m2mLOGGER®
remote monitoring eco-system

User Manual

LogPRO PLUS

IoT Edge Gateway & Data-Logger

Revision List

Document #	Issue	Rev	Issue Date	Prepared By	Approved By
UM200001	A	00	Oct 2020	MR	PROP

Preface

The data and illustrations found in this document are not binding. We reserve the right to modify our products in line with our policy of continuous product development. The information in this document is subject to change without notice and should not be considered a commitment by M2MLogger. M2MLogger assumes no responsibility for any errors that may appear in this document.

The document uses following pictures to get the reader's attention:

Symbol	Description
	Note! Important information to avoid configuration that can cause problems and therefore should be read carefully.

Contents

1 Warranty

M2MLogger warrants that, for a period of 365 days from date of shipment of product, the product shall be free from defects under normal use. Under this warranty it is obligation of M2MLogger to replace any device found defective (within the warranty period) and has been returned to M2MLogger by buyer at buyer's expense. All shipping and insurance costs both ways are the responsibility of buyer. The warranties do not include damage due to negligence, improper installation or operation, accident, tampering with warranty seal or other conditions other than normal use which might cause the Products to fail.

THE WARRANTIES AND THE REMEDIES SET FORTH IN THIS SECTION ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, ORAL OR WRITTEN, EXPRESS OR IMPLIED, EXCEPT AS SET FORTH IN THIS SECTION. M2MLOGGER MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, REGARDING ANY OF THE PRODUCTS, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PRODUCT IS WITH BUYER. IN NO EVENT WILL M2MLOGGER BE LIABLE TO BUYER OR ANY OTHER PERSON OR ORGANIZATION FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS OR INCIDENTAL OR CONSEQUENTIAL DAMAGES, ARISING OUT OF THE USE OR INABILITY TO USE ANY OF THE PRODUCTS, EVEN IF M2MLOGGER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY.

2 Support

To obtain fast and simple support for your LogPRO PLUS, please use our website **http://www.m2mlogger.com**. Here you will find the latest documentation, configuration utilities, drivers etc. You can also contact our support at **support@m2mlogger.com**.

3 Terminology

Term	Extract	Description
TCP/IP	Transmission Control Protocol/Internet Protocol	TCP (Transmission Control Protocol) is a set of rules used along with the Internet Protocol (IP) to send data in the form of message units between computers over the Internet.
HTTP	Hyper Text Transfer Protocol	HTTP is a set of rules for exchanging files (text, graphic images, sound, video and other multimedia files) on the Web.
DHCP	Dynamic Host Configuration Protocol	DHCP is a standard protocol that automates the process of configuring network hosts by allowing hosts to obtain IP addresses and configuration parameters.
ICMP	Internet Control Message Protocol	ICMP is used by network devices, like routers, to send error messages indicating, or to relay query messages.
Gateway		A device that makes it possible to transfer data between networks of different kind, e.g. MODBUS and Internet
Device		A MODBUS slave unit that is connected to LogPRO PLUS
Tag		MODBUS register configured in LogPRO PLUS.

4 Quick Setup Instructions

- Make field connections to device. (See Section 5.5)
- Discover the device using AutoDiscovery utility. (See Section 6.1)
- Log on to Web UI. (See Section 7.2)
- Go to **`Control Panel > IO Mapping`** screen and Configure and Save **`Tags`** and **`Alerts`**. (See Section 8.3)
- Go to **`Control Panel > Settings > System`** Settings

4.1 As Cloud (EnviroFRONT) Data-logger

- Configure and Save **`Mode`** Setting. (See Section 8.2.2.1)
  - Cloud Connector: **`On`**
  - Gateway Mode: **`Send`**
  - Loop: **`Continuous`**
  - Loop Interval: **`10 sec`**
  - Workflow: **`Disabled`**.
  - Trace: **`Disabled.`**
- Configure and Save **`Server`** Settings. (See Section 8.2.2.1)
- Power Off and Power On the device.

4.2 As FTP Data-Logger

- Configure and Save **`Mode`** Setting. (See Section 8.2.2.1)
  - Cloud Connector: **`Off`**
  - Gateway Mode: **`Log`**
  - Loop: **`Continuous`**
  - Loop Interval: **`10 sec`**
  - Workflow: **`Enabled`**.
  - Trace: **`Disabled.`**
- Configure and Save **`Logger`** Settings. (See Section 8.2.2.10)
- Go to **`Control Panel > Workflow`**. (See Section 8.4)
  - Add **`Move File`** Task.
    - Trigger: **`Any`**
    - Source Folder: **`Data`**
    - Source Filename: **`tag[*].csv`**
    - Destination Folder: **`Workflow`**
  - Add **`FTP`** Task.
    - Type: **`FTP`**
    - Trigger: **`Any`**
    - FTP Server: **`host name/IP`**
    - Port: **`21`**

        - Username: **XXXX**
        - Password: **xxxxx**
        - Command: **CWD "default folder\sub folder", STOR "tag[*].csv"**
        - Save: **OK**
    - Add **Delete File** Task.
        - Trigger: **Any**
        - Folder: **Workflow**
        - Filename: **tag[*].csv.ftp**
- Save Workflow
- Power Off and Power On the device.

4.3 As USB Data-Logger

- Configure and Save **Mode** Setting. (See Section 8.2.2.1)
    - Cloud Connector: **Off**
    - Gateway Mode: **Log**
    - Loop: **Continuous**
    - Loop Interval: **10 sec**
    - Workflow: **Enabled**.
- Configure and Save **Logger** Settings. (See Section 8.2.2.10)
- Go to **Control Panel > Workflow**. (See Section 8.4)
    - Add **Move File** Task.
        - Trigger: **Any**
        - Source Folder: **Data**
        - Source Filename: **tag[*].csv**
        - Destination Folder: **Workflow**
    - Add **Move File** Task.
        - Trigger: **Any**
        - Source Folder: **Workflow**
        - Source Filename: **tag[*].csv**
        - Destination Folder: **USB**
- Save Workflow
- Power Off and Power On the device.

4.4 As Local Web based Data-Logger

- Configure and Save **Mode** Setting. (See Section 8.2.2.1)
    - Cloud Connector: **Off**
    - Gateway Mode: **Log**
    - Loop: **Continuous**

  - Loop Interval: **`10 sec`**
  - Workflow: **`Enabled`**.
  - Trace: **`Disabled.`**
- Configure and Save **`Logger`** Settings. (See Section 8.2.2.9)
- Go to **`Control Panel > Monitor Settings`** and create a Monitor screen. (See Section **Error! Reference source not found.**)
- Go to **`Control Panel > Trend Settings`** and create a Trend screen. (See Section **Error! Reference source not found.**)
- Power Off and Power On the device.
- Go to **`Control Panel > Monitors`** or **`Control Panel > Trends`** to view real-time data visualization.

5 About LogPRO PLUS

LogPRO PLUS devices are advanced Industrial Cloud gateways that can extend any Industrial network to Cloud. They enhance your capability monitor, analyze and control the performance of your process remotely, from any place in world.

5.1 Features

- Remote monitoring & Control.
- Cloud Connectivity.
- MODBUS RTU RS-485/TCP enabled.
- 4-20mA Analog Inputs
- Industrial grade
- USB & FTP data recording.
- Easy configuration with WebUI.
- Compact DIN rail mounting.
- Fail-safe for power failures.
- Over-The-Air (OTA) upgrades.

LogPRO PLUS supports MODBUS RS-485 through screw terminals, USB pen drive through USB type A connector, 10/100 Mbps Ethernet through a standard Ethernet connector (RJ-45) and GSM/GPRS.

It can be configured via a user-friendly Web interface (WebUI).

5.2 Mounting on DIN rail

Snap On

Snap Off

5.3 Technical Specification

Communication	
Interface	2 Wire + Shielding, EIA RS485
Protocol	MODBUS – RTU
Available Ports	1 x RS485 Multi-drop Serial Communication 1 x MODBUS Ethernet/IP

Baud Rate	9600, 19200, 38400, 57600, 115200

Status Indication	
LEDs	Power, Run, Internet, Cloud, Modem, 4G, GPRS, Error, MODBUS TX, MODBUS RX

Models	***env5.4C***	***env6.4C***
Processor	400 MHz	400 MHz
Ethernet	10/100Mbits	10/100Mbits
USB Host	1 (USB 2.0)	1 (USB 2.0)
Real Time Clock	✓	✓
SNTP	✓	✓
Email (SMTP)	✓	✓
FTP	✓	✓
WebUI	✓	✓
GSM/GPRS	-	✓
Storage	256MB (Industrial microSD)	256MB (Industrial microSD)
Analog Channels (4-20mA)	4 Channels	8 Channels

Power	***env5.4C***	***env6.4C***
Voltage	24VDC ±10%	24VDC ±10%
Current	~2.5A (peak)	~2.5 A (peak)

Environmental	
Operating Temperature	0 to 55 °C
Storage Temperature	-10 to 70 °C
Humidity	30 to 95% RH non-condensing

Physical	
Dimensions	35(W) x 101(H) x 120(D) mm
Mounting	DIN Rail
Weight	250 gms approx.
Enclosure Material	Molded ABS

5.4 Mechanical

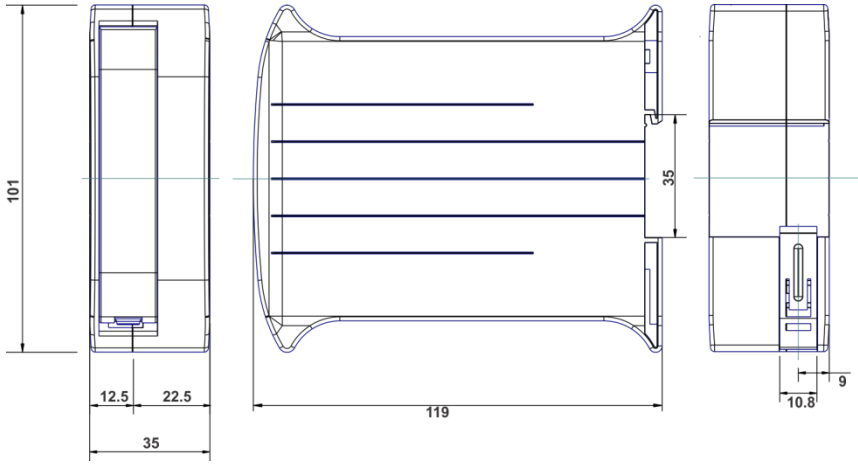


Figure 1 Physical Dimensions (mm)

5.5 Field Connections

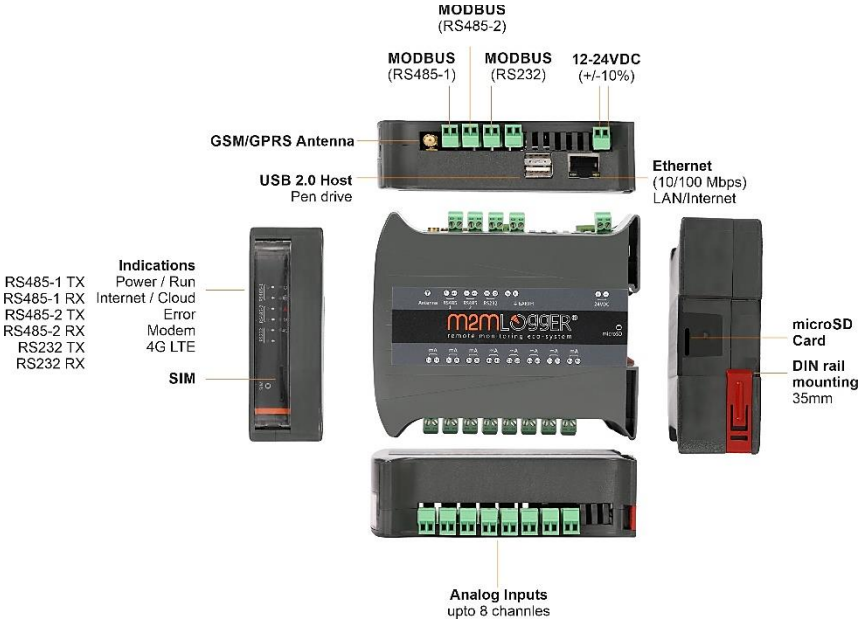


Figure 2 Field Connections

5.5.1 MODBUS RS-485

Pin	Function
A	RS-485 Line A
B	RS-485 Line B
G	RS-458 Shielded Ground

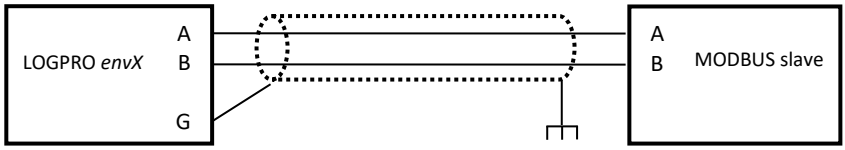


Figure 3 Normal wiring diagram for MODBUS terminal A, B and G

5.5.2 Power 24VDC

Pin	Function
+	+ 24 VDC

-	Ground

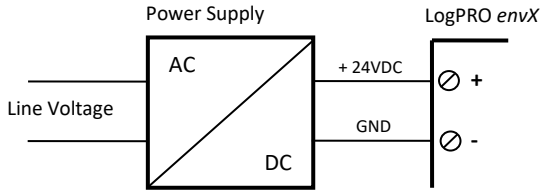
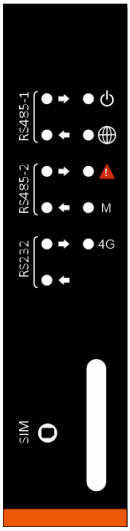


Figure 4 How to connect AC power

5.5.3 LED Indication



Name	Color	Function
Power	Off	No Power
	Orange	Power
	Flashing Orange	Data-Logger running
Internet	Off	No Internet
	Orange	Internet Connected
	Flashing Orange	Cloud Connected
Error	Off	No Error
	Red	Unrecoverable Error
	Flashing Red	Error
Modem Status	Off	Modem OFF
	Flashing Orange (Slow)	GSM Registered
	Flashing Orange (Fast)	GPRS Registered
	Orange	Internet Connected
4G LTE	Off	No Network
	Orange	4G LTE Network
RS485-1 Transmission	Off	No Transmission
	Flashing Orange	RS485-1 Transmitting
RS485-1 Reception	Off	No Reception
	Flashing Orange	RS485-1 Receiving
RS485-2 Transmission	Off	No Reception
	Flashing Orange	RS485-2 Transmitting
RS485-2 Reception	Off	No Reception
	Flashing Orange	RS485-2 Receiving
RS232 Transmission	Off	No Reception
	Flashing Orange	RS232 Transmitting
RS232 Reception	Off	No Reception
	Flashing Orange	RS232 Receiving

6 Getting Started

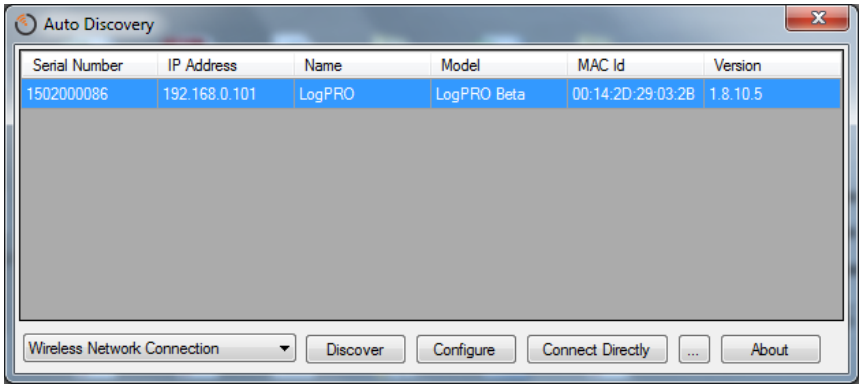
6.1 Auto Discovery utility

The Auto Discovery is a PC-based configuration utility to scan the Ethernet network for connected LogPRO PLUS devices so that further configurations can be made to selected device.

6.1.1 Installation

Download and run **`AutoDiscovery.exe`** utility from:

`http://m2mlogger.com/support/downloads`



6.1.2 Scanning devices connected over network

If your LogPRO PLUS device(s) are connected over a network, then you should consider following steps:

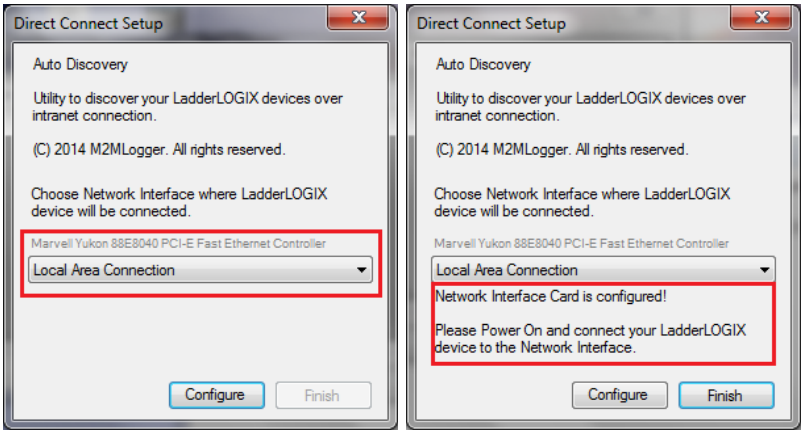
1. Power up LogPRO PLUS device and connect LogPRO PLUS with network.
2. Start **`AutoDiscovery.exe`** utility.
3. Select the relevant Network Adapter and select **`Discover`**.
4. To configuration a LogPRO PLUS device click the **`Configure`** button to open up Web UI for the device in Web Browser.

6.1.3 Scanning devices connected directly

If your device is directly connected to Laptop via straight/cross Ethernet cable, then you should consider following steps:

1. Power up LogPRO PLUS device. Do NOT connect Ethernet cable to laptop yet.

2. Start **AutoDiscovery.exe** utility.
3. Click **Connect Directly**.
4. On **Direct Connect Setup** dialogue, select the Network Adapter you will be connecting the LogPRO PLUS and click **Configure**.



5. Click **Finish** upon successful configuration.
6. Now connect LogPRO PLUS with Laptop, make sure data-logger is running.
7. Select the relevant Network Adapter and select **Discover**.
8. To configuration a LogPRO PLUS device click the **Configure** button to open up Web UI for the device in Web Browser.

It your device is connected on LAN and you are having trouble discovering device using **AutoDiscovery.exe**, try disabling your Antivirus and/or Firewall.

AutoDiscovery.exe runs on Dot Net Framework 3.5. Please download and install Dot Net Framework 3.5 from **http://www.microsoft.com**.

7 Web UI overview

7.1 Browser Requirement

The web-pages are optimized for Internet Explorer version 9 or later and Google Chrome. Other browsers can work as well, but the web pages might appear differently and some functionality can be limited. The browser must be HTML 5 (with Canvas support) enabled, to use pages like the Monitors and Trends. If it is not, please upgrade to a HTML 5 enabled browser (visit: **`http://www.html5test.com`**).

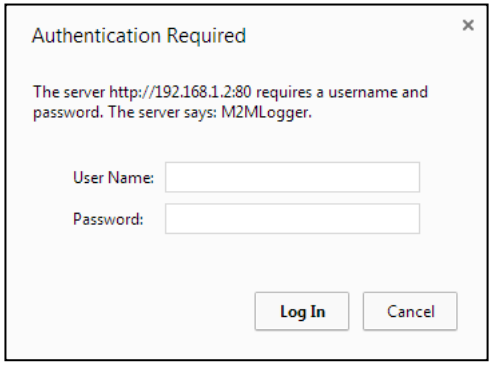
7.2 Log in

Open a web browser and enter the IP address of your device (if you know) or click on **`Configure`** button in Auto Discovery to launch Web Browser with appropriate IP address of device.

For example, if IP Address of device is **`192.168.1.2`** then you should enter the text below in the address field of the browser and press enter.

`http://192.168.1.2`

Now you should see the login screen:

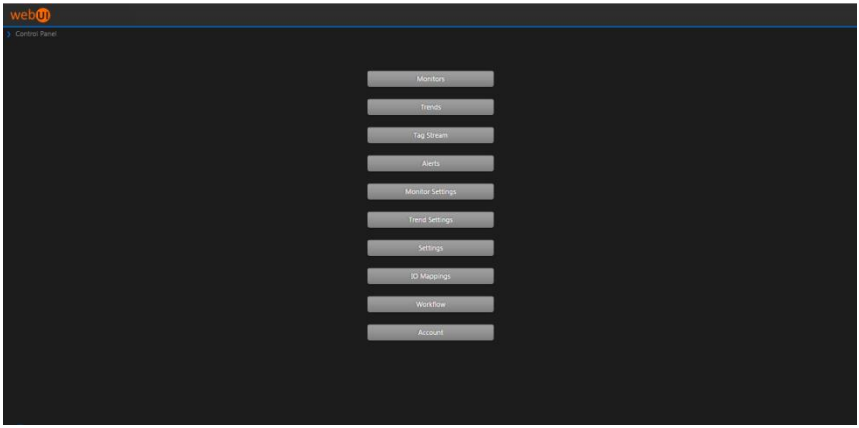


Username: **`admin`**
Default Password: **`password`**

8 User interface

8.1 Control Panel

Control Panel is the default landing screen for the device. Here you can navigate to different screens for configuration.



8.2 Device Settings

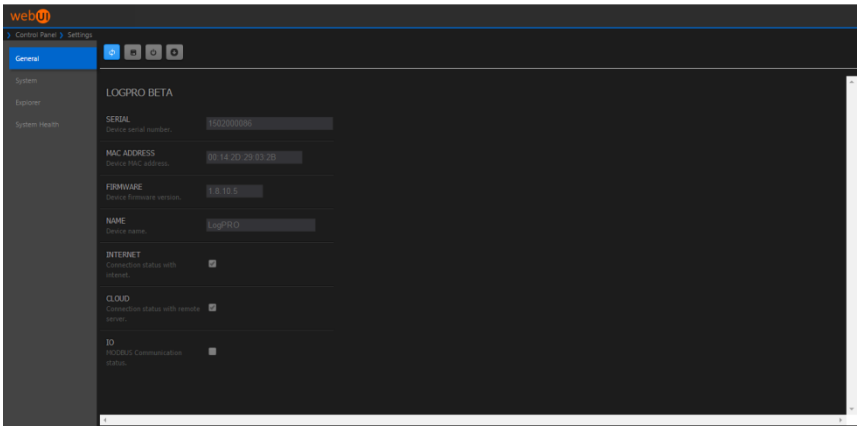
At device settings screens you can make configuration changes to device.

8.2.1 General

This tab shows the general settings for device.

8.2.1.1 Options

Option	Description
Serial	Device Serial Number.
MAC Address	Unique Device MAC address.
Firmware	Device Firmware version.
Name	Device Name; also reflected on network.
Internet	Internet connection status.
Cloud	EnviroFRONT connection status.
IO	MODBUS communication status.

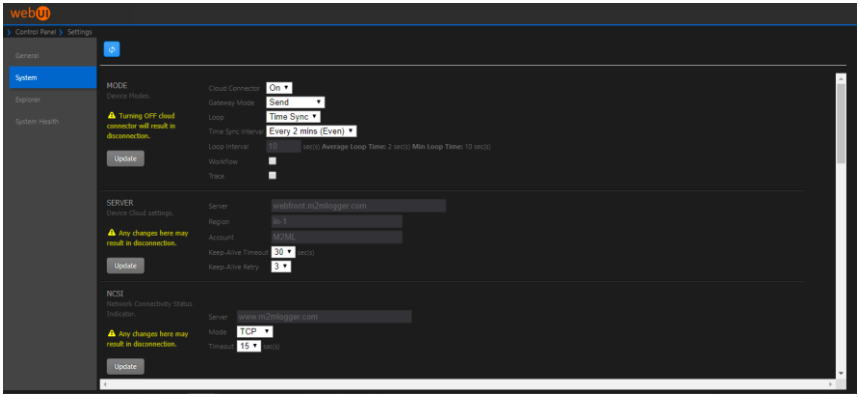


8.2.1.2 Toolbar

Button	Description
	Refresh General Settings.
	Save changes to Device Name.
	Restart device.
	Upgrade device firmware

8.2.2 System

This tab shows the system settings.



8.2.2.1 Mode

This setting lets the user configure mode for the device.

Option	Description
Cloud Connector	Switched On/Off the Cloud connector [Default **On**].
Gateway mode	Sets the gateway mode: **Send** – send values to Cloud **Log** – log values on local storage **Send & Log** – send values to Cloud and also log on local storage. [Default **Send**]
Loop	Sets the loop mode for device. **Continuous** – loops continuously. **Triggered** – one iteration; when triggered. [Default **Continuous**]
Loop Interval	Sets device loop interval. [Default **5 sec**] When the device is running, Average Loop is displayed to give an approximation of actual execution time.
Workflow	Enable/Disable Workflow.
Trace	Enable/Disable Log.

It is advisable to always leave the device connected with Cloud. This will enable you to manage and configure the device online, without going to the field.

8.2.2.2 Server

This setting lets the user configure Cloud server for the device.

Option	**Description**
Server	EnviroFRONT Cloud server location. [Default **webfront.m2mlogger.com**].
Region	EnviroFRONT Cloud server regions. For improved performance select a region that represents best proximity to your device. [Default **in-1**]
Account	EnviroFRONT account name.
Keep-Alive Timeout	Duration to wait for EnviroFRONT keep-alive message. [Default **30 sec**]
Keep-Alive Retry	Number of keep-alive retries to detect a closed EnviroFRONT connection. [Default **3 sec**].

8.2.2.3 NCSI

This setting is used by Data Logger detect Internet Connection.

Option	**Description**
Server	Network Probe Server
Mode	Network Probe Method **ICMP/TCP** [Default **TCP**]
Timeout	Network Probe Timeout. [Default **15 sec**]

8.2.2.4 Clock

This setting lets user set the device calendar and clock.

Option	**Description**
Timezone	Device time zone. [Default **Coordinate Universal Time**].
Date	Current Date.
Month	Current Month.
Year	Current Year.
Hour	Current Hour in 24-hour format.

Minutes	Current Minutes.
Seconds	Current Seconds.

8.2.2.4.1 Toolbar

Button	Description
	Manually Sync clock with NTP server.

8.2.2.5 Ethernet

This is device Ethernet settings.

Option	Description
DHCP enabled	Ethernet Dynamic Host Configuration Protocol is enabled.
IP Address	Ethernet IP Address
Subnet Mask	Ethernet Subnet Mask.
Default Gateway	Ethernet default gateway
DNS	Domain Name Server
Alternate DNS	Alternate Domain Name Server

It is preferred to use Dynamic IP Address with LogPRO devices.

8.2.2.6 Modem

This setting lets user set modem options.

Option	Description
Modem Mode	Set Modem Modes: **None** **Message** **Data** [Default **None**].
Baudrate	Baudrate settings in bps: **9600** **19200** **38400** **57600** **115200** [Default **115200**]
Start bits	Frame start bit: **1** [Default **1**]

Data bits	Frame data bits: **5** **6** **7** **8** [Default **8**]
Stop Bits	Frame stop bits: **1** **1.5** **2** [Default **1 stop bit**]
Handshake	**None** **Software** **Hardware** **Both** [Default **Hardware**]
Parity	**None** **Even** **Odd** [Default **None**]
Timeout	Connection timeout.
User name	User name assigned by ISP.
Password	Password assigned by ISP.
Country Code	Country code to dial to the ISP.
Area Code	Area Code to dial to ISP.
Phone number	Phone number to dial to the ISP.
APN	Access Point Name, GPRS gateway that is given by SIM card operator.

8.2.2.7 SMTP

This setting lets user configure the SMTP settings to use while sending out email.

Option	**Description**
Account	Account name for the SMTP server.
Username	User name for the SMTP server.
Password	Password for the SMTP server.
Server	SMTP Server that is used for sending e-mail. Could be entered as IP address or domain name.
Port	SMTP server port.
SSL	SMTP server SSL settings: **None** **SSL** **TLS/STARTTLS** [Default **None**]

8.2.2.8 MODBUS

This sub menu item lets the user configure the MODBUS RS-485 communication interface. Make sure that the wiring is correct.

Option	**Description**
UART Mode	Set MODBUS transmission mode: RTU. [Default **RTU**].
Baudrate	Baudrate settings in bps: **9600** **19200** **38400** **57600** **115200** [Default **9600**]
Start bits	Frame start bit: **1** [Default **1**]
Data bits	Frame data bits: **5** **6** **7** **8** [Default **8**]
Stop Bits	Frame stop bits: **1** **1.5** **2** [Default **1 stop bit**]
Handshake	**None** **Software** **Hardware** **Both** [Default **Hardware**]
Parity	**None** **Even** **Odd** [Default **None**]
Timeout	The time that device will wait for a response from a slave before serial timeout will occur. [Default **1000**]
Retry	Number of retry if an error occurs while querying data from MODBUS slave. [Default **3**]

8.2.2.9 Auto Restart

This setting lets user configure Auto-Restart setting for the device.

Options	**Description**
Frequency	Time Interval to restart the Device. **Never** **Every 1 hour** **Every 6 hours** **Every 12 hours** **Every 24 hours** [Default **Every 1 hours**]

8.2.2.10 Logger

This setting lets user configure the device Tag logger.

This setting is only used if Gateway mode is Log or Send & Log (see Section 8.2.2.1)

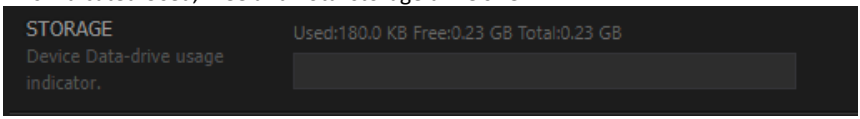
Option	**Description**
Mode	Set Tag Logger mode: **Continuous** **On Change** [Default **Continuous**].
Column Separator	Column Separator to be used by logger: **Comma (,)** **Pipe (|)** [Default **Comma(,)**]
Row Separator	Row Separator to be used by logger: **Line Feed** **Carriage Return & Line Feed** [Default **Line Feed**]
Rollover time	Rollover time for the logger when it rolls over the current file and starts writing to a new file. [Default **5 mins**]
Encoding	Logger text encoding. [Default **ASCII**]

Logger always writes the file to **Data** directory.
Logger filename format: **tag[ddMMyyyyHHmmss].csv**

△	**tag.csv** is the active file on which Logger is writing. Any operation on **tag.csv** may result in device malfunction

8.2.2.11 Storage

This indicated Used, Free and Total storage drive size.

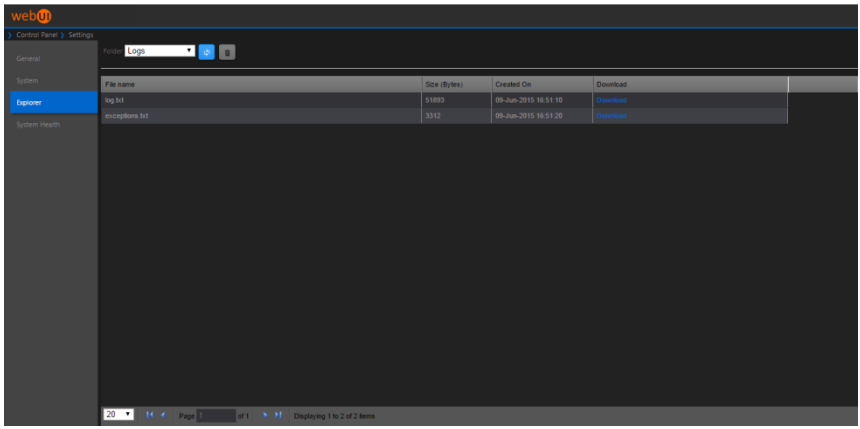


8.2.2.12 Admin

Button	Description
Backup Configs	Use this option for production replication of Configuration settings to USB pen drive.
Drop Tags	Use this option to drop Tags database.
Drop Alerts	Use this option to drop Alerts database.
Format SD Card	Use this option to format the memory card.

8.2.3 Explorer

This tab lists down the files being logged on data logger. User can download or delete the data files from this screen.



8.2.3.1 Data

This selection lists down the files under **`Data`** folder.

8.2.3.2 Logs

This selection lists down the files under **`Logs`** folder.

8.2.3.3 Workflow

This selection lists down the files under **`Workflow`** folder.

8.2.3.4 Custom Task

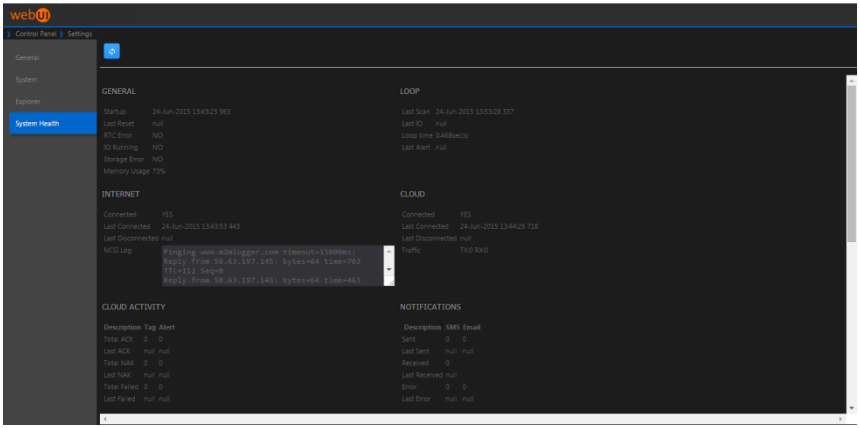
This selection lists down the available **`Custom Tasks`**.

8.2.3.5 Toolbar

Button	Description
Folder	Folder to explore.
	Refresh Data files.
	Delete a data file

8.2.4 System Health

This tab gives you the diagnostic report of the device.



8.2.4.1 General

Title	Description
Start up	Shows the Startup time of device.

Last reset	Show the Last Reset time of device.
RTC Error	Shows whether Real Time Clock is in error state or not.
IO Running	Shows whether MODBUS IOs are in running state.
Storage Error	Shows whether Storage Card cab ne detected or not.
Memory Usage	Shows the percentage RAM usage.

8.2.4.2 Loop

Title	**Description**
Last Scan	Shows the last Scan time of the Loop.
Last IO	Shows the last Scan time of the Tags.
Loop Time	Shows the actual Loop duration (averaged over 5 iterations).
Last Alert	Shows the time when the last Alert was raised.

8.2.4.3 Internet

Title	**Description**
Connected	Shows the connectivity status of Internet.
Last Connected	Shows the last Internet connection time.
Last disconnected	Shows the last Internet disconnection time.
NCSI Log	Shows the NCIS log, used to identify Network Connection Status of device.

8.2.4.4 Cloud

Title	**Description**
Connected	Shows the connectivity status of Cloud.
Last Connected	Shows the last Cloud connection time.
Last Disconnected	Shows the last Cloud disconnection time.
Traffic	Shows the Transmitted and Received packet traffic.

8.2.4.5 Cloud Activity

Title	**Description**
Total ACK	Shows number of packets that got Acknowledged on Cloud.
Last ACK	Shows the time of last Acknowledgement received.
Total NAK	Shows that number of packets that did not get Acknowledged on Cloud.
Last NAK	Shows the time of last Not Acknowledgement received.
Total Failed	Shows the number that failed during transmission to Cloud.
Last Failed	Shows the time of last Failed packet.

8.2.4.6 Notifications

Title	**Description**
Sent	Shows the number of SMS/Email Alerts sent.

Last sent	Shows the time of last SMS/Email Alert sent.
Received	Shows the number of SMS/Email received.
Last Received	Shows the time of last SMS/Email received.
Error	Shows the number of errors while sending SMS/Email Alert.
Last Error	Shows the time of last error while sending SMS/Email Alert.

8.2.4.7 Modem

Title	**Description**
Connected	Shows whether GPRS modem is connected to device.
Manufacturer	Shows the Manufacturer of the modem.
Model	Shows the Model name of the modem.
IMEI	Shows the International Equipment Identity of the Modem.
GSM Network Registration	Shows the GSM network registration status, i.e., whether the SIM is able to register on GSM network or not.
GPRS Network Registration	Shows the GPRS registration status, i.e., whether the SIM is able to register on GPRS network or not.
Service Provider	Shows the name of Service Provider.
Signal Strength	Shows the RSSI signal strength.

8.2.4.8 GPRS

Title	**Description**
Disconnect Count	Shows the count of disconnections.
Last Connected	Shows the time when GPRS was last connected.
Last Disconnected	Shows the time when GPRS was last disconnected.

8.2.4.9 MODBUS

Title	**Description**
Bulk Read	Shows the number of bulk message read.
Last Bulk read	Shows the time of last bulk message read.
Read	Shows the number of messages read.
Last Read	Shows the time of last message read.
Written	Shows the number of messages written.
Last written	Shows the time of last message written.
Time out	Shows the number of timeout errors.
Last Time out	Shows the time of last message timeout.
Error	Shows the number of errors.
Last Error	Shows the time of last error.

8.2.4.10 Records

Title	**Description**
Max	Shows the maximum number of Tags/Alerts that can be stored.

Total	Shows the number of Tags/Alerts that are stored.
Sync	Shows the number of Tags/Alerts that have been sent to Cloud.
Sync Failed	Shows the number of Tags/Alerts that failed to sync with Cloud.
Sync Error	Shows the number of errors during sync process.
Save Error	Shows the number of errors during save process.
Last Saved	Shows the time of last saved Tag/Alert.

8.2.4.11 Workflow

Title	**Description**
Status	Shows whether the Workflow is executing or not.
Execution Time	Shows the current execution time of Workflow.
Last Execution Time	Shows the time when Workflow was last executed.

8.2.4.12 Storage

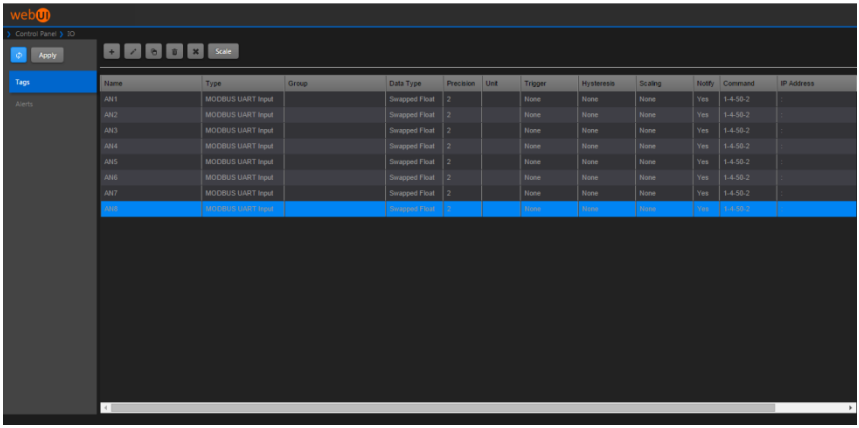
Title	**Description**
Used	Shows the total storage memory used.
Free	Shows the total storage memory free.
Total	Shows the total storage memory.

8.3 IO Mappings

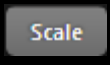
At IO Mappings screen you define Tags (MODBUS queries) and Alerts.

8.3.1 Tags

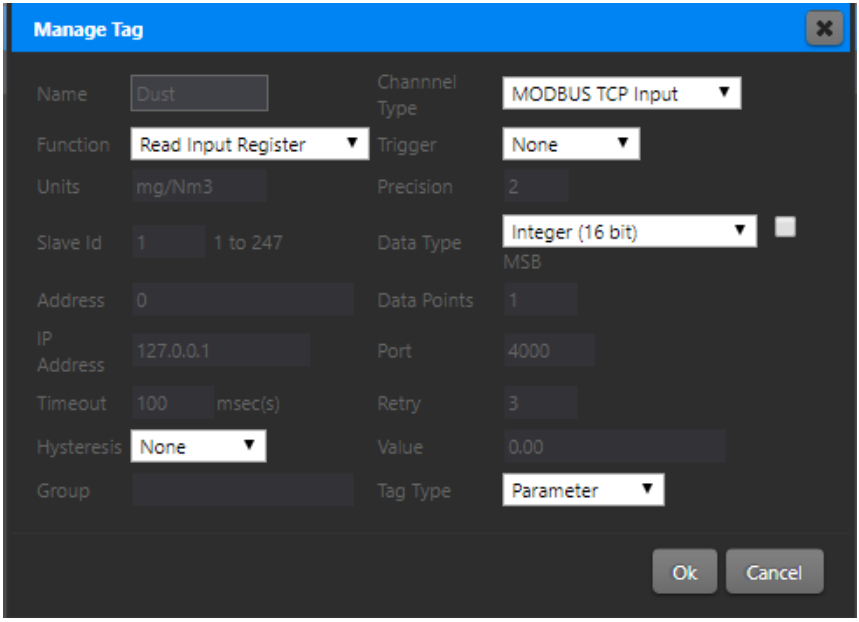
You can configure MODBUS queries as Tags.



8.3.1.1 Toolbar

Button	Description
	Add a Tag.
	Edit a Tag.
	Clone a Tag
	Delete Tag(s).
	Delete a Tag Group – delete all the Tags within the same Group.
	Add/Edit Scaling for Tag.

8.3.1.2 Defining Tag



Option	**Description**
Name	Tag Name
Channel Type	Channel Type: **MODBUS UART Input** **MODBUS UART Output** **MODBUS TCP Input** **MODBUS TCP Output** [Default **MODBUS UART Input**]
Function	MODBUS Functions: **Read Coils** **Read Discrete Inputs** **Read Holding Registers** **Read Input Registers** [Default **Read Input Register**]
Trigger	Trigger for Tag to get recorded: **None** **On Change** [Default **None**]
Units	Tag units
Precision	Tag precision digits [**0** to **6**]
Slave Id	MODBUS Slave Id of slave device [**1** to **247**]

Data Type	Data Type of Tag: **Bit** **Integer (16 bit)** **Integer (32 bit)** **Integer (64 bit)** **Float** **Swap Float** [Default **Integer (16 bit)**] **Swap Float** uses word swap floating notation.
Address	MODBUS Address of registers to read/write [**0** to **65536**]
Data Points	Data points to read/write (read-only)
IP Address	MODBUS slave IP Address. Applicable to MODBUS TCP Input and MODBUS TCP Outputs
Port	MODBUS slave Port. Applicable to MODBUS TCP Input and MODBUS TCP Outputs
Timeout	Time for which device will wait for MODBUS slave to reply. [Default **100 ms**]
Retry	Number of retries after which MODBUS query errors out.
Hysteresis	Hysteresis for Tag values. Tag value only gets recorded if Hysteresis is satisfied. **None** **Absolute** **Percentage** [Default **None**] △ Valid for Trigger is **On Change**
Value	Hysteresis Value to use for computing Tag Hysteresis. △ Valid for Trigger is **On Change**
Group	Specify Group name to group Tags to execute MODBUS Bulk Query.
Tag Type	Tag Type:

	Parameter **Diagnostic** [Default **Parameter**]

8.3.1.3 *MODBUS Bulk Query*

LogPRO PLUS device can execute bulk query over MODBUS. Tags with Group are eligible for MODBUS Bulk Query

8.3.1.3.1 *MODBUS UART*

For MODBUS UART, Bulk Query is grouped by Tag Group, Slave Id and Function.

8.3.1.3.2 *For MODBUS TCP*

For MODBUS TCP, Bulk Query is grouped by Tag Group, IP Address, Host Port, Slave Id and Function.

8.3.1.3.3 *Timeout*

Bulk Query obtains Timeout value from **Device Settings > System > MODBUS > Timeout**. (See Section 8.2.2.8)

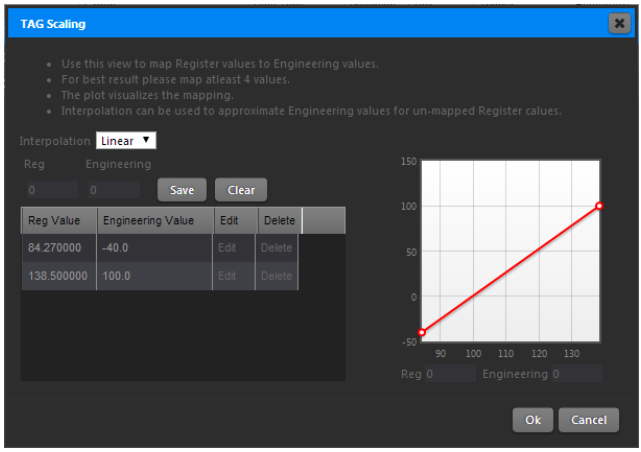
8.3.1.3.4 *Retry*

Bulk Query obtains Retry value from **Device Settings > System > MODBUS > Retry**. (See Section 8.2.2.8)

8.3.1.4 *Scale Tag*

Scaling is used to convert measured values to engineering values. LogPRO PLUS supports Linear Scaling.

Only Input Tags can be scaled.
Enter minimum 4 values for best result.

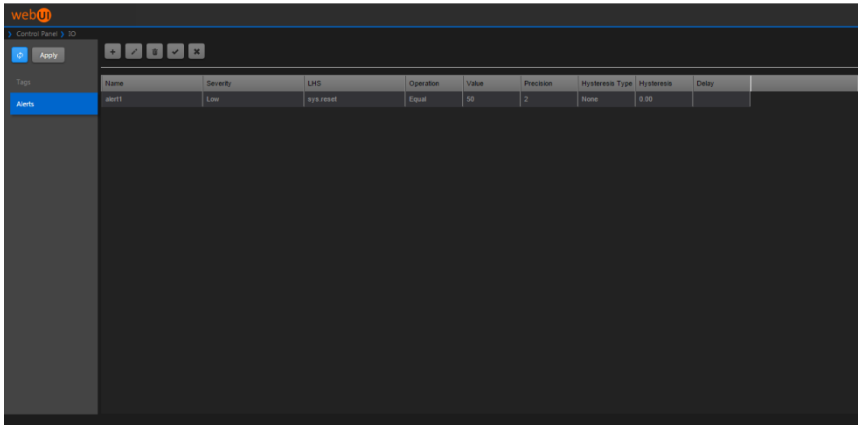


Option	Description
Reg	Register Value
Engineering	Engineering Value

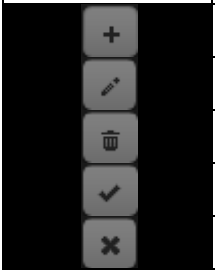
`Reg Value` has precision of 6 decimal places
`Engineering Value` has same precision as that of Tag.
A maximum of 10 data points can be entered.

8.3.2 Alerts

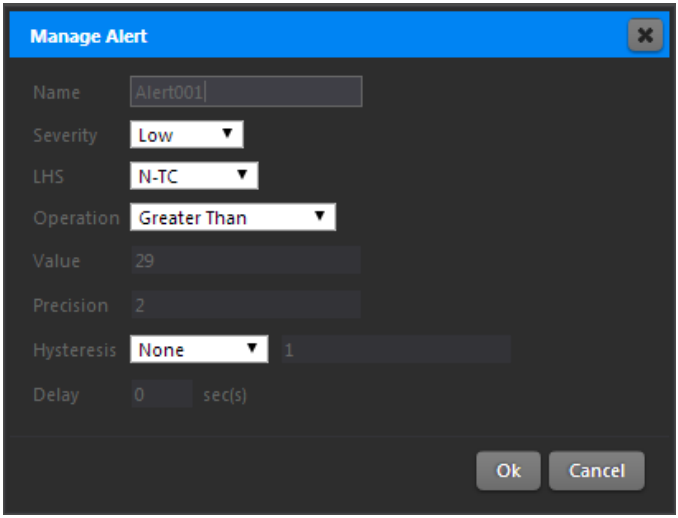
An Alert is an exception that has to be raised and notified when a Tag breaches its threshold.



8.3.2.1 Toolbar

Button	Description
	Add an Alert.
	Edit an Alert.
	Delete an Alert.
	Add/Edit Success actions.
	Add/Edit Failure actions.

8.3.2.2 Defining Alert



Option	Description
Name	Alert Name
Severity	Alert Severity: **Low** **Medium** **High** **Critical** [Default **Low**]
LHS	Left Hand Side for Alert Comparison **sys.reset** – System Reset Alert **sys.storage** – System Storage Alert **<Tags>** – Input Tags

Operation	Alert Operation **Equal** **Not Equal** **Greater Than** **Greater Than Equal** **Less Than** **Less Than Equal** **On Change** – Raises alert if underlying Tag has changed [Default **Equal**]
Value	Right Hand Side Value to compare with.
Precision	Alert precision digits
Hysteresis	Hysteresis for Alert values. Alert get raised only if Hysteresis is satisfied. **None** **Absolute** **Percentage** [Default **None**] △ Valid for **sys.reset**, **sys.storag** and **Tags**
Value	Hysteresis Value to use for computing Hysteresis. △ Valid for **sys.reset**, **sys.storag** and **Tags**
Delay Sec(s)	Delay period to wait before raising the Alert. Alert condition should hold **True** through the delay period. Otherwise Alert is reset.

8.3.2.3 Alert Actions

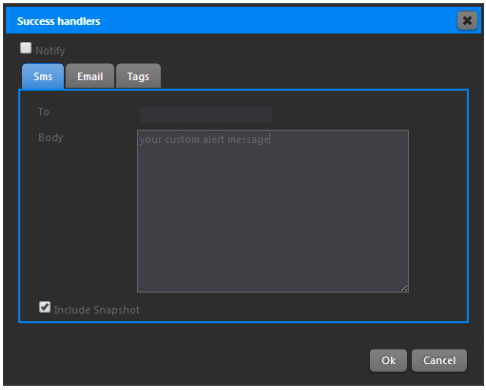
Various actions such as: Notify Server, SMS, Email, Update Tags etc. can be performed based on Success/Failure of an Alert. To configure select an Alert and click a relevant action button.

8.3.2.3.1 Notify

To send notification to EnviroFRONT server, check Notify checkbox in the Alert Action handler.

8.3.2.3.2 SMS

User can choose to send SMS notification for an Alert.

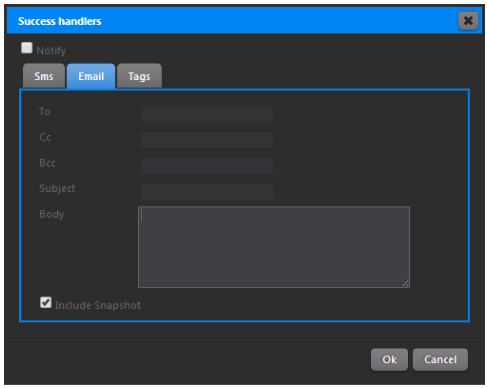


Option	Description
To	Recipients' mobile numbers separated by Semi Colon (;)
Body	Custom message to be included in SMS
Include Snapshot	Include Alert Values snapshot.

Configure Modem to Messaging mode. See Section 8.2.2.6
SMS will only be sent if a GPRS modem is detected by device.

8.3.2.3.3 Email

User can choose to send Email notification for an Alert.



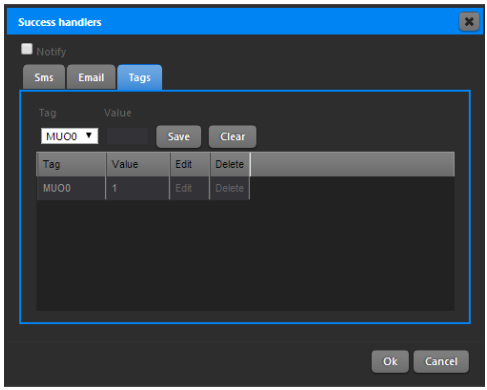
Option	Description
To	Recipients' emails separated by Semi Colon (;)
Cc	Carbon Copy Recipients' emails separated by Semi Colon (;)
Bcc	Blank Carbon Copy Recipients' emails separated by Semi Colon (;)
Subject	Custom Alert Email Subject
Body	Custom message to be included in SMS
Include Snapshot	Include Alert Values snapshot.

Internet Connection required for sending email.
Valid SMTP settings required. See Section 8.2.2.7

8.3.2.3.4 Tag

User can choose to update Output Tags as an alert action. Updates to Tag are immediately sent to MODBUS slaves.

Helpful when preventive actions have to be taken in response to an alert.

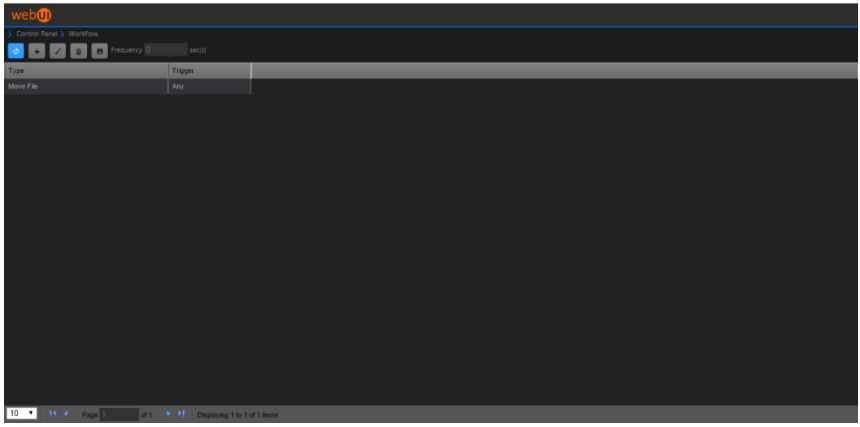


Option	Description
Tag	Select a Tag you wish to update.
Value	Provide a value to update to the Tag.

8.4 Workflow

Workflow is collection to Tasks that execute in user-defined sequential order. User can configure custom workflow from this screen.

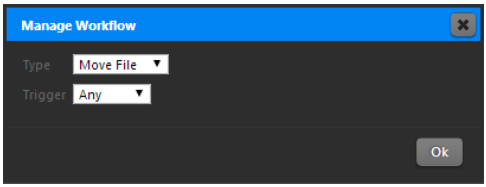
Enable Workflow from option Workflow in Section 8.2.2.1



8.4.1 Toolbar

Button	Description
	Refresh Workflow
	Add a Workflow Task.
	Edit a Workflow Task.
	Delete a Workflow Task.
	Save Workflow.
Frequency	Frequency, in seconds, to run Workflow.

8.4.2 Manage

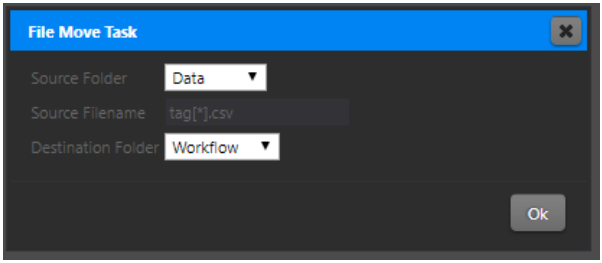


Option	Description
Type	Type of Workflow Tasks **`Move File`** **`FTP`** **`Delete File`** **`Custom`** **`Network Move`** [Default **`Move File`**]
Trigger	Trigger condition to start the task based on result of previous task result. **`Any`** – Starts a task irrespective of previous task being success/failure **`Success`** – Starts a task only if previous task was success. **`Failure`** – Starts a task only if previous task was failure. [Default **`Any`**]

8.4.3 Tasks

8.4.3.1 Move File

Move a file from source folder to a destination folder.

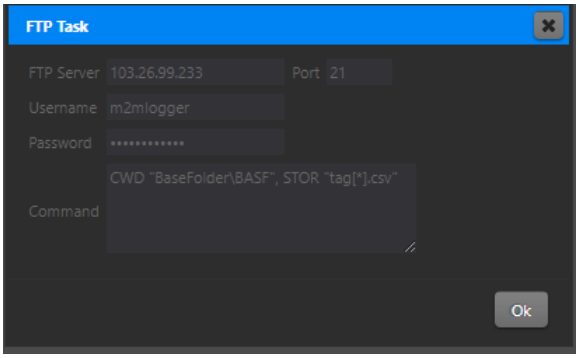


Option	Description
Source Folder	Source folder to copy file from. **`Data`** **`Workflow`** [Default **`Data`**]

Source Filename	File name of source filename. Filename can contain wildcards. See Section 9.1
Destination Folder	Source folder to copy file from. **`Workflow`** **USB** [Default **`Workflow`**]

8.4.3.2 FTP

This task transfers a file over to FTP server.



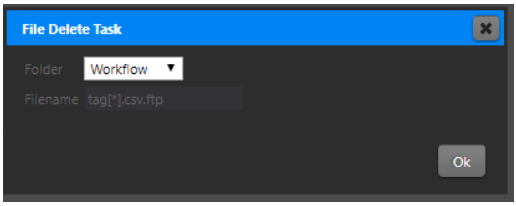
Option	Description
FTP Server	File Transfer Server name
Port	File Transfer Server Port
Username	Username for logging on to FTP server
Password	Password for logging on to FTP server.
Command	FTP command to run. See Section 9.2

Only simple FTP supported.
SSL is NOT supported.

FTP files will be picked from **`Workflow`** folder only.
After successful FTP, file is renamed to **`<original-filename>.ftp`**

8.4.3.3 Delete File

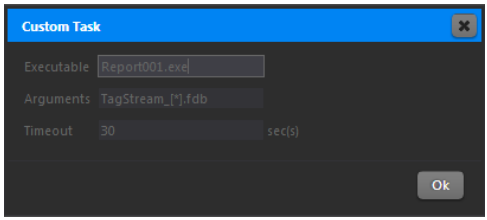
This task deletes a file from source location.



Option	Description
Folder	Source folder to copy file from. **Data** **Workflow** **USB** [Default **Data**]
Filename	File name of source filename. Filename can contain wildcards. See Section 9.1

8.4.3.4 Custom

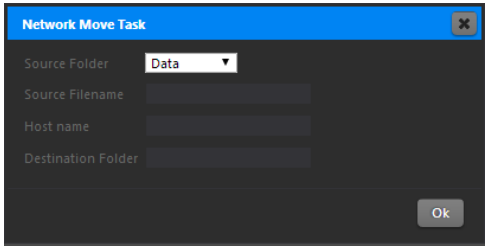
This is a custom task and should only be configured after consultation from M2MLogger.



Option	Description
Executable	Name of Custom Executable to run.
Arguments	Arguments to Custom Executable file. Filename can contain wildcards. See Section 9.1
Timeout sec(s)	Time to wait for Custom Executable to return. The Custom Executable will be terminated if does not returns within timeout duration.

8.4.3.5 Network Move

This task moves the file from source folder to a network folder.



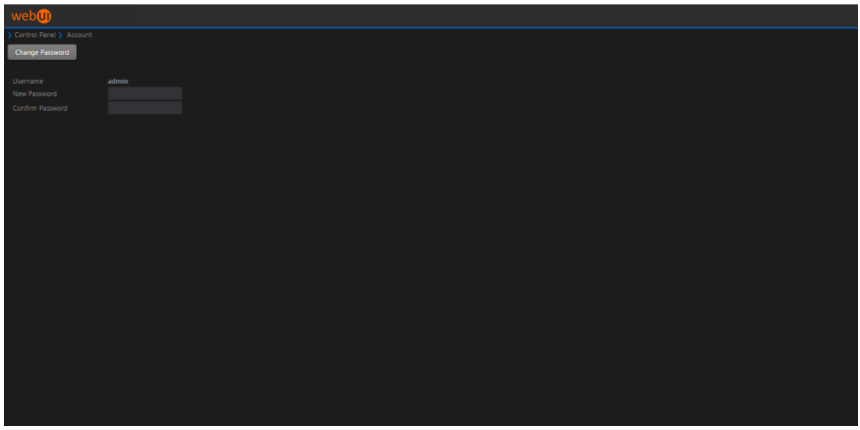
Option	Description
Source Folder	Source folder to copy file from. **Data** **Workflow** [Default **Data**]
Source Filename	File name of source filename. Filename can contain wildcards. See Section 9.1
Host name	Hostname of network computer.
Destination Folder	Shared folder on network compute where files have to be copied.

Make sure network computer is reachable by data-logger.

Shared folder should have exclusive Read/Write/Delete rights for **Everyone** on network.

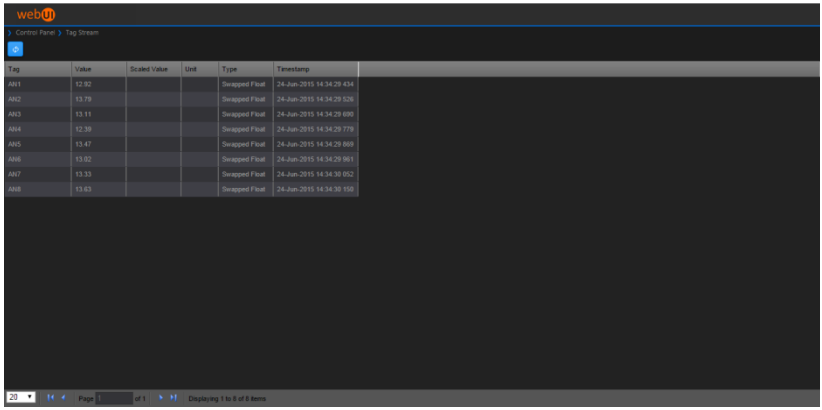
8.5 Account

You change your account password from this screen. Type **New Password** and **Confirm Password** and Click **Change Password**.


webUI
Control Panel
Account
Change Password
Username
admin
New Password
Confirm Password

8.6 Tag Stream

Tag Stream screen tabulates the latest Tag values. To refresh values, click on **Refresh** button.



8.6.1 Toolbar

Button	Description
	Refresh Tag Stream data.

8.6.2 Data Quality Codes

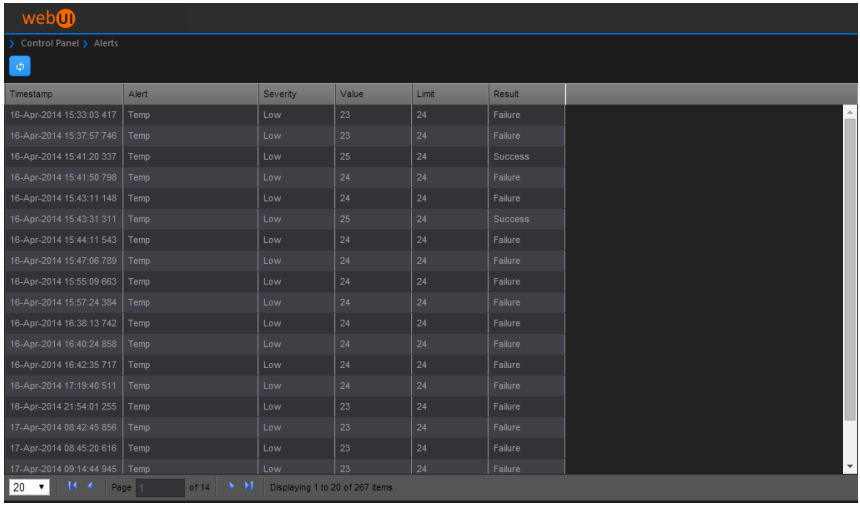
These codes indicate the quality of data as recorded by data-logger. They enable quick diagnostic of MODBUS error or IO mapping setup errors or actual Communication errors. A data quality code of **128** or **129** indicates no error.

Code	Description
0 None	None
1 UnknownError	Unknown error.
8 CommTimeoutError	MODBUS Communication Timeout error.
9 CommIOError	MODBUS Communication IO error.
10 CommFormatError	MODBUS Communication Format error.
11 CommSlaveError	MODBUS Communication Slave error.
12 CommNotImplementedError	MODBUS Function Code not implemented.
32 PvParseError	Process Value parsing error.
33 PvNoData	Process Value No Data received.
34 PvOk	Process Value Ok,
35 ScalingInvalid	Invalid Scaling Setup error.
36 ScalingInvalidCastError	Scaling cast error.

37 ScalingError	Scaling error.
38 ScalingZero	Process Value is below Scaling Zero Value.
39 ScalingSpan	Process Value is beyond Scaling Span value.
128 PvOkNoSv	Process Value OK, No Scaling setup.
129 PvOkSvOk	Process Value OK, Scaled Value OK.

8.7 Alerts

Alert screen tabulates all the Alerts raised by device.



8.7.1 Toolbar

Button	Description
	Refresh Alerts data.

9 Appendix

9.1 File name wildcards

Filename can contain wildcards:

9.1.1 [*] - Asterisk

Substitute for zero or more characters.

Example
tag[*].csv

Successful Match: **tag0123.csv**
Failed Match: **tag.csv**

9.2 FTP Commands

9.2.1 STOR

Accept the data and to store the data as a file at the server site

Syntax
STOR "filename"

filename is the source file name. See Section 9.1

FTP files will be picked from **Workflow** folder only.

The destination filename will always be same as source file name.

Example
STOR "tag_[*].csv"

9.2.2 CWD

Change working directory on FTP server.

Syntax
CWD <remote folder>

<remote folder> is the folder name on FTP server

Example
CWD myfolder

10 Troubleshoot

10.1 Power LED not ON

If power is connected to device and Power LED does not glow, this means:

- Either, rated power is not connected. (See Section 5.3)
- Or, reverse polarity connection. (See Section 5.5.2)

10.2 Power LED not blinking and Error LEDs blinking

If power led not blinking and Error LEDs are blinking, this means device is running out of memory.

Please consult M2MLogger Support for further assistance.

10.3 Power LED ON (constant) and Error LED blinking

If Power LED is ON (constant) and Error LED is blinking, this means:

- Either, the device Clock is reset. Under such a condition device does not executes the Loop. Please connect the device with Internet and Synchronize the Clock as per Section 8.2.2.3.
- Or, the device storage card is not detected. Under such a condition device will not be able to do any file-based operation. However, if device is configured to send data on cloud, it will keep sending the latest data from memory. Please check the storage card at the back of device. If storage card is not secured in its connector use a pointed object (pen/pencil) to insert it back gently. If the storage card is corrupt then please replace with anew MicroSD card.

10.4 Power LED is constant and Error LED is ON

If Power LED is constant and Error LED is ON, this means the device has encountered an unrecoverable error. Generally, LogPRO PLUS device will restart under such a condition. But if the problem persists on three consecutive restarts then device shows the status until remedial action is taken.

Please consult M2MLogger Support for further assistance.

10.5 Connecting internet with Static IP Address

LogPRO PLUS Data-logger prefers Dynamic IP Address, which means a DHCP server is required to allocate IP Address. If you wish to install data-logger in a network where

DHCP server is not available, consider installing a commercially available multi-port router (with DHCP capability) between data-logger and network. You should configure the router with appropriate Static IP Address.

M2MLogger, recommends use of DHCP configuration, until unless it absolutely necessary to use Static IP Address.

Please consult M2MLogger Support for further assistance.

Head Office:
M2MLogger
Plot# 67, Street# 1-B,
Friends Colony Industrial Area,
Shahdara, Delhi – 110095,
India

Works:
M2MLogger
B-8, First Floor,
F.I.E. Patparganj Industrial Area,
Delhi – 110092,
India

Telefax : +91-11-41002487
Mobile : +91 98105 54547
E-mail : sales@m2mlogger.com
Web : www.m2mlogger.com