AT-WEB/LOGGER GATEWAY

Overview:

AT-Web/Logger gateway is a Raspberry Pi based gateway that supports:

- Monitoring and control Modbus RTU Rs485 protocol based devices on website. The gateway is a web server.
- Data log devices memory values onto AT-Cloud server for trending, alarming and reporting.

Features:

1. Login
2. View
3. Control
4. Trend
5. Settings
6. Report
7. Exit
8. Wiring Diagram

1. LOGIN

* Website Address

Access the website on the gateway via

http://[Ip_address]:9000

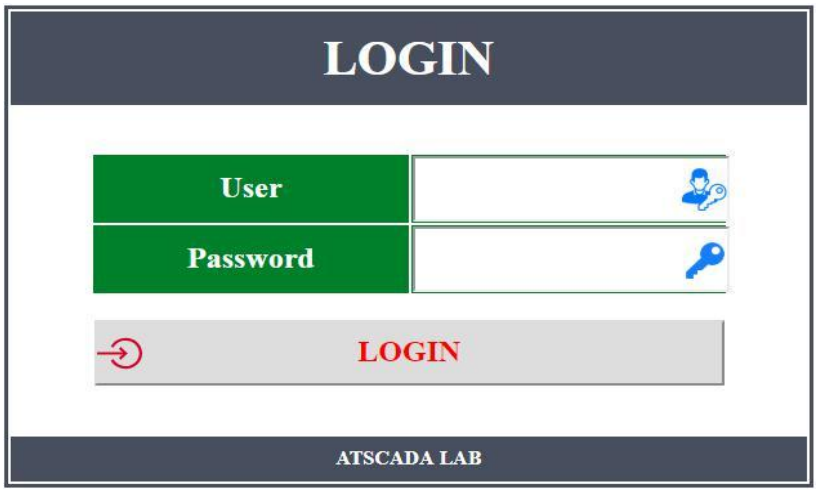
- [Ip_address] : Ip address of Gateway in local area network (LAN), default IP is printed on the cover of gateway. You can search on http://atscada.com website for "how to change the default IP of raspberry Pi" if you want to change this value.
- 9000 : Port (Default)

Example: 

* Login Page

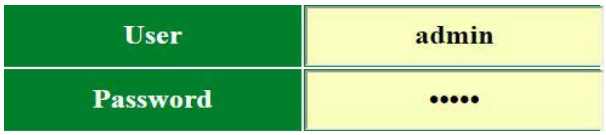
Login Page is default webpage when you access the website.

Login Page interface :



User name (default): **admin**

Password (option): **admin**



You can change login password in settings feature.

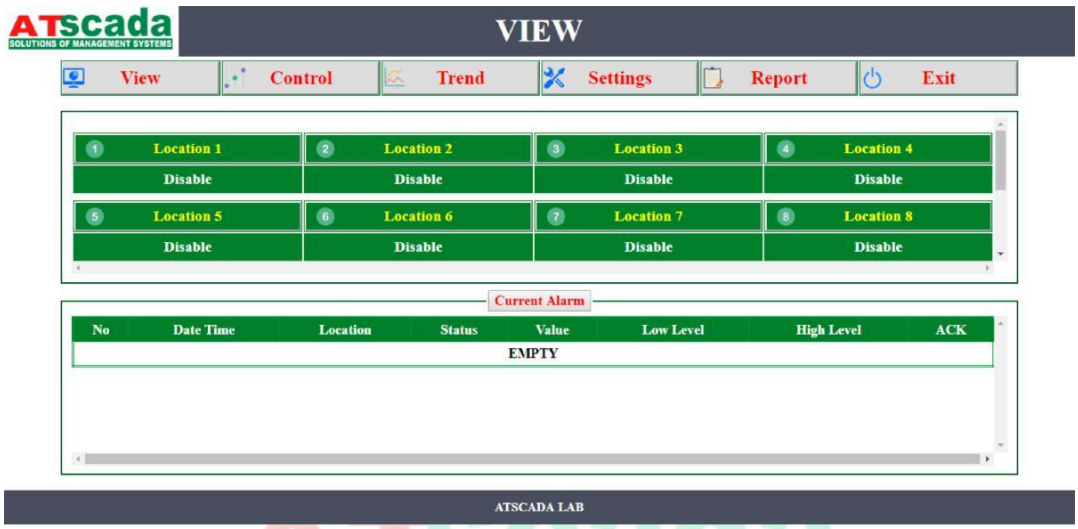
Click button 

to Login.

2. VIEW

After logging in, appear “View Page” (default)

View Page interface



There are three areas : **Feature Buttons, Monitoring Feature, Alarm Table**

* Feature Buttons

Used to direct to other feature pages. Include 6 buttons:

: View page button

: Settings page button

: Control page button

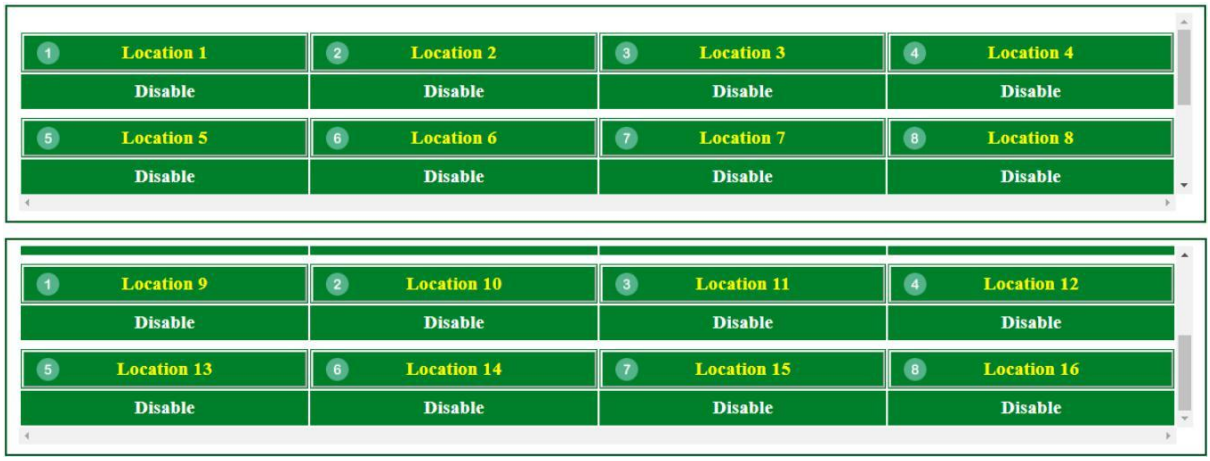
: Report page button

: Trend page button

: Exit button

* Monitoring Feature

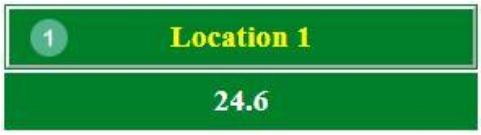
Displays maximum 16 locations.



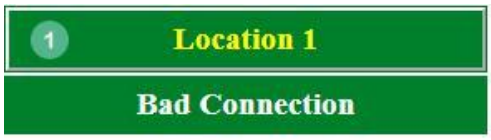
Each location includes name and value. The name and Modbus RTU memory address of the location can be set at settings feature.

In settings feature, you can enable the location to work or disable it. Details is below.

Allow the location to work (**Settings** – **ENABLE**), if connection status is **GOOD**, the value is in realtime



Else if the connection is **BAD**

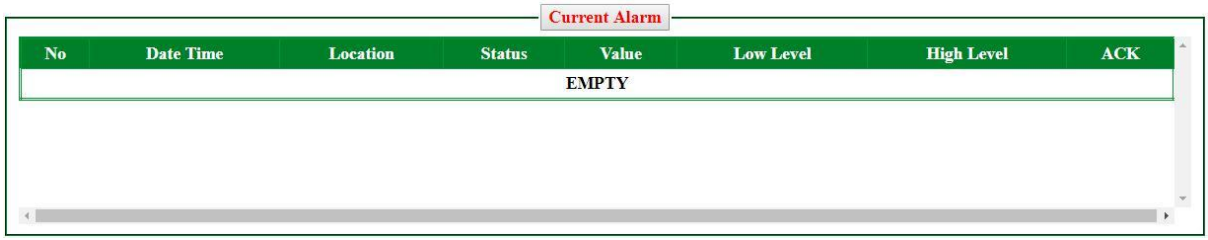


If you do not allow the location to work: (**Settings** – **DISABLE**).

* Alarm Table

View the last 10 alarm events. Alarm events are invoked when memory real-time value is lower than Low-Level or higher than High-Level set in Settings feature.

Alarm event details : Date Time, Location (Name), Status, Value, Low Level, High Level, ACK

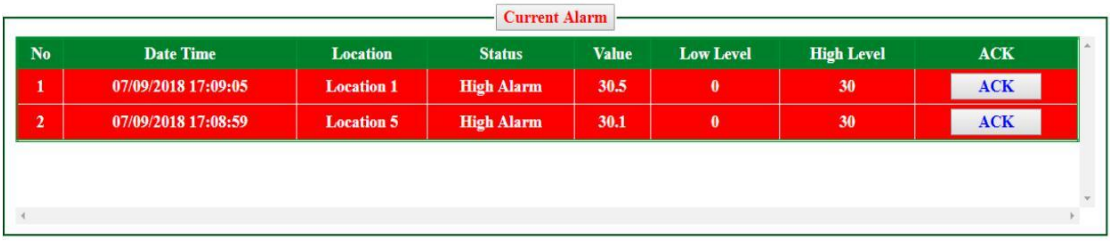


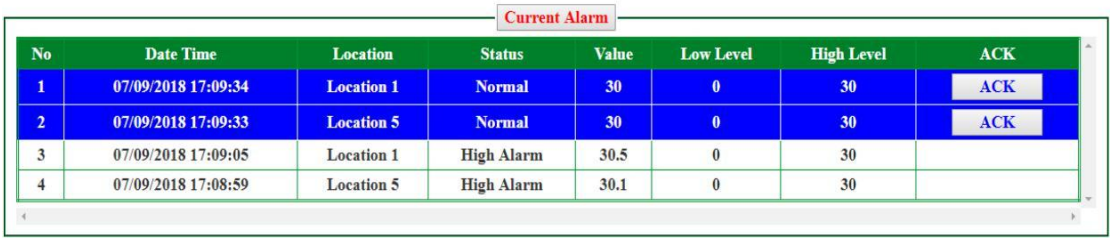
- Date Time : Date and time of alarm. (ex : 08/09/2018 08:08:08).
- Location: Name of alarm location
- Status: Type of alarm (High Alarm, Normal, Low Alarm)

  • **High Alarm**: When value of location is **higher** than High Level. The background color is **RED COLOR.**

  • **Normal**: When value of location returns to normal. The color background color is in **BLUE.**

  • **Low Alarm**: When value of location is **lower** than Low Level. The color background color is in **RED.**





- Value: The real-time value of location
- Low Level: The value low level
- High Level: The value high level
- ACK: click this button to do acknowledge for the alarm event.

Current Alarm

No	Date Time	Location	Status	Value	Low Level	High Level	ACK
1	07/09/2018 17:09:34	Location 1	Normal	30	0	30	
2	07/09/2018 17:09:33	Location 5	Normal	30	0	30	
3	07/09/2018 17:09:05	Location 1	High Alarm	30.5	0	30	
4	07/09/2018 17:08:59	Location 5	High Alarm	30.1	0	30	

3. CONTROL

Control Page Interface:

Allow operators to write values to memory devices. Memory address is Modbus RTU register address. There are two types of memories that you can write: **Coils Registers** and **Holding Registers.**

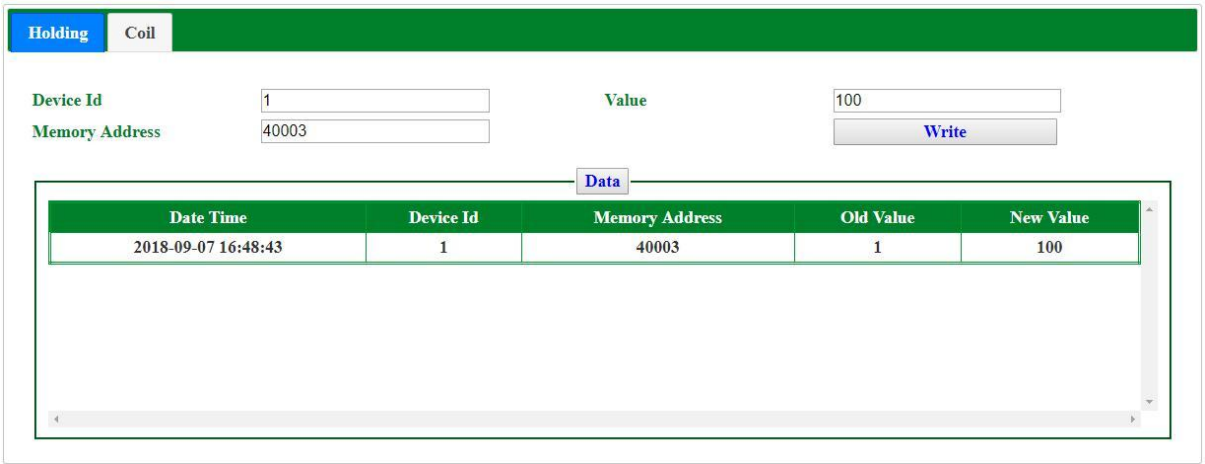
*** Holding Registers**

Support writing new value to memory address: 40001 – 49999 of each device ID

- : Textbox, input value of devide id (from 1 to 247).
- : Textbox, input value of memory address (from 40001 to 49999).
- : Textbox, input value to write.

Click button Write to write.

If success writing, display history of control events on gridview table.



If fail, show notification. Checking the enter information.

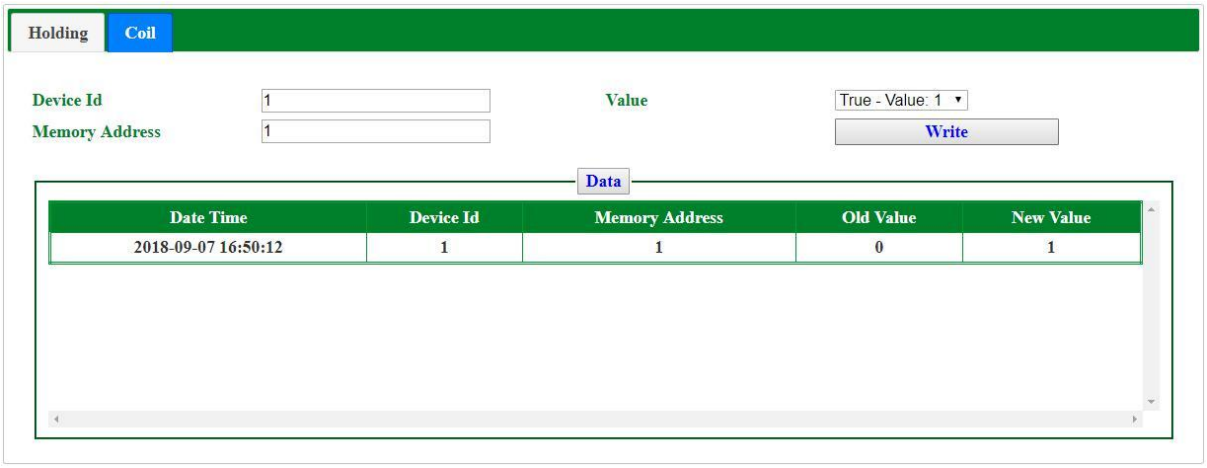
* Coil Registers

Writing values to memory registers with address: 1 – 9999

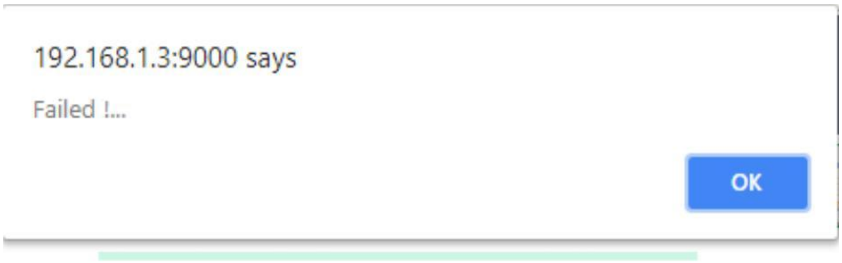
- Device Id : Textbox, input value of devide id (from 1 to 247).
- : Textbox, input value of memory address (from 1 to 9999).
- : Data list, select value to write.

Click button Write to write.

If success, display “history of control events on gridview table.



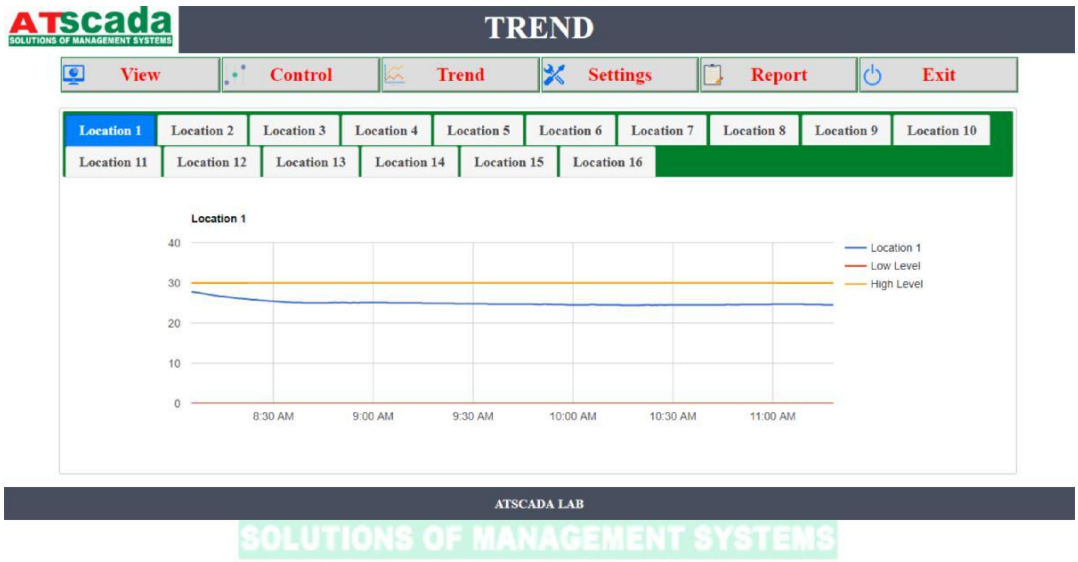
If fail, show notification. Checking the enter information.



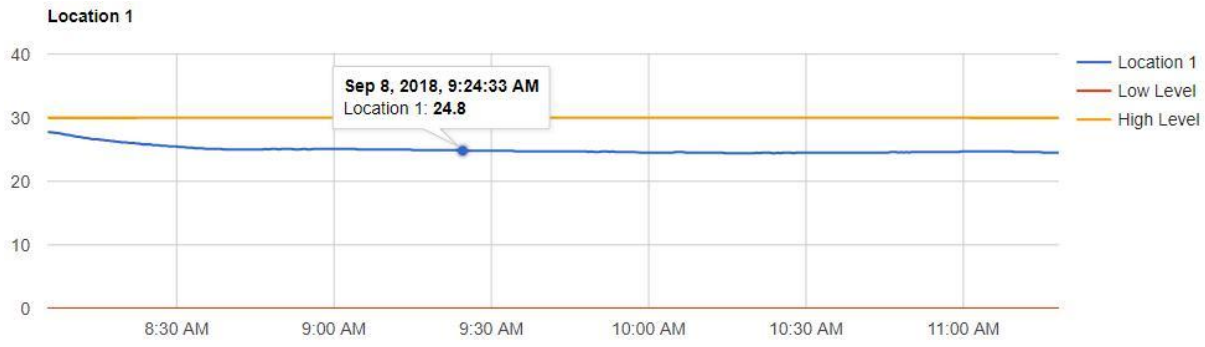
4. TREND

Displays value of each location by chart on the current day (from 0h to the current time)

Trend Page Interface



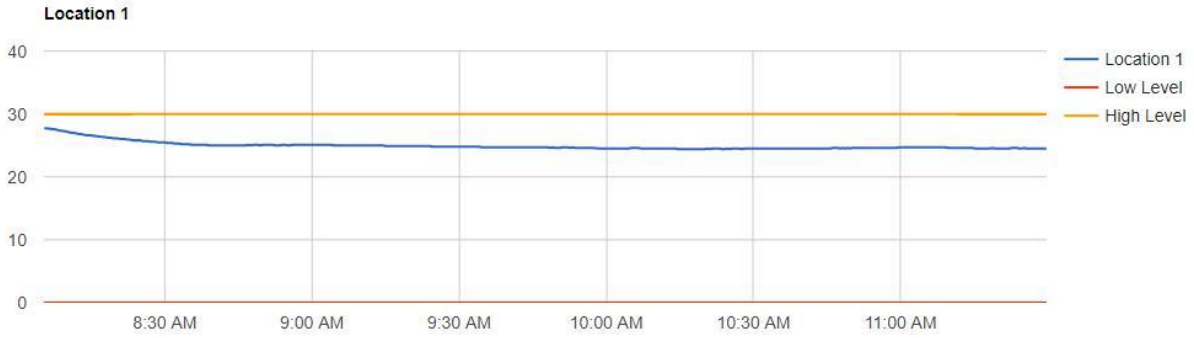
Move mouse point on trend to view value at each time stamp.



If the location has both low level and high level in settings when enabling

Location	Name	Device Id	Memory Address	Low Level	High Level	Enable	
1	Location 1	1	40001	0	30	Enable	

The trend of the location includes three lines: value, Low Level and High Level



If the location has only low level (does not have high level) in settings when enabling

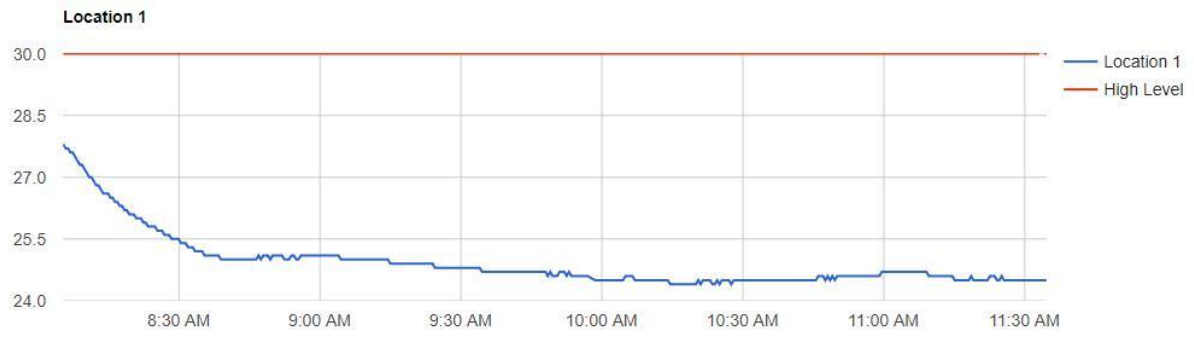
Location	Name	Device Id	Memory Address	Low Level	High Level	Enable	
1	Location 1	1	40001	0		Enable	

The trend includes 2 lines: value and Low Level

If the location has only high level (does not have low level) in settings when enabling

Location	Name	Device Id	Memory Address	Low Level	High Level	Enable	
1	Location 1	1	40001		30	Enable	

The trend includes 2 lines: value, High Level



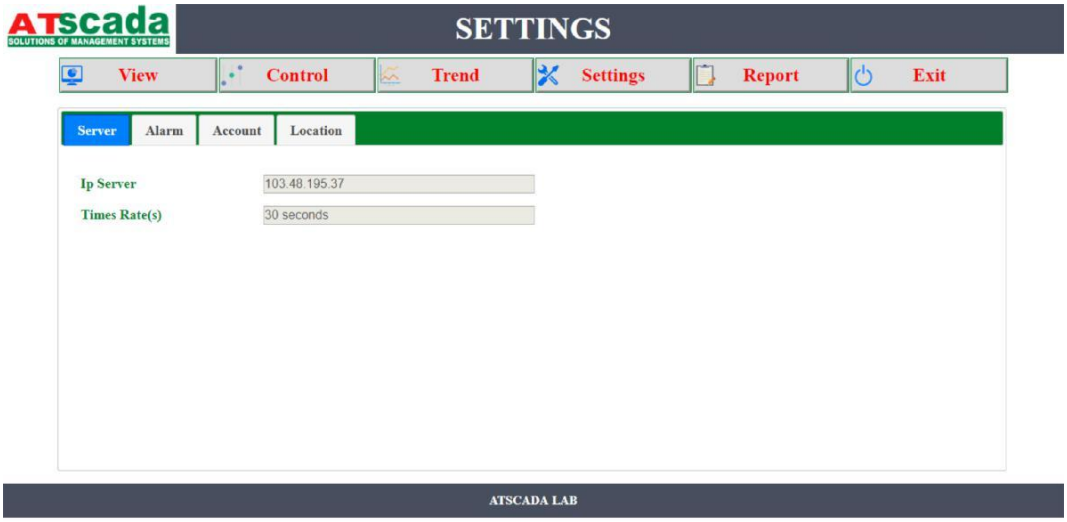
If the location has not low level and high level in settings when enabling

Location	Name	Device Id	Memory Address	Low Level	High Level	Enable	
1	Location 1	1	40001			Enable	

The location trend is only one value line

5. SETTINGS

Settings Page Interface:



There are four tabs : **Server, Alarm, Account, Location.**

*** Server**

- **Ip Server** 103.48.195.37 : IP address of Cloud Server
- **Times Rate(s)** 30 seconds : Period (s) log data in Cloud Server

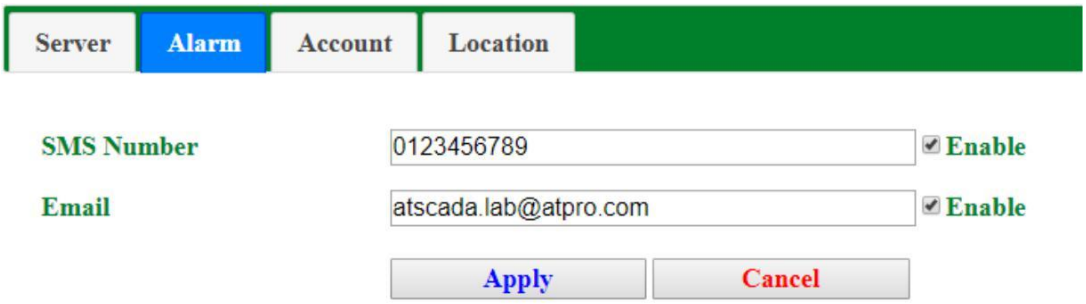
*** Alarm**

Setting alarm notification via SMS or Email.

- **SMS Number** : SMS number receive alarm message

- Email : Email address receive alarm message

Tick checkbok and input SMS Number or Email.



Click Apply to apply.

*** Account**

Changing password to login

- Old Password : Input Old password to Login.

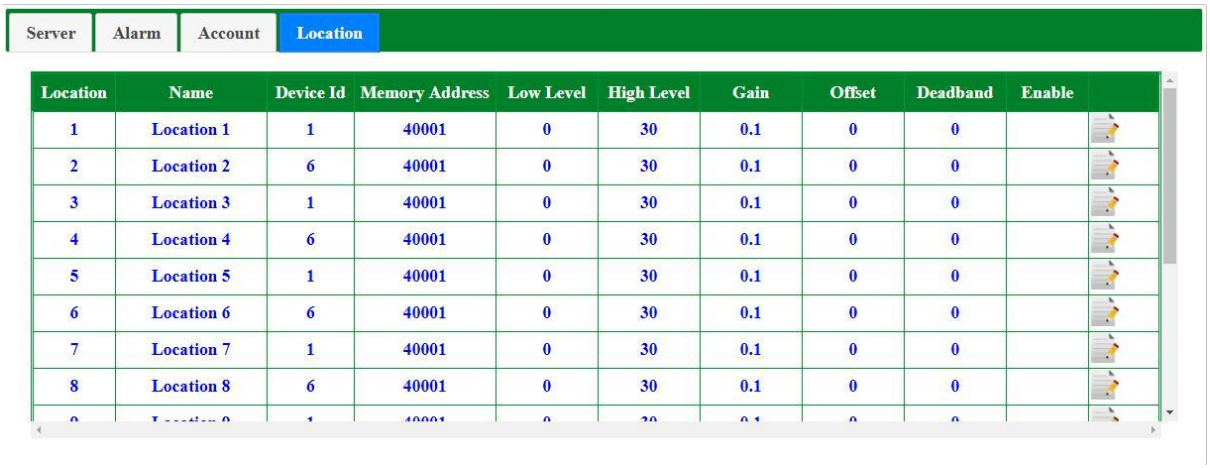
- New Password : Input New password you want change.

- Confirm : Input again new password.

Click Apply to apply.

*** Location**

Settings details for each location.



Location	Name	Device Id	Memory Address	Low Level	High Level	Gain	Offset	Deadband	Enable	
1	Location 1	1	40001	0	30	0.1	0	0		
2	Location 2	6	40001	0	30	0.1	0	0		
3	Location 3	1	40001	0	30	0.1	0	0		
4	Location 4	6	40001	0	30	0.1	0	0		
5	Location 5	1	40001	0	30	0.1	0	0		
6	Location 6	6	40001	0	30	0.1	0	0		
7	Location 7	1	40001	0	30	0.1	0	0		
8	Location 8	6	40001	0	30	0.1	0	0		

- **Location** : Location ID
- **Name :** Name of location
- **Device Id :** ModbusRTU Slave ID
- **Memory Address :** Memory address read value.
- **Low Level :** low level value.
- **High Level :** high level value.
- **Gain, Offset :** Used to calib value.

  [Value] = [MemoryValue] * Gain + Offset

  Note :

  [MemoryValue] : Value read from memory.

  [Value] : Value after calib.
- **Deadband :**
- **Enable :** Enable/Disable to view.

Click button  to edit.

Location	Name	Device Id	Memory Address	Low Level	High Level	Gain	Offset	Deadband	Enable	
1	Location 1	1	40001	0	30	0.1	0	0	Enable	

You can change details of tags : **Name, Device Id, Memory Address, Low Level, High Level, Gain, Offset, Deadband, Enable (checkbok).**

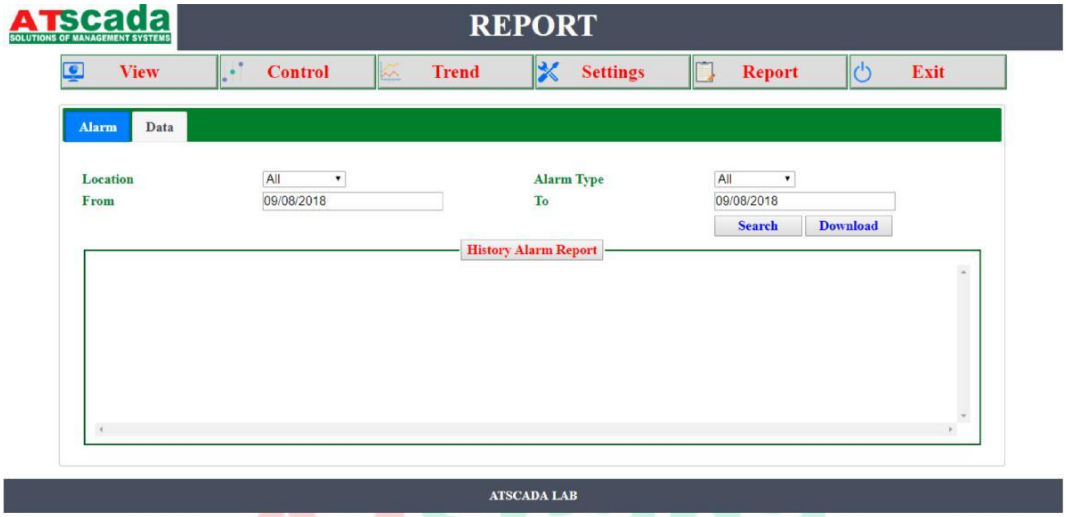
Click  to Save change. Click  to Cancel.

Message after successfully updated.

6. REPORT

View report data grid and export to excel.

Report Page Interface.



There are two tabs : **Alarm** to query historical alarm events, **Data** to query logged data values.

*** Alarm**

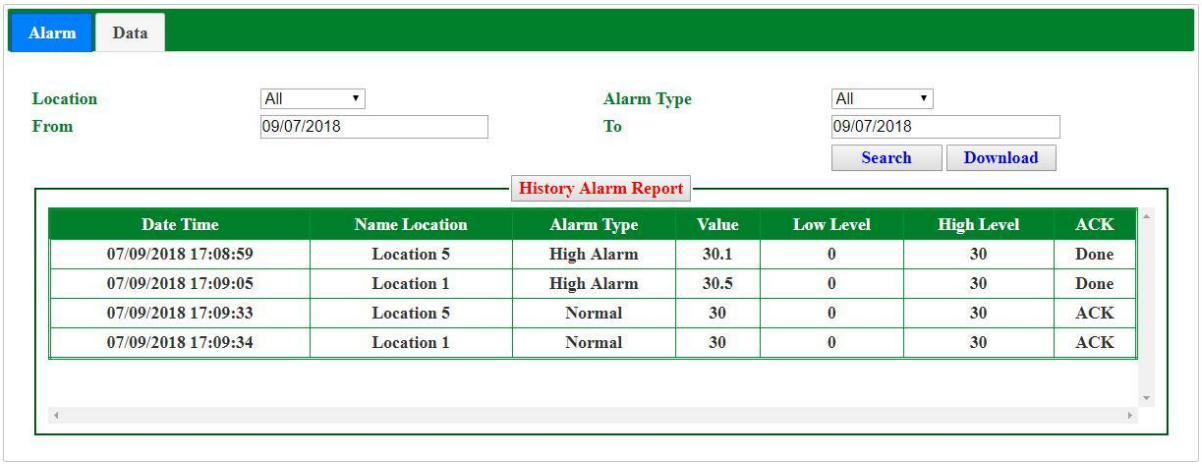
- **Location** All : Select location from name list.

- **Alarm Type** All : Select alarm type (High Alarm, Normal, Low Alarm)

- **From** 09/08/2018 : Start Date time

- **To** 09/08/2018 : End Date time.

Click button **Search** to view report data grid.

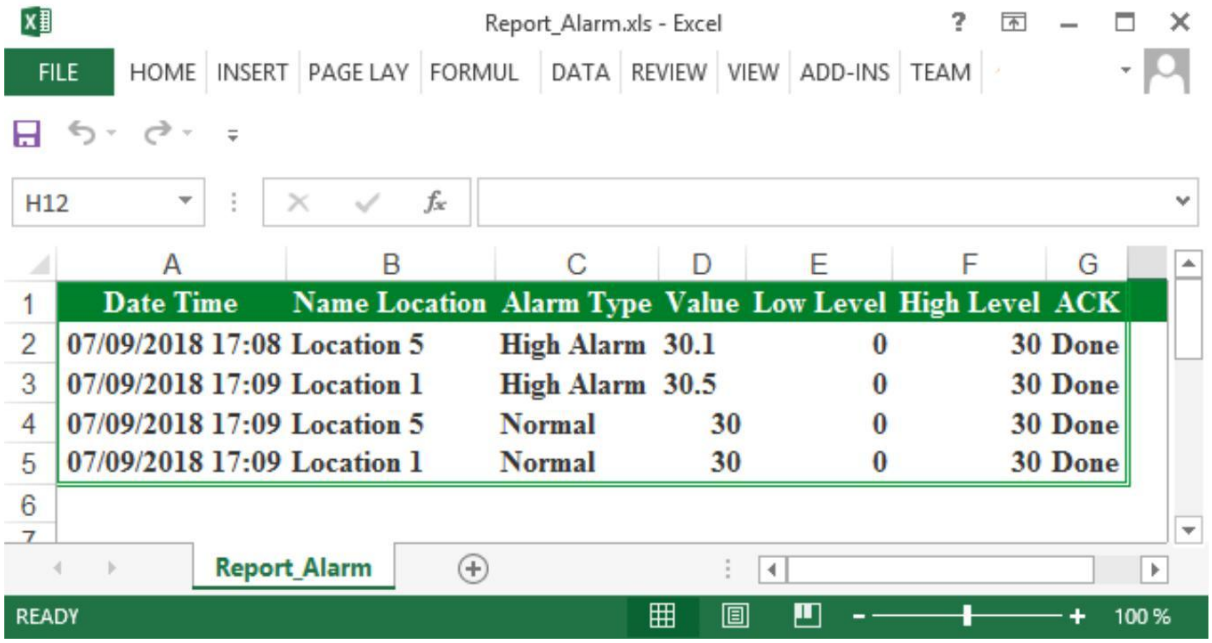


Date Time	Name Location	Alarm Type	Value	Low Level	High Level	ACK
07/09/2018 17:08:59	Location 5	High Alarm	30.1	0	30	Done
07/09/2018 17:09:05	Location 1	High Alarm	30.5	0	30	Done
07/09/2018 17:09:33	Location 5	Normal	30	0	30	ACK
07/09/2018 17:09:34	Location 1	Normal	30	0	30	ACK

Click button 

to export file and download.

File excel : 



	A	B	C	D	E	F	G
1	Date Time	Name Location	Alarm Type	Value	Low Level	High Level	ACK
2	07/09/2018 17:08	Location 5	High Alarm	30.1	0	30	Done
3	07/09/2018 17:09	Location 1	High Alarm	30.5	0	30	Done
4	07/09/2018 17:09	Location 5	Normal	30	0	30	Done
5	07/09/2018 17:09	Location 1	Normal	30	0	30	Done
6							

*** Data**

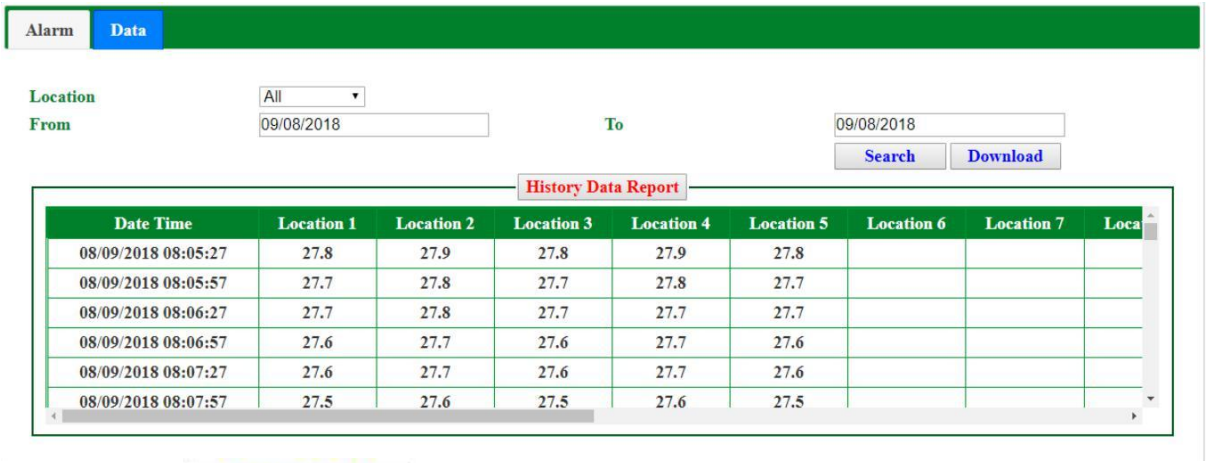
- **Location** 

: Select location from name list.

- : Start date time

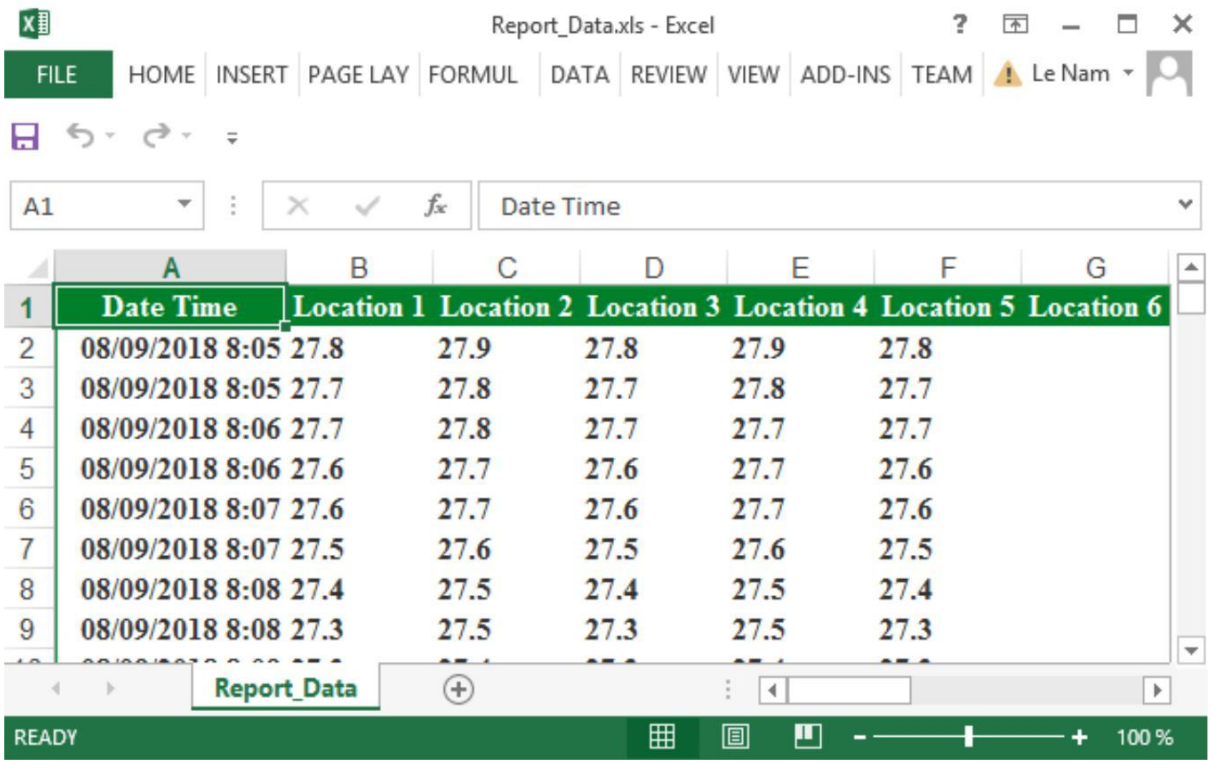
- To 09/08/2018 : End Date time.

Click button Search to view report table.



Click button Download to export file and download.

File excel : Report_Data.xls

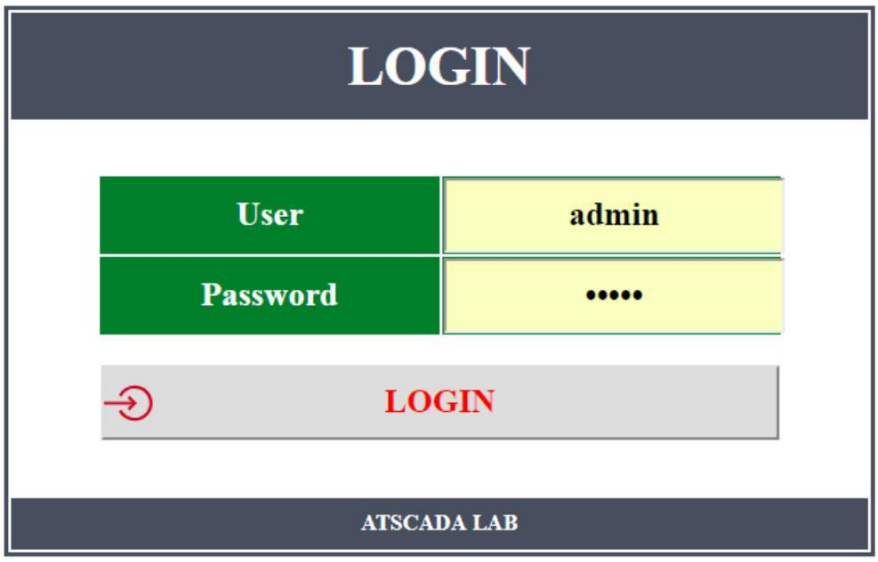


7. EXIT

Click button 

to exit.

Return Login Page.



8. WIRING DIAGRAM

Wiring diagram from device to gateway AT-Web/Logger