Robustel Centre Manager RobustLink

Centralized M2M Management Platform

For GoRugged Series Router & Gateway

User Guide

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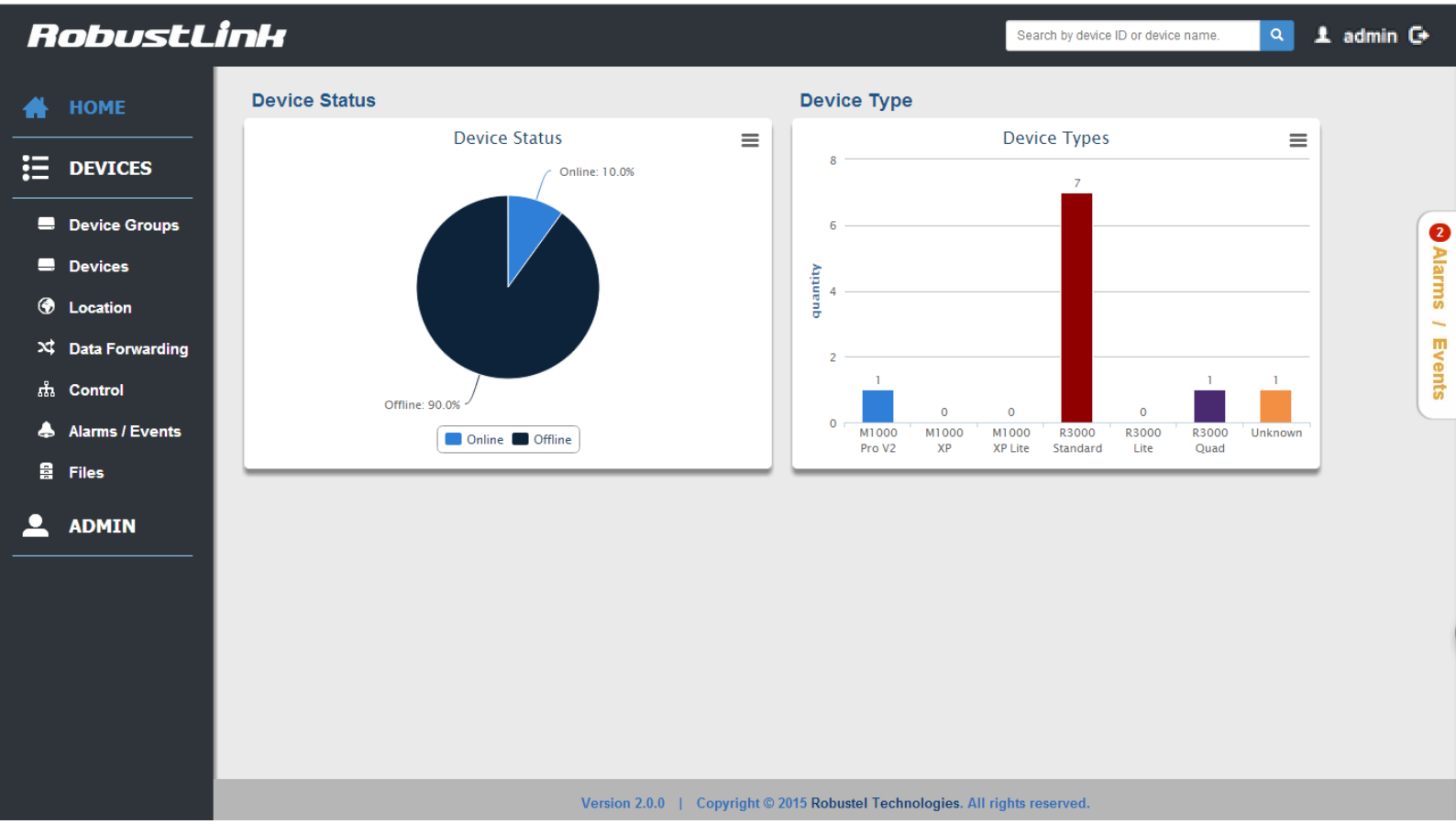

Robustel

www.robustel.com

About This Document

This document describes the software of Robustel RobustLink, Centralized M2M Management Platform.

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Revision History

Updates between document versions are cumulative. Therefore, the latest document version contains all updates made to previous versions.

Release Date	RobustLink Version	Doc Version	Details
2015-05-08	2.0.0	V2.0.0	First release

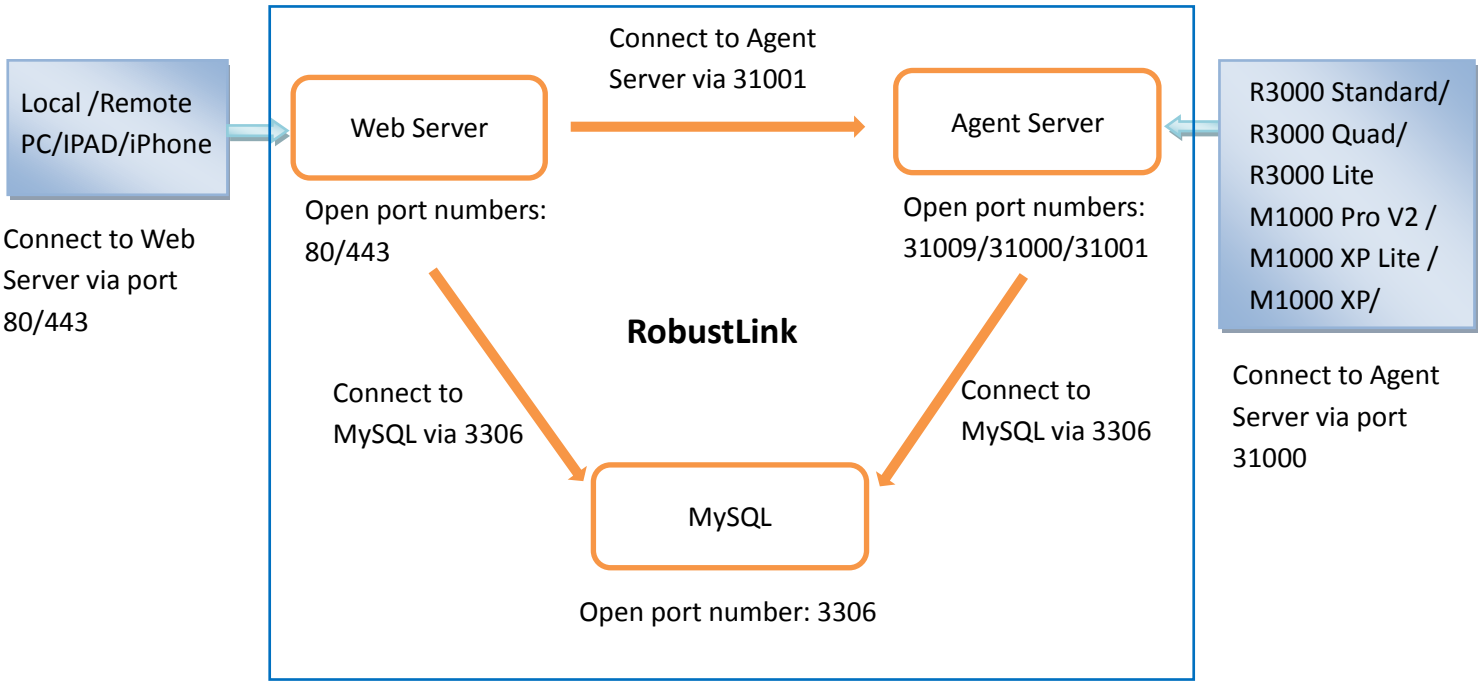
Contents

Chapter 1 Product

1.1 Overview

Robustel RobustLink is an industrial-grade centralized management and administration system for Robustel GoRugged series router & gateway, including R3000 Standard, R3000 Quad, R3000 Lite, M1000 XP Lite, M1000 XP and M1000 Pro V2.

RobustLink consists of three parts: Web Server (Apache), Agent Server and MySQL. Users can configure relevant parameters of RobustLink via Web Server; Agent Server is platform for data communication which will process all the data coming from slave device, or via vise; MySQL is a database used to store parameters and transaction data. Three parts should work together to ensure all the functions of RobustLink.



RobustLink allows user to monitor, configure and manage large numbers of remote devices on a private network over the web.

It mainly has following features:

- Remote Monitoring
- Remote Configuration
- Remote Firmware Updates
- Data Forwarding
- Number of Devices: 1000+
- Management: Web

1.2 Hardware Requirement

- 2 GHz CPU or above
- 2 GB RAM or above
- 500 GB disk space

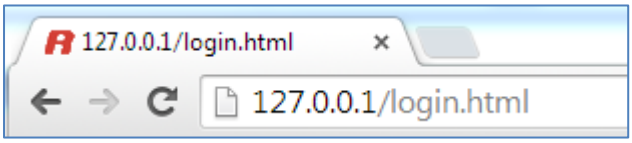
1.3 Software Requirement

- O/S: Linux CentOS 6.3 or above
- Apache 2.2, PHP 5.3, MySQL 5.1 or above
- Browser: IE 9.0 or above, Chrome, Firefox

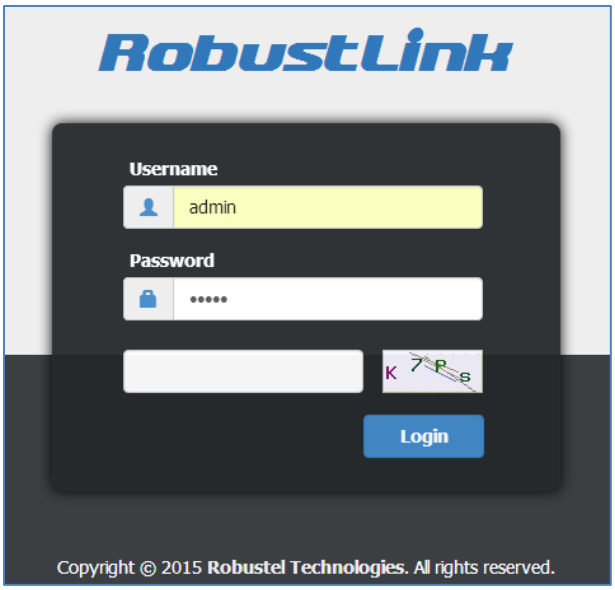
Chapter 2 Configuration settings over web browser

2.1 Login In

Open the browser, such as IE 9.0, Chrome, Firefox --> enter http://127.0.0.1/login.html in the address bar.

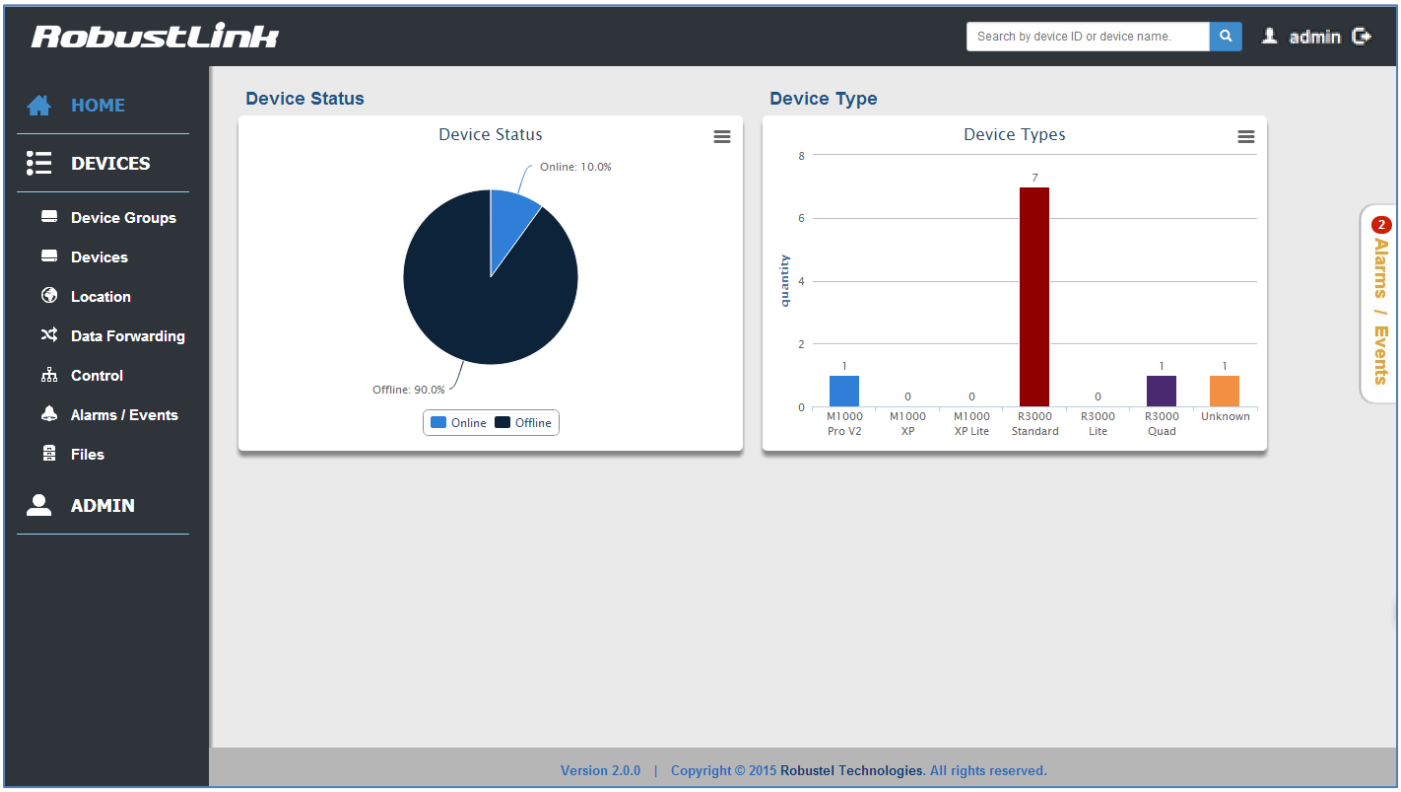


Enter the username and password to login in RobustLink.



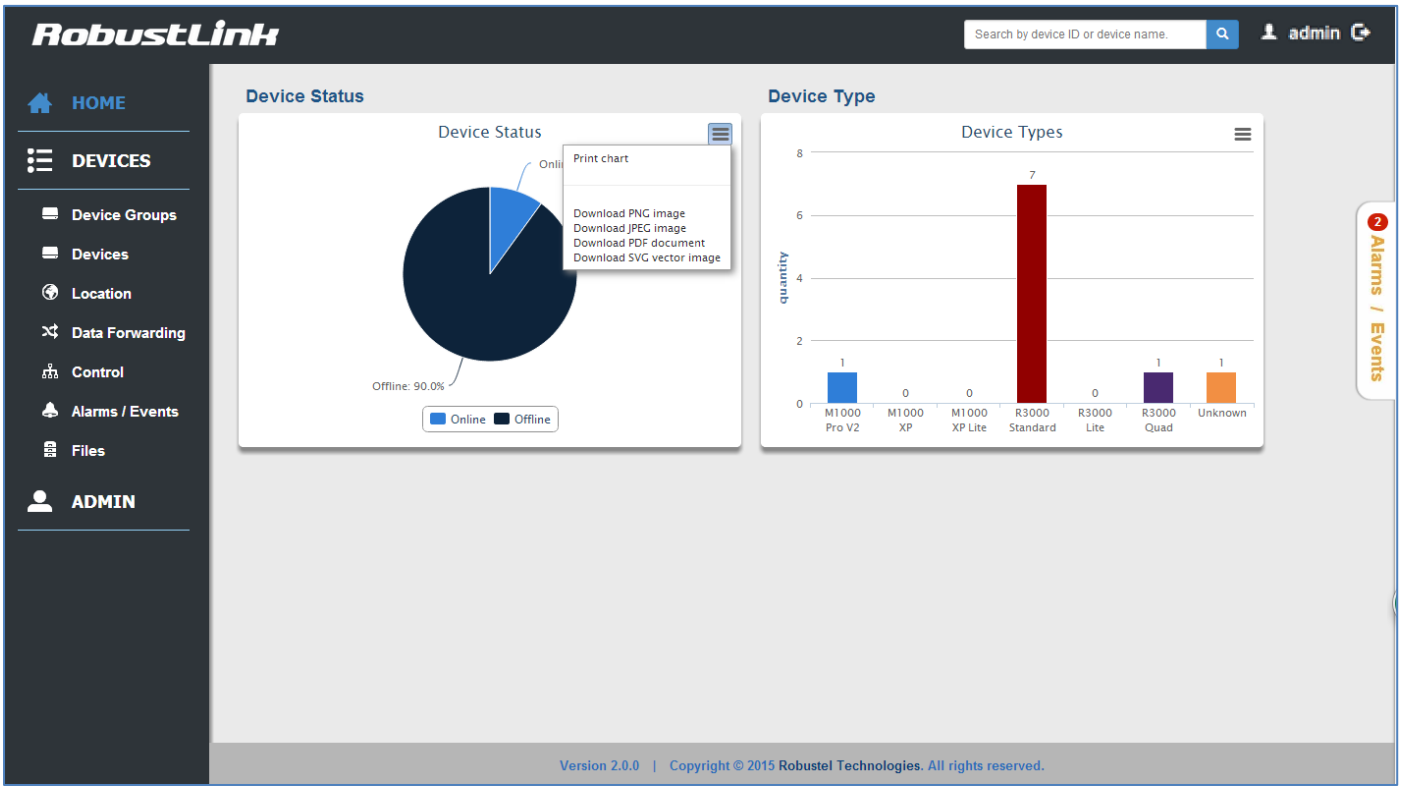
2.2 Control Panel

User can click "  " button to logout RobustLink.



2.3 HOME

This section shows status of slave devices which had ever registered in RobustLink.

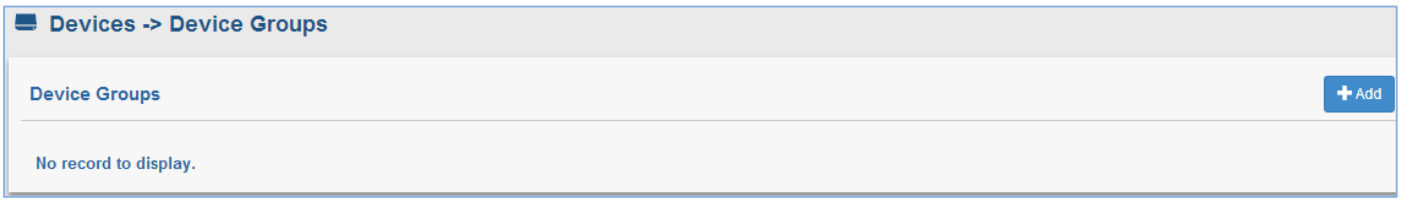


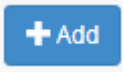
HOME

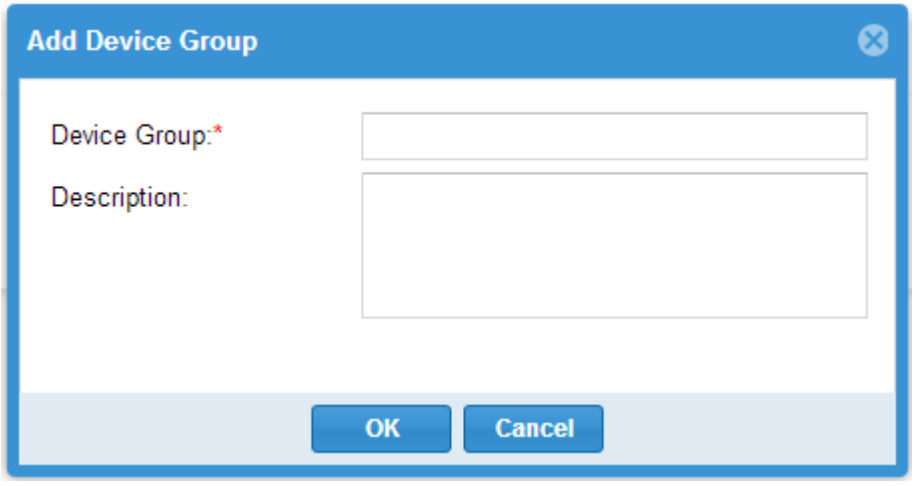
Item	Description
Search	Search by device ID or device name.
Device Status	The small window shows the Status of the registered devices.
	Click the button at the upper right, select you choice: Print chart, Download PNG image, Download JPEG image, Download PDF document, Download SVG vector image.
Online	Click the button, it only shows the status of the devices online.
Offline	Click the button, it only shows the status of the devices offline.
Device Type	The small window shows the type of the registered devices.

2.4 DEVICES -> Device Groups

This section allows user to add device groups.



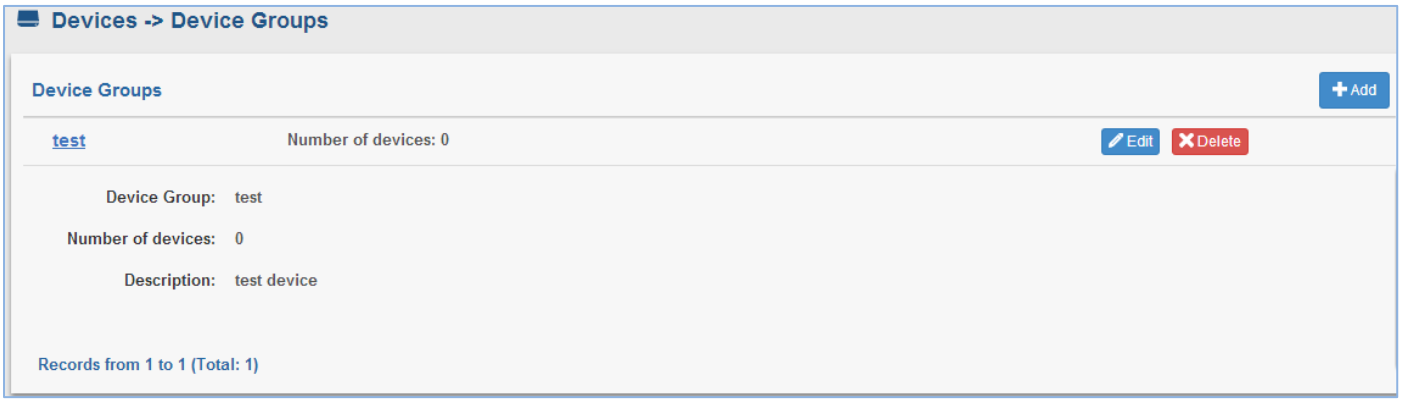
Click  to add a new device group.



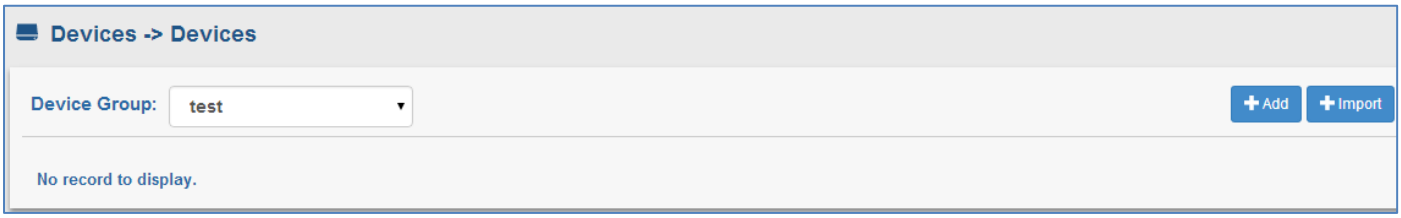
Device Groups		
Item	Description	Default
Device Group	Enter the device group name.	Null
Description	Enter some simple words about your device group.	Null

When it succeeds in adding a new device group, it will show as the following.

Click the line except the device group name (test), the information of device group will be displayed in follow.

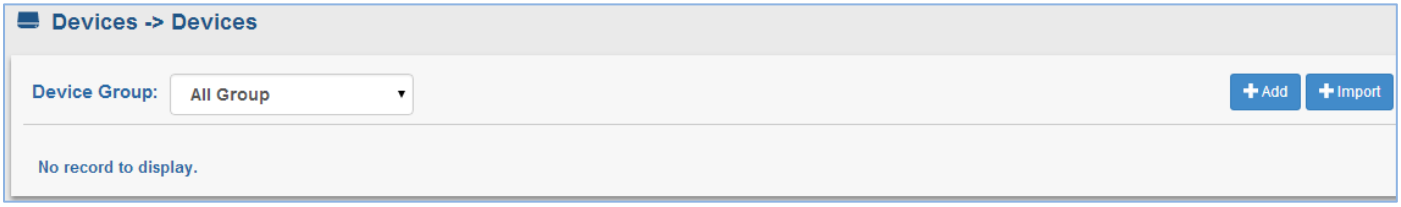


Click the device group name (test); it will switch to devices tab. And you can add devices in this page, more details refer to section 2.5 DEVICES->Devices.

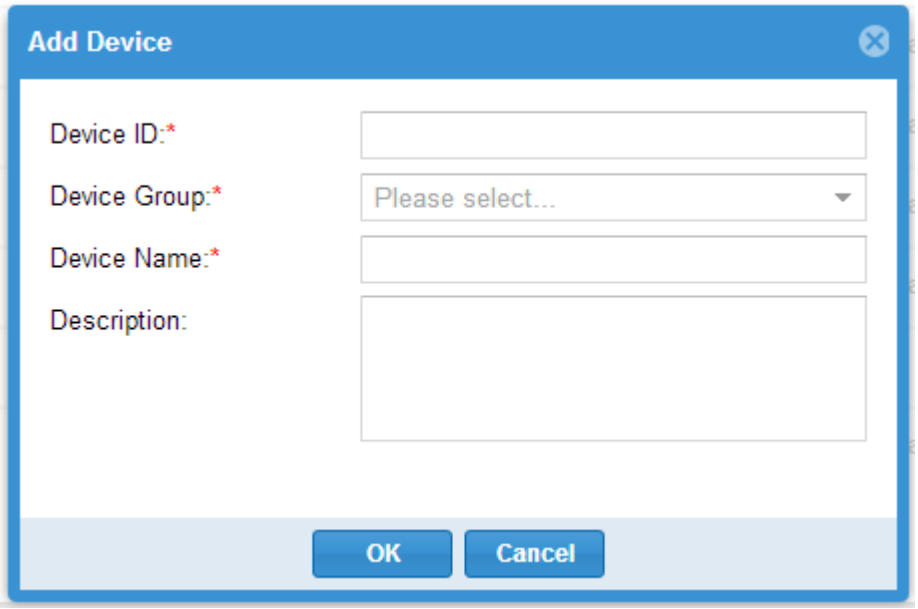


2.5 DEVICES -> Devices

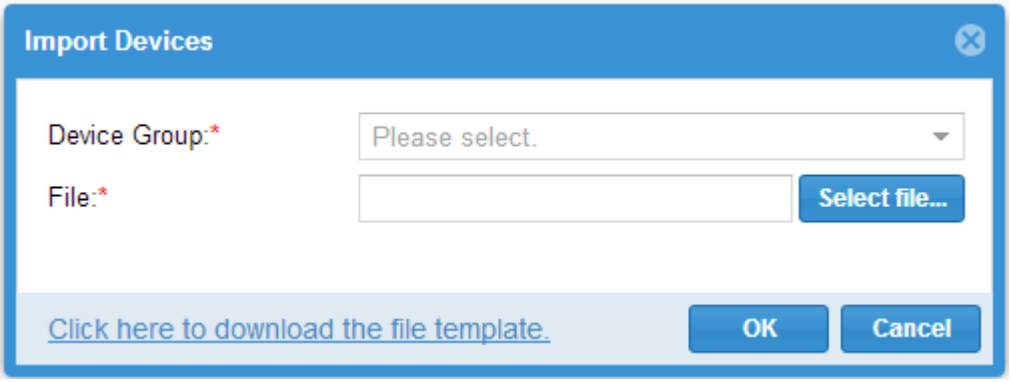
This section allow user to add the device to the device group.



Click  to add device to device group.



Click  to import device list into device group.

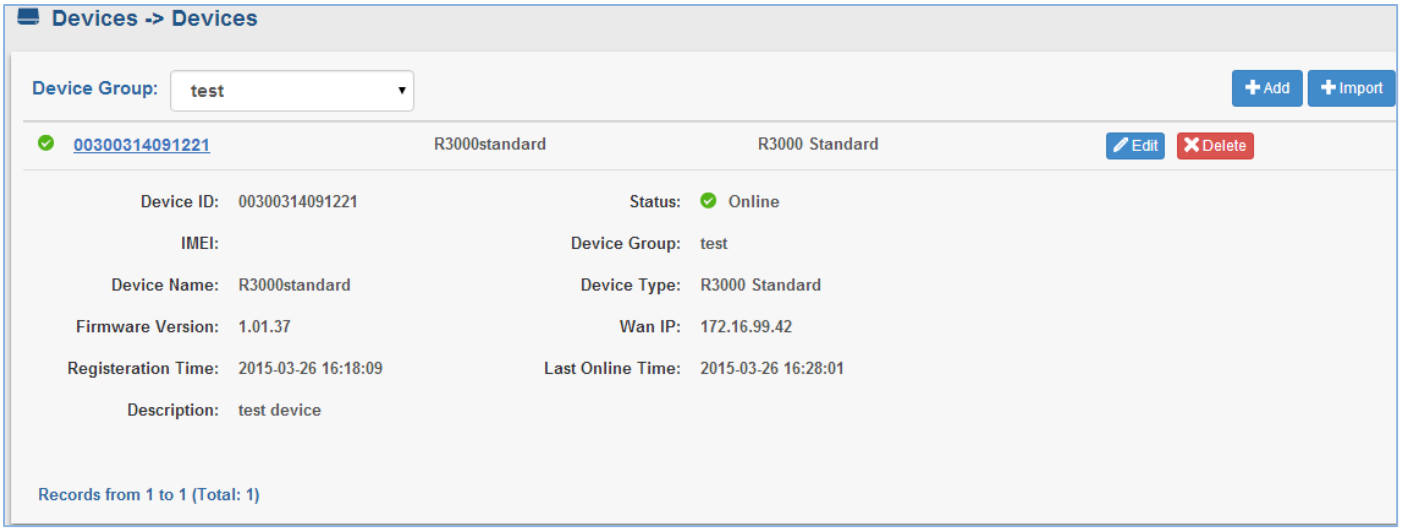


Devices		
Item	Description	Default
Device ID @ add	Enter the device ID of the device. A globally unique identifier. This ID is always used when addressing this device. Device ID of M1000 XP/M1000 Pro V2 is its IMEI number which will be found in the back label, or you can check this in Modem Configurator -> NMS -> M2M Platform -> Device ID. Device ID of R3000 is its SN number which will be found in the side label of R3000, or you can check this SN number in R3000's Web GUI -> Status -> System -> Router Information -> Serial Number.	Null
Device Group @ add	Select the device group to add device. This device group must have been added in section device groups.	Null
Device Name @ add	Enter the device name what you want.	Null
Description @ add	Enter some simple words about your device.	Null
Device Group@ import	Select the device group which you had added.	Null
File @ import	Choose the correct file to import you device list.	Null

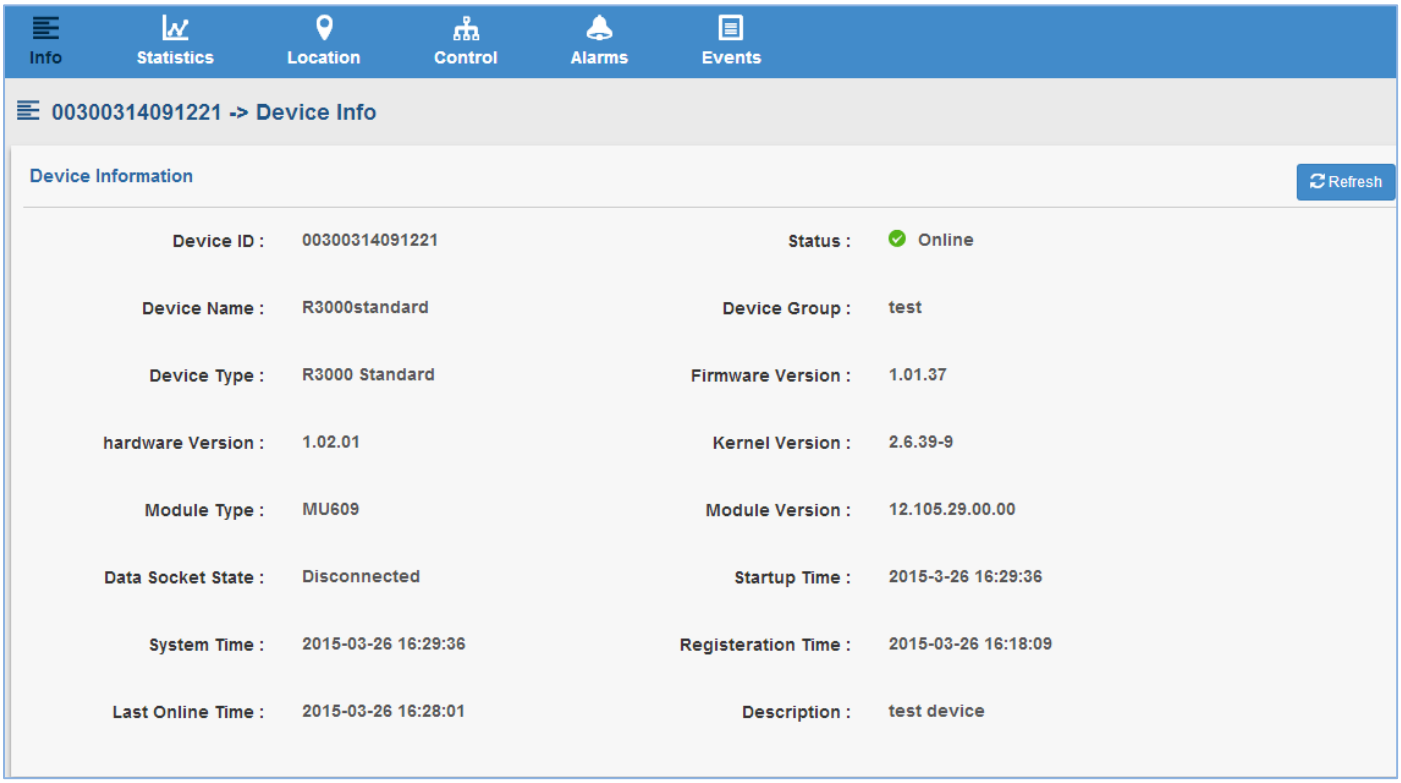
Click here to download the file template	Download the template, and you can use it as your file to import.	/

When you succeed in adding a device in a device group, it will show as the following.

Click the line except the device ID (00300314091221), the key information of device will be displayed following.

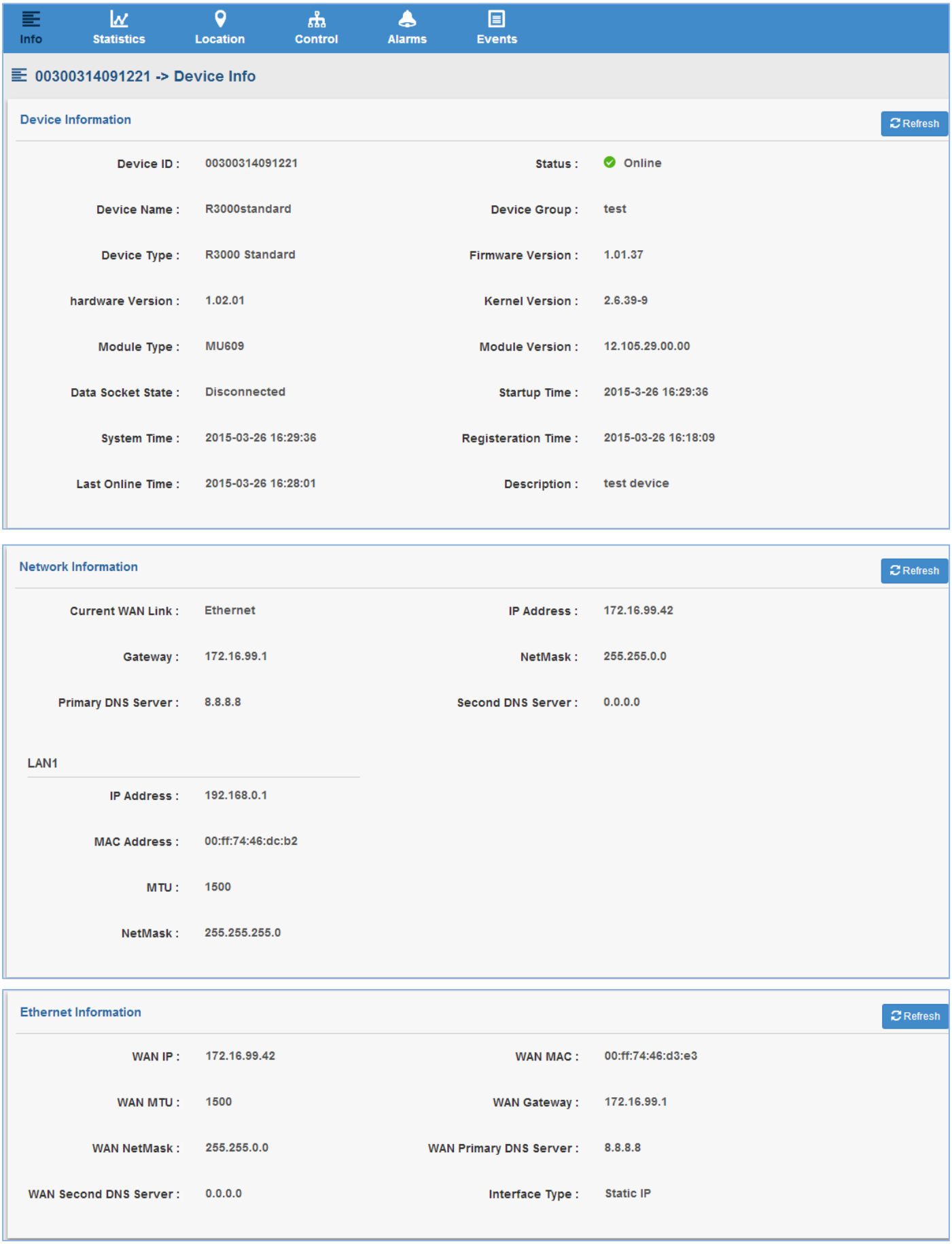


Click device ID (00300314091221), the details of device will be displayed following. It includes Info, Statistics, Location, Control, Alarm, and Event.



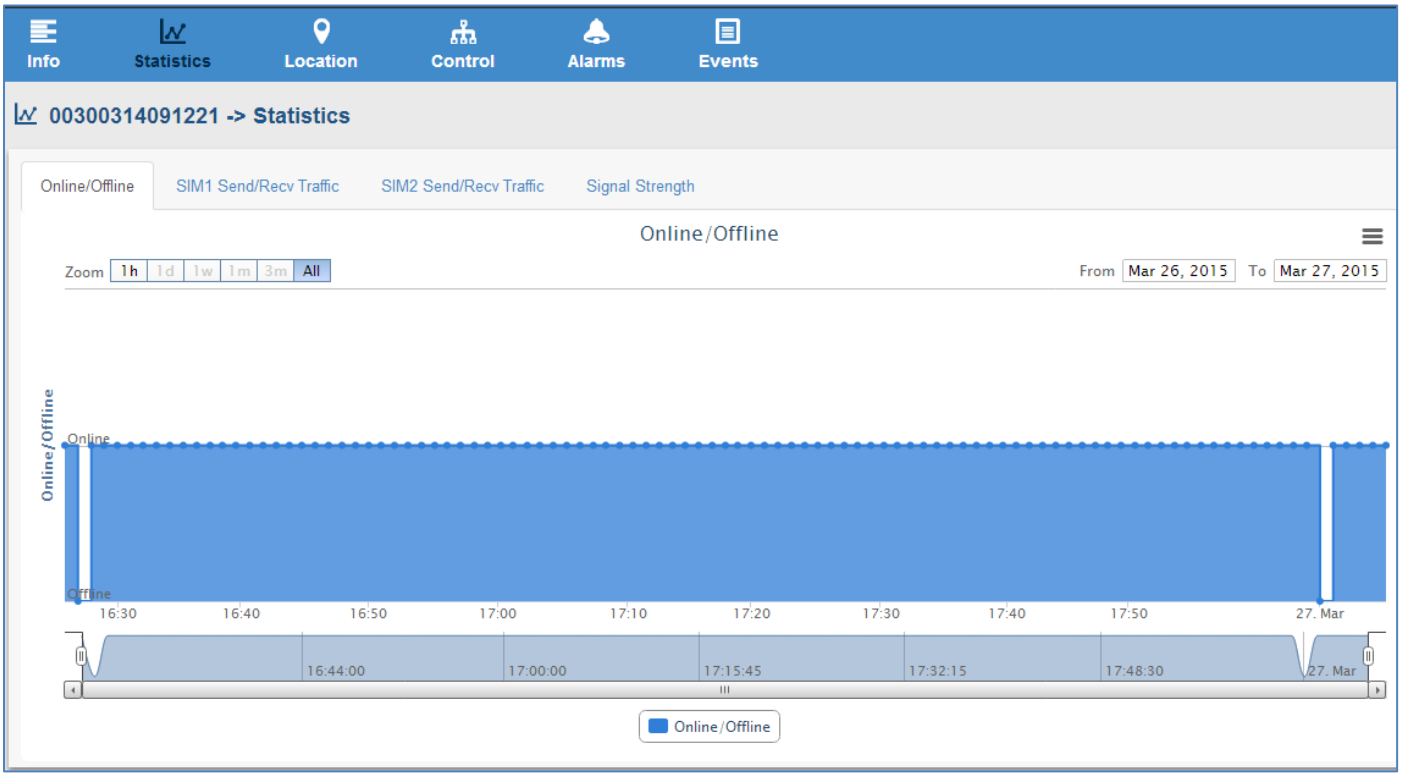
2.5.1 Info

This section shows the device's info. When the registered devices used different mode to connect to the RobustLink, the displayed info of those devices will be different.
The displayed info of R3000 series devices is as below.
Using Ethernet connect mode: Device information, Network information and Ethernet information.
Using Cellular connect mode: Device information, Network information and Cellular information.
Using Wifi connect mode: Device information, Network information and Wifi information.
The displayed info of M1000 series device includes Device information and Cellular information.

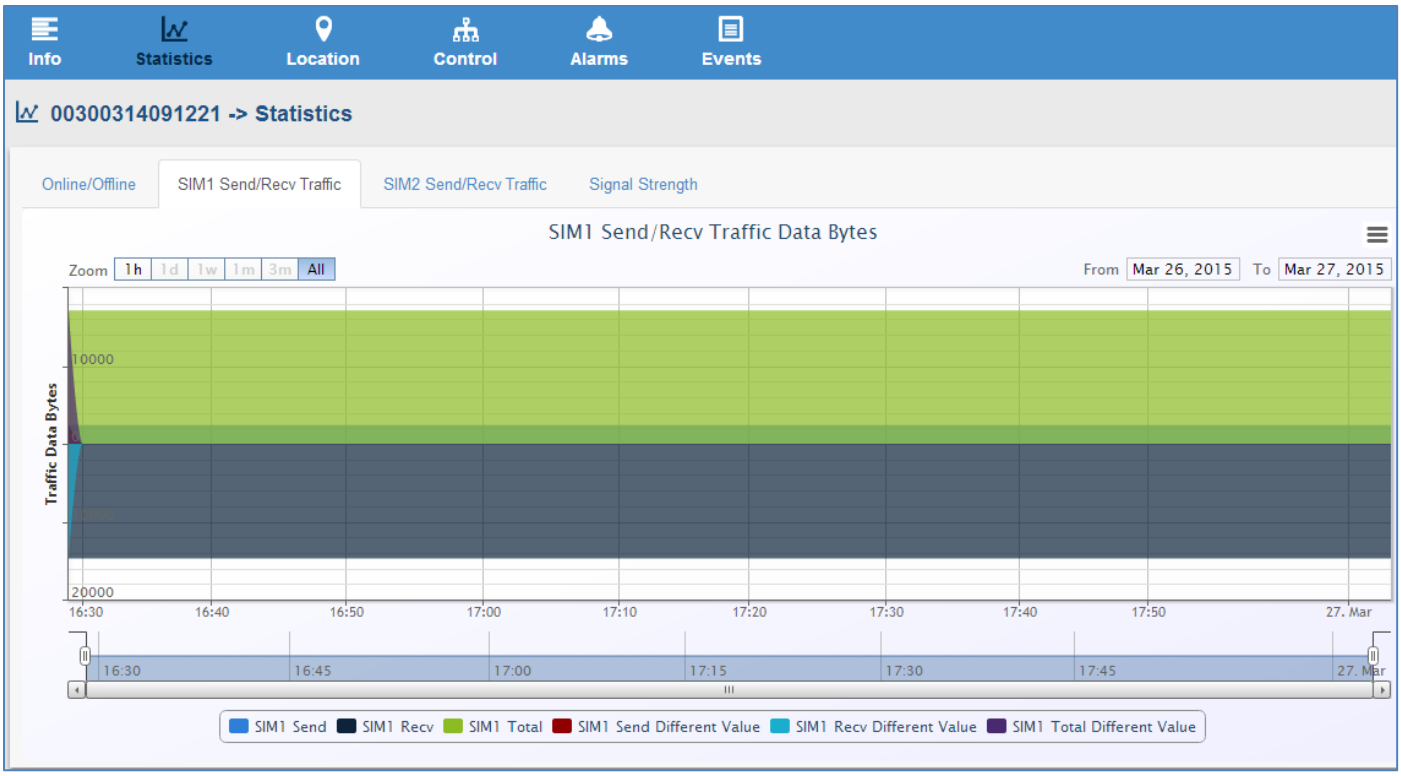

Info
Statistics
Location
Control
Alarms
Events
00300314091221 -> Device Info
Device Information
Refresh
Device ID : 00300314091221
Status : Online
Device Name : R3000standard
Device Group : test
Device Type : R3000 Standard
Firmware Version : 1.01.37
hardware Version : 1.02.01
Kernel Version : 2.6.39-9
Module Type : MU609
Module Version : 12.105.29.00.00
Data Socket State : Disconnected
Startup Time : 2015-3-26 16:29:36
System Time : 2015-03-26 16:29:36
Registeration Time : 2015-03-26 16:18:09
Last Online Time : 2015-03-26 16:28:01
Description : test device
Network Information
Refresh
Current WAN Link : Ethernet
IP Address : 172.16.99.42
Gateway : 172.16.99.1
NetMask : 255.255.0.0
Primary DNS Server : 8.8.8.8
Second DNS Server : 0.0.0.0
LAN1
IP Address : 192.168.0.1
MAC Address : 00:ff:74:46:dc:b2
MTU : 1500
NetMask : 255.255.255.0
Ethernet Information
Refresh
WAN IP : 172.16.99.42
WAN MAC : 00:ff:74:46:d3:e3
WAN MTU : 1500
WAN Gateway : 172.16.99.1
WAN NetMask : 255.255.0.0
WAN Primary DNS Server : 8.8.8.8
WAN Second DNS Server : 0.0.0.0
Interface Type : Static IP

2.5.2 Statistics

This section shows the statistics of device online/offline, send/receive traffic and signal strength.
When the mouse moves to a certain point in time, it can display the status at the moment.

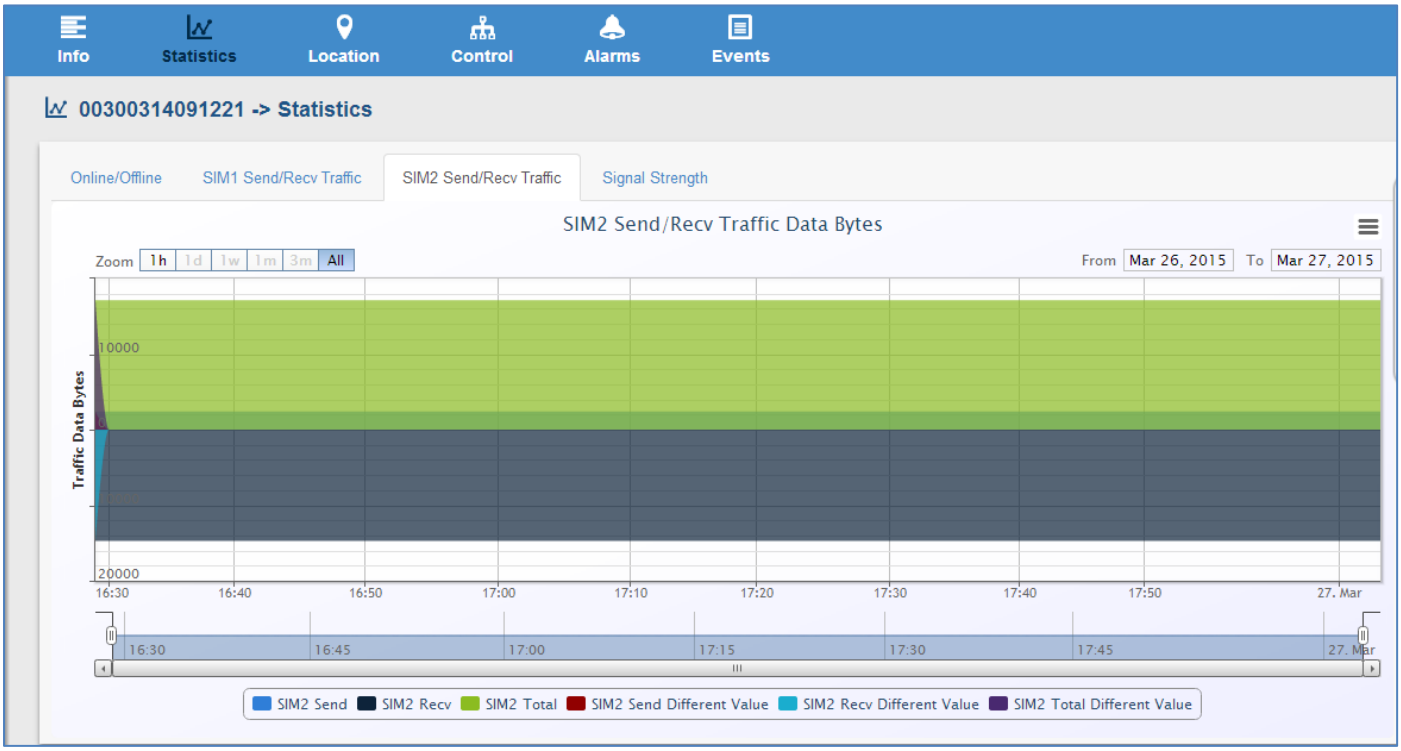


Online/Offline		
Item	Description	Default
Zoom	Select from “1h”, “1d”, “1w”, “1m”, “3m” and “All”. 1h: one hour 1d: one day 1w: one week 1m: one month 3m: three month All: up to now since the registration moment	1h
	Click the button at the upper right, select you choice: Print chart, Download PNG image, Download JPEG image, Download PDF document, Download SVG vector image.	/
Online/Offline	Online: up Offline: down	/



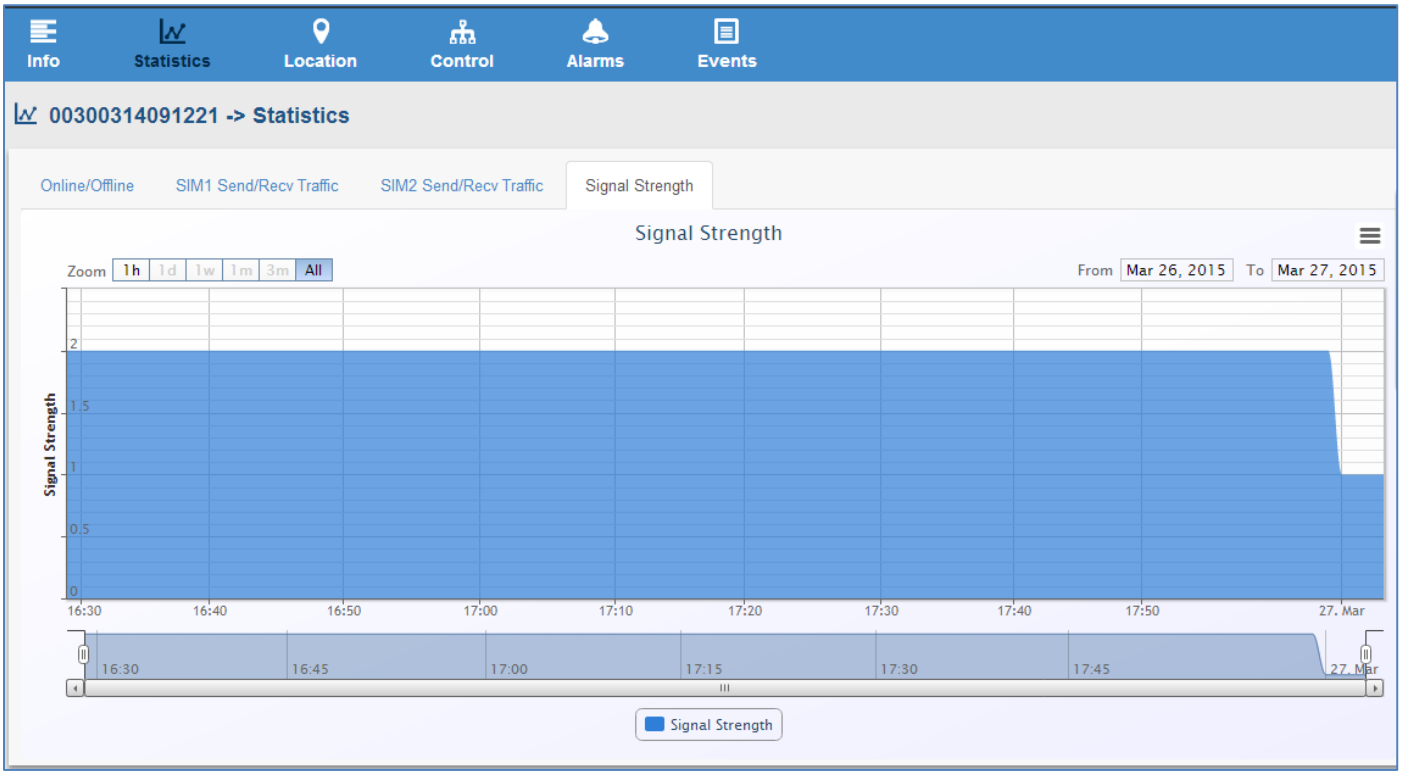
SIM1 Send/Recv Traffic		
Item	Description	Default
Zoom	Select from “1h”, “1d”, “1w”, “1m”, “3m” and “All”. 1h: one hour 1d: one day 1w: one week 1m: one month 3m: three month All: up to now since the registration moment	1h
	Click the button at the upper right, select you choice: Print chart, Download PNG image, Download JPEG image, Download PDF document, Download SVG vector image.	/
SIM1 Send	The send traffic data, unit: byte.	/
SIM1 Recv	The receive traffic data, unit: byte.	/
SIM1 Total	Send traffic data added to Receive traffic data equal to the total value of traffic data.	/
SIM1 Send Different Value	The different value between the current send traffic data and last second send traffic data. Unit: byte.	/
SIM1 Recv Different Value	The different value between the current receive traffic data and last second receive traffic data. Unit: byte.	/
SIM1 Total Different Value	Send Different Value added to Recv Different Value equal to the	/

	Total Different Value.	



SIM2 Send/Recv Traffic		
Item	Description	Default
Zoom	Select from “1h”, “1d”, “1w”, “1m”, “3m” and “All”. 1h: one hour 1d: one day 1w: one week 1m: one month 3m: three month All: up to now since the registration moment	1h
	Click the button at the upper right, select you choice: Print chart, Download PNG image, Download JPEG image, Download PDF document, Download SVG vector image.	/
SIM2 Send	The send traffic data, unit: byte.	/
SIM2 Recv	The receive traffic data, unit: byte.	/
SIM2 Total	Send traffic data added to Receive traffic data equal to the total value of traffic data.	/
SIM2 Send Different Value	The different value between the current send traffic data and last second send traffic data. Unit: byte.	/
SIM2 Recv Different Value	The different value between the current receive traffic data and last second receive traffic data. Unit: byte.	/
SIM2 Total Different Value	Send Different Value added to Recv Different Value equal to the	/

	Total Different Value.	

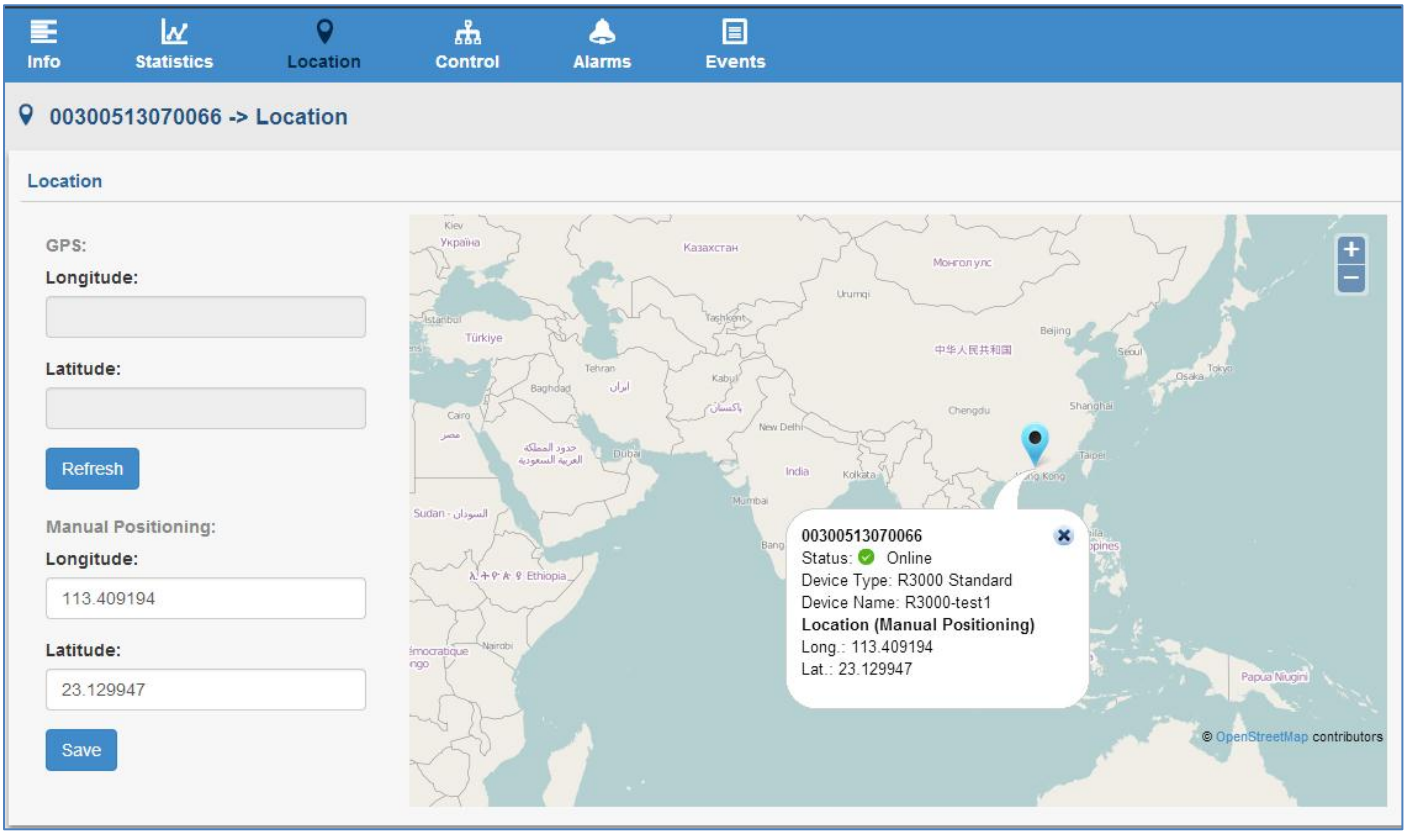


Signal Strength		
Item	Description	Default
Zoom	Select from “1h”, “1d”, “1w”, “1m”, “3m” and “All”. 1h: one hour 1d: one day 1w: one week 1m: one month 3m: three month All: up to now since the registration moment	1h
	Click the button at the upper right, select you choice: Print chart, Download PNG image, Download JPEG image, Download PDF document, Download SVG vector image.	/
Signal Strength	Unit: DB	/

2.5.3 Location

This section shows the location map of the device and allows user to configure the locating mode.

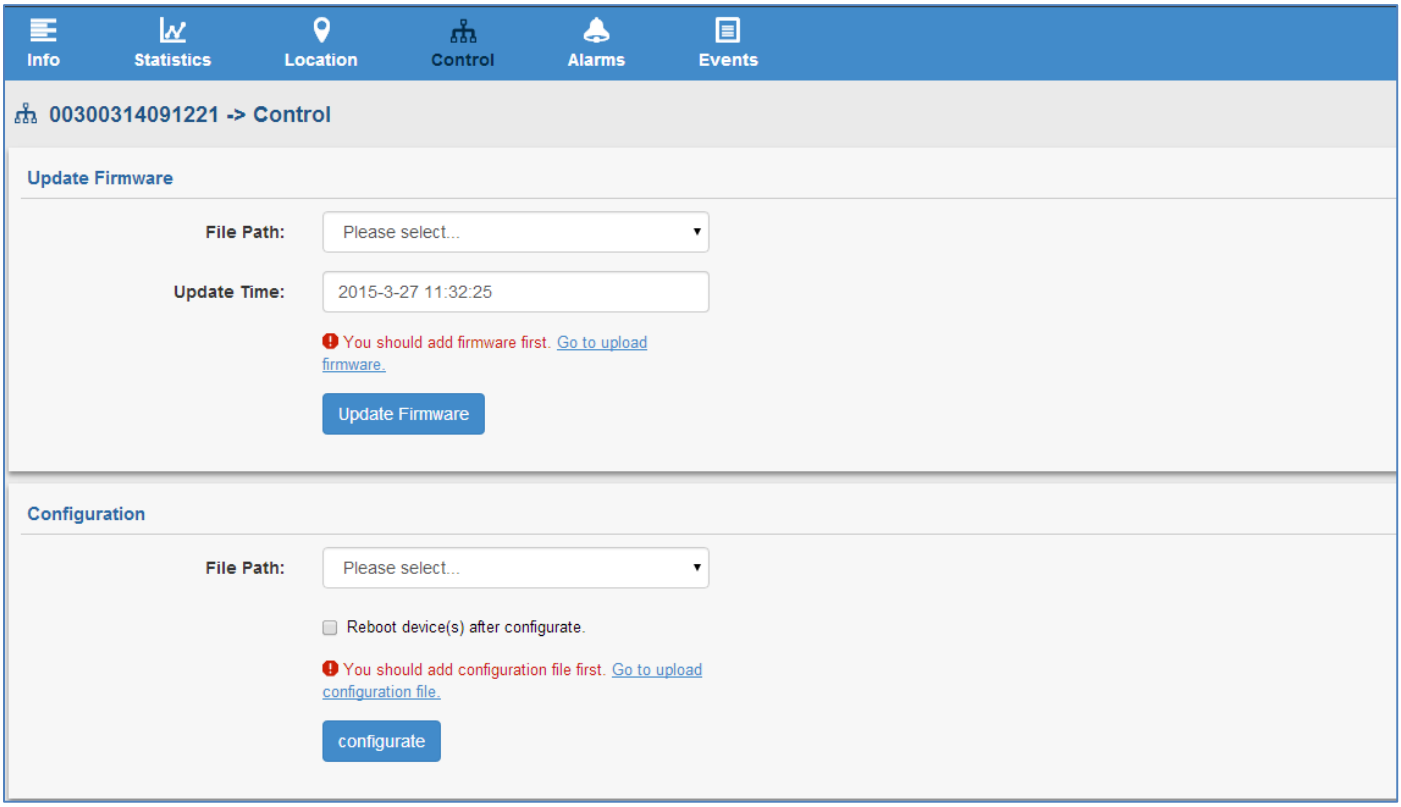
Click the locating point, it will show the details of device’s location.

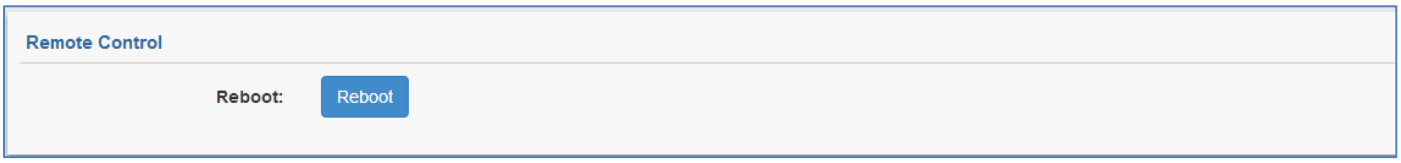


Location		
Item	Description	Default
Longitude	Enter the longitude of the device location.	0.000000
Latitude	Enter the latitude of the device location.	0.000000
Refresh	Click to refresh the device location by GPS.	/
Save	Click to save the longitude and latitude by manual positioning.	/

2.5.4 Control

This section allows user to update firmware, configuration file and reboot the device.

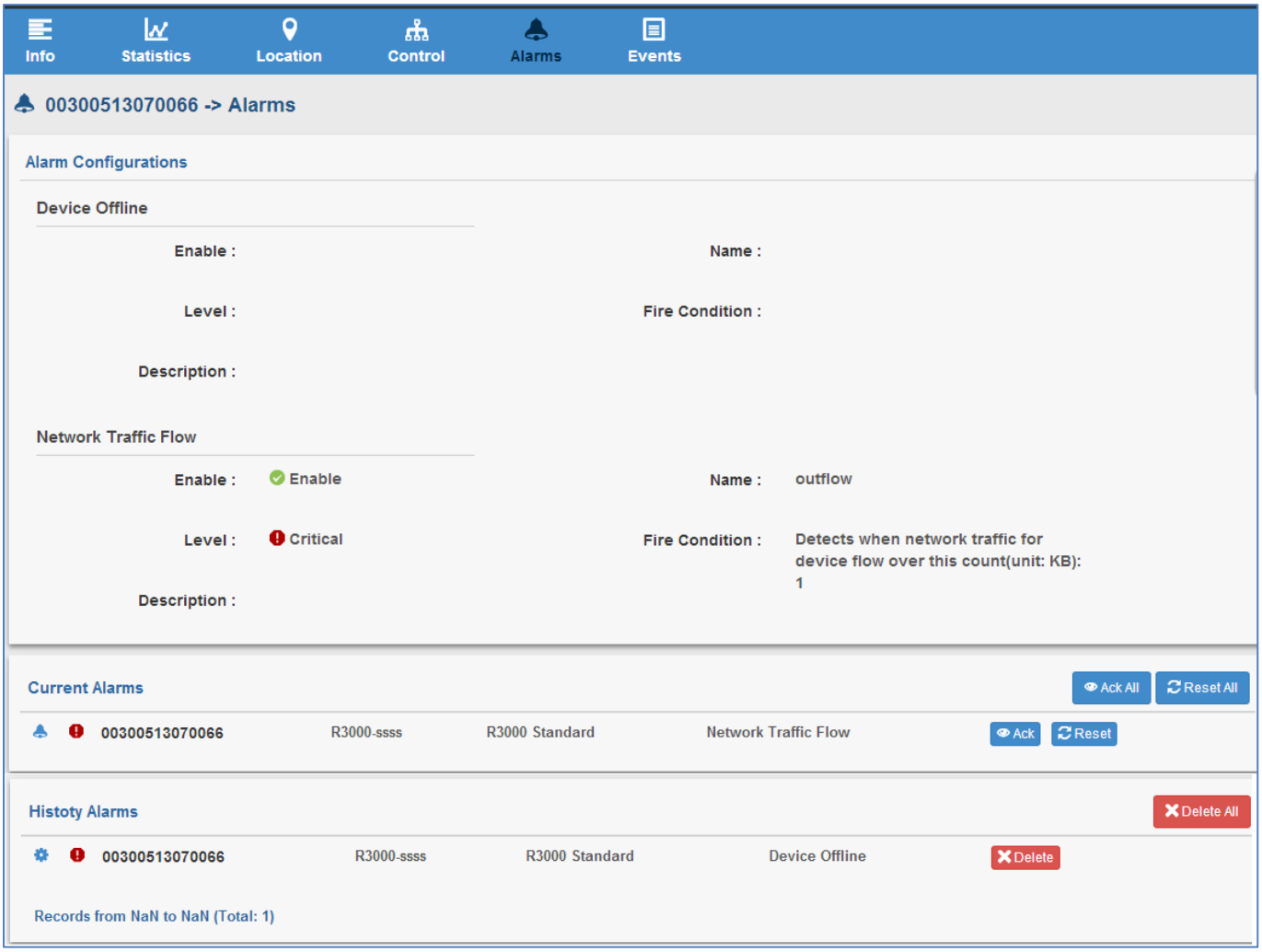




Control		
Item	Description	Default
File Path @ Update Firmware	Select the firmware file, which you had imported in Files.	Null
Update Time @ Update Firmware	Enter the time that you want to update the firmware.	The current time
Update Firmware	Click to update the firmware.	/
File Path @ Configuration	Select the configuration XML file, which you had imported in Files.	Null
Reboot device(s) after configuration	Click to enable that Reboot device(s) after configuration.	Unable
configurate	Click to configure RobustLink web according to the configuration file.	/
Reboot	Click to reboot the device.	/

2.5.5 Alarms

This section shows the status of Alarms.



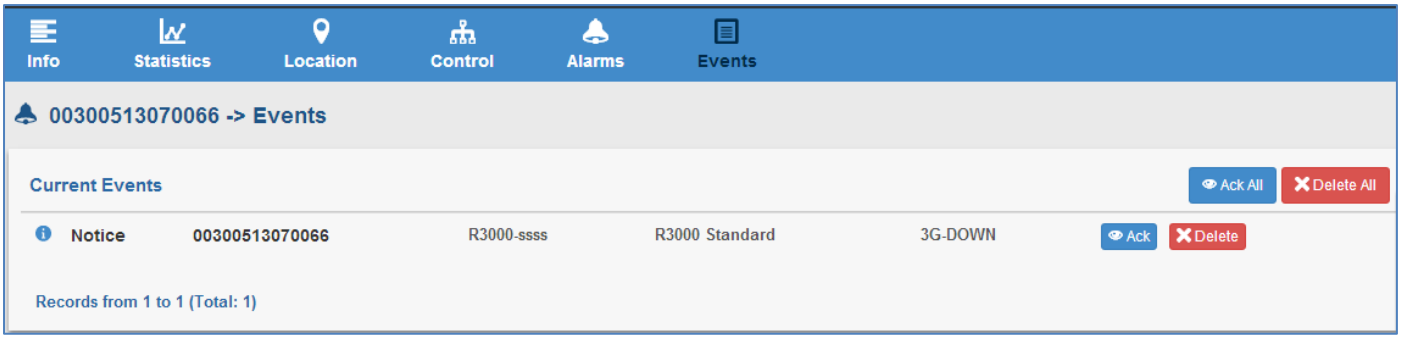
Alarms	
Item	Description
Device Offline	This part shows the configuration of Device Offline alarm.
Network Traffic Flow	This part shows the configuration of Network Traffic Flow alarm.
Current Alarm	This part shows the current alarm.
Ack All	Click to acknowledge all the alarms.
Reset All	Click to reset all the alarms.
Ack	Click to acknowledge the current alarms.
Reset	Click to reset the alarms.
History Alarm	This part shows the history alarm.

Delete All	Delete all the historical alarms.
Delete	Delete this historical alarm.

2.5.6 Events

This section shows the status of current events.

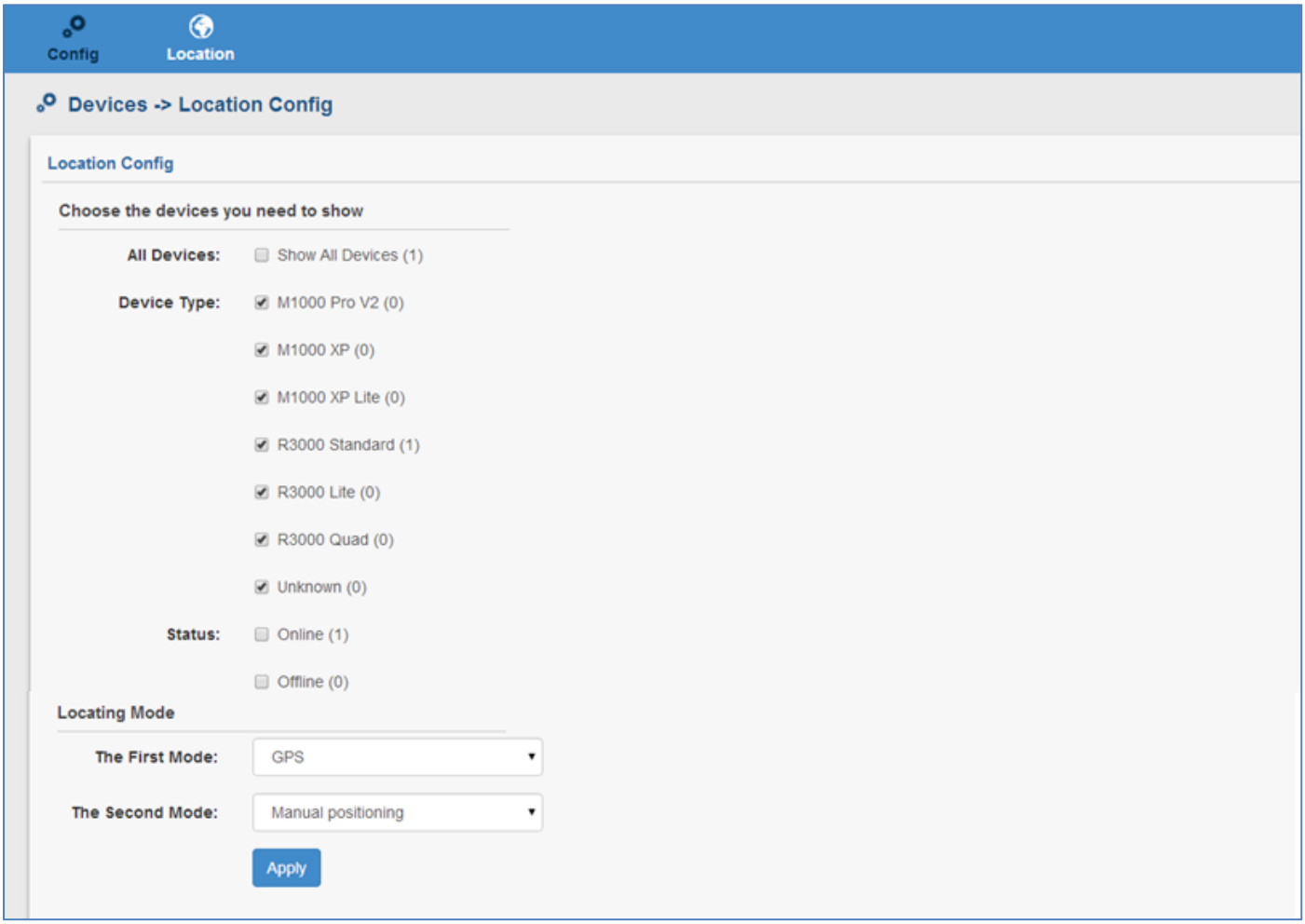
Note: *Firstly, user should enable the Event function in R3000's configuration Web. The path in R3000's configuration web is Configuration->Event.*



Events	
Item	Description
Ack All	Click to acknowledge all the events.
Ack	Click to acknowledge this current event.
Delete All	Delete all the current events.
Delete	Delete this current event.

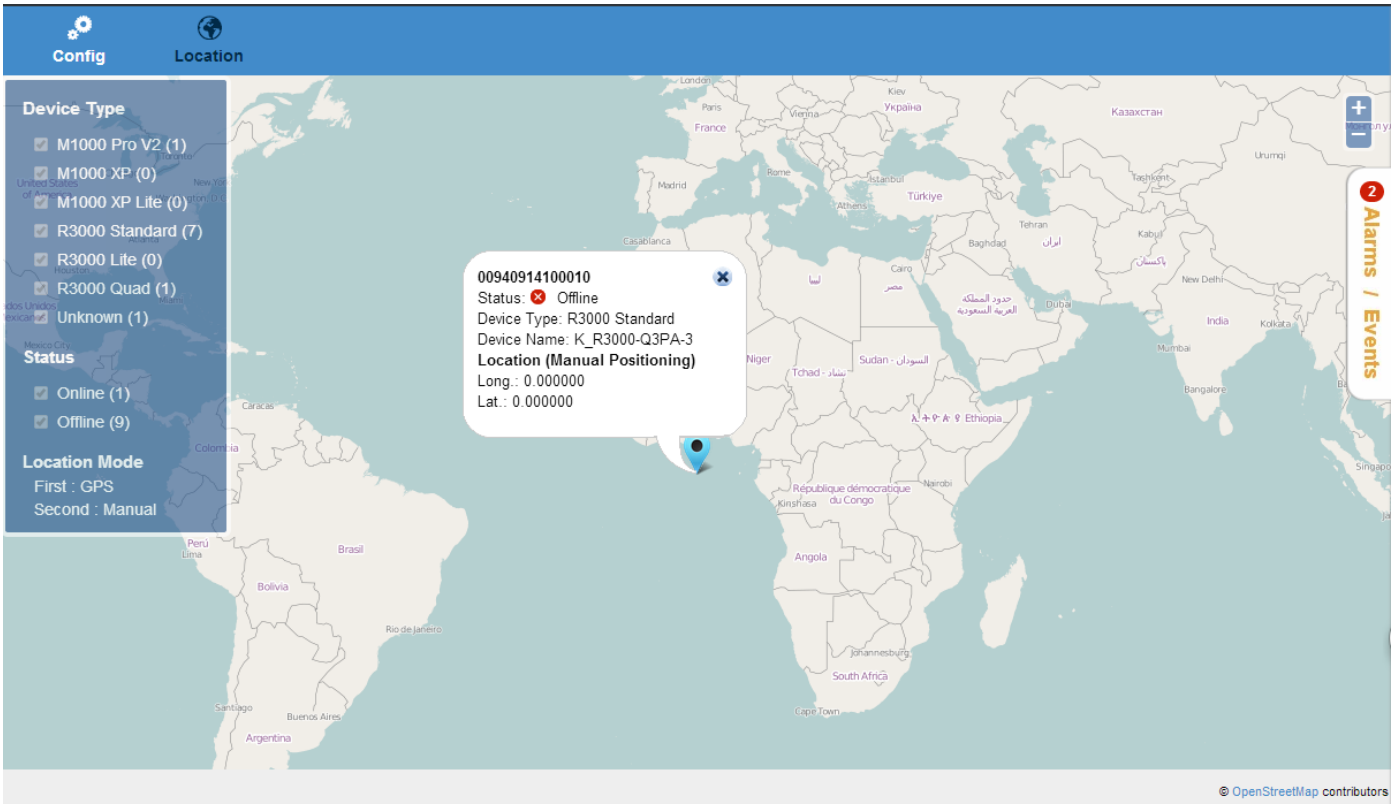
2.6 DEVICES ->Location

This section allows user to configure the locating mode.



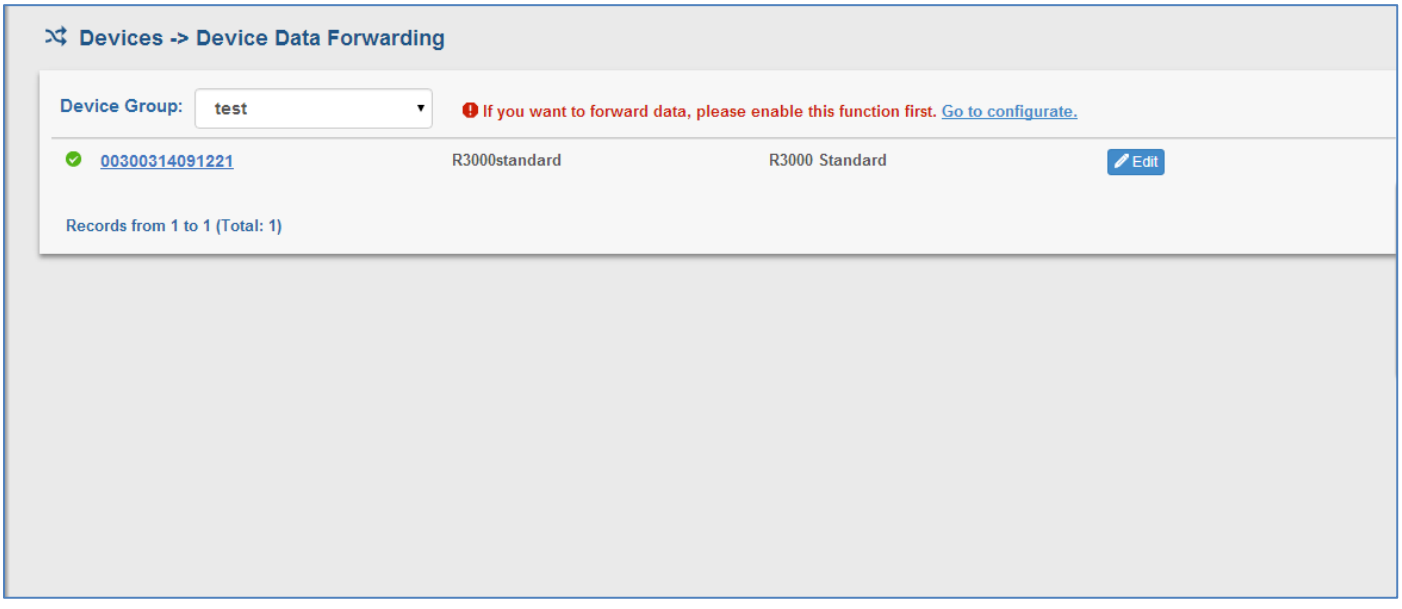
Config @ Location		
Item	Description	Default
All Devices	Enable “Show All Devices”, following options of “Device Type” and “Status” will all be chosen.	Unable
Device Type	A device type represents a category of devices that have the same characteristics, typically a hardware family. Select from “M1000 Pro V2”, “M1000 XP”, “M1000 XP Lite”, “R3000 Standard”, “R3000 Lite”, “R3000 Quad” and “Unknown”. Your choice will be showed in section location, the path is location\location.	Unable
Status	Select from “Online” and “Offline”. Your choice will be showed in section location, the path is location\location.	Unable
The first Mode	Select “GPS” or “Manual Positioning”, which you want to be the preferred locating mode.	Null
The Second Mode	Select “GPS” or “Manual Positioning”, which you want to be the second locating mode.	Null

The section show the location map of devices.
Click the locating point, it will show the details of device's location.

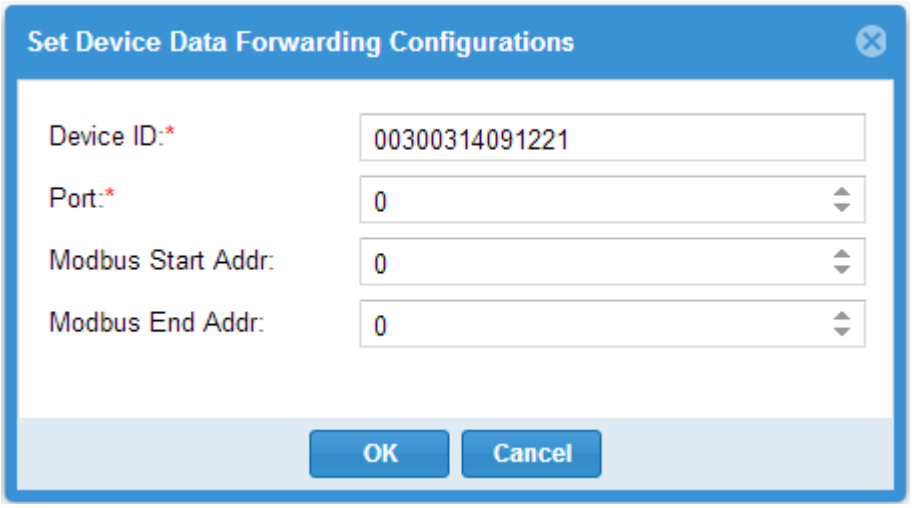


2.7 DEVICES ->Data Forwarding

The section allows user to configure Data Forwarding.
Note: If you want to forward data, please enable this function first. The path is ADMIN\Agent Server\Agent Server Basic Setting.



Click Edit to set Device Data Forwarding Configuration.

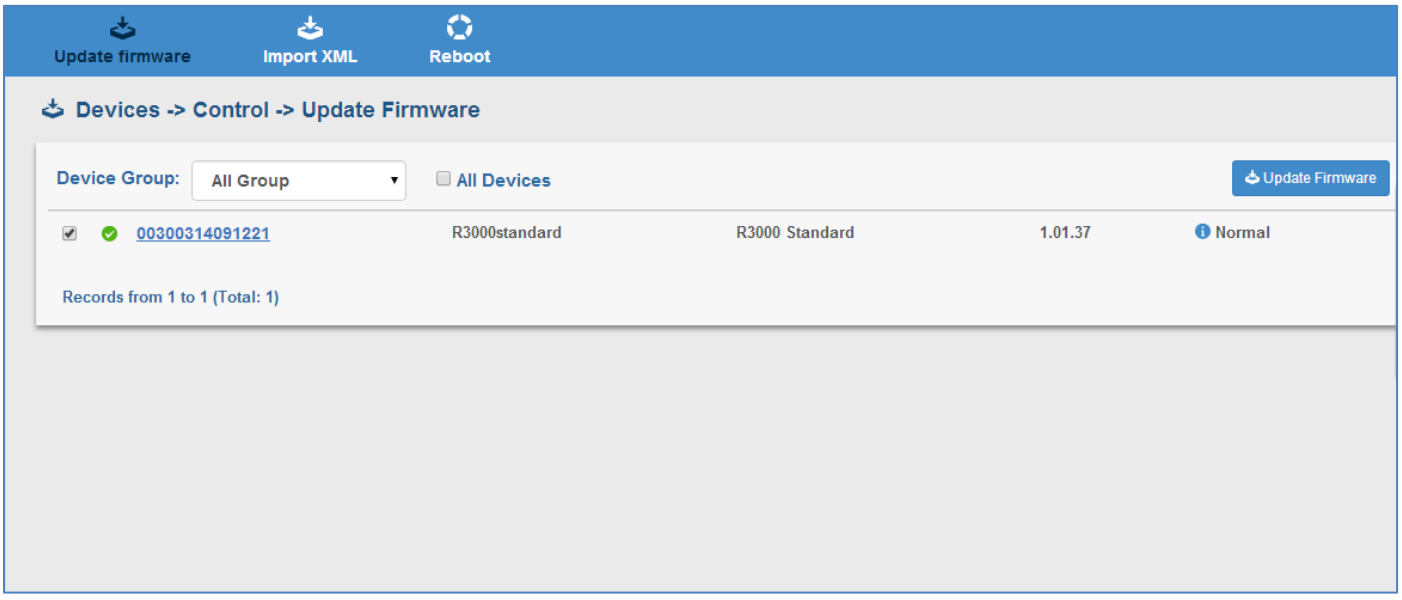


Data Forwarding		
Item	Description	Default
Device ID	Enter the Serial Number of the device.	Null
Port	Enter the port to forward data. And then the port of receiving data must be consistent with this data forwarding port.	0
Modbus Start Addr	Enter the Modbus Start Address, the maximum value for this field is 247.	0
Modbus End Addr	Enter the Modbus End Address, the maximum value for this field is 247.	0

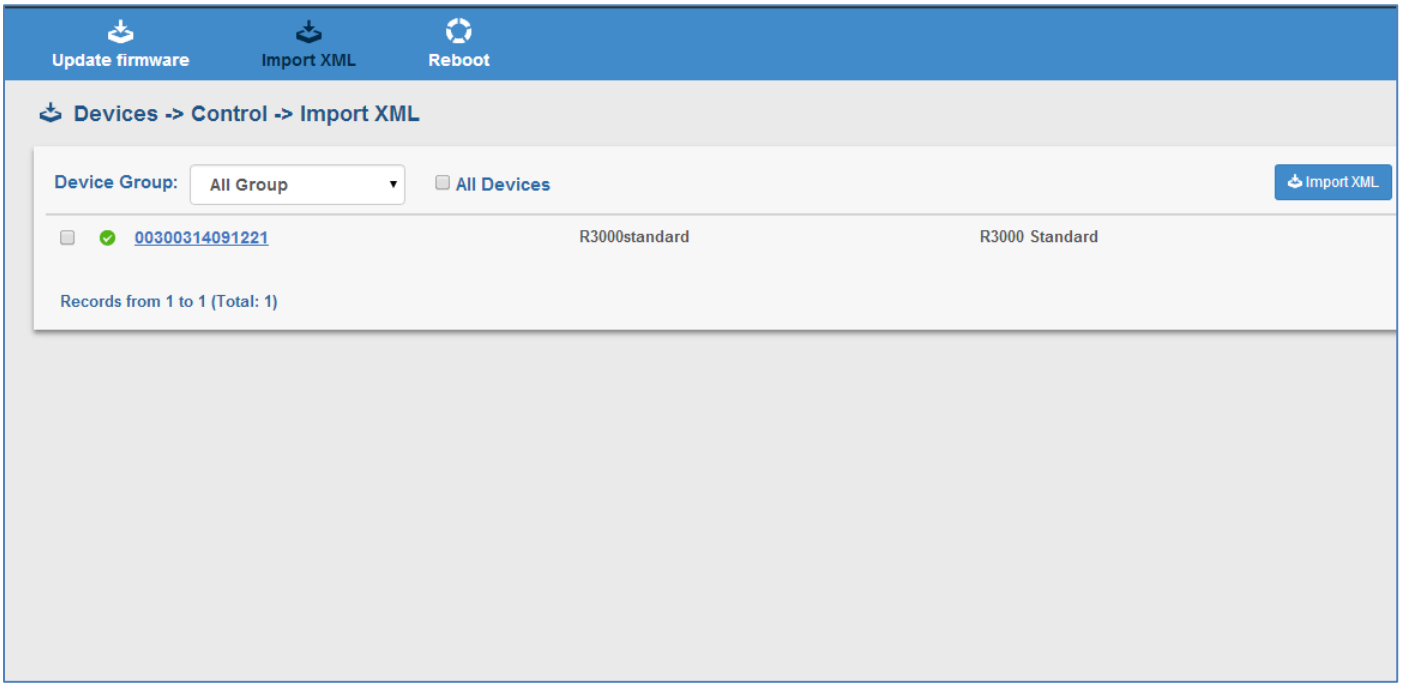
2.8 DEVICES ->Control

In this section, user can batch processing those devices. The processing for devices includes update firmware, import XML and reboot devices.

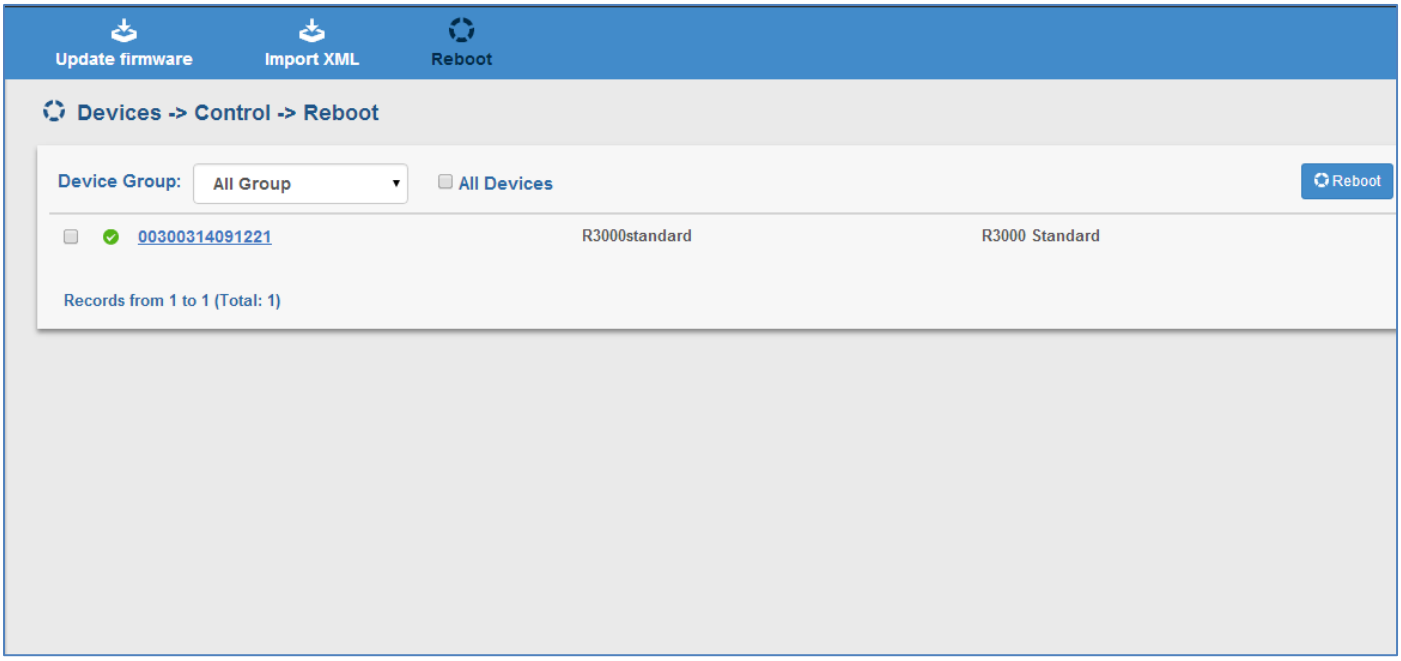
Note: You should add firmware for this device type first. The path is DEVICES\Files\Upload.



Update firmware @ Control		
Item	Description	Default
Device Group	Select device group from the drop-down box. This device group must have added in section device groups.	All Group
All Devices	Click to choose all devices.	Unable
Update Firmware	Click to update the firmware.	/



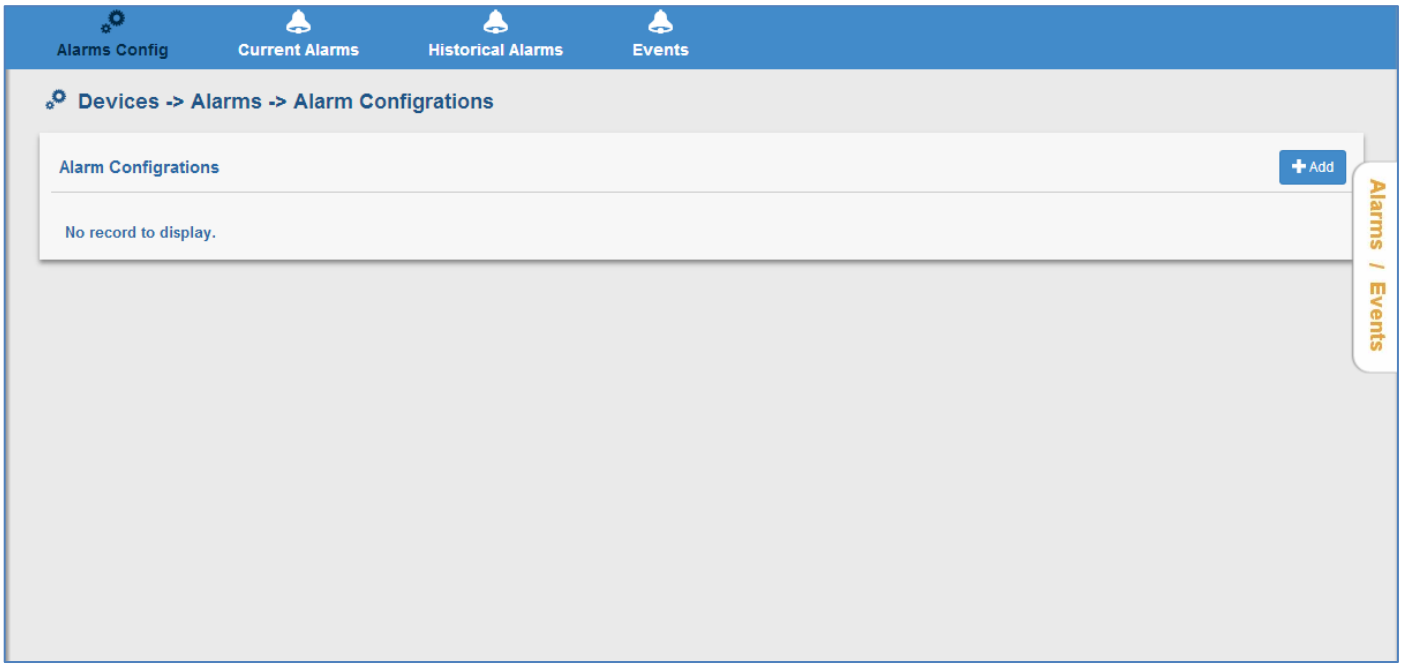
Import XML @ Control		
Item	Description	Default
Device Group	Select device group from the drop-down box. This device group must have added in section device groups.	All Group
All Devices	Click to choose all devices.	Unable
Import XML	Click to import XML.	/



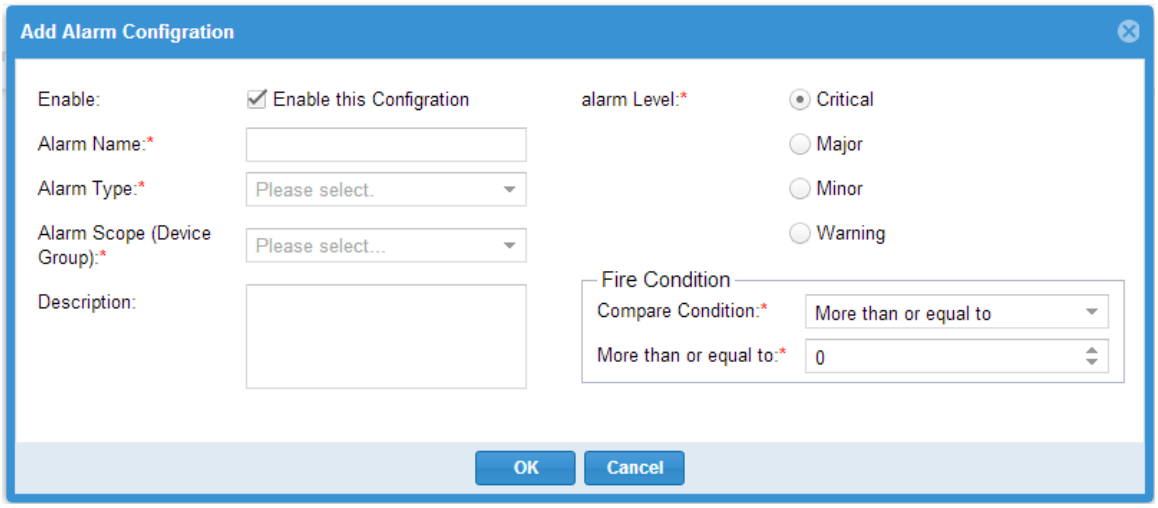
Reboot @ Control		
Item	Description	Default
Device Group	Select device group from the drop-down box. This device group must have been added in section device groups.	All Group
All Devices	Click to choose all devices.	Unable
Reboot	Click to reboot devices.	/

2.9 DEVICES ->Alarms/ Events

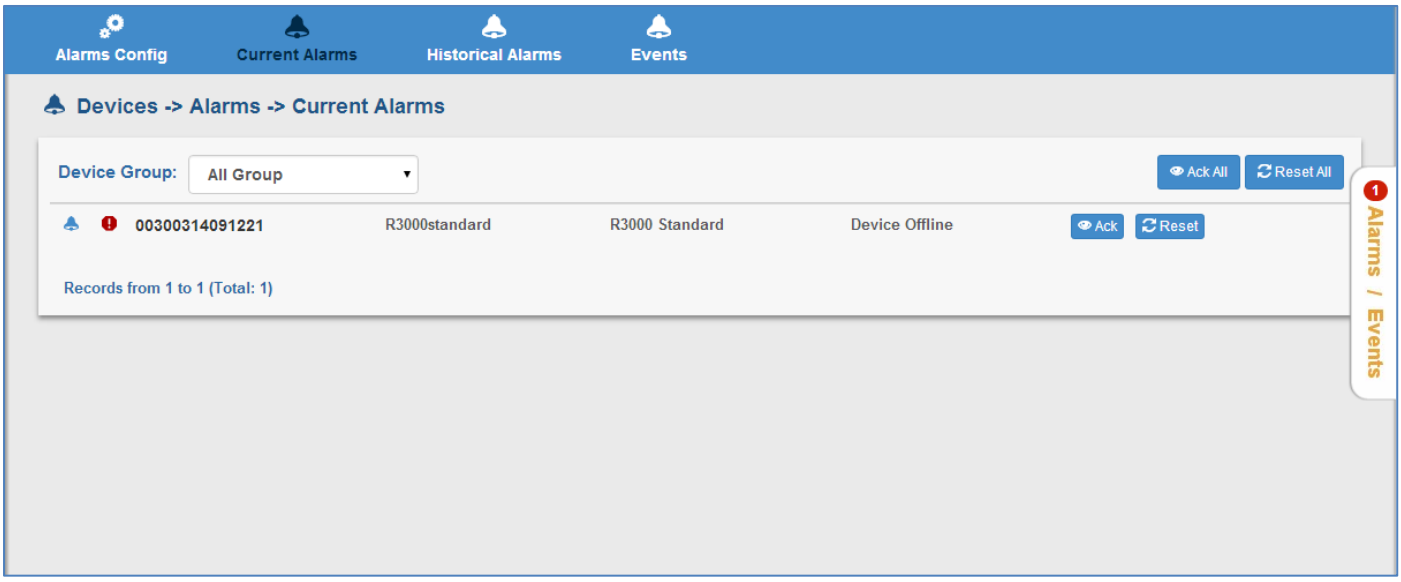
This section allows user to add the alarms and ack those occurred Alarms and Events.



Click  to add a new alarm.

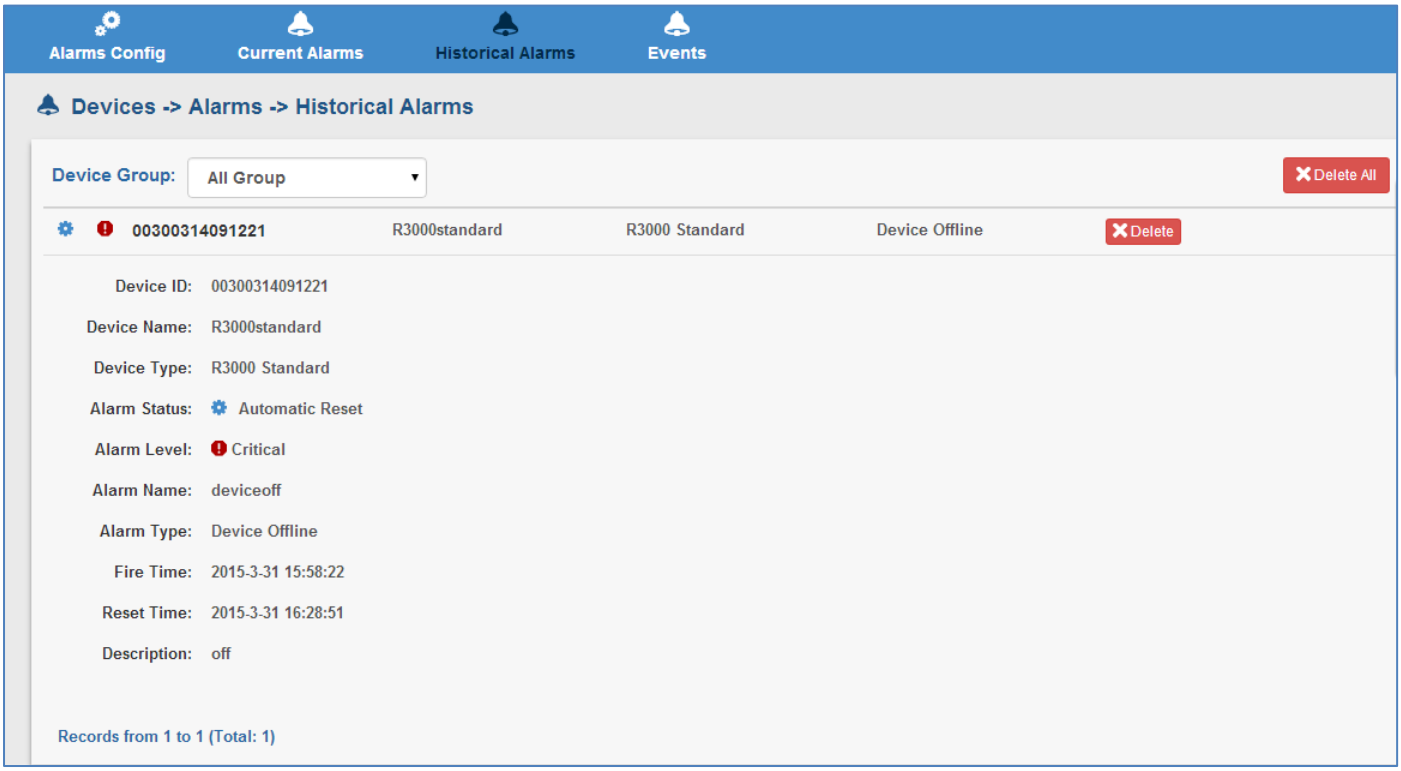


Alarms Config @ Alarms/Events		
Item	Description	Default
Enable	Click to enable the alarm configuration.	Enable
Alarm Name	Enter the alarm name.	Null
Alarm Type	Select from “Device Offline”, “Network Traffic Flow”.	Null
Alarm Scope (Device Group)	Select device group from the drop-down box. This device group must have been added in section device groups.	Null
Description	Enter some simple words about the alarm.	Null
Alarm level	Select from “Critical”, “Major”, “Minor”, “Warning”.	Critical
Compare Condition	Select “More than or equal to”.	Null
More than or equal to (unit: sec)	Enter a time interval, once the keeping time of device alarm type is more than or equal to this interval, the alarm will be triggered.	0

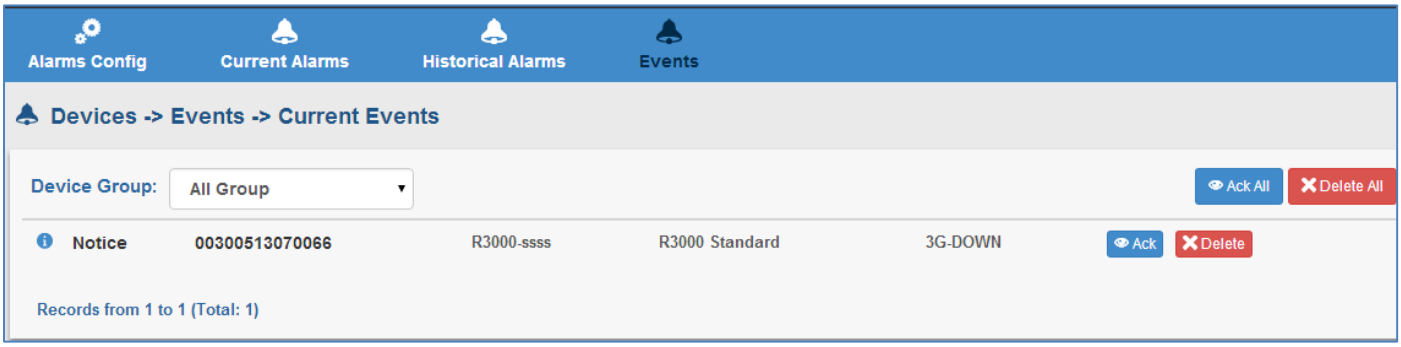


Current Alarms @ Alarms/Events		
Item	Description	Default
Device Group	Select device group from the drop-down box. This device group must have been added in section device groups.	All Group
Ack All	Click to acknowledge all the alarms.	/
Reset All	Click to reset all the alarms.	/
Ack	Click to acknowledge the current alarms.	/
Reset	Click to reset the alarms.	/

Click the line, the information of device historical alarm will be displayed.



Historical Alarms @ Alarms/Events		
Item	Description	Default
Device Group	Select device group from the drop-down box. This device group must have been added in section device groups.	All Group
Delete All	Delete all the historical alarms.	/
Delete	Delete this historical alarm.	/



Note: *Firstly, user should enable the Event function in R3000's configuration Web. The path in R3000's configuration web is Configuration->Event.*

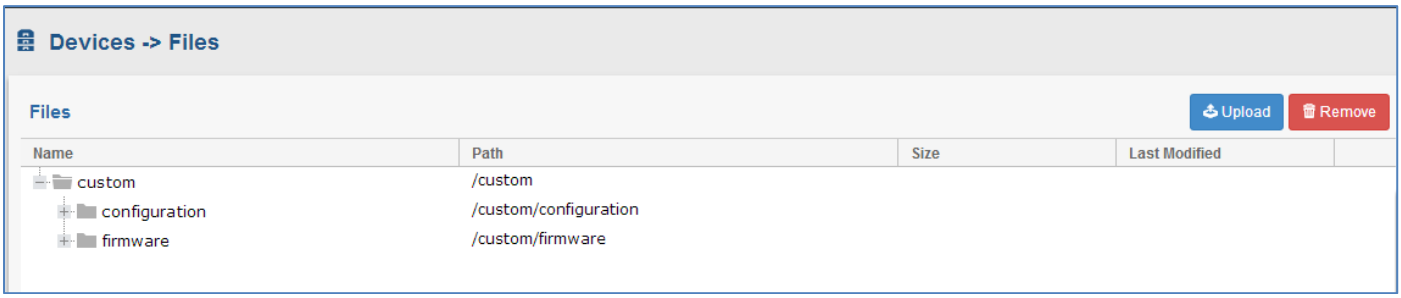
Events @ Alarms/Events

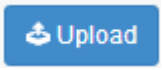
Item	Description	Default
Device Group	Select device group from the drop-down box. This device group must have been added in section device groups.	All Group
Ack All	Click to acknowledge all the events.	/
Ack	Click to acknowledge this current event.	/
Delete All	Delete all the current events.	/
Delete	Delete this current event.	/

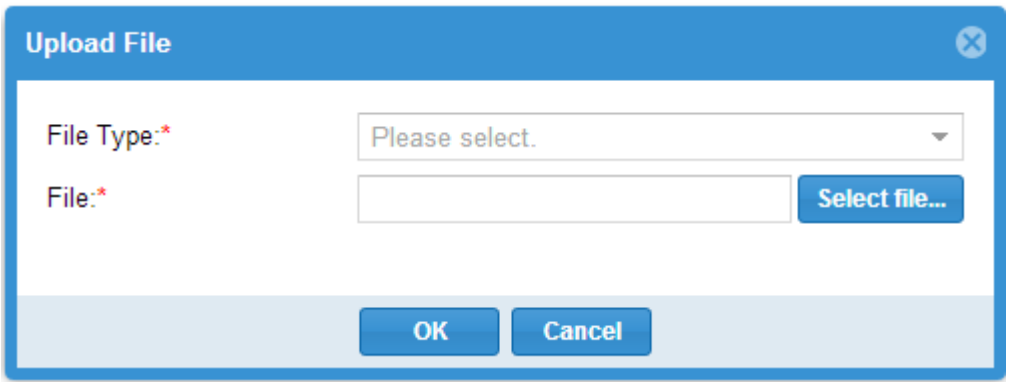
Click  , the following page will appear, those are the status of alarms and events of the devices.

2.10DEVICES ->Files

This section allows user to upload firmware and configuration file. And then user can use those file to update the firmware and configuration in tab “DEVICES>“Control”.



Click  to upload the correct file.



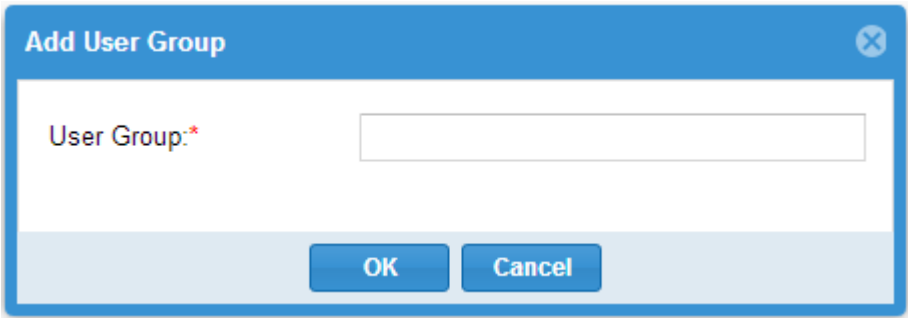
Events @ Alarms/Events		
Item	Description	Default
File Type @ Upload File	Select from “firmware” and “configuration file”.	Null
File @ Upload File	Select the correct file from your PC.	Null
Remove	Remove the file.	/

2.11ADMIN -> User Groups

This section allows user to add user groups.

Note: the super_user group can only add one user, and the user in super_user group has the highest authority.

Click  to add a new user group.



Add User Group		
Item	Description	Default

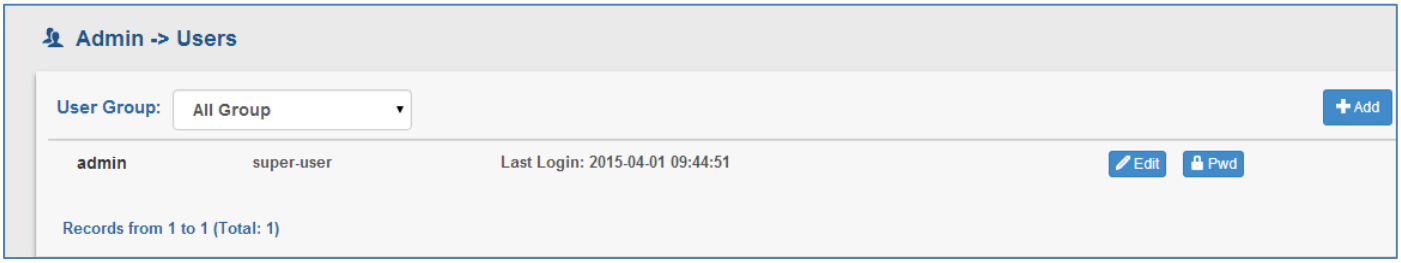
User group	Enter the user group name.	Null

Click the user group name which you have added, and then it will switch to Users page. The path of Users' page is \ADMIN\Users. More details of Users configuration refers to 2.12ADMIN->Users.

2.12ADMIN -> Users

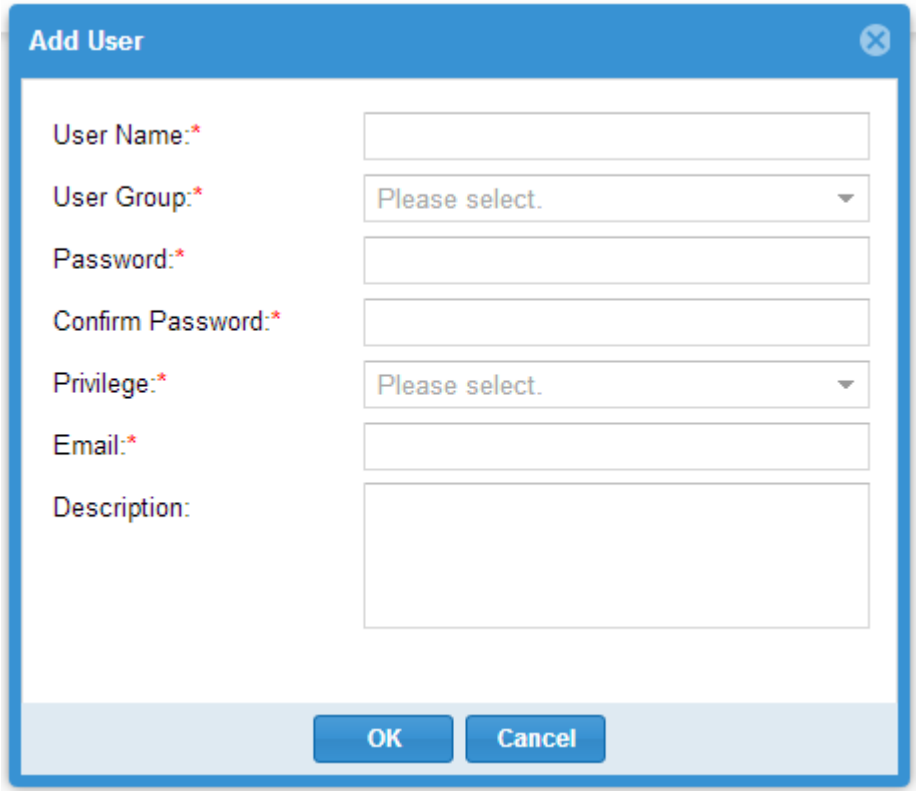
This section allows users to add users to user group.

Note: the super_user group can only add one user, and the user in super_user group has the highest authority.



Click 

to add a new user to user group.

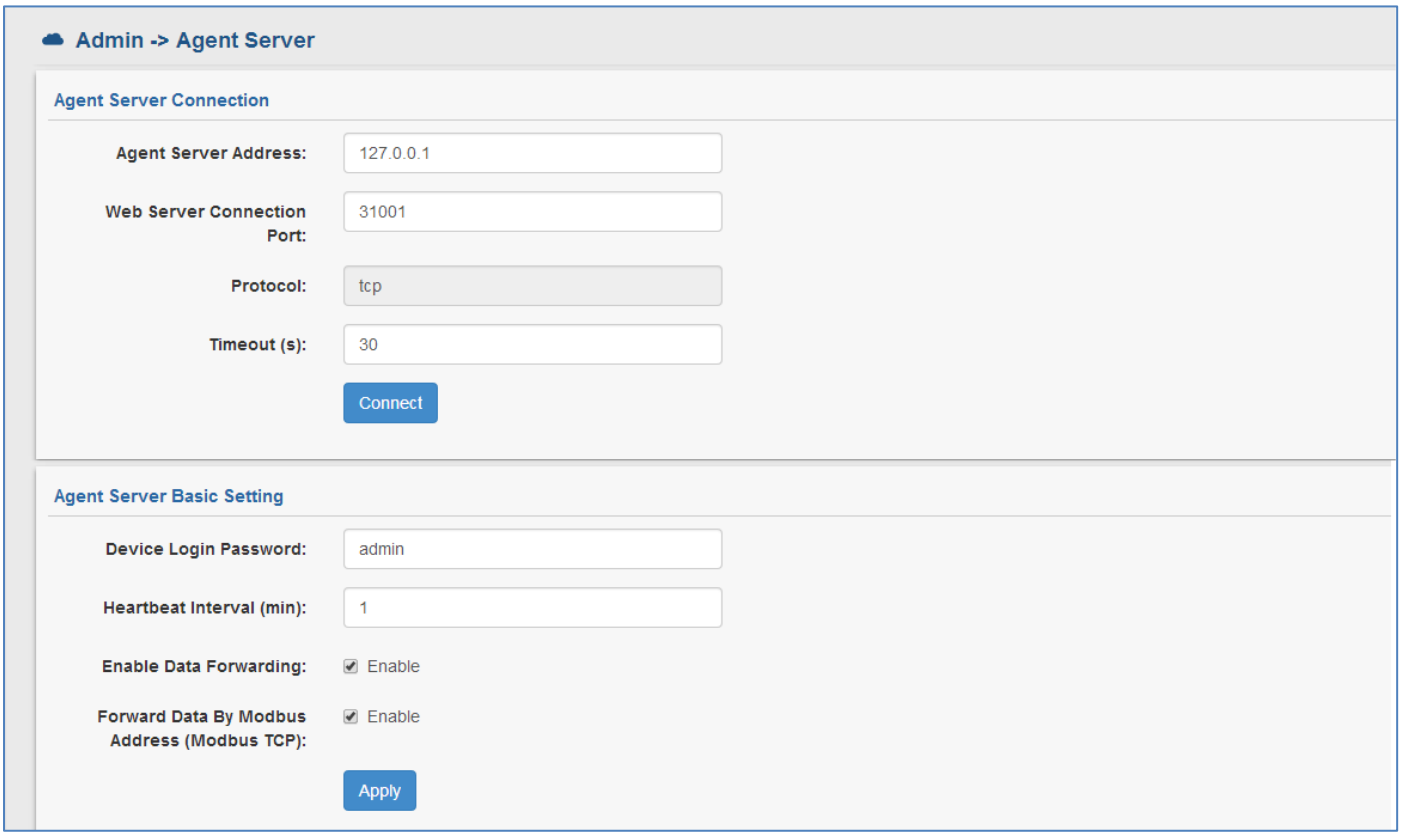


Add @ User		
Item	Description	Default
User Name	Enter the user name.	Null
User Group	Select the user group which you want to add user in.	Null
Password	Enter the password. The range of data length is from 5 to 64.	Null

Confirm Password	Enter again the password as what you set in “New Password”. The range of data length is from 5 to 64.	Null
Privilege	Select from “administrator”, “user” and “readonly”. Administrator: User can read and change the settings of all configuration items. User: it can read the status of tab “HOME” and “DEVICES and change the settings. readonly: it can only read the status of tab “HOME” and “DEVICES, but can’t change the settings	Null
Email	Enter the email which uses to receive the alarm of slave device.	Null
Description	Enter some simple words about the user.	Null

2.13ADMIN-> Agent Server

This section allows user to configure the agent server.

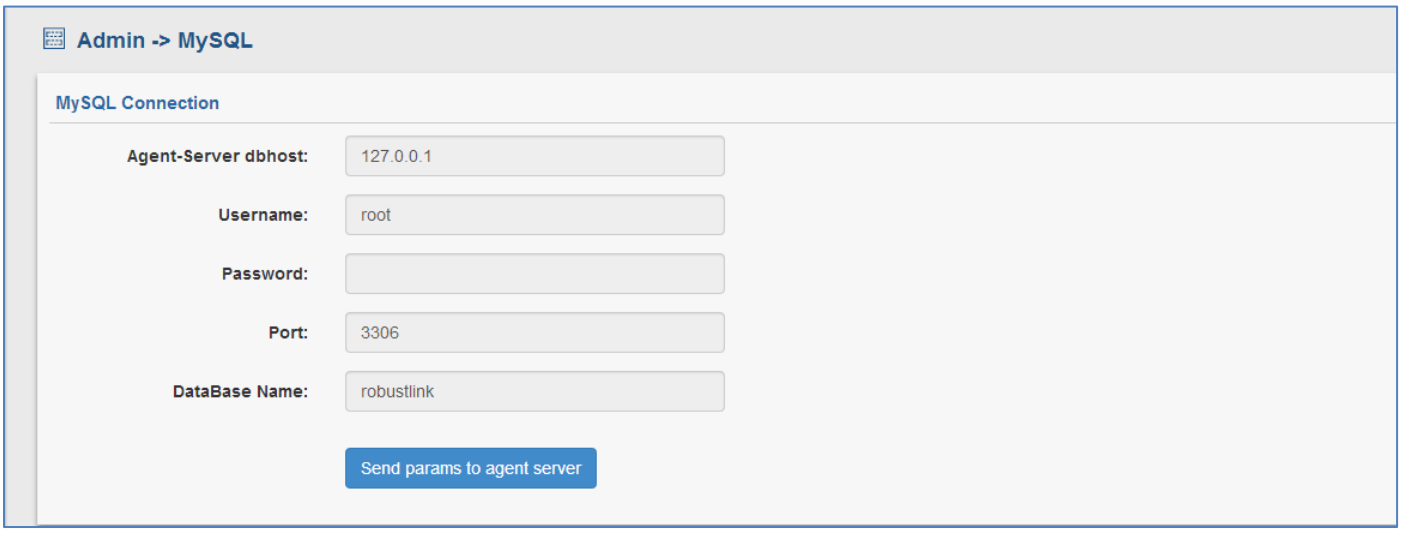


Agent Server		
Item	Description	Default
Agent Server Address	Set IP address of Agent Server. For example, when Agent Server and Apache installed in the same server, user can enter “localhost” or “127.0.0.1” in this field; If Agent Server is set away from Apache, not in the same IP address, user should enter the IP address of Agent Server. For example, when Agent Server is installed in remote server (PC), its IP	127.0.0.1

	address is 120.197.58.89, and then we shall enter “120.197.58.89” in this filed.	
Web server Connection Port	Enter the port number which was set by agent server. For example, when start the agent server and set the 31001 for web server to access the agent server, user should enter 31001 in this field.	31001
Protocol	The protocol for web server to connect agent server.	tcp
Timeout (s)	Set timeout when web server connects to Agent Server. For example, if “Timeout” is set as “30”, when web server keep on connecting Agent Server, after 30 seconds but still can’t succeed to connect to Agent Server, log information will show connection timeout. Data range is from 5 to 60 seconds.	30
Connect	Click to update settings to Agent Server after above settings.	/
Device Login Password	Enter the device login password.	Null
Heartbeat Interval (min)	When using GPRS/UMTS with a session running, most ISPs will monitor the traffic flow. If there is none for a predetermined period of time then it will shut the connection down at either the DHCP server or the APN, this is performed so that system resources are not taken up unnecessarily. To stop this happening you will need to send periodic Heartbeat bytes to keep the TCP connection always online. This item allows user to set time interval between two Heartbeat packets. The range is from 1 to 1440 min.	10
Enable Data Forwarding	Click to enable data forwarding.	unable
Forward Data By Modbus Address (Modbus TCP)	Click to enable forward data by Modbus address.	unable
Apply	Click to make you configuration effect.	/

2.14ADMIN -> Mysql

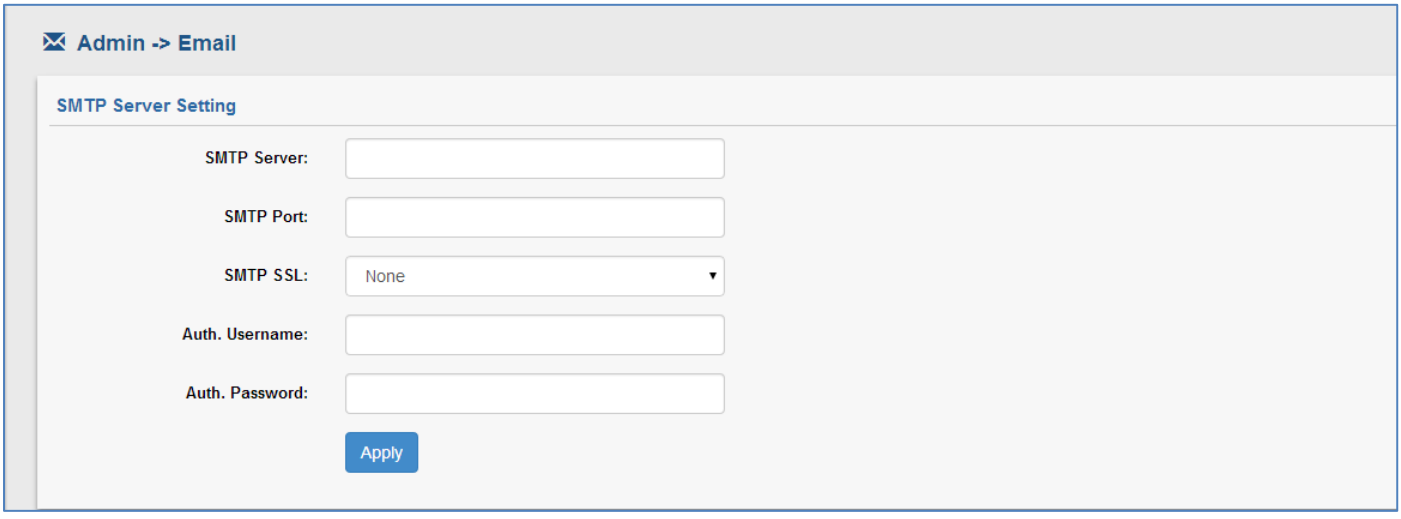
This section allows user to send params from MySQL to agent server.



Mysql		
Item	Description	Default
Send params to agent server	Click to send params from MySQL to agent server.	/

2.15ADMIN->Emails

This section allows user to set the SMTP server.

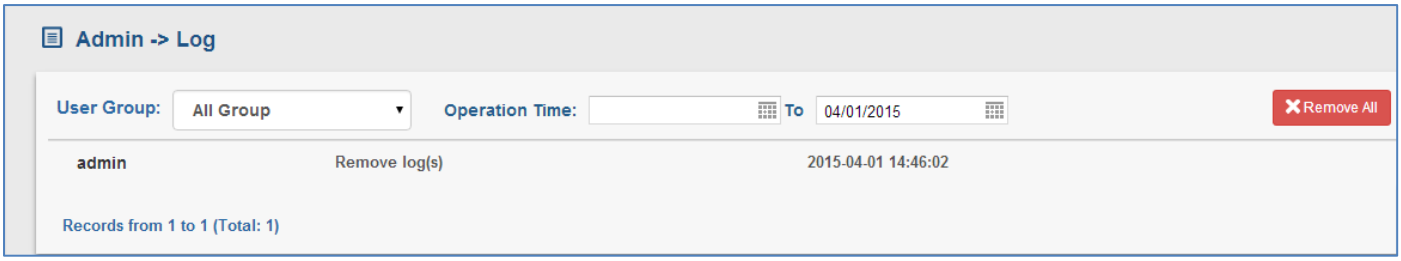


Email		
Item	Description	Default
SMTP Server	Enter the SMTP server IP address or domain.	Null
SMTP Port	Enter the port of SMTP server.	Null
SMTP SSL	Select from “None”, “SSL” and “TLS”. None: without certificate SSL: Secure Sockets Layer	None

	TLS: Transport Layer Security	
Auth. Username	Enter the username which had been authenticated by SMTP Server.	Null
Auth. Password	Enter the password which had been authenticated by SMTP Server.	Null
Apply	Click to apply your setting.	/

2.16ADMIN -> Logs

This section shows the historical logs of RobustLink.

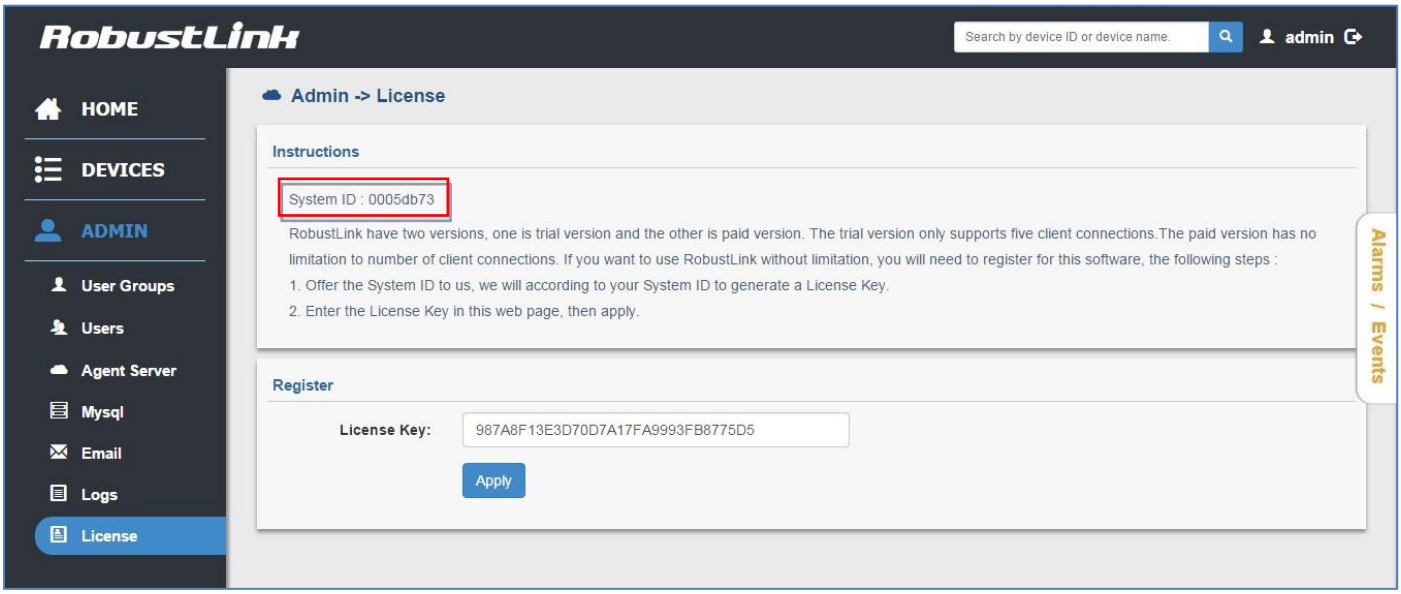


Logs		
Item	Description	Default
User Group	Select the user group which you want.	All group
Operation Time	Click to select the date.	Null
Remove All	Click to delete all the logs.	/

2.17ADMIN -> License

This section allows user to import the license key of RobustLink.

RobustLink have two versions, one is trial version and the other is paid version. The trial version only supports five devices connections. The paid version has no limitation to number of client connections. If you want to use RobustLink without limitation, you will need to register for this software.



Offer the System ID to our sales, we will according to your System ID to generate a License Key.

E.g.

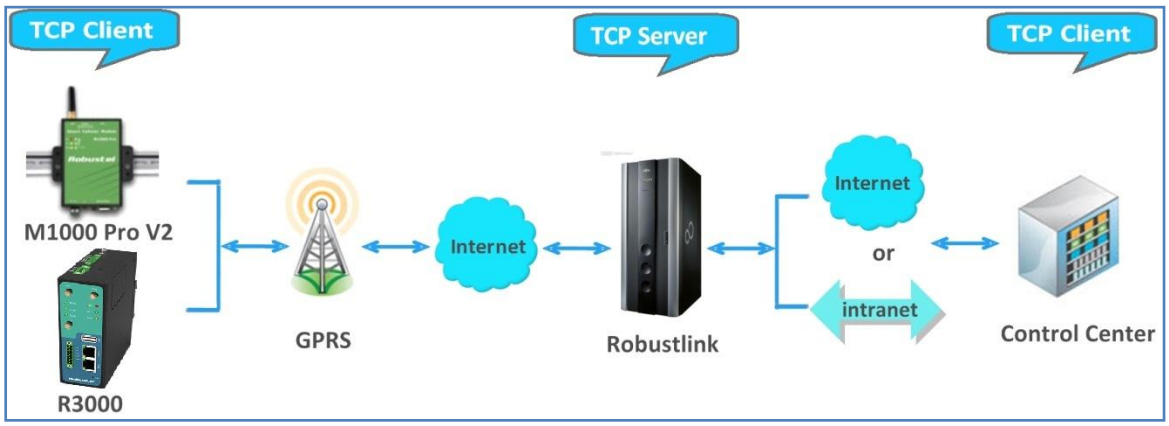
System ID: 0005db73

License key: 68BB896715913B99B8A8CE2EABA86876

Enter the License Key in RobustLink, then click “Apply”.

Chapter 3 Examples

3.1 Application Diagram for Introduction



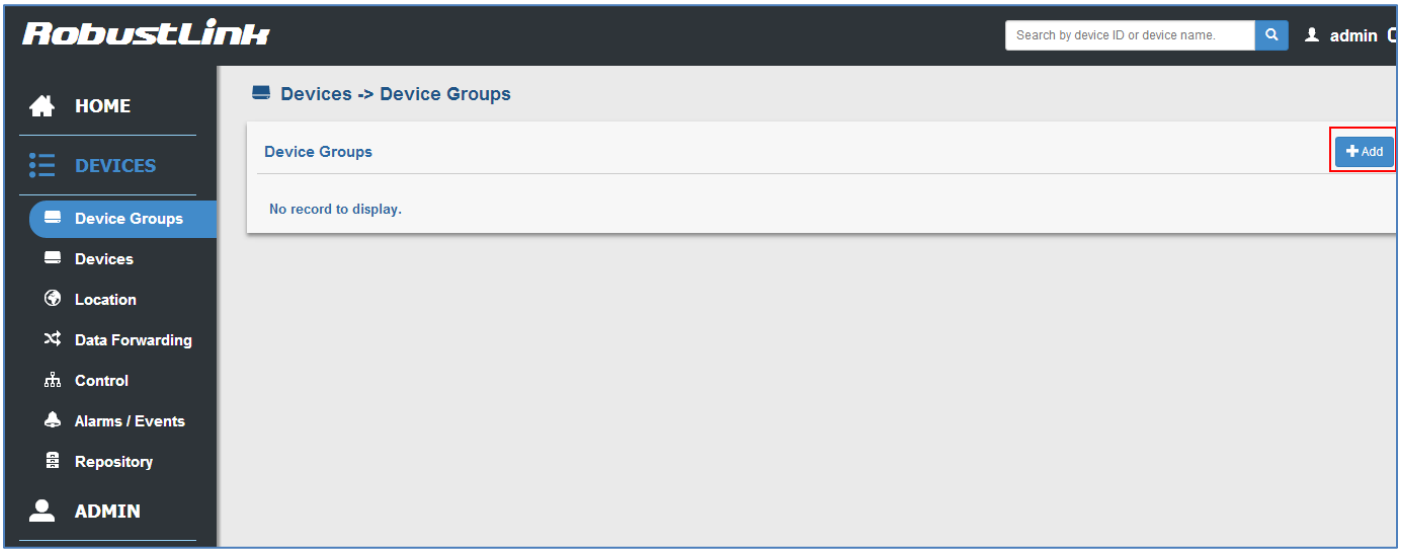
1. M1000 Pro V2/ R3000 works as TCP Client with any IP which can access to Internet.
2. RobustLink works as TCP Server with fixed public IP or dynamic IP with domain name.
3. Another TCP Client site, Control Center for example, works as another TCP Client which connects with RobustLink via intranet (LAN port) or via Internet.

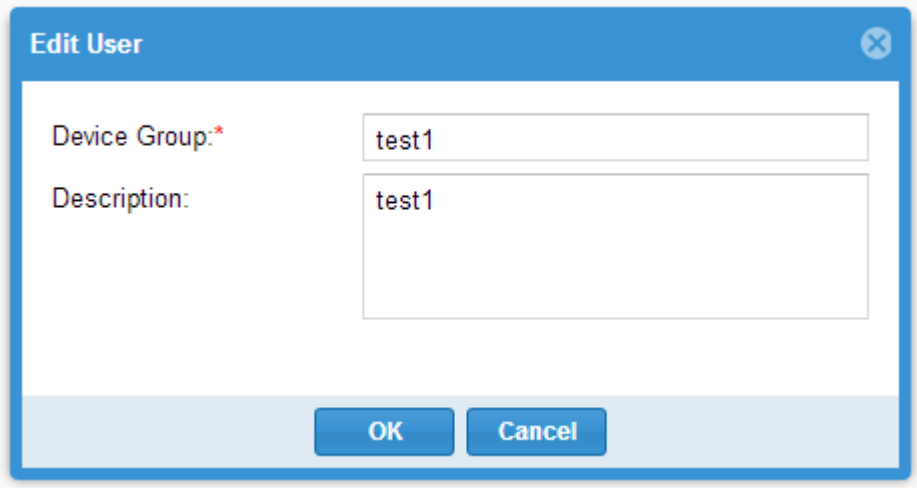
3.2 Manage M1000 Pro V2 via RobustLink

3.2.1 Connect M1000 Pro V2 to RobustLink

1. Login RobustLink Web GUI, go to tab “DEVICES” -> “Devices Groups”, click “ 

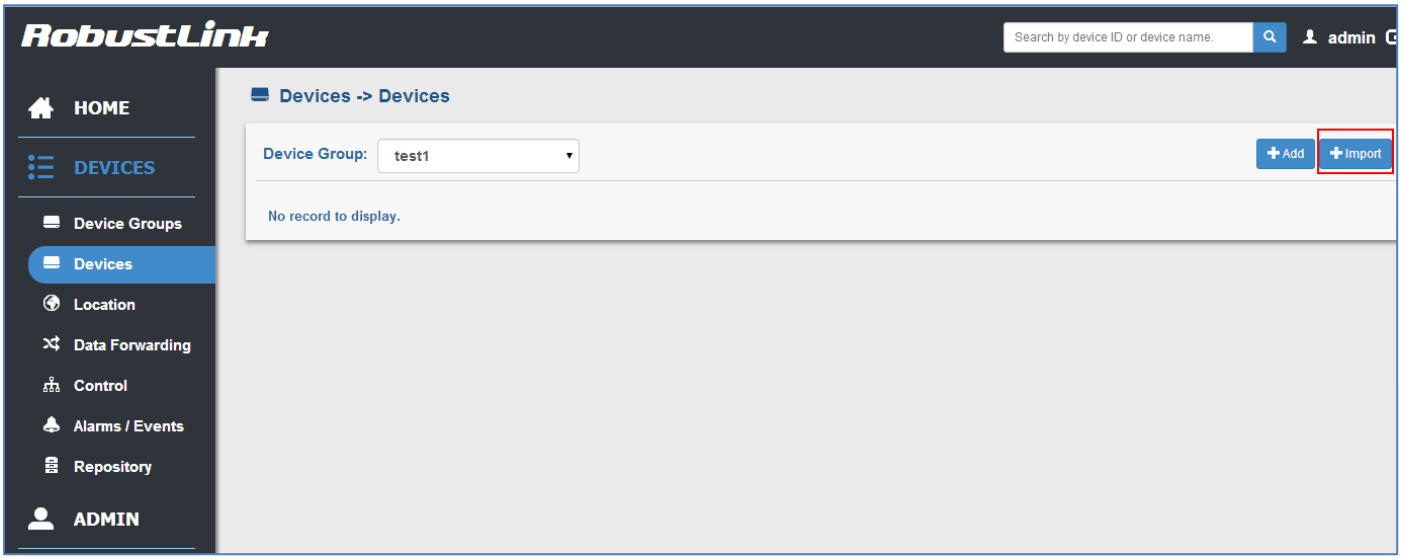
” to add a new group. The device group names test1.

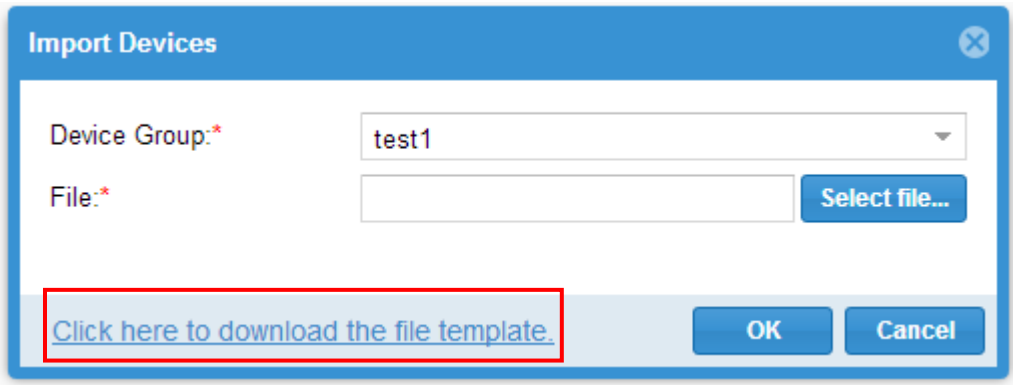




2. Click “test1” (device group name), and then it will switch to Devices page.

   Click “ Import ”, download the file template. File name: devices.xls



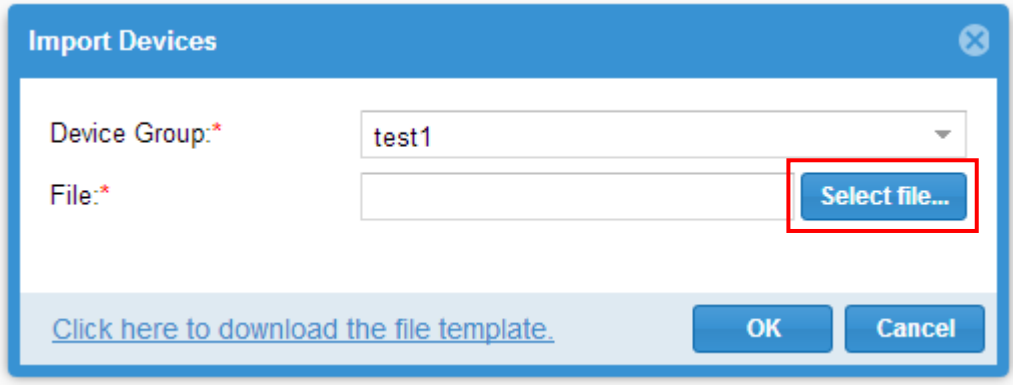


3. Open devices.xls, enter IMEI number of M1000 Pro V2 in tab “Device ID” and ***M1000_ProV2*** in tab “Device Name”, and then save this file. Section 3.4 DEVICES ->devices-> device ID will show how to find IMEI number of M1000 Pro V2.

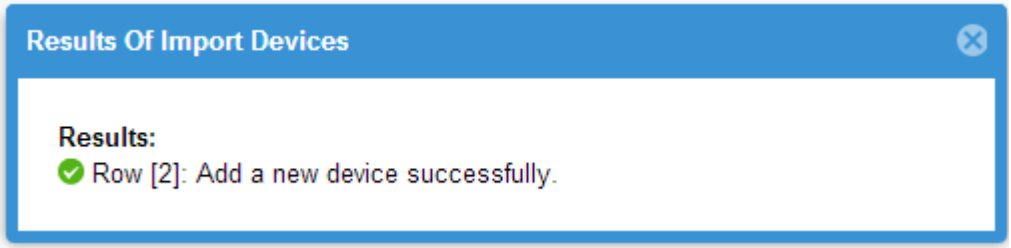
	A	B	C
1	Device ID	Device Name	Description
2	351535052009180	M1000_ProV2	tes1
3			

***Note**: In tab “Device Name”, it could consist of the characters “0-9”, “A-Z”, “a-z”, “_”, “:”, “-”.*

4. Click tab “Select file …” to import file devices.xls which you have filled in “Device ID” and “Device Name” of M1000 Pro V2.

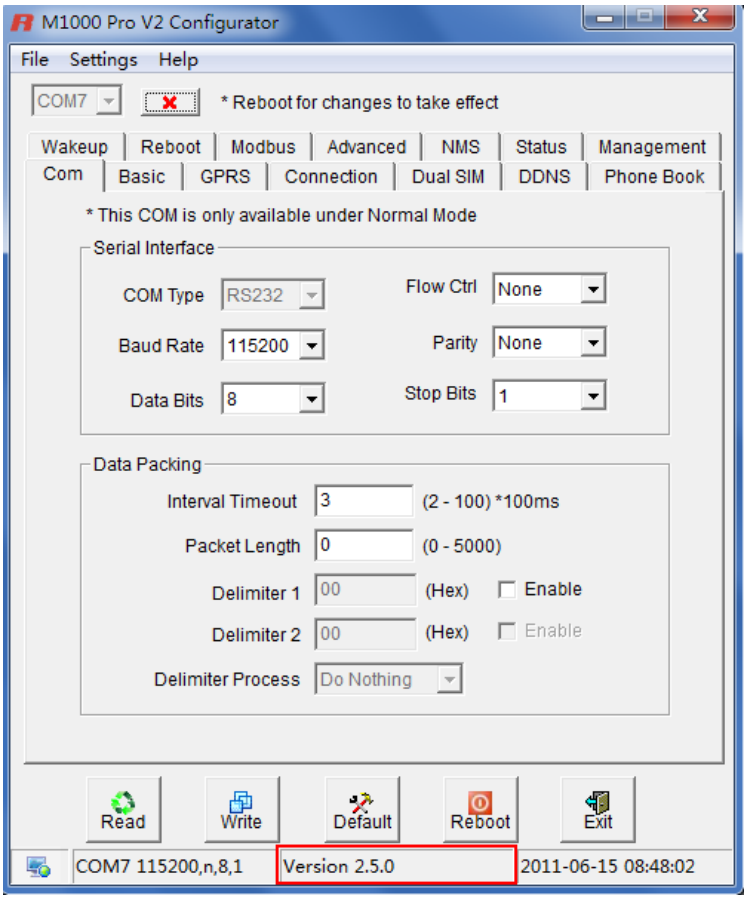


Click “Ok”, the following page will display. It means M1000 Pro V2 registers the RobustLink successfully.



5. Regarding of M1000 Pro V2: install an antenna -> insert SIM card into one of the SIM card slots -> connects M1000 Pro V2 to the PC’s serial port -> switch to **Config Mode** -> power on M1000 Pro V2.

6. Run M1000 Pro V2 Configurator, Upgrade M1000 Pro V2's firmware to "Version **2.5.0**" (firmware version greater than or equal to version 2.3.3, such as version 2.5.0, will support RobustLink function), and then use M1000 Pro V2 Configurator V2.5.0.exe to configure.



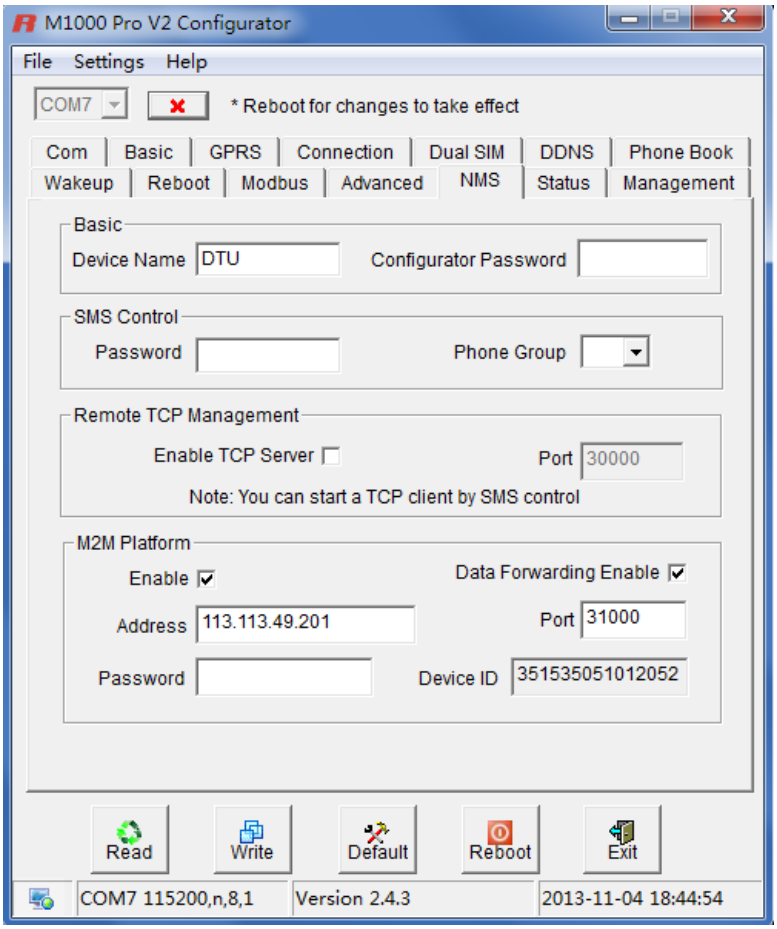
***Note**: Please check the firmware version at the button of the Configurator to confirm that if it is newer than Version 2.3.3. If not please let us know what your firmware version is, we will provide you the proper firmware and configurator.*

7. Go to tab "**COM**", select relevant com Type and Baud Rate. For example, COM type RS232, Baud Rate 115200, Data Bits 8, Flow Ctrl None, Parity None, and Stop Bits 1.

8. Go to tab "**GPRS**" --> enter relevant ISP information, for example APN, User Name, etc. Make sure M1000 Pro V2 can establish PPP connection successfully.

9. Go to tab "**Connection**" --> go to item "Connection Control" --> select "Always Online" mode. Other settings stay default.

10. Go to tab "**NMS**"-->M2M Platform, click Enable to allow M1000 Pro V2 connect to RobustLink --> enter IP address and Port number of RobustLink's in item "Address" and "Port"--> enter a password which set in the RobustLink's Web in item "Password" --> click to enable data forwarding in item "Data Forwarding Enable".



Note:

- ***Address:*** *This address is RobustLink's IP address, which should be a public IP address or domain name. For example, 113.113.49.201, the address of USB dongle we use for test in this document.*
- ***Port:*** *This port number is the local port number of Agent Server (default port number is 31000), and then enter this number in this field. If Agent Server's port number is changed to another port number basing on the real application, 11021 for example, please enter 11021 in this field.*
- ***Password:*** *This password is configured in the RobustLink. This item shall be same with the password set in the RobustLink. Please refer to section* ***3.12*** **DEVICES -> Server ->** ***Device Login Password.***
- ***Device ID:*** *This item let you know the default single ID number of M1000 Pro V2, can't be changed.*
- ***Data Forwarding Enable:*** *Click to enable data forwarding, the topology is: data from M1000 Pro V2 (TCP client) --> RobustLink (TCP server) --> another TCP Client. At this time tab "Connection"--> "Socket Application" can't be configure. If you disable this tab, data will not be forwarded via RobustLink, they will be sent normally as you set in tab "Connection"--> "Socket Application". But RobustLink still can manage and monitor the status of M1000 Pro V2.* Whether Data Forwarding should be enabled depends on customer (user). "Data Forwarding Enable" will be enabled for instruction in this document.

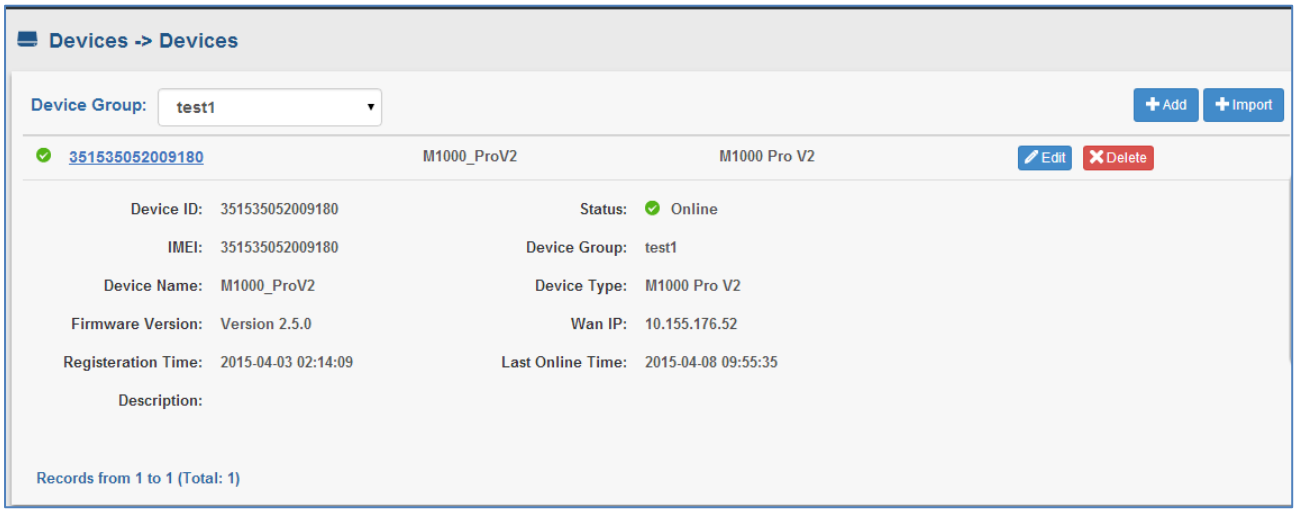
11. Go to tab "**Status**" --> go to item "TCP/IP", if succeed to establish PPP connection and TCP connection, "PPP Status" will show "Up" and "TCP Status" will show "Connected".

12. Other tabs stay default. Click "**Write**" to save the settings --> click "**Reboot**".

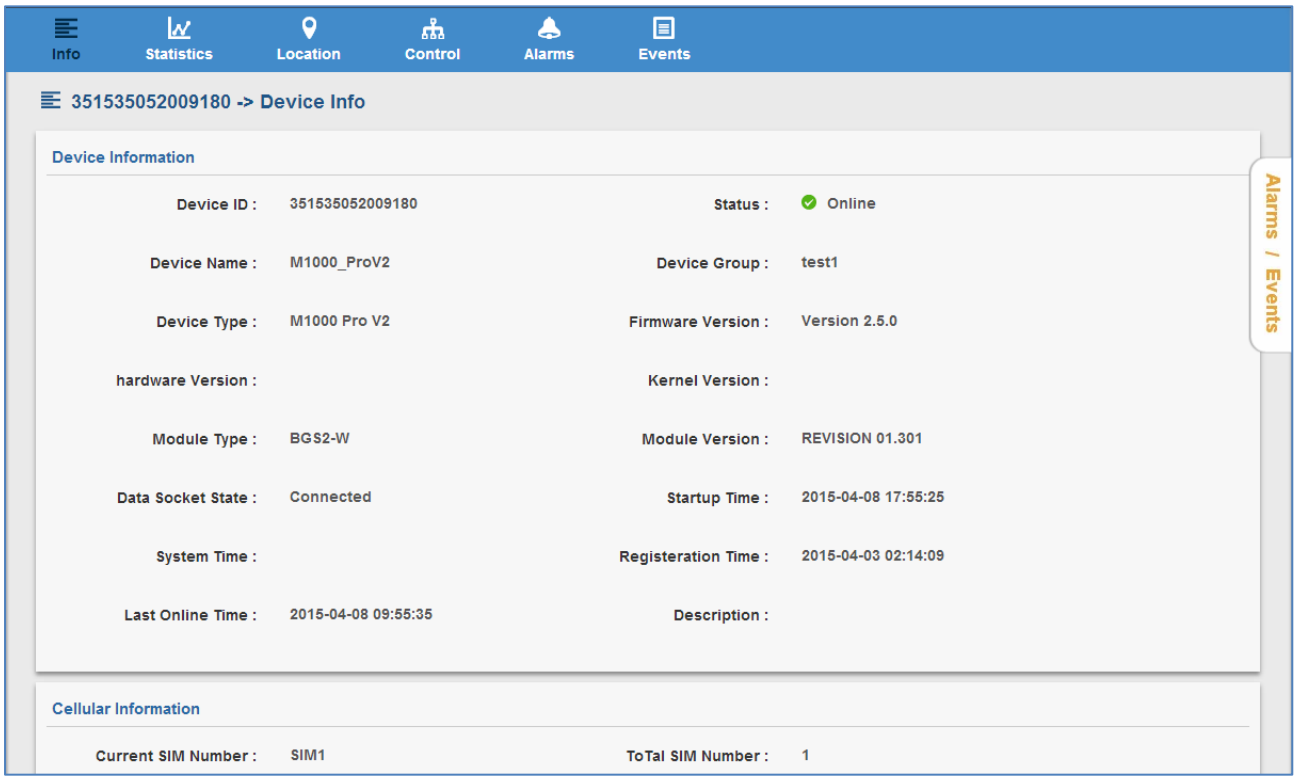
13. Switch to **Normal Mode** (data transmission mode).

14. If M1000 Pro V2 login RobustLink successfully, it will show the following diagram.

15. If click the any place of device name (M1000_ProV2), it will show the key information of M1000 ProV2.

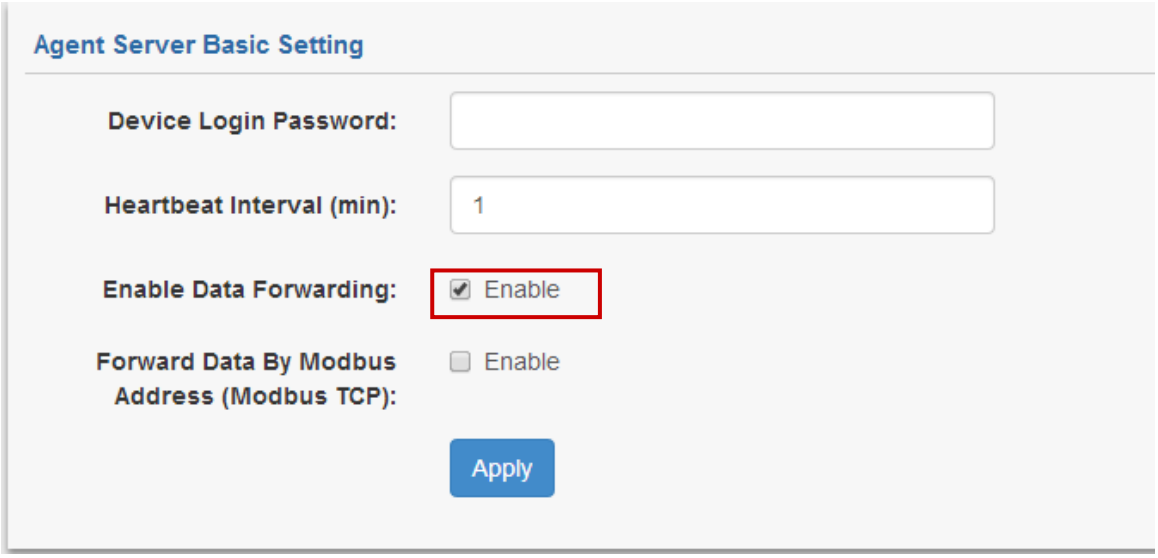


16. Click the device ID (00300500011111), it will show the detail information of R3000 Standard which include Info, Statistics, Location, Control, Alarms and Events.



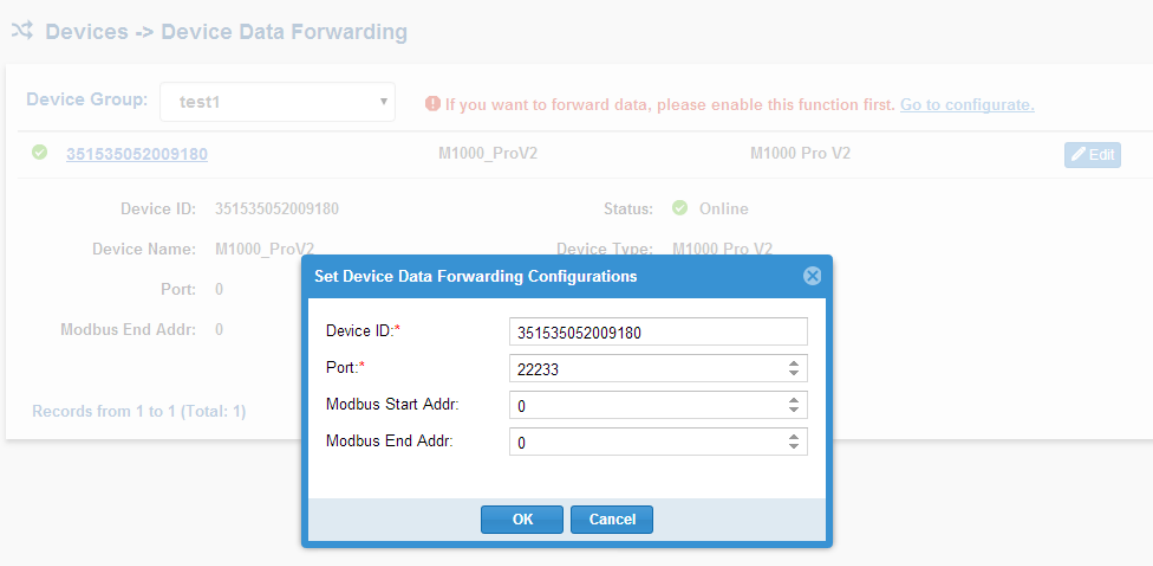
3.2.2 Forward data from M1000 Pro V2 to RobustLink

1. Open RobustLink, go to tab “CONFIGURATION” --> Basic Settings--> click “Enable Data Forwarding”--> click “Apply” to activate these settings.



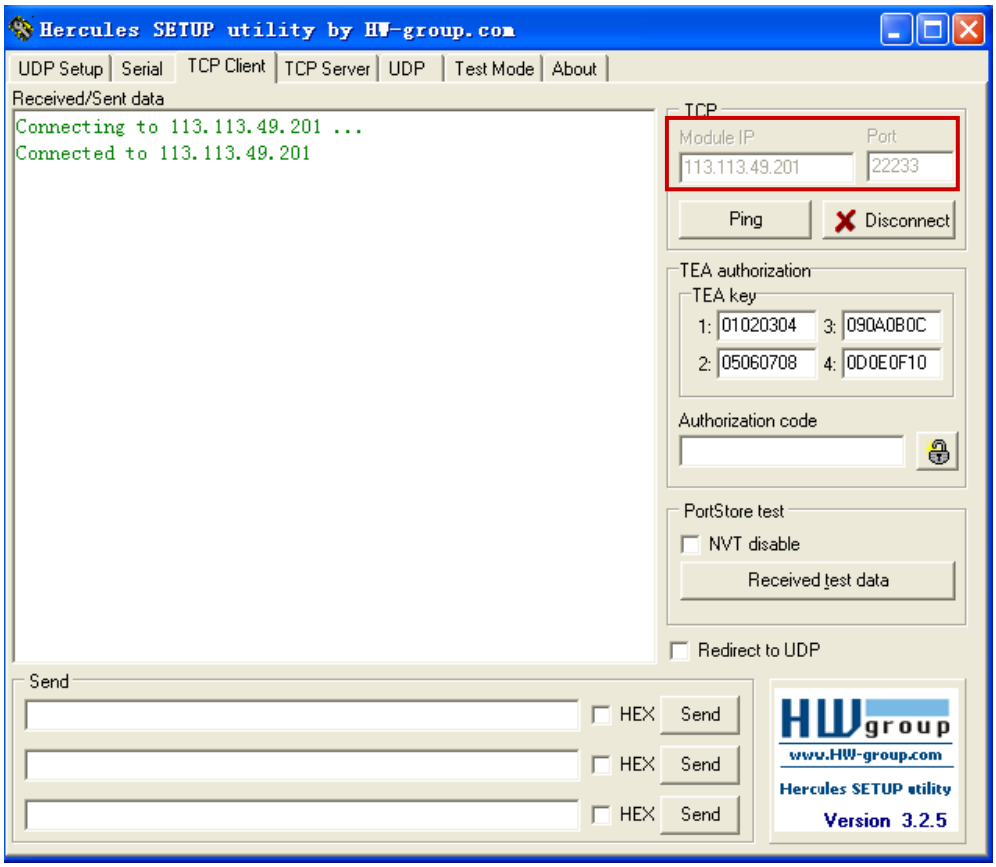
2. Go to tab “CONFIGURATION”--> Data Forwarding.

3. Click the any place of Index 1, show details of Data Forwarding information. Set an idle port number, for example 22233. Then click “Apply”.



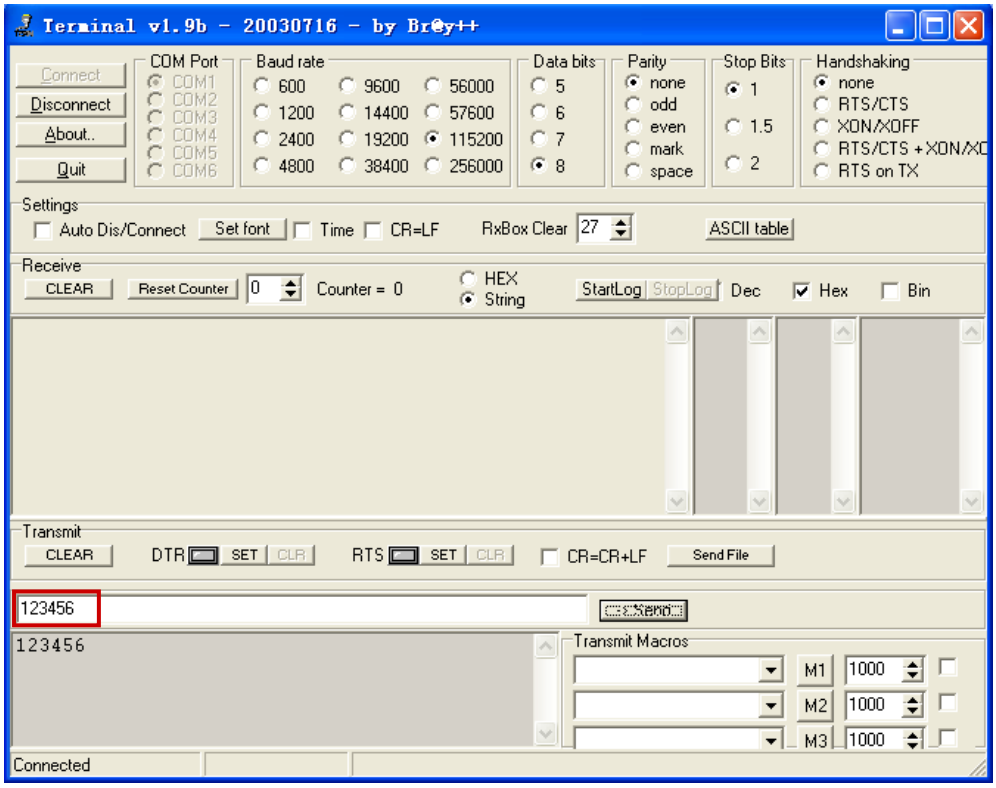
***Note**: Now RobustLink agent has become a TCP server, IP address is 113.113.49.201, local port number is 22233.*

4. Run Hercules (download via link http://www.hw-group.com/products/hercules/index_en.html) --> go to tab "TCP Client" --> enter IP address and Port number of above TCP server which has been created in RobustLink --> click "Connect". If succeed to connect to the TCP Server, in this document, it will show up message "Connecting to 113.113.49.201 …
Connected to 113.113.49.201".

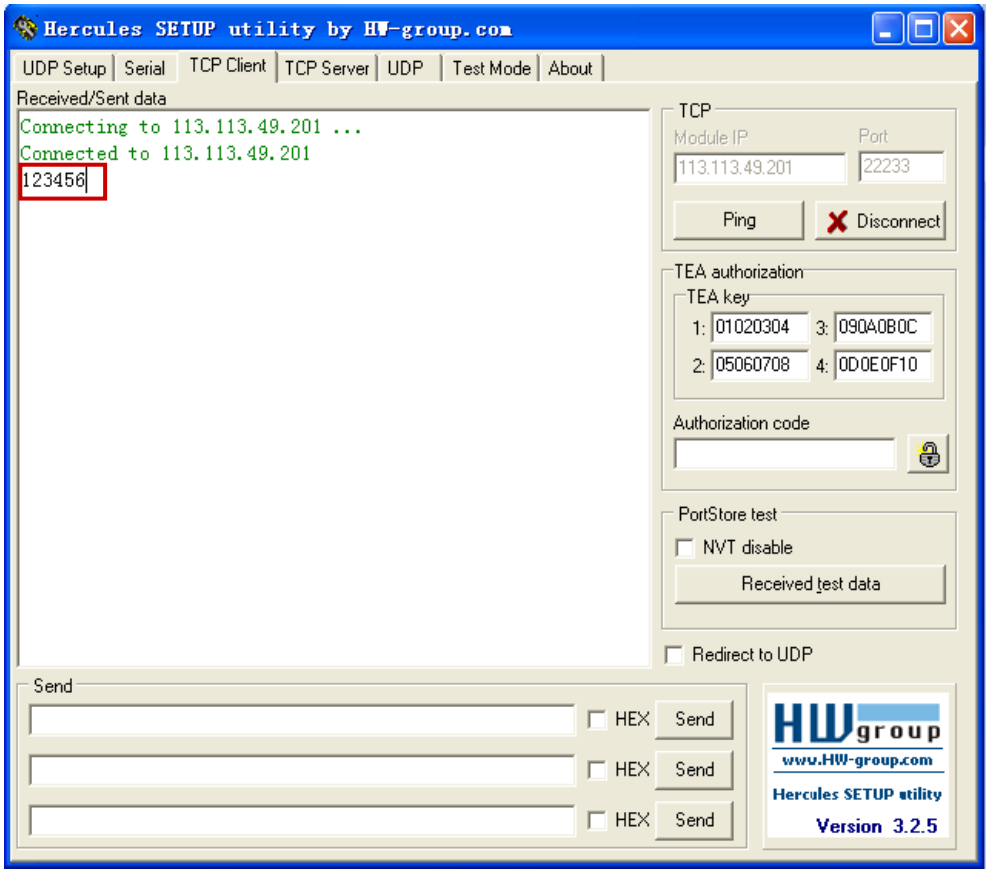


5. Run Terminal exe (download via link https://www.box.com/s/67a68jraki9k1r0lijuz) --> select the same serial port settings of M1000 Pro V2: COM 1, Baud Rate 115200, Data Bits 8, Parity none, Stop Bits 1, Handshaking none -->

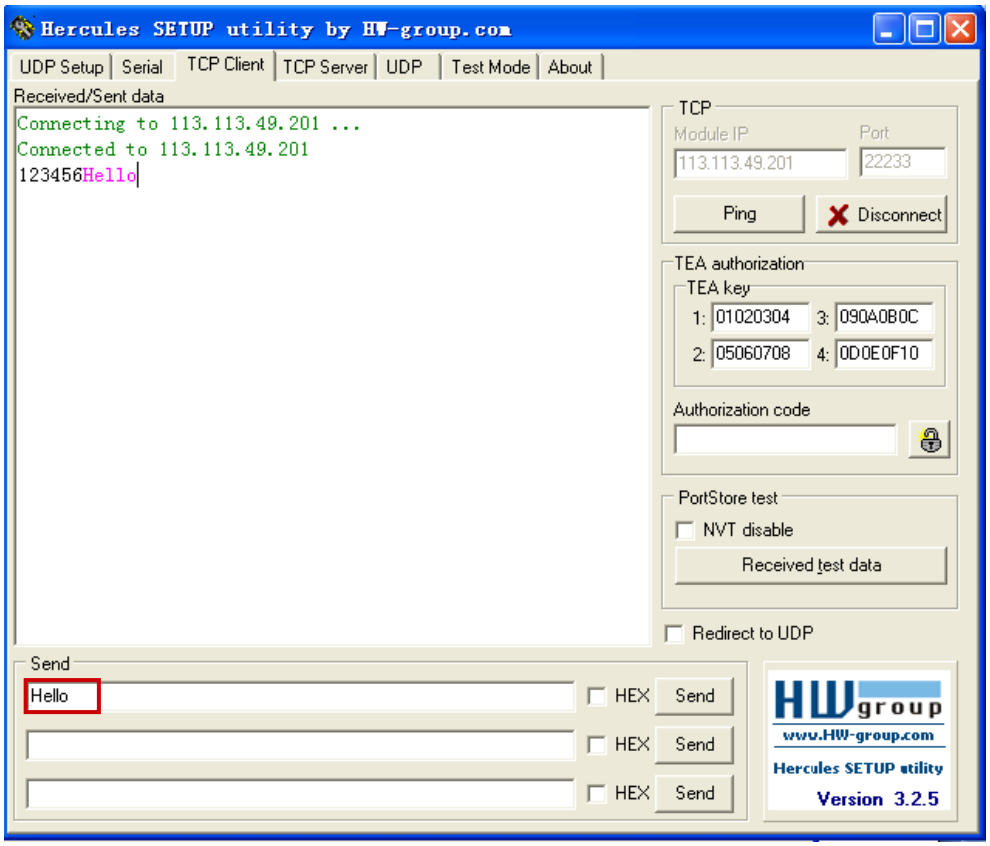
click “Connect” --> enter characters like “123456” --> click “Send”.



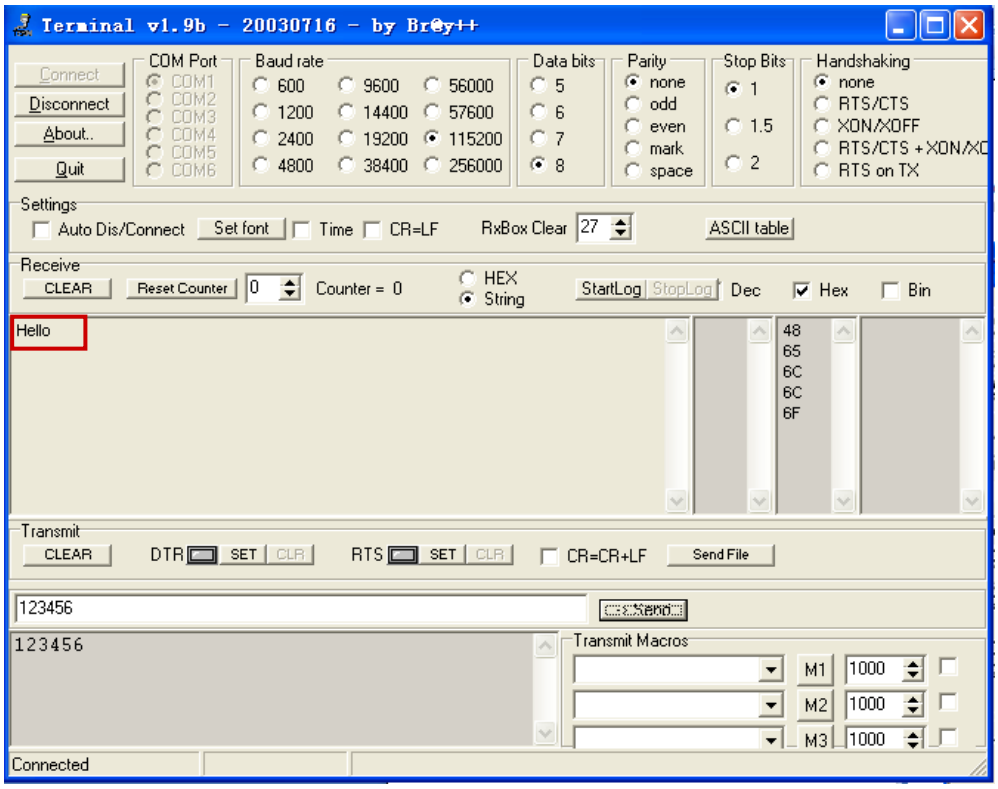
6. Check Hercules, if data “123456” shows up, that means RobustLink succeed to forward data “123456” sent from M1000 Pro V2.



7. Enter characters “Hello” in Hercules --> click “Send”.



8. Check Terminal.exe, if data “Hello” shows up, that means RobustLink succeed to forward data “Hello” which is sent from Control Center.

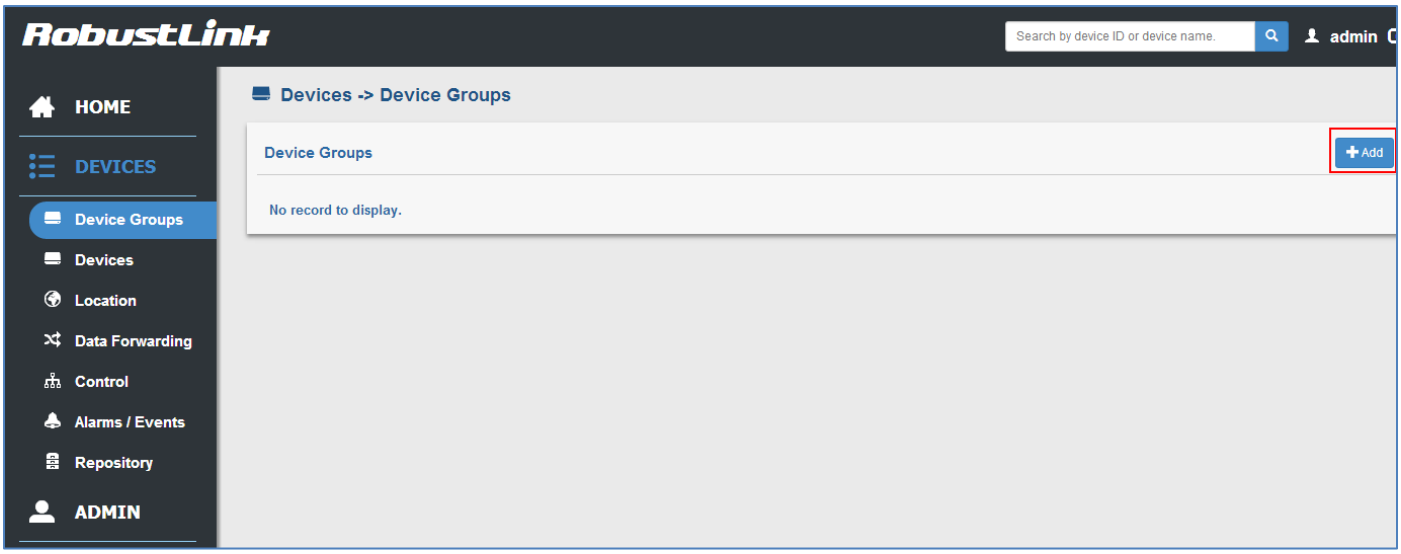


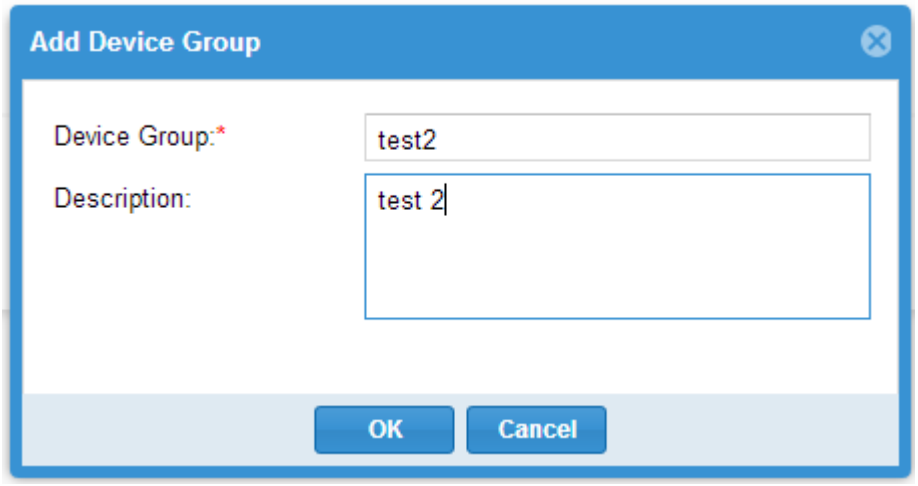
3.3 Manage R3000 Standard via RobustLink

3.3.1 Connect to RobustLink

There are two ways for R3000 Standard to connect to RobustLink, one is R3000 Standard connect to Internet through cellular network (GPRS), then connect to RobustLink; the other is to connect to Internet through Ethernet (broadband), then connect to RobustLink. In this document we use the first method.

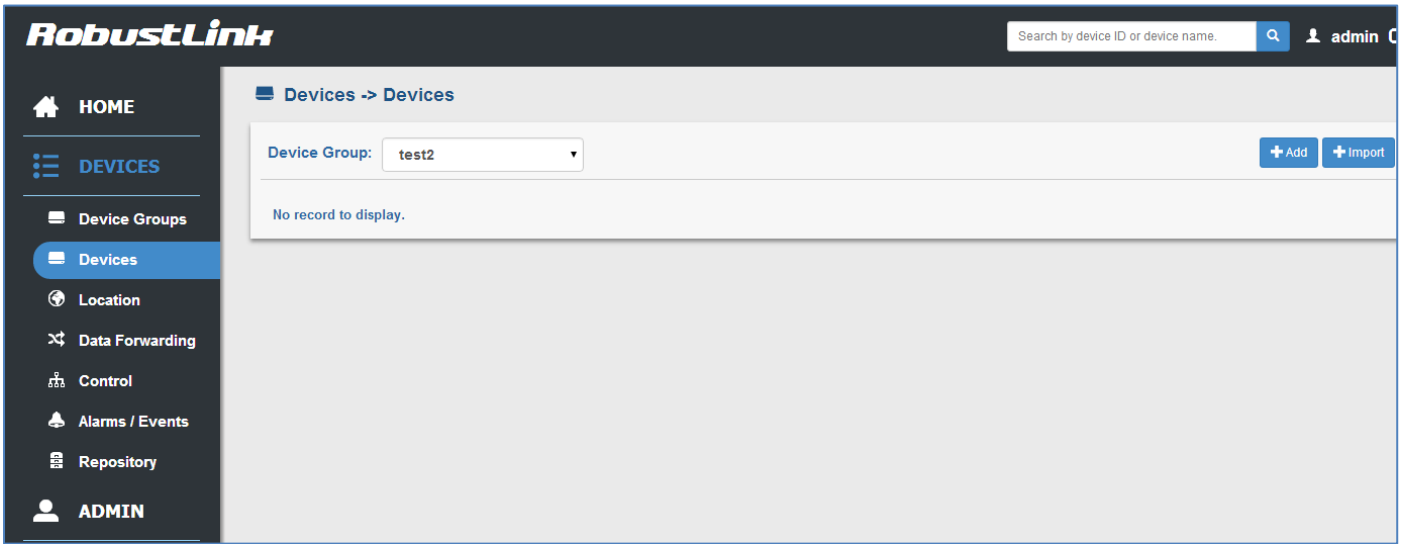
1. Login RobustLink Web GUI, go to tab “DEVICES” -> “Devices Groups”, click “ Add ” to add a new group. The device group names test2.

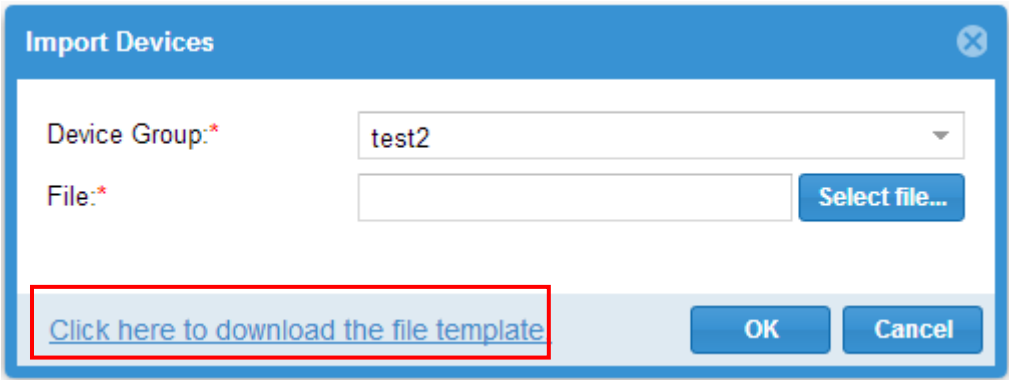




2. Click “test2” (device group name), and then it will switch to Devices page.

   Click “ Import ”, download the file template. File name: devices.xls



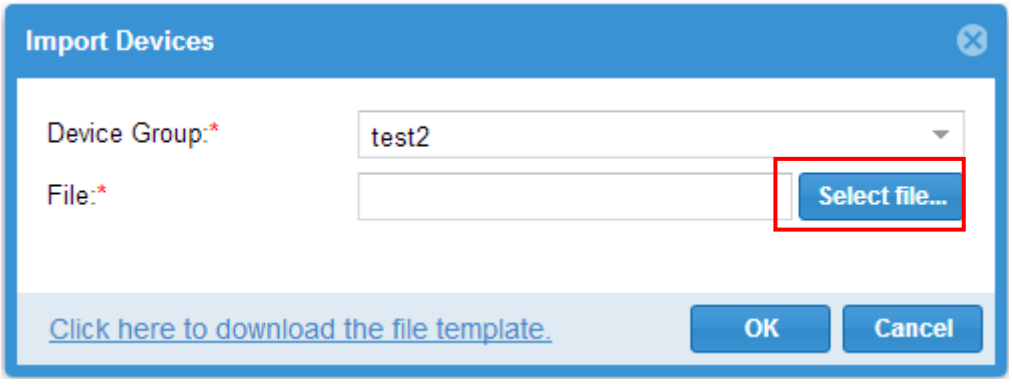


3. Open devices.xls, enter Serial Number of R3000 Standard in tab “Device ID” and ***R3000_Standard*** in tab “Device Name”, and then save this file. **Section 2.5** ***DEVICES ->devices -> Device ID @ add*** will show how to find Serial Number of R3000 Standard.

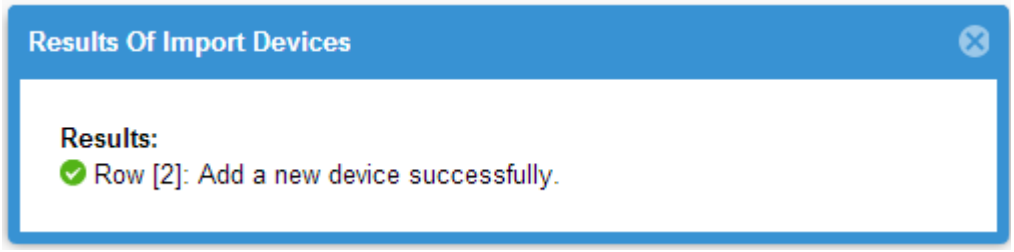
	A	B	C
1	Device ID	Device Name	Description
2	351535052009180	M1000_ProV2	tes1
3	300500011111	R3000_Standard	test2
4			

Note*: In tab “Device Name”, it could consist of the characters “0-9”, “A-Z”, “a-z”, “_”, “.”, “-”.*

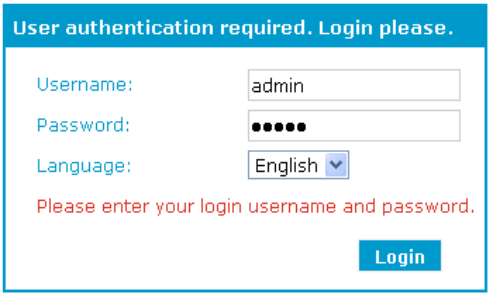
4. Click tab “Select file …” to import file devices.xls which you have filled in “Device ID” and “Device Name” of M1000 Pro V2.



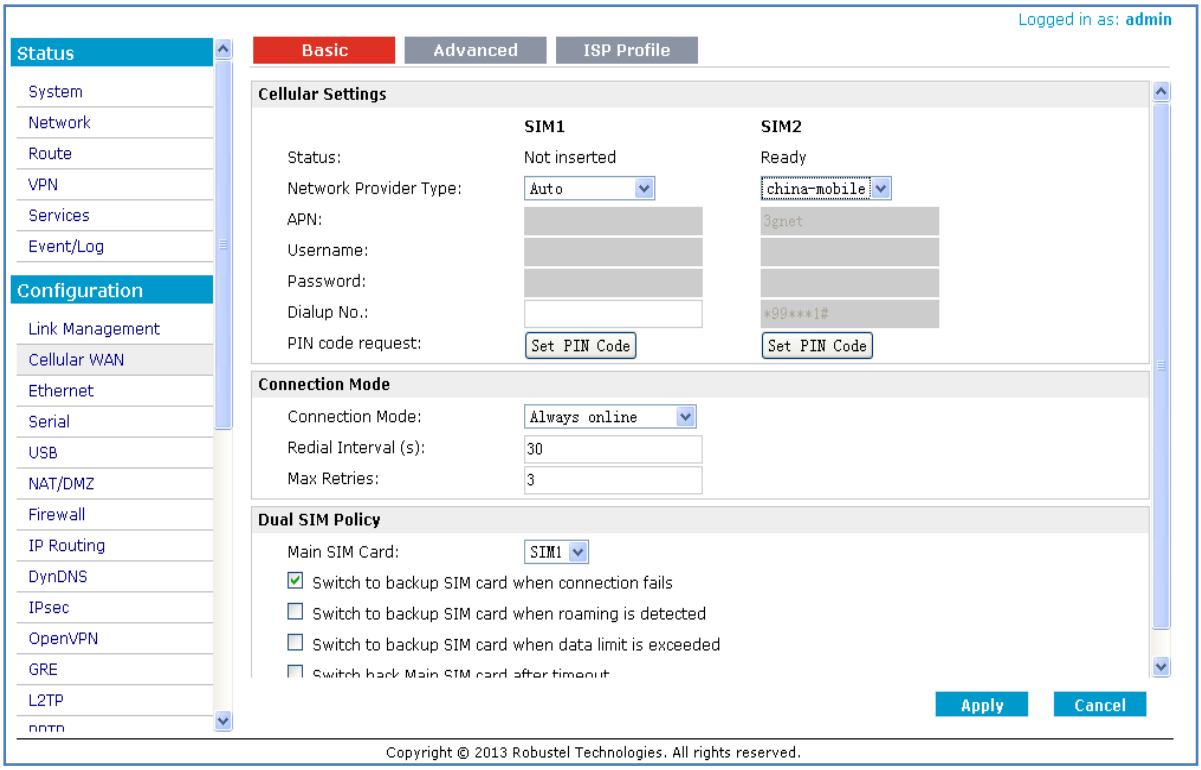
Click “Ok”, the following page will display. It means M1000 Pro V2 registers the RobustLink successfully.



5. Regarding of R3000 Standard, Install an antenna, insert SIM card into one of the card slot. Power on R3000 Standard, login R3000 Standard’s Web GUI page.

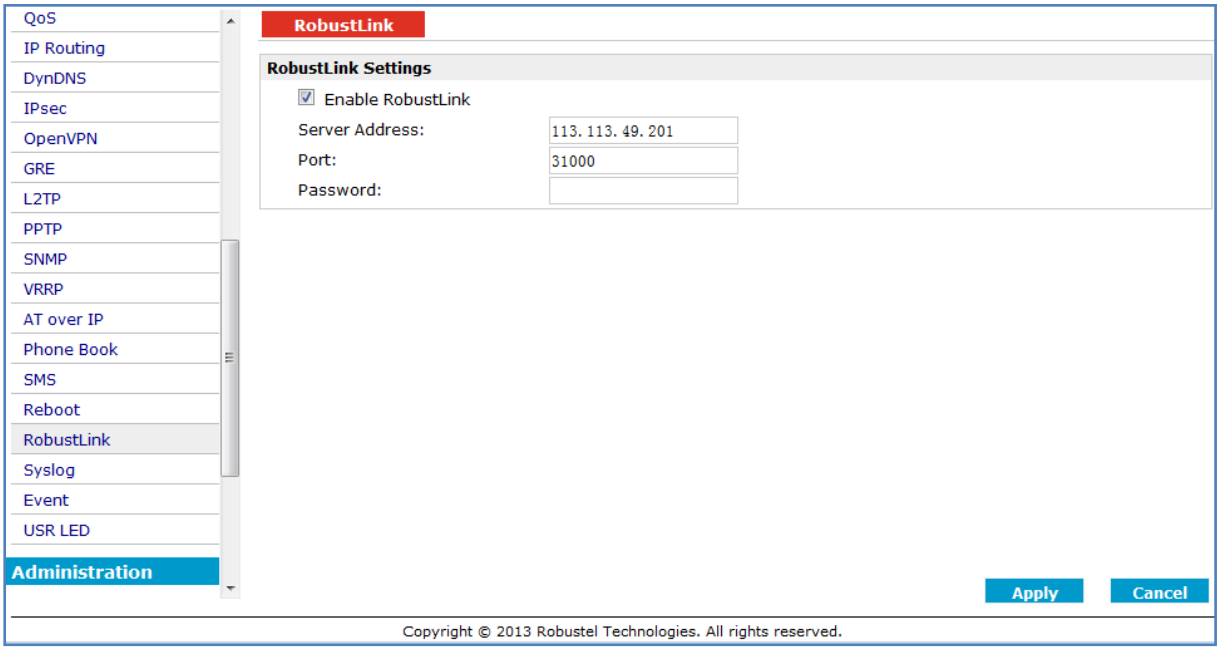


6. Go to tab “Configuration”--> “Cellular WAN” --> enter relevant correct ISP settings --> click “Apply”.



7. Go to tab “Configuration”--> “RobustLink” --> enter server (RobustLink) address and local port in the item “Server Address” and “Port”. If you want set a login password for RobustLink, go to item “Password”, enter a password which is preseted in the RobustLink. For example, if RobustLink set password “1234”, we need to enter “1234” in here --> click “Apply” --> click “Save” --> click “Reboot”.

***Note**: Please check the firmware version and confirm that if it is newer than Version 1.2.4.*

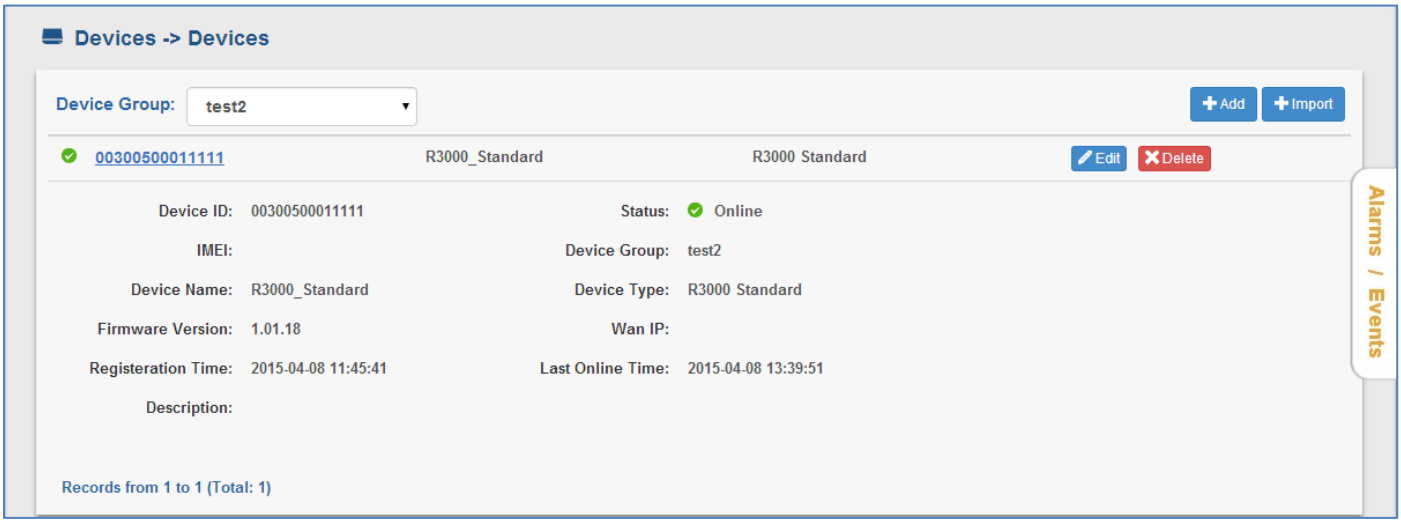


Note:

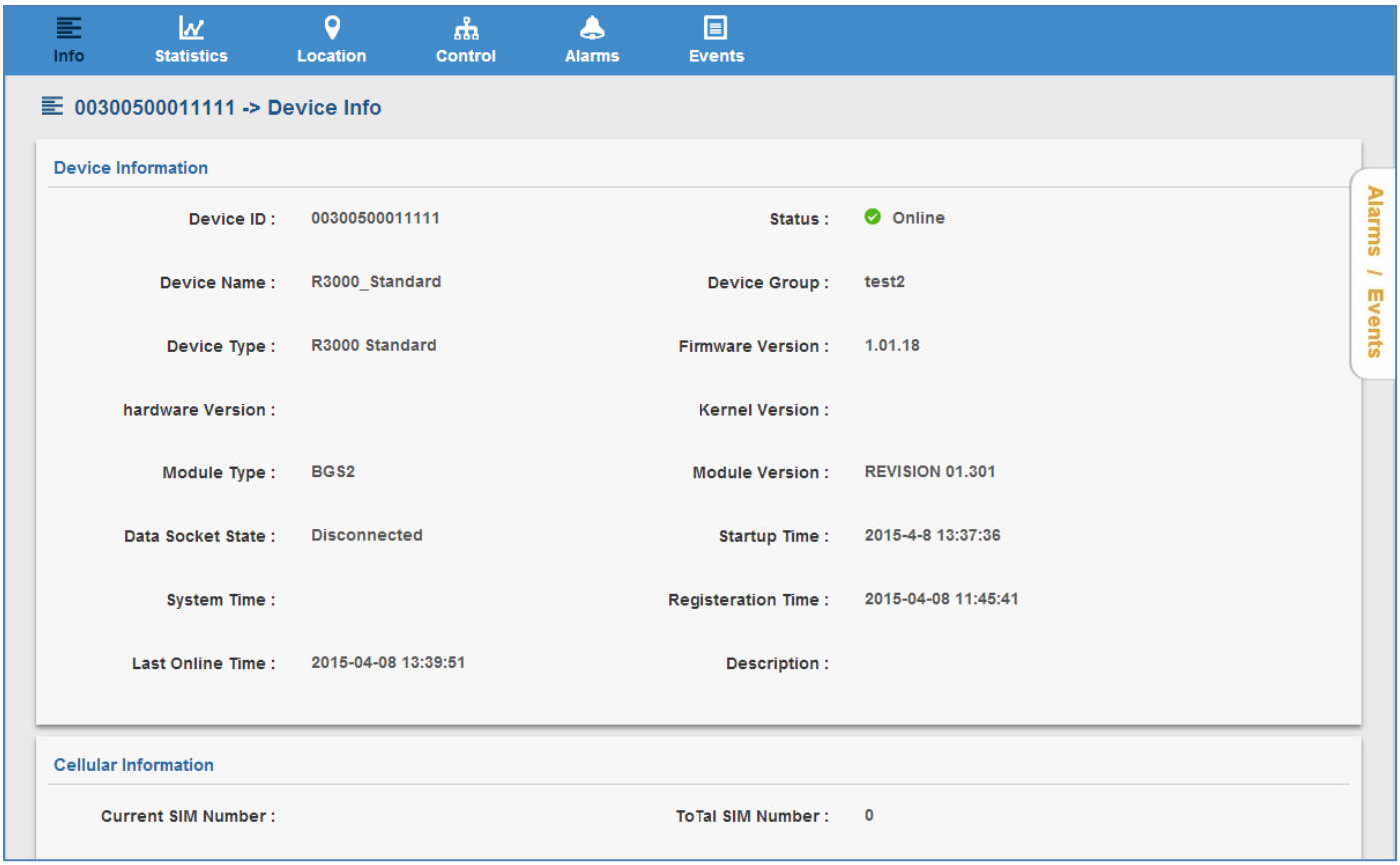
- ***Server Address:*** *This address is RobustLink's IP address, which should be a public IP address or URL. For example, 113.113.49.201, the address of USB dongle we use for test in this document.*
- ***Port:*** *This port number is the local port number of Agent Server (default port number is 31000), and then enter this number in this field.If Agent Server's port number is changed to another port number basing on the real application, 11021 for example, please enter 11021 in this field.*
- ***Password:*** *Enter the password which set in the RobustLink. Please refer to section* ***2.13*** **DEVICES -> Server ->*Device Login Password.***

8. If R3000 Standard login RobustLink successfully, it will show the following diagram.

9. If click any place of device name (R3000_standard), it will show the key information of R3000 Standard.



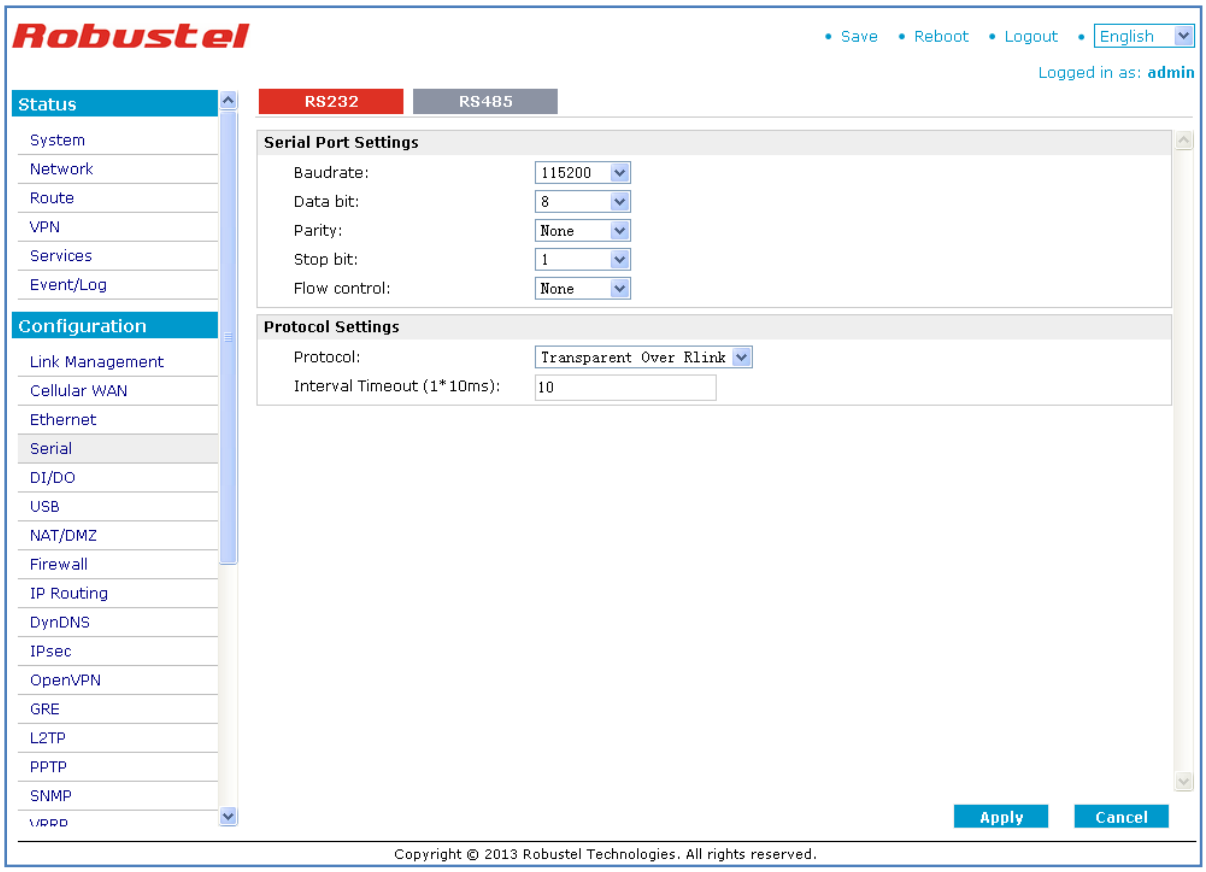
10. Click the device ID (00300500011111), it will show the detail information of R3000 Standard which include Info, Statistics, Location, Control, Alarms and Events.



3.3.2 Forward data from R3000 Standard to RobustLink

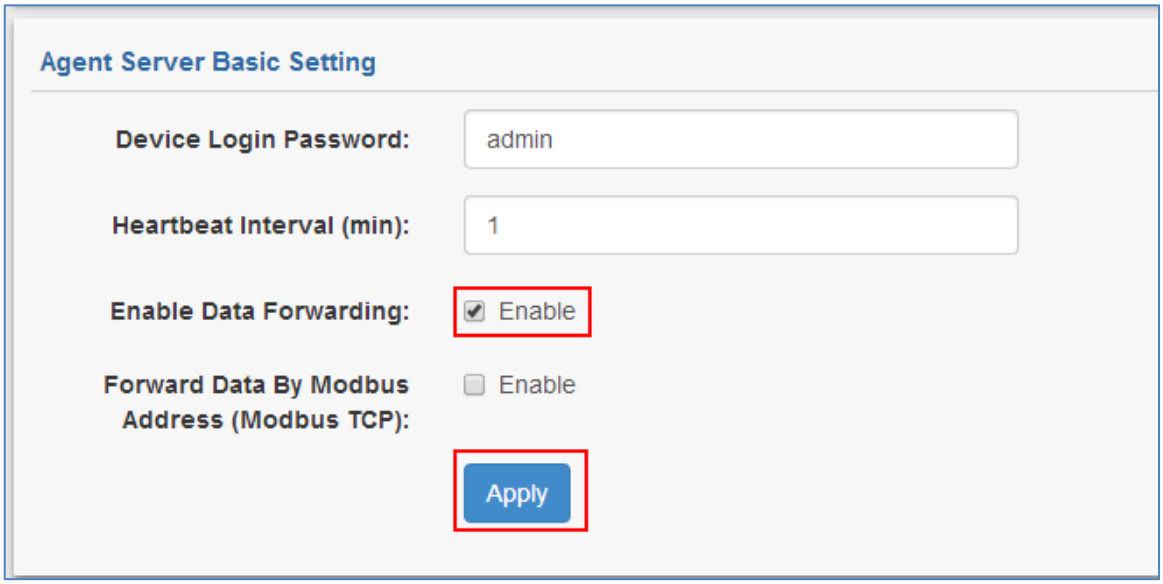
1. Before forwarding data from R3000 Standard via RobustLink, please check ***section 3.3.1 Connect to RobustLink,*** configure settings such as “Cellular WAN” and “Portal” to confirm R3000 Standard can successfully connect to RobustLink. After that, go to tab “Configuration” --> “Serial” --> “RS232” --> “Protocol Settings” --> “Protocol”,

select “**Transparent Over Rlink**”. Other settings such as “Interval Timeout” and “Serial Port Settings” stay default --> click “Apply” --> click “Save” --> click “Reboot”.

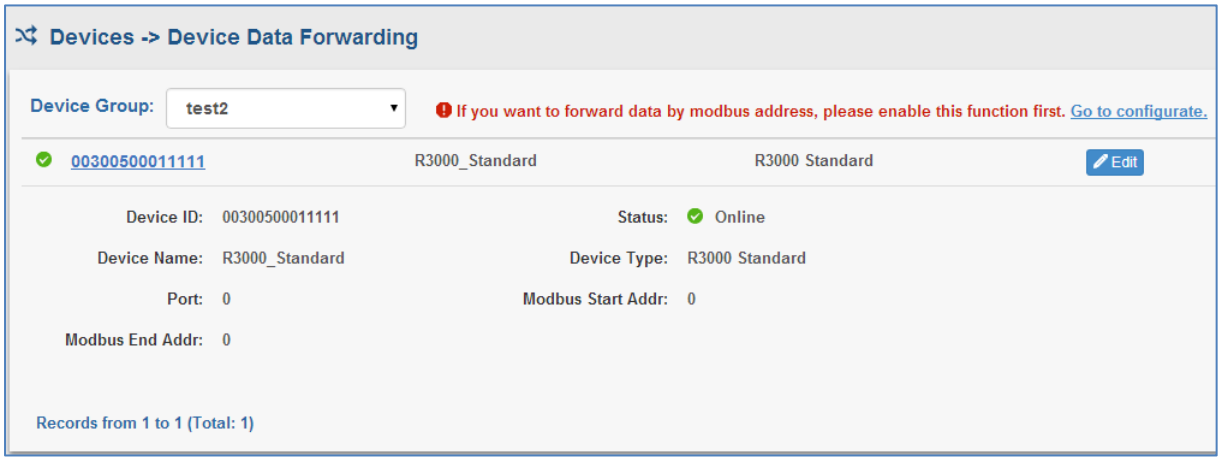


2. Open RobustLink, go to tab “Home”, confirm R3000 Standard (device number is 300513060001) has logged in RobustLink.

3. Go to tab “ADMIN” --> “Agent Server” --> “Agent Server Basic Setting”--> click “ Enable ”Enable Data Forwarding--> click “ Apply ” to activate these settings.

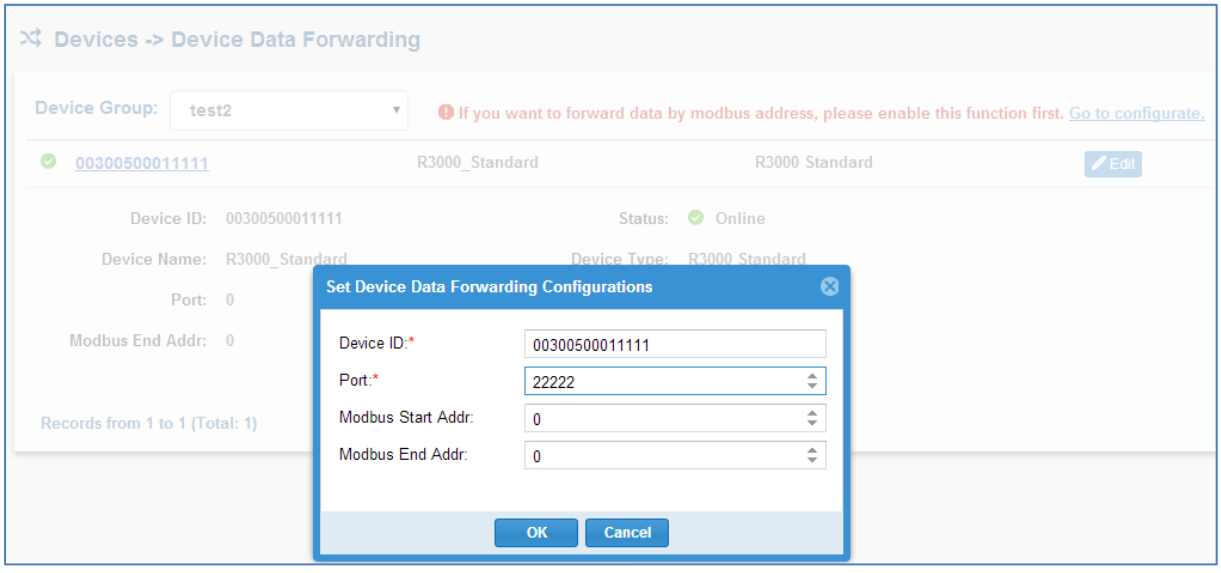


4. Go to tab “DEVICES”--> “Data Forwarding”. Click any place of device name “R3000_Standard”, show details of Data Forwarding information.



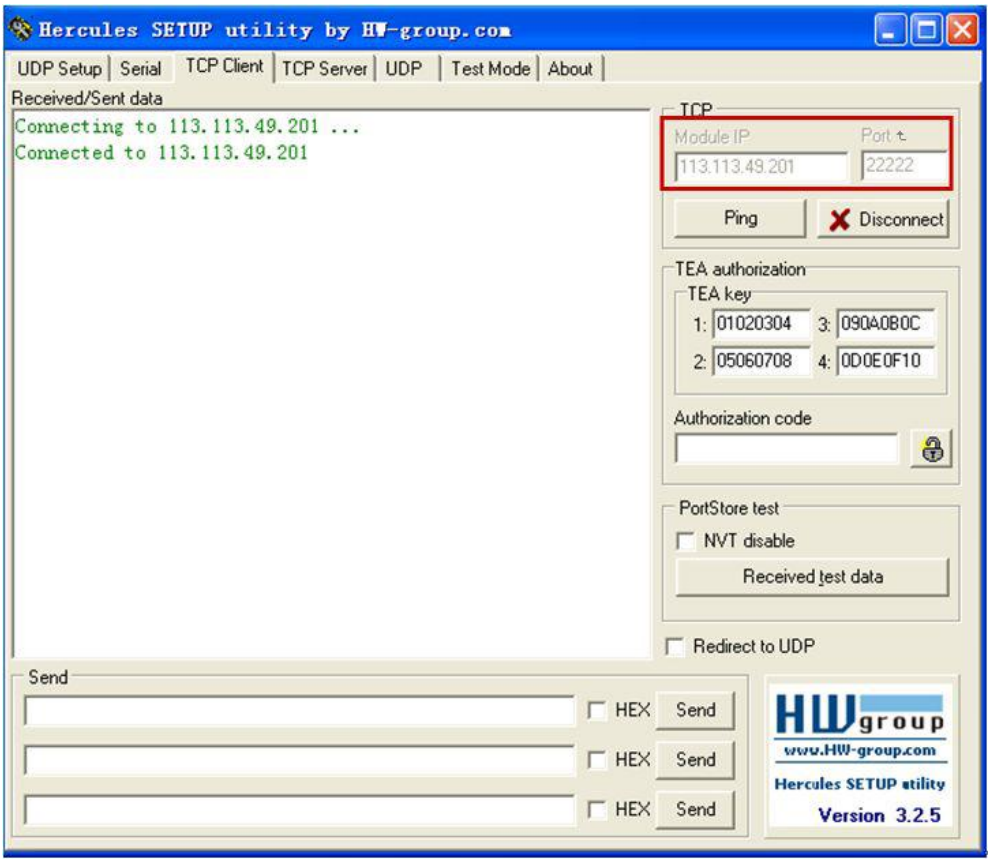
5. Click 

to set an idle port number, for example 22222. Then click “Apply”.

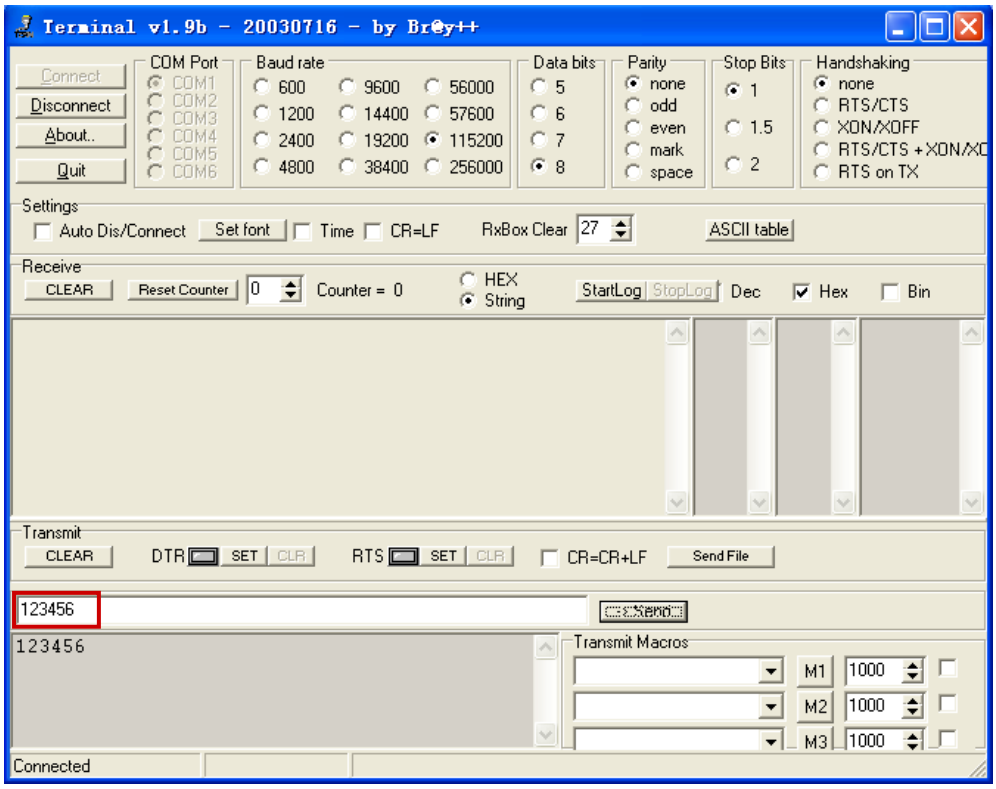


***Note**: Now RobustLink agent has become a TCP server, IP address is 113.113.49.201, local port number is 22222.*

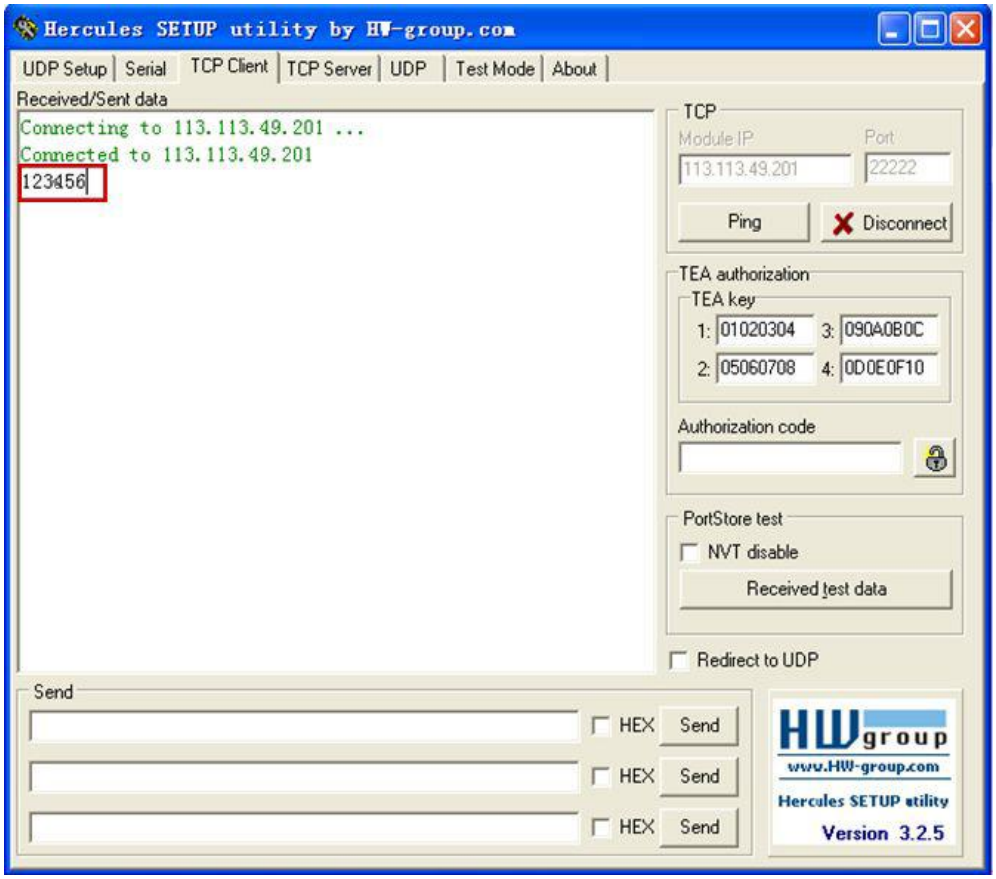
6. Run ***Hercules*** (download via link http://www.hw-group.com/products/hercules/index_en.html) --> go to tab "TCP Client" --> enter IP address and Port number of above TCP server which has been created in RobustLink --> click "Connect". If succeed to connect to the TCP Server, in this document, it will show up message "Connecting to 113.113.49.201 …
   Connected to 113.113.49.201".



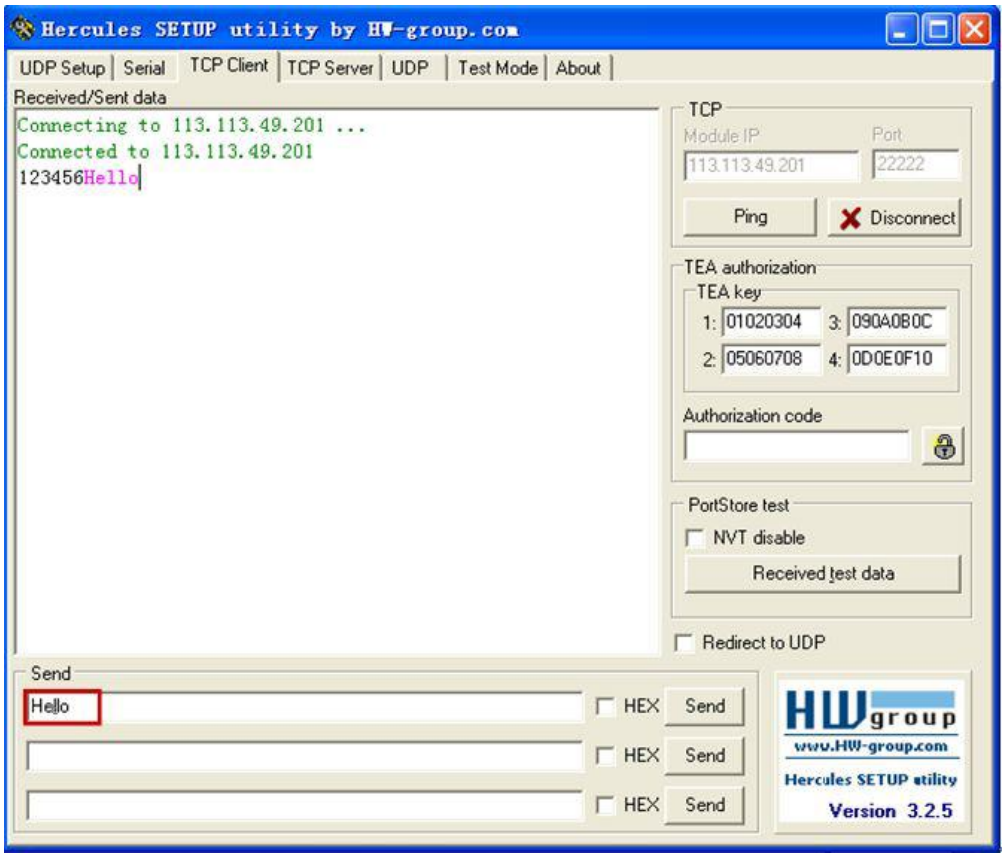
7. Run ***Terminal exe*** (download via link https://www.box.com/s/67a68jraki9k1r0lijuz) --> select the same serial port settings of R3000 Standard: COM 1, Baud Rate 115200, Data Bits 8, Parity none, Stop Bits 1, Handshaking none --> click "Connect" --> enter characters like "123456" --> click "Send".



8. Check ***Hercules***, if data “123456” shows up, that means RobustLink succeed to forward data “123456” sent from R3000 Standard.



9. Enter characters “Hello” in ***Hercules*** --> click “Send”.



10. Check ***Terminal.exe,*** if data “Hello” shows up, that means RobustLink succeed to forward data “Hello” which is sent from Control Center.