

Description of PiiGAB QuickPost

www.piigab.com

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1. Document Information

This document will describe how to use The PiiGAB QuickPost for the PiiGAB M-Bus 900S.

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	Stefan Eriksson	Initial version
1.01.01	Stefan Eriksson	Updated for PiiGAB M-Bus 900S
1.01.02	Stefan Eriksson	Extended description for Name server

2. General

This manual will give you an overview of the supplementary application QuickPost and how to use it.

2.1 QuickPost overview

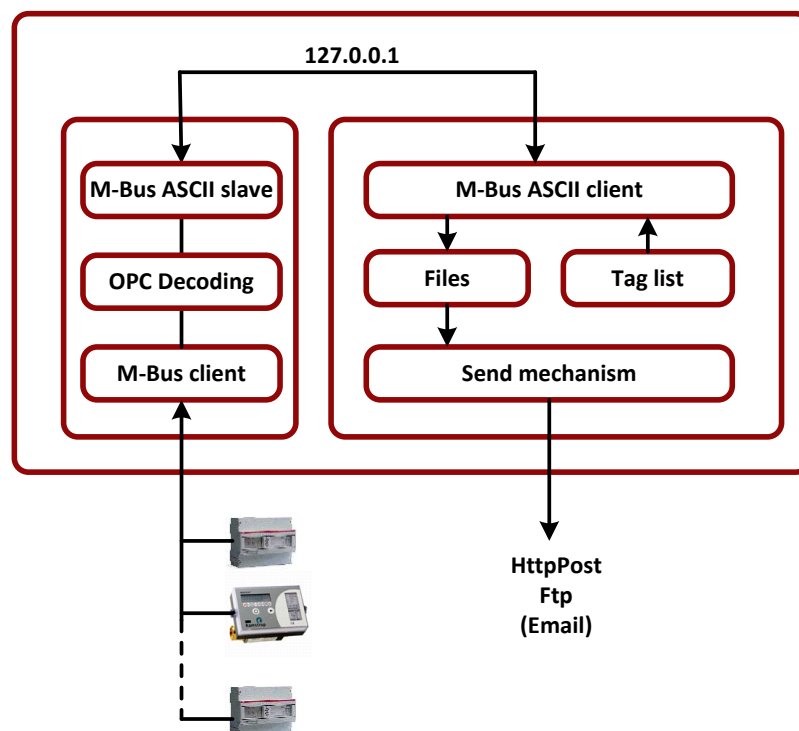
QuickPost is a supplementary application for PiiGAB 900. QuickPost makes it possible for the user to export metering data from M-Bus meters to either an FTP or HTTP Post server.

The user configures a tag list using metering data read at regular intervals. These configured tags will be exported to an FTP or HTTP Post server after parameters have been set. The tag list is created using PiiGAB Explorer in a so-called M-Bus ASCII project.

PiiGAB 900 with QuickPost calls the internal M-Bus ASCII slave using an M-Bus ASCII client. M-Bus ASCII was developed by PiiGAB and is used for managing M-Bus meters in the ASCII format. The configured tags that QuickPost works with are called and then the read data is exported.

For a more detailed description of M-Bus ASCII, download the document "Description of M-Bus ASCII" from the website.

Below you will see a small sketch which describes the internal process between the PiiGAB QuickPost and M-Bus Hub applications.



2.2 Licence information QuickPost

The number of tags for QuickPost is limited by the number of meters. The number of tags is set at five per meter (a meter is assumed to be a load unit).

PiiGAB M-Bus 900S	Number of tags
PI-900S/5/2	25 tags
PI-900S/20/2	100 tags
PI-900S/60/2	300 tags
PI-900S/120/2	600 tags

3. Installation and licence control of QuickPost

If QuickPost is not ordered before delivery, it is easy to install retrospectively. Below there is a description of how to do this and also how to check that the installation has been completed correctly.

3.1 Installation

To install the QuickPost application, you need to download the application from PiiGAB's website (QuickPost.tgz). The installation file you need is packaged in a TGZ file.

The file is uploaded to PiiGAB 900 and the entire installation takes place via the web interface in PiiGAB 900. Below you will find the steps you need to follow.

1. Go to PiiGAB's website www.piigab.com, downloads.
2. Download the QuickPost file to your computer.
3. Open PiiGAB 900's web interface.
4. Click on *Administration*.
5. Scroll down to the *Update software* section.

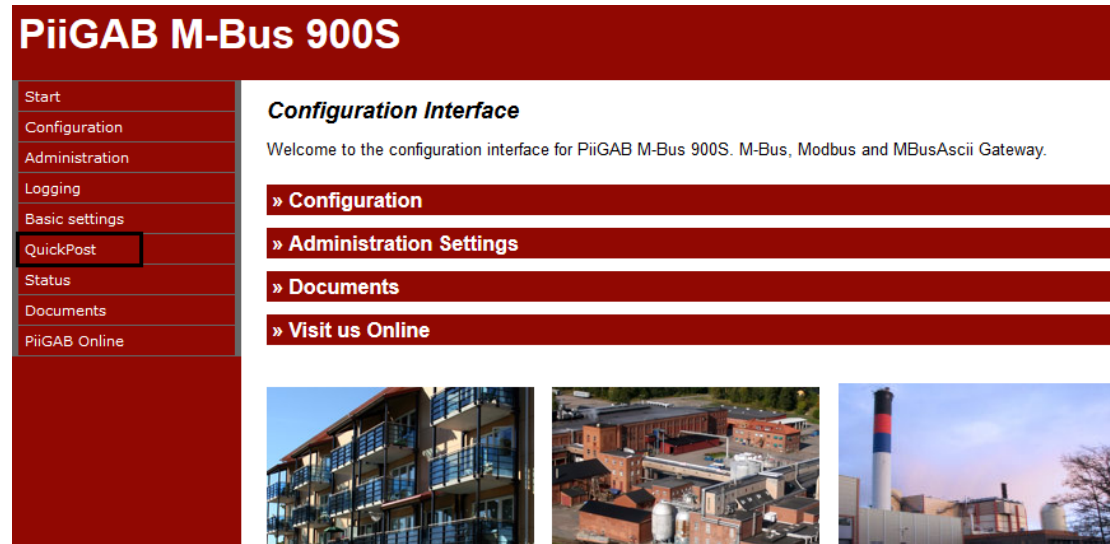


6. Click on the *Browse...* button and navigate to QuickPost_x.xx.xx.tgz on your computer.
7. Click on the *Install* button.
8. Wait a couple of seconds for the installation to complete.
9. Refresh the PiiGAB 900 page in your web browser.
10. QuickPost will now be displayed in the navigation field on the left-hand side.

3.2 Checking your QuickPost software installation

You can verify that the installation has completed correctly using the following steps.

1. Open the web interface in PiiGAB M-Bus 900S.
2. QuickPost will now be displayed in the navigation field on the left-hand side.



3.3 Checking your QuickPost licence

A licence key which is part of the main licence key is required to use QuickPost. If QuickPost is ordered before delivery, nothing more is required and you will see in the licence section that QuickPost is activated.

A new licence key must be obtained from PiiGAB if installation is carried out retrospectively. The product serial number is always required when creating a licence key.

To verify the current licence, follow these steps.

1. Open the PiiGAB 900 web interface.
2. Click on *Administration*.
3. Scroll down to the *License* section.
4. Check that *QuickPost* is visible in the *Protocols* field.



4. Name server

When using an URL-address as the destination where QuickPost will send files to, the use of a Name server is mandatory. The Name server will be used by the PiiGAB M-Bus 900S to "look up" the actual IP-address for that URL-address.

Example:

URL	IP-address
ftp://www29.fsddata.se	ftp://89.221.250.29
http://myhttppostserver.com	http://1.2.3.4

Note: The IP-addresses for the URL-addresses are only examples.

4.1 Select Name server

How to select a Name server depends on using static or dynamic IP-address.

4.1.1 Dynamic IP-address / DHCP-server

The DHCP-server will provide the PiiGAB M-Bus 900S with a Name server automatically. Check the configuration of the DHCP-server which Name server is used.

4.1.2 Static IP-address

Check with the personnel responsible for the network on the site what Name server should be used. If there is no Name server available then a public Name server can be used.

4.2 Configure the Name server (static IP-address)

1. Open the web interface for the PiiGAB M-Bus 900S.
2. Go to *Configuration*.
3. Specify the IP-address of the Name server in the field *Name Server (IP-Address)*.
4. Press *Save Ethernet Settings*.

Done! PiiGAB M-Bus 900S will restart.

Static ▼

Ip Address: 192.168.10.90

Mac Address: E8:99:5A:FF:01:12

Subnet Mask: 255.255.255.0

Name Server (IP-Address): 192.168.10.2

Gateway: 192.168.10.254

Save Ethernet Settings Refresh

4.3 Public Name server

If no specific Name server can be acquired for the site, a public Name server might work. Examples of public Name servers can be found at:

https://en.wikipedia.org/wiki/Public_recursive_name_server

Google has a public Name server which usually works. IP-address: 8.8.8.8.

5. Parameters for QuickPost

5.1 General

There are some parameters which must be set in order to use QuickPost. All the available parameters are displayed in the illustration below. When the parameters are adjusted and set, you must save them and then restart QuickPost.

Version 1.01.01

Configure

Log

List Files

File Name	<input type="text" value="my_filename"/>	
File Format	<input type="text" value="Siemens EMC"/>	
Remote HttpPost/Ftp URL	<input type="text" value="http://myhttppostserver.com"/>	
M-Bus ASCII Server IP	<input type="text" value="127.0.0.1"/>	UDP
M-Bus ASCII Server Port	<input type="text" value="10001"/>	
M-Bus ASCII Station Id	<input type="text" value="0"/>	
Read Timeout [s]	<input type="text" value="20"/>	
N Bad Reads	<input type="text" value="3"/>	
Configuration File	<input type="text" value="No File"/>	<div>Show Configuration</div>
Upload Method	<input type="text" value="HttpPost"/>	
Upload Time [HH:MM]	<input type="text" value="00:30"/>	(UTC)
Read Period [minutes]	<input type="text" value="1440"/>	
Read Offset [minutes]	<input type="text" value="0"/>	
Upload Period [minutes]	<input type="text" value="0"/>	
File Keep Time [Days]	<input type="text" value="7"/>	
User Name	<input type="text" value="my_username"/>	
Password	<input type="text" value="my_password"/>	
Enable QuickPost	<input type="text" value="Yes"/>	
Read & Upload at startup	<input type="text" value="Yes"/>	

Save Settings and Restart QuickPost

Restart QuickPost

5.1.1 File Name

The name of the file being uploaded to the FTP or HTTP Post server. The complete file name will be: <FILENAME>_<date YYYYMMDD_HHMM>.

Example: my_filename_20131014_1340

5.1.2 File Format

Choice of file formats for exporting. See [chapter 6](#).

5.1.3 Remote HTTP Post/FTP URL

IP address or domain name of your FTP or HTTP Post server.

Example: <ftp://myftpserver.com> or <http://myhttppostserver.com>

If a static IP address is used for PiiGAB M-Bus 900S, the IP address for the DNS server must also be entered when adjusting default settings for PiiGAB M-Bus 900S. Alternately, the server's IP address can be used. See previous section about [Name server](#).

5.1.4 M-Bus ASCII Server IP

This IP address must always be set as local host address 127.0.0.1. The IP address can also be set as the address of another PiiGAB 900 for test purposes. Please note that QuickPost uses UDP internally and not TCP.

5.1.5 M-Bus ASCII Server Port

Port number of the slave port in PiiGAB 900. The port must be configured for M-Bus ASCII. The default setting is port number 10001. Any normal port number can be selected.

5.1.6 M-Bus ASCII Station ID

Is hard-coded as 0. Exists for future need. Please note that the ASCII slave port's Station ID must also always be 0.

↓ Slave port configuration 2

Type	<input type="text" value="UDP"/>
Local Port	<input type="text" value="10002"/> ?
Timeout (ms)	<input type="text" value="2000"/>
Protocol	<input type="text" value="M-Bus Ascii"/>
M-Bus Ascii options	
stationid	<input type="text" value="0"/>
<input type="button" value="Save Settings"/>	

5.1.7 Read Timeout [s]

The time window for reading from the M-Bus ASCII server port in seconds. The time must be greater than the PiiGAB M-Bus 900S slave port's timeout.

Default setting: 20 seconds

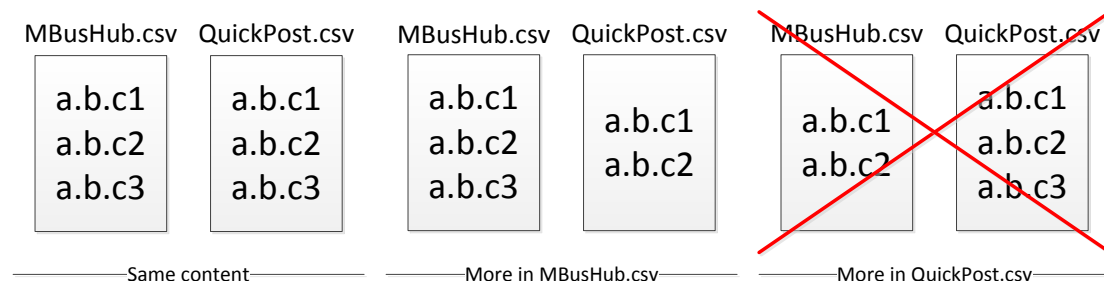
5.1.8 N Bad Reads

Number of requests if the slave does not respond.

Default setting: 3

5.1.9 Configuration File

CSV-based file generated via M-Bus ASCII project in PiiGAB Explorer. Note that all OPC-items must be of the string data type. QuickPost will read all OPC-items in the configuration file. All OPC-items in QuickPost's configuration file must exist in the configuration file bound to MBusHub's Master port. The same CSV file is normally used.



5.1.10 Upload Method

The method used to send the file to the server. You can choose between HTTP Post and FTP. For HTTP Post, the server must be compatible with the Siemens EMC HTTP Post server. Default setting: HTTP Post.

5.1.11 Upload Time [HH:MM]

The time when the file is to be uploaded to the server. Can be set between 00:00 and 23:59. Please note that this time only applies when Upload Period = 0. Default setting: 00:30

5.1.12 Read Period [minutes]

How often the tags should be read and saved in the file. The default setting is every 1,440 minutes, equivalent to 24 hours. When Read Offset = 0, readings will be taken at 00:00 every day. When Read Period = 60 and Read Offset = 0, readings will be taken every hour. PiiGAB QuickPost reads configured tags at five-second intervals in the current version. This means that if the tag list contains e.g. 60 tags, the total time for the reading will be 300 seconds providing all tags can be read. The current time stamp for each tag will be added to the file.

The user is responsible for making sure that the reading frequency is not too high with regard to the storage media.

When QuickPost starts up, a new reading will always be taken regardless of the set "read period" and "read offset". However, this does not apply if Enable = No.

Default setting: 1,440 minutes

5.1.13 Read Offset [minutes]

How far the time will be moved forward in relation to the Read Period. If Read Offset is set at 10 minutes and Read Period is set at 60 minutes, the readings will be taken at 00:00 + Read Offset = 00:10, 01:00 + Read Offset = 01:10,..... Please note that the Read Offset must always be less than the Read Period.

Default setting: 0

5.1.14 Upload Period [minutes]

Time taken for files to be uploaded to the server. With the default setting 0 minutes, uploads will be carried out once a day according to Upload Time. In the event of an Upload Period of 60 minutes, the uploads will be carried out every hour after QuickPost is started up, i.e. if the application is started up at 15:30, the next upload will take place at 16:30.

When QuickPost is restarted, all files which have not been uploaded will be sent to the server. Default setting: 0

5.1.15 File Keep Time [Days]

Number of days that the files are saved in PiiGAB M-Bus 900S.

Default setting: 7

5.1.16 User Name

User name for the HTTP Post/FTP server.

5.1.17 Password

Password for the HTTP Post/FTP server.

5.1.18 Enable QuickPost

Start or stop the PiiGAB QuickPost module. To start or stop to be executed, you must click on the button "Save Settings and Restart QuickPost".

Default setting: YES

5.1.19 Read & upload at startup

Specifies if QuickPost should read and upload all files at startup.

Default settings: YES

6. Export files

In the current version of QuickPost, you can choose between two different formats. Both formats are based on the OPC Item structure.

6.1 Format 1 (Siemens EMC format)

This format handles several tags per meter using tag name, date, time and value. The tag name is created according to OPC Item Channel.Device.Tag.

The lines in the file have the format: Tag name;Time stamp;Value

This is displayed as: Channel_Device_Tag;mm/dd/YYYY HH:MM:SS;Value.

The file also contains information about status, import file information and divisional symbols.

Example:

```
command=DEVICE_STATUS
OK,PiiGAB importfil, Version 1.0
command=METER_READING delimiter=;
GATEWAY_METRIMAF27_ENERGY;09/06/2013 08:28:09;0
GATEWAY_METRIMAF27_VOLUME;09/06/2013 08:28:14;2463
GATEWAY_METRIMAF27_TEMPERATURE;09/06/2013 08:28:19;25
GATEWAY_METRIMAF27_VOLUME2;09/06/2013 08:28:24;2463
GATEWAY_SENSUS HRI-B1_SN;09/06/2013 08:28:30;60820317
GATEWAY_SENSUS HRI-B1_VOLUME;09/06/2013 08:28:35;1170
GATEWAY_INTERNAL_VOLTAGE (ASCII);09/06/2013 08:28:40;39.7
GATEWAY_INTERNAL_CURRENT (ASCII);09/06/2013 08:28:45;5.8
GATEWAY_INTERNAL_ERROR (ASCII);09/06/2013 08:28:50;0
GATEWAY_INTERNAL_ID (ASCII);09/06/2013 08:28:55;16777360
```

6.2 Format 2

This format handles one tag per meter using device name, date, time and value. The tag name is created according to OPC Item Channel.Device.Tag.

The lines in the file have the format: Tag name;Time stamp;Value

This is displayed as: Device;mm/dd/YYYY HH:MM:SS;Value

The example below uses the meter number as the device name.

Example:

```
00102886;06/20/2013 08:18:08;608
00000623;06/20/2013 08:18:13;1526
00003005;06/20/2013 08:18:21;6230572
00288814;06/20/2013 08:18:27;20674
00431255;06/20/2013 08:18:34;0
00432157;06/20/2013 08:18:44;0
01493301;06/20/2013 08:18:50;0
16777639;06/20/2013 08:18:56;16777639
00102886;06/20/2013 08:19:03;608
```

To increase traceability using QuickPost, you can use secondary addressing as well as the meter number as Device in current OPC item. This applies to both file formats.

6.3 Uploading files

A file/files which is/are to be exported according to configuration are sent at a defined time or during a defined period. Usually there is only one file waiting to be exported. If, for example, PiiGAB QuickPost cannot export the file(s) to the selected final destination, the files will be saved until a successful file export can be carried out. QuickPost tries to export all files saved at each defined time for file export.

6.4 List Files

You can follow the progress of the export and see whether any files have not been exported under "List Files".

The top section of the page shows the files that are to be uploaded or files that have failed to upload. If one or more files does not upload, QuickPost will try to upload them again during the next Upload Time/Period or during the next start-up.

The bottom section of the page displays files which have been uploaded. This list is a rolling list which is deleted depending on how long the File Keep Time parameter is.

QuickPost List of result files

[Configure](#) [Log](#) [List Files](#)

Result files

Waiting for upload. The newest file is being written to. If there are more files here, then there has been some error during upload.

[ww_20170102_1414](#) [Download](#)

Result files. Stored files that have been successfully uploaded

[ww_20170102_0838](#) [Download](#)

[ww_20170102_0843](#) [Download](#)

[ww_20170102_0848](#) [Download](#)

[ww_20170102_0853](#) [Download](#)

6.5 Log

Further information about exporting and other interesting information about the QuickPost application can be found under "Log".

The following information is available to read:

- Whether a file uploads to the remote server has been successful or not.
 - The HTTP Post protocol provides a detailed description of the error.
 - FTP does not have this detailed description.
- How many tags the licence handles.
- When QuickPost started up.
- QuickPost version.

QuickPost Log

[Configure](#) [Log](#) [List Files](#)

20131018 12:32:02 (UTC)	curl=No error	server=
20131018 12:30:58 (UTC)	curl=No error	server=
20131018 12:29:00 (UTC)	curl=No error	server=
20131018 12:27:56 (UTC)	curl=No error	server=
20131018 12:26:44 (UTC)	curl=No error	server=
QuickPost license for 100tags		
2013-10-18 14:26:42 (Localtime)	Starting QuickPost, version	1.00.00

7. Time stamping and clock

All uploads and time stamps use GMT/UTC from the internal clock set in PiiGAB M-Bus 900S. There are various methods of setting the internal clock in PiiGAB 900. Below you will see the various methods for setting the clock. For a more detailed description, please see the main manual for PiiGAB M-Bus 900S.

1. Open PiiGAB 900's web interface.
2. Click on *Administration*.
3. Scroll down to the *Time and Date* section.

Time and Date

Hardware clock should be set to UTC

Local Time	2013-10-21 11:16:46	
Hardware Clock	Mon Oct 21 09:16:45 2013 0.000000 seconds	<input type="button" value="Set Hardware Clock from Local"/>
Set Hardware Clock, YYYY-MM-DD hh:mm:ss	<input type="text" value="2013-10-21 11:16:46"/>	<input type="button" value="Set Hardware Clock Manually"/>
Time Zone	<input type="text" value="CET-1CEST-2,M3.5.0/02:00:00,M10.5.0/03:00:00"/>	<input type="button" value="Set Time Zone"/>
Network Time Protocol (NTP)	<input type="text" value="se.pool.ntp.org"/>	<input type="button" value="Set NTP"/>

4. Set the internal clock best suited to your application.
5. Use NTP if possible.
6. Please note that if the clock is set at a date before 01/01/2013, QuickPost will not start.

8. Configuring an M-Bus ASCII project

Below you will find a simplified description of an M-Bus ASCII project, which must be created in order to make reading the desired meter possible.

If an M-Bus meter has to be read, PiiGAB M-Bus 900S must know which meter, its address and the information which is to be read from the meter. To get this, an M-Bus ASCII project is created in PiiGAB Explorer. Converters, meters and desired tags are added here. The desired tags must be uploaded using the data type VT_BSTR, i.e. a "string format".

When all the desired meters and tags have been configured in PiiGAB Explorer, the saved configuration file is uploaded to PiiGAB M-Bus 900S so that it can be used with the QuickPost application. The configuration file created is a so-called CSV file.

This means that each tag consists of Channel.Device.Tag, i.e. an OPC object with underlying information. An example of an OPC object might be *Hus_X.Värme.Retur*. QuickPost will therefore only need to ask questions of these objects to obtain the desired values from the meters.

For detailed information about uploading an M-Bus ASCII project in PiiGAB Explorer, see the manual for PiiGAB Explorer.

For detailed information about M-Bus ASCII, see the manual for the PiiGAB M-Bus ASCII protocol.

8.1 Configuring the slave port for M-Bus ASCII/QuickPost

QuickPost functions as a client for PiiGAB M-Bus 900S and must communicate via a slave port in order to obtain data from M-Bus meters. It does not matter which slave port. For example, slave port 2 can be used and configured in the following way:

↓ Slave port configuration 2

Type	UDP ▾	
Local Port	10002	?
Timeout (ms)	2000	
Protocol	M-Bus Ascii ▾	
M-Bus Ascii options		
stationid	0	
<input type="button" value="Save Settings"/>		

The parameters for the slave port are described here:

Field	Description
Type	Must be UDP
Network card	ALL
Local Port	The port that QuickPost will communicate with.
Timeout	The time the slave port might wait to obtain data from the master port.
Protocol	Must be M-Bus ASCII
station ID	Must be 0

8.2 Configuring the master port for M-Bus ASCII/QuickPost

A configuration file for the master port must be specified for the transfer between M-Bus ASCII and the M-Bus protocol to work. The CSV file for the MasterPort must contain all the tags that the QuickPost CSV file contains. In most cases, the same file is used. See also [section 5.1.9](#). Apart from the configuration file, the master port configuration does not depend on QuickPost.

↓ Master port configuration

Type	Serial ▾	
Com port	M-Bus Master ▾	
Baud rate	2400 ▾	?
Timeout (ms)	2000	
Reconnect (s)	1000	
Protocol	M-Bus ▾	
Configuration File	QuickPost.csv ▾	<input type="button" value="Show Configuration"/>
M-Bus Master options		
myprimaryaddress	251	
switchblocktime	200	
<input type="button" value="Save Settings"/>		

The configuration file is uploaded under *Basic Configuration* in PiiGAB M-Bus 900S's web interface. Please see PiiGAB M-Bus 900S's official manual for details.

8.3 Configure QuickPost to connect to the slave port

If the slave port is configured according to section 8.1 and the QuickPost use the same configuration file as MBusHub in section 8.2 then QuickPost can be adjusted accordingly:

QuickPost Configuration

Version 1.01.01

Configure
Log
List Files

File Name	<input type="text" value="filename"/>	
File Format	<input type="text" value="Siemens EMC"/>	
Remote HttpPost/Ftp URL	<input type="text" value="ftp://www29.fsddata.se/"/>	
M-Bus ASCII Server IP	<input type="text" value="127.0.0.1"/>	UDP
M-Bus ASCII Server Port	<input type="text" value="10002"/>	
M-Bus ASCII Station Id	<input type="text" value="0"/>	
Read Timeout [s]	<input type="text" value="20"/>	
N Bad Reads	<input type="text" value="3"/>	
Configuration File	<input type="text" value="QuickPost.csv"/>	<input type="button" value="Show Configuration"/>
Upload Method	<input type="text" value="Ftp"/>	
Upload Time [HH:MM]	<input type="text" value="0"/>	(UTC)
Read Period [minutes]	<input type="text" value="30"/>	
Read Offset [minutes]	<input type="text" value="0"/>	
Upload Period [minutes]	<input type="text" value="30"/>	
File Keep Time [Days]	<input type="text" value="7"/>	
User Name	<input type="text" value="piigab-quickpost"/>	
Password	<input type="text" value="quickpost"/>	
Enable QuickPost	<input type="text" value="Yes"/>	
Read & Upload at startup	<input type="text" value="Yes"/>	
<input type="button" value="Save Settings and Restart QuickPost"/>		
<input type="button" value="Restart QuickPost"/>		

Note how *M-Bus ASCII Server Port* is linked with the *Local Port* on Slave port 2 and *Configuration File* is the same as the Master port *Configuraiton file*.

9. Appendix 1 – Other documents

Information about how PiiGAB M-Bus 900S is generally used and configured can be found in the main manual for PiiGAB M-Bus 900S.

A description of how to create an M-Bus ASCII project in PiiGAB Explorer can be found in the manual for PiiGAB M-Bus Explorer. This manual is a help file in CHM format.

A description of PiiGAB M-Bus ASCII can be found in a separate protocol manual for M-Bus ASCII.

PiiGAB also has produced various step-by-step documents in order to facilitate the configuration of different types of products. These are also available to download from the website.

10. Appendix 2 – Error description

If the QuickPost client does not receive a correct response from the M-Bus client, this may be for several reasons. Instead of the actual reading, error information is printed for the current value in the file. If a number of different errors occur, there is a list below which explains these different error messages.

Code	Description
Error codes fom MBusHub	
C	Invalid checksum.
D	Wrong data type. The data type must be VT_BSTR.
I	Unknown OPC-Item. QuickPost is reading an OPC-item which doesn't exist in the Master port's CSV-file.
M	Timeout Master port. No response from the M-Bus meter.
O	Too many OPC-items in the request.
T	Timeout slave port. No response from the Master port.
V	Unable to write outside value range. Ex: Range 10-20 cannot handle value 22.
Error codes from Quickpost	
s	Timeout in QuickPost's MBusASCII client.
q	Invalid TID.
p	Invalid PID.
c	Invalid checksum.