Limo-client

ME15 modem configuration via limo-client

KoCoS Measurement & Control (Pty) LTD
40 Jeanette Street
Brackenfell
7560
Tel: +27 21 9820016
Fax: +27 21 9820230
E-Mail: sales@kocos.co.za
Internet: www.kocos.co.za

Table of Contents

1.) Limo-client

1.1) Download and Installation Process of Limo-client:

To install limo-client contact KoCoS Measurement & Control (Pty) Ltd and we will share a link where you will be able to download limo-client and install it.

After the download un-zip the file and double click the limo-client_setup.exe file to start the installation process.

1.2) Connection Process:

After the installation of limo-client, connect the LiMo modem to the PC or Laptop via a micro USB cable.

To see if you have connection to the modem open the command prompt and ping 192.168.111.254.

Note: (If there is no ping contact KoCoS for support.)

When you can ping the modem you can open Limo-client and you should see the Figure 1.
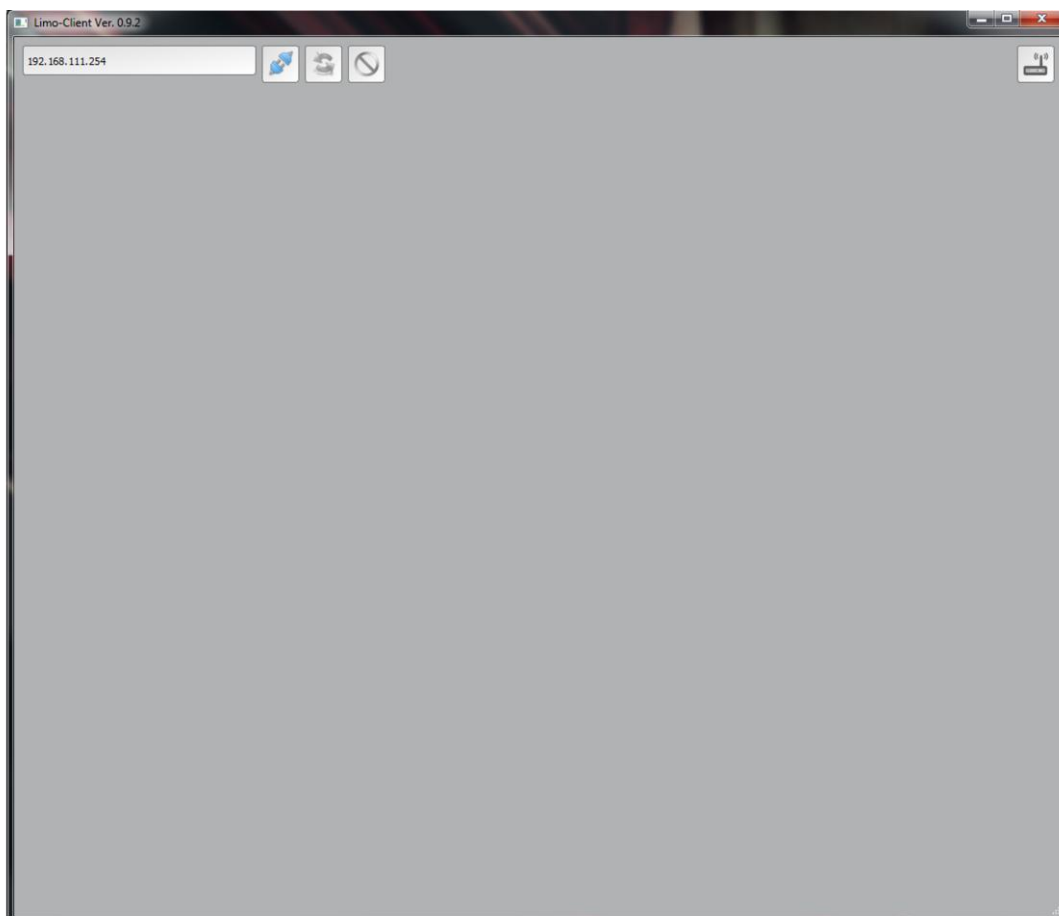
Figure 1

To connect to the modem you will have to enter the IP address of the modem in the address bar. The default address of ne modem over the USB connection is 192.168.111.254.

When you have entered the IP address in the address bar click on the Blue Connector button next to the address bar to establish a connection.

When connection is successful you will see a menu bar appear populated with Modem, Meter, Cloud services and Scheduling buttons in it.

Note: (If not loaded as specified above there is a connection issue and you should check the connection with a ping or contact KoCoS for Support.)

1.3) Limo-client Layout

Figure 2

Limo-client has a simple layout to work with and to understand.

The menu has two options: Configuration or Commissioning

The Configuration Menu consists of 4 categories: Modem, Meter, Cloud Service and Scheduling.
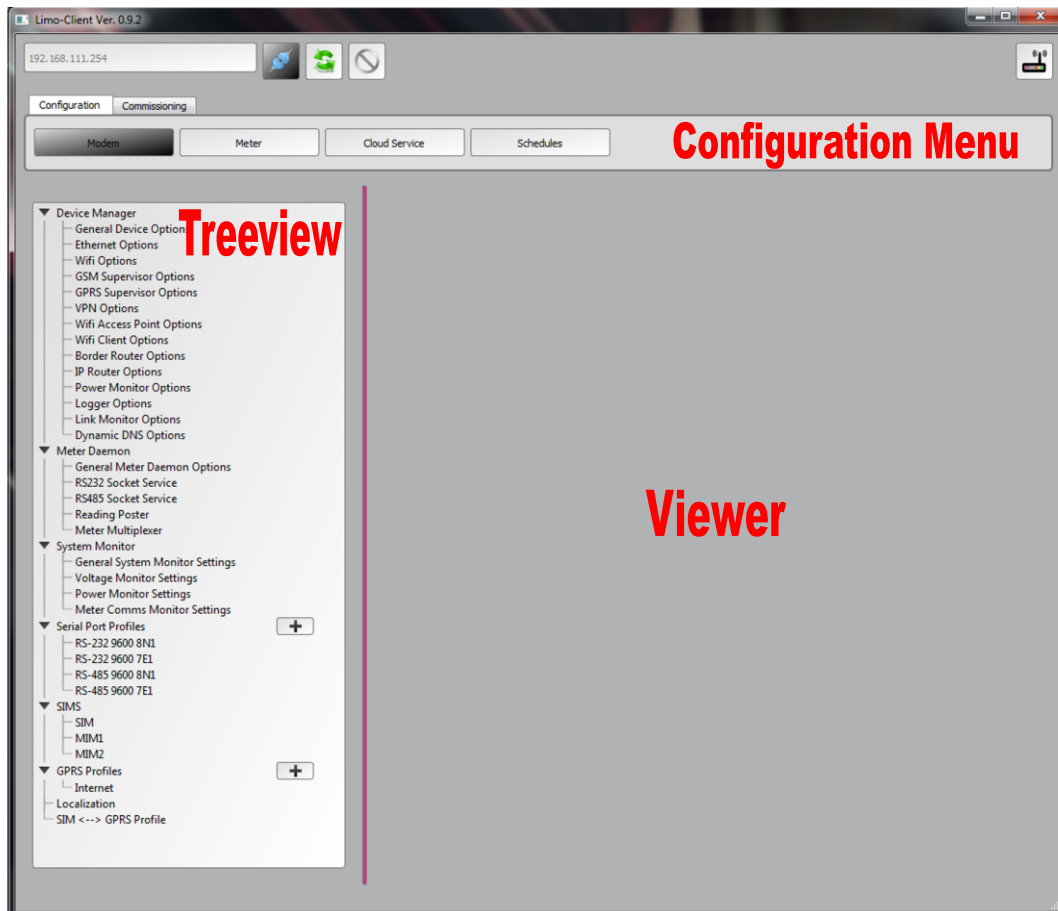
Modem: Here the user will be able to enable and configure the modems services.

Meter: Here the user will add meters and configure their properties.

Cloud Service: Here the user will add a cloud service the modem will push the data to.

Schedules: Here the user will configure the desired schedule the modem will read and post data to the configured cloud services.

When the user clicks on a menu item it will populate the Treeview with the related items of the button clicked in the menu.
The user will then be able to click on the Treeview item and the viewer will be populated with the corresponding view for the user to edit and save the properties of the object chosen in the Treeview.

1.4) Ethernet Options

To setup the Ethernet the user will have to navigate to *Configuration Menu > Modem*.
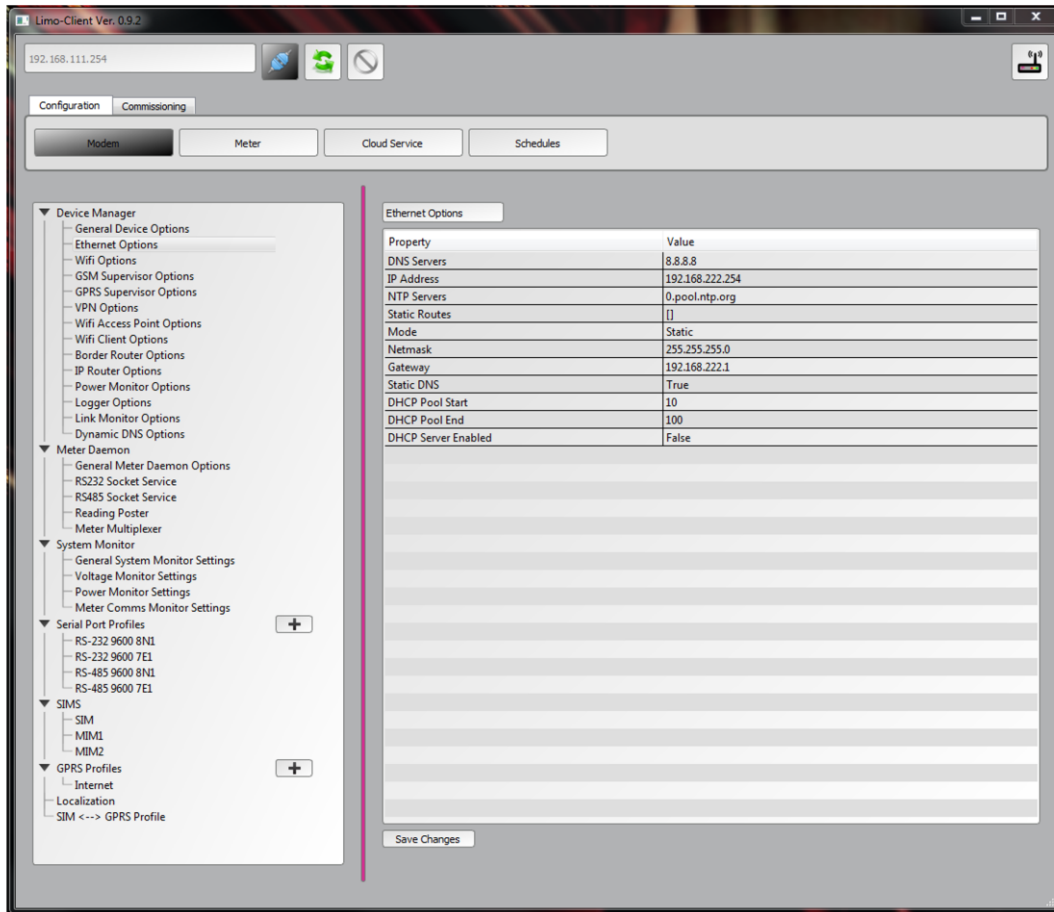
Figure 3

To enable the Ethernet on the device navigate to Configuration Menu > General Device Options.

If you changed the properties of the socket service on each screen on the viewer before you navigate away you must click on the Submit / Save button

Note: (for the changes to take effect the modem will have to be rebooted.)

The Ethernet options use basic TCP/IP setup options:

Mode:
        DHCP or Static, default Static.
IP Address:
        Default 192.168.222.254.
Netmask:
        Default 255.255.255.0.
Gateway:
        Default 192.168.222.1.
Static DNS:
        TRUE or FALSE, default TRUE.
DNS Servers:
        Comma separated list of servers. Default 8.8.8.8.

NTP Servers:
> Comma separated list of servers. Default 0.pool.ntp.org.

Static Routes:
> Array of JSON objects in the form of [{"network": "10.0.0.0", "netmask": "24", "gateway": "10.0.0.1"},
> {{"network": "172.2.0.0", "netmask": "16", "gateway": "172.2.0.1"}}].
> Default []. Note that the netmask is the number of bits and not the dotted format.

1.5) RS232/RS485 Socket Service Setup

To setup the RS232/RS485 Socket Service the user will have to navigate to _Configuration Menu >_
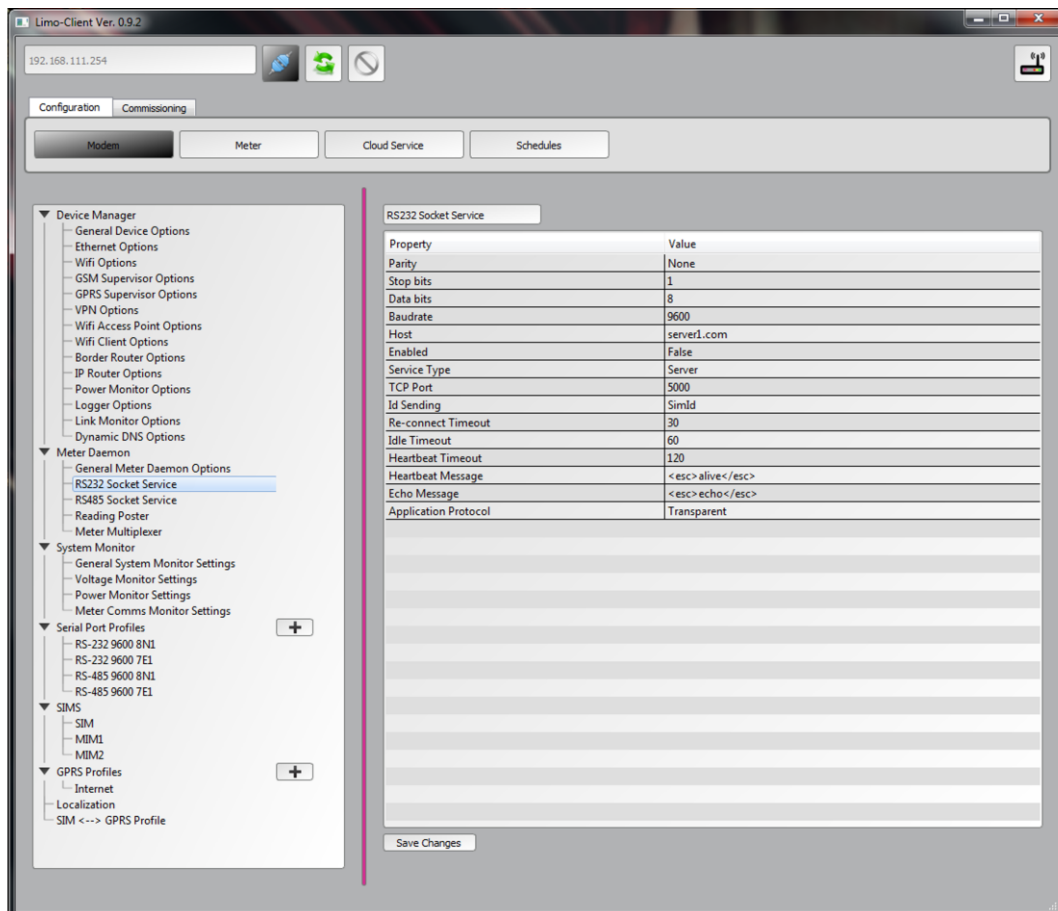_Modem_.

Figure 4

The Socket Service is used if the user wants to setup the Communications to access the meter
directly through the Modem.

If the user changed the properties of the socket service on each screen on the viewer before you
navigate away you must click on the Submit / Save button

Note: (for the changes to take effect the modem will have to be rebooted.)

The RS232/RS485 Socket Service properties are set as follow:

Enabled*:*
> Enables the service.

Parity:
> RS232 port parity.

Stop bits:
> RS232 stop bits.

Baudrate:
> RS232 port baudrate.

Host:
> Host to connect to when in client mode.

Service Type*:*
> Client or Server. When in server mode, the daemon will listen for connections on this port. In client mode the daemon will connect to the remote host.

TCP Port:
> TCP port to listen on or connect to.

Id Sending:
> SimId or SerialNumberWithIndex. The daemon will send an identifier when in client mode and the connection is established. SimId is the ID of the active SIM. For SerialNumber WithIndex the identifier starts with the modem serial number, ends with an index (1 for RS232, 2 for RS485) and is padded with zeros to a length of 20.

Re-connect Timeout:
> Time between connections when in client mode.

Idle Timeout:
> Daemon will drop connection if idle for this time.

Heartbeat Timeout:
> Daemon will drop connection if no heartbeat received for this time.

Heartbeat *Message*:
> The daemon will reset the heartbeat timer when it receives this message.

Echo Message:
> On receipt of this message, the daemon will send the identifier again.

1.6) Serial Port Profile Setup

To setup a serial port profile the user will have to navigate to *Configuration Menu > Modem* and click on one of the Serial Port profiles.
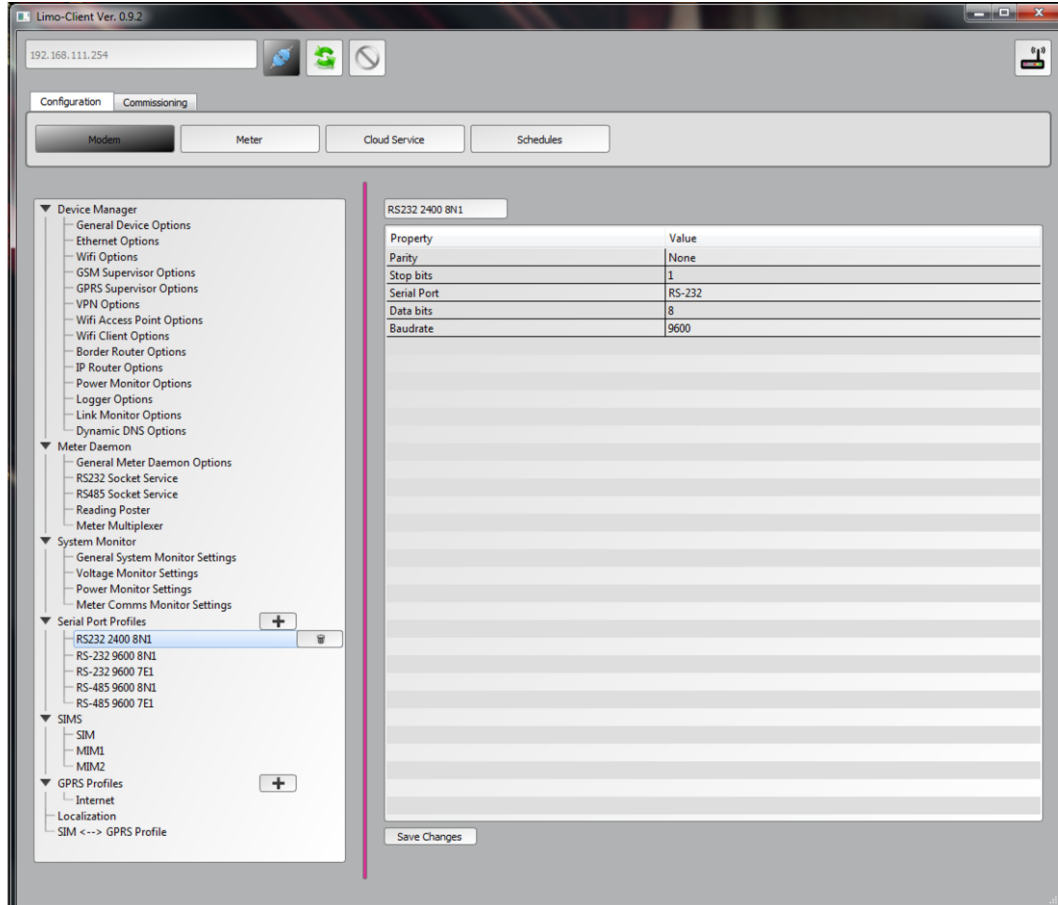

Figure5

There are a few pre defined serial port profiles configured on the modem.
These Serial Port profiles are the most commonly used on the meters.
The user is able to change the existing Serial Port profiles or to add new define Serial Port profiles

Figure6

To add a new Serial Port profile click on the PLUS button in the treeview next to Serial Port Profiles.

1.) In the loaded viewer enter the description of the new serial port profile.
2.) Click on the Submit button to add the new serial port profile.

Figure7

When the serial port profile is added you will see it is added to the Treeview under the Serial Port Profiles.

To change properties of the Serial Port profile click on the gears button next to the Serial Port profile name.

If the user would like to remove the Serial Port from the list you must click on the bin button next to the Serial Port profile name.

If you changed the properties of the Serial Port profile in the viewer before you navigate away you must click on the Submit / Save Changes button.

The Serial Port profile properties are set as follow:

Serial Port:
    RS232 or RS485
Parity:
    Communication port parity.
Stop bits:
    Communication port stop bits.
Data bits:
    Communication port data bits
Baudrate:
    RS232 port baudrate.

1.7) GPRS Profile Setup

To setup a GPRS profile the user will have to navigate to *Configuration Menu > Modem* and click on one of the GPRS profiles.
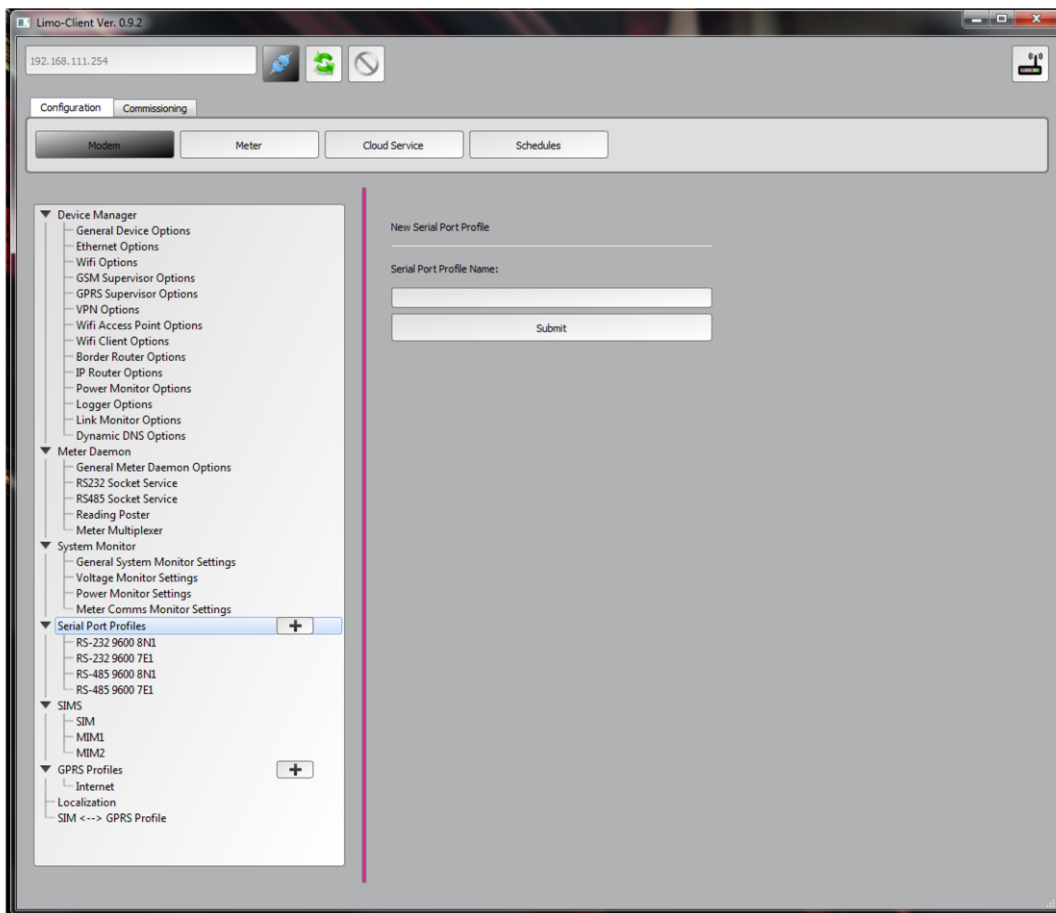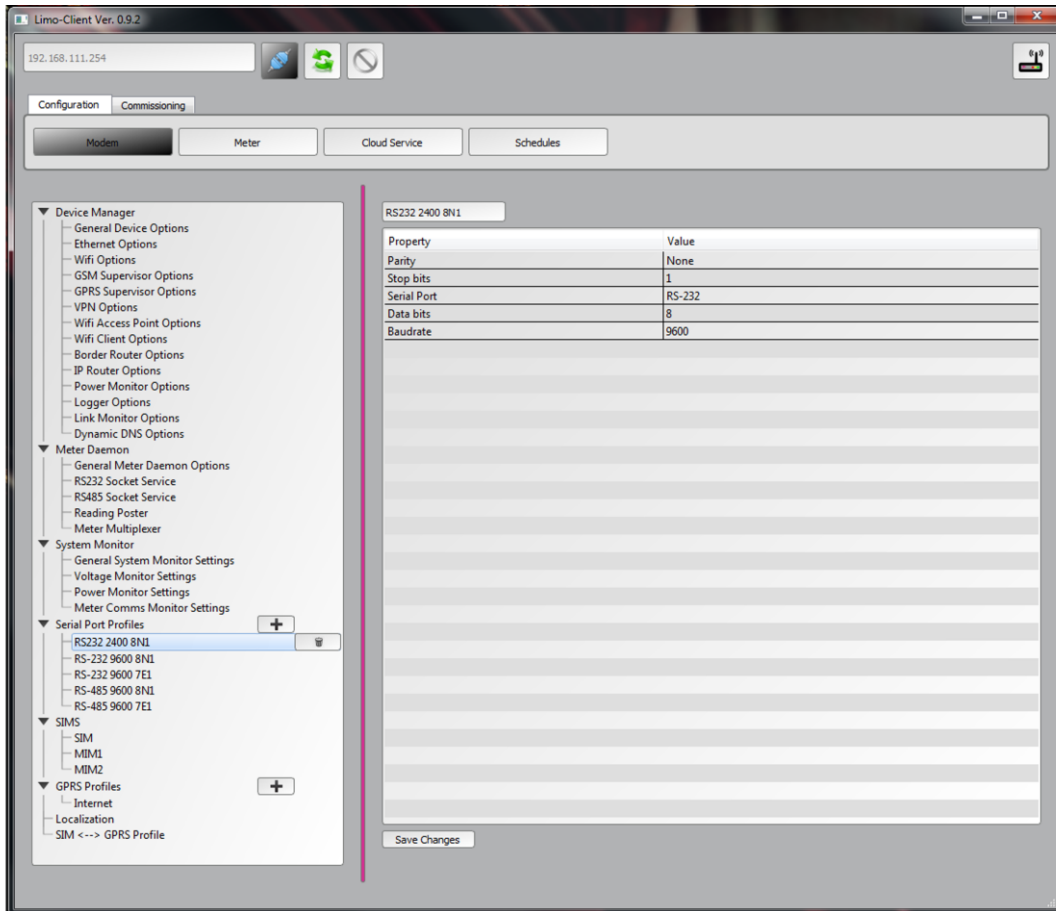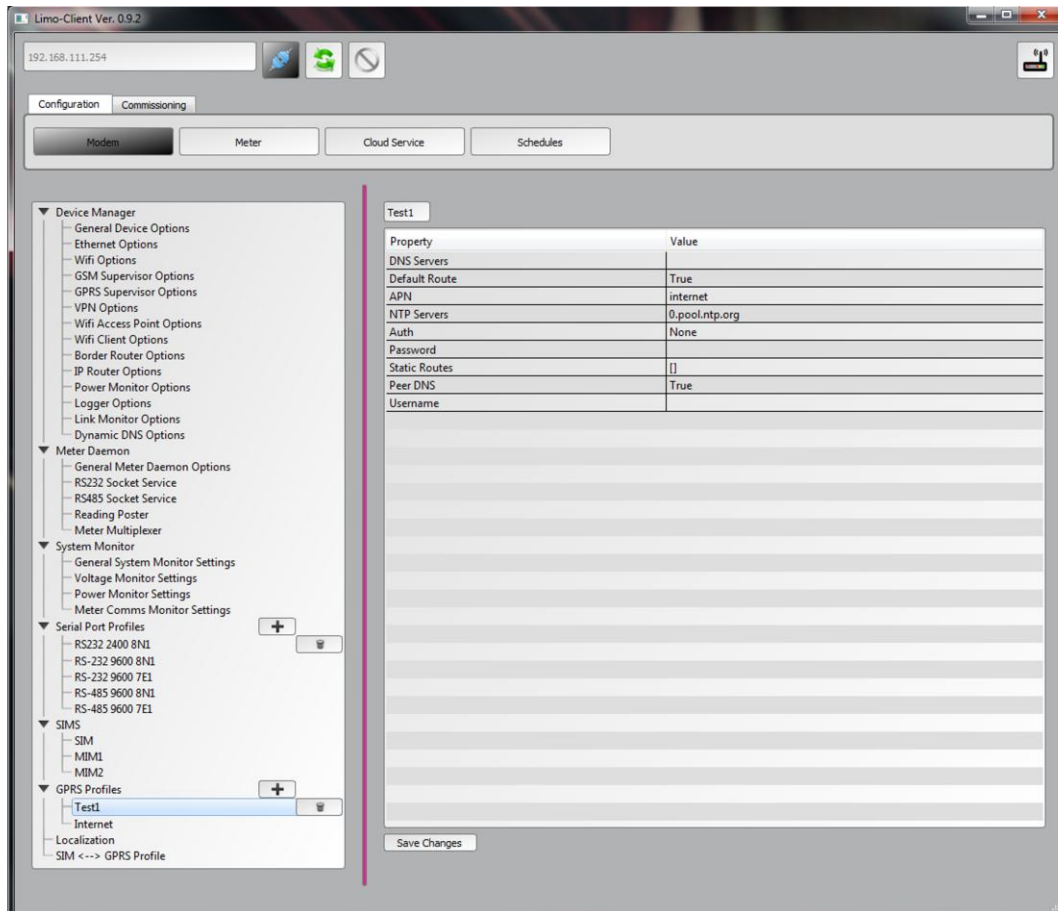

Figure8

There is a default GPRS profiles configured on the modem called *Internet*.
This GRRS profile is setup by default for the public APN.
The user is able to change to change this GPRS profile but is advised to create a new GPRS profile for custom APN setup.
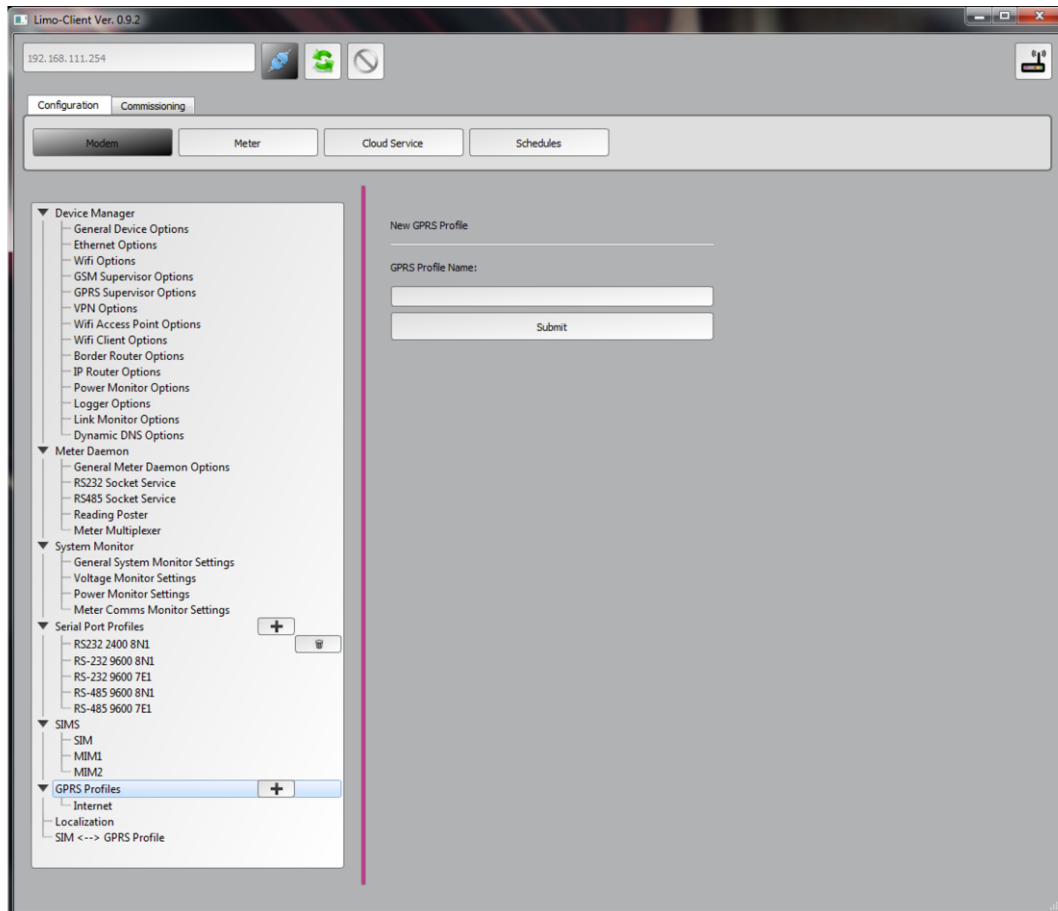
Figure9

To add a new GPRS profile click on the PLUS button in the treeview next to GPRS Profiles.
1.) In the loaded viewer enter the description of the GPRS profile.
2.) Click on the Submit button to add the new GPRS profile.
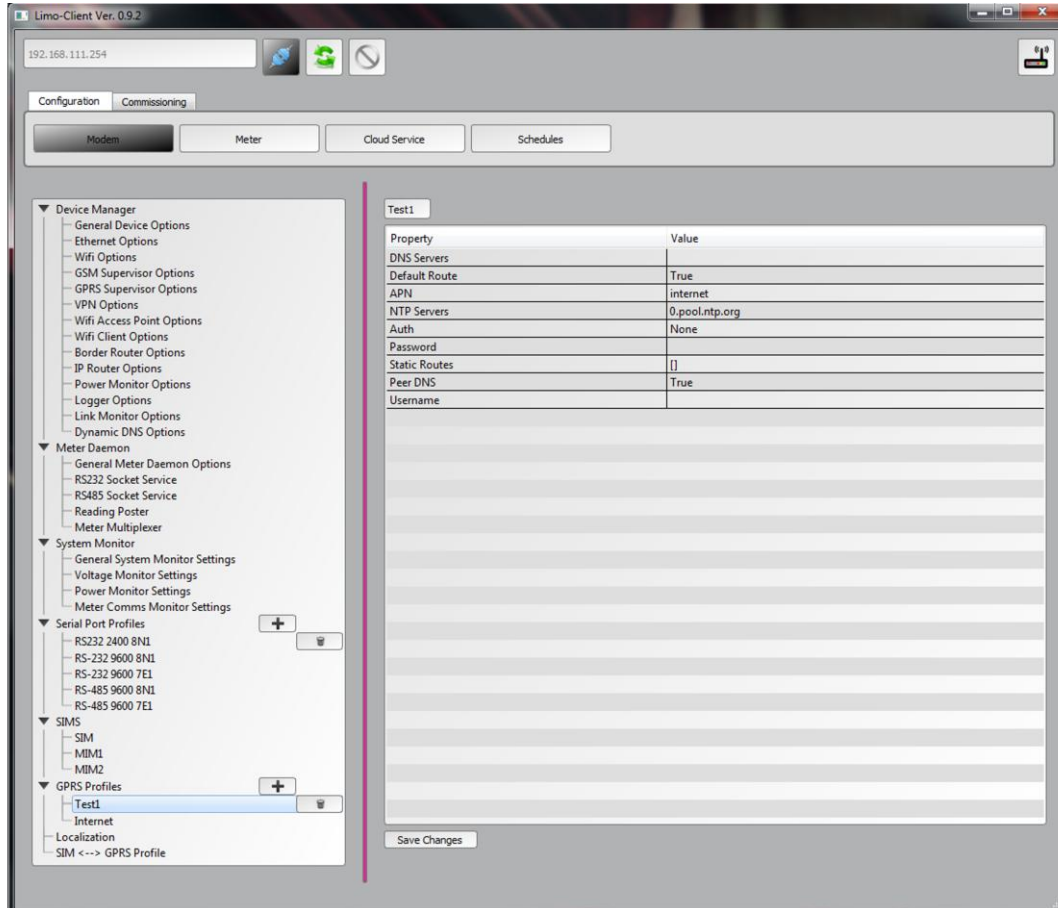
Figure10

When the GPRS profile is added you will see it is added to the Treeview under the GPRS Profiles.

To change properties of the GPRS profile click on the gears button next to the GPRS profile name.

If the user would like to remove the GPRS from the list you must click on the bin button next to the GPRS profile name.

If the user changed the properties of the GPRS profile in the viewer before you navigate away you must click on the Submit / Save Changes button.

The GPRS Profile properties are set as follow:

DNS Servers:
        Comma separated list of dot notation IPv4 addresses.
APN:
        APN name.
Auth:
        APN Authentication type None, PAP or CHAP
Password:
        APN Authentication password
Username:
        APN Authentication username

Defualt Route:
>   True or False

NTP servers:
>   Comma separated list of servers. Default 0.pool.ntp.org.

Peer DNS:
>   True or False

Static Routes:
>   Array of JSON objects in the form of [{"network": "10.0.0.0", "netmask": "24", "gateway": "10.0.0.1"},
>   {{"network": "172.2.0.0", "netmask": "16", "gateway": "172.2.0.1"}}].
>   Default []. Note that the netmask is the number of bits and not the dotted format.

1.8) Meter Setup

To setup a meter the user will navigate to _Configuration Menu > Meter_.
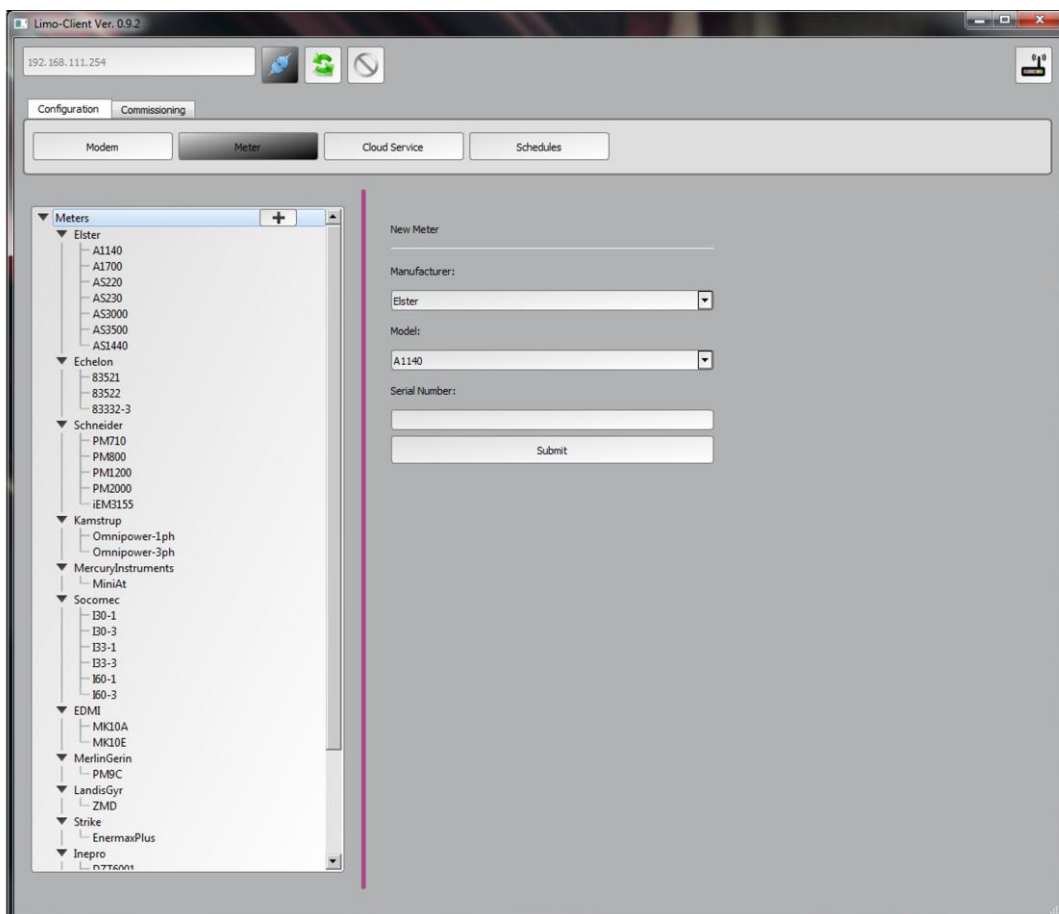
Figure11

To add a new meter click on the PLUS button in the treeview next to Meters.

In the loaded viewer choose the manufacturer of the meter and then the modem from the corresponding dropdown boxes.

Enter the Serial number of the meter you are adding.

To add the meter click on the Submit button.

Figure12

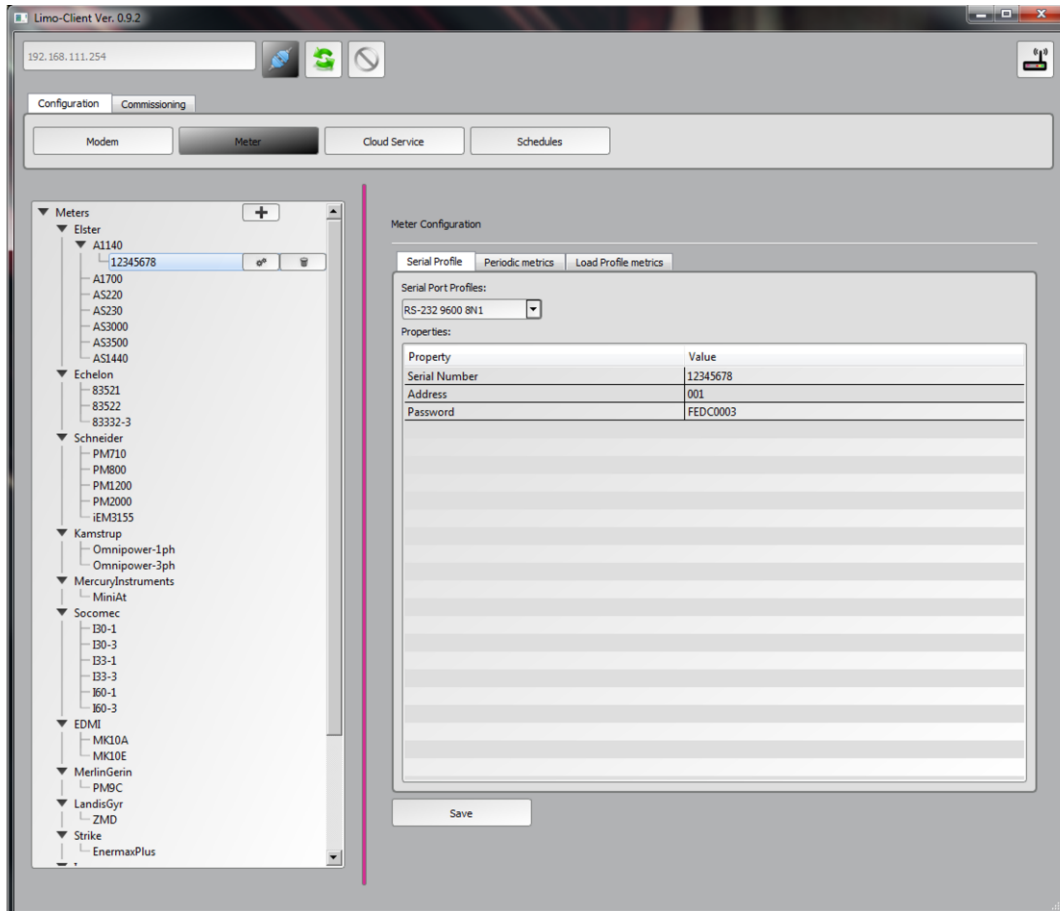When the meter is added you will see it is added to the Treeview under the specified manufacturer and model.

To change the communication properties and metrics to be read of the meter click on the gears button next to the meter.

If you would like to remove the meter from the list you must click on the bin button next to the meter.

If you changed the properties of the meter on each screen on the viewer before you navigate away you must click on the Submit / Save button.

If you added all the meters and configured them you should always reboot the modem before the modem will start communicating with them.

The Meter properties are set as follow:

Serial Port Profile:
Dropdown list containing all the Serial Port Profiles configured on the modem.
Serial Number:
Meter Identifying description.
Address:
Outstation number or modbus address
Password:
Password needed to authenticate communications with the meter.

1.9) Testing Meter Setup

To test the meters that where setup navigate to *Commissioning Menu > Meter > Read Meter*.
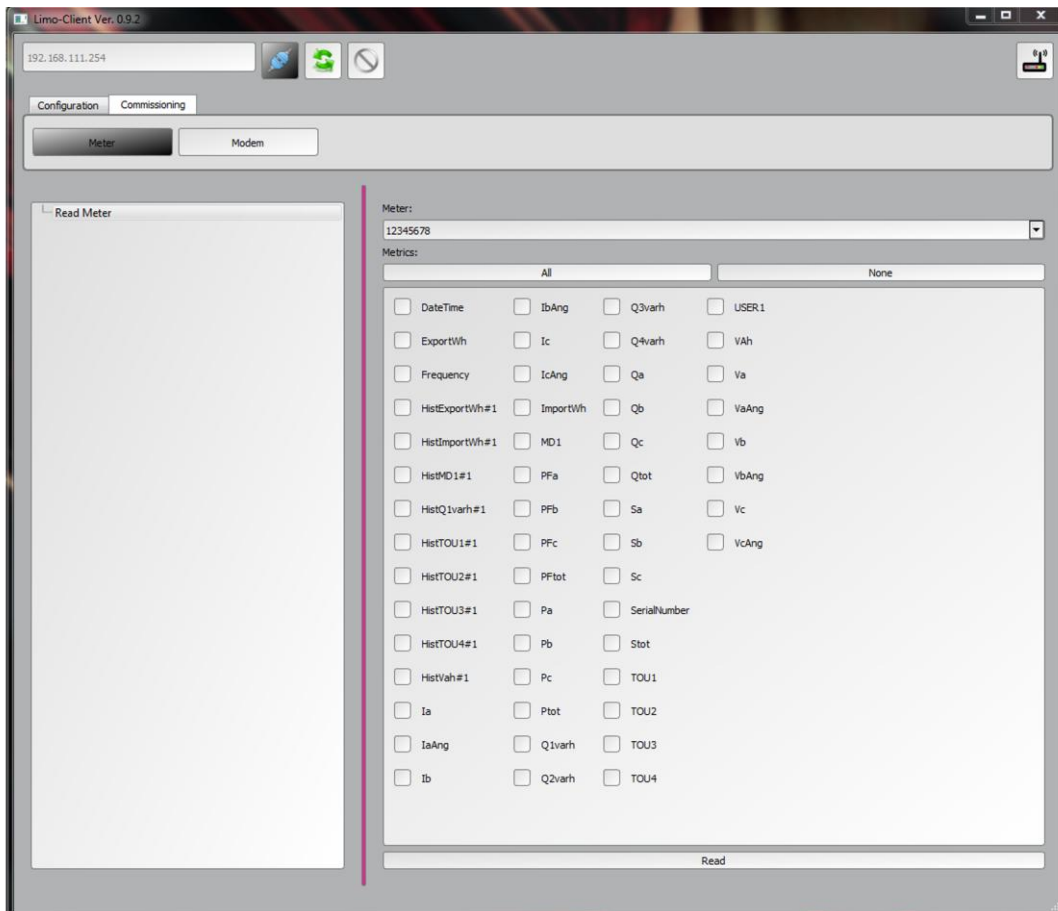

Figure13

In the viewer as seen in Figure13 select the meter from the drop down box you would like to read.

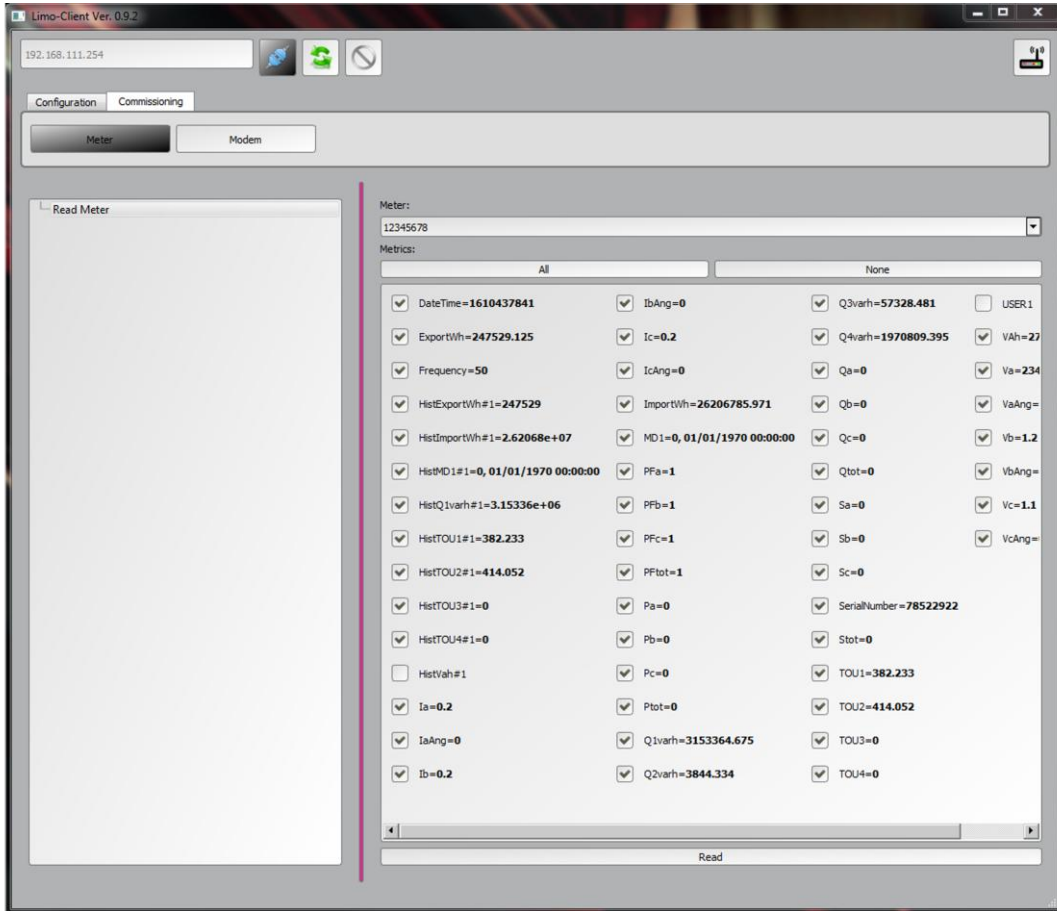Select the metrics you would like to read or just click on the ALL button and the click on the Read button.

Figure14

A progress bar will appear and when it is finished you will see the values will appear next to the metrics you have chosen as seen in Figure14.

1.10) Cloud Services

To setup a meter the user will navigate to *Configuration Menu > Cloud Service*.
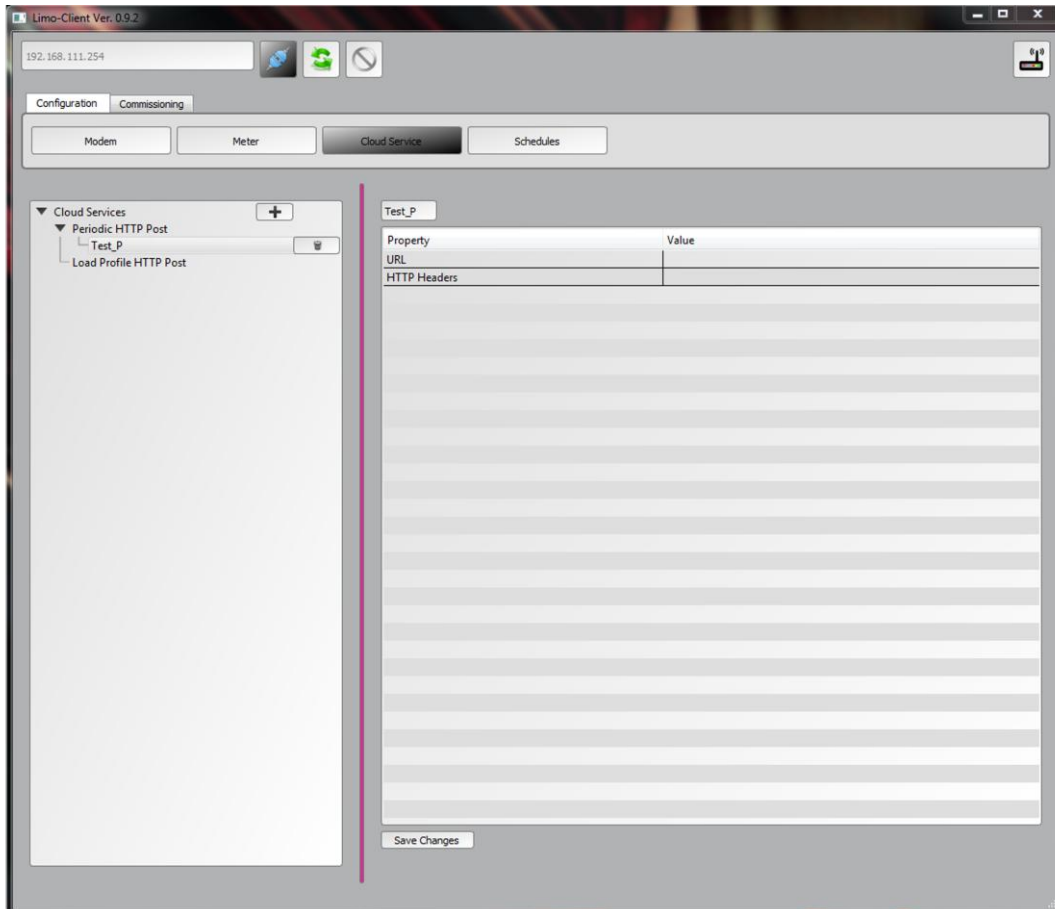
Figure15

The user will see that there are two type of Cloud Services in the Treeview Periodic HTTP Post and Load Profile HTTP Post.

The User can setup multiple cloud services so in the case of the user that wants to send the same data to two or more different Cloud Services.

The Periodic cloud services will be used for the meters that are setup and supports Periodic readings.

The Load Profile cloud services will be used for the meters that are setup and supports Load Profile readings.

The meter daemon will only read the Periodic or Load Profile readings on the schedule when there is a corresponding Cloud Services setup to read Periodic readings and Load Profile readings.

So if the meter configured under *Configuration Menu > Meter* supports Load Profile readings but, there is no Load Profile Cloud Service configured. The modem will not read and send Load Profile Data for that meter.
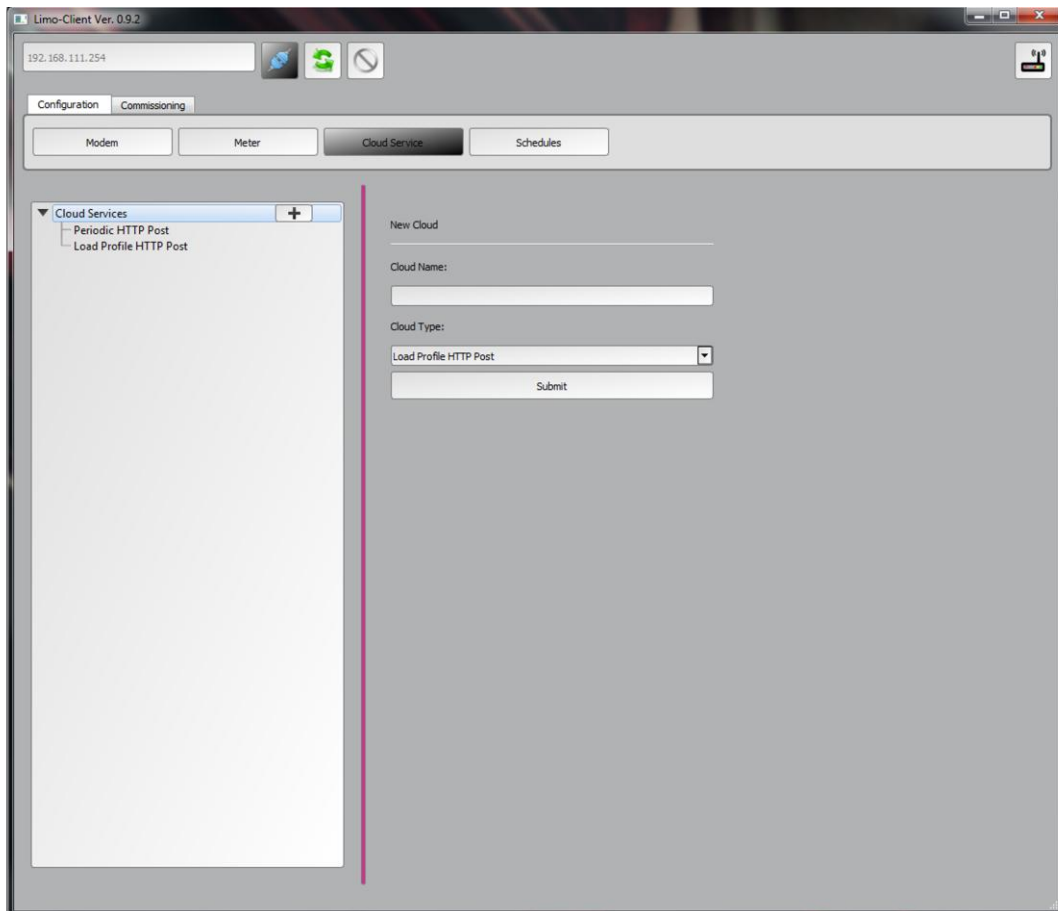
Figure16

To add a new Cloud Service click on the PLUS button in the treeview next to Cloud Services.

In the loaded viewer enter the description of the Cloud Service.

Note: (This can be any description the user want to use but, we normally like to add a "_P" for Periodic and "_LP" for Load Profile at the end of the description.)

Choose the Cloud Type from the corresponding dropdown boxes.

To add the Cloud Service click on the Submit button.
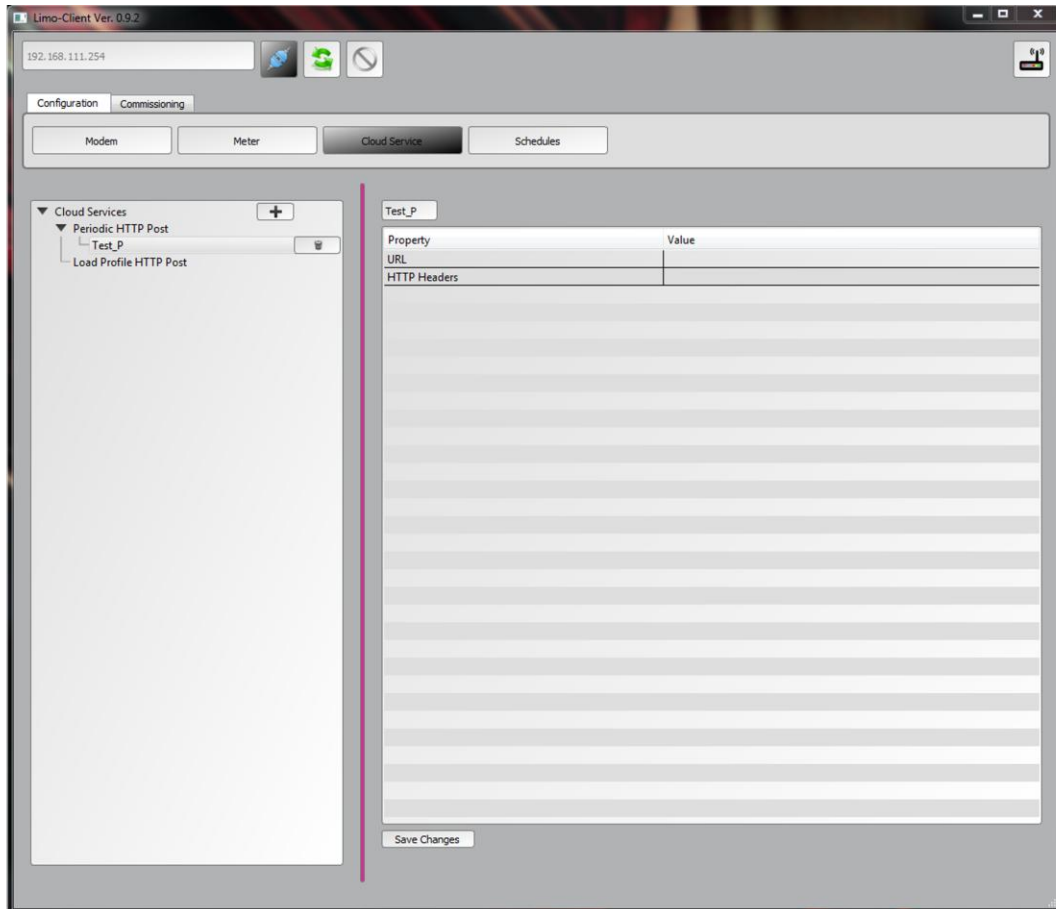
Figure17

When the Cloud Service is added you will see it is added to the Treeview under the specified Cloud Service type.

To change the Cloud Service properties click on the gears button next to the Cloud Service.

If you would like to remove the Cloud Service from the list you must click on the bin button next to the Cloud Service.

If the user changed the properties of the Cloud Service in the viewer before you navigate away you must click on the Submit / Save button.

If you added all the meters and configured them you should always reboot the modem before the modem will start communicating with them

The Cloud Service properties are set as follow:

URL:
    The URL of the Cloud service the data will be sent to.
HTTP Headers:
    The **HTTP headers** are used to pass additional information between the clients and the server through the **request** and **response.**

1.11) Cloud Services

To setup a meter the user will navigate to *Configuration Menu >Schedules* .
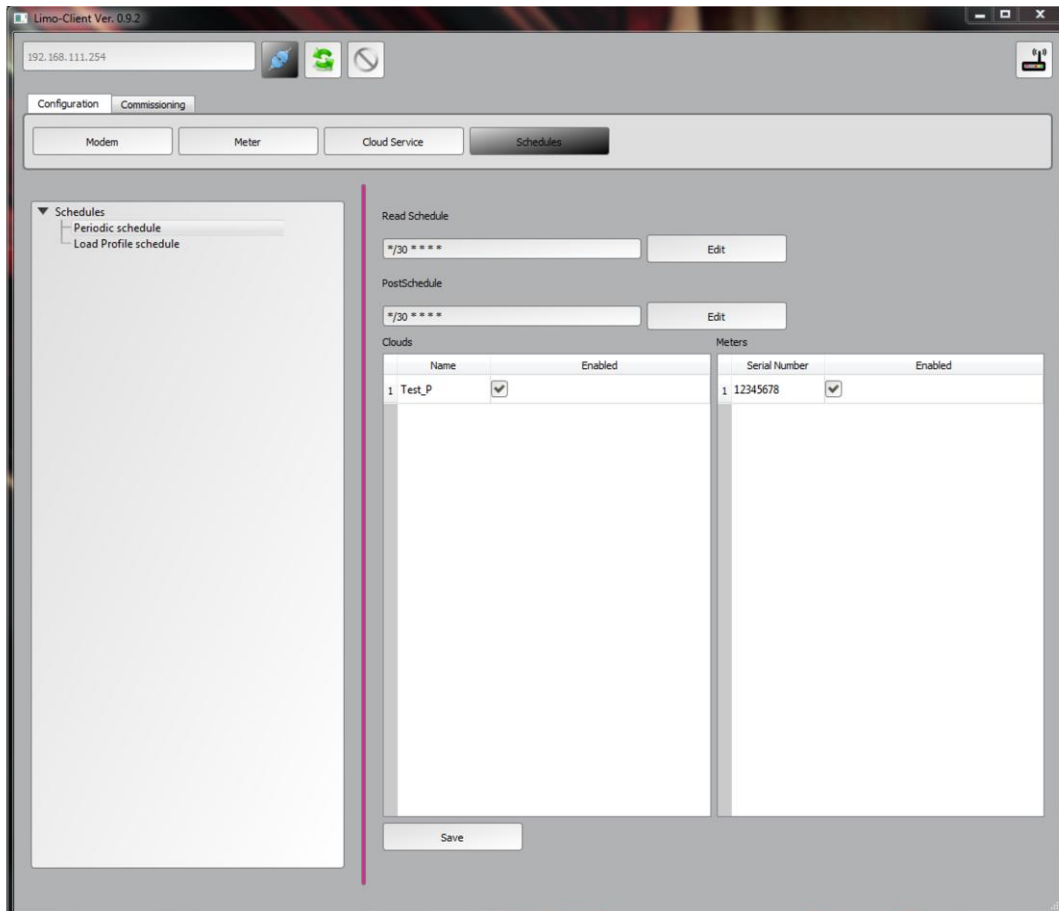
Figure18

The user will see that there are two types of Schedules in the Treeview Periodic Schedule and Load Profile Schedule. This enables the user to setup two different schedules to read the periodic readings and the load profile readings.

The modem uses a program called CRON to schedule tasks to read and to post meter data to the cloud services.

When the user click on any of the Schedules in the Treeview the user will see the viewer will be populated with the following properties:

Read Schedule:
The Read Schedule field represents a CRON time string that the modem will use to read the enabled meters in the Meters list.
Post Schedule:
The Post Schedule field represents a CRON time string that the modem will use to post the to the enabled meters in the Clouds list.

Clouds:

List of Cloud Services for Periodic or Load Profile Schedules. The user can tick the Enable box to enable it or un-tick the box to disable sending data to the cloud services.

Meters:

List of Meters that the modem will read and send data of to the Cloud Services.
The user can tick the Enable box to enable it or un-tick the box to disable reading of the meters data.

Note: (For any changes to take effect the modem must be rebooted)

The Read Schedule and the Post Schedule can be edited by clicking on the Edit button next to the respective fields. To know a little more about how the CRON time string works please follow the link below.

https://support.acquia.com/hc/en-us/articles/360004224494-Cron-time-string-format

Annexure A: Default Meter Properties

The ME15 LiMo Modem support a number of meters in the field and this part of the document will cover some of the default setups the user will use when configuring a meter.

Note: (See 1.8 on page 15)

Manufacturer	Model	Serial Port Profile	Address	Password
Elster	A1140	RS232 9600 8N1	001	FEDC0003
	A1700	RS232 9600 8N1	001	FEDC0003
	AS220	RS232 9600 7E1	Device Number	30003000
	AS230	RS232 9600 7E1	001	FEDC0003
	AS3000	RS485 9600 7E1	Device Number	30003000
	AS3500	RS485 9600 7E1	Device Number	30003000
Echelon	83521			
	83522	RS232 9600 8N1	No Address	(Get Password from Supplier)
	83332-3			
Honeywell	HS100	RS485 9600 8N1	Serial Number	None
	AD120	RS485 9600 8N1	Meter ID	None
	AD1200	RS485 9600 8E1	Meter ID	None
Schneider	PM710	RS485 9600 8N1	Modbus Address	None
	PM800	RS485 9600 8N1	Modbus Address	None
	PM1200	RS485 9600 8N1	Modbus Address	None
	PM2000	RS485 9600 8N1	Modbus Address	None
	iEM3155	RS485 9600 8N1	Modbus Address	None
Smappee	Infinaty	RS-485 38400 8N1	[1]@61	None
Socomec	I30-1	RS485 9600 8N1		None
	I30-3	RS485 9600 8N1		None
	I33-1	RS485 9600 8N1		None
	I33-3	RS485 9600 8N1		None
	I60-I	RS485 9600 8N1		None
	I60-3	RS485 9600 8N1		None
EDMI	MK10A	RS232 9600 8N1	Modbus Address	DLMS18
	MK10E			
MerlinGerin	PM9C			
LandisGyr	ZMD	RS485 9600 8N1	Serial Number	None
Strike	EnermaxPlus	RS485 9600 8N1	Serial Number	None
Inepro	DZT6001	RS485 9600 8N1	Last two digits of serial converted from Hex to Dec	None
	PRO1MOD			
	PRO2MOD			
	PRO38MOD			

KoCoS	A100C-IrDA	RS485 2400 8N1	Serial Number	None
	A1100-IrDA	RS485 2400 8N1	Serial Number	None
	ElsterModbus	RS485 9600 8N1	Modbus Address	None