

## DTS IoT Gateway

## Quick Start Guide

## Revision R25A

### TABLE OF CONTENTS

1	SCOPE .....	3
1.1	IDENTIFICATION.....	3
1.2	INTRODUCTION .....	3
1.3	ADDITIONAL INFORMATION AND DOCUMENTATION .....	4
2	PACKAGE CONTENTS.....	4
3	MOUNTING .....	4
4	PHYSICAL CONNECTIONS .....	5
4.1	POWER SUPPLY.....	5
4.2	COMMUNICATIONS .....	5
4.2.1	Ethernet Meters.....	5
4.2.2	RS-485 Meters.....	6
4.2.2.1	<i>BACnet MS/TP Meters on Port R2.....</i>	<i>6</i>
4.2.2.2	<i>Modbus RTU Meters on Port R1 .....</i>	<i>6</i>
4.3	STATUS LEDs .....	6
5	COMMISSIONING THE DTS IOT GATEWAY .....	7
5.1	POWERING ON.....	7
5.2	CHANGING THE DTS IOT GATEWAY NETWORK SETTINGS .....	7
5.2.1	Identifying the DTS IoT Gateway in DTS Discover .....	7
5.2.2	Connecting to the Internal Webpage in the DTS IoT Gateway.....	9
5.2.3	Changing the Network Settings .....	10
5.3	PROFILES CONFIGURATION PAGE .....	11
5.3.1	Configuration Parameters .....	11
5.3.1.1	<i>Modbus RTU Parameters: .....</i>	<i>11</i>
5.3.1.2	<i>BACnet MS/TP Parameters: .....</i>	<i>12</i>
5.3.2	Active Profiles.....	12
5.4	ADDING METERS.....	13
5.4.1	Common Information for ALL DTS Meters .....	13
5.4.1.1	<i>The DTS IoT Gateway as a BACnet_IP Server.....</i>	<i>13</i>
5.4.2	DTS “-SM” Modbus Meters .....	13
5.4.3	DTS “-SB” BACnet Meters .....	14
5.4.4	DTS “-Ex” Meters .....	14

- 5.4.5 Active DTS Meter Details ..... 15
- 5.4.6 Active Profile Buttons ..... 15
- 5.5 FINAL THINGS TO SETUP ..... 16
  - 5.5.1 Setting the Time Zone ..... 16
  - 5.5.2 Synchronizing the Time ..... 17
- 5.6 VERIFY THE OPERATION OF THE DEVICES ..... 18
  - 5.6.1 The "System View" ..... 18
  - 5.6.2 The "Data Log Viewer" or "Historian" ..... 19
- 6 REGISTRATION ON THE CLOUD ..... 20
  - 6.1 Installer Details ..... 20
  - 6.2 Installation Site ..... 21
  - 6.3 FieldServer Details ..... 22
  - 6.4 Account Details ..... 23
- 7 MSA Grid FieldServer Manager Login ..... 24
  - 7.1 FieldServer Management ..... 25
  - 7.2 FieldServer Events ..... 25
  - 7.3 DTS IoT Gateway Details ..... 26
    - 7.3.1 Download Data Logs ..... 27
    - 7.3.2 Secure Tunnel Connect to your DTS IoT Gateway ..... 28

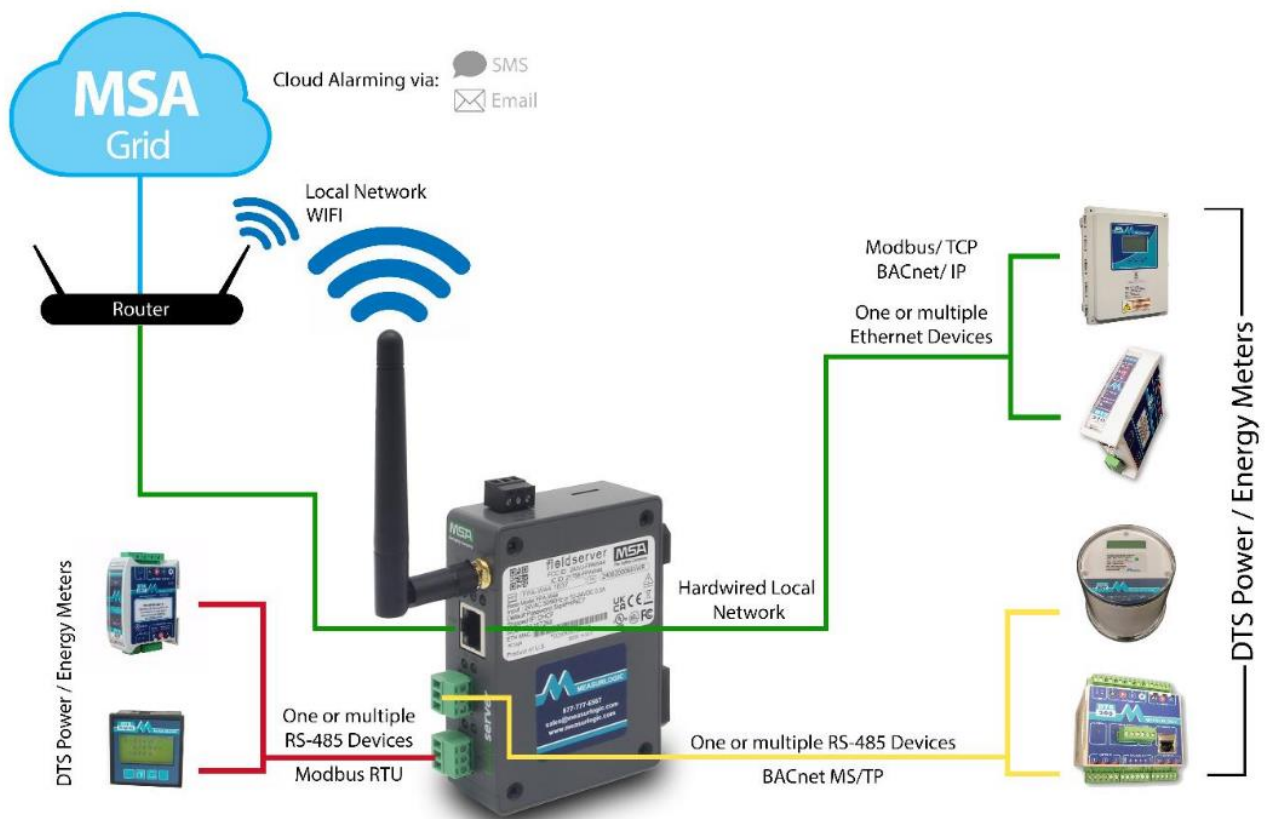
## 1 SCOPE

### 1.1 IDENTIFICATION

This document describes the basic usage of the DTS IoT Gateway, and how to get started by: First configuring the network settings; Then physically adding DTS Meters to the DTS IoT Gateway ProtoAir; And finally registering the DTS IoT Gateway with the MSA Grid.

### 1.2 INTRODUCTION

The system overview of the DTS IoT Gateway and the MSA Grid is shown here:



The DTS IoT Gateway hardware is preconfigured for DTS meters and supports:

- Multiple simultaneous interfaces: 1 x Ethernet, 2 x RS-485, Wi-Fi
- Any Serial or Ethernet, Modbus or BACnet DTS meter
- Up to 40 DTS meters per gateway

The Cloud interface is powered by the “MSA Grid” and provides a “No Cost Cloud Interface”:

- Remote monitoring, control and data visualization, providing access to real time and historical data
- Cloud alarming via SMS or email
- No annual subscription for up to 50 data points per minute per gateway

### 1.3 ADDITIONAL INFORMATION AND DOCUMENTATION

Please see the [DTS IoT Gateway](#) webpage for more information:

## 2 PACKAGE CONTENTS

The DTS IoT Gateway kit contains the following items:

- The DTS IoT Gateway is a MSA ProtoAir FPA-W44-1837. The model number FPA-W44-1837 can be found on the large white label on the side of the unit. Please confirm that this model number ends with **1837**. Only the MSA ProtoAir **FPA-W44-1837** will work correctly with the DTS Series of revenue grade meters. This model is only available from Measurlogic.
- The following connector plugs are supplied with the DTS IoT Gateway:
  - 1 x 3-Way BLACK plug for the 24V power
  - 1 x 3-Way GREEN Plug for the RS-485 Modbus RTU
  - 1 x 3-Way GREEN Plug for the RS-485 BACnet MS/TP
- The Wi-Fi Antenna

Please contact Measurlogic if any of the above items are missing.

## 3 MOUNTING

The standalone is suitable for indoor use only. For outdoor use, the DTS IoT Gateway MUST be mounted in a NEC compliant enclosure suitable for the environmental conditions.

It is DIN rail mountable, so it can be mounted onto a normal DIN rail. Alternatively, Measurlogic's right-angle bracket may be used. See <https://www.measurlogic.com/product/right-angle-mounting-bracket/> for details.

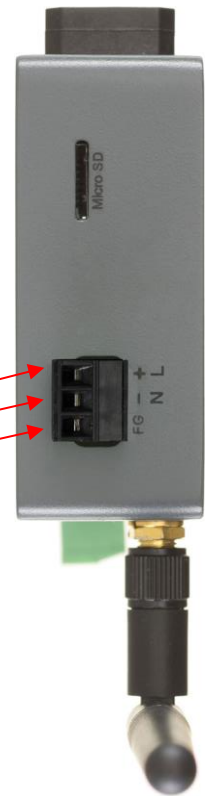
## 4 PHYSICAL CONNECTIONS

### 4.1 POWER SUPPLY

The DTS IoT Gateway accepts 12-24VDC or 24VAC on pins L+ and N-. The power supply must be able to deliver 150mA @ 24V or 300mA @ 12Vdc (about 4W).

The MLG-10-24 (CPSU-0011) is a suitable 24Vdc output, 10W, 100Vac - 265Vac, DIN rail mountable power supply. Contact Measurlogic for details.

Power to ProtoAir	ProtoAir Pin Label	Pin Assignment
Power In (+)	L +	V +
Power In (-)	N -	V -
Frame Ground	FG	FRAME GND



### 4.2 COMMUNICATIONS

The Ethernet and two RS-485 interfaces on the DTS IoT Gateway can be used simultaneously so that any DTS Ethernet meters and serial Modbus and BACnet meters may be attached and used together.



- ← Ethernet Port
- ← BACnet MS/TP
- ← Modbus RTU

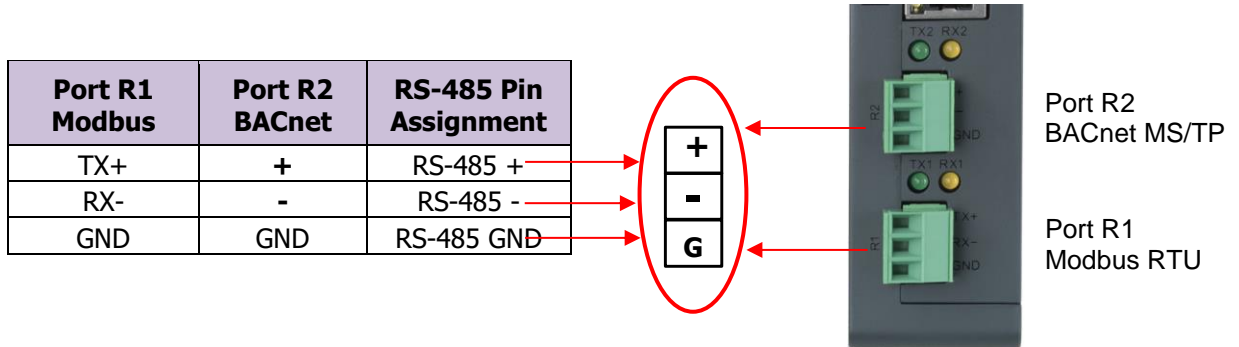
#### 4.2.1 Ethernet Meters

The Ethernet port on the DTS IoT Gateway is the RJ-45 connector on the side of the unit.

- This is used to connect the DTS IoT Gateway to the local network which has access to the Internet.
- Any Ethernet based DTS meters can be placed anywhere on the same local network infrastructure.

## 4.2.2 RS-485 Meters

The DTS IoT Gateway has a 3-way green connector for connecting the RS-485 buses for Modbus RTU and BACnet MS/TP meters. The "+" and "-" polarity of the signal connections is shown on the casing and in the diagram below. Remember to also connect the "G" common reference conductor.

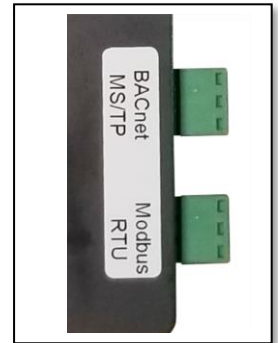


### 4.2.2.1 BACnet MS/TP Meters on Port R2

Any serial BACnet MS/TP DTS meters must be attached to the R2 port as indicated on the white sticker. The default communication parameters for this port are: 38400, N, 8, 1. See section 5.3.1 if different communication parameters are needed.

### 4.2.2.2 Modbus RTU Meters on Port R1

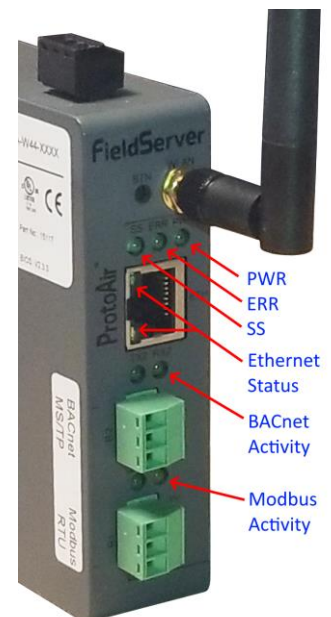
Any serial Modbus RTU DTS meters must be attached to the R1 port as indicated on the white sticker. The default communication parameters for this port are: 9600, N, 8, 1. See section 5.3.1 if different communication parameters are needed.



## 4.3 STATUS LEDs

The status LEDs are as follows:

- **PWR** – This is the power light and should always show steady green when the unit is powered.
- **ERR** – The SYS ERR LED will go on solid indicating there is a system error Report to Measurlogic if this occurs.
- **SS** – The SS LED will flash one a second to indicate that the unit has booted and is in its run state.
- **TX & RX** – These are the green and yellow activity LEDs on the Ethernet and serial ports. These will flash to show activity on these ports.



## 5 COMMISSIONING THE DTS IOT GATEWAY

Now that you have been introduced to the physical connections of the DTS IoT Gateway, you can proceed to power up the device, connecting to its internal webpage, and adding your DTS meters.

**Due to ongoing product changes and improvements, the screen appearance of your device may differ slightly from the screenshots shown in this document.**

### 5.1 POWERING ON

- Connect the power supply to the DTS IoT Gateway as described in section 4.1.
- Switch on the power on and confirm that the "PWR" LED comes ON.
- After 2 to 3 minutes the "SS" will start to blink.
- The BACnet "TX2" will also start blinking rapidly.
- Shortly after this the device will be ready and will show in DTS Secure Toolbox.

### 5.2 CHANGING THE DTS IOT GATEWAY NETWORK SETTINGS

Plug an Ethernet cable between the RJ-45 connector of the DTS IoT Gateway and your Ethernet switch to hardware connect your DTS IoT Gateway to your network.

**The networking parameters for the DTS IoT Gateway can only be changed using the internal webpages of the gateway, so it will be necessary to know the IP Address of the DTS IoT Gateway so that you can connect to it.**






**The default networking setting for the DTS IoT Gateway is DHCP Client Enabled.** Therefore, the DTS IoT Gateway will get a valid IP Address from your network. One of the following tools can be used to find the IP Address that has been assigned to the DTS IoT Gateway:

- DTS Discover
- DTS Secure Toolbox (Legacy)
- IP Scanning Utility

#### 5.2.1 Identifying the DTS IoT Gateway in DTS Discover

DTS Discover can be downloaded from <https://www.measurlogic.com/product/dts-discover/>. To install, first extract all the files in the ZIP file to an actual folder on the hard drive and then run the setup program.

The Measurlogic DTS Discover software utility allows for the discovery of all Measurlogic Ethernet devices on the network, even when their network parameters are not compatible with your network. The color of the "Status DOT" indicates the type of the device, and if it is reachable over IP.

DOT Color	Measurlogic Device with Ethernet Connectivity
	Measurlogic DTS device
	DTS IoT Gateway or Converter
	Legacy DTS Device
	Not Reachable over IP
	Lost Connectivity

Here is an example of the information provided by DTS Discover. There is one line of information for each DTS meter that is detected. The "Help > Help" screen provides more information regarding the operation of DTS Discover.

DEVICES	SERIAL NO.	IP ADDRESS	MAC ADDRESS	STATUS	ACTIONS
CN1837 Measurlogic v1.20		192.168.1.86	00:50:4E:62:0D:38	●	Connect
DTS 307-34-EB-P-N	0010026193	192.168.1.184	00:84:3A:1B:DF:15	●	Connect
Measurlogic MB/TCP & BACnet_IP DC v1.21		192.168.1.199	00:40:9D:DB:5E:C4	●	Connect

THIS PC : IP Address: 192.168.1.15 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 TOTAL DEVICES: 3

The details of DTS IoT Gateway devices detected will be shown on the lines where the device title is "CN1837 Measurlogic vx.xx".

Confirm that the MAC address shown on the DTS Toolbox line is the same as the MAC address shown on the label on the side of the DTS IoT Gateway itself.

If there is more than one DTS IoT Gateway detected, use the MAC address on the label to identify the line in DTS Discover.

The network IP Address of the DTS IoT Gateway is also shown.

Please ensure that the "Status" DOT of the device is "Blue". This color both identifies the device as a "DTS IoT Gateway or Converter" and indicates that the device is reachable over IP.

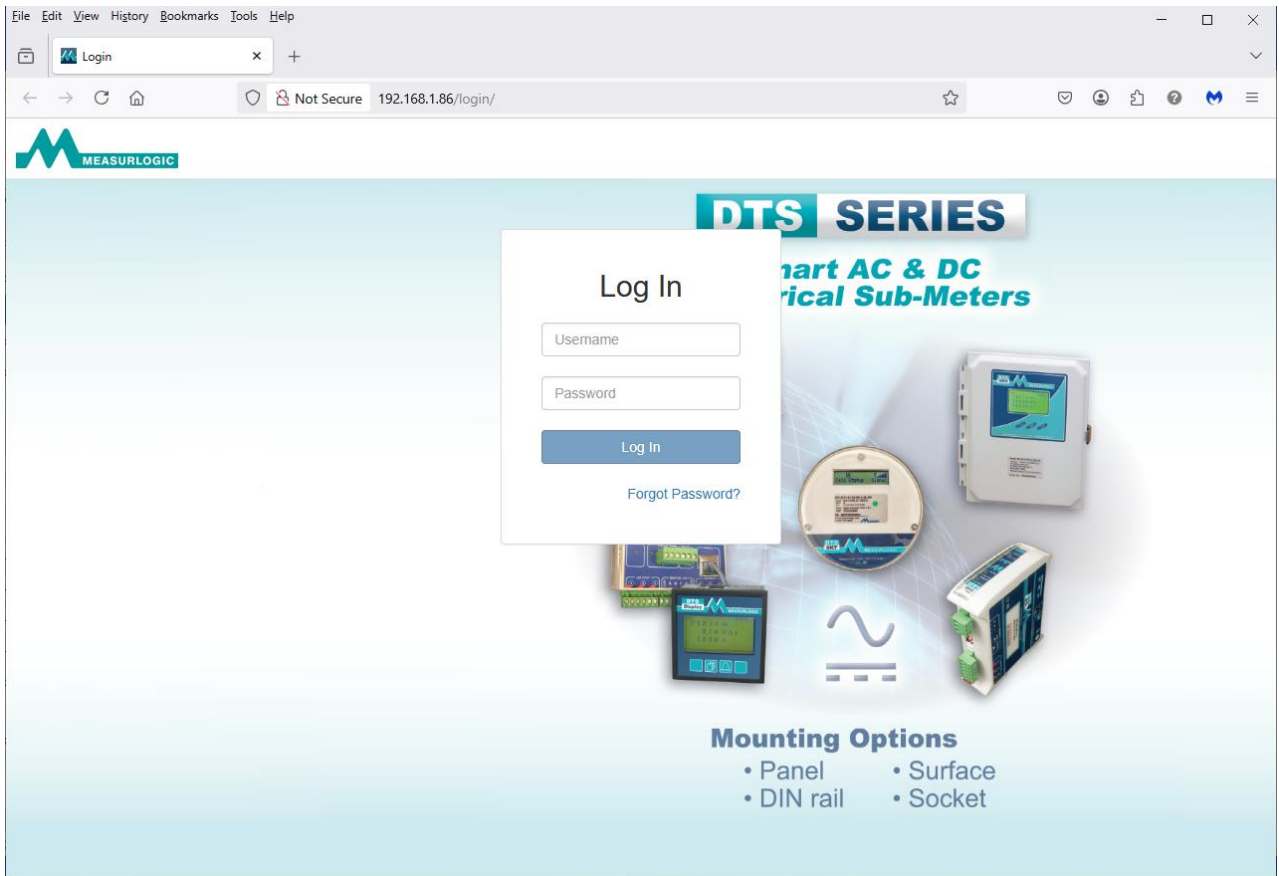
If the "Status" DOT is "Yellow" then the device is not reachable over IP. If this occurs, please call Measurlogic for assistance.



## 5.2.2 Connecting to the Internal Webpage in the DTS IoT Gateway

The internal webpages of the DTS IoT Gateway can be accessed by:

1. Pressing the "Connect" button in DTS Discover (See section **Error! Reference source not found.** above).
2. Typing the IP address of the device directly into the address line of a web browser.



**Username:** The default user is "admin".

**Password:** The unique default password is printed on the side label of the device.

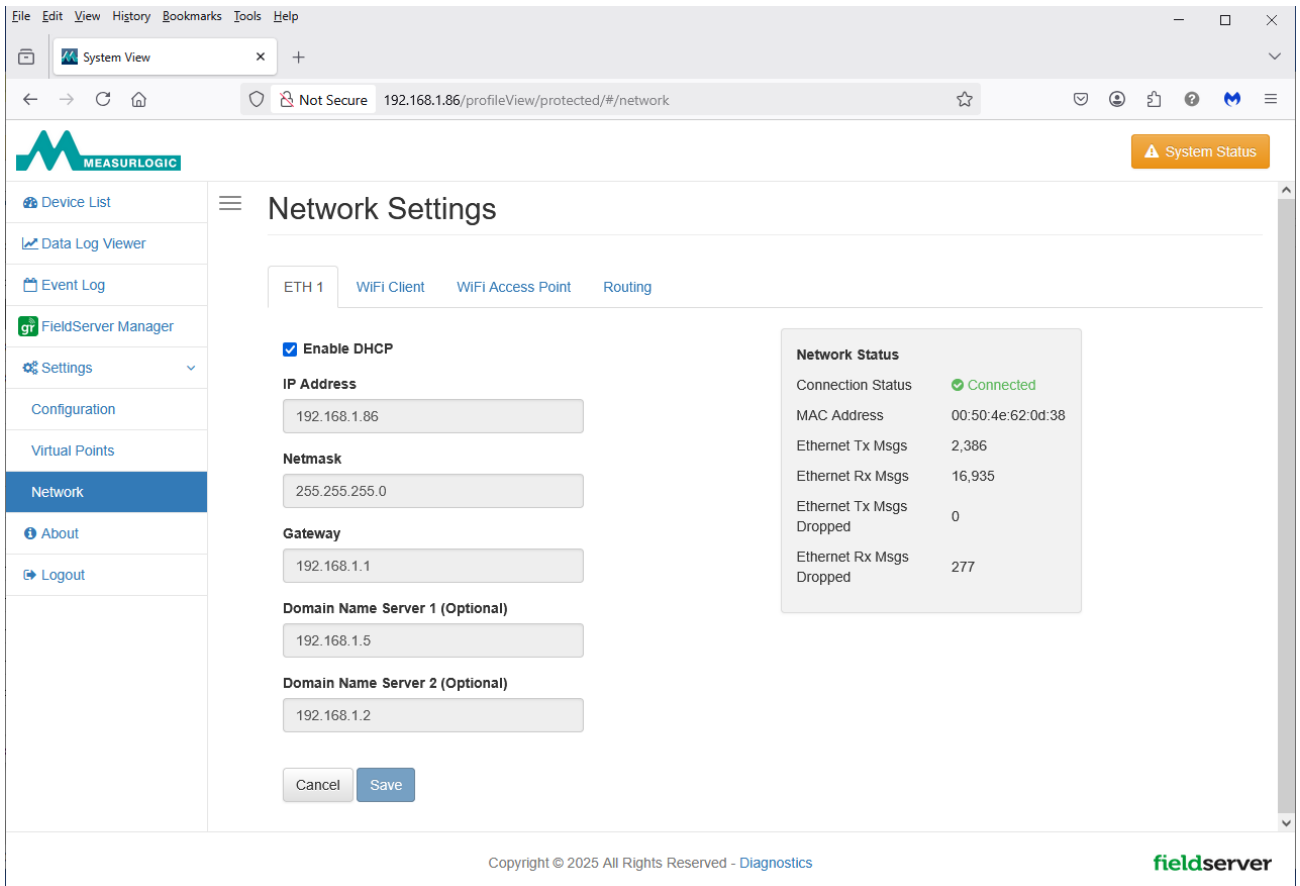
These can be changed.



## 5.2.3 Changing the Network Settings

Connect to the DTS IoT Gateway as described in the section above.

1. Select "Settings" from the menu on the left-hand side of the screen.
2. Now select "Network"



The screenshot displays the 'Network Settings' page for the DTS IoT Gateway. The left sidebar contains navigation options: Device List, Data Log Viewer, Event Log, FieldServer Manager, Settings (selected), Configuration, Virtual Points, Network (highlighted), About, and Logout. The main content area is titled 'Network Settings' and has four tabs: 'ETH 1' (selected), 'WiFi Client', 'WiFi Access Point', and 'Routing'. Under the 'ETH 1' tab, there are several configuration fields: 'Enable DHCP' (checked), 'IP Address' (192.168.1.86), 'Netmask' (255.255.255.0), 'Gateway' (192.168.1.1), 'Domain Name Server 1 (Optional)' (192.168.1.5), and 'Domain Name Server 2 (Optional)' (192.168.1.2). At the bottom of these fields are 'Cancel' and 'Save' buttons. On the right side, a 'Network Status' block shows 'Connection Status' as 'Connected' (with a green checkmark), 'MAC Address' as '00:50:4e:62:0d:38', 'Ethernet Tx Msgs' as 2,386, 'Ethernet Rx Msgs' as 16,935, 'Ethernet Tx Msgs Dropped' as 0, and 'Ethernet Rx Msgs Dropped' as 277. The footer of the page includes 'Copyright © 2025 All Rights Reserved - Diagnostics' and the 'fieldserver' logo.

The network settings for the hardwired Ethernet "ETH 1", the Wi-Fi Client and Access Point, and the preferred "Routing" method is all setup using the tabbed pages on this screen.

A "Network Status" block is shown on the right-hand side that provides information about the connection.

Press the "Save" button to save the changed network settings.

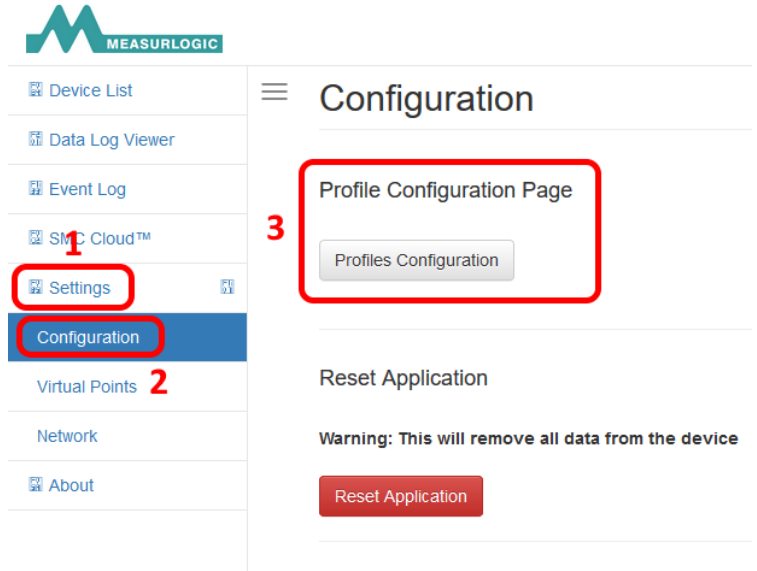
If you have changed the network settings, such as the IP Address, then your browser will no longer be able to connect to the gateway. Even if you haven't changed the IP Address, we recommend that you close your browser, wait for the information to be updated in DTS Discover, and then press the "Connect" button to reconnect to the DTS IoT Gateway.

## 5.3 PROFILES CONFIGURATION PAGE

Measurlogic DTS meters are added to the DTS IoT Gateway using the internal webpages of the DTS IoT Gateway device.

Connect to the DTS IoT Gateway as described in the section above.

3. Select "Settings" from the menu on the left-hand side of the screen.
4. Now select "Configuration"
5. Then press the "Profile Configuration" button.



This will open a new tab in your browser with the "Configuration Parameters" and the "Active profiles".

### 5.3.1 Configuration Parameters

These are the communication configurations of the two serial ports R1 and R2. The default parameters are detailed in sections 4.2.2.1 and 4.2.2.2.

**Do not change any of these settings unless you have a specific requirement for other parameters.** The default parameters are shown in these two screenshots if you need to revert to the defaults.

#### 5.3.1.1 Modbus RTU Parameters:

Parameter Name	Parameter Description	Value
mod_baud_rate	<b>Modbus RTU Baud Rate</b> This sets the Modbus RTU baud rate. (9600/19200/38400/57600)	9600 <input type="button" value="Submit"/>
mod_parity	<b>Modbus RTU Parity</b> This sets the Modbus RTU parity. (None/Even/Odd)	None <input type="button" value="Submit"/>
mod_data_bits	<b>Modbus RTU Data Bits</b> This sets the Modbus RTU data bits. (7 or 8)	8 <input type="button" value="Submit"/>
mod_stop_bits	<b>Modbus RTU Stop Bits</b> This sets the Modbus RTU stop bits. (1 or 2)	1 <input type="button" value="Submit"/>


### 5.3.1.2 BACnet MS/TP Parameters:

bac_mac_addr	<b>BACnet MSTP Mac Address</b> This sets the BACnet MSTP MAC address. <i>(1 - 127)</i>	<input type="text" value="127"/>	<input type="button" value="Submit"/>
bac_baud_rate	<b>BACnet MSTP Baud Rate</b> This sets the BACnet MSTP baud rate. <i>(9600/19200/38400/76800)</i>	<input type="text" value="38400"/>	<input type="button" value="Submit"/>
bac_max_master	<b>BACnet MSTP Max Master</b> This sets the BACnet MSTP max master. <i>(1 - 127)</i>	<input type="text" value="127"/>	<input type="button" value="Submit"/>
network_nr	<b>BACnet Network Number</b> This sets the BACnet network number of the Gateway. <i>(1 - 65535)</i>	<input type="text" value="50"/>	<input type="button" value="Submit"/>
bac_ip_port	<b>BACnet IP Port</b> This sets the BACnet IP port of the Gateway. The default is 47808. <i>(1 - 65535)</i>	<input type="text" value="47808"/>	<input type="button" value="Submit"/>
bac_cov_option	<b>BACnet COV</b> This enables or disables COVs for the BACnet connection. Use COV_Enable to enable. Use COV_Disable to disable. <i>(COV_Enable/COV_Disable)</i>	<input type="text" value="COV_Disable"/>	<input type="button" value="Submit"/>
bac_bbmd_option	<b>BACnet BBMD</b> This enables BBMD on the BACnet IP connection. Use BBMD to enable. Use - to disable. The bdt.ini files also needs to be downloaded. <i>(BBMD/-)</i>	<input type="text" value="-"/>	<input type="button" value="Submit"/>
bac_virt_nodes	<b>BACnet Virtual Server Nodes</b> Set to NO if the unit is only converting 1 device to BACnet. Set to YES if the unit is converting multiple devices. <i>(No/Yes)</i>	<input type="text" value="No"/>	<input type="button" value="Submit"/>

### 5.3.2 Active Profiles

This is the place where the details for all the active DTS meters are shown. This is also the place where DTS meters can be added or removed from the "Active Profile".

#### Active profiles

Nr	Node ID	Current profile	Parameters
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <input type="button" value="Add"/> </div>  </div>			

## 5.4 ADDING METERS

Meters are commissioned by adding them to the "Active Profile". Press the "Add" button at the bottom of the "Active Profile" section, as shown in section 5.3.2 above. The information required for the different communication types of DTS meter is described below, together with some example values.

### 5.4.1 Common Information for ALL DTS Meters

This section explains the parameters that are common for all DTS meter types.

- **Meter Profile** – Select the DTS meter model and communication interface type from the "Profile" drop down list.
- **Node ID** – This must be unique on the DTS IoT Gateway for ALL the different meter interface types. Choose a number that you have not already used, and a number that does not clash with the address of any Modbus RTU meters.
- **bac\_srv\_id** – BACnet\_IP Server Device ID – See Section 5.4.1.1 below for details.

#### 5.4.1.1 The DTS IoT Gateway as a BACnet\_IP Server

The DTS IoT Gateway is capable of exposing all the DTS meters attached to it as BACnet\_IP devices on the Ethernet network. This parameter is necessary even if you are not planning to access the meters as BACnet\_IP devices on the DTS IoT Gateway.

- **bac\_srv\_id** – All DTS meters added to the DTS IoT Gateway must have the bac\_srv\_id defined, **even if you are not using the BACnet Server feature**. This number must be unique for all devices on your BACnet\_IP network. You may need to ask your network administrator for this information. In the absence of any other networking restrictions due to an existing BACnet\_IP network, we recommend that you start numbering from 2 as you add your various devices.

### 5.4.2 DTS "-SM" Modbus Meters

When adding a DTS serial Modbus RTU (-SM) meters, the following parameters are needed:

- **Node ID** – This is also the Modbus Address [1..247] of the serial meter on the network segment. All Modbus RTU meters on the Modbus serial RS-485 bus must have unique Modbus Addresses, and the Node\_ID that you enter here must match the Modbus Address of the meter. The Measurlogic DTS Config tool may be used to change the Modbus Address of the meter.
- **bac\_srv\_id** – BACnet\_IP Server Device ID.

#### Active profiles

Nr	Node ID	Current profile	Parameters
80	DTS307-SM		bac_srv_id: <input type="text" value="5"/>

### 5.4.3 DTS “-SB” BACnet Meters

When adding a DTS serial BACnet MS/TP (-SB) meters, the following parameters are needed:

- **Node ID** – This must be unique on the DTS IoT Gateway. Choose a number that you have not already used, and a number that does not clash with the address of any Modbus RTU meters.
- **bac\_dev\_id** – This is the Device ID or Object Identifier of the BACnet MS/TP meter on the network segment. All BACnet MS/TP meters on the BACnet serial RS-485 bus must have unique BACnet Device IDs.
- **bac\_srv\_id** – BACnet\_IP Server Device ID.

#### Active profiles

Nr	Node ID	Current profile	Parameters
2	DTS307-SB	▼	bac_dev_id: <input type="text" value="2"/> bac_srv_id: <input type="text" value="2"/>

### 5.4.4 DTS “-Ex” Meters

When adding a DTS Ethernet (-Ex) meters, the following parameters are needed:

- **Node ID** – This must be unique on the DTS IoT Gateway. Choose a number that you have not already used, and a number that does not clash with the address of any Modbus RTU meters.
- **ip\_address** – This is the IP Address of the Ethernet meter on the network.
- **tcp\_id** – This is the Modbus address of the Ethernet meter, which defaults to 100 for all DTS Ethernet meters.
- **bac\_srv\_id** – BACnet\_IP Server Device ID.

#### Active profiles

Nr	Node ID	Current profile	Parameters
4	DTSSMX-Ex	▼	ip_address: <input type="text" value="192.168.1.247"/> tcp_id: <input type="text" value="100"/> bac_srv_id: <input type="text" value="4"/>

## 5.4.5 Active DTS Meter Details

As you add DTS meters, the details will show under "Active Profiles."

Active profiles				
Nr	Node ID	Current profile	Parameters	
1	2	DTS307-SB	bac_dev_id : 2 bac_srv_id : 2	Remove
2	3	DTS307-SB	bac_dev_id : 3 bac_srv_id : 3	Remove
3	4	DTSSMX-Ex	ip_address : 192.168.1.247 tcp_id : 100 bac_srv_id : 4	Remove
4	80	DTS307-SM	bac_srv_id : 5	Remove

Add

HELP (?)
Network Settings
Clear Profiles and Restart
System Restart
Diagnostics & Debugging

The screenshot above shows examples of DTS "-SB", "-SM" and "-Ex" meters. The meaning of the various parameters is discussed in more detail in section 0 above.



### ATTENTION

After changes have been made to the "Active Profile" press the "System Restart" button to reboot the DTS IoT Gateway to finalise and accept the changes.

## 5.4.6 Active Profile Buttons

The following buttons are useful for the "Active profiles":

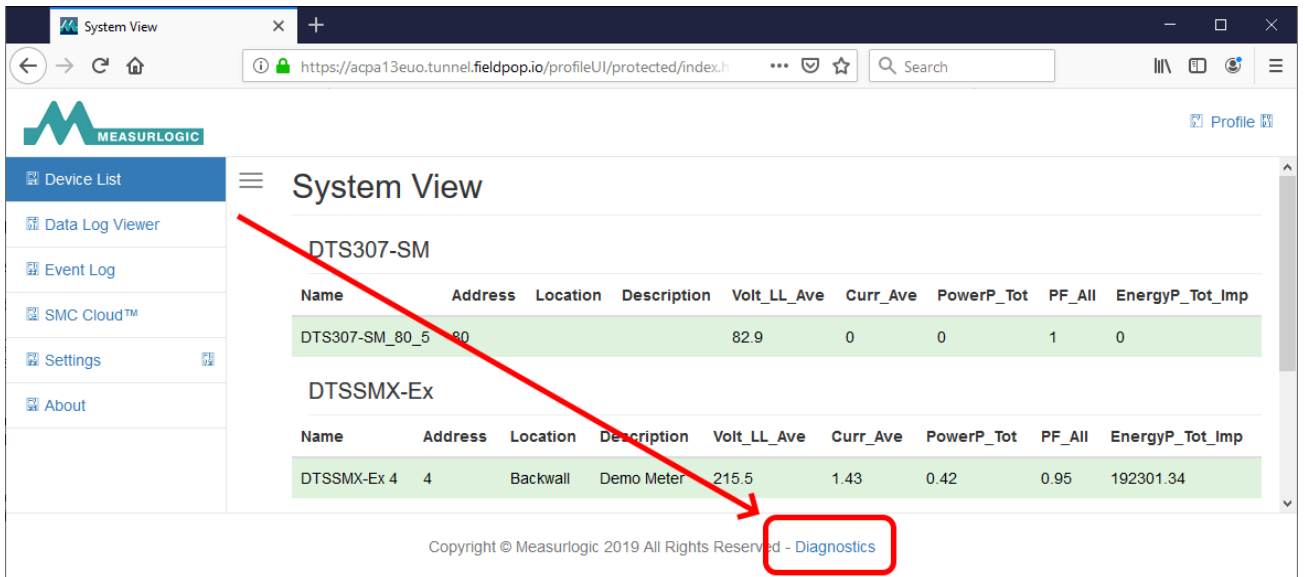
- **Remove** – Used to completely remove the corresponding existing DTS meter.
- **Add** – Used to add additional DTS meters to the DTS IoT Gateway. This will be discussed in more detail in section 0 below.
- **System Restart** – The DTS IoT Gateway will be rebooted. A reboot is necessary after changes have been made to the "Active Profile".
- **Clear Profiles and Restart** – This function removes ALL the DTS meters in the Active Profile and restarts the DTS IoT Gateway.

## 5.5 FINAL THINGS TO SETUP

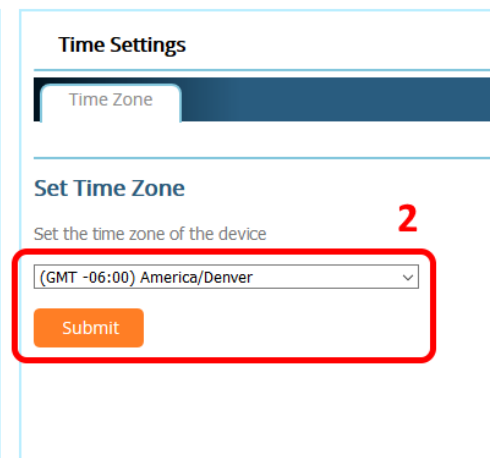
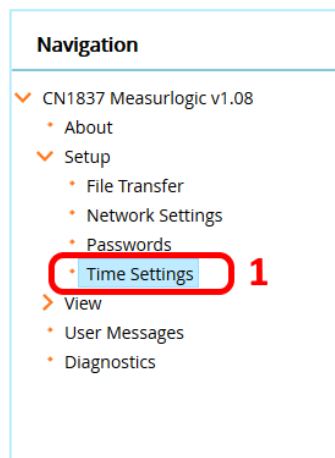
The final thing to do is to setup the time zone where the DTS IoT Gateway is to be installed, and synchronize the time. If the DTS IoT Gateway is registered to the MSA Grid (see section 6 below) then it will synchronize with the MSA Grid.

### 5.5.1 Setting the Time Zone

- A. Connect to the internal Webpage in the DTS IoT Gateway using either of the methods described in section 5.2.2 above.
- B. Click on "Diagnostics" at the bottom on the "System View" screen.
- C. If you are still on the "Profiles" page (where the DTS meters are added) then you can press the "Diagnostics & Debugging" button (as can be seen in the screenshot in section 5.4.5 above).

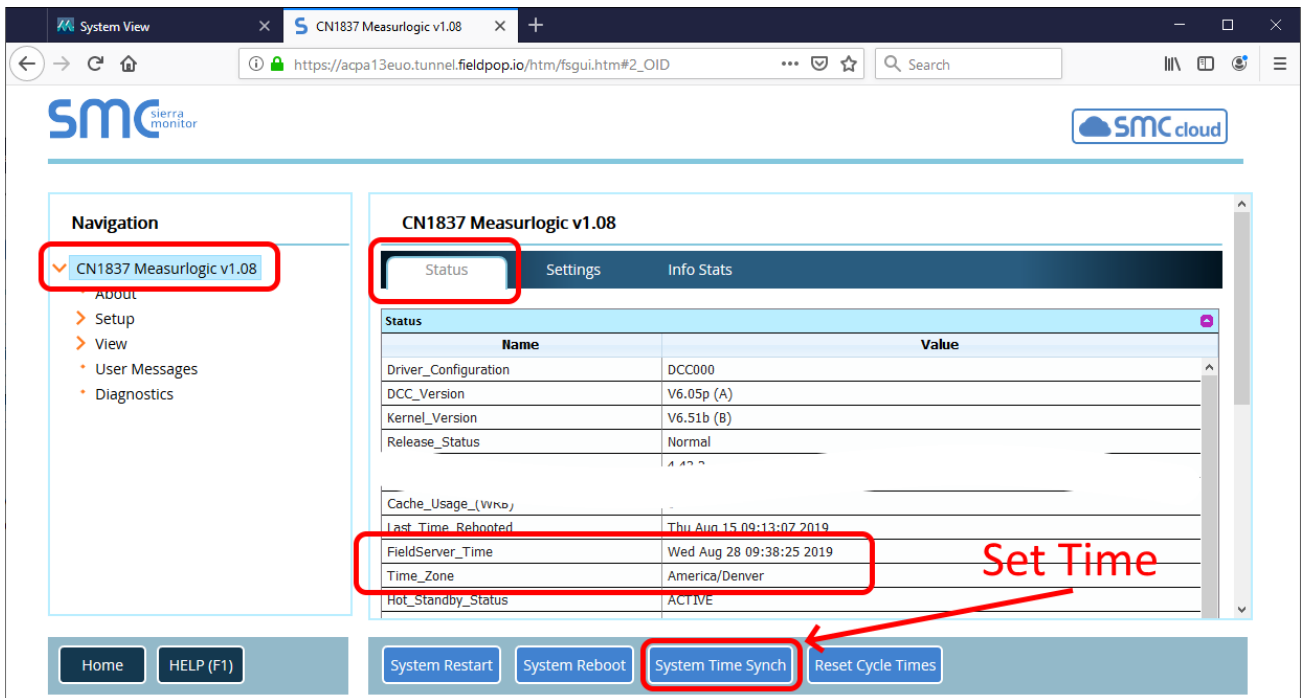


1. Expand the "Navigation" tree to get to "Setup > Time Settings".
2. Select the desired time zone from drop down list and press "Submit".



## 5.5.2 Synchronizing the Time

- A. Click of the "CN1837 Measurlogic vx.xx" title in the navigation tree.
- B. The present time and time zone can be seen on the "Status" tab page. It is near the bottom of the information, so you will need to scroll down to the bottom.
- C. Press the "System Time Synch" button to synchronize the time in the DTS IoT Gateway.



The screenshot shows the Measurlogic web interface. On the left, the navigation tree has "CN1837 Measurlogic v1.08" selected. The main content area shows the "Status" tab for this device. A table lists various system parameters:

Name	Value
Driver_Configuration	DCC000
DCC_Version	V6.05p (A)
Kernel_Version	V6.51b (B)
Release_Status	Normal
Cache_Usage_(VMB)	
Last_Time_Rebooted	Thu Aug 15 09:13:07 2019
FieldServer_Time	Wed Aug 28 09:38:25 2019
Time_Zone	America/Denver
Hot_Standby_Status	ACTIVE

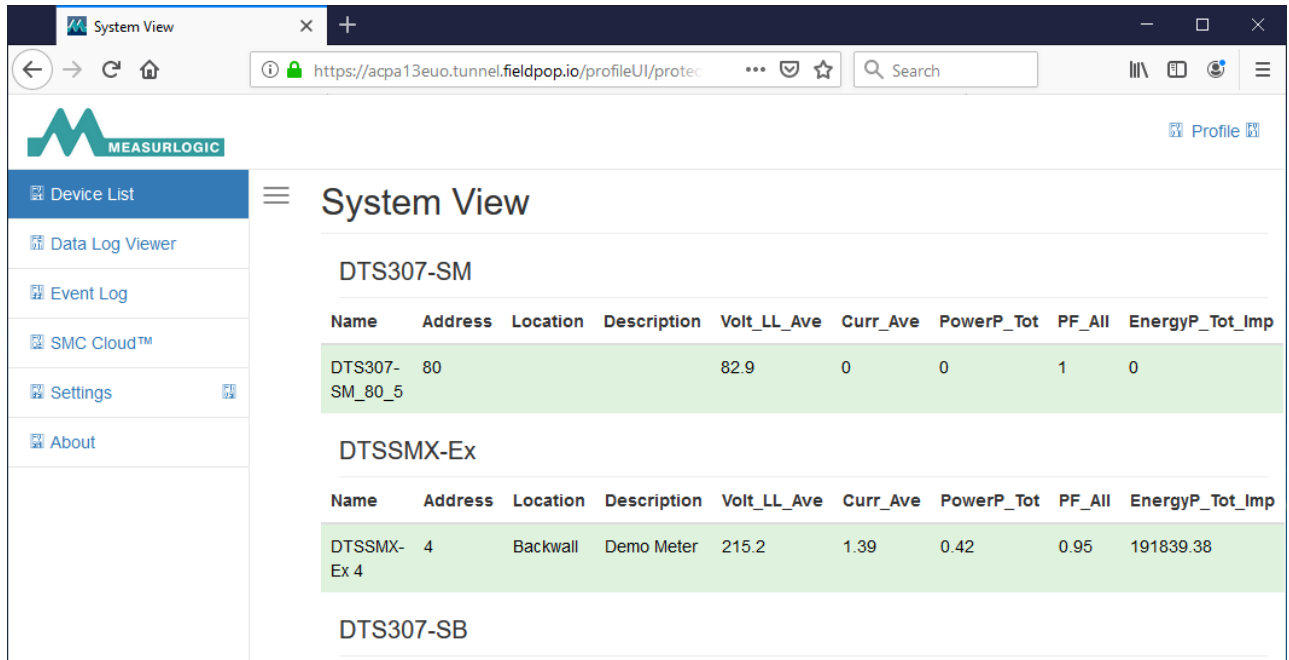
At the bottom of the interface, there are several buttons: "Home", "HELP (F1)", "System Restart", "System Reboot", "System Time Synch", and "Reset Cycle Times". The "System Time Synch" button is highlighted with a red box, and a red arrow points to it from the text "Set Time".

If the DTS IoT Gateway is registered to the MSA Grid (see section 6 below) then it will synchronize with the MSA Grid in the future.

## 5.6 VERIFY THE OPERATION OF THE DEVICES

Once you have finished adding all your DTS meters, press the "Device List" button to see the "System View". This is the easiest way to verify that all the meters you added are present and the live measurement values alongside each meter will show if the meter is operating correctly.

### 5.6.1 The "System View"



The screenshot shows the 'System View' page in a web browser. The browser address bar shows 'https://acpa13euo.tunnel.fieldpop.io/profileUI/protect'. The page title is 'System View'. On the left is a navigation menu with 'Device List' selected. The main content area shows three sections for different meter models: DTS307-SM, DTSSMX-Ex, and DTS307-SB. Each section contains a table of live measurement data.

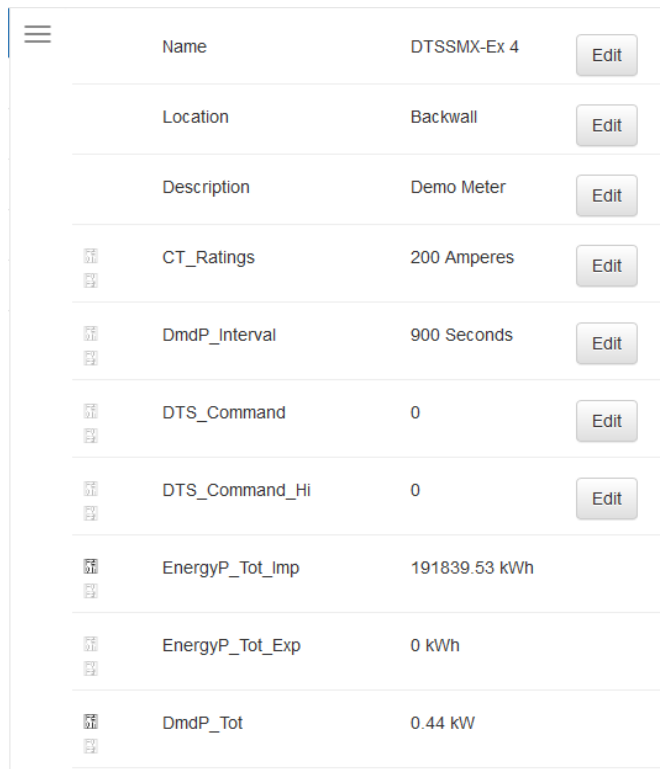
Name	Address	Location	Description	Volt_LL_Ave	Curr_Ave	PowerP_Tot	PF_All	EnergyP_Tot_Imp
DTS307-SM_80_5	80			82.9	0	0	1	0
DTSSMX-Ex 4	4	Backwall	Demo Meter	215.2	1.39	0.42	0.95	191839.38

Once you have added DTS meters to your DTS IoT Gateway this "Device List" screen will show the DTS meters you have attached to your device, together with some live operational information for each device.

Notice that the "Energy" is available on this screen, so you can easily see the energy figures for all your meters.

Clicking on any of the DTS meters in the list will bring up the "Device List" for that meter (as shown on the right).

This list contains other live measurement data, as well as configuration information like the "CT\_Ratings" that can be edited.

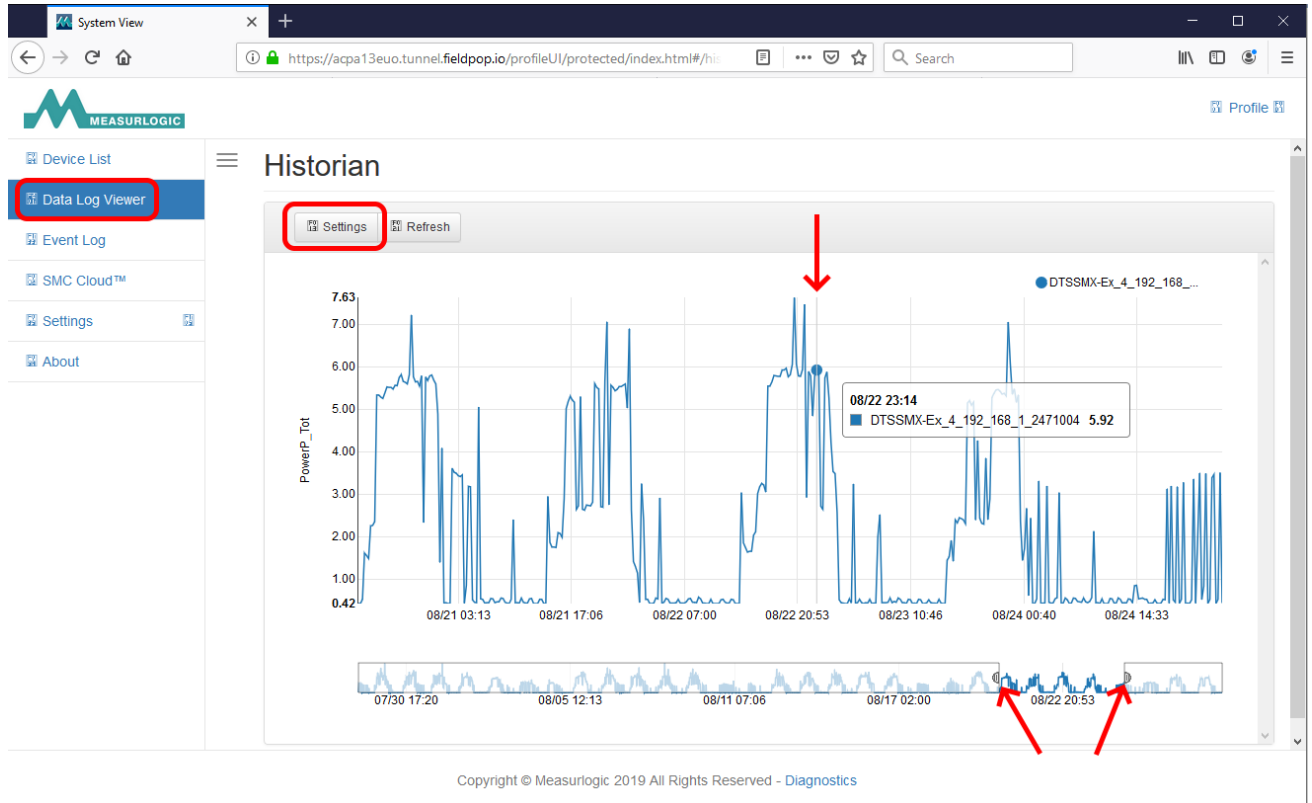


The screenshot shows the configuration page for a specific meter. It lists various parameters and their values, with an 'Edit' button next to each. The parameters include Name, Location, Description, CT\_Ratings, DmdP\_Interval, DTS\_Command, DTS\_Command\_Hi, EnergyP\_Tot\_Imp, EnergyP\_Tot\_Exp, and DmdP\_Tot.

Name	DTSSMX-Ex 4	Edit
Location	Backwall	Edit
Description	Demo Meter	Edit
CT_Ratings	200 Amperes	Edit
DmdP_Interval	900 Seconds	Edit
DTS_Command	0	Edit
DTS_Command_Hi	0	Edit
EnergyP_Tot_Imp	191839.53 kWh	
EnergyP_Tot_Exp	0 kWh	
DmdP_Tot	0.44 kW	

## 5.6.2 The “Data Log Viewer” or “Historian”

Data is logged and buffered locally in the DTS IoT Gateway. This enables logged history of up to 30 days to be viewed and graphed locally on the DTS IoT Gateway. If the DTS IoT Gateway is registered to the MSA Grid, this buffering will prevent logged data loss if the Internet connection to the cloud is lost.



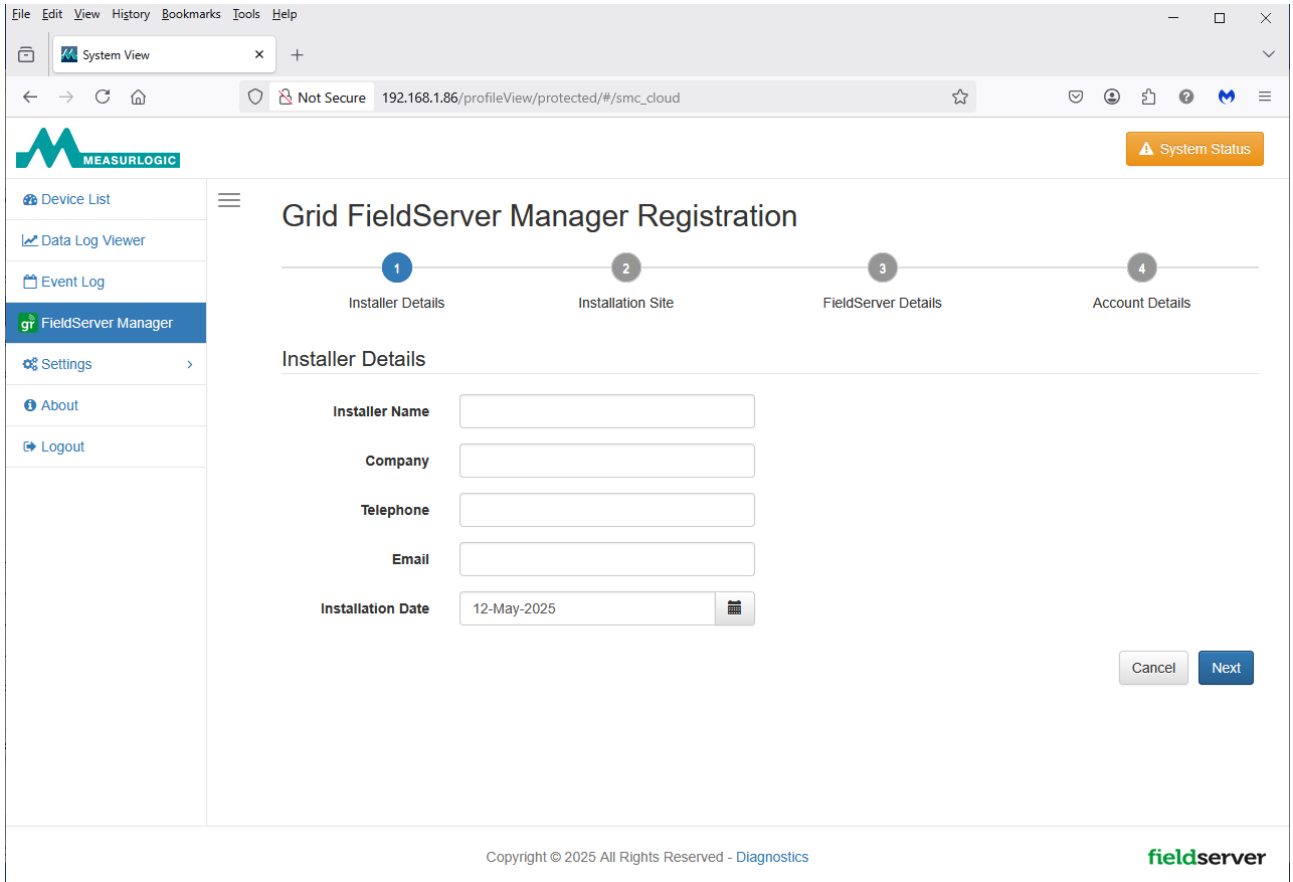
To view the logged data on the DTS IoT Gateway itself:

- Click on “Data Log View” on the side menu.
- Press the “Settings” button.
- A popup list will appear showing all the available data points from all the attached devices.
- Select one or more data points that you would like to plot
- Press the “Submit” button at the bottom of the list.
- The DTS IoT Gateway will then show a separate plot for each data point selected.
- Each plot consists of two parts:
  - a) The small timeline below shows a thumbnail of the data for the past 30 days. The two window handles (shown by the red arrows) can be dragged to select the time period of interest.
  - b) The main plot above shows the logged detail. Hovering over a particular part of the plot will show the date/time and the value on the plot at that position. This position is shown by a vertical grey line, and a blue dot on the plot curve.

*The above assumes that the DTS IoT Gateway has been running for sufficient time to allow logged data to accumulate. Logged history of up to 30 days may be viewed.*

## 6 REGISTRATION ON THE CLOUD

Once your DTS IoT Gateway has been setup as described above, it is time to register it on the MSA Grid. Press the "MSA Grid" button, and press "Close" to dismiss the information popup page that appears. If your DTS IoT Gateway is NOT already registered on the MSA Grid the following screen will appear.



The screenshot shows a web browser window displaying the "Grid FieldServer Manager Registration" wizard. The browser address bar shows "192.168.1.86/profileView/protected/#/smc\_cloud". The page features a sidebar with navigation options: Device List, Data Log Viewer, Event Log, FieldServer Manager (selected), Settings, About, and Logout. The main content area is titled "Grid FieldServer Manager Registration" and includes a progress indicator with four steps: 1. Installer Details, 2. Installation Site, 3. FieldServer Details, and 4. Account Details. The "Installer Details" step is active, showing input fields for "Installer Name", "Company", "Telephone", "Email", and "Installation Date" (pre-filled with "12-May-2025"). "Cancel" and "Next" buttons are located at the bottom right. The footer contains the copyright notice "Copyright © 2025 All Rights Reserved - Diagnostics" and the "fieldserver" logo.

**You will need an MSA Grid FieldServer Manager account before proceeding.**

- Please contact Measurlogic with the email address you wish to use for the username, as well as the "Company" name for the registration.
- Measurlogic will then initiate the account creation.
- You will receive an email (to the address provided) that contains a link to complete the account creation. Follow the steps to provide the requested information and to create the password.

**The four-step wizard will guide you through the MSA Grid Cloud Registration.**

### 6.1 Installer Details

Fill in some general information.

## 6.2 Installation Site

Provide the location where the DTS IoT Gateway is installed.

The easiest way is to "Search Google Maps" for the location, which will autofill all the other fields. The pin location will be shown on the map

You can also click on the map to position the pin location.

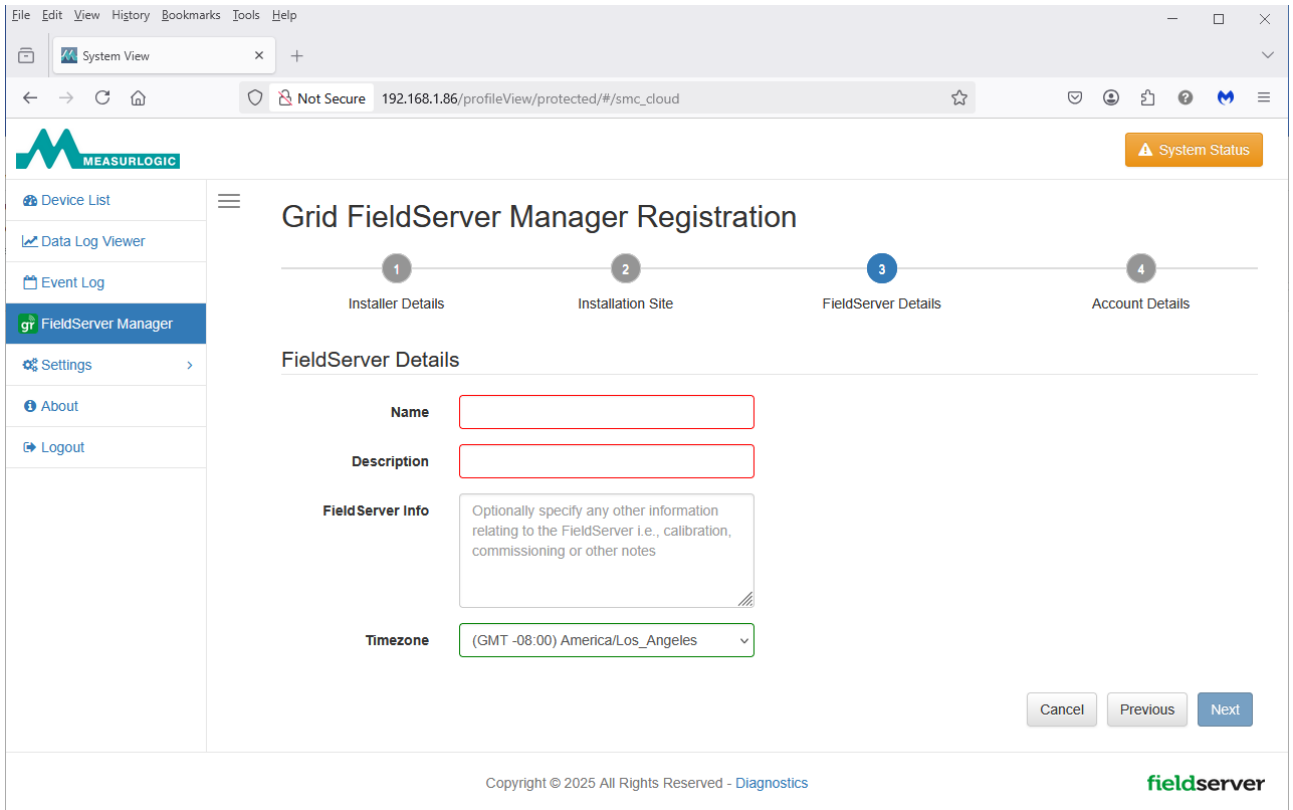
The screenshot shows a web browser window displaying the "Grid FieldServer Manager Registration" page. The page has a navigation menu on the left with options like "Device List", "Data Log Viewer", "Event Log", "FieldServer Manager", "Settings", "About", and "Logout". The main content area is titled "Grid FieldServer Manager Registration" and features a progress bar with four steps: 1. Installer Details, 2. Installation Site, 3. FieldServer Details, and 4. Account Details. The "Installation Site" step is currently active. Below the progress bar, there is a section for "Installation Site Details" with a search bar and a Google Map. The search bar contains the text "Search Google Maps". The form fields are filled with the following information: Site Name: 7268 S Tucson Way, Building: (empty), Street Address: 7268 South Tucson Way, Suburb: (empty), City: Centennial, State: Colorado, Country: United States, Postal Code: 80112, Latitude: 39.5846186, and Longitude: -104.835136. The map shows a red pin at the location of 7268 S Tucson Way in Centennial, Colorado. The footer of the page includes the copyright notice "Copyright © 2025 All Rights Reserved - Diagnostics" and the "fieldserver" logo.

## 6.3 FieldServer Details

Now give the DTS IoT Gateway a "Name". We recommend that you make the "Name" and the "Building" (from the previous step) the same. It is often easiest to use this same name for the "Description" as well.

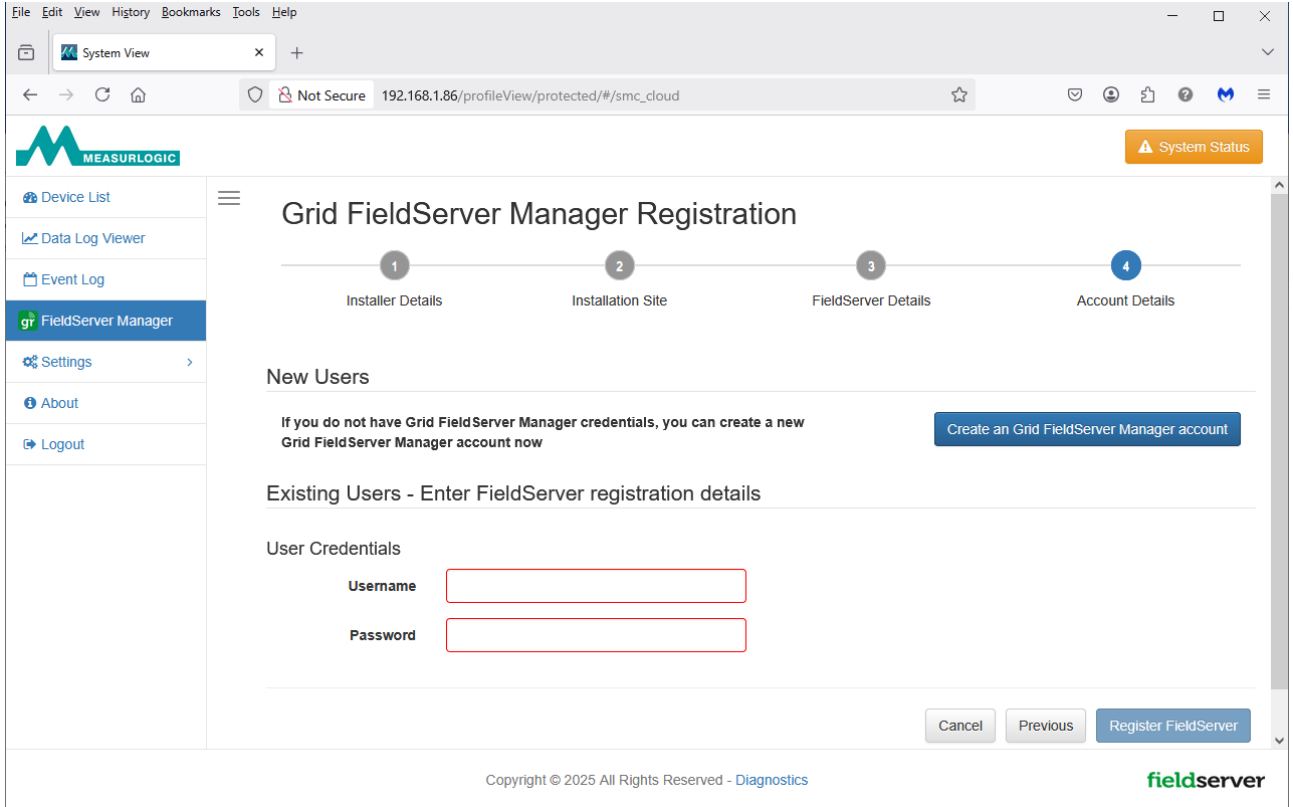
Make this name concise and meaningful for the location and/or the function of the DTS IoT Gateway, as this will make it easier to work with the device later.

These are required fields – You will not be able to proceed to the next step until entering this information.



## 6.4 Account Details

This is where you enter the Username and Password of your MSA Grid FieldServer Manager account that was created for you by Measurlogic.

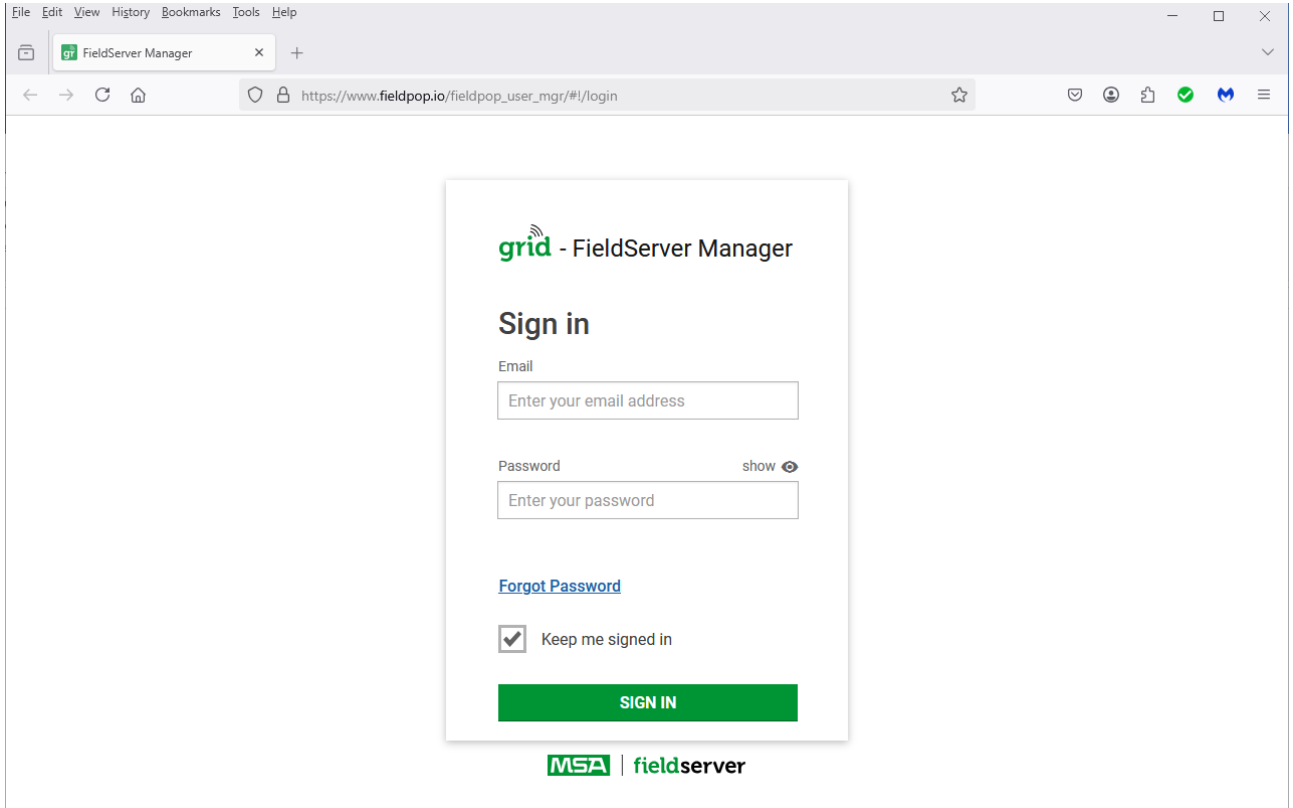


Finish by pressing the "Register FieldServer" button.

## 7 MSA Grid FieldServer Manager Login

To login to the MSA Grid FieldServer Manager portal, use your web browser to connect to either [www.smccloud.net](http://www.smccloud.net) or [www.fieldpop.io](http://www.fieldpop.io).

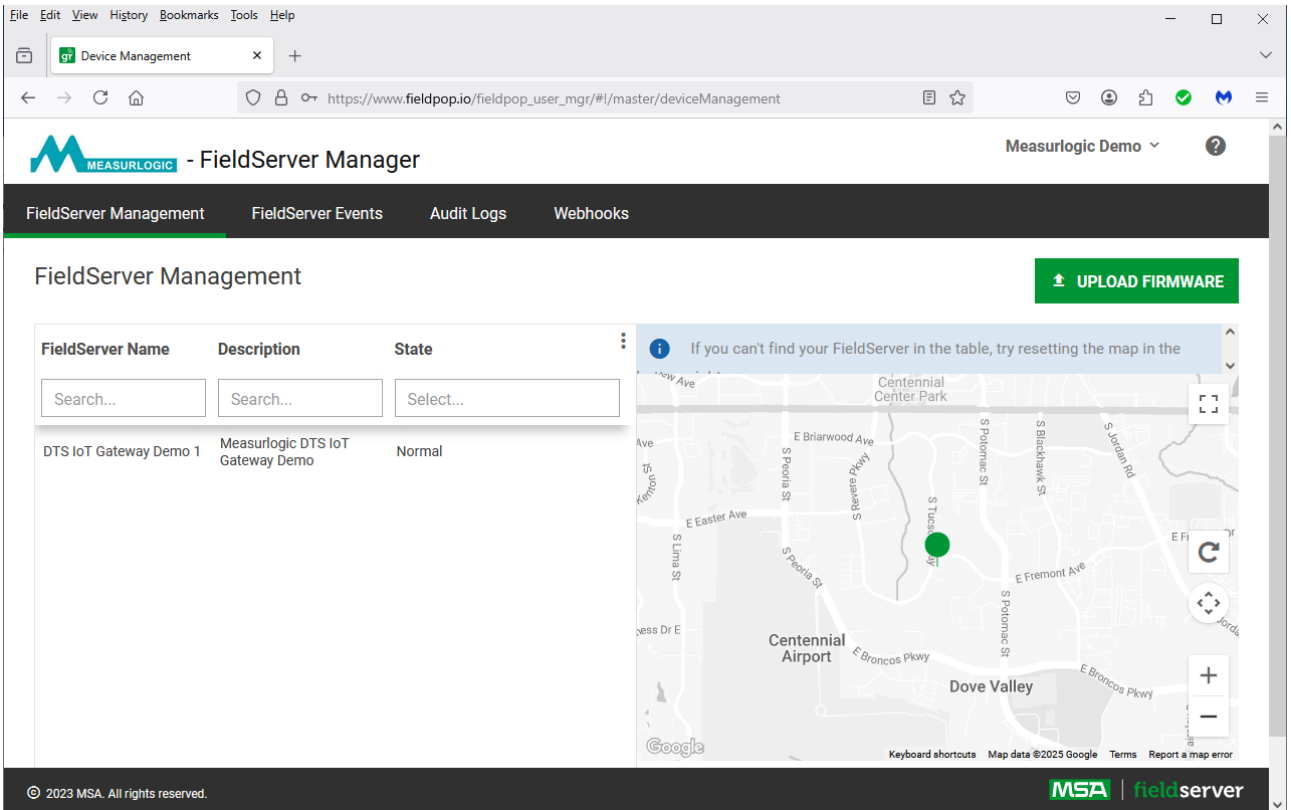
Enter your username (email address) and password and press the "Sign in" button.



## 7.1 FieldServer Management

This screen shows all the DTS IoT Gateway devices registered to you.

Various sort and filtering options are provided. Press on the “hamburger” (three vertical dots) to configure the field shown in the list.



## 7.2 FieldServer Events

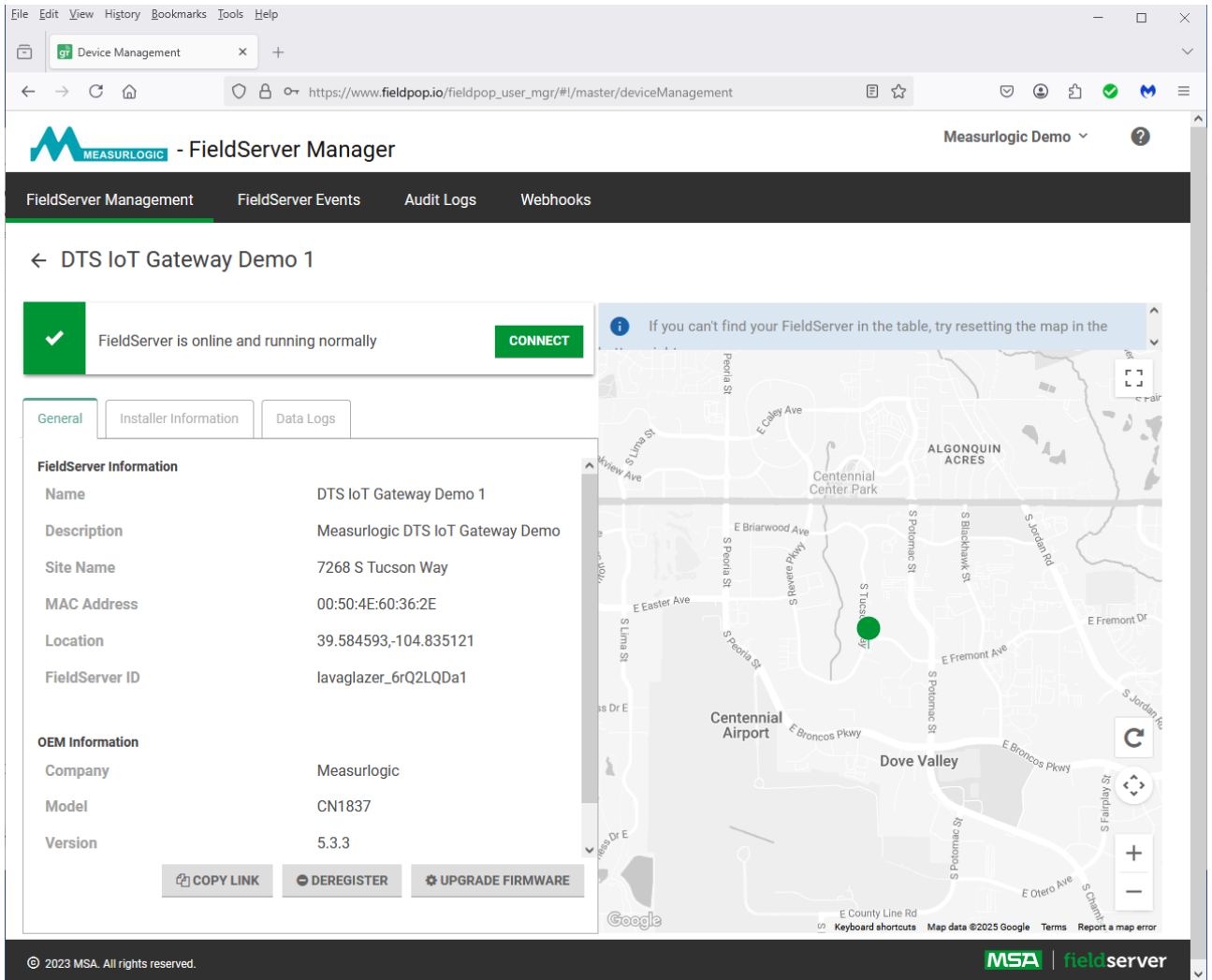
This screen provides a log of events for your devices.

Various sort and filtering options are provided. Press on the “hamburger” (three vertical dots) to configure the field shown in the list.

## 7.3 DTS IoT Gateway Details

In the "FieldServer Manager (see section 7.1 above) click on the device of interest.

The "General" and "Installer Information" provide information about the DTS IoT Gateway.



The screenshot shows the FieldServer Manager web interface. At the top, there is a navigation bar with tabs for "FieldServer Management", "FieldServer Events", "Audit Logs", and "Webhooks". The main content area is titled "DTS IoT Gateway Demo 1".

A status bar at the top left shows a green checkmark and the text "FieldServer is online and running normally" with a "CONNECT" button. A blue information box above the map says "If you can't find your FieldServer in the table, try resetting the map in the".

Below the status bar are three tabs: "General", "Installer Information", and "Data Logs". The "General" tab is active, displaying the following information:

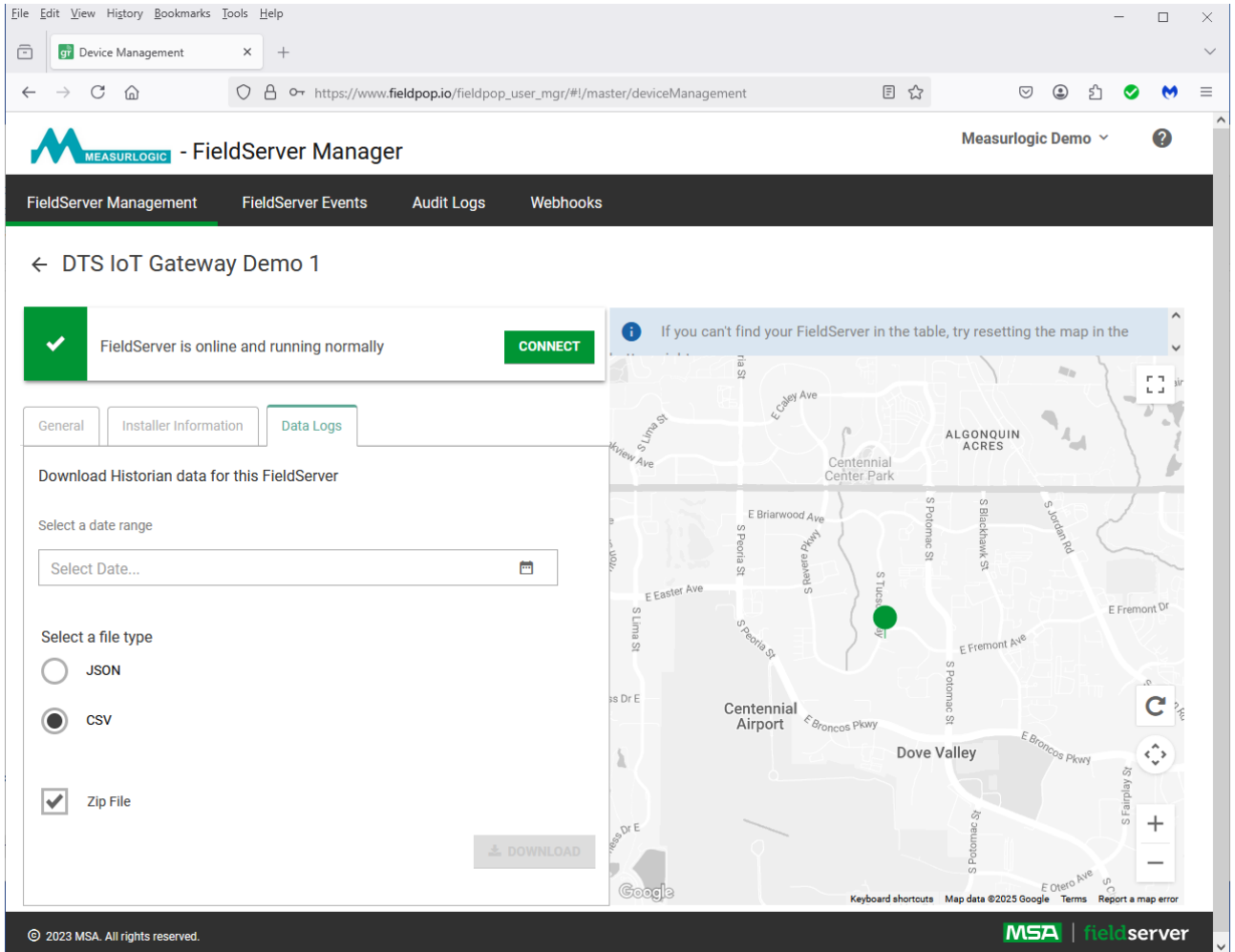
FieldServer Information	
Name	DTS IoT Gateway Demo 1
Description	Measurlogic DTS IoT Gateway Demo
Site Name	7268 S Tucson Way
MAC Address	00:50:4E:60:36:2E
Location	39.584593,-104.835121
FieldServer ID	lavaglazer_6rQ2LQDa1
OEM Information	
Company	Measurlogic
Model	CN1837
Version	5.3.3

At the bottom of the information panel are three buttons: "COPY LINK", "DEREGISTER", and "UPGRADE FIRMWARE". To the right of the information panel is a map showing the location of the device in Dove Valley, Colorado, near Centennial Airport. The map includes street names like S Tucson St, E Broncos Pkwy, and S Potomac St.

At the bottom of the page, there is a copyright notice: "© 2023 MSA. All rights reserved." and the MSA | fieldserver logo.

## 7.3.1 Download Data Logs

The “Data Logs” tab allows you to download the data logs that are stored in the MSA Grid for that device.



Steps to download data:

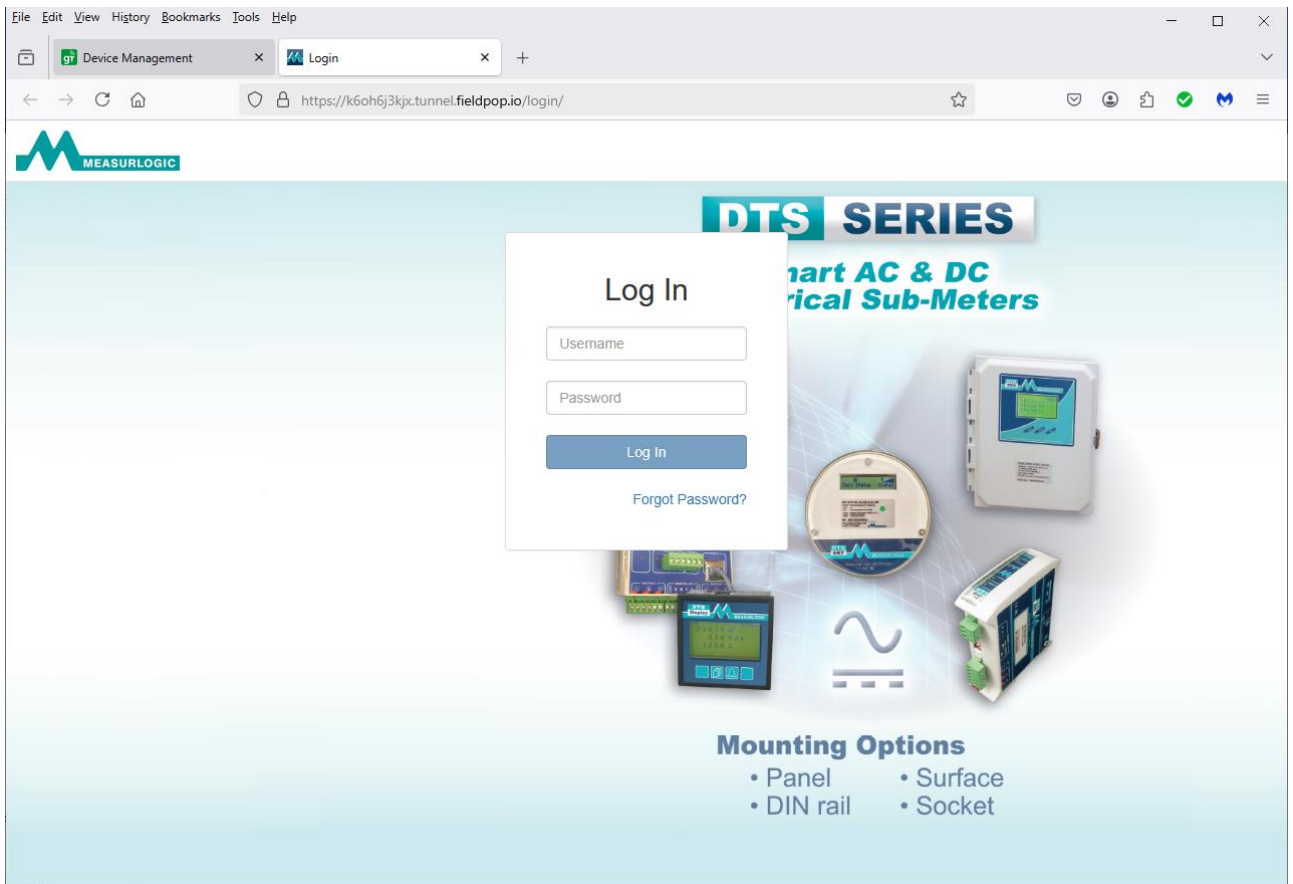
1. Select the date range. Select the starting and ending date (and time).
2. Scroll down and press the “Apply” button.
3. Verify that the updated field shows the date range you want.
4. Select the file type (JSON or CSV).
5. Press the “Download” button and select the folder location to save the file.

## 7.3.2 Secure Tunnel Connect to your DTS IoT Gateway

This feature allows you to tunnel through to your DTS IoT Gateway device.

Press the “Connect” button on the “FieldServer Management” screen as shown in the previous section. This “Connect” is present when any of the detail tabs is selected.

You will then be presented with the DTS IoT Gateway login screen as shown in Section 5.2.2.



- Login as normal.
- You are now remotely connected to the DTS IoT Gateway.
- You can now remotely perform most of the DTS IoT Gateway configuration actions that have been described in this document.
- This means that you can remotely manage any of your DTS IoT Gateway devices, including downloading the “Data Logs”.