ELKOR Technologies Inc.
6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

Configuration of ETport with two meters to consolidate data to SMA DataManager M for Zero Export

Date: July 10, 2025
Written By: Paul Korzycki

IMPORTANT: Before beginning, ensure that the meters are properly installed and that each meter is correctly measuring it's own circuits. Incorrect installation can lead to measurement inaccuracy of each individual meter, which will then cause incorrect summation results.

Please review the installation and troubleshooting videos and ensure that each meter is working and measuring correctly.

This document also does not cover SMA DataManager / Meter / ETport initial setup (ie: CT Ratios), or configuration of IP addresses.

Resources:

- **Configuration Files:**
  https://elkor.net/bin/SMA_ETport_dual/SMA_EDMM_and_ETport_dual_meter.zip

- **WattsOn-Mark II Installation:**
  https://support.elkor.net/knowledgebase.php?article=37

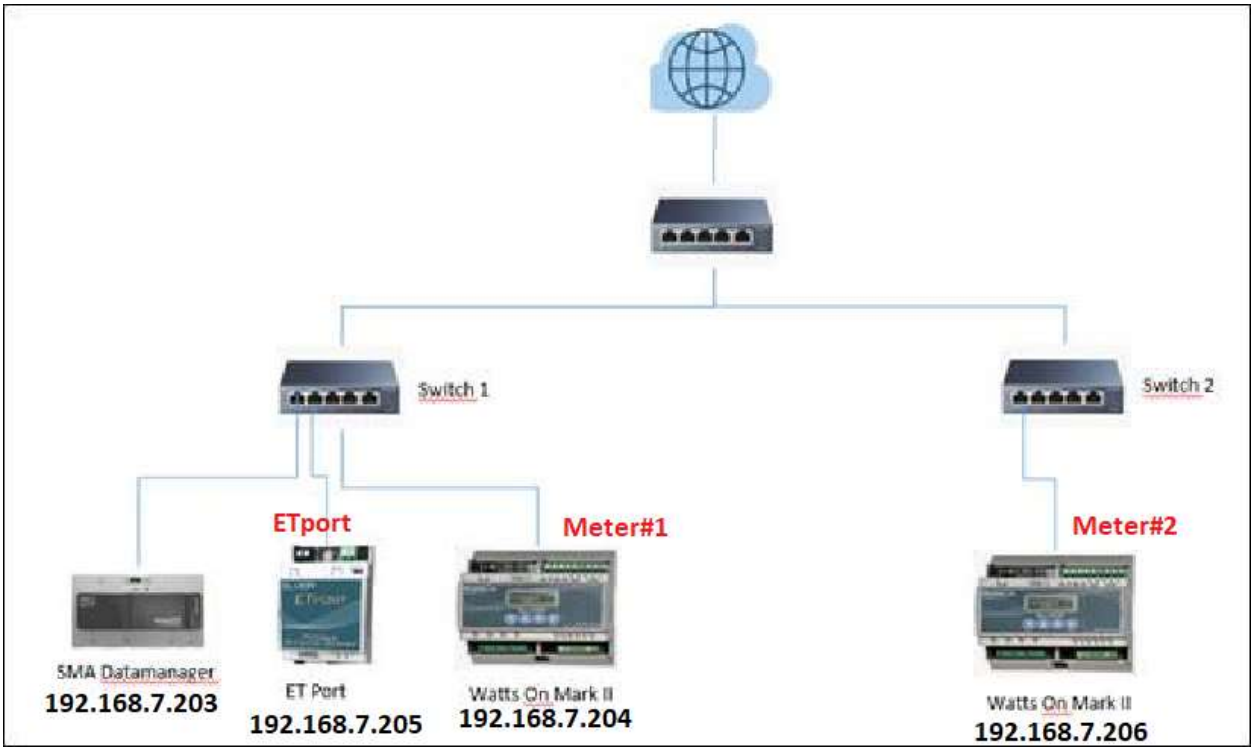
- **WattsOn-Mark II Measurement Troubleshooting:**
  https://support.elkor.net/knowledgebase.php?article=39

- **Configuring Network Settings:**
  https://support.elkor.net/knowledgebase.php?article=28

- **WattsOn-Mark II with SMA DataManager M for Export Limit and Zero Export Applications**
  https://support.elkor.net/knowledgebase.php?article=29

ELKOR Technologies Inc.
6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

Site network topology:



Step 1)

All devices shall be assigned a static IP address (these are used as an example, the site's subnet may be different, but for consistency we will use the numbers above). Adjust your site's configuration accordingly:

1. SMA DataManager M: **192.168.7.203**
2. ETPort: **192.138.7.205**
3. Meter#1 **192.168.7.204**
4. Meter#2 **192.168.7.206**

6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

Step 2) Prepare configuration files.

The ETport requires to configuration files to be uploaded which define the site setup:

1) `remotes_devices.json`: configuration file that defines the meter IP addresses
2) `registers.json`: configuration file that defines new (summation) registers based on the input values from the individual meters.The default username / password is **admin** / **admin**

The file formats are as follows:

remote_devices.json

```
{
  "2": {
    "protocol": "mbtcp",
    "host": "192.168.7.204"
  },
  "3": {
    "protocol": "mbtcp",
    "host": "192.168.7.206"
  }
}
```

registers.json

```
{
  "devices": [
    {
      "addr": "2",
      "name": "Meter"
    },
    {
      "addr": "3",
      "name": "Meter2"
    }
  ],
  "registers": [
    {
      "dev": "0",
      "point": "TTL Power (kW)",
      "formula": "$add($2.float(0x200), $3.float(0x200))",
      "precision": 3,
      "use_locale": false
    },
    {
      "dev": "0",
      "point": "TTL Reactive Power (kVAR)",
      "formula": "$add($2.float(0x202), $3.float(0x202))",
      "precision": 3,
      "use_locale": false
    },
    {
      "dev": "0",
      "point": "Avg Grid V L1",
      "formula": "$divide($add($2.float(0x220), $3.float(0x220)), 2)",
      "precision": 3,
```

6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

```
      "use_locale": false
    },
    {
      "dev": "0",
      "point": "Avg Grid V L2",
      "formula": "$divide($add($2.float(0x222), $3.float(0x222)), 2)",
      "precision": 3,
      "use_locale": false
    },
    {
      "dev": "0",
      "point": "Avg Grid V L3",
      "formula": "$divide($add($2.float(0x224), $3.float(0x224)), 2)",
      "precision": 3,
      "use_locale": false
    },
    {
      "dev": "0",
      "point": "TTL Imp Energy (kWh)",
      "formula": "$add($2.float(0x1104), $3.float(0x1104))",
      "precision": 3,
      "use_locale": false
    },
    {
      "dev": "0",
      "point": "TTL Exp Energy (kWh)",
      "formula": "$add($2.float(0x1106), $3.float(0x1106))",
      "precision": 3,
      "use_locale": false
    }
  ]
}
```

6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

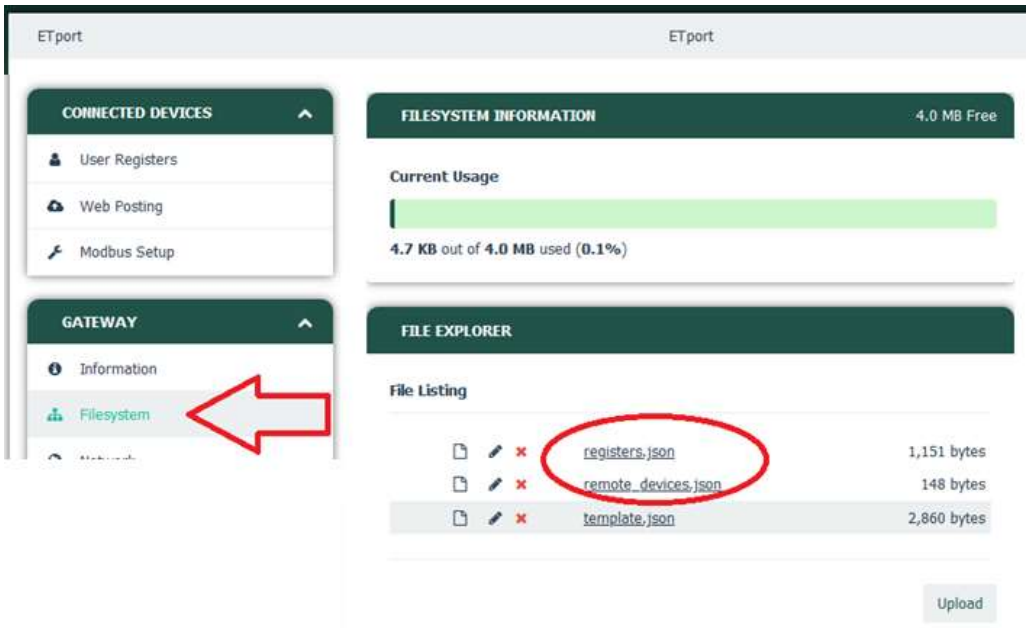
Step 3) Setup ETPORT

ETport accessed via web interface (http://192.168.7.205).

The default username / password is **admin** / **admin**

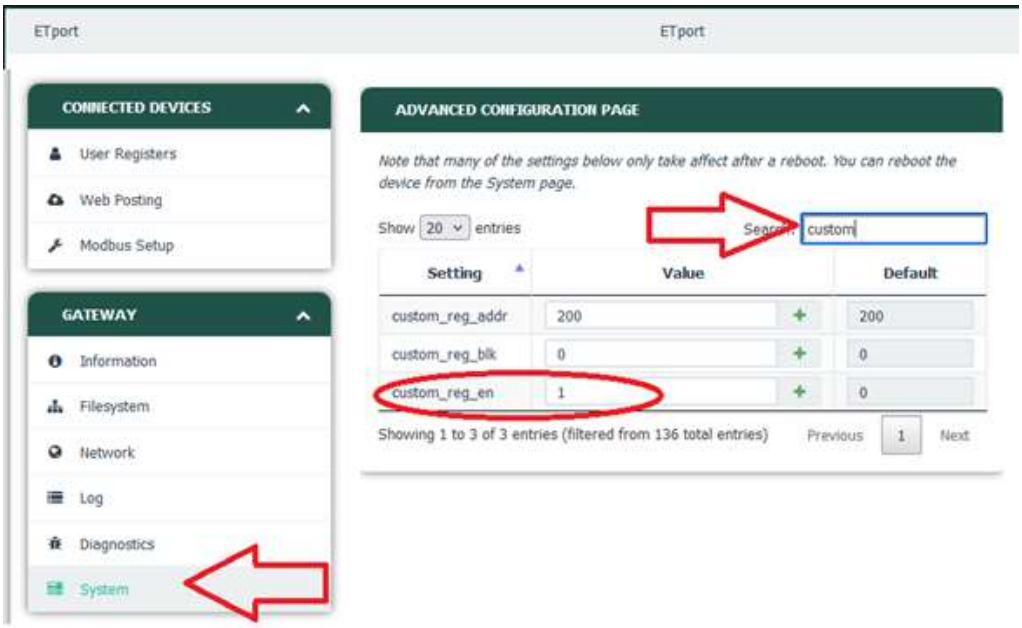
NOTE: for security purposes the username and password should be changed. It is bad practice to leave the default username and password, especially for sites where the ETport may be exposed to the internet.

Two files (`registers.json, remote_devices.json`) are uploaded via **"Filesystem Tab".**



Step 4)

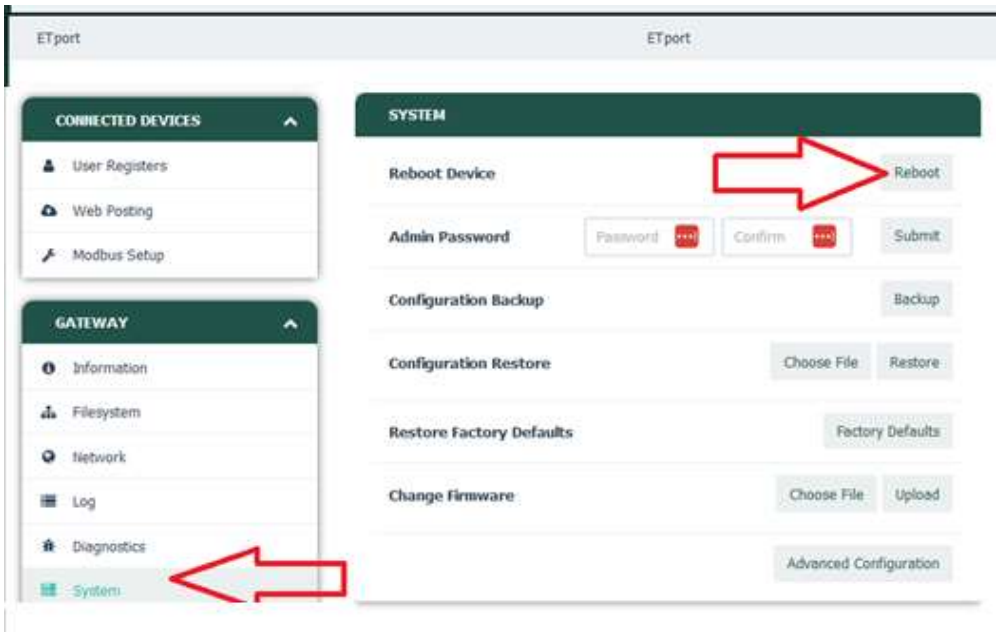
Setup the ETport to accept incoming Modbus connections (**`System > Advanced Configuration`**)



NOTICE: In this configuration, the ETport created registers will be available via a Modbus/TCP read to the ETport's IP address at Modbus Address (ie: unit ID) "200".

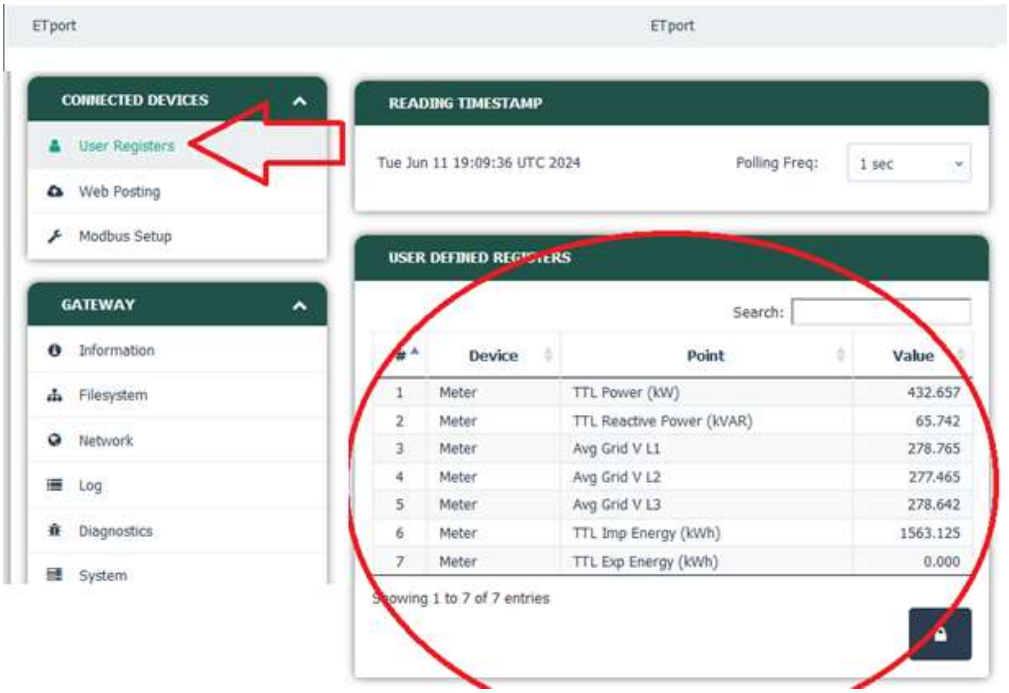
Step 5)

Reboot ETport (**`System > Reboot`**)



Step 6)

Confirm “User Registers” are being read correctly (**`User Registers`**)



Step 7)

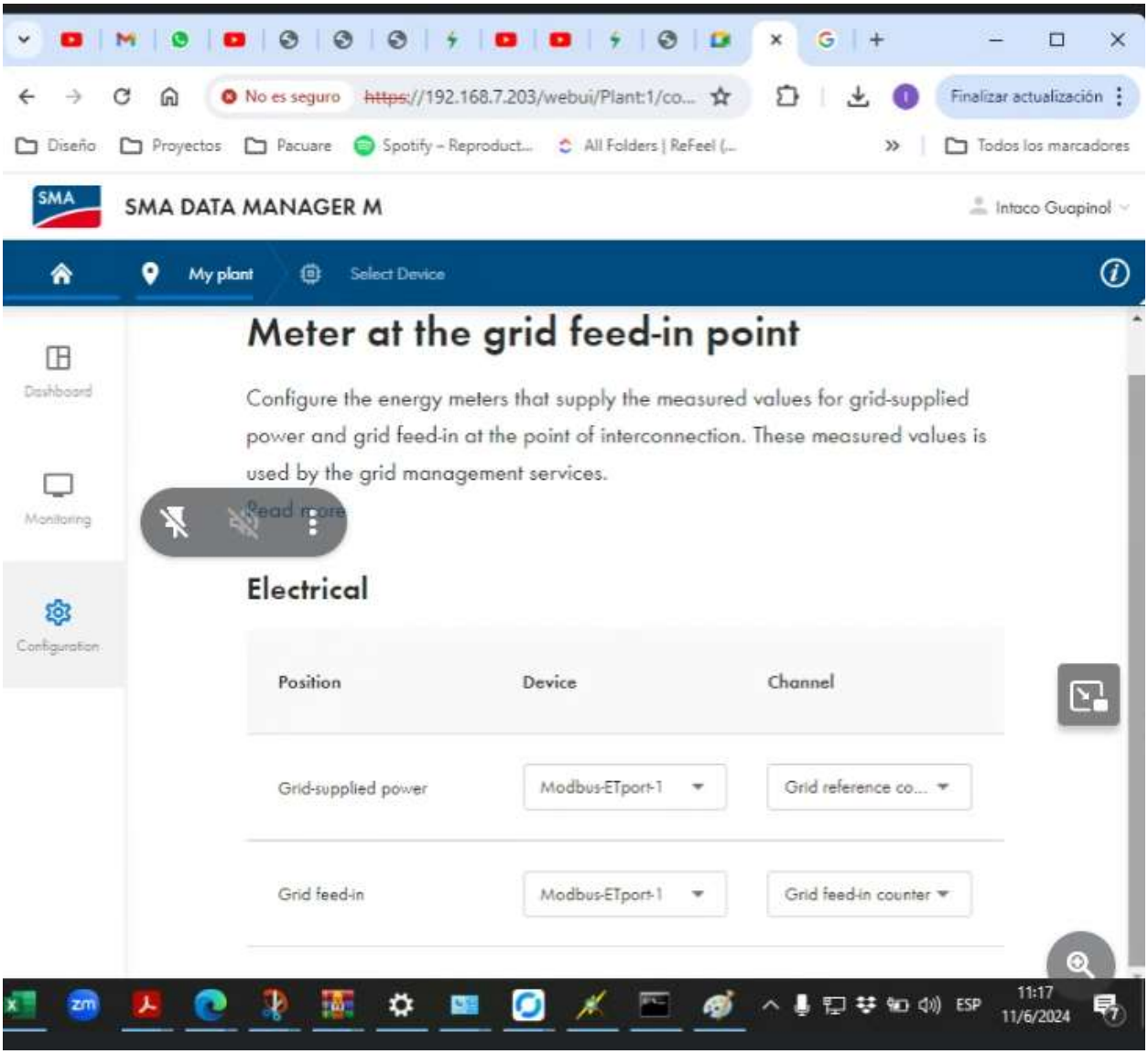
Setup the SMA DataManager M remote device profile for the ETport.

Log into the SMA DataManager (192.168.7.203). Configure the system to work with Modbus TCP and setup a new device (ETport) as per the configuration/screenshots below. The file “etport.json” may be imported as a device profile (it was created by exporting the working profile).

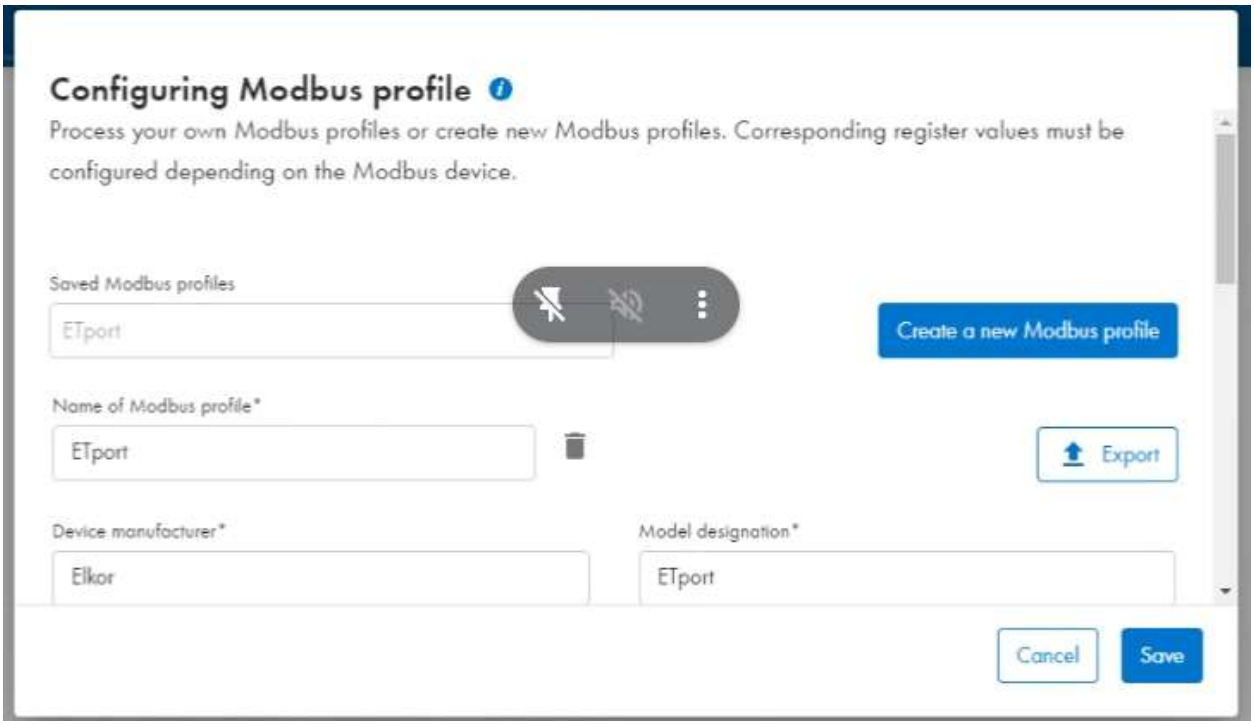
6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

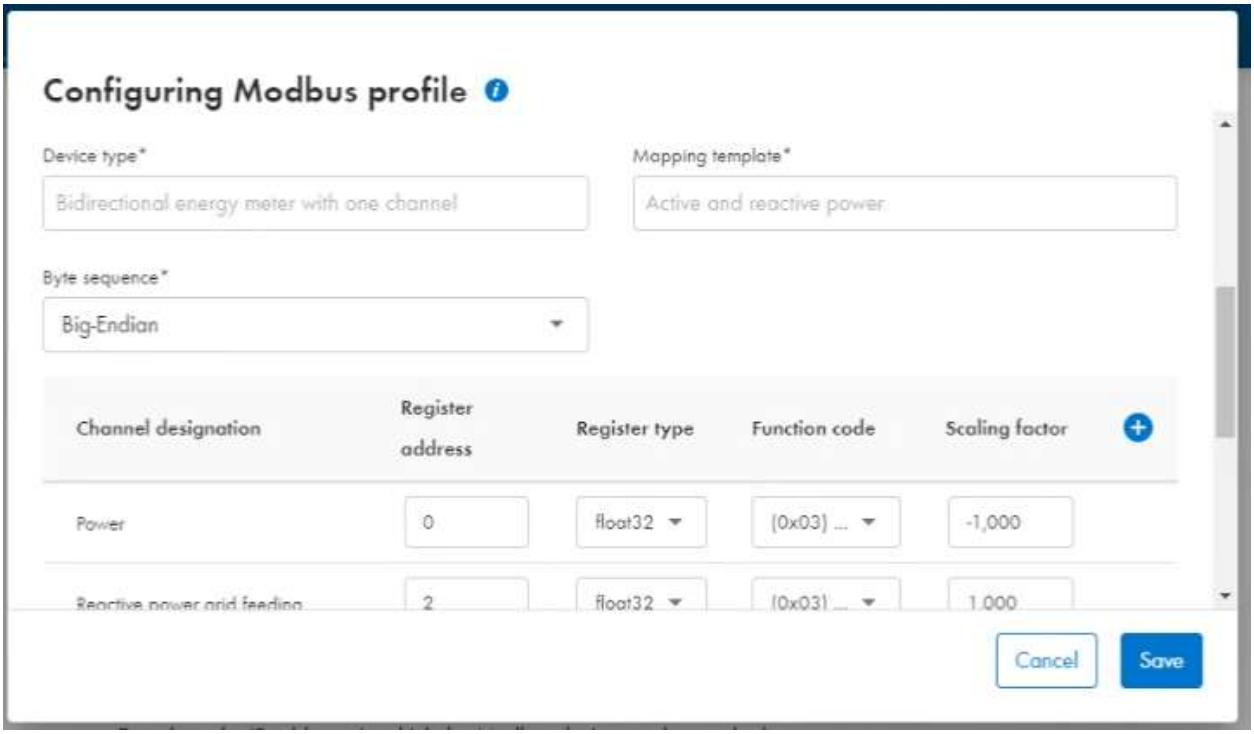
Step 8)

Configure the SMA DataManager M for Zero Export (Gabriella may need to fill this in).

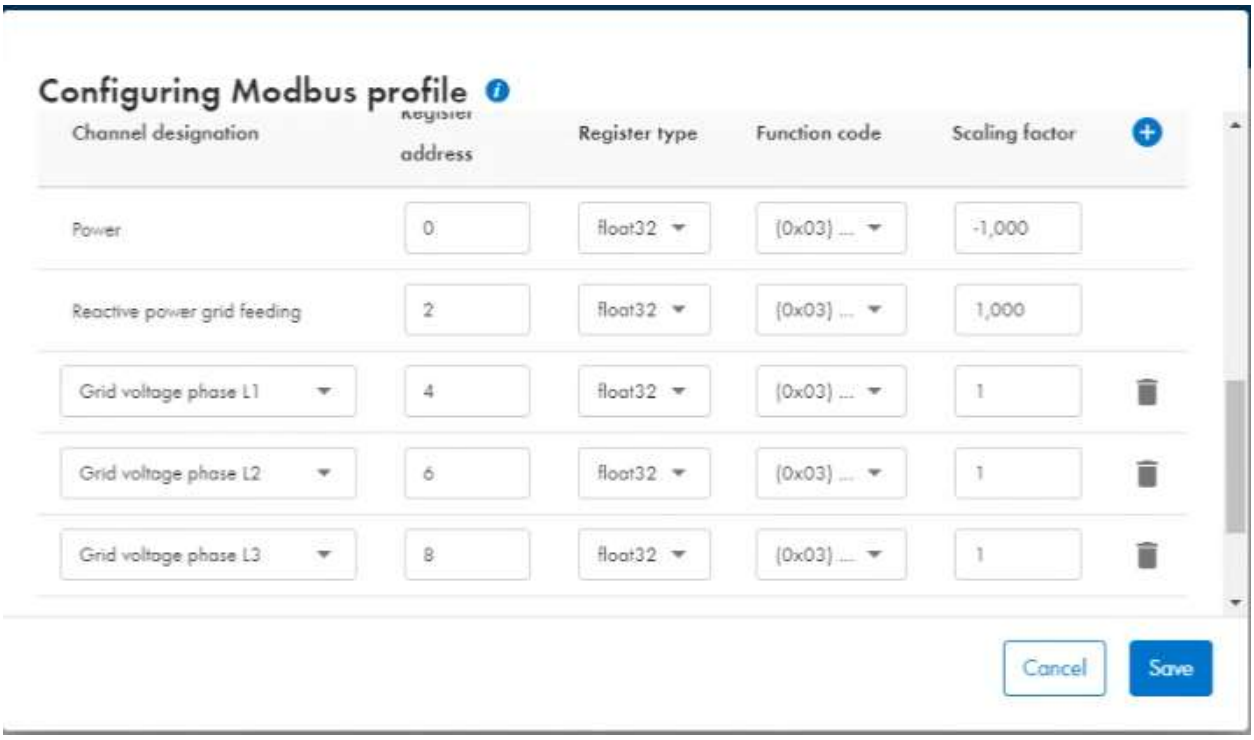


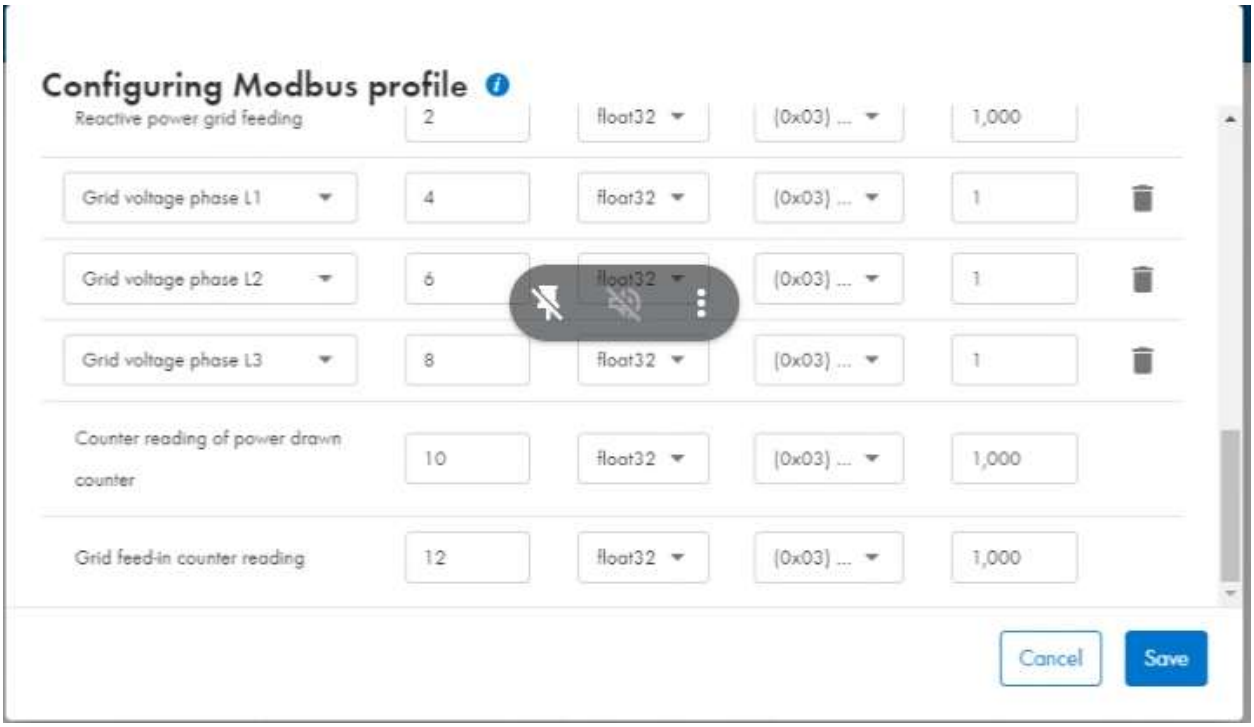
6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057





6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057





6 Bainard Street
London, Ontario N6P 1A8 CANADA
tel(519)652-9959 fax(519)652-1057

Step 9) Configure SMA DataManager M for Zero Export

With the above steps, the SMA DataManager M will now see the sum of the measurements of the two meters. Essentially the ETport is acting as a “virtual meter” that aggregates the readings from the two individual meters.

You may now follow the normal steps to configure the SMA DataManager M for Zero Export/Export Limit as per SMA’s instructions:

https://support.elkor.net/knowledgebase.php?article=29