

Power Meter Monitor

Business and Mission-

Critical Solutions Provider

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DLMS - Modbus Protocol Gateway (RunTime)

\sim User Manual



Model: PMM0402 Document: User Manual **Document version:** 1.0 Date: April 2021



www.Pmm-usa.us



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DECLARATION OF CONFORMITY

This restriction is subject to protect the operational process of the system in the business environment, which will produce, use, and transmit radiofrequency energy. Harmful interference to radio communication could result if instructions to the correct installation and usage were not applied. The interference prevention cannot be guaranteed even with proper installation according to the manual. If the device causes a bad effect on the radio / TV signal. The user could preclude that by turning the device on/off.

When this device produces some harmful interference, the user can use the following measure to solve the interference problem:

1-Setting the receiving antenna's direction or location to increase the distance between this device and receiver.

2-Plug in the device's power connector into different circuits of the power outlet with the receiver.

3-If any technical support is needed, the dealer or experienced radio/TV technical personnel must be informed.

TECHNICAL SUPPORT AND SERVICE

Visit <u>Pmm-usa.us</u> to browse FAQs and get further details. User should collect the following information before submitting technical support and service requests:

- Product name, model and serial number.
- Installed software (operating system, OS version, installed applications and so on).
- Full description of the problem

-Detailed information about every error.

SAFETY INSTRUCTIONS

- Only trained and qualified personnel can install, operate, or maintain the device.
- Before starting the installation, all safety precautions must be read, and warning labels affixed to the device must be observed. Doing so protects the device from damage and ensures your safety.
- Safety precautions provided in this document may not cover all safety aspects, note to always remain mindful of safety.
- PMM is not liable for any consequence that results from violation of regulations pertaining to safe operations or safety codes pertaining to design, production, and equipment usage.
- DO NOT use liquids or decontamination spray to clean the device surface and assure that it is totally disconnected while cleaning.
- Take all measures to prevent device drop before or during installation.
- Prior to connecting the device to power source, ensure the source and device voltage and power are 100% matched.
- Keep the cables in a suitable covered place.
- If the device is not used for a long time, shut off the power to avoid the damages by transient overvoltage.
- DO NOT allow any liquid flow into the device; to avoid fire or short circuit.
- The recommended storage temperature range should NOT be less than 30°C OR higher than 85°C.

🗥 Warning:

- Read the power source and device inlet carefully.
- Handle device with both hands.
- Clean and maintain the device using recommended, safe and suitable methods.

Caution:

If any unauthorized changes of settings or repairs are done without PMM approval; then user's rights of controlling this device will be canceled.



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1. Introduction

This Document is a fully descriptive operational manual for PMM's DLMS - Modbus Protocol Gateway. Providing the operator with the needed information in terms of instruction and screen layout of the monitors, allowing for easy use.

1.1 DESCRIPTION

PMM0402 is a highly configurable industrial ethernet gateway device which is capable of reading data from any device containing DLMS protocol like energy meters and converting it to RTU/TCP Modbus protocol. PMM0402 provides the flexibility needed to fulfill the various conditions that arise with field devices that use different communication protocols to connect to the SCADA system.

PMM0402 gateways support a system log function that record events; users can easily review log data remotely through a web interface. The gateways also support status monitoring and fault protection functions. The status monitoring function notifies the SCADA system when a device gets disconnected or does not respond, in such case the SCADA system gets the status of each end device and then issues alarms to notify operators.

PMM0402 can be contained within multiple hardware chassis which are designed with a wide range of highly configurable communication ports needed in the field. All hardware chassis are rugged, powerful, reliable, fanless and cover a wide range of power supply options that offer a high level of performance and low level of power consumption.

1.2 KEY FEATURES

- Supports Modbus RTU/TCP
- Supports meters such as: Iskraemeco, Landis+Gyr, EMH meter, Actaris SL7000, Elster A1700, Elster A1500, KAMSTRUP, DPEE
- Effortless configuration via web-based wizard
- Built-in ethernet cascading for easy wiring
- Embedded traffic monitoring as well as diagnostic information for easy troubleshooting
- MicroSD card for configuration backup and duplication for event logs
- Status monitoring and fault protection for easy maintenance
- Redundant dual DC power inputs and relay output
- Operating temperature: -40 to 75°C
- Storage temperature: -40 to 85°C
- EMI, EMS, EMC and shock protected
- Serial port with power surge 2kV isolation protection
- Security features based on IEC 62443



2. SPECIFICATIONS

2.1 SOFTWARE SPECIFICATIONS

Ethernet Software Features

| Protocols | Modbus TCP |
|-----------------------|------------------------------|
| Configuration Options | Web Console through Ethernet |

Serial Software Features

| Protocols | Modbus RTU |
|-----------------------|------------------------------|
| Configuration Options | Web Console through Ethernet |

2.2 HARDWARE CPU CHASSIS SPECIFICATIONS (3 Options)

CPU





Option1: PMM0103

Option2: PMM0105

Option3: PMM0107

| CPU | All winner H3 processor, Quad-core 64-bit high-performance Cortex A53 | All winner H3 processor, Quad-core 64-bit high-performance Cortex A53 | Intel® Atom™ x5-Z8350 CPU |
|---------------------|--|--|---------------------------|
| DRAM | 512 MB | 512 MB | 4GB DD3RAM |
| Storage | 8GB eMMC | 8GB eMMC | 16GB eMMC |
| RTC CHIP (OPTIONAL) | DS3231 | DS3231 | CR2032 |
| Pre-installed OS | Linux | Linux | Windows 10 lite |

Computer Interface

| Ethernet | 2x 10/100 Base ports | 2x 10/100 Base ports | 1x 10/100/1000Base-T RJ45 |
|--------------------|--|--|---|
| Fiber | N/A | 2x 1000Base-X SC fiber optic port | 1x 1000Base-X SFP |
| USB | 1x USB3.0 Type A 1x Micro USB | 1x USB2.0 type A | 1x USB3.0 Type A |
| Wi-Fi | 2.4/5 GHz | 2.4/5 GHz | MediaTek RT5572 2.5/5GHz/2x2 with external antennas |
| Serial | 1x RS485 | 1x RS485 | 1x RS485 |
| Optional Interface | 3x customizable communication slots:PMM RS485 Module PMM RS232 Module PMM RS422 Module | 2x customizable communication slots:PMM RS485 Module PMM RS232 Module PMM RS422 Module | 8 pins connector on edge with following options (max 2 options can be chosen upon order to be factory pre-fitted) |



| | | | RS232 |
|-----------------------|--------------------------|------------------------------|----------------------------|
| | | | RS485 |
| | | | RS422 |
| | | | CAN bus |
| | | | Analog Input |
| | | | Analog Output |
| | | | Digital Input |
| | | | Digital Output |
| SD Slot | 1x MicroSD | 1x MicroSD | 1x MicroSD card socket for |
| | | | 256GB |
| Power Parameters | | | |
| Power Supply Options | 10-56 VDC | 10-56 VDC | 10-56 VDC |
| | 8-40 VAC | 8-40 VAC | 8-40 VAC |
| | 36-72 VDC | 36-72 VDC | 36-72 VDC |
| | 25-50 VAC | 25-50 VAC | 25-50 VAC |
| | 85-285 VAC / 100-300 VDC | 85-285 VAC / 100-300 VDC | 85-285 VAC / 100-300 VDC |
| Power Connector | Phoenix Contact 4 pins | Phoenix Contact 6 pins 3.5mm | |
| Physical Characterist | tics | | |
| Housing | Metal | Motal | Metal |
| Dimensions | 3 93*3 93*1 45 inch | 5 27*5 27*1 45 inch | 5 27*5 27*1 45 inch |
| Dimensions | (100*100*37 mm) | (134*134*37 mm) | (134*134*37 mm) |
| Mounting Options | Standard | Standard | Standard |
| | 35mm DIN | 35mm DIN Rail | 35mm DIN |
| | RailDirect | Direct Panel | RailDirect |
| | Panel | Mounting | Panel |
| | Mounting | Front Panel | Mounting |
| | Front Panel | Mounting | Front Panel |
| | Mounting | 19" rack 1U | Mounting |
| | 19" rack 1U | | 19" rack 1U |

3. MECHANICAL INSTALLATION

3.1 CONNECTIONS

3.1.1 POWER

Power requirements depend on the chosen hardware option.

PMM0103 and 0105 have customized power supply options including: 10-56 VDC, 8-40 VAC, 36-72 VDC, 25-50 VAC, 85-285 VAC / 100-300 VDC based on these options connect the power line to the CPU terminal block (POWER) as shown in the figure below.





3.1.2 NETWORK

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Network connection depends on the chosen hardware option.

- PMM0103 has 2x 10/100 ethernet port supports up to twenty clients.
- PMM0105 is the best choice for increasing the connectivity as it has 2x 10/100 ethernet port supports up to twenty clients, WIFI connection supports up to 20 clients as well as 2x customizable fiber optic ports

4. Using Software

4.1 Login

- Type the IP address ":5010/login.html " at your browser then click on "Enter"
- The Login window will be shown as below, type the username "User@Israr.com" and the password "12345678". Click on "Login" to access the DLMS web page

| ISRAR | BIAN | LINGINEE | |
|----------|------|----------|-------|
| Username | | | |
| Password | | | |
| | | | Login |

Once the user has logged in successfully general information will be shown as below.

| | | 😂 General Informati | ons 🛛 🔒 Users Access | د 🕨 🔺 |
|----|------|---------------------|------------------------|--|
| ≡ | ¢° G | eneral Informations | | |
| | ļ | SRAR | | |
| | | Company Name: | | |
| | | Project Name: | | |
| | | Owner Name: | ISRAR ENGINEERING LLC. | |
| | | Contact Info: | +962 6 5821401 | |
| | _ | Software licenses: | | |
| ** | | license 1: | DLMS Runtime | |
| 20 | | license 1 Version: | 1.1 | ©2014-2021 Israr Engineering LLC. All rights reserved. |
| | | | | |



The general information is set by the user as well as the user can redesign his own theme style.

Inserting general information instructions:

• Click on "User"

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| My Account | | Help ? | US |
|---|--------------------------|---------------|----|
| user user Sign Out ▲ Asset Management My Profile Change Password | My Account | | × |
| Asset Management My Profile Change Password | user user Sign Out | | |
| My Profile Change Password | 😭 Asset Management | | |
| Change Password | L My Profile | | |
| | Change Password | | |

• Click on "My Profile" to access the account settings

| <u>565</u> | | | | | | | |
|---|---|---|---------------------|---------------------------|-----|---|-------|
| My Profile | | | | | | | |
| 🖨 Account Settin | igs | | | | | | |
| | | User | | Company | | Project | |
| | | Туре | user | Name | | Name | |
| | | Name | user | Phone | | Phone | |
| | | Email | user | Email | | Email | |
| | K / | Phone | | Address | | Address | |
| | | | | | | | |
| | | Startup | Asset Management(🗸 | | | Location | |
| Themes Settin | gs | Startup | Asset Management(| | | Location | C B + |
| Themes Settin | gs | Startup | Asset Management(| Perro Header | | | S 8 + |
| Themes Settin Theme Name Menu Position | gs default | Startup Main Header | Asset Management(| Page Header | | Content | 2 0 + |
| C Themes Settin Theme Name Menu Position | gs default Top & Left(Default) | Startup Main Header Background Turt | Asset Management(V | Page Header Background | | Content Background | |
| Themes Settin Theme Name Menu Position Logo Type Logo Color | gs default Top & Left(Default) Icon(Default) | Startup Main Header Background Text | Asset Management(| Page Header Background | v | Location Content Background Text | |
| Themes Settin Theme Name Menu Position Logo Type Logo Color Font | gs default Top & Left(Default) icon(Default) White | Startup Main Header Background Text | Asset Management(v | Page Header Background | · · | Location Content Background Text | |
| C Themes Settin Theme Name Menu Position Logo Type Logo Color Font | gs defauit Top & Left(Defauit) Icon(Defauit) White Arial | Startup Main Header Background Text V | Asset Management(v | Page Header Background | · · | Location Content Background Text | |

- Type the required information accurately
- Click on "Save"

After inserting the information by the user, the page will be updated as shown below.



Customize your web page theme

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- Click on "Add" then select the theme parameters you want to add, click on "Save", saved themes will appear in theme name list after the user clicks on "Refresh"
- You can delete themes by selecting any theme from the theme name drop list then click on "Delete"

| Theme Name | | ~ | Main Header | | Page Header | | Content | |
|---------------|---------------------|---|----------------|-----------|-------------|---------------------------------------|------------|-----|
| Menu Position | Top & Left(Default) | ~ | Background | ~ | Background | ~ | Background | |
| Logo Type | Icon(Default) | ~ | Text | • | Text | · · · · · · · · · · · · · · · · · · · | Text | |
| Logo Color | White | ~ | | | Border | | | |
| Font | Arial | ~ | | | | | | |
| | | | Widjets | | Buttons | | Inputs | |
| | | | Background | ~ | Background | ~ | Background | |
| | | | Sub Background | | Text | | Text | |
| | | | Text | · · · · · | Radius | 0px 🗸 | Border | |
| | | | Border | · · · | | | Radius | 0px |
| | | | Border Bottom | · · · | | | | L |
| | | | Radius | 0px 🗸 | | | | |
| | | | | | | | | |



4.2 About

About Page consists of three sections:

- 1. General Information: Displays general information about the DLMS Gateway including Model Name, Serial Number, Software Version, Firmware Version, Hardware Base and Hardware Version.
- Project settings & Firmware: Click on "Backup" to create project settings backup. Click on "Restore" to restore a previously created project setting. Click on "Restore Default" to restore the default project settings. Same instructions are applicable for Firmware as the user can create firmware backup or restore a previously created firmware.
- Alarms & Events Log: The user may adjust the duration of keeping logs, download logs and delete logs.
 Adjust Keeping Alarms & Events Log Duration Instructions:
- Choose the required alarms & events log based on the day and date from the drop list
- Type the number of days you want to keep the logs for in the specified field and check the box to enable the setting
- Click on "Save"
 - 2) Download Alarms & Events Log Instructions:
- Choose the required alarms & events log based on the day and date from the drop list
- Click on "Download"
 - 3) Delete Alarms & Events Log Instructions:
- Choose the required alarms & events log based on the day and date from the drop list
- Click on "Delete"





4.3 Settings

4.3.1 Basic Settings

Basic settings display the server's name, location, time zone and local date and time. Time type is adjustable as the user can select meter time which obtains the time from meter, NTP time which obtains the time from NTP server and manual time which requires the user to set date and time manually then click on "Save".

| Server | p | MMO | 4020 | 0103 | | | | |
|------------|----|--------|-------|------|----|----|---|--|
| Name | | | | | | | | |
| Server | ۵ | mma | | | | | | |
| Location | | | | | | | | |
| Time Zone | 1 | | - | | | | | |
| | - | mman | - 0a | 31 | | | × | |
| Local Date | | | | | | | 5 | |
| | - | 14 | 1 | 12 | 1 | 26 | | |
| | | | | | | | | |
| Local Time | 0 | 02 | 1. | 35 | 1. | 21 | | |
| | -1 | | -11 | | | | | |
| Time Type | 3. | lanual | | | | | ~ | |
| | | | | | | | | |
| Clock | 0 | 0.01 | 0.0.1 | 255 | | | | |
| Register | 0 | .0.01. | 0.0. | 233 | | | | |

4.3.2 Network Settings

PMM0103 has 2x Ethernet ports, it is required to insert the settings for each port manually by the user.

- Insert the IP Assignment, Address, Netmask, Gateway, DNS Server 1 and 2 for each port.
- Click on "Save"

Once the user has set the ports settings the status of each port will be updated as following:

- If the settings are inserted correctly by the user, the status will be Connected
- If the settings are not inserted correctly by the user, the status will be Disconnected
- If the settings are inserted by the user, however the IP address doesn't match with the Device address the status will be **Connected** then the user must click on the "Refresh" as the settings will be updated correctly, then click on "Save"

| Name | Ethernet1 | Name | Ethernet2 |
|---------------|---------------|---------------|---------------|
| IP Assignment | Manual 🗸 | IP Assignment | Manual |
| IP Address | 192.168.2.114 | IP Address | 192.168.2.114 |
| Netmask | 255.255.255.0 | Netmask | 255.255.255.0 |
| Gateway | 192.168.2.1 | Gateway | 192.168.2.1 |
| DNS Server 1 | 8.8.8.8 | DNS Server 1 | 8.8.8.8 |
| DNS Server 2 | 8.8.8 | DNS Server 2 | 8.8.8 |
| Status | Connected | Status | Connected |



| NUMBER OF STREET | | | |
|------------------|---------------|---------------|---------------|
| Name | Ethernet1 | Name | Ethernet2 |
| P Assignment | Nanual V | IP Assignment | Manual 🗸 |
| P Address | 192 158 2 20 | IP Address | 192 168 2 107 |
| | 152.100.2.20 | | 152.100.2.107 |
| Netmask | 255.255.255.0 | Netmask | 255.255.255.0 |
| Gateway | 192.168.2.1 | Gateway | 192.168.2.2 |
| DNS Server 1 | 0.0.0.0 | DNS Server 1 | 8.8.8.8 |
| DNS Server 2 | 0.0,0.0 | DNS Server 2 | 4.4.8.8 |
| Status | Disconnected | Status | Connected 3 |

4.3.3 WiFi Settings

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It is required to insert IP assignment settings manually by the user.

- Insert the IP Assignment, Address, Netmask, Gateway, DNS Server 1 and 2.
 - Click on "Save"

Connecting/Disconnecting to Wifi Network Instructions:

- Click on "Refresh" icon to display all the available WiFi networks
- Choose the desired WiFi Network from the drop list
- Check the box for Auto Connection
- Click on Connect/Disconnect and the connection status will be updated as connected/disconnected

| 🕿 Wifi Settings | | | | • | C |
|-----------------|---------------|---------------------|------------|---|---|
| Name | Wi-Fi | Wifi Network: | store | | • |
| IP Assignment | Manual 🗸 | Wifi Password: | ••••• | | |
| IP Address | 192.168.2.114 | Auto Connection: | | | |
| Netmask | 255.255.255.0 |] | Connect | | |
| Gateway | 192.168.2.1 |] | Disconnect | | |
| DNS Server 1 | 8.8.8.8 | Status | Connected | | |
| DNS Server 2 | 8.8.8.8 | Signal: | 34 | | |



4.3.4 Serial Settings

There are four serial ports the user must set the required parameters for each port.

- Select the Baud Rate, Parity, Data Bits, Stop Bits and Flow Control from the drop list for each port. The Interface option is based on the order configuration the user has requested as there are customizable interfaces options for each hardware. At this case the user has ordered RS-485 2 wire
- Click on "Save"

| ort 1 Name | COM1 | | Port 2 Name | COM2 | | Port 3 Name | COM3 | | Port 4 Name | COM4 | |
|------------|---------------|---|--------------|---------------|---|--------------|---------------|---|--------------|---------------|---|
| aud Rate | 75 | ~ | Baud Rate | 75 | ~ | Baud Rate | 75 | ~ | Baud Rate | 75 | 8 |
| arity | None | ~ | Parity | None | ~ | Parity | None | ~ | Parity | None | 2 |
| ata Bits | 7 | ~ | Data Bits | 7 | ~ | Data Bits | 7 | ~ | Data Bits | 7 | |
| op Bits | 1 | ~ | Stop Bits | 1 | ~ | Stop Bits | 1 | ~ | Stop Bits | 1 | |
| ow Control | None | ~ | Flow Control | None | ~ | Flow Control | None | ~ | Flow Control | None | į |
| terface | RS-485 2 wire | ~ | Interface | RS-485 2 wire | ~ | Interface | R5-485 2 wire | ~ | Interface | RS-485 2 wire | - |

4.3.5 DLMS Setting

- Name the energy meters
- Check Enable box to enable data transfer from the energy meter
- Check UTC box to set your time zone to the universal time
- Set the meter parameters such as IP Address, Port, Password, Client, Server, Serial Number and Logical Name manually
- Select serial port, wrap, protocol, authentication, referencing and manufacturer from the drop list
- Click on "Save"

| DLMS Settings | | | | | | | |
|---------------|---|----------------|--------|-------------|---------------------------------------|--------------------|---------------------------------|
| Heter 1 | | | | | | | B |
| Name | 0 | IP Address | 0 | Password | • | Serial Number | 51402917 |
| Enable | | Port | 0 | Client | 0 | Logical Name | 0 |
| UTC | Y | Serial Port | COM3 V | Server | 0 | Wrap | No 🗸 |
| Protocol | ~ | Authintication | None 🗸 | Referencing | Short Name 🗸 | Manufacturer | Landis+Gyr 🗸 |
| | | | | | | | |
| Meter 2 | | | | | | | G |
| Name | 0 | IP Address | 0 | Password | • | Serial Number | 0 |
| Enable | V | Port | 0 | Client | 0 | Logical Name | 0 |
| UTC | Y | Serial Port | ~ | Server | 0 | Wrap | ~ |
| Protocol | ~ | Authintication | ~ | Referencing | ~ | Manufacturer | ~ |
| | | | | | | | |
| ➡ Meter 3 | | | | | | ©2014-2021 Power M | eter Monitor. All rights reserv |
| Namo | | ID Addrose | | Deceword | · · · · · · · · · · · · · · · · · · · | Sorial Number | |

4.3.6 Server Settings

General Modbus Slave Configuration Instructions:

- Select Modbus Slave Mode from the drop list (Modbus TCP or Modbus RTU) if available
- Modbus TCP slave port is set as standards 502
- Select from the drop list Modbus RTU port if the user has already chosen Modbus RTU Mode
- Type Modbus base address starts from 40000
- Type the number of readings obtained per meter (maximum allowable number is 200 readings per meter)
- Select from the drop list the desired Modbus data format
- Click on "Build Modbus Addresses" as the Modbus addresses will be built based on the readings per meter the user inserted (i.e., if the Modbus base address is 40000 and readings per meter are 200 the first Modbus address is 40000-40200)

| = | - | Convor | Sotting |
|---|---|--------|----------|
| - | | Server | Settings |

| Modbus Slave Mode: | Modbus TCP | |
|------------------------|------------------|---------|
| Modbus TCP Slave Port: | 502 | |
| Modbus RTU Port: | | , |
| Modbus RTU Slave ID: | 1 | |
| Modbus Base Address | 40000 | |
| Readings Per meter | 200 | |
| Modbus Data Format: | CDAB | , |
| | Build Modbus Add | fresses |

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4.3.7 Meters View

- Click on "Settings"
- Click on "Meters View" as shown below

| C Basic Settings | | Basic Settings | | | | | | |
|--------------------|-------------------|-----------------|--------|------------------|---------------|---------------|---------------|--|
| Basic Setting | s 🗖 | DLMS Settings | ration | Network Settings | | | | |
| Server Name | PMM04020103 | Server Settings | | Name | Ethernet1 | Name | Ethernet2 | |
| Server Location | Amman | wieters view | V | IP Assignment | Manual 🗸 | IP Assignment | Manual | |
| Time Zone | Amman - 09:31 🗸 🗸 | API Port: | 5005 | IP Address | 192.168.2.20 | IP Address | 192.168.2.107 | |
| Local Date | ■ 14 / 12 / 26 | Reading Cycle: | 1000 | Netmask | 255.255.255.0 | Netmask | 255.255.255.0 | |
| Local Time | 0 02 0 25 0 21 | | | Gateway | 192.168.2.1 | Gateway | 192.168.2.1 | |
| Time Type | | | | DNS Server 1 | 0.0.0.0 | DNS Server 1 | 8.8.8.8 | |
| Clock | Manual | | | DNS Server 2 | 0.0.0.0 | DNS Server 2 | 4.4.8.8 | |
| Register | 0.0.01.0.0.255 | | | Status | Disconnected | Status | Connected | |

- Select the meter that is required to view
- Meter View displays the meter's versions, short name, logical name and description all as set previously by the user

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| ≡ | Meters View | | | |
|--------------|------------------------|--|-----------------|---|
| | Select Meter view file | to view avaiable objects can be read : | | |
| | Meter 1 | ~ | 🖽 Load 🖀 Delete | |
| | Meters View | | | B |
| | Version | ShortName | LogicalName | Description |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Â | | | | |
| <u>[.11]</u> | | | | |
| × | | | | |
| 0 | | | | ©2014-2021 Power Meter Monitor. All rights reserved |

4.4 DLMS Monitoring

- Select the energy meter from meters drop list which displays all the connected meters
- Select the Modbus Type (DINT or FLOAT)
- RT Value displays the reading value obtained from the energy meter
- Update Time displays the time at which the reading from the energy meter was obtained
- The user can write DLMS description for the DLMS address for easy tracking
- Click on "Refresh" to get updated RT values. By default, every three seconds the page will be updated based on the RT values
- Click on the "pen" to modify the Modbus Type, DLMS Address and DLMS Description

| eters: | | | | | | |
|----------------|-------------|-----------------|----------|-----------------|--------------------------------------|-----------------------------------|
| Meter 1 | | ~ 2 | | | | Last Update: 2021-09-11 09-35-22 |
| Connections Mo | onitor | | | | | -5 19 + |
| Modbus Address | Modbus Type | DLMS Address | RT Value | Update Time | DLMS Description | Edit |
| 40000 | DINT 🗸 | 1.1.1.1 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40002 | DINT 🗸 | 1.1.0.9.2.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40004 | DINT 🗸 | 1.1.0.0.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40006 | FLOAT 🗸 | 1.1.1.1.0.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40008 | FLOAT 🗸 | 1.1.1.8.0.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40010 | FLOAT 🗸 | 1.1.1.8.0* | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40012 | FLOAT 🗸 | 1.1.1.8.1.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40014 | FLOAT 🗸 | 1.4.131.7.0.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40016 | FLOAT 🗸 | 1.1.1.8.2.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40018 | FLOAT 🗸 | 1.4.151.7.0.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 | ľ |
| 40020 | FLOAT 🗸 | 1.1.1.8.3.255 | 0 | 2021-9-7 3:7:22 | 2021-9-5 13:29:1 ©2014-2021 Power Me | eter Monitor. All rights reserved |

For easy meter connection monitoring from Modbus devices:

- Add new register
- Select Modbus Type (DINT or FLOAT)



- Choose free the Modbus address for the meter that needs to be monitored
- At the DLM address write "0.0.0.0.0.0*"

On your Modbus device the meter status will be shown as following:

| Meter status | Description |
|--------------|----------------------|
| 0 | Error |
| 1 | Unknown Manufacturer |
| 2 | Updating View |
| 3 | Disabled |
| 9 | Idle / Waiting |
| 10 | Reading/ Health |

4.5 Overview

Overview consists of three sections:

- 1. Run Time Console: for monitoring the connection status of energy meters and shows the reading values obtained from each meter.
- 2. system Information: displays system's performance measures as it illustrates the usage percentage of CPU, RAM, Disk and CONNECTIONS.
- 3. System Summary: displays the software version, last time the system started, the status of the Signal-R server connected or disconnected, Signal-R IP Address, the status of RTU/TCP Modbus Slaves, TCP connected client's number, number of tags, the status of Web API, number of Web API calls, Web API address and system total errors.

Note: click on the "Refresh" icon at the System Summary to reboot the device, the reboot process takes up to two minutes.

| RunTime Console | | | • • • | System Summary |
|-----------------------|-----------------|-------|-------------|---|
| Connected. | | | | Software Version: 1.0.0.0 Last Time Started: 9/13/2021 2:29:13 AM Servers Status |
| | | | | Signal-R Server: Connected Signal-R Address: http://127.0.0.1:5050 RTU Modbus Slave: Stopped TCP Modbus Slave: Running TCP Connected Clients: 0 Number of Connections: 10 Number of Tags: 1200 Web API |
| - System Informations | | | | Web API Status: Connected Web API Calls: 37 Web API Address: http://127.0.0.1:5005 |
| CPU | RAM | DISK | CONNECTIONS | System Alarms & Events System Total Errors: 1 Ack |
| 22.0% | 20.4% 2.9 GB | 88 GB | 0 GB | ©2014-2021 Power Meter Monitor. All rights rese |

