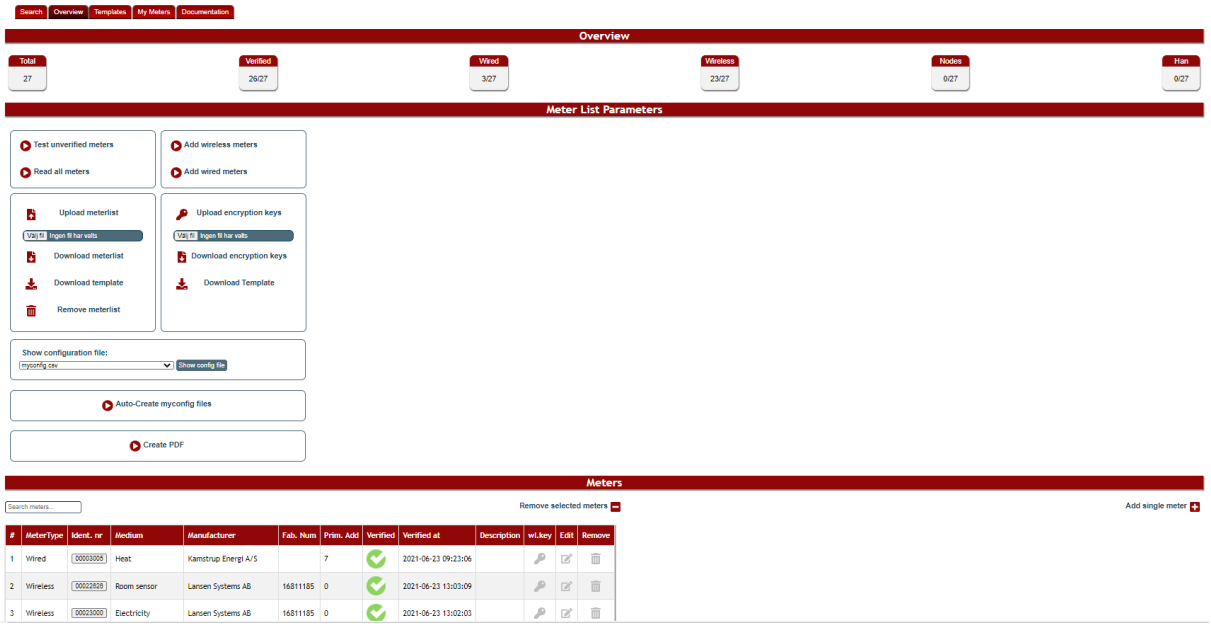
A wireless node is a bridge between wireless meters and a wired network. We have support for the following wireless nodes.

Manufacturer	Device
PiiGAB	PII 4129.01.36 (Pi-900S/T with wireless card)
Elvaco	ELV 1596.14.31 (Elvaco CMIB version 0x14)
Elvaco	ELV 1596.15.31 (Elvaco CMIB version 0x15)

This button is for finding wireless nodes without having to search the whole M-Bus loop. The wireless meters from the wireless nodes can then be integrated into your system. Note that all wired meters will be excluded from the result.
Then the wireless meters in the found nodes can easily be added to the meterlist by using the button **Add Wireless** under the Overview tab.

4.2 Overview

The Overview page lets you manage your meter list and validate the connected meters.



Test unverified meters

Meters missing information regarding version, manufacturer and medium is asked about this information. If they reply and provide this information the meter is Verified. This information is required for the creation of the configuration files. The green icon in the meterlist shows the user that the meter is connected. If there are wireless nodes this function also optimizes the meterlist to make sure the meter is read from the node with the best reception.

Read all meters

A question is sent to all the meters in the meterlist to confirm that they are connected and online. If the meters reply, their status stays green and if they don't, the status will turn yellow.

Add wireless meters

All meters in the Wireless application that have reported within the last 24h are added to the meterlist.

Add wired meters

All found meters from the *Search page* are added to the meterlist.

Upload meterlist

Imports a new meterlist and replaces the current one. Valid file formats are *.txt* and *.csv.* For an example download a template.

Remove meterlist

The current meterlist is removed.

Auto-Create myconfig files

Creating configuration files for Quickpost and a modbus project using a full template and **Format 3.**
The files created are the following.

- Myconfig.csv — Used in Quickpost and in Mbushub masterport if there is no modbus project.
- Masterport_mbus2modbus.csv — Used in Mbushub masterport if you have a modbus project.
- Slaveport_mbus2modbus.csv — Used in Mbushub slaveport if you have a modbus project.

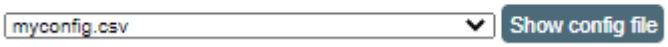
Create PDF

Print a PDF version of the meterlist. Make sure the timestamps are up to date. For updating the timestamps use the button "Read all meters".

Upload encryption keys

Uploads and replaces the encryption keys. Valid formats are *.txt* and *.csv* file. For an example download a template. Only keys related to meters in the meterlist will be added.
You need to restart the wireless module after each change to the encryption keys. Make sure the ***Include file*** is set to *wireless_include_startup_config.csv*.

Show configuration file:



The active configuration files are shown in a separate browser window.

Meters

This showcases the meters in the meterlist.

The following columns are present

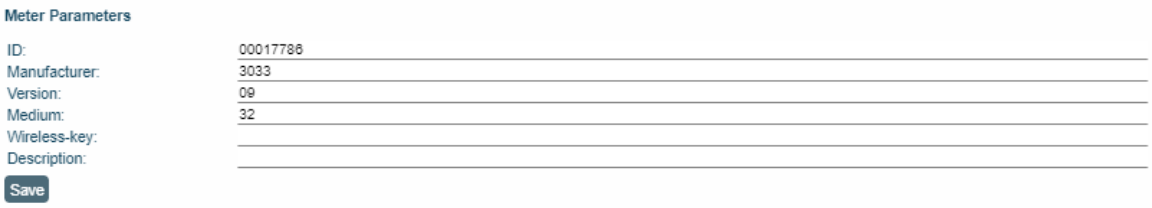
- # — A counter. This is not connected to the meter
- MeterType — Can either be wired, wireless or node
- Ident. Nr — The first 8 digits in the secondary address
- Medium — The meter/sensors medium.
- Manufacturer — The 4-digit manufacturer code translated into text.
- Fab. Num — The serial number of the wireless unit the meter got collected through.
- Prim. Add — The meters primary address
- Verified — Showcases if the meter has enough information to create a configuration file.


The meter is not online and have not provided enough data for the configuration file

The meter has enough information for the configuration file but the last attempt by user to perform a reading failed.


The meter has enough information for configuration file and last reading by the user was successful.

- Timestamp — Timestamp from when the meter was last read. For wireless meters when the telegram was received through the internal wireless card or through a wireless node.
- Description — A free text field for up to 50 letters. No white spaces are allowed. If you use description as device name, try to only use ASCII characters. Commonly used Latin-1 characters (hex C0-FF) will be converted to similar ASCII-characters when creating configuration files (myconfig.csv etc.). Latin-1 table: https://cs.stanford.edu/people/miles/iso8859.html#ISO-UPPER
  Characters which are not ASCII and not commonly used Latin-1 characters will be converted to '?'.
- Wl.key — The key icon turns black if encryption key is uploaded.
- Edit — Opens a window for editing of the meters data

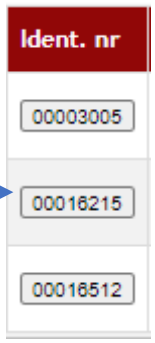


- Remove — If checked, the meter is removed by the **Remove selected meters** button

Search the meterlist. Searchable columns are Ident. Nr and Manufacturer.

Reading the meter

Through pushing on the Ident. Nr on each meter, a reading is performed and presented as in the figure below.



Template name: LAS_07_1B Manufacturer: Lansen Systems AB

Secondary Address: 00021223.3033.07.1B Meter type: Room sensor Date: 2019-11-20 09:42:21

#	Value	Physical Quantity
1	16784923	Fabrication No
2	33	Actuality Duration second(s)
3	-39	RF level units dBm
4	19-11-20 08:41:48 Wednesday 47 summer	Date & time YY-MM-DD HH:MM:SS, day, week, period
5	2163E-2	External Temperature C
6	2146E-2	External Temperature C
7	2139E-2	External Temperature C
8	391E-1	Relative humidity %
9	390E-1	Relative humidity %
10	372E-1	Relative humidity %

Go Back

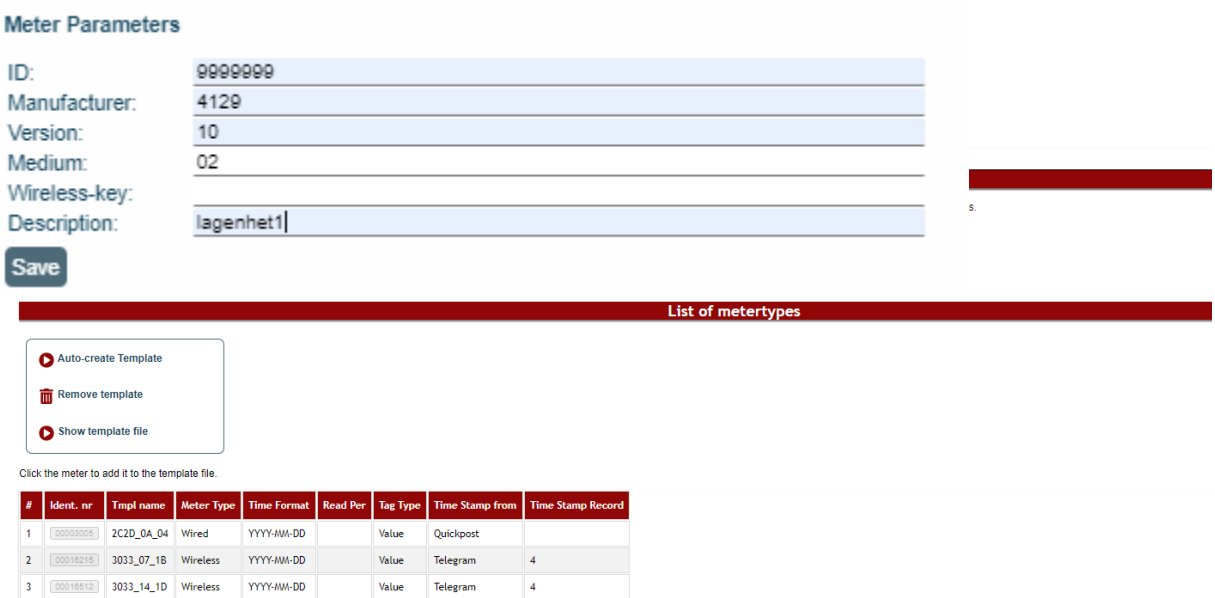
Each tag in the first telegram is presented with a scaled value and a description. The scaling uses an exponent(E). *Example 2163E-2 equals 21.63.*

Remove selected meters

Removes meters selected through the trashcan icon.

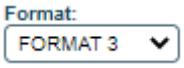
Add single meter

A single meter is added and verified to the meterlist.



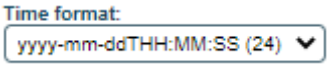
What is a template file and why is it needed?

The template file is needed to determine which OPC items that can be read out in Quickpost for each meter type. A template is one *.csv* file that contains OPC items for the different ***meter types*** you have in your facility.



Several Formats for the reporting are available. These are described in the Documentation tab in the Quickpost application and in the ***Appendix 8.2 File Formats Quickpost***

Format 3 is recommended since it uses the full Secondary address, scaled values and standardized tag names. The format must be the same for all meters in the report.



Set the time format of choice. Default is *yyyy-mm-ddTHH:MM:SS*

Set if you want the reported data with just the value (Value) or scaled (Record)

Set if the reports timestamp should be set to the meters internal clock (Telegram) or the time the application requested data from the meter (Quickpost).

Telegram is recommended for wireless meters and Quickpost for wired.

Auto-create Template

If you use the automatic function, all meters will report all their tags and use the recommended timestamp for each meter type along with your set Format and Time format. The function restarts Quickpost and Mbushub with the configurationfile Myconfig.csv set.

Remove template

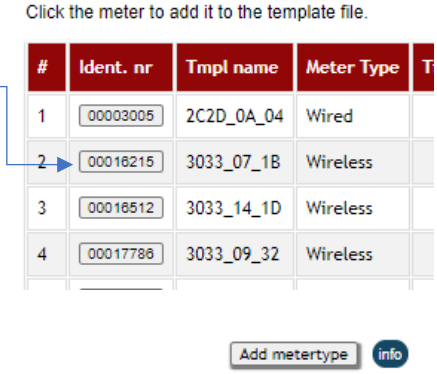
Removes the active template.

Show template file

Shows the active template in a new browser window.

Editing custom template

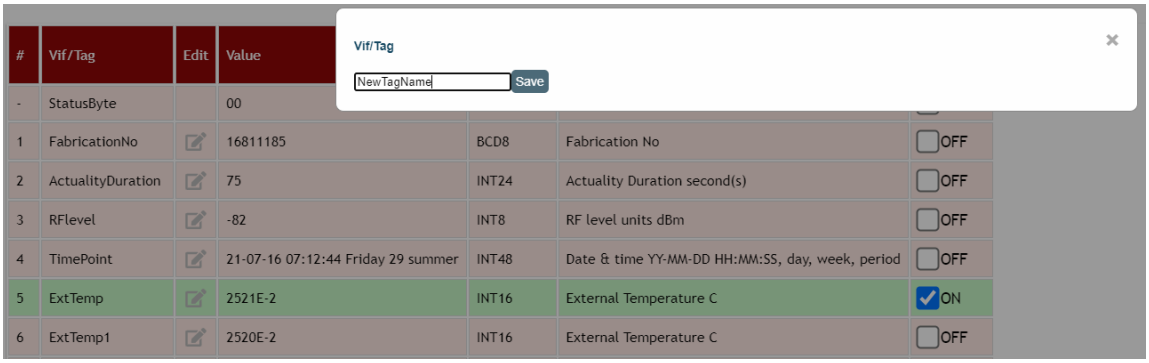
Click on the **Ident. Nr** in the meterlist. Only one meter of each type is listed here. All meters that fit the same template (manufacturer, version and medium) will use the same template.



Select the data (tags) you want included in your template in the Report column and push the button.

#	Vif/Tag	Edit	Value	Datatype	Physical Quantity	Report All
-	StatusByte		00	Status Byte		OFF
1	FabricationNo		16811185	BCD8	Fabrication No	OFF
2	ActualityDuration		75	INT24	Actuality Duration second(s)	OFF
3	RFlevel		-82	INT8	RF level units dBm	OFF
4	TimePoint		21-07-16 07:12:44 Friday 29 summer	INT48	Date & time YY-MM-DD HH:MM:SS, day, week, period	OFF
5	ExtTemp		2521E-2	INT16	External Temperature C	ON
6	ExtTemp1		2520E-2	INT16	External Temperature C	OFF

If you want to change the tag name. Use the edit button for the specific tag. Save the tag name.

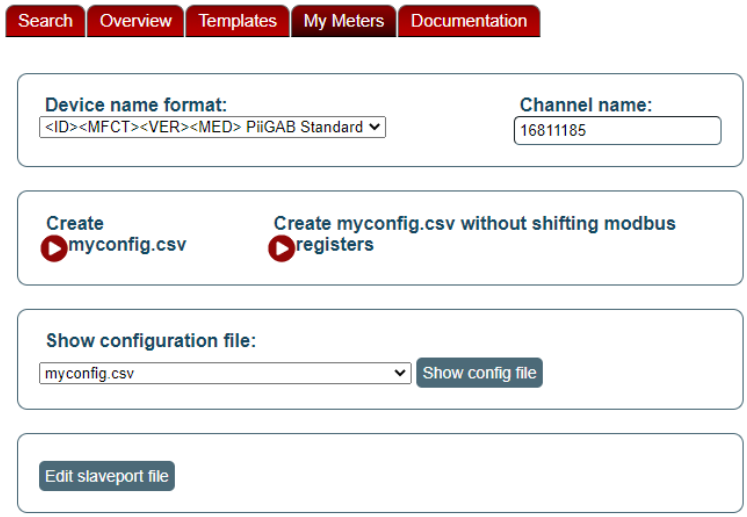


#	Vif/Tag	Edit	Value	Datatype	Physical Quantity	Report All
-	StatusByte		00	Status Byte		OFF
1	FabricationNo		16811185	BCD8	Fabrication No	OFF
2	ActualityDuration		75	INT24	Actuality Duration second(s)	OFF
3	RFlevel		-82	INT8	RF level units dBm	OFF
4	TimePoint		21-07-16 07:12:44 Friday 29 summer	INT48	Date & time YY-MM-DD HH:MM:SS, day, week, period	OFF
5	NewTagName		2521E-2	INT16	External Temperature C	ON
6	ExtTemp1		2520E-2	INT16	External Temperature C	OFF

Add Metertype and repeat this procedure with all the metertypes in the list.

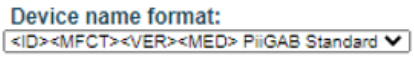
4.4 My Meters

In the tab My Meters you create your configuration files by combining the template and the meterlist.



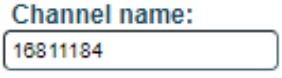
Meters

#	MeterType	Ident. nr	Medium	Manufacturer	Fabrication	Primary Address	In myconfig.csv
1	Wired	00003005	Heat	Kamstrup Energi A/S		7	
2	Wireless	00022626	Room sensor	Lansen Systems AB	16811185	0	
3	Wireless	00023000	Electricity	Lansen Systems AB	16811185	0	
4	Wireless	00024702	1D	Lansen Systems AB	16811185	0	

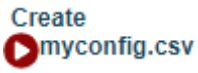


Choose the way meters will be reported in Quickpost. There are three options.

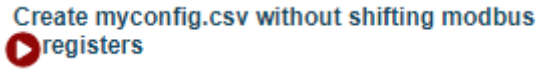
- <ID><MFCT><VER><MED> 11111111LAS071B (PiiGAB Standard)
- <MFCT><ID> LAS11111111
- <ID> 11111111
- <Description> Uses the description field as device-name. Meters without description will use PiiGAB Standard as device name.



Choose the channel name for the Quickpost report file.



Combines the meterlist with your template and creates the configuration files. It also assigns each tag with a modbus-register. Each meter is assigned a range of 200 registers to avoid any duplicates or conflicts. All meters are assigned new registers based on their order in the meterlist.



Works like the button **Create myconfig.csv** with the difference that meters already assigned registers keep them and new meters get registers at the end of the list.

The active configuration files are shown in a separate browser window.

Meters

If a meter is part of the *myconfig.csv* it will have a green icon, otherwise they will have a red one.

Meters

#	MeterType	Ident. nr	Medium	Manufacturer	Fabrication	Primary Address	In myconfig.csv
1	Wired	00003005	Heat	Kamstrup Energi A/S		7	
2	Wireless	00016215	Room sensor	Lansen Systems AB	16783738	0	
3	Wireless	00016512	1D	Lansen Systems AB	16811184	0	
4	Wireless	00017786	Unidirectional repeater	Lansen Systems AB	16811184	0	

Edit slaveport file

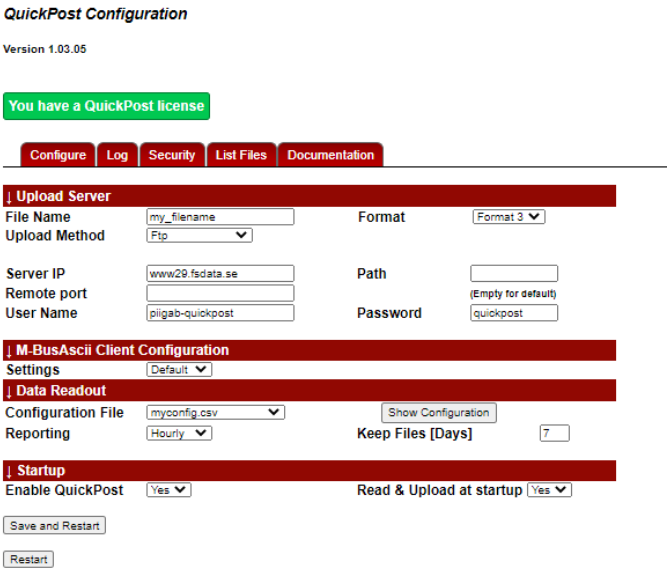
For Mbus2Modbus users only. You must create the configuration files first. Then you can edit the modbus registers connected to the Mbus objects in the configuration files. No duplicates are allowed. Error checking are made at save.

#	Register	Channel.Device.Tag	Data Type
1	100	16811185.15700062BMT101B.NewTagName_Mod	INT16
2	300	16811185.16702104BMT101B.NewTagName_Mod	INT16
3	500	16811185.18052134BMT101B.NewTagName_Mod	INT16
4	700	16811185.18052172BMT101B.NewTagName_Mod	INT16

5. Setting up reporting

Set up Quickpost

Go to the application Quickpost.



Assign a filename for the report files and make sure the format is set to the same format you selected when creating the template file.

Choose Upload Method of choice and fill in the credentials for the server.

Pick either Hourly, Daily, or custom under reporting and make sure the correct configuration file is set. (usually *myconfig.csv*)

Make sure you save after you are done.

For full manual see https://www.piigab.com/en/produkt/piigab-m-bus-wizard/

6. User cases

6.1 Setting up easy reporting to an FTP using a meterlist

This user case is based on the assumption that the user has a meterlist provided from the installer (plumber or electrician) in a text document and want to set up a reporting to a FTP-server through Quickpost using all the tags in the template.

1. Upload the meterlist in Startup Configs Overview tab.
2. Verify that the meters are connected.
3. If some meters do not get verified, control the meterlist and/or perform a search of the mbus network to make sure there is not additional meters showing up that should belong to your list.**ascii**
4. Create configuration files through the **Auto Create** button.
5. Go to the Quickpost application and fill in the server credentials and the frequency of your reporting.
6. Do not forget to save.

6.2 Setting up reporting with a custom template and without a meterlist.

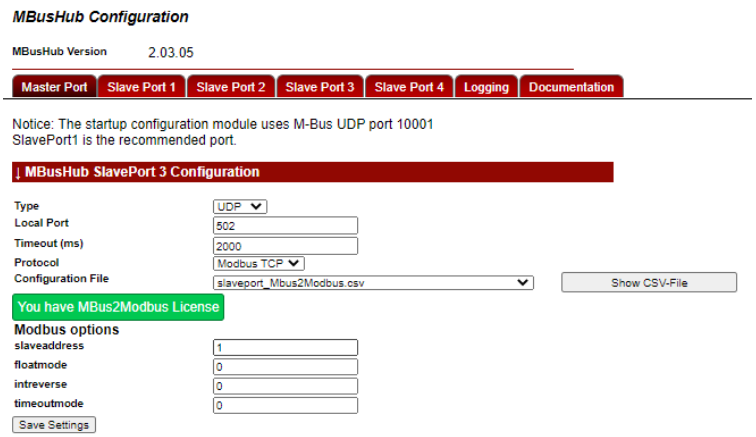
This user case is based on the assumption that the user do not have a meterlist provided from the installers (plumber or electrician) and only want to report one value from each meter.

1. Perform a secondary search of the mbus network. The connected meters will be added to your meterlist
2. In the template tab click on each metertype and select the tags of choice.
3. Merge the meterlist and the template with the button ***Create myconfig*** under the My Meters tab.
4. Go to the Quickpost application and fill in the server credentials and the frequency of your reporting.
5. Do not forget to save.

6.3 Setting up a modbus project

This user case is based on the case in 7.2 with the addition that the user also wants a PLC to be able to read the values through modbus. Make sure there is a license for mbus2modbus.

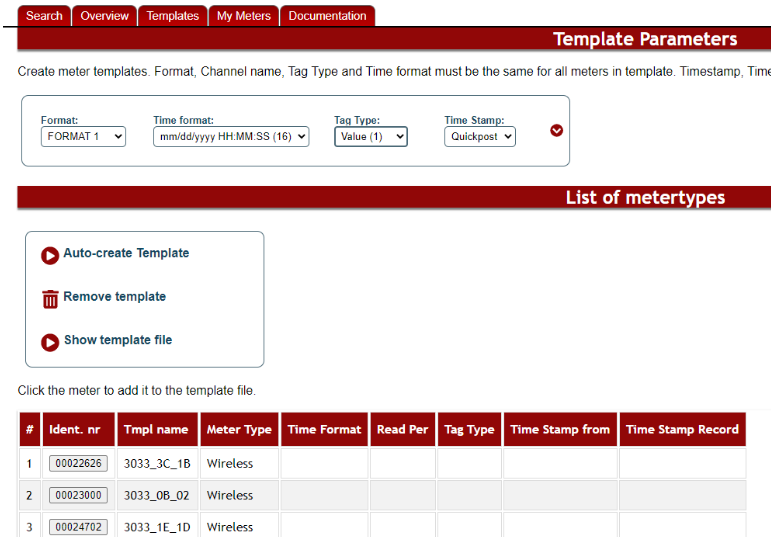
1. In Mbushub change the master configuration file to *masterport_mbus2modbus.csv*
2. Go to an available slaveport and change the Protocol to modbus (RTU through serial communication or TCP through network communication)
3. Set a port number (502 is standard) and a slave address of choice.
4. Change the configuration file to *slaveport_Mbus2Modbus.csv*
5. Do not forget to save.



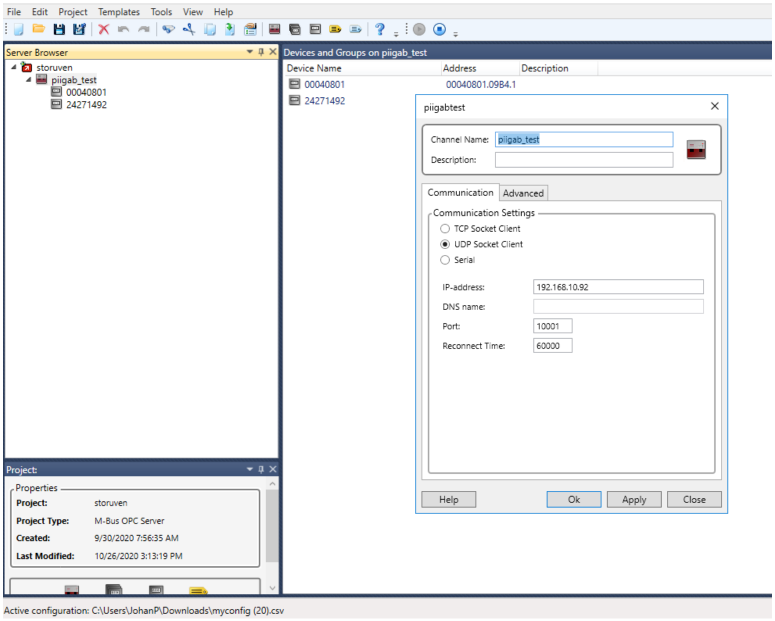
6.4 Setting a project for export to Piigab Explorer/OPC server

This user case is based on the assumption that the user has a meterlist in the gateway and want to export a configuration file to Piigab Explorer.

1. Create a template with the tags of choice. Make sure to use Format 1 and the Tag Type=Value



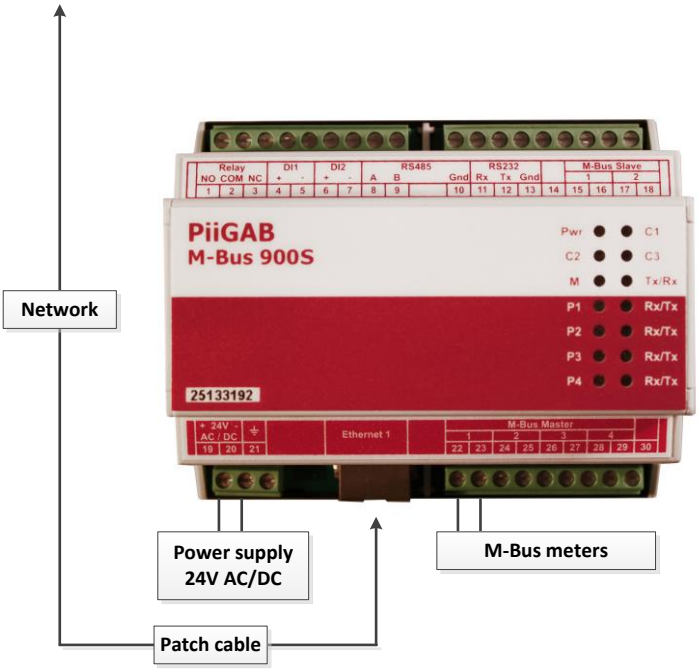
2. Merge the meterlist and the template with the button ***Create myconfig*** under the My Meters tab.
3. Download the configuration file *myconfig.csv* in the Administration section.
4. If you start a new project in Piigab Explorer import *myconfig.csv* under *Project – Import Configuration file.*
   In the case you already have a project you need to open the current projects configuration file in Notepad and paste in the content of *myconfig.csv* minus the first row ([Root],,).
5. Open the new channel you just created and add the IP-adress and port.



7. Appendix

7.1 Establishing a connection through Wizard

1. Install the PiiGAB M-Bus Setup Wizard.
2. Connect the PiiGAB M-Bus 900 gateway to your computer with the patch cable.
3. Connect the M-Bus meter to the PiiGAB M-Bus 900.
4. Connect the PiiGAB M-Bus 900 gateway to a 24V AC or DC power supply.
5. Turn the power supply on.
6. Wait for the PiiGAB M-Bus 900 *Pwr* LED to go steady red.



7.1.1 MAC-address and serial number

On the right gable of the PiiGAB M-Bus 900 there is a label containing the MAC-address and serial number of your PiiGAB M-Bus 900. You can use this to identify your PiiGAB M-Bus 900 with the PiiGAB M-Bus Setup Wizard.

Object	Starts with
MAC-address	E8-99-5A
Serial number	167#####

7.1.2 IP-configuration

You can either connect your PiiGAB M-Bus 900 gateway to a static or DHCP network. The most common IP-configuration of the PiiGAB M-Bus 900 gateway is for static IP-address. The gateway is by default set to DHCP when delivered.

7.1.3 DHCP network

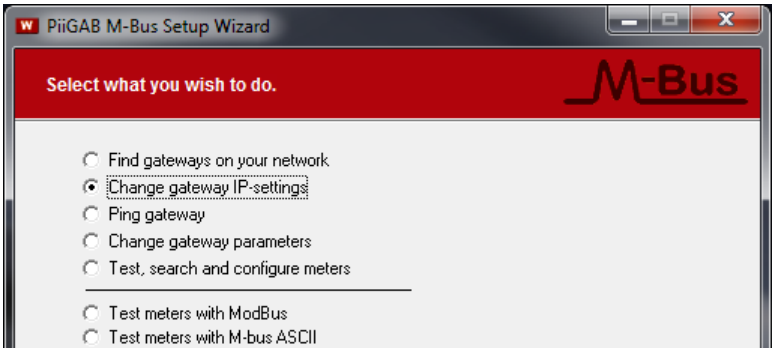
If you have a network with DHCP you can connect your PiiGAB M-Bus 900 gateway to it and the gateway will receive the IP-configuration automatically.

7.1.4 Static IP

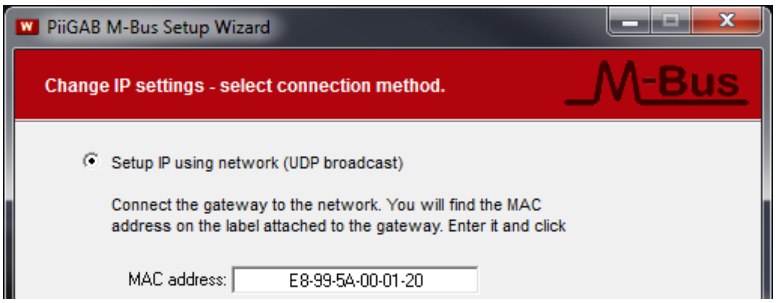
If you don't have a network with DHCP you must set your PiiGAB M-Bus 900 gateway to a static IP-address.

Note: If you have an old computer you might need a network switch between your computer and the PiiGAB M-Bus 900 gateway.

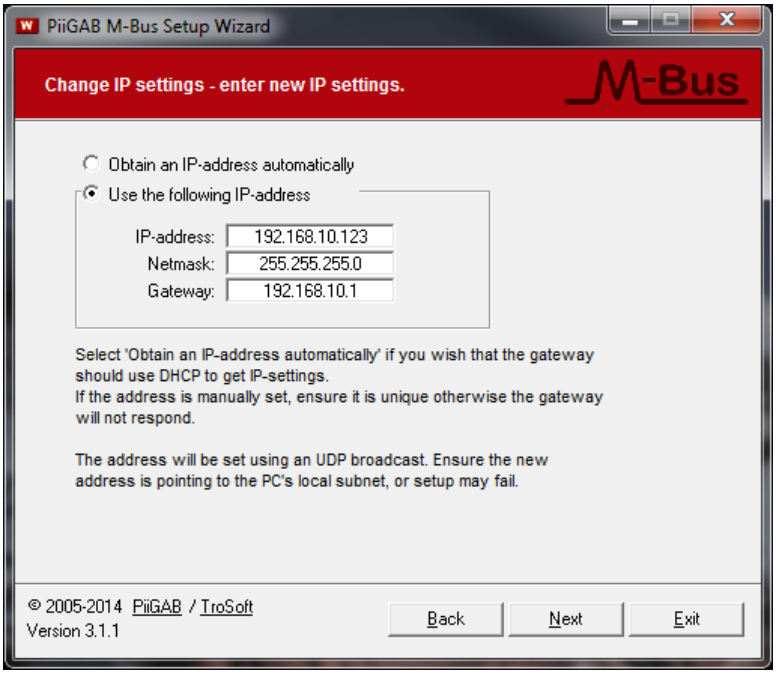
1. Set your computer to a static IP-address. For instance:
   - IP-address: 192.168.10.1.
   - Network mask: 255.255.255.0.
   - Gateway: 192.168.10.254.
2. Start the PiiGAB M-Bus Setup Wizard and go to the main menu.
3. Select *Change gateway IP-settings*.



4. Press *Next* to continue.
5. Select *Setup IP using network (UDP broadcast)*.
6. In the *MAC-address* field specify the PiiGAB M-Bus 900 gateways MAC-address.

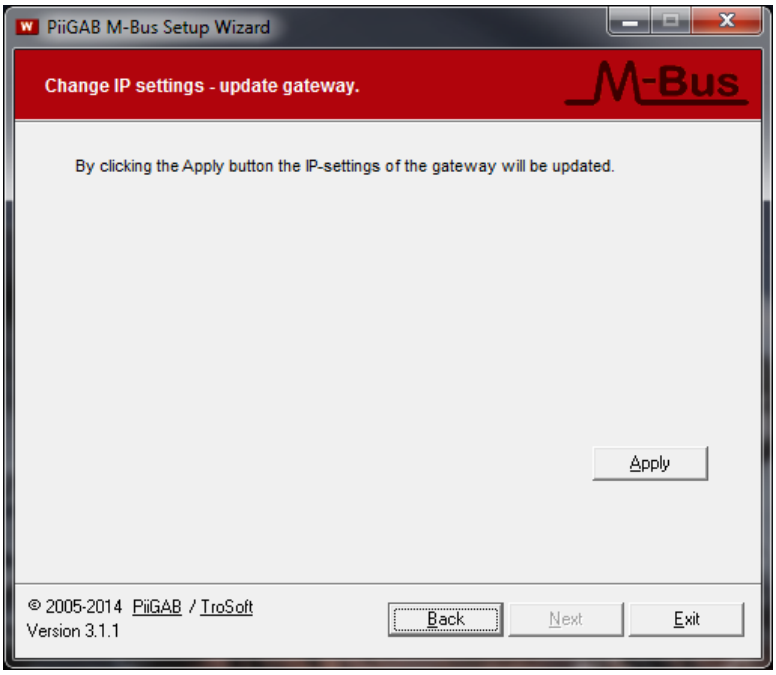


7. Press *Next* to continue.
8. Select *Use the following IP-address*.

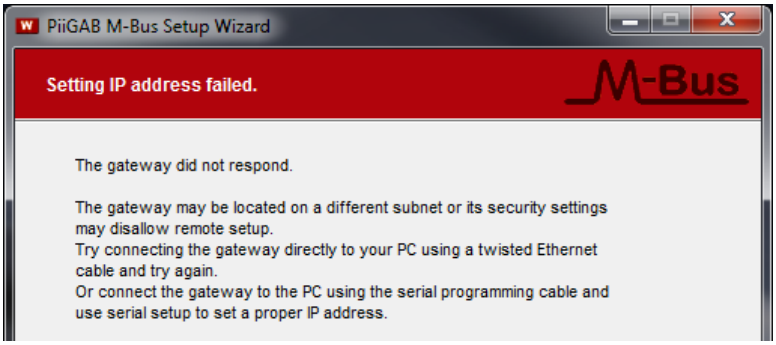


9. Specify the IP-configuration. The PiiGAB M-Bus 900 gateway should match your computer's IP-address.
10. Press *Next* to continue.

11. Press *Apply* to set the IP-configuration.



12. Wait for the PiiGAB M-Bus 900 gateway to reboot.



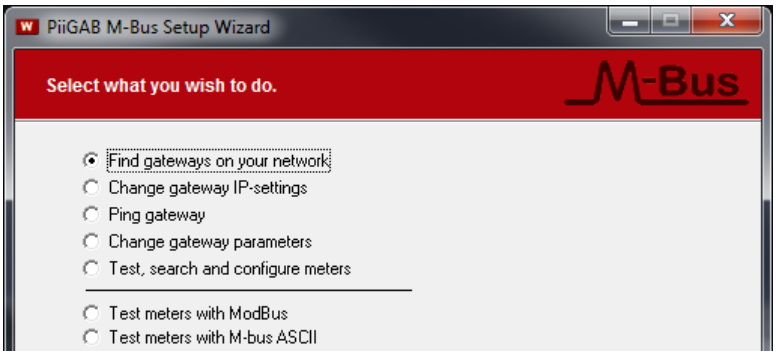
Note: PiiGAB M-Bus Setup Wizard may signal that it failed to set the MAC-address. Please ignore this warning. The IP-address should be set anyway.

13. Press *Back* three times to return to the main menu.

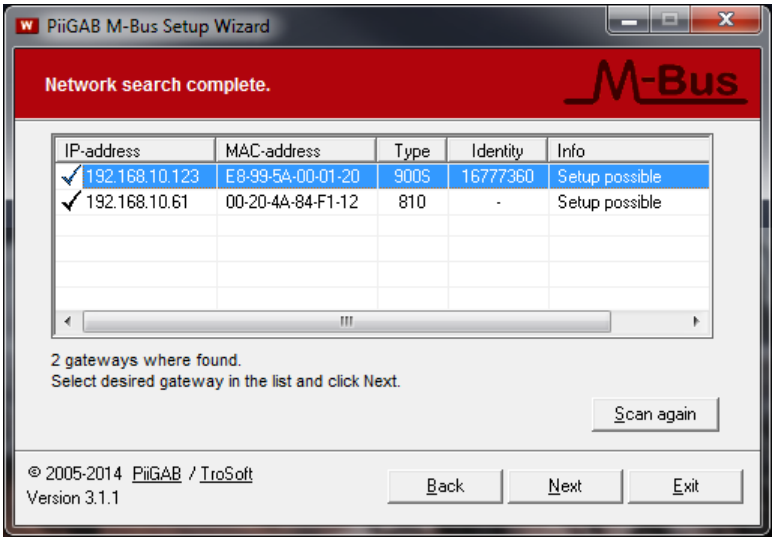
7.1.5 Find your PiiGAB M-Bus 900 on your network

You can use the PiiGAB M-Bus Setup Wizard to find your PiiGAB M-Bus 900S on the network. This will work for both a network with DHCP or static IP-address configuration.

1. Go to the main menu in the PiiGAB M-Bus Setup Wizard.
2. Select *Find gateways on your network*.



3. Press *Next* to continue.
4. Your PiiGAB M-Bus 900 gateway should be listed.
5. Find your PiiGAB M-Bus 900 by the *MAC-address* or *serial number*.



6. Double click on your PiiGAB M-Bus 900 gateway.
7. Select *Yes* when you are asked to start the PiiGAB M-Bus 900 web interface.

Note: If you have placed your PiiGAB M-Bus 900 gateway on a different sub network you might not find it in the list of available gateways.

7.2 File formats Quickpost

There are four file formats available. PiiGAB recommends using Format 3 unless you are already using a system that depends on one of the other formats.

FORMAT1: Named EMC in earlier versions.

Header: command=DEVICE_STATUS
OK,PiiGAB importfil, Version 1.0
command=METER_READING delimiter=;

Content: Channel_Device_Tag;Time Stamp;Value

where the Timestamp is on the format mm/dd/yyyy HH:MM:SS

Settings in csv file:

timeformat = 16 (mm/dd/yyyy HH:MM:SS)
TagType = 1 (Value)
TagType = 8 (Record) is enabled with version 1.03.02

Example:

```
command=DEVICE_STATUS

OK,PiiGAB importfil, Version 1.0

command=METER_READING delimiter=;
pi900_PIIa_FabricationNo;07/15/2019 08:53:12;16785480
pi900_PIIa_Voltage;07/15/2019 08:53:12;399
pi900_PIIa_Current;07/15/2019 08:53:12;0
pi900_PIIa_TimePoint8;07/15/2019 08:53:12;15.07.2019 08:53:12
pi900_PIIa_TimePoint16;07/15/2019 08:53:12;07/15/2019 08:53:12
pi900_PIIa_TimePoint24;07/15/2019 08:53:12;2019-07-15T08:53:12
pi900_PIIb_FabricationNo;07/15/2019 08:53:32;16785480
pi900_PIIb_Voltage;07/15/2019 08:53:32;399
pi900_PIIb_Current;07/15/2019 08:53:33;0
pi900_PIIb_TimePoint8;07/15/2019 08:53:39;15.07.2019 08:53:31
pi900_PIIb_TimePoint16;07/15/2019 08:53:39;07/15/2019 08:53:31
pi900_PIIb_TimePoint24;07/15/2019 08:53:40;2019-07-15T08:53:31
```

FORMAT2:

Header: No header

Content: Device;Time Stamp;Value

where the Timestamp is on the format mm/dd/yyyy HH:MM:SS
Notice that if there are more than one tag per meter, they will be named the same in the result file.

Settings in csv file:

timeformat = 16 (mm/dd/yyyy HH:MM:SS)
TagType = 1 (Value)
TagType = 8 (Record) is enabled with version 1.03.02

Example:

```
PIIa;07/15/2019 08:56:14;16785480
PIIa;07/15/2019 08:56:14;399
PIIa;07/15/2019 08:56:14;15.07.2019 08:56:14
PIIa;07/15/2019 08:56:14;07/15/2019 08:56:14
PIIa;07/15/2019 08:56:14;2019-07-15T08:56:14
```

```
PIIb;07/15/2019 08:56:33;16785480
PIIb;07/15/2019 08:56:34;399
PIIb;07/15/2019 08:56:40;15.07.2019 08:56:33
PIIb;07/15/2019 08:56:41;07/15/2019 08:56:33
PIIb;07/15/2019 08:56:42;2019-07-15T08:56:33
```

FORMAT3:

Header: PiiGAB import file; FORMAT=3; Version=1.0

Content: Channel;Device;Tag;Configurable Time Stamp;Configurable value

The timestamp is configurable and is set by setting Device-option

The value is configurable as well by setting the TagType.
TagType = 1 (Value) will output a single value like for the other formats.
TagType = 8 (Record) will output a triple "Value;Unit;Medium"

Settings: timeformat = 24 (8, 16 and 24 is allowed)
TagType = 8 (1 and 8 allowed)

Example:

```
PiiGAB import file; FORMAT=3; Version=1.0

pi900;PIIa;FabricationNo;2019-07-15T10:16:57;16785480;; Fabrication No
pi900;PIIa;Voltage;2019-07-15T10:16:57;400E-1;V; Voltage
pi900;PIIa;Current;2019-07-15T10:16:57;0E-4;A; Current
pi900;PIIa;TimePoint8;2019-07-15T10:16:57;15.07.2019 10:16:57;; Time Point
pi900;PIIa;TimePoint16;2019-07-15T10:16:57;07/15/2019 10:16:57;; Time Point
pi900;PIIa;TimePoint24;2019-07-15T10:16:57;2019-07-15T10:16:57;; Time Point
pi900;PIIb;FabricationNo;2019-07-15T10:17:29;16785480;; Fabrication No
pi900;PIIb;Voltage;2019-07-15T10:17:29;399E-1;V; Voltage
pi900;PIIb;Current;2019-07-15T10:17:30;0E-4;A; Current
pi900;PIIb;TimePoint8;2019-07-15T10:17:36;15.07.2019 10:17:28;; Time Point
pi900;PIIb;TimePoint16;2019-07-15T10:17:36;07/15/2019 10:17:28;; Time Point
pi900;PIIb;TimePoint24;2019-07-15T10:17:37;2019-07-15T10:17:28;; Time Point
```

FORMAT4:

Filename: This format sets the filename as well as its content.

filename = <user defined value>_yyyymmddTHHMMSS.csv

Example: myfile_20190715T154022.csv

Header: No header

Content: Channel;Channel_Device;ISO8601 timestamp;Floating point value

The floating point value should be a normal floating point 0.003234 not with exponent, 3.234E-3.

Example:

Settings: Device-Option [Device col 24] = 24 (yyyy-mm-ddTHH:MM:SS), 26 for telegram timestamp

TagType [Tag col 20] = 8 (Value;Unit;Medium)

Device-Option0 [Device col 21] = "f" for Floating point value readout

```
pi900;pi900_PII12345678_FabricationNo;2019-07-15T10:27:07;16785480
pi900;pi900_PII12345678_Voltage;2019-07-15T10:27:07;39.900002
pi900;pi900_PII12345678_Current;2019-07-15T10:27:07;0.000000
pi900;pi900_PII12345678_ExtTemp;2019-07-15T10:27:07;32.599998
pi900;pi900_PII12345678_ExtTemp1;2019-07-15T10:27:07;33.799999
pi900;pi900_PII12345678_TimePoint0;2019-07-15T10:27:07;15.07.2019 10:27:07
pi900;pi900_PII12345678_TimePoint1;2019-07-15T10:27:07;07/15/2019 10:27:07
pi900;pi900_PII12345678_TimePoint4;2019-07-15T10:27:07;2019-07-15T10:27:07
pi900;pi900_PII12345678_FabricationNo;2019-07-15T10:27:26;16785480
pi900;pi900_PII12345678_Voltage;2019-07-15T10:27:27;39.900002
pi900;pi900_PII12345678_Current;2019-07-15T10:27:28;0.000000
pi900;pi900_PII12345678_ExtTemp;2019-07-15T10:27:31;32.900002
pi900;pi900_PII12345678_ExtTemp1;2019-07-15T10:27:32;33.799999
pi900;pi900_PII12345678_TimePoint0;2019-07-15T10:27:33;15.07.2019 10:27:26
pi900;pi900_PII12345678_TimePoint1;2019-07-15T10:27:34;07/15/2019 10:27:26
pi900;pi900_PII12345678_TimePoint4;2019-07-15T10:27:35;2019-07-15T10:27:26
```

7.3 Contacts

PiiGAB Processinformation
Kalkylvägen 1
435 33 Mölnlycke
Sweden

Phone + 46 31 55 99 77
www.piigab.com

Distributors

Please contact our distributors in respective countries:

Germany

Relay GmbH
Stettiner Str. 38
33106 Paderborn
Germany

Phone +49 5251 17670

www.relay.de

Norway

Autic Systems AS
Stoltenbergs gate 48
3110 Tønsberg
Norway

Phone +47 33 30 09 50

www.autic.no

Czech Republic

Papouch store s.r.o.
Strasnicka 3165/1b
102 00 PRAGUE 10
Czech Republic

Phone +420 267 314 267-8

www.papouch.com