

# Getting started PiiGAB M-Bus Setup Wizard

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## Contents

<b>1. DOCUMENT INFORMATION .....</b>	<b>3</b>
1.1 VERSIONS .....	3
<b>2. REQUIREMENTS.....</b>	<b>4</b>
2.1 M-BUS MASTER COMMUNICATION PARAMETERS .....	4
2.1.1 <i>Ethernet communication parameters</i> .....	4
2.1.2 <i>Serial communication parameters</i> .....	4
<b>3. CONNECT TO THE M-BUS MASTER .....</b>	<b>5</b>
3.1 CONNECT WITH ETHERNET PARAMETERS.....	5
3.2 CONNECT WITH SERIAL PARAMETERS.....	6
<b>4. TEST COMMUNICATION WITH THE M-BUS METER.....</b>	<b>7</b>
4.1 COMMUNICATE WITH TEST AND DIAGNOSTIC ADDRESS.....	7
4.2 IDENTIFY THE METER'S ADDRESSES IN THE PiiGAB M-BUS SETUP WIZARD .....	8
4.3 PARTS IN THE SECONDARY ADDRESS .....	8
4.4 COMMUNICATE WITH THE METER'S ACTUAL PRIMARY ADDRESS .....	9
4.5 SECONDARY ADDRESS – IDENTIFICATION NUMBER AND WILD CARDS.....	10
4.6 ENTIRE SECONDARY ADDRESS .....	10

# 1. Document Information

This document will describe how to communicate with an M-Bus master and an M-Bus meter with PiiGAB M-Bus Setup Wizard.

Note: This document will not describe how to specifically communicate with PiiGAB 810 and PiiGAB 900 M-Bus gateways. Instead this is for any M-Bus master communicating over Ethernet or serial. For PiiGAB 810 and PiiGAB 900 see their separate getting started documents.

## 1.1 Versions

Version	Modified	Detail
1.00.00	Stefan Eriksson	Initial version

## 2. Requirements

Object	Detail
One M-Bus meter	Supports EN13757 for 2400 baud
One M-Bus master	Ethernet or serial communication interface
Connection with the M-Bus master	With Ethernet or serial communication interface
PiiGAB M-Bus Setup Wizard	Version 3.1.0 or later

### 2.1 M-Bus master communication parameters

The M-Bus master will either let you communicate over Ethernet or serial. Here are the common parameters you need to know before you can connect PiiGAB M-Bus Setup Wizard to the M-Bus master.

#### 2.1.1 Ethernet communication parameters

For any M-Bus master communication over Ethernet you need to know these parameters:

Parameter	Detail
IP-address	The M-Bus master's IP-address
Port	The M-Bus master's communication port
Protocol	The M-Bus master's protocol (TCP or UDP)

Please see the manufacturer's manual or support to find what these are for your M-Bus master.

#### 2.1.2 Serial communication parameters

For any M-Bus master communication over serial you need to know these parameters:

Parameter	Detail
Serial port	Your computer's communication port
Baud rate	The baud rate the M-Bus master is set for

Please check the M-Bus master's manual on how a computer should connect and communicate with it. There you should also find what communication speeds are supported.

##### 2.1.2.1 Serial port

Your computer may have a serial (RS232) connection. For Windows this connection is usually called *COM1*, please see the *Device manager* in Windows.

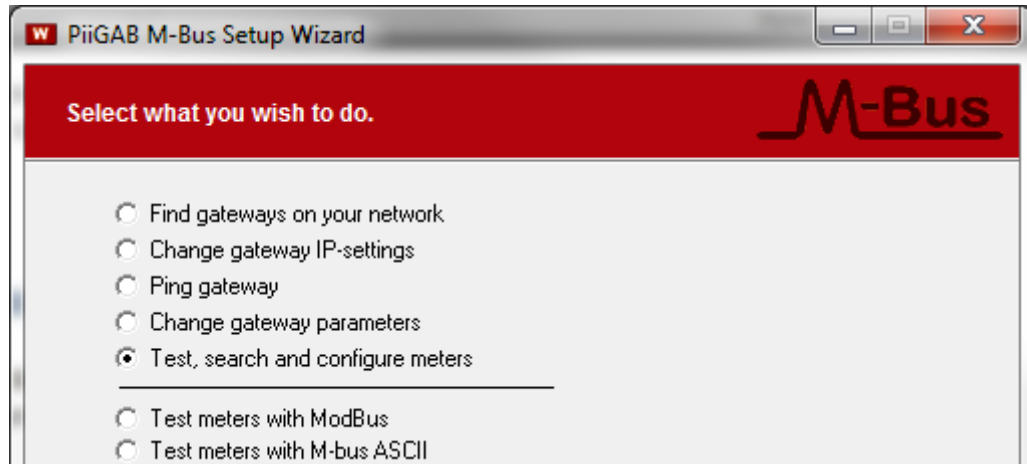
You can also use a USB->Serial adapter which will emulate a serial connection on your computer. Please see the adapter's manual on how to install it and in the *Device manager* in Windows to know what port number it has.

##### 2.1.2.2 Baud rate

This document assumes the M-Bus meter communicates over 2400 baud. Please make sure your M-Bus master is set to 2400 baud as well. Both the M-Bus meter and the M-Bus master must use the same communication speed.

### 3. Connect to the M-Bus master

1. Start *PiiGAB M-Bus Setup Wizard*.
2. In the main menu select *Test, search and configure meters*

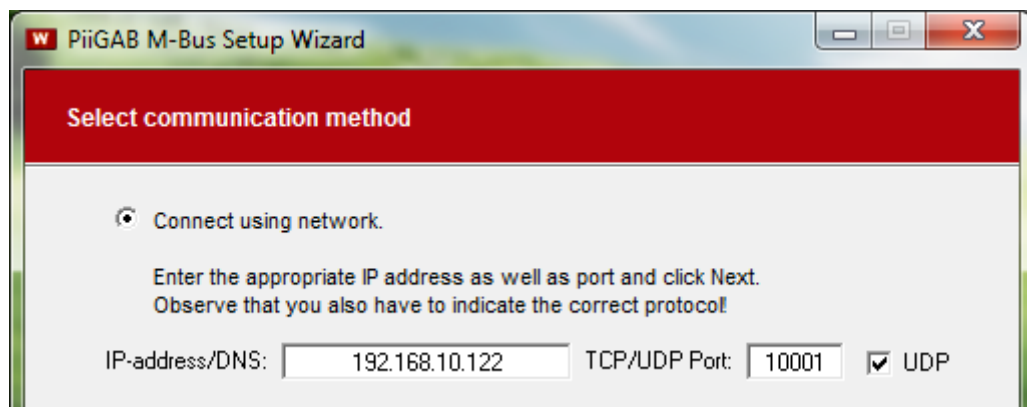


Note: Please ignore the other choices as they are not used in this document.

3. Press *Next* to continue

#### 3.1 Connect with Ethernet parameters

1. Select *Connect using network* and configure

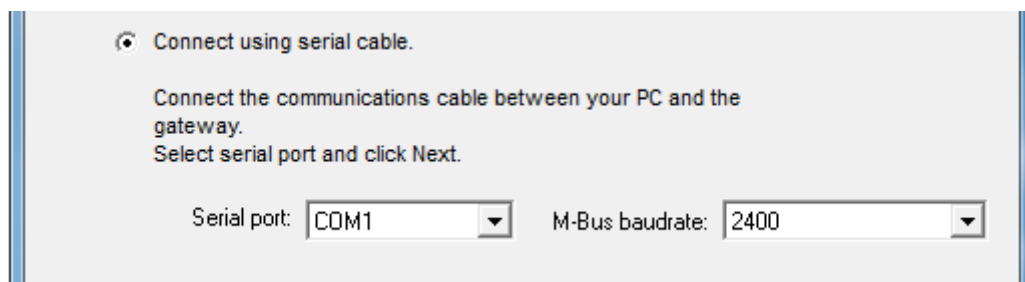


2. Enter the M-Bus master's IP-address and port number
3. Check the UDP for UDP protocol or uncheck for TCP protocol
4. Click *Next* to continue

Note: The communication speed for the M-Bus loop is handled in the M-Bus master's settings. The baud rate is not a part of how PiiGAB M-Bus Setup Wizard should connect to the Ethernet M-Bus master.

## 3.2 Connect with serial parameters

1. Select *Connect using serial cable* and configure



The screenshot shows a dialog box with a radio button selected for "Connect using serial cable." Below this, there is instructional text: "Connect the communications cable between your PC and the gateway. Select serial port and click Next." At the bottom, there are two dropdown menus: "Serial port:" with "COM1" selected, and "M-Bus baudrate:" with "2400" selected.

2. Enter the computer's COM-port in the serial port field
3. Select what baud rate
4. Click *Next* to continue

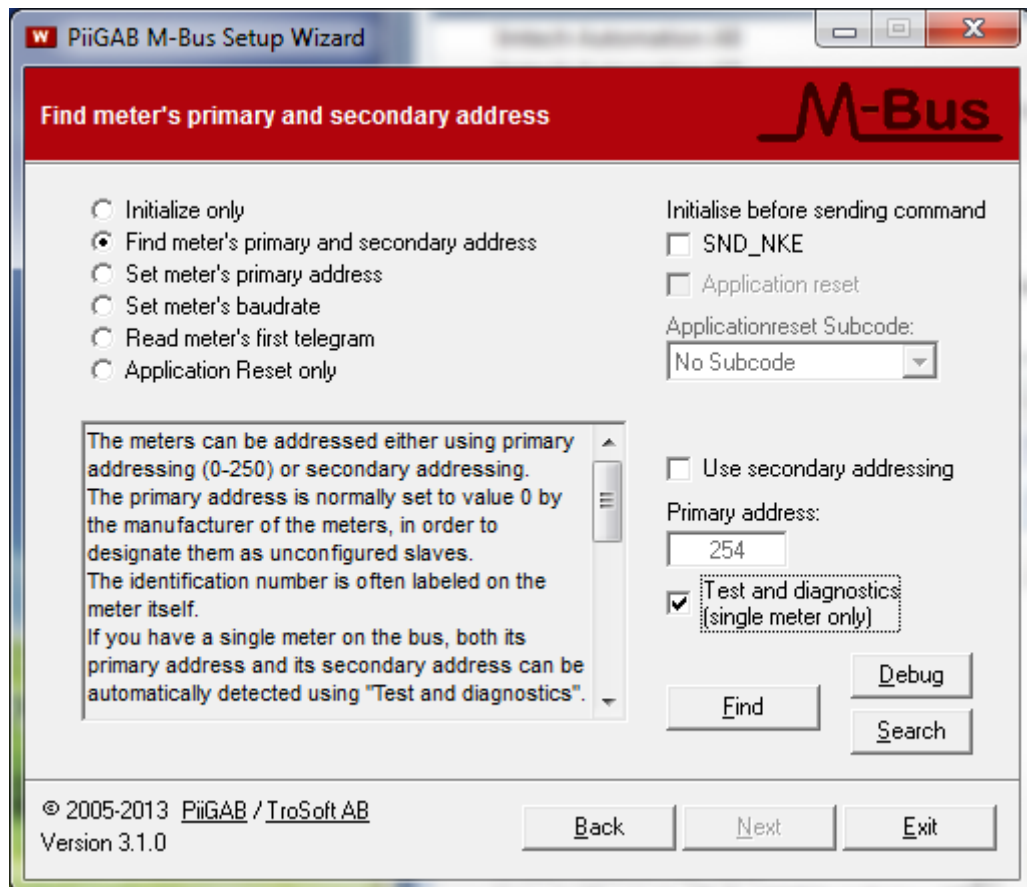
Note: This document assumes the M-Bus master and M-Bus meter communicate over 2400 baud.

## 4. Test communication with the M-Bus meter

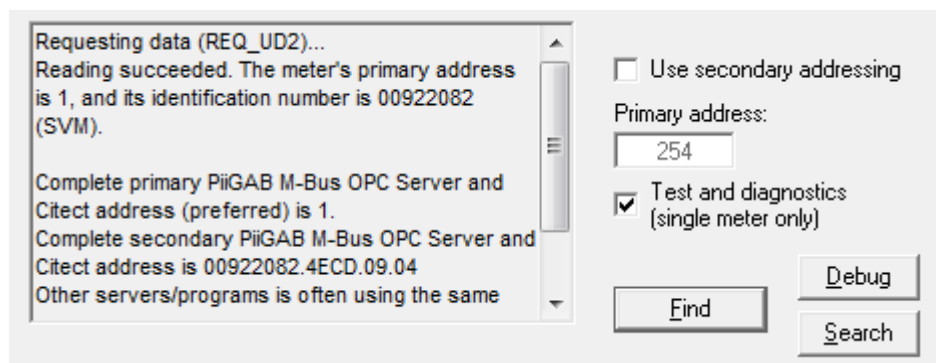
### 4.1 Communicate with Test and diagnostic address

There is a specific primary address which all M-Bus meters should respond to. This address is called *Test and diagnostic* and is a special primary address with value 254. The address is very useful if only one M-Bus meter is connected to the M-Bus master and the meter's actual primary or secondary addresses are unknown.

1. Configure as the picture shown below



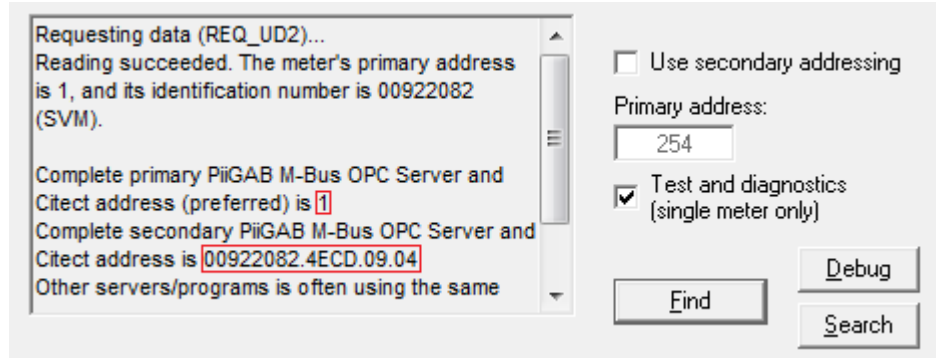
2. Press the *Find* button to test communication with the M-Bus meter



For this example the M-Bus meter responded and its primary address is 1 and the secondary address is 00922082.4ECD.09.04.

## 4.2 Identify the meter's addresses in the PiiGAB M-Bus Setup Wizard

The PiiGAB M-Bus Setup Wizard always shows the meter's actual primary and secondary addresses. In the previous example the meter's addresses are:



Address	Value
Primary	1
Secondary	00922082.4ECD.09.04

## 4.3 Parts in the secondary address

The secondary address is based on four fields. These fields make the meter's secondary address entirely unique. These fields are:

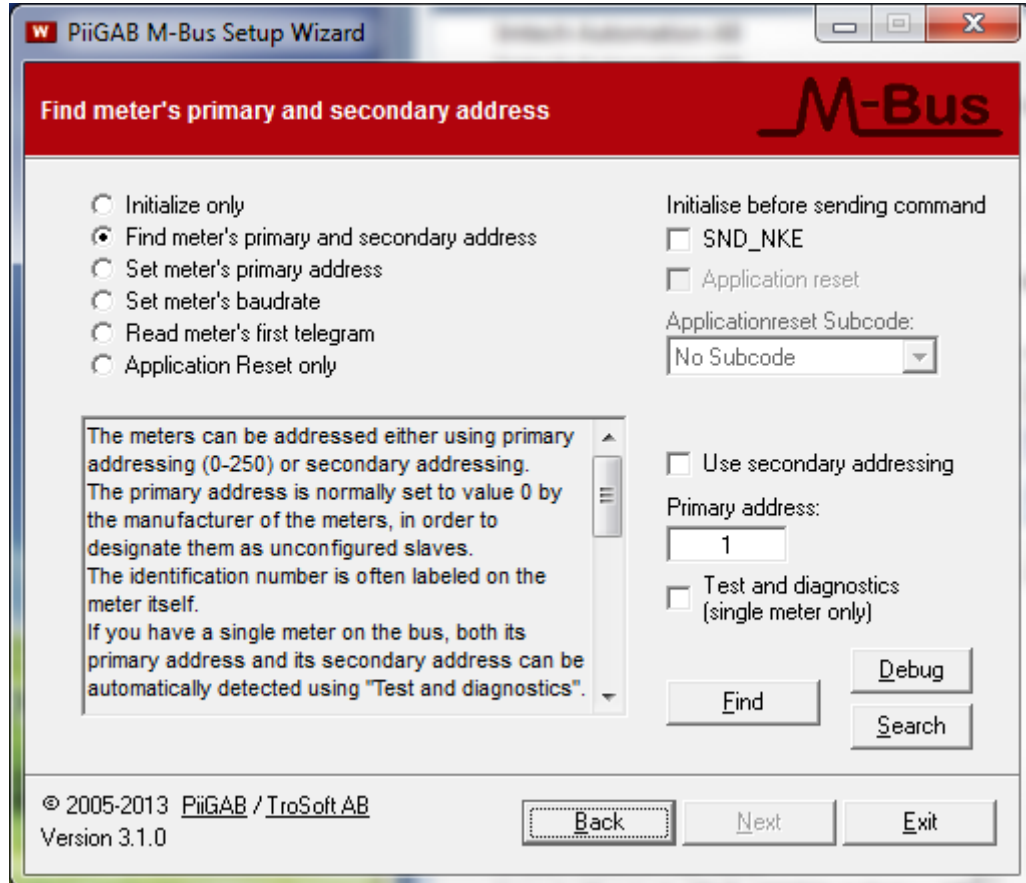
Field	Value
Identification number	00922082
Manufacture	4ECD
Version	09
Media	04



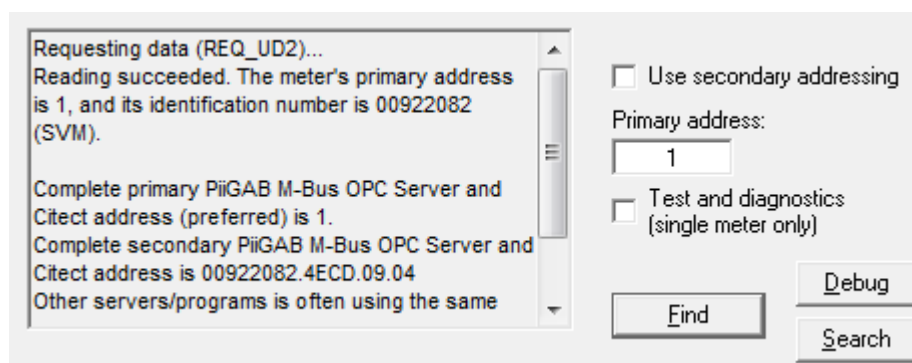
## 4.4 Communicate with the meter's actual primary address

Always make sure the M-Bus meter responds to the actual primary address.

1. Configure as the picture shown below



2. Press the *Find* button to test communication with the M-Bus meter

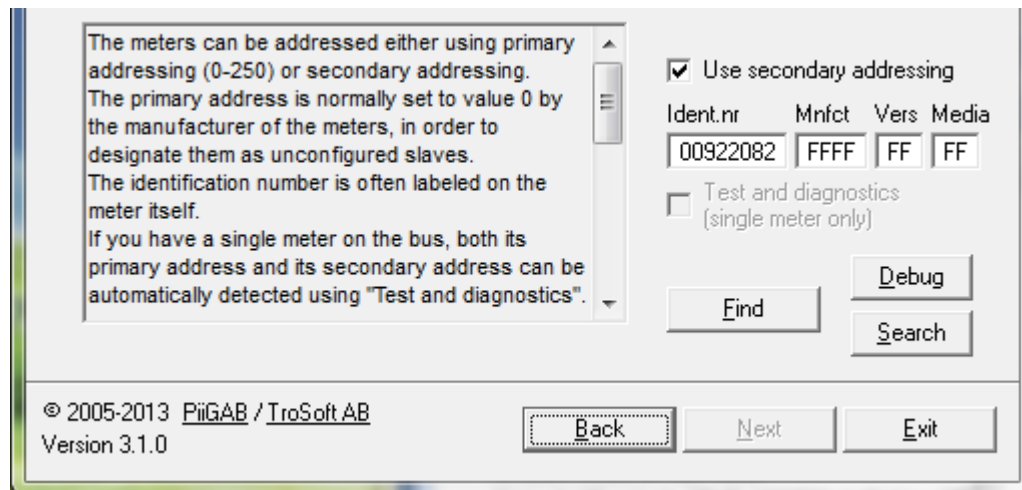


As expected the meter responded to primary address 1.

## 4.5 Secondary address – Identification number and wild cards

As the same with primary addresses, make sure the meter responds to the actual secondary address. For the secondary address it is often just enough to specify the identification number.

1. Configure as the picture shown below

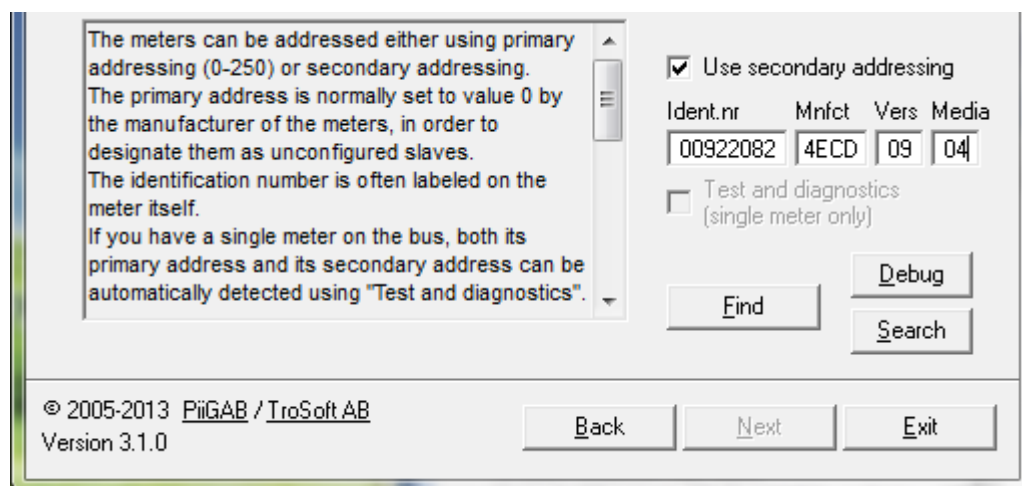


2. Press the *Find* button and test the communication with the meter.

## 4.6 Entire secondary address

If the meter doesn't respond to the identification number you can enter the entire secondary address.

1. Configure as the picture shown below



2. Press the *Find* button and test the communication with the meter.

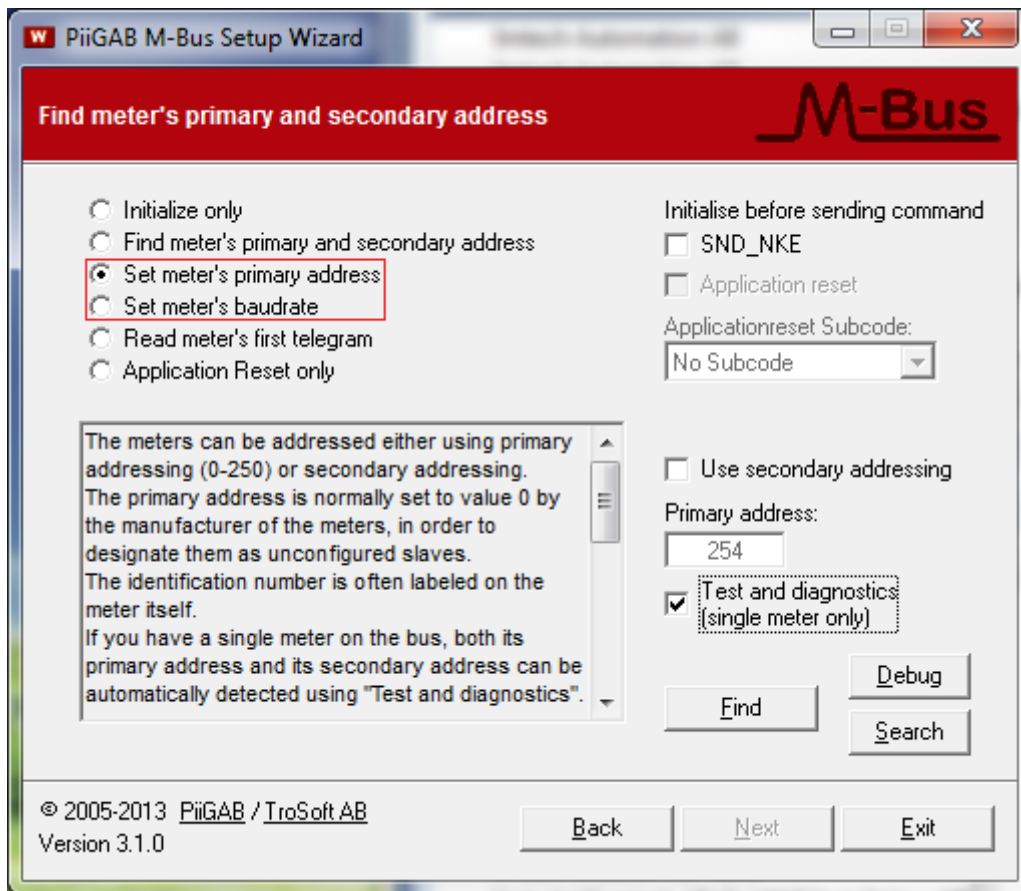
## 5. Continue working with the M-Bus meter

After established contact with the M-Bus meter you might want to alter the meters communication parameters or see what is possible to read from the meter.

### 5.1 Change meter's communication parameters

There are two standard M-Bus commands to change the M-Bus meter's primary address and communication speed. These commands are supported in PiiGAB M-Bus Setup Wizard.

**Note:** Even if the support for these commands exist in PiiGAB M-Bus Setup Wizard the meter itself may not support them. Please see the meter's manual.



#### 5.1.1 Change primary address

Use the option *Set meter's primary address* to change the meter's primary address. After setting the new primary address make sure the meter responds with the new primary address.

#### 5.1.2 Change baud rate

Use the option *Set meter's baudrate* to change the meter's communication speed.

**Note 1:** Remember that the M-Bus master also must change its communication speed to match the meter.

**Note 2:** By changing the communication speed you might need to change the timeout for the PiiGAB M-Bus Setup Wizard. This can be done by pressing the *Debug* button. In the *Debug window* open the *Tools* menu and select *Timeouts*. Then alter the *M-Bus Timeout* field and press OK.

## 5.2 Read the values from the meter

PiiGAB M-Bus Setup Wizard is not used for reading the values from the M-Bus meters. For this you have to use other softwares.

You can do this with the following applications:

- PiiGAB M-Bus OPC-Server / PiiGAB M-Bus Explorer  
Please see PiiGABs document *Getting started M-Bus Explorer*.
- Citect with PiiGAB M-Bus Citect driver  
Please see official manual driver for the M-Bus driver.
- Relay MBSheet

## 6. Appendix

### 6.1 Contacts

#### **PiiGAB Processinformation**

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