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2016-10-19

*We reserve the right to change the information in this manual without prior notice.
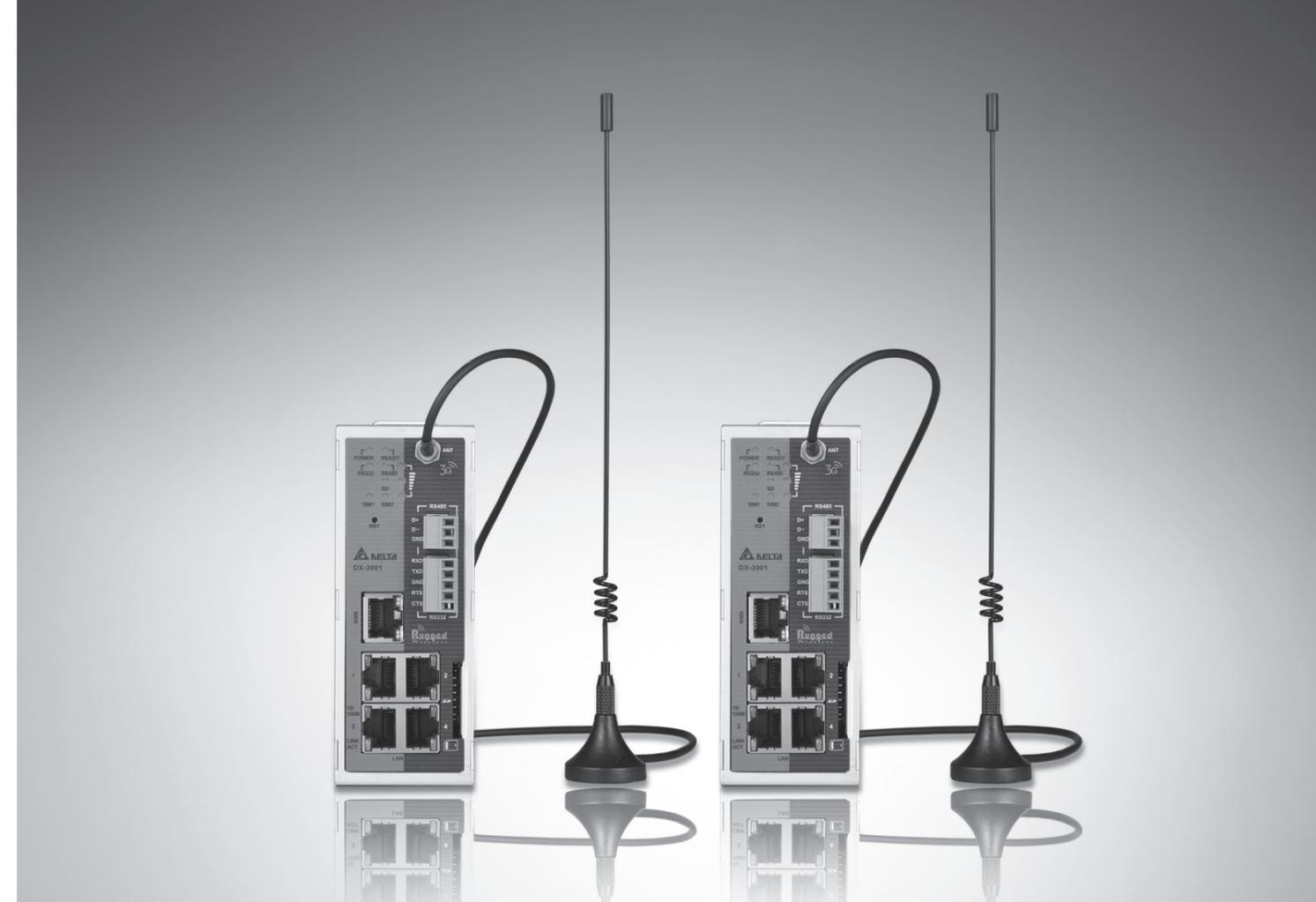
DX-3001 Series Industrial 3G/WAN Cloud Router User Manual

www.deltaww.com

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DX-3001 Series Industrial 3G/WAN Cloud Router User Manual

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Chapter 1   Product Introduction

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1

About This Manual

The user manual is suitable for **DX-3001H9**. If you need to use the Delta DX-2100/2300 series products in China areas, please refer to the model name **DX-2100RW-WW/ DX-2300LN-WW** on the Delta website, or contact our branch offices or distributors.

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates radio frequency signal and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

---Reorient or relocate the receiving antenna.

---Increase the separation between the equipment and receiver.

---Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

---Consult the dealer or an experienced radio/TV technician for help.

CE Declaration of Conformity

DX-3001H9-V is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility of Radio and Telecom device (1995/5/EC). For the evaluation regarding the Directives, the following standards were applied:

Test Items :

---EMC
EN 301 908-1 V7.1.1(2015-03)
EN 301 511 V12.1.1(2015-06)

---Radio
EN 301 489-1 V1.9.2 (2011-09)
EN 301 489-7 V1.3.1 (2005-11)
EN 301 489-24 V1.5.1 (2010-10)

---MPE
EN50385: 2002

---Safety
EN60950-1: 2006/A11:2009/A1:2010/A12:2011/A2:2013

EN 55022 Class A Warning:

1.

Class A ITE is a category of all other ITE which satisfies the class A ITE limits but not the class B ITE limits.

The following warning shall be included in the instructions for use:

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case

the user may be required to take adequate measures.

EN 55032 Class A Warning:

Class A ITE is a category of all other ITE which satisfies the class A ITE limits but not the class B ITE limits.

The following warning shall be included in the instructions for use:

Warning: This equipment is compliant with Class A of EN 55032. In residential environment this equipment may cause

radio interference.

1.1 Product Overview

DX-3001H9 is an industrial router, it has 2 SIM card slots and supports multiple mobile networks like WCDMA, UMTS, HSUPA, GSM, GPRS, and EDGE. When one cellular network fails to work, the device will automatically switch to the other cellular network. Besides the two cellular network connections, the WAN port can be another connection to Internet. Priorities of the connection to Internet over WAN and 2 cellular networks are configurable. As there is only one 3G module in the device, the two cellular networks cannot be active at the same time. Moreover, the product is equipped with multiple application interfaces, including Ethernet interface, RS232 serial interface and RS485 serial interface, and thus can satisfy the user's various different application demands.

The product supports DIACloud platform services, and by this platform, convenient and efficient point-to-point connection with the router, safe and reliable data transmission, remote device management and configuration, remote firmware upgrading, remote maintenance and other functions can be realized, so as to save the cost of device operation and maintenance for users.

The product can be widely used in the fields requiring mobile network interconnection, such as industrial automation, smart home, intelligent building, smart power grids, mobile video surveillance, intelligent self-service and intelligent transportation.

1.1.1 Network Design

DIACloud platform services supported, users can connect intelligent devices from different locations to the internet with DX-3001H9 and use point-to-point connection with the router for a safe and reliable data transmission and additionally save the costs of VPN device operation as well as maintenance. By browsing the web or apps on the handheld computers, managers can check the data and monitor the devices remotely in real-time
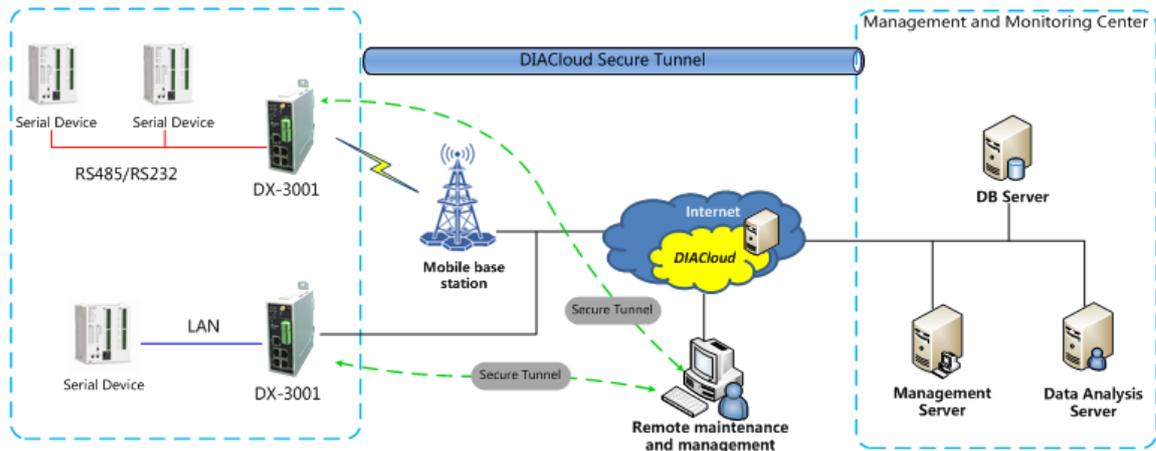
1.1.2 Features

- HSPA+/HSUPA/HSDPA/UMTS: 800/850/900/1700(AWS)/1900/2100 MHz

- GSM/GPRS/EDGE: 850/900/1800/1900 MHz

- Authentication Protocols, CHAP and PAP

- Access Point Name (APN) gateway

- Automatic redial when connection is broken

- Dual SIM card slots, support auto-switching between the cellular operators

- WAN port access mode(static IP , DHCP client)

- Provide Dual Port RS232 & RS485 and LAN Port Interfaces for Different Application Demands

- Built-in a Watchdog Timer to Ensure System Stability

- Built-in RTC and Support NTP Server

- Firmware Upgrade Locally and Remotely

- Support MAC Address Filtering

- Support DHCP Server

- Support Dynamic DNS

- Various Protocols, TCP/IP, UDP, ICMP, DHCP, HTTP, DNS, SSH and More

- Modbus TCP, Modbus ASCII and Modbus RTU protocol

- Scheduled Task Management

- Servers for Local Log and Remote Log

- Configurations Backup, Export and Import

- Network Flow Monitoring

- Network Fault Detection and Diagnosis
- DIACloud Service to Secure Point-to-point Data Transmission, to Manage Device Configurations Piece by Piece or in Batch and to Upgrade Firmware Remotely

1.1.3   Front Panel Ports and LEDs
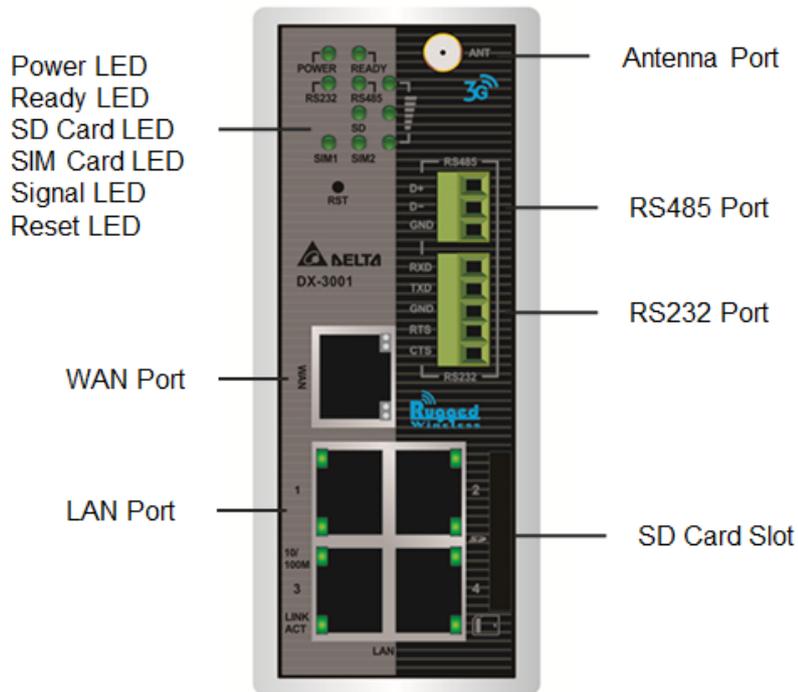
1.1.4   Top Panel

1.1.5 Bottom Panel

1.
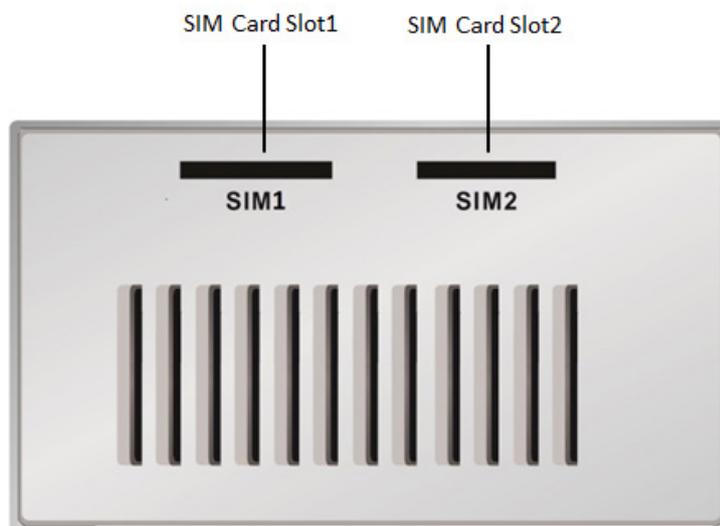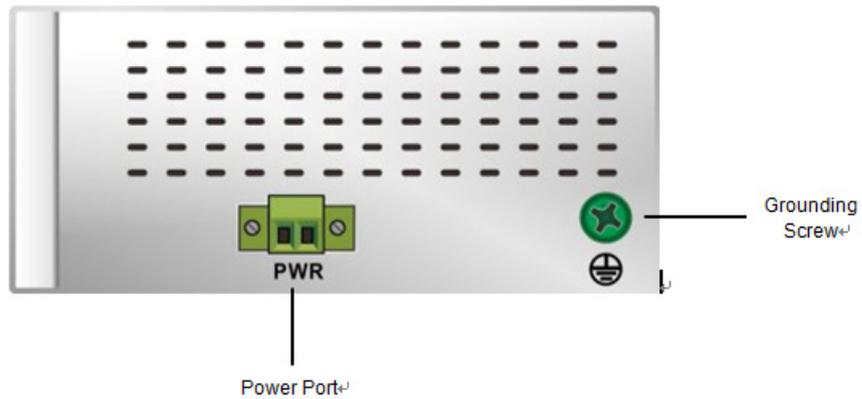
> ⚠️ **Notice**
>
> This router's reset button is on the front panel. By pressing the Reset button, users can reset the router or reset the router to factory default settings. See the instruction below:
>
> - Reset the Router: With the router powered on, press the Reset button and release the button right away.
> - Reset to Factory Defaults: With the router powered on, press and hold the Reset button for 3~6 seconds and then release the button.
>   - ■ Reset can only be done when the device is running properly.
>   - ■ With the router powered on, press and hold the Reset button until all the LEDs go out (except the Power LED). Then release the button and wait the router to reboot to its factory default settings.

1

1.1.6 Dimension

Unit = mm
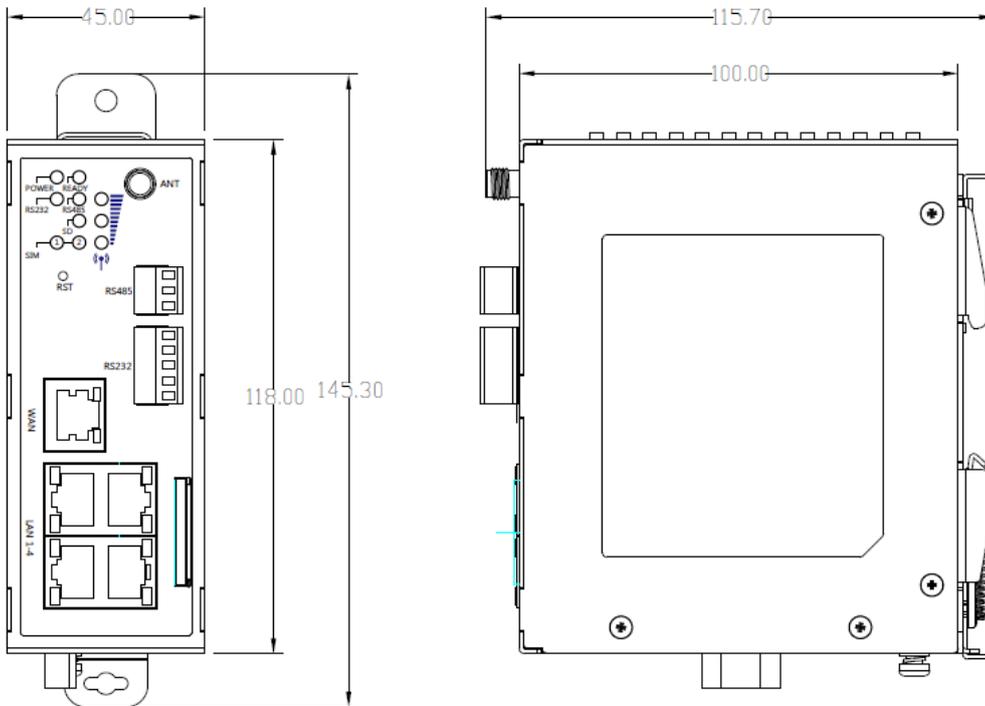
1.2 Package Checklist

Unpack the package carefully and check the package contents. The package should contain the following items:

- DX-3001H9 Industrial 3G Cloud Router x 1

- Quick Installation Guide x 1

- SMA Antenna (300cm) x 1

⚠	**Notice**
	Verify that nothing is missing from the DX-3001H9 package by using the check list above. If any item is found missing or damaged, please contact your local sales representative for support.

Chapter 2   User Interface

Table of Contents

2.1 Web-based GUI Configuration

The DX-3001H9 Industrial 3G Cloud Router provides a friendly Web Browser Configuration for users to set up and operate more intruitivly.

2.1.1 System Connection

2

Connect the DX-3001H9 with a computer directly or via a switch/hub.
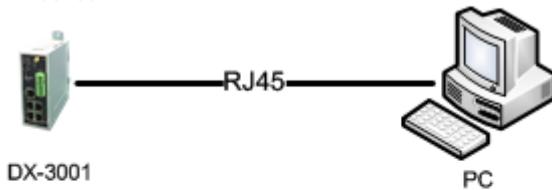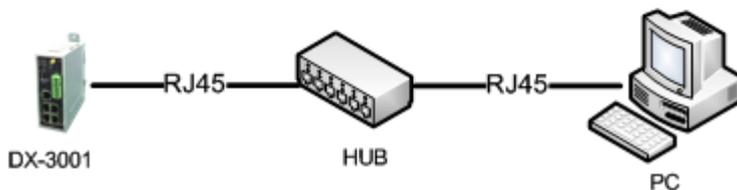
2.1.2 Default IP Address/Account/Password

The default domain name of router is **www.diadevice.com**, default IP address is **192.168.1.1.** The initial account and password is **admin/admin**

2.1.3 Local Network Setups

After the connection of the local computer and the router is done, you will need to set the network configruration for your computer. There are 2 methods for the setting, we prefer you use the first one:

- **Obtain an IP address automatically by using the router as a DHCP server.**

  1. Open Network Connections by clicking the Start button, and then clicking Control Panel.

  2. Under Network and Sharing Center, click View network connections.

  3. Right-click the connection that you want to change, and then click Properties. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

  4. Click the Networking tab. Under This connection uses the following items, click either Internet Protocol Version 4 (TCP/IPv4) or Internet Protocol Version 6 (TCP/IPv6), and then click Properties.
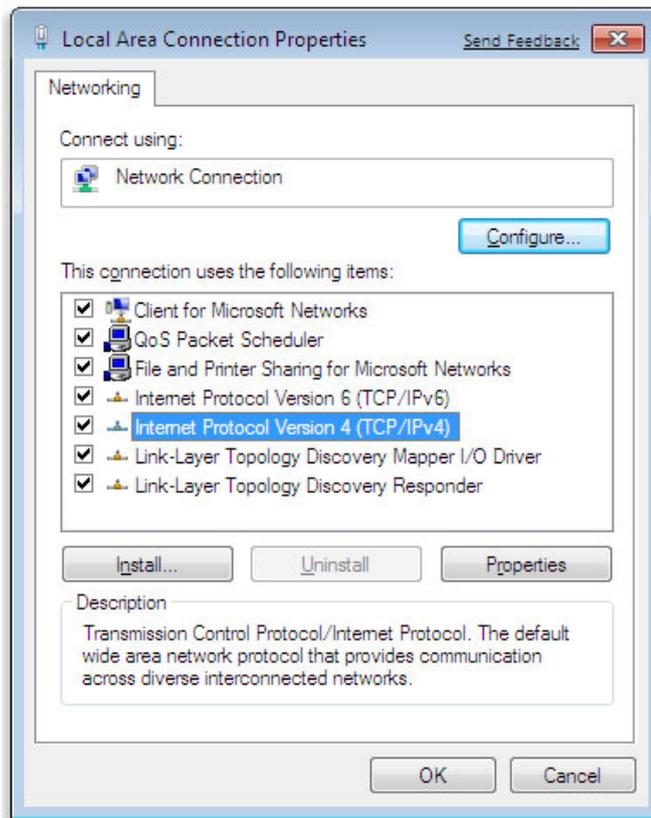
5. Click Obtain DNS server address automatically and then click OK to get a DNS server address automatically using DHCP.
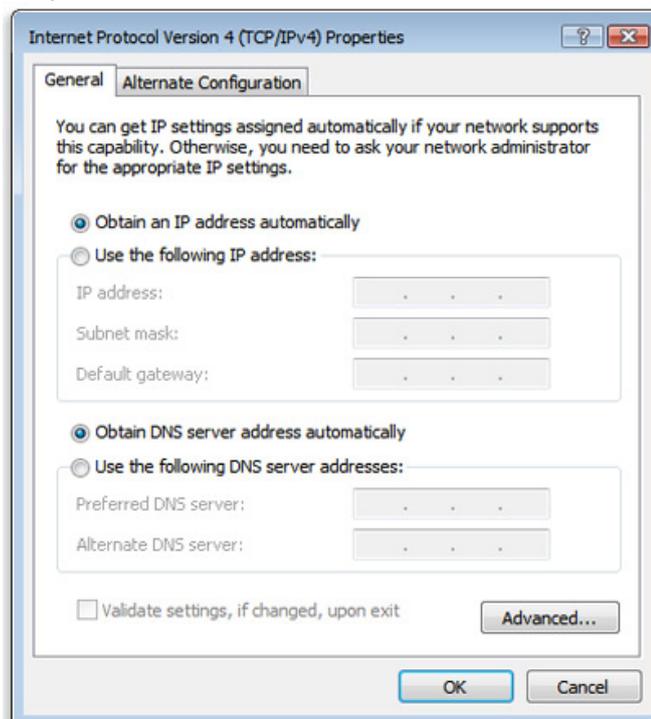
- **Set up the IP address manually.**

   (The IP address of the computer should be in the same subnet as the router's.)

Since the router's default IP address is 192.168.1.1 and the subnet mask is 255.255.255.0, the computer's IP address can be set between 192.168.1.2 to 192.168.1.254. However, you'll need to make sure there are no IP conflicts.

Here, we set the address to 192.168.1.10 and the default gateway to 192.168.1.1. For DNS, the usable DNS address can be selected or the address can also be set to 192.168.1.1.
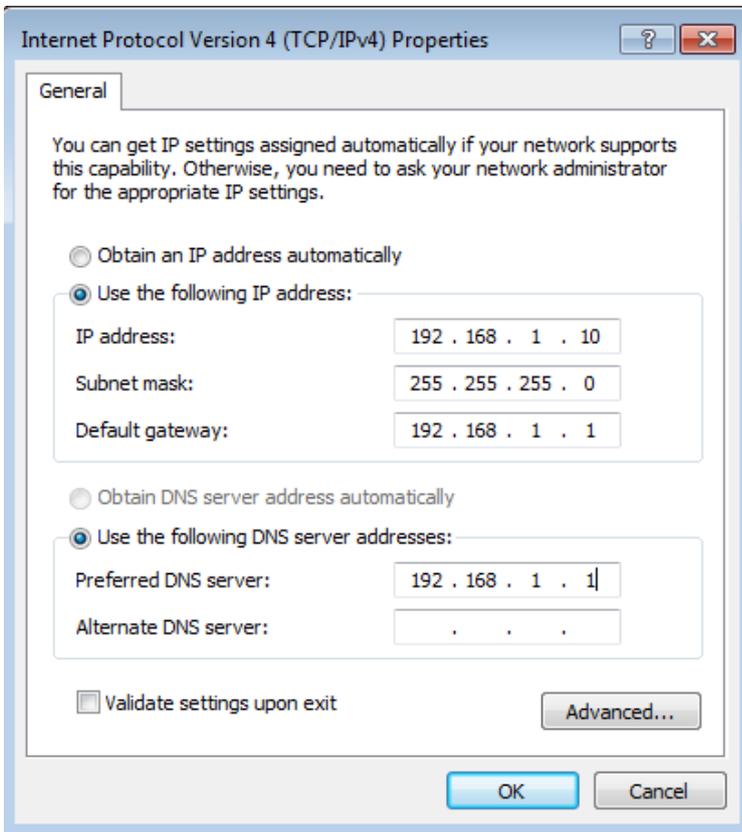
2.1.4　Logging in

1.　Open your Internet Explorer browser and input LAN IP address (Default is 192.168.1.1) or the router's domain name (www.diadevice.com) in the search bar and then press Enter.

2.　You'll be prompted with the log-in page. Input the user name and the password (Default is admin/admin) and then press Enter to log in to the setup page.

DX-3001H9

User Name [   ]

Password [   ]

LOGIN

3. After login, you can see the main selection area on the left hand side and the upper area of the page. The detailed settings can be seen on the right hand side of the page.

| DX-3001H9 | STATUS | NETWORK | FIREWALL | SYSTEM | CLOUD SERVICE | EXIT |

Network Status   network information

⌂ STATUS > Network Status

≔ **Connection**   [Reconnect]

Connection Type	WAN	WAN Mode	STATIC
IP Address	172.17.92.213	Network Mask	255.255.255.0
Gateway Address	172.17.92.110	Primary DNS	172.17.92.135
Secondary DNS	172.17.36.15		

≔ **LAN**

LAN IP Address	192.168.1.1		
LAN1-Status	Down	LAN2-Status	Up
LAN3-Status	Down	LAN4-Status	Down

≔ **Traffic Statistics**

Cellular Link1-Sent	0 bytes	Cellular Link1-Received	0 bytes
Cellular Link2-Sent	0 bytes	Cellular Link2-Received	0 bytes
WAN-Sent	0 bytes	WAN-Received	0 bytes

Network
Device
Log
Cloud Status
Connected Device

Notice

⚠ Considerations of the router LAN port IP will be change after the device is bind with DIACloud account, we prefer you use 192.168.1.1 and use the automatically obtained IP address and DNS server for the computer

---

2.2   DIADevice

DIADevice is a tool for quickly configuring network devices. Users simply connect the DX device to the PC through the network cable. This tool can be used to quickly and easily configure the network setting of the device and complete the device binding DIACloud cloud account.

The DIADevice software is included in the latest DIACom software package. From the official website or sales staff to obtain DIACom packag. DX-3001 below as an example on how to configure the device through DIADevice.

The following example uses DX-3001 to show you how to configure your device with DIADevice.

2.2.1   Device Connection and Detection

1.   Connect the device to the power supply, and connect the device to the PC using a network cable. Plug the network cable connected to the Internet into the WAN port of the device

2.   Run DIADevice software, click "Detect" button.
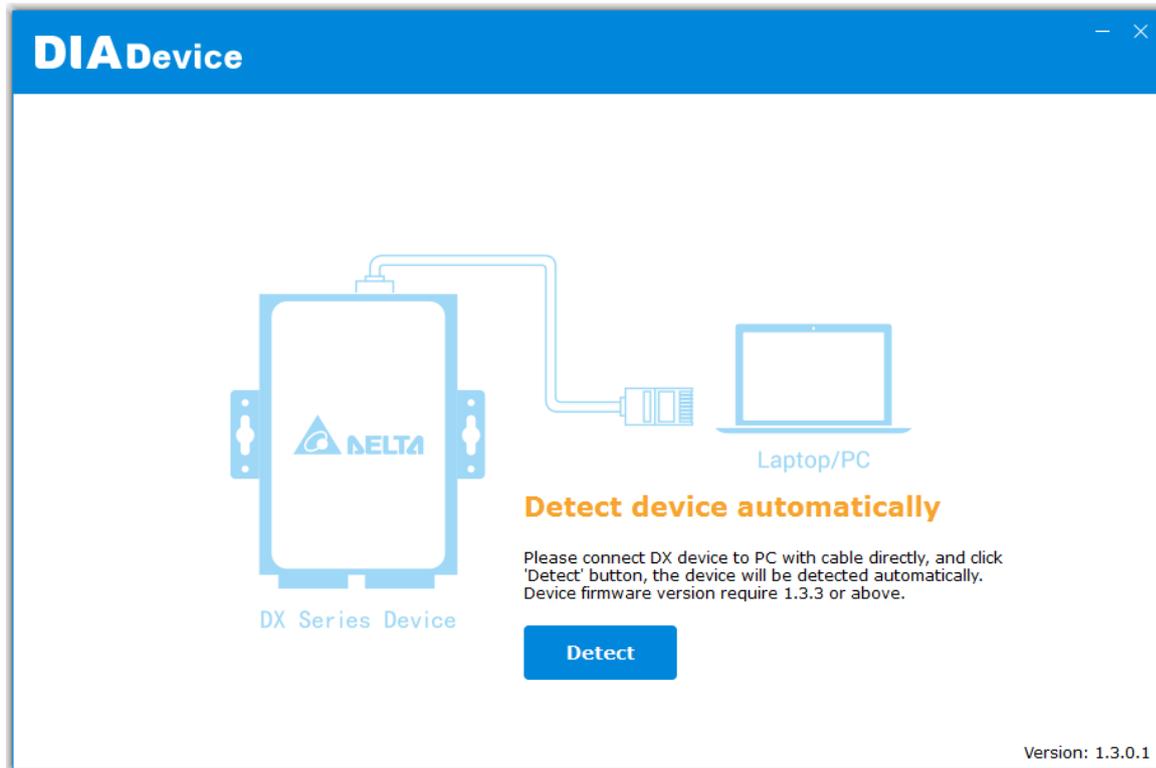
3.   After DIACom detects the device, it will automatically go to the login page, and the user needs to enter login password on the login page.
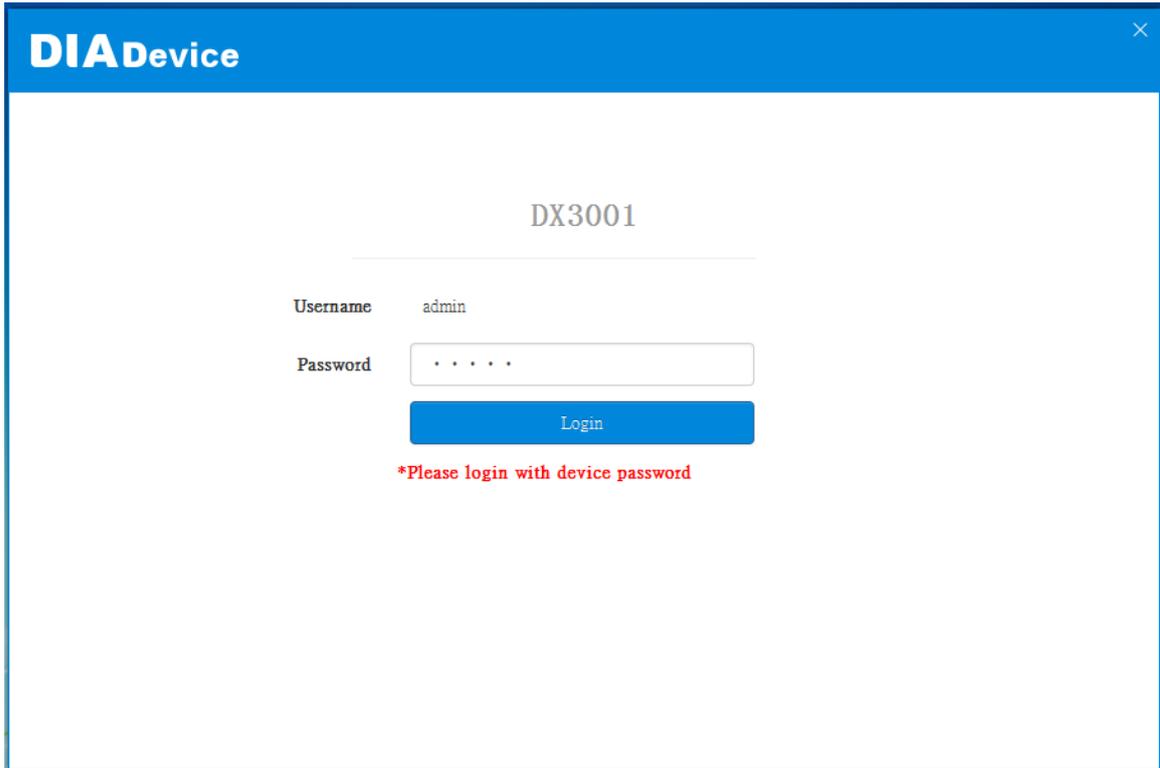
4. After passing the authentication, the device information page is displayed, including the basic device information (Device Name, S / N, firmware, LAN IP address), network status, WAN information, and cloud service information

2.2.2 Network Setting

This feature allows you to quickly configure your network in two steps.

1. Click "Network Setting"

2. You can setup the connection priority here, and then, it will guide you to config each the connection parameter page base on the priority what you setup.

3. WAN setting page and Proxy setting page(if need)

2

4. Cellular setting page

5.   After the device successfully connected to the Internet, the connection was successful.
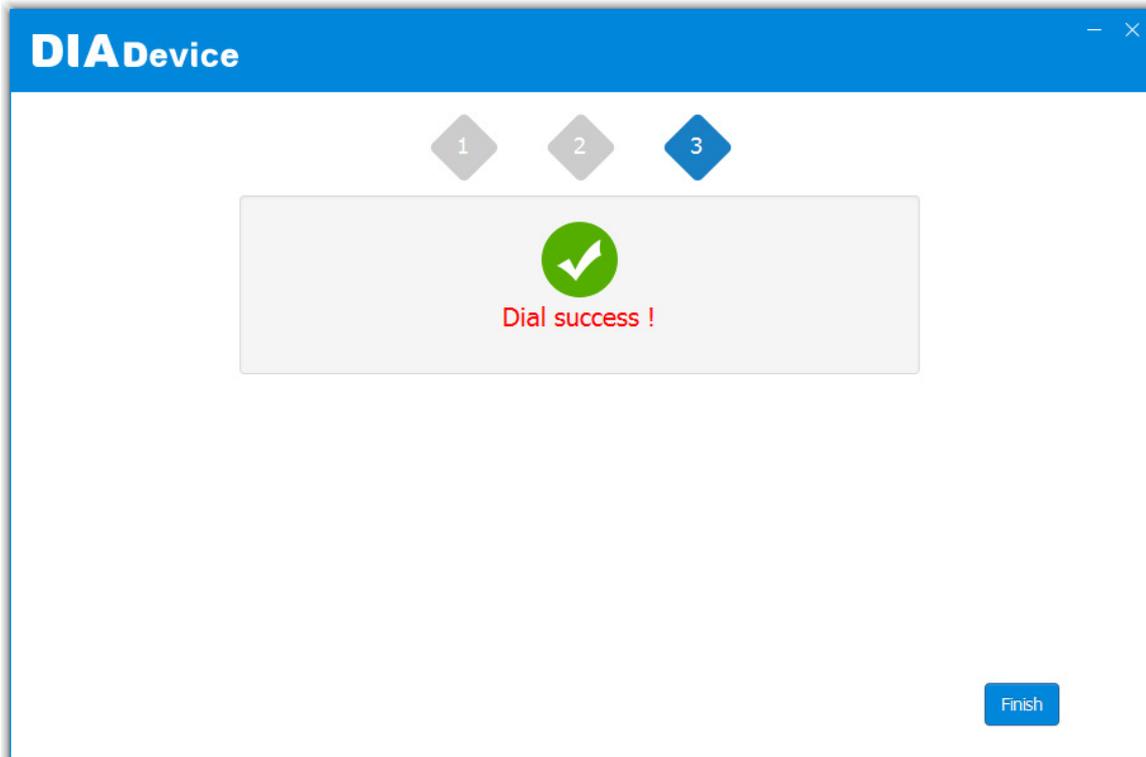
2.2.3 Bind Device

This feature allows you to quickly bind your device to the DIAcloud in three steps.

1. Click "Bind Device"

2. Enter the DIAcloud account number and password, and click Next.

3. After binding configuration is configured, click "Bind" to bind.

2

4.   If your device is successfully bound to the cloud, the following screen will appear

Notice

If the device has been bound to the cloud account, you need to switch to another cloud account binding, you only need to repeat 1-3 steps and then enter the new cloud account you need to bind.

2.2.4　　Open Device Webpage

Click open device webpage button, the browser will open the device settings page, the user can set the parameters of RS232 / 485 configuration.

3

Chapter 3   Functions

Table of Contents

3.1 Status

You can view summary or detailed information on the Network Status, Device Information, Local Log, Cloud Status, and Connected Device.

3.1.1 Network Status

This page shows basic information on Connection Status, LAN Status and traffic statistics.

When router connects to internet by WAN port, the status includes the connection type, WAN mode, IP Address, Network Mask, Gateway Address, primary DNS, and Secondary DNS.

When router connects to internet by Cellular, the status includes the Operator, APN, User Name, Password, MCC, MNC, Signal Strength, authorization mode, dial-up number, Online Duration, IP Address, Network Mask, Gateway Address, primary DNS, and Secondary DNS.

LAN includes the LAN IP Address, and connection status of 4 LAN port. Up means connected, down means disconnected.

Traffic statistics shows network traffic information of the Cellular Link 1&2 and WAN port.

🏠 STATUS > Network Status

▤ **Connection**   Reconnect

Connection Type	WAN	WAN Mode	STATIC
IP Address	172.17.92.213	Network Mask	255.255.255.0
Gateway Address	172.17.92.110	Primary DNS	172.17.92.135
Secondary DNS	172.17.36.15		

▤ **LAN**

LAN IP Address	192.168.1.1		
LAN1-Status	Down	LAN2-Status	Up
LAN3-Status	Down	LAN4-Status	Down

▤ **Traffic Statistics**

Cellular Link1-Sent	0 bytes	Cellular Link1-Received	0 bytes
Cellular Link2-Sent	0 bytes	Cellular Link2-Received	0 bytes
WAN-Sent	0 bytes	WAN-Received	0 bytes

3.1.2 Device Information

This page shows basic information on the Hardware/Software version and Resource Usage Information.

⌂ STATUS > Device

☰ **Basic**

Device Type:	DX3001
Device Name:	DX3001_DA9E
S/N:	DXL3001116140017

☰ **Version**

Hardware Version	DX3001
Release Date:	2016-03-14 04:28:44 PM
Firmware Version:	DX-3001H9-IA-1.3.0.16-2017-12-08
Upgrade Date:	2017-12-22 14:20:45

☰ **Resource Usage**

CPU Usage:	9%
Total Memory:	122012KB
Memory Used:	103072KB
Memory Usage:	84%

- Basic Information

Item	Description
Device Type	Model type of the router
Device Name	Name of the router, the default is DX3001 + "_" + "the last four digits of Mac address"
S/N	Serial number of the router

- Version Information

Item	Description
Hardware Version	Version number of the hardware currently used on the router

Release Date	Hardware release date
Current Version	Version number of the software currently used on the router
Upgrade Date	Upgrade time of the software currently used on the router

- Resource Usage Information

Item	Description
CPU Usage	The CPU usage of current router
Total Memory	The total memory on the router
Memory Used	The memory currently used on the router.
Memory Usage	The current ratio of the router usage

3.1.3 Local Log

This page shows logs of the router, including the System log, Warning lot and the Debug log. You can use the buttons on the right hand side to refresh, clear or download the displayed logs.

⌂ STATUS > Device Logs

▤ Log Type

◉ Informative log   ○ Warning log   ○ Debug log

▤ Log Content

| Refresh | Clear | Download |

Timestamp	Content
Dec 22 14:24:55	syslog.info syslogd started: BusyBox v1.22.1
Dec 22 14:25:04	user.info WATCHDOG[1592]: watchdog enabled!
Dec 22 14:25:13	local0.info udhcpd: udhcpd (v0.9.9-pre) started
Dec 22 14:25:13	local0.err udhcpd: max_leases value (254) not sane, setting to 101 instead
Dec 22 14:25:14	user.info gre_app: [GRE_APP] gre_app start ....
Dec 22 14:25:14	user.info gre_app: [GRE] No configuration in grelist1
Dec 22 14:25:14	user.err gre_app: No configuration for gre,exit...
Dec 22 14:25:15	auth.info passwd: Password for root changed by root
Dec 22 14:25:15	authpriv.warn dropbear[1803]: Failed loading /etc/dropbear/dropbear_dss_host_key
Dec 22 14:25:15	authpriv.warn dropbear[1803]: Failed loading /etc/dropbear/dropbear_ecdsa_host_key
Dec 22 14:25:15	authpriv.info dropbear[1812]: Running in background
Dec 22 14:25:15	user.info SMSTrigger: [SMSTrigger:]SMSTrigger run in |/dev/ttyUSB2|115200| mode.

PREV 1 2 3 4 5 NEXT

3.1.4 Cloud Status

This page shows cloud server information of the router, including the Registration Status, Service Status, and Activated Time.

🏠 STATUS > Cloud Status

▤ **Cloud Status**

Registration Status:	Not registered
Service Status:	Disabled
Activated Time:	N/A

3.1.5 Connected Device

This page shows information of the devices connected to the router, including the IP Address, Host Name, MAC Address.

🏠 STATUS > Connected Device

Refresh

ID	IP Address	Host Name	MAC Address	Address Allocated By
1	192.168.1.100	<unknown>	3C:97:0E:DE:7B:25	STATIC

3.2 Network

You can set up networks configuration, including the connection priority, Cellular network, WAN and LAN Configurations.

3.2.1 Connection

This page is used for setting up the connection priority. Router provide 3 links to connect to Internet, include cellular network 1&2 and WAN, user can appoint the connect order in this page.

NETWORK > Connection Priority

Connection Priority

Primary Connection	WAN
Secondary Connection	Disable
Tertiary Connection	Disable
Auto Detect	Ping
Target Address 1	
Target Address 2	
Dial Failure To Restart	Disable
Detect Interval	60 (30~300s)
WAN Backup	Disable
WAN Check Interval	10 (10~300s)

Save   Cancel

Description	Default
Primary Connection	
Appoint first interface for internet connection	WAN
Secondary Connection	
Set up an IP address for your device.	Disabled
Tertiary Connection	
Set up the LAN network mask.	Disabled
Auto Detect	
Check if the connection is dropped or not via PING	Disabled
Target Address 1	
Set the first IP/domain of the server that program will do a ping testing.	N/A
Target Address 1	
Set the second IP/domain of the server that program will do a ping testing.	N/A
Dial Failure To Restart	
Enable or disable the function if the dial failure will be in the default time to	Disabled

Description	Default
restart device.	
Detect Interval	
Set the ping test interval	60s
WAN Backup	
When the 3G dial-up is successful, the system will periodically check the status of the WAN. If it detects that the WAN connection is available, it will automatically switch to the WAN connection to reduce the traffic loss of 3G	Disable
Wan Check Interval	
Set the interval for detecting WAN connection status	10s

3.2.2 Cellular Link1

This page is used for setting up the Cellular Network for SIM1, including the Operator, User Name, Password, APN, Authorization Mode, Dial-Up Number, Dial-Up Mode, Redial Interval, Redial Times, Max Idle Time, Connection Check Interval, Connection Check Times, and MTU.

⌂ NETWORK > Cellular Link1

☰ Cellular Link1

Operator	Auto ▾
User Name	
Password	
APN	3gnet
Authorization Mode	Auto ▾
Dial-Up Number	*99#(UMTS/3G/3.5G) ▾
Dial-Up Mode	Always online ▾
Redial Interval	30 (second)
Redial Times	0 (0 means always redial)
Max Idle Time	0 (0 means always online)
Connection Check Interval	60 second (0 means not checked)
Connection Check Times	5
MTU	1492

Save   Cancel

Description	Default
Operator	
Select Auto or Others for the Operator from the dropdown list. • **Auto:** the system will detect the operator from the inserted SIM card and set up accordingly. • **Others**: users can set up the operator manually.	AUTO
User Name	
This name is provided by the operator. When "Auto" is selected, the system will set the name up automatically and users cannot change the setting.	N/A
Password	
This password is provided by the operator. When "Auto" is selected, the system will set the password up automatically and users cannot change the setting.	N/A
APN (Access Point Name)	

Description	Default
This APN is provided by the operator. When "Auto" is selected, the system will set the APN up automatically and users cannot change the setting.	3gnet
Authorization Mode	
Options are "Auto", "PAP" and "CHAP".	Auto
Dial-Up Number	
This number is provided by the operator. When "Auto" is selected, the system will set the number up automatically and users cannot change the setting.	*99#
Dial-Up Mode	
Options are : • **Always online**: stay connected and once a disconnection is detected, the router will redial to connect automatically. • **On-demand connection**: redial when connection to the internet is on demand. • **Manual connection**: users dial to connect and when it fails to connect, it will not redial.	Always online
Redial Interval	
Set up the time to redial when the system fails to connect. This will only be executed when the option "Always online" or "On-demand connection" is selected.	30
Redial Times	
Set up the maximum redial time, 0 indicating infinity. This will only be executed when the option "Always online" or "On-demand connection" is selected.	0
Max Idle Time	
Set up the maximum idle time. When the idle time exceeds the set value, the router will disconnect and then redial, 0 indicating not to disconnect.	0
Connection Check Interval	
Set up the connection check interval. Check the connectivity, if the connection is lost, it will redial automatically, 0 indicating not to check the connectivity.	60
Connection Check Times	
Set up the connection check times, 0 indicating infinity. Once a disconnection is detected, and the option "Always online" or "On-demand connection" is selected, the router will redial according to the set value in the Redial Times.	5
MTU	
Maximum Transmission Unit is the largest packet that can be transmitted over packet based networks.	1492

3.2.3 Cellular Link2

This page is used for setting up the Cellular Network for SIM2, including the Operator, User Name, Password, APN, Authorization Mode, Dial-Up Number, Dial-Up Mode, Redial Interval, Redial Times, Max Idle Time, Connection Check Interval, Connection Check Times, and MTU.

⌂ NETWORK > Cellular Link2

▤ **Cellular Link2**

Operator	Auto ▾
User Name	
Password	
APN	3gnet
Authorization Mode	Auto ▾
Dial-Up Number	*99#(UMTS/3G/3.5G) ▾
Dial-Up Mode	Always online ▾
Redial Interval	30 (second)
Redial Times	0 (0 means always redial)
Max Idle Time	0 (0 means always online)
Connection Check Interval	60 second (0 means not checked)
Connection Check Times	5
MTU	1492

Save   Cancel

Description	Default
Operator	
Select Auto or Others for the Operator from the dropdown list. • **Auto:** the system will detect the operator from the inserted SIM card and set up accordingly. • **Others**: users can set up the operator manually.	AUTO
User Name	
This name is provided by the operator. When "Auto" is selected, the system	N/A

Description	Default
will set the name up automatically and users cannot change the setting.	
Password	
This password is provided by the operator. When "Auto" is selected, the system will set the password up automatically and users cannot change the setting.	N/A
APN (Access Point Name)	
This APN is provided by the operator. When "Auto" is selected, the system will set the APN up automatically and users cannot change the setting.	3gnet
Authorization Mode	
Options are "Auto", "PAP" and "CHAP".	Auto
Dial-Up Number	
This number is provided by the operator. When "Auto" is selected, the system will set the number up automatically and users cannot change the setting.	*99#
Dial-Up Mode	
Options are : • **Always online**: stay connected and once a disconnection is detected, the router will redial to connect automatically. • **On-demand connection**: redial when connection to the internet is on demand. • **Manual connection**: users dial to connect and when it fails to connect, it will not redial.	Always online
Redial Interval	
Set up the time to redial when the system fails to connect. This will only be executed when the option "Always online" or "On-demand connection" is selected.	30
Redial Times	
Set up the maximum redial time, 0 indicating infinity. This will only be executed when the option "Always online" or "On-demand connection" is selected.	0
Max Idle Time	
Set up the maximum idle time. When the idle time exceeds the set value, the router will disconnect and then redial, 0 indicating not to disconnect.	0
Connection Check Interval	
Set up the connection check interval. Check the connectivity, if the connection is lost, it will redial automatically, 0 indicating not to check the connectivity.	60
Connection Check Times	

Description	Default
Set up the connection check times, 0 indicating infinity. Once a disconnection is detected, and the option "Always online" or "On-demand connection" is selected, the router will redial according to the set value in the Redial Times.	5
MTU	
Maximum Transmission Unit is the largest packet that can be transmitted over packet based networks.	1492

3.2.4 WAN

This page is used for setting up the WAN, including the IP address, network mask, gateway and DNS.

⌂ NETWORK > WAN

▤ **WAN Settings**

WAN Mode	DHCP ∨
IP Allocation Method	Dynamic ∨
IP Address	0.0.0.0
Network Mask	0.0.0.0
Gateway Address	0.0.0.0
Packet MTU	1500

(Don't change the settings unless really need to)

Retrieve DNS Address By:	Dynamic ∨
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0

Save   Cancel

Description	Default
WAN Mode	
Your device can connect to the internet via the WAN port with a Dynamic IP or Static IP. • Static IP: Manually set up the IP address. • Dynamic IP: DHCP (Dynamic Host Configuration Protocol) allows you to	DHCP

Description	Default
obtain an IP address automatically from your router.	
IP Allocation Method	
The IP Allocation Method is the same as the WAN Connection Mode that you have set. You can apply to different option by modifying the WAN Connection Mode. ● Dynamic: Dynamic Host Configuration Protocol (DHCP) allows you to obtain an IP address automatically from your router. ● Manual: Manually set up the IP address (Static).	DHCP
IP Address	
Set up an IP address for your device to connect to the internet via the WAN port. It's configurable when the mode is set to Static.	0.0.0.0
Network Mask	
Set up the WAN network mask. It's configurable when the mode is set to Static.	0.0.0.0
Gateway Address	
Set up the gateway address. It's configurable when the mode is set to Static.	0.0.0.0
MTU	
Maximum Transmission Unit is the largest packet that can be transmitted over packet based networks.	1500
Retrieve DNS Address By	
The Retrieve DNS Address Method is the same as the WAN Connection Mode that you have set. You can apply to different option by modifying the WAN Connection Mode. DNS address can be retrieved by DHCP setup or manually set. ● Dynamic: Dynamic Host Configuration Protocol (DHCP) allows you to obtain an IP address automatically from your router. ● Manual: Manually set up the IP address (Static).	DHCP
Primary DNS	
Set up the primary DNS. It's configurable when the mode is set to Static.	0.0.0.0
Secondary DNS	
Set up the secondary DNS. It's configurable when the mode is set to Static.	0.0.0.0

3.2.5 LAN

This page is used for setting up the LAN, including IP Address, Network Mask, and DHCP Server.

⌂ NETWORK > LAN

Description	Default
IP Address	
Set up an IP address for your device.	192.168.1.1
Network Mask	
Set up the LAN network mask.	255.255.255.0
DHCP Server	
If DX router uses DHCP to assign IP addresses automatically on your network, you can specify the IP address range and lease time for the clients on your network. Once the DX router have bound the DIACloud and enabled the DIACloud DHCP, the DHCP in DX router will be disabled automatically.	Enable
Address Lease Time	
To set up the address lease time so that a client doesn't hold an IP address indefinitely. It allows for a mechanism to gracefully reuse DHCP addresses. Options here are 1 to 3 days.	One day
First IP Address	
To increase the number of addresses available to clients, you can change the Start Address.	192.168.1.100

Description	Default
Last IP Address	
To increase the number of addresses available to clients, you can change the End Address.	192.168.1.200
STP	
STP is a network protocol that builds a logical loop-free topology for Ethernet networks. The basic function of STP is to prevent bridge loops and the broadcast radiation that results from them. If this STP is enabled, the traffic usage will increase about 15Mbit in 24 hours.	Disable

3.3   Firewall

3.3.1   MAC Filter

This page is used for setting up the MAC Filter, including configuring the MAC Address, Device Name and Status.

MAC Filter is used to block particular MAC address from the local network. Select Enable/Disable to activate/deactivate this functionality. Click the "Add A MAC Address" to block the MAC Address.

🏠 FIREWALL > MAC Filter

MAC Filter	Disable ▼	Save		Add A MAC Address
ID	**MAC Address**		**Device Name**	**Status**

After clicking the "Add A MAC Address", you will see the following page.

🏠 FIREWALL > MAC Filter

≡ **Add A MAC Address**

MAC Address   [ ]

Device Name   [ ]

Status   Enabled ▼

Save   Back

Description	Default
MAC Address	
Manually input the MAC address that you'd like to block.	N/A
Device Name	
Set up the device name corresponding to the set MAC address.	N/A
Status	

Description	Default
Enable/disable the MAC Filter functionality.	Enabled

3.4 System

You can set up the system configurations, including the User Management, Time Zone Configurations, RS232, RS485, Modbus TCP, Log Setting, Firmware Upgrade, Backup & Restore, Scheduled Jobs, Network Diagnosis, System Reboot, Event Management, and Register Management.

3.4.1 User Management

You can change the administrator password and set up web page session timeout here. The password must be a combination of 5 to 12 characters, numbers and/or underline symbols.

⌂ SYSTEM > Administrator Password

▤ Device Name Setting

Device Name   DX3001_DA9E   Save   Cancel

▤ Change Administrator Password

Old Password

New Password

The password must be a combination of 5 to 12 characters,numbers and underline marks

Confirm Password

Save   Cancel

▤ Session Timeout Setting

Session Timeout: 30   (10-1440 min)   Save

Description	Default
Old Password	
Input the original password.	admin
New Password	
Input the new password you'd like to use. The password length should be 5-12 digits and is composed of lowercase letters, uppercase letters (case sensitive), numerals 0-9 and underline.	N/A
Confirm Password	
Again input the password you'd like to use to double confirm there is no typo.	N/A
Session Timeout	

Description	Default
Session timeout is an expired time limit for a logged in user which as been inactive for a period of time. Setting range is from 10 to 1440 minutes	30

3.4.2   Time Zone Configurations

You can change the current time of the device. Use the dropdown list to select the correct time zone for your device.

⌂ SYSTEM > NTP Server Settings

The current time of device 2017-12-26 14:19:51

Local PC Time   2017-12-26 14:25:14   Set Local PC Time

Time Zone Setting

(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi   ⌄   Save

Description	Default
The current time of device	
Here shows the current time of your device.	N/A
Local PC Time	
Here shows the current time of your local PC which connect to the device	
Set Local PC Time	
Set the router time same as the PC time	N/A
Time Zone Setting	
Select the operating time zone of your device: GMT-12:00 - GMT+13:00.	N/A

3.4.3   RS232

RS232 (Recommended Standard - 232) is a telecommunication standard for binary serial communications between devices. You can set up the configurations for RS232, including Baud Rate, Data Bits, Stop Bits, Parity Bits and Flow Control.

⌂ SYSTEM > RS232

☰ RS232

Working Mode	Transparent mode ▾
Baud Rate	9600 ▾
Data Bits	8 ▾
Stop Bits	1 ▾
Parity Bits	None ▾
Flow Control	None ▾

[Save] [Cancel]

⌂ SYSTEM > RS232

☰ RS232

Working Mode	Slave mode ⌄
Baud Rate	9600 ⌄
Data Bits	8 ⌄
Stop Bits	1 ⌄
Parity Bits	None ⌄
Flow Control	None ⌄
Modbus ID	1
Modbus Mode	ModBus RTU ⌄
Modbus Timeout	1000 (ms)

[Save] [Cancel]

⌂ SYSTEM > RS232

☰ **RS232**

Working Mode	Serial Server - TCP Client ▾
Baud Rate	9600 ▾
Data Bits	8 ▾
Stop Bits	1 ▾
Parity Bits	None ▾
Flow Control	None ▾
TCP Alive Check Time	7 (0-99 min)
Destination IP Address1	192.168.1.100 Port 4001
Destination IP Address2	Port 4002
Destination IP Address3	Port 4003
Destination IP Address4	Port 4004
Designated Local Port1	14001
Designated Local Port2	14002
Designated Local Port3	14003
Designated Local Port4	14004
Packing Length	0 (0-1024)
Force Transmit	0 (0-65535 ms)

Save   Cancel

🏠 SYSTEM > RS232

▤ **RS232**

Working Mode	Serial Server - UDP Client ✓
Baud Rate	9600 ✓
Data Bits	8 ✓
Stop Bits	1 ✓
Parity Bits	None ✓
Flow Control	None ✓

	Begin	End	port
Destination IP Address1			: 6001
Destination IP Address2			: 6002
Destination IP Address3			: 6003
Destination IP Address4			: 6004
Local Listen Port	15000		
Packing Length	0	(0-1024)	
Force Transmit	0	(0-65535 ms)	

[Save] [Cancel]

Description	Default
Working Mode	
Select the working mode for the current active serial port. • **Transparent mode:** This mode is suitable for uploading and downloading data remotely via the serial port. • **Slave mode:** This mode is suitable for the PLC to perform the read/ write tasks on the open register of the Router. • **Serial Server – TCP Client:** This mode is suitable for the router connect to serial server by TCP protocol as a client. • **Serial Server – UDP Client:** This mode is suitable for the router connect to serial server by UDP protocol as a client. • **Close:** Disable this functionality.	Close

	Baud Rate	
Parameters of COM	Set up the baud rate for the serial port. Options are 2400, 4800, 9600, 19200, 38400, 57600 and 115200.	9600
	Data Bits	

	Description	Default
	Set up the data bits for the serial port. • **Transparent mode:** 7, 8 • **Slave mode:** 8	8
	Stop Bits	
	Set up the stop bits for the serial port. Options are 1 and 2.	1
	Parity Bits	
	Set up the parity bits for the serial port. Options are None, Odd and Even.	None
	Flow Control	
	Set up the flow control. Options are None, XON, XOFF, RTS, and CTS.	None
Slave Mode	**Modbus ID**	
	Set up the MODBUS ID. The value is between 1 and 247.	1
	Modbus Mode	
	Set up the communication mode for the device. Device support ModBus RTU and ModBus ASCII	ModBus RTU
	Modbus Timeout	
	Set up the timeout timer from 200ms to 5000ms. If the set value is out of range, it will be automatically changed to its maximum or minimum value.	1000ms
Serial Server – TCP Client	**TCP Alive Check Time**	
	Set up the keep alive time of TCP connection. Range from 0 to 99 minutes. 0: Never disconnect the connection 1 ~ 99: Disconnect the TCP connection after the idle time meet the set value	7
	Destination IP address and port	
	Set the IP address and port of the serial server. Up to 4 serial servers can be configured. Ports default are 4001 ~ 4004 and configurable	192.168.1.100
	Designated local port	
	Set up the local port for the each connection	14001~14004
	Packing length	
	Set up the threshold for sending packets. Range from 0 to 1024 bytes. 0 means it is immediately sent once data coming.	0

	Description	Default
	Force transmit	
	Set up the how long it will wait before it send packets mandatory. Range from 0 to 65536 millisecond. 0 means never send packets mandatory.	0
Serial Server – UDP Client	**Destination IP address and port**	
	Set the IP segment and port of the serial server. Up to 4 segments can be configured and there are at most 99 addresses in each segment. Port defaults are 6001 ~ 6004 and configurable.	
	Local listen port	
	Set up the local port.	15000
	Packing length	
	Set up the threshold for sending packets. Range from 0 to 1024 bytes. 0 means it is immediately sent once data coming.	0
	Force transmit	
	Set up the how long it will wait before it send packets mandatory. Range from 0 to 65536 millisecond. 0 means never send packets mandatory.	0

3.4.4 RS485

RS485 (Recommended Standard - 485) is a telecommunication standard for binary serial communications between devices. You can set up the configurations for RS485, including Baud Rate, Data Bits, Stop Bits, Parity Bits, and many more.

🏠 SYSTEM > RS485

≣ RS485

Working Mode	Transparent mode ⌄
Baud Rate	9600 ⌄
Data Bits	8 ⌄
Stop Bits	1 ⌄
Parity Bits	None ⌄

[Save] [Cancel]

⌂ SYSTEM > RS485

▤ **RS485**

Working Mode	Slave mode ▾
Baud Rate	9600 ▾
Data Bits	8 ▾
Stop Bits	1 ▾
Parity Bits	None ▾
Modbus ID	1
Modbus Mode	ModBus RTU ▾
Modbus Timeout	1000 (ms)

[Save] [Cancel]

⌂ SYSTEM > RS485

▤ **RS485**

Working Mode	Master mode ▾
Baud Rate	9600 ▾
Data Bits	8 ▾
Stop Bits	1 ▾
Parity Bits	None ▾
Modbus ID	1
Modbus Mode	ModBus RTU ▾
Modbus Timeout	200 (ms)

Read/Write Configuration

Scan Interval	30000 (ms)

- Only read or write of hold registers of external devices are supported. When the controller is set as "Others", device communication address should be input in hexadecimal.
- When the register address of the external device is standard Modus address, which is in the range of 40001 to 4XXXX, the latter 4 digits of the address should minus one, and then convert the result to hexadecimal. For example, communication address of standard Modbus address 40242 will be 00F1.
- When communicate with PLC of Delta, the starting address can be set as the internal register number. For example, input 0 for register D0.
- The acceptable address range of this device is from 2048 to 4095 in decimal.

[Add Mappings]

Row Number	Read/Write	Slave ID	Controller	Address Type	Slave Starting Address	Device Starting Address ($2048-$4095)	Length(1-123)	Operation
1	Read/Write ▾	2	Delta DVP PLC ▾	D ▾	10	$2048	1	Delete
2	Read/Write ▾	3	Others ▾	W(HEX) ▾	10B	$2049	1	Delete

[Save] [Cancel]

⌂ SYSTEM > RS485

3-25

☰ RS485

Working Mode	Serial Server - TCP Client ▾
Baud Rate	9600 ▾
Data Bits	8 ▾
Stop Bits	1 ▾
Parity Bits	None ▾
TCP Alive Check Time	7 (0-99 min)
Destination IP Address1	192.168.1.100 Port 4001
Destination IP Address2	Port 4002
Destination IP Address3	Port 4003
Destination IP Address4	Port 4004
Designated Local Port1	14001
Designated Local Port2	14002
Designated Local Port3	14003
Designated Local Port4	14004
Packing Length	0 (0-1024)
Force Transmit	0 (0-65535 ms)

[Save] [Cancel]

⌂ SYSTEM > RS485

⊞ **RS485**

Working Mode	Serial Server - UDP Client ⌄
Baud Rate	9600 ⌄
Data Bits	8 ⌄
Stop Bits	1 ⌄
Parity Bits	None ⌄

	Begin	End	port
Destination IP Address1			: 5001
Destination IP Address2			: 5002
Destination IP Address3			: 5003
Destination IP Address4			: 5004
Local Listen Port	15000		
Packing Length	0	(0-1024)	
Force Transmit	0	(0-65535 ms)	

Save   Cancel

Description	Default
Working Mode	
Select the working mode for the current active serial port. • **Transparent mode:** This mode is suitable for uploading and downloading data remotely via the serial port. • **Slave mode:** This mode is suitable for the PLC to perform the read/ write tasks on the open register of the router. • **Master mode:** This mode is suitable for the router to perform the read/write tasks on the open register of the PLC. • **Serial Server – TCP Client:** This mode is suitable for the router connect to serial server by TCP protocol as a client. • **Serial Server – UDP Client:** This mode is suitable for the router connect to serial server by UDP protocol as a client. • **Close:** Disable this functionality.	Close
Parameters of COM	**Baud Rate**	
	Set up the baud rate for the serial port. Options are 2400, 4800, 9600, 19200, 38400, 57600 and 115200.	9600
	Data Bits	

Description	Default
Set up the data bits for the serial port. ● **Transparent mode:** 7, 8 ● **Modbus RTU:** 8	8
Stop Bits	
Set up the stop bits for the serial port. Options are 1 and 2.	1
Parity Bits	
Set up the parity bits for the serial port. Options are None, Odd and Even.	None
Modbus ID	
Set up the MODBUS ID. The value is between 1 and 247.	1
Modbus Mode	
Set up the communication mode for the device. The Device supports ModBus RTU and ModBus ASCII.	ModBus RTU
Modbus Timeout	
Set up the timeout timer from 200ms to 5000ms. If the set value is out of range, it will be automatically changed to its maximum or minimum value.	1000ms
Master Mode — **Scan Interval**	
Set up the time for scan interval, ranging from 20ms to 60000ms.	30000ms
Read/Write	
Set up the access permissions for the mapped register address; ● **Read-only:** The device regular read data from appointed registers in the slave, but will not update the data to the slave ● **Write-only:** The device update the data to the slave when the registers values was changed, but will not read the data from the slave ● **Read/write:** The device regular read data from appointed registers in the slave, will update the data to the slave when the registers values is changed.	Read/Write
Slave ID	
Set up the corresponding slave communication port. The value is between 1 and 247.	N/A
Controller	
Device types: ● **Delta PLC:** Use this option for Delta DVP / AH /	Delta DVP PLC

Description	Default
AS series PLCs ● **Other:** Use this option for non-Delta PLCs.	
Address Type	
Depending on the selected controller type change: ● **Delta PLC:** The address type is "D" ● **Other:** The address type is "W"	D
Slave Starting Address (decimal)	
Set up the slave starting address for read/write the registers in a PLC. ● **Delta PLC:** Enter the internal D register number. If you need to read / write D0, please enter 0 here. ● **Other:** Enter the hexadecimal actual address. For example: Holding Register: 400100, take 0100 (decimal) that is 64 (hex). ⚠ Supports the Holding Register : 400001~465535 (Decimal)	N/A
Device Starting Address (decimal)	
Set up the device starting address (decimal, input range is from $2048 to $4095). $ specifies that the match must start at the beginning of a Device Starting Address.	N/A
Length (1-123)	
Here displays the number of the continuous address followed by the default mapped address.	N/A
Add Mappings	
Click the button to add mappings; the data mapping can be set to 200.	N/A
Edit	
Click an item of register mapping forms that can be edited.	N/A
Operation	
The added mappings can be deleted here.	N/A
Serial Server – TCP Client	**TCP Alive Check Time**	
	Set up the keep alive time of TCP connection. Range from 0 to 99 minutes. 0: Never disconnect the connection 1 ~ 99: Disconnect the TCP connection after the idle time meet the set value	7
	Destination IP address and port	
	Set the IP address and port of the serial server. Up to 4	192.168.1.100

Description	Default
serial servers can be configured. Ports default are 4001 ~ 4004 and configurable	
Designated local port	
Set up the local port for the each connection	14001~14004
Packing length	
Set up the threshold for sending packets. Range from 0 to 1024 bytes. 0 means it is immediately sent once data coming.	0
Force transmit	
Set up the how long it will wait before it send packets mandatory. Range from 0 to 65536 millisecond. 0 means never send packets mandatory.	0
Serial Server – UDP Client → **Destination IP address and port**	
Set the IP segment and port of the serial server. Up to 4 segments can be configured and there are at most 99 addresses in each segment. Port defaults are 6001 ~ 6004 and configurable.	
Local listen port	
Set up the local port.	15000
Packing length	
Set up the threshold for sending packets. Range from 0 to 1024 bytes. 0 means it is immediately sent once data coming.	0
Force transmit	
Set up the how long it will wait before it send packets mandatory. Range from 0 to 65536 millisecond. 0 means never send packets mandatory.	0

3.4.5   Modbus TCP

This page is used for configuring the Modbus TCP, including Working Mode, Server IP, Server Port, and Response Timeout.

⌂ SYSTEM > Modbus TCP

☰ Modbus TCP

| Working Mode | Modbus TCP Client ▼ | Confirm |

*4 modbus TCP servers supported at most

[Add Server]

Row Number	Server IP	Server Port	Response Timeout(ms)	Scan Interval(ms)	Operation

⌂ SYSTEM > Modbus TCP

3

Modbus TCP Client Setting

Server IP	
Server Port	502
Response Timeout	300 (ms)

Read/Write Configuration

Scan Interval	30000 (ms)

- Only read or write of hold registers of external devices are supported. When the controller is set as "Others", device communication address should be input in hexadecimal.
- When the register address of the external device is standard Modus address, which is in the range of 40001 to 4XXXX, the latter 4 digits of the address should minus one, and then convert the result to hexadecimal. For example, communication address of standard Modbus address 40242 will be 00F1.
- When communicate with PLC of Delta, the starting address can be set as the internal register number. For example, input 0 for register D0.
- The acceptable address range of this device is from 2048 to 4095 in decimal.

[Add Mappings]

Row Number	Read/Write	Slave ID	Controller	Address Type	Slave Starting Address	Device Starting Address ($2048-$4095)	Length(1-123)	Operation
1	Read/Write ▼	2	Delta DVP PLC ▼	D ▼	10	$2048	1	Delete
2	Read/Write ▼	3	Others ▼	W(HEX) ▼	10B	$2049	1	Delete

[Save] [Cancel]

Description	Default
Working Mode	
The default is OFF. Other options are: ● **Modbus TCP Server (Slave)**: for applications of a PLC to read/write the open registers in router. It supports up to 32 connections from client. ● **Modbus TCP Client (Master):** for router to read/write the open registers in a PLC. It supports to connect to 4 different servers at most.	OFF

Modbus TCP Client	**Server IP**	
	Set up the IP address of a PLC in the Modbus TCP Client mode	N/A
	Server Port	
	Set up the server port of a PLC in the Modbus TCP Client mode	502

	Description	Default
	Response Timeout	
	Set up the timeout timer from 50ms to 100000ms. If the set value is out of range, it will be automatically changed to its maximum or minimum value. The default is 300ms.	300
	Scan Interval	
	Set up the time for scan interval, ranging from 20ms to 60000ms; the default is 3000ms.	30000
Add Mappings	**Read/Write**	
	Set up the access permissions for the mapped register address; ● **Read-only:** The device regular read data from appointed registers in the slave, but will not update the data to the slave ● **Write-only:** The device update the data to the slave when the registers values was changed, but will not read the data from the slave ● **Read/write:** The device regular read data from appointed registers in the slave, will update the data to the slave when the registers values is changed.	Read/Write
	Slave ID	
	Set up the corresponding slave communication port. The value is between 1 and 247.	N/A
	Controller	
	Device types: ● **Delta PLC:** Delta DVP / AH / AS series PLCs use this option. ● **Other:** Use this option for non-Delta DVP / AH / AS series PLCs.	Delta DVP PLC
	Address Type	
	Depending on the selected controller type change: ● **Delta PLC:** The address type is "D" ● **Other:** The address type is "W"	D
	Slave Starting Address	
	Set up the slave starting address for read/write the registers in a PLC. ● **Delta PLC:** Enter the internal D register number. If you need to read / write D0, please enter 0 here.	N/A

Description	Default
● **Other:** Enter the hexadecimal actual address. For example: Holding Register: 400100, take 0100 (decimal) that is 64 (hex). ⚠ Supports the Holding Register : 400001~465535 (Decimal)	
Device Starting Address	
Set up the device starting address (decimal, input range is from $2048 to $4095). $ specifies that the match must start at the beginning of a Device Starting Address.	N/A
Length (1-123)	
Here displays the number of the continuous address followed by the default mapped address.	N/A
Operation	
Delete the selected mapped address.	N/A
Add Mappings	
Click the button to add mappings; the data mapping can be set to 200.	N/A
Edit	
Click to select the records from the mapped address to edit.	N/A
Operation	
The added mappings can be deleted here.	N/A

3.4.6 Firmware Upgrade

This page is used for upgrading the system.

🏠 SYSTEM > Firmware Upgrade

▤ **Firmware Upgrade**

DO NOT turn off the power supply or reboot the device during the upgrade process. Please select the correct firmware package which is consistent with the device model,otherwise the device may be damaged !

(Before upgrade the firmware, please backup the settings and data. Please contact the local dealers or manufacturers when failed to upgrade the firmware)

Select Firmware   [_____] Browse...

[Upgrade] [Cancel]

Description	Default
Select Firmware	

Chapter 3 Introduction to Functions

Description	Default
Click "Browse" to select the new firmware file.	N/A
Upgrade	
Click "Upgrade" to upgrade firmware. The device will reboot after the upgrade is done.	N/A

3.4.7　Backup & Restore

This page is used for backing up and restoring the configurations.

⌂ SYSTEM > Backup & Restore

▤ **Backup & Restore**

Device configurations can be backed up and saved to local PC

Backup

Configuration restoration will remove the current settings in the device and restore the configurations in your .cfg file

Select .Cfg File　[　　　　　]　Browse...

Restore

Configurations will be reset to the factory default settings, device will be reboot after the reset

Reset To Factory Default

Description	Default
Backup	
Click "Backup" to save the device configurations on your computer.	N/A
Restore	
Click "Browse" to select the backup file and then click "Restore" to restore the configurations. The device configuration will be restored to the previous version and the device will reboot after the restoring is done.	N/A
Restore To Factory Default	
Click "Restore To Factory Default" to reset the configurations to the factory defaults. The device will reboot after the reset is done.	N/A

3.4.8　System Reboot

This page is used for manually rebooting the system. Click "Restart Device" and the system will reboot.

⌂ SYSTEM > System Reboot

▤ **System Reboot**

The network will be temporarily shut down during system reboot, please wait!

Restart Device

3-33

3.4.9   Scheduled Jobs

This page is used for scheduling job configurations, including ADD A New Job, Export Job List, and Import Job List.

🏠 SYSTEM > Scheduled Jobs

	Add A New Job	Export Job List	Import Job List		Browse...
ID	**Job Name**	**Job Type**		**Timestamp**	**Enabled**

3.4.9.1   Add A New Job

Click "Add A New Job", and then you will see the following page. Follow the instruction to add a new scheduled job.

🏠 SYSTEM > Scheduled Jobs

≡ Add A New Job

Job Name   [   ]

Enabled   [Yes ⌄]

Time Configurations

Recurring Job   [Once ⌄] [01 ⌄]Hour [00 ⌄]Minute
Date   [2015 ⌄]Year [01 ⌄]Month [01 ⌄]Day

Job Type   [Restart device   ⌄]

[Save]   [Cancel]

Description	Default
Job Name	
Set up a name for your scheduled job. The name shall be composed of letters, numbers and underline, starting with a letter or number. The maximum string length is 32 bytes.	N/A
Enable	
Select "Enable" to activate this functionality.	Enable
Recurring Job	
The scheduled job can be done Once, Every day, Every week, or Every month. And the specific time can be further defined.	Once 01:00
Date	
Select a specific date to perform the scheduled job.	2015.01.01
Job Type	

Description	Default
Select one of the job type for the scheduled job. • **Restart device** • **Enable DIACloud Service** • **Disable DIACloud Service** • **Enable Cellular Network** • **Disable Cellular Network**	Restart device

3.4.9.2 Export Job List

Click "Export Job List" to export the scheduled jobs for future usage.

3.4.9.3 Import Job List

Click "Chose file" to select the scheduled jobs file you have saved and then click "Import Job List" to import the scheduled jobs you have set before.

3.4.10 Network Diagnosis

This page is used for diagnosing the network status; methods are Ping Test and Route Trace.

⌂ SYSTEM > Network Diagnosis

≣ **Network Diagnosis**

Diagnosing Method	Ping Test ∨
Host Name/IP Address	www.diacloudsolutions.com ∨	Start

Description	Default
Diagnosing Method	
Select the Diagnosing Method; options are Ping Test and Route Trace.	Ping Test
Host Name/IP Address	
Select the domain name or IP address of the server that you want to test. The default options are www.google.com, www.yahoo.com, www.MSN.com, www.amazon.com, www.wikipedia.org, www.facebook.com, www.diacloudsolutions.com and others. When user choose others, user can input the domain/IP manual.	www.diacloudsolutions.com
Start	
Click "Start" to start the network diagnosing. While running the network diagnosing, the settings cannot be changed.	N/A

3.4.11 Privilege Management

Privilege management use in order to set the white list of phone numbers and the device operation can be triggered via the specific SMS text from the white list of phone numbers.

The SMS commands listed below:

Function	SMS Command	Description
SMS Query commands	"ZLCX" or "zlcx"	List all SMS commands and

Function	SMS Command	Description
		explanations.
Status Query	"ZTCX" or "ztcx"	Discover the router's current status information, including the following: 1. Cellular network state 2. Firewall state 3. DIACloud state
Restart Device	"CQLY" or "cqly"	Restart the router
Enable cellular network	"KQBH" or "kqbh"	Dial-up the router to internet
Disable cellular network	"DKBH" or "dkbh"	The router disconnects from the internet
Enable DIA cloud service	"KQVD" or "kqvd"	DIA cloud service enables on the router
Disable DIA cloud service	"GBVD" or "gbvd"	DIA cloud service disables on the router

🏠 SYSTEM > Privilege Management

Number Of Short Message Center   [Auto detect ▾] [   ] [Save]

Send Short Message Test   [Country Code] [telephone number] [Send]

☰ Short Message Control Gateway

[Add A Telephone Number] [Export The List] [Import A List] [   ] [浏览...]

ID	Name	Telephone Number	Operation Privileges	Enabled	Short Message Relpy	Operation

☰ Short Message Control PLC

[Add A Telephone Number] [Export The List] [Import A List] [   ] [浏览...]

ID	Name	Telephone Number	Enabled	Short Message Relpy	Operation

☰ Control List Of Event Management

[Add A Telephone Number] [Export The List] [Import A List] [   ] [浏览...]

ID	Name	Telephone Number	Email	Operation

Currently, there are three the main SMS settings: 1. Short Message Control Gateway. 2. Short Message Controlling PLC.

3. Control List of Event Management. Setting interface as follows:

⌂ SYSTEM > Privilege Management

▤ **Add A New Short Message Control User**

Name [   ]

Telephone Number [Country Code] - [telephone number]

Enabled [Yes ▾]

Short Message Reply [Yes ▾]

Operation Privileges

☐Restart device ☐Status query ☐Short message query commands

☐Enable DIA cloud service ☐Disable DIA cloud service ☐Enable cellular network

☐Disable cellular network

[Save] [Back]

⌂ SYSTEM > Privilege Management

▤ **Add A New Short Message User Controlling PLC**

Name [   ]

Telephone Number [Country Code] - [telephone number]

Enabled [Yes ▾]

Short Message Reply [Yes ▾]

[Save] [Back]

⌂ SYSTEM > Privilege Management

▤ **Add A New User Of Event Management**

Name [   ]

Telephone Number [Country Code] - [telephone number]

Email [   ]

[Save] [Back]

Description		Default
Add A Telephone Number	**ID**	
	The maximum allow the 10 phone numbers	**N/A**
	Name	
	Set up a name for phone number, The name shall be composed of	**N/A**

Description	Default
letters, numbers and underline, starting with a letter or number. The maximum string length is 32 bytes.	
Telephone Number	
Set up a telephone number (include country code) which can receive the alarm message.	**N/A**
Enabled	
Set up the permission to enable or disable	**Yes**
Short Message Reply	
When the router receives the SMS commands, the router will response a confirmed message.	**Yes**
Email	
Set up an Email address to receive the alarm message. This setting work with The Event management.	**N/A**
Edit	
Edit the existing event	**N/A**
Delete	
Delete the existing event	**N/A**
Export The List	
Export the event of SMS	**Fixed_sms_control_list.cfg**
Import A List	
Import the event of SMS to the router	**N/A**

3.4.12 Event Management

This page is used for setting up 3 types of events, Communication Verification, Alarm Event and SMS Queries Event.

- **Communication Verification:** when this option is selected, the router will monitor and check if this channel is trustable to ensure a safe communication between a router and a PLC via MODBUS TCP, MODBUS ASCII or MODBUS RTU.

🏠 SYSTEM > Event Management

▤ Event Management

Event Type   Communication verification ▾

Input Expression   [_____] Save

▤

The expression is the numeric expression in C, the syntax complies with standard C programming syntax. The expression can be a single variable itself, or a constant, or a single variable equation. The name of the variable is limited to be "A", the expression can be: $(A+100)*45$

The operators that the expression supports are as below:

Operators	Types	Examples	Description
+	Arithmetic operator	A+100	Addition

-	Arithmetic operator	A-100	Subtraction
*	Arithmetic operator	A*100	Multiplication
/	Arithmetic operator	A/100	Division
&	Logic operator	A&A+100	Logic AND
|	Logic operator	A|A+100	Logic OR
()	Bracket operator	(A+100)*45	Change operation order
^	XOR operation	A^100	XOR operation

● **Alarm Event:** uses can set up the Alarm Name, Alarm Description, Alarm Criteria, Target Receiver and Operation.

⌂ SYSTEM > Event Management

≣ **Event Management**

Event Type   Alarm event ▼

≣

Send Short Message By   Cloud SMS Gateway ▼   Save

Please ensure the data traffic of your SIM card is available if you choose send short messge by device SIM card, or it will affect the functionality !

Add

Alarm Name	Alarm Description	Alarm Criteria	Target Receiver	Status	Operation

Click "Add" button to create new alarm event and click "Details" to edit the existing event and use "Delete" button to delete the selected event.   Click "Copy" to duplicate the event.

🏠 SYSTEM > Event Management

☰ Alarm Event

Alarm Name	Alarm1	
Alarm Description	Alarm form 2048	
Alarm Criteria	{$2048}>1	
Event Interval	1	(0~6000)minute
Repeat Times	1	(0~999)times
Alarm Status	Enable ▼	
Alarm Content	Time Date Name Description **Clear**	

{Date} {Time}   Alarm form 2048, the value of 2048 is {2048}

Target Receiver	☑Steven_Li

Save   **Back**

Description	Default
Alarm Name	
Input an alarm name. The name shall be composed of numbers, English letters, uppercase and lowercase. The maximum string length is 32 bytes.	N/A
Alarm Description	
The alarm description shall be composed of numbers, English letters, uppercase and lowercase. The maximum string length is 50 bytes.	N/A
Alarm Criteria	
Setup the alarm trigger condition. The format of alarm variable is {$number 0-4095}, the alarm criteria can be a single alarm variable, or a formula of one or several alarm criteria. For example, the formula can be: {$2048}>100	N/A
Event Interval	
The time interval of alarm sending	0
Repeat Times	
The repeated times of alarm sending	0
Alarm Status	
Enable or disable this alarm setting	Enable
Alarm Content	
Set up the information shown on the alarm contents. The content of the alarm will be sent to the target when alarm criteria are met. The information order can be self-defined.	N/A

Description	Default
 ● **Time:** the time when the alarm occurred ● **Date:** the date when the alarm occurred ● **Name:** the name of the occurred alarm ● **Description:** the description of the occurred alarm **For example:** Register $2048 represents electrical voltage, the value of register $2048 is 10, and the alarm content is set as: {Date} {Time} Voltage = {$2048}, then the alarm content received by users will be: 2016/06/01 10:00:00(currently time) Voltage = 10. The maximum content length is 160 characters.	
Target Receiver	
Set up the recipient. User can maintain the list by 【Control List Of Event Management】in Privilege Management function.	N/A

●   SMS Queries Event: user can declar a query event, when the mobile number in the Control List of event send a query message, system will reply the special content to the mobile number.

⌂ SYSTEM > Event Management

≣ **Event Management**

Event Type   SMS Queries Event ⌄

≣

                                                         Add

Query Name	Query Description	Query Content	Target Receiver	Operation

⌂ SYSTEM > Event Management

≣ **SMS Queries Event**

Query Name   query1

Query Description   query value for 2048

Query Content   Time Date Name Description   **Clear**

                         {Date} {Time} query value for 2048 {$2048}

Target Receiver   ☑Steven_Li

                      Save   **Back**

Description	Default
Query Name	
Input a query name. The name shall be composed of numbers, English letters,	N/A

Description	Default
and underline. The maximum string length is 9 characters. For example, after you create a query event name query1, you can send a message with content #MSG#query1 to device SIM card number, then it will reply you the content you setup in the event.	
Query Description	
The query description shall be composed of numbers, English letters, uppercase and lowercase. The maximum string length is 50 bytes.	N/A
Query Content	
Set up the information shown on the alarm contents. The content of the alarm will be sent to the target when alarm criteria are met. The information order can be self-defined. ● **Time:** the time when the alarm occurred ● **Date:** the date when the alarm occurred ● **Name:** the name of the occurred alarm ● **Description:** the description of the occurred alarm **For example:** Register $2048 represents electrical voltage, the value of register $2048 is 10, and the query content is set as: {Date} {Time} Voltage = {$2048}, then the query content received by users will be: 2016/06/01 10:00:00(currently time) Voltage = 10. The maximum content length is 95 characters.	N/A
Target Receiver	
Set up the recipient. User can maintain the list by 【Control List Of Event Management】in **Privilege** Management function. System only response the query from receiver list.	N/A

> ⚠️ **Notice**
>
> {} is a special system symbol, which is used to reference system variables or system registers, like ${Time}, ${Date} or ${Number 0 - 4095}. Please use it with caution.

3.4.13 Register Management

This page is used for setting up the rules of register data upload to Cloud. Click "Add" to set a new rule. Click "Edit" to modify the existing rule. Click "Delete" to delete the existing rule.

🏠 SYSTEM > Register Management

<div style="text-align:right">**Add**</div>

ID	Register Start Address	Length	Upload To Cloud	History Data	

The address segment 2048~4095 can be self-defined. The Start address, Length, Uploaded to Cloud or not and keep history or not can be set up.. After clicking "Add", the following page will show up.

⌂ SYSTEM > Register Management

≣ **Add**

Register Start Address	_____	($2048-4095)
Length	_____	
Uploaded To Cloud	Yes ▾	
Keep History	No ▾	

Save   Back

Description	Default
Register Start Address	
This rule will effect from which register address. The allowable range is 2048~4095. Start with $.	N/A
Length	
How many register will be effect by this rule. Input range: 1-2048.	N/A
Uploaded To Cloud	
Whether to upload the variable information to Cloud.	Yes
Keep History	
This function will keep or overwrite the history data when the register values are uploaded to Cloud. • **Yes:** The existed register values in the cloud **WON'T** be overwritten by the new uploaded register values. • **No:** The existed register values in the cloud **CAN** be overwritten by the new uploaded register values.	No

> ⚠ **Notice**
> When the values in the register changes, the results will be uploaded to cloud.

3.5   Cloud Service

3.5.1   Cloud Service

In this page, user can assign the cloud account which will be used to connect to DIACloud by device. Input the user name, the password and click "Verify".   Refer to Chapter 4 for DIACloud account registration.

1. Login with your DIACloud account then click the "Verify" button to authenticate with DIACloud server.

⌂ CLOUD SERVICE > Cloud Configurations

☰ Cloud Configurations

User Name: _____

Password: _____ [Verify]

2. After authentication successfully, the cloud configurations will show up then the user can modify the secure tunnel and device name.

⌂ CLOUD SERVICE > Cloud Configurations

☰ Cloud Configurations

User Name: ▮▮▮▮▮▮▮@163.com

Password: ●●●●●●●●●● [Verify]

Secure Tunnel: default ▾

Device Name: DX3001_DA9E

Secure Tunnel DHCP: Available

When secure tunneling DHCP server is available, and the IP address is allocated by the DHCP server in secure tunnel network, the IP address of this device can be found in the cloud portal

Get IP From Cloud: Yes ▾

Network Protocol: UDP ▾

[Bind] [Cancel]

3. The user also can set IP address manually.

Get IP From Cloud No ▾

Cloud IP Range: 192.168.200.100 - 192.168.200.200

Cloud Netmask: 255.255.255.0

Device IP: _____

(Device IP should be in the same subnet with cloud IP)

4. Click the "Bind" button, the DX router will bind with DIACloud server and established a secure tunnel between DIACloud server and the DX router. Meanwhile a new IP will assigns to DX router from DIACloud server (assign from the cloud HDCP server or a user specified).

CLOUD SERVICE > Cloud Configurations

Cloud account register success，starting
secure tunnel,please wait......

5. Your browser will access to the DX router with new IP address automatically if DIACloud account binds with
DIACloud server successfully. Please make sure a PC and DX router are in the same subnet; otherwise PC will not
be able to access to the DX router.

Cloud Configurations   configu

CLOUD SERVICE > Cloud Co

192.168.1.1 上的网页显示：   ×

Cloud account binding success! Will use the new IP to
relogin device. If the web page can not
displayed,please check the network status of the
computer. Device new IP is 192.168.200.100

确定

Starting secure tunnel, the device IP
address is: 192.168.200.100,plese
login the web page using this IP address
or www.diadevice.com after secure
tunnel start success !

6. If the network is in the poor condition, The binding proccess could be successfully but the Service Status is shown
"Disable".

CLOUD SERVICE > Cloud Configurations

User Name:	███████@163.com
Registration Status:	Registered **Unbind**
Service Status:	Disabled **Enable**
Secure Tunnel:	default
Device Name:	DX3001_DA9E
Secure Tunnel DHCP:	Available
Get IP From Cloud:	Yes
Network Protocol:	UDP ∨

7. In this situation, the browser will access with 192.168.1.1 and the service status will be "Disable". You can re-enable
the service status to rebuild the secure tunnel again in cloud configurations.

8. When the service status is shown "Enable", that means the DIACloud service is actived on DX-3001H9. The user also can get the related information in cloud platform.

⌂ CLOUD SERVICE > Cloud Configurations

User Name:	▉▉▉▉@163.com
Registration Status:	Registered
Service Status:	Enabled
Secure Tunnel:	default
Device Name:	DX3001_DA9E
Secure Tunnel DHCP:	Available
Get IP From Cloud:	Yes
Network Protocol:	UDP

Unbind

Disable

9. Click the "Unbind" button, DX-300H9 will remove the registered account in DIACloud.

Description	Default
User Name	
Set up the name for the DIACloud account.	N/A
Password	
Set up the password for the account.	N/A
Verify	
Check if the username and the password are matched.	N/A
Secure Tunnel	
Select the device under the account to join in a certain secure tunnel network group. For secure tunnel related settings, go to http://www.DIACloudsolutions.com/	Default
Device Name	
Set up the name for the device	N/A
Secure Tunnel DHCP	
When secure tunnel DHCP server is available, and the IP address is allocated by the DHCP server in secure tunnel network, the IP address of this device can be found in the cloud portal.	N/A
Get IP From Cloud	
When selecting "Yes", IP address can be obtained by the cloud. When selecting "No", the IP address can be manually set.	Yes
Network protocol	

Description	Default
Set up the network protocol for Secure Tunnel. Options are TCP and UDP. Suggest use TCP when the network packet loss is serious. Only TCP is available when proxy function was enable. User can change it yet after device has been bind the cloud account. Please disable the service first and then you can change the protocol, and remember to enable the service again.	UDP
Cloud IP Range	
Display the Cloud IP Range. The Cloud IP Range is depended on the secure tunnel setting. For the secure tunnel setting, please refer to 5.2.5 Tunnel Network.	N/A
Cloud Netmask	
Display the Cloud Netmask. The Cloud Netmask is depended on the secure tunnel setting. For the secure tunnel setting, please refer to 5.2.5 Tunnel Network.	N/A
Device IP	
User can assign an IP address manually; remember that IP address should be the same subnet as the secure tunnel setting. For the secure tunnel setting, please refer to 5.2.5 Tunnel Network.	N/A

> **Notice**
>
> - Users can log-in to **http://www.DIACloudSolutions.com/** and register for a DIACloud account.
>
> - In rare case, you can't access the web because the computer did not refresh the IP and DNS after the activation, please re-plug the cable to resolve the issue.

3.5.2 Proxy Setting

If the user's networking environment requires outbound network connections to go through a HTTP or HTTPS proxy.

⌂ CLOUD SERVICE > Proxy Setting

Proxy Setting

HTTP Proxy	Enable ∨
Proxy Addr	
Proxy Port	
Proxy Username	
Proxy Password	

Save And Test

Description	Default
HTTP Proxy	
Enable or disable the http proxy	Disable
Proxy Addr	
Set up the domain/IP of the proxy server	N/A
Proxy Port	
Set up the port of the proxy server	N/A
Proxy Username	
Set up the user name to login the proxy server	N/A
Proxy Password	
Set up the password to login the proxy server.	N/A
Save and Test	
Save the configuration and test to connect to the DIACloud.	N/A

3.5.3   Secure Tunnel Firewall

In this page, user can set up the firewall for the secure tunnel.

⌂ CLOUD SERVICE > Secure Tunnel Firewall

▤ Multicast Setting

Allow Multicast In Secure Tunnel [Yes ▾] [Save]

▤ Firewall Settings

Firewall Of Secure Tunnel [Disable ▾] [Save]   [Add]

ID	MAC Address	Operation

⌂ CLOUD SERVICE > Secure Tunnel Firewall

▤ Add A MAC Address

MAC Address [_____]

[Save]   [Back]

Description	Default
Allow multicast in secure tunnel	
Set the security tunnel, whether to allow multicast transmission of the nature of the packet. **Options:** Allowed, not allowed	Yes
Firewall of secure tunnel	
Set up the specified MAC device will be allow or forbid to transmit the data in the secure tunnel. Options as below: ● **Disable:** Disable this function. ● **Black List:** If the network device's MAC address is blacklisted, these devices will **NOT** be able to transmit packets to the secure tunnel ● **White List**: If the network device's MAC address is blacklisted, these devices will be able to transmit packets to the secure tunnel.	Disable
Add	
Add a new MAC into the list.	N/A

3.5.4 Cloud Log

Any information about cloud event can be exported from this function

⌂ CLOUD SERVICE > Cloud Log

≣ **Cloud Log Level**

Cloud Log Level	Error ▾	Save

Cloud log level will take effect when you restart the relative module.

≣ **Download Cloud Log**

Select The Module:	Uploader ▾	Download

Description	Default
Cloud Log Level	
You can set different levels of log messages and saved to export to the engineering staff to view. Options as below (Level from low to high): • **Trace:** The TRACE Level designates finer-grained informational events than the DEBUG • **Debug: Fine**-grained informational events that are most useful to debug an application • **Info:** The INFO level designates informational messages that highlight the progress of the application at coarse-grained level. • **Warm:** The WARN level designates potentially harmful situations. • **Error:** The ERROR level designates error events that might still allow the application to continue running. • **Fatal:** The FATAL level designates very severe error events that will presumably lead the application to abort.	Error
Select Log Level	
Specify to download the cloud service module log. Options as below: • Uploader: Data upload module • Secure Tunnel: Secure Tunnel module • Binding: Account binding module	Uploader

4

Chapter 4   DIACom

Table of Contents

4.1 Introduction to DIACom

DIACom allows you to create a secure tunnel between your PC and router, making it possible for your PC to communicate remotely with the devices connected to the router. Thus engineers can control, monitor, operate, program and diagnose the device remotely whenever there is internet connectivity.
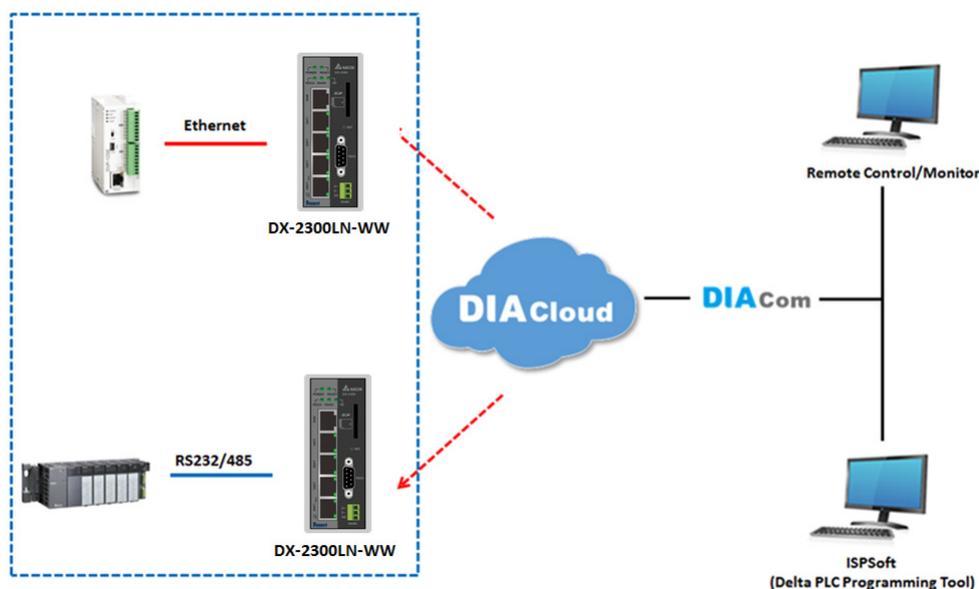
Notice

- DIACloud provides you with cloud services, including the connected device management, secure tunnel network creation, data upload/download, and directional transmission.

- If you need to configure or monitor your controller, you will need to install programmable logic controller software, for example WPLSoft/ISPSoft for Delta PLC.

4.1.1 Select a Suitable Firmware Version

Find a suitable DIACom firmware version according to the following table below for your router.

Corresponding Table:

Device Model	Firmware Version
DX-2100	V1.3.3.0 or above
DX-2300	V1.3.3.0 or above
DX-3001	V1.3.3.0 or above

Notice

If the device firmware is lower than 1.3.3.0, please use DIACom 1.2.8.0 or lower.

4.1.2 DIACom Installation

Obtain the DIACom firmware package from the official website or from our sales representative. Administrator privileges are required to run and install the package. Uninstall older versions of DIACom before downloading new DIACom firmware package.

	Notice
⚠️	DIACom supports Windows XP, Windows 7 (32-bit and 64-bit) and Windows 8 (32-bit and 64-bit).

4.1.3 DIACloud Account Registration

1. Before registration, you should have a valid email account. (DIACloud uses your email address as your account.)

2. Open the DIACloud web page (http://www.DIACloudSolutions.com). The system will redirect you to the registration page:

	Notice
⚠️	*Click 🌐 at the upper right corner to change the interface language to English.

3. Input your email address, password and other relevant information on the registration page. Select "I Agree" and click "CREATE AN ACCOUNT".

4. After clicking "CREATE AN ACCOUNT", a congratulation page will be prompted and an activation email will be sent to the email address you have used as your DIACloud account.

A mail to activate your account had been sent to your mail box, please check it.

OK

5. You will find an activation email sent from no-reply@diacloudsolutions.com in your email box. Open the email, click "here" link in the email and complete DIACloud account activation operation. And you will be redirected to the DIACloud login page. Input your account and password to log in to the DIACloud.

Activate your account on DIACloud

发件人：DIACloud<no-reply@diacloudsolutions.com>
收件人：我<steven8160@163.com>
时　间：2016年05月11日 11:07 (星期三)

Dear User,

Please complete your registration by following the link below:

http://www.diacloudsolutions.com/#/activate?n=steven8160%40163.com&t=fM1xduuNyNZSo4NNyVQCUx5ACGrO5ll

Please activate your account within 48 hours, otherwise you need to re-create your account.

If you did not register recently, or believe you have received this email in error. Please disregard this message.

请点击下面的链接完成注册：

http://www.diacloudsolutions.com/#/activate?n=steven8160%40163.com&t=fM1xduuNyNZSo4NNyVQCUx5ACGrO5ll

请在48小时内激活您的账号，否则您需要重新注册。

如果该账号不是您本人注册的，请忽略本邮件。

Thanks!

The DIACloud Team

4.1.4　Bind DIACloud Account

Follow the steps blow to bind your DIACloud Account.

1. Local Network Setups: Please refer to Chapter 2.1 to 2.1.3 Web-based GUI Configuration for more information.

2. Bind DIACloud Account: Please refer to Chapter 3.5 Cloud Service for more information.

Notice

- **Secure Tunnel:** Secure tunnel is a virtual network. Users can set up several groups of secure tunnel for easier device management.

- **Device Name:** the serial number + "_" + "Mac address" of the device is the device name by default.

- **Get IP From Cloud:**

  ■ When selecting "Yes": The system will assign an IP address for the device according to the Secure Tunnel settings and the availability of the IP addresses. Take note of the assigned IP address, it will be used when logging to the DIACloud.

  ■ When selecting "No": The IP address can be manually set.

  Secure Tunnel DHCP:　Available
  Get IP From Cloud　No
  Cloud IP Range:　192.168.200.100 - 192.168.200.200
  Cloud Netmask:　255.255.255.0
  Device IP:

  (Device IP should be in the same subnet with cloud IP)

  The IP address of the DX-2100 Series and the WAN of your connected PC should be in different network segments.

4.2   DIACom Operation

4.2.1   Setup a Secure Tunnel

Make sure there is internet connectivity, before creating a secure tunnel between your local PC and router via the DIACom. Http Proxy and Port Agent are configurable in DIACom network setting function, you can set it to avoid the possible limitation.

1.   Run DIACom and log in with your router's cloud account.
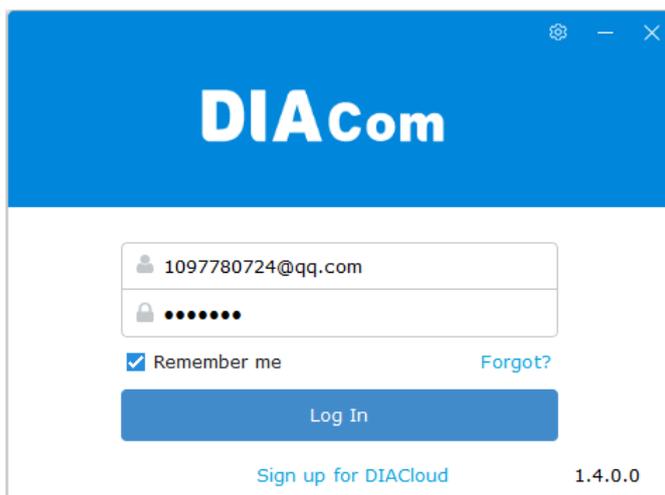
2.   Click to go into network setting page if need be.
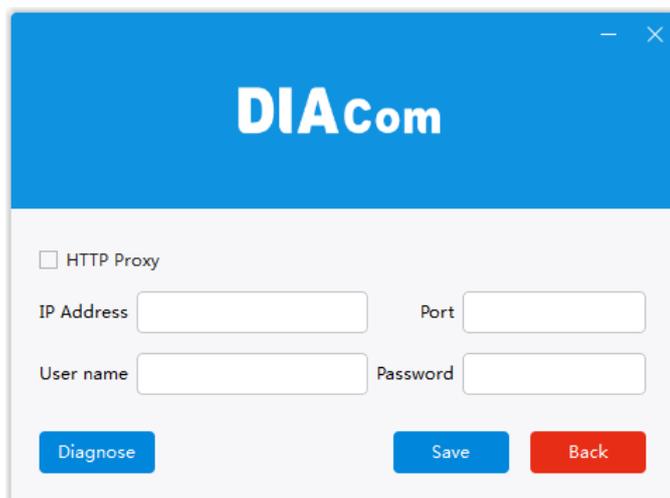
- **Http proxy:** Please fill in the proxy server address, port, username and password if the LAN needs to set the proxy to access the Internet. Click "Save" button to enable the config.

- **Diagnose:** The user can click the Diagnostic button to test the current internet settings, whether to connect to the DIACloud server
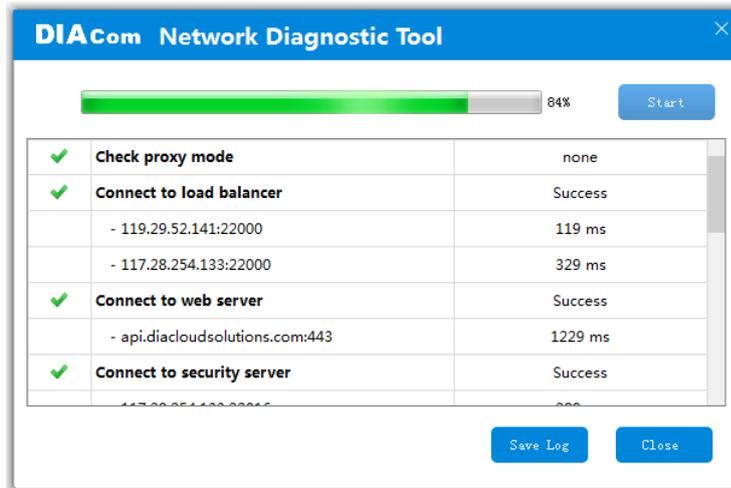
> **Notice**
> - DIACom will automatically determine whether the port agent needs to enable.
> - Make sure that the external network port 80 and port 443 are opened and can access any network domains and IP addresses

3. After the login is successful, the software displays the security tunnel page. The security tunnel list is displayed on the left side of the page, and the network information of the security tunnel and the device list are displayed on the right. Users can choose to use DHCP or manually set the cloud IP address

- **DHCP:** Obtain an IP address from Cloud automatically when Cloud DHCP function is available.

- **Static:** Manually set the IP address, the IP should be in the same subnet with DX device
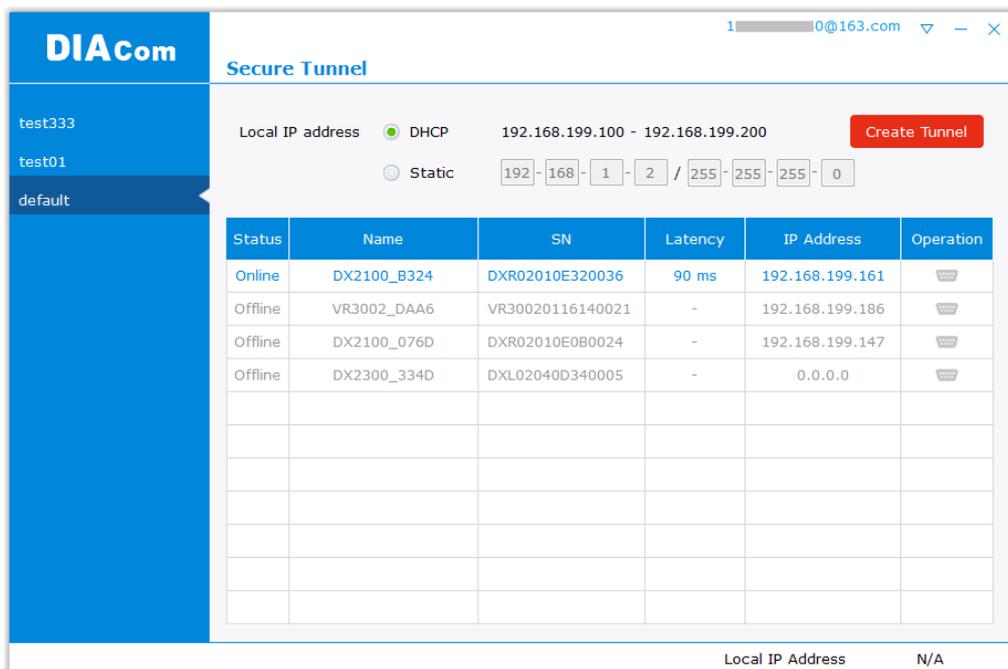
Notice

If it is found that the static IP address is configured from DIACom, the IP address of the local IP address in the bottom right corner will be different from the original setting. Please change according to the following settings.

1. Go to Network and Sharing Center and click on the DIACom Ethernet Adapter for your network connection.

2. Right-click, then click Properties.

3. Click the Networking tab. Under This connection uses the following items, click either Internet Protocol Version 4 (TCP/IPv4)。
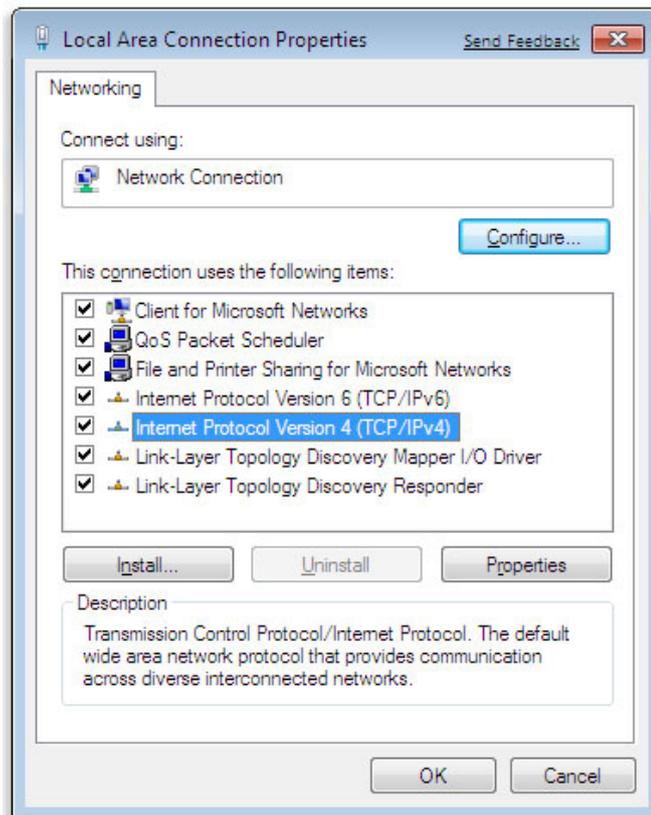
4. Set the IP address of the local computer manually. However, you'll need to make sure there are no IP conflicts.
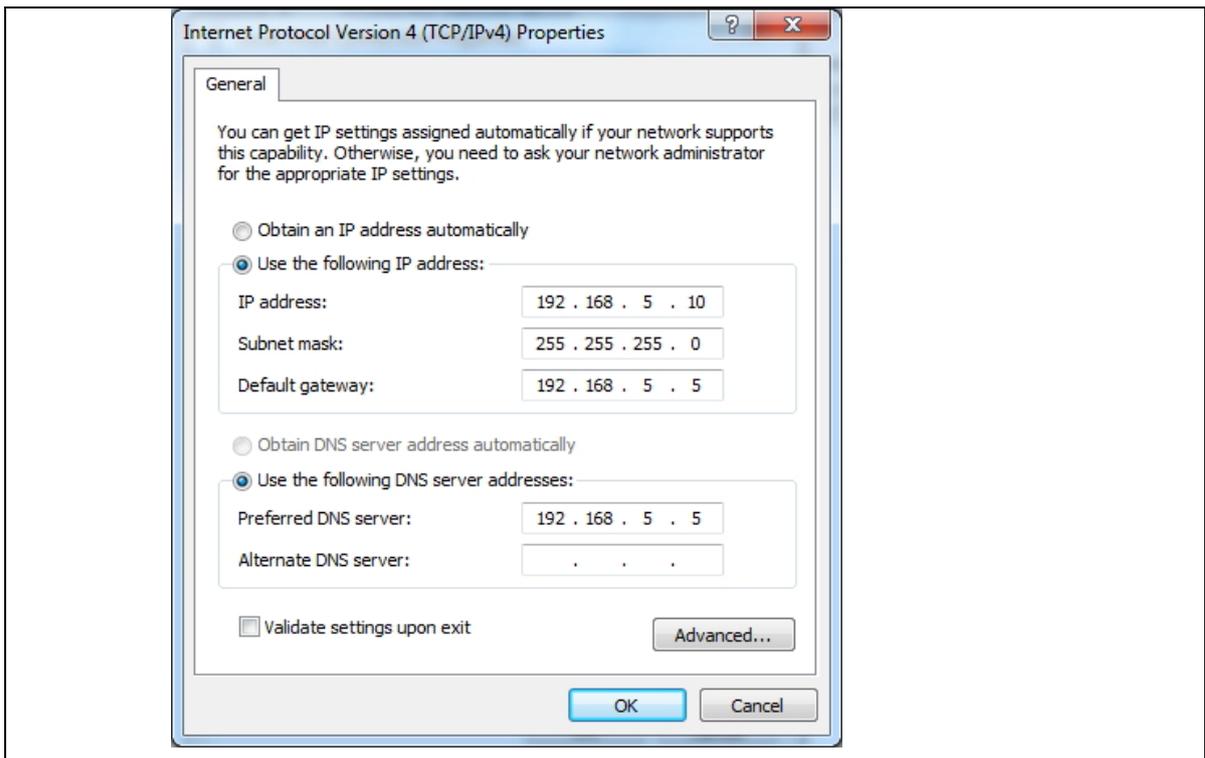
4. After the configuration is complete, click the Create Tunnel button to establish a connection with the specified tunnel.

5. The following information is displayed: tunnel connection status, local delay to the DIACloud cloud server, and the IP address used by the local virtual network adapter. The details are as follows:
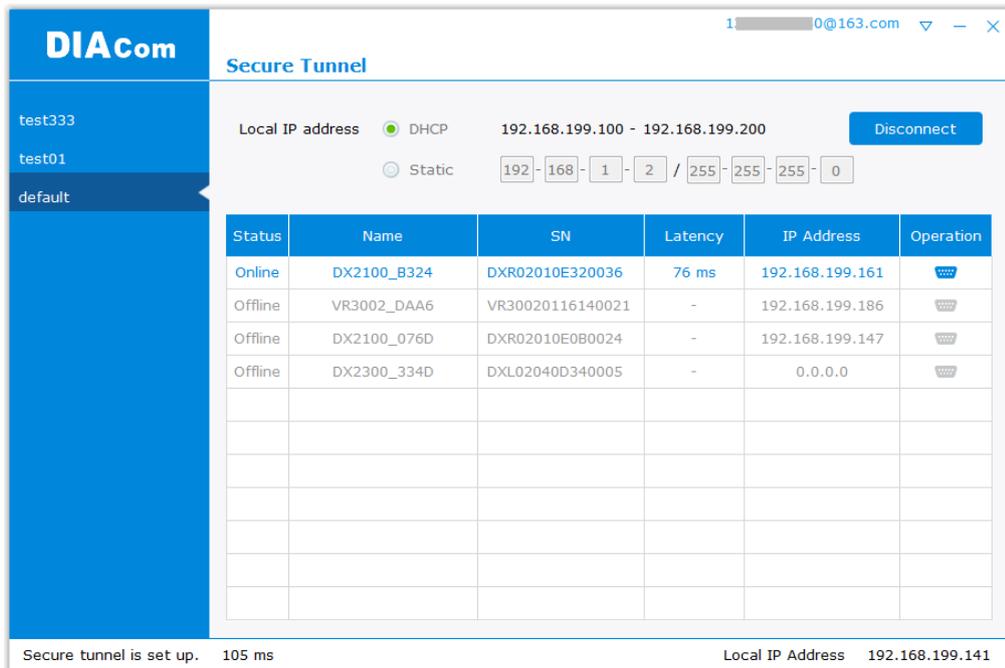
6. After successful connection with the cloud, the local computer will be able to use debugging tools or monitoring software to debug, monitor, and program the remote network interface

devices. In addition, you can remotely configure the router's router page (click the device in the device list Of the IP address) of the router for remote configuration.

Notice

- You can create different groups of secure tunnels, divide different devices into groups according to their needs, and implement group management devices

- To avoid the virtual network card IP network segment and the local computer network card of the actual network to avoid the same network conflict

- After the secure tunnel is successfully connected, you must first disconnect the current connection to select another security tunnel,

---

4

4.2.2 Create a Virtual Serial-port

To debug a remote serial device, click the icon [icon] at the back of the corresponding remote device to enter the Create Virtual Serial Interface
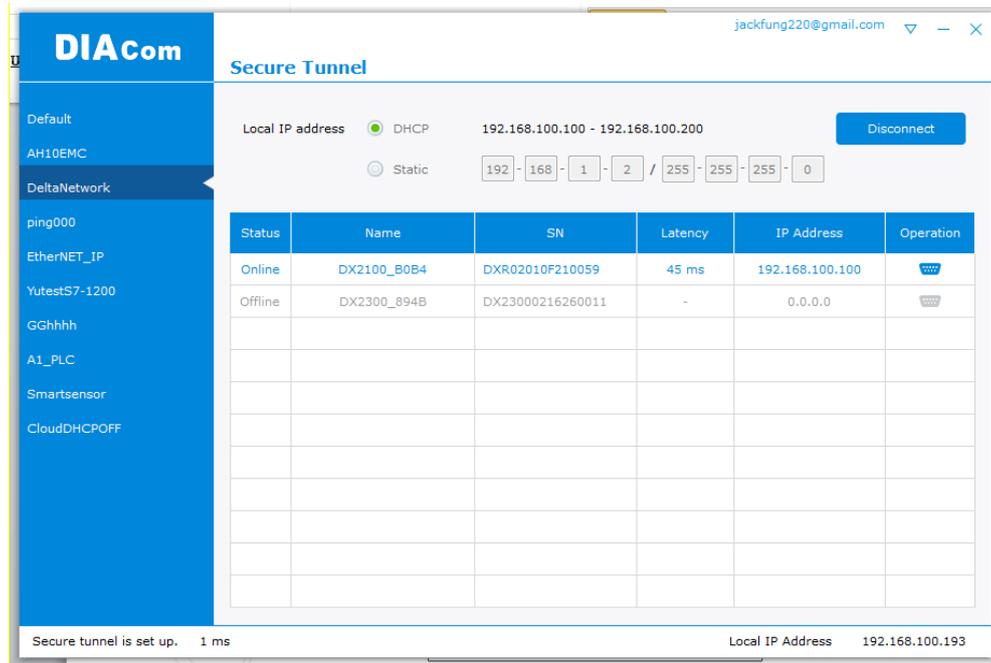
The latest device firmware (V1.3.3) supports RS-232 and RS-485 at the same time in the transparent mode, the interface as shown below:
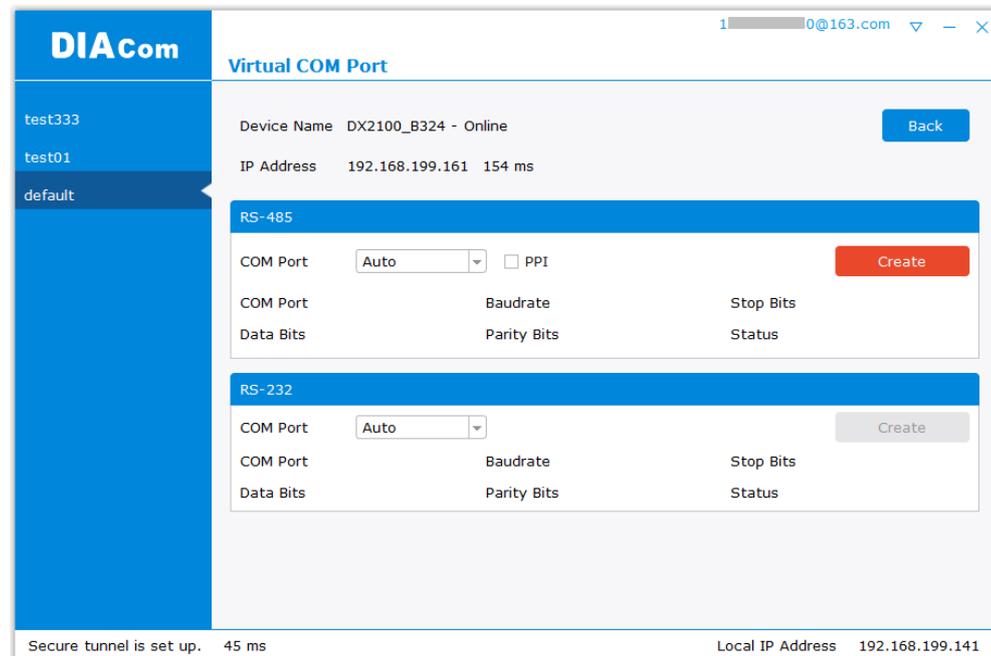
> **Notice**
>
> ⚠️
> - If the device's RS-232 / RS-485 is not operating in Transparent mode, the corresponding button is grayed out.
> - DIACom will prompt an error message if the FW version of DX is under V1.3.3.

- When RS-232 or RS-485 works in Transparent mode, click on the [Create Serial Port] button on RS-485 to create a virtual serial port.

4.2.3 Remote Control and Monitoring via DIACom

4.2.3.1 Via a LAN Port

If your router is connected to remote devices via a LAN port, you can use the configuring/monitoring software on your local computer to configure and monitor after opening a virtual tunnel. Some program would require the IP addresses of your remote device. Simply input the required information in the configuring/monitoring software and then you can configure and monitor the connected device remotely.

4.2.3.2 Via a RS232/RS485 Port

After opening a virtual tunnel, you will need to follow the setups below before using WPLSoft or other configuring/monitoring software on your local computer to configure and monitor the connected device remotely.

1. Click IP address in the DIACom device list or open a browser and input the IP address of the router which is connected to your remote device on the search bar and then log in.

2. Go to the System setup page, select the setup option RS232 or RS485 and input the required information to set up. Make sure the parameters are consistent with your remote device.

   - Working Mode：Transparent mode

   - Parameters of COM (Baud Rate, Data Bits, Stop Bits, Parity Bits, Flow Control)

3. Go back to the DIACom and click to create a virtual tunnel. Once the creation is done, the virtual serial-port number will show up on the same page. Users can use it to configure and monitor the connected device remotely. Click "Delete" to delete the virtual serial-port.
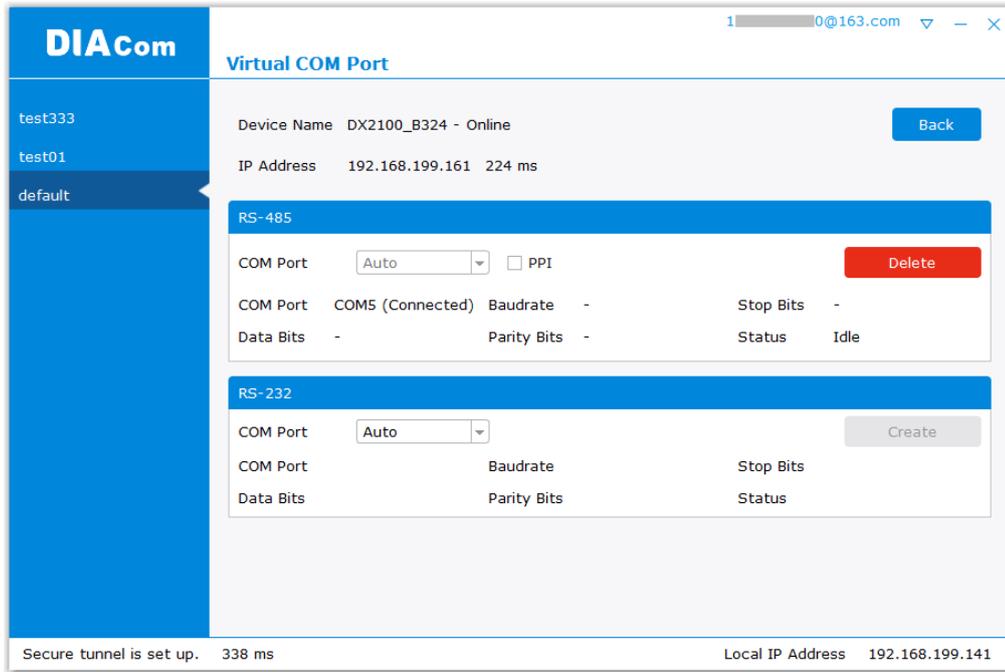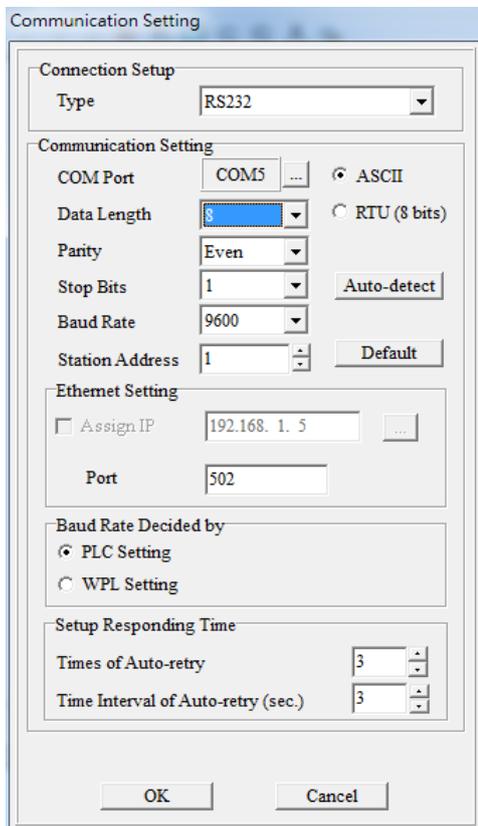
Notice

If the PLC is Siemens S7-200, you can select the "PPI" in the DIACom to support PPI protocol.

4. Open the WPLSoft to check if the COM parameters are consistent with the settings on your router. When these parameters are consistent, you can use the WPLSoft to configure/monitor your device remotely.

4.2.4   Automation Startup

The user can set Automation Startup for DIACOM, The setting steps see blow.

1.   Login to DIACom.

2.   Click on the icon button ▽ in the upper right corner of the windows, and select "Settings".

3.   Boot automatically log in the required configuration is as follows. Users can set according to your needs. If you only need DIACom to connect the security tunnel automatically, the device list, RS-485 and RS-232 do not need to be set.
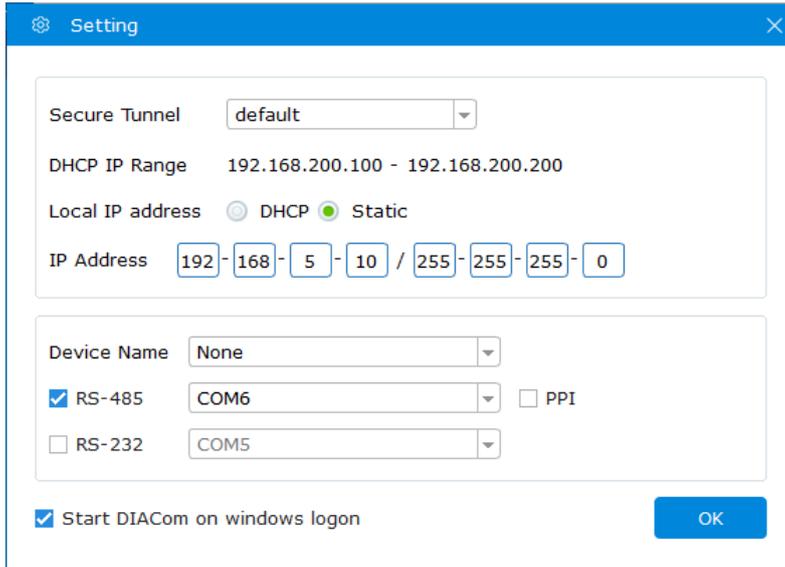
4.   Check " Start DIACom on windows logon ", and click "OK" button to save the settings.

Notice
● Login must be checked "remember password", otherwise DIACom can not be activated automatically
● Confirm that the IP / Serial Port settings do not cause conflicts

Chapter 5   DIACloud

Table of Contents

5.1 Introduction to DIACloud

DIACloud Web is a web portal of DIACloud cloud platform. Users can check the status of connected industrial device through DIACloud Web, browse data that has been collected, receive warnings, notices and other messages that are sent by cloud platform, create and manage sub-account and virtual safety network and check login and interface logging, to improve the manageability of devices, optimize the device performance and efficiency, save the operation cost and enhance the service quality.

## 5.1.1 Select a Suitable Firmware Version

Please confirm that your Firmware version of router meets the requirements in the following table before use:

Device Model	Firmware Version
DX-2100	V1.3.0.0 or above
DX-2300	V1.0.0.0 or above
DX-3001	V1.3.0.0 or above

5.2 Instructions for DIACloud

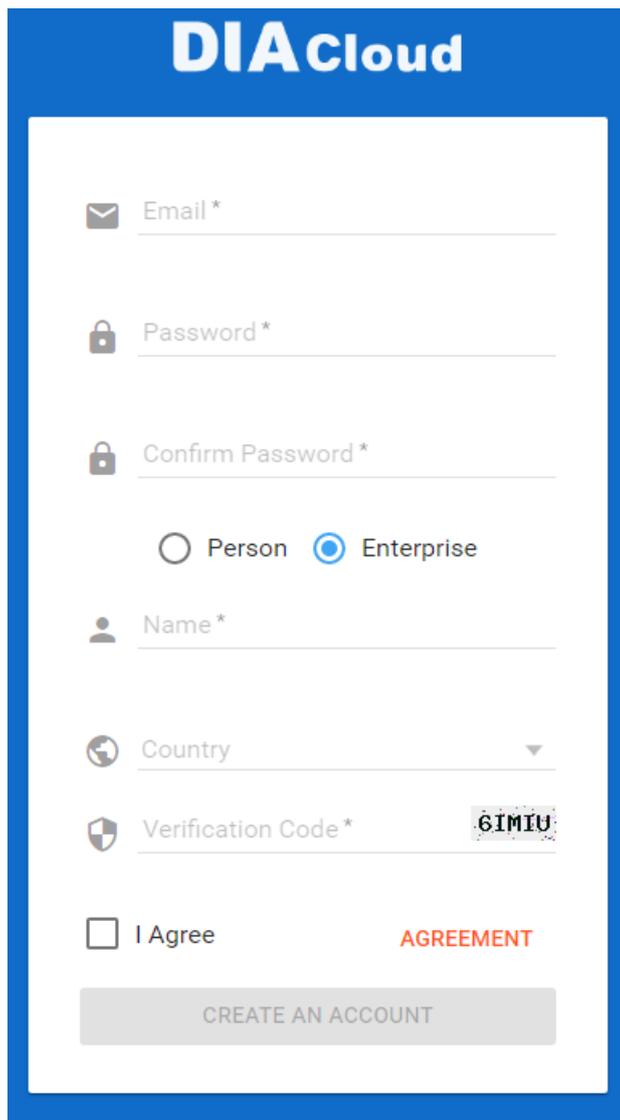## 5.2.1 Register and Login

1. Open the DIACloud web page (http://www.DIACloudSolutions.com). If you have got an account, input your account and password in the following page to log in; if you have not got an account, click "CREAT AN COUNT" to register. Then the system will redirect you to the registration page:
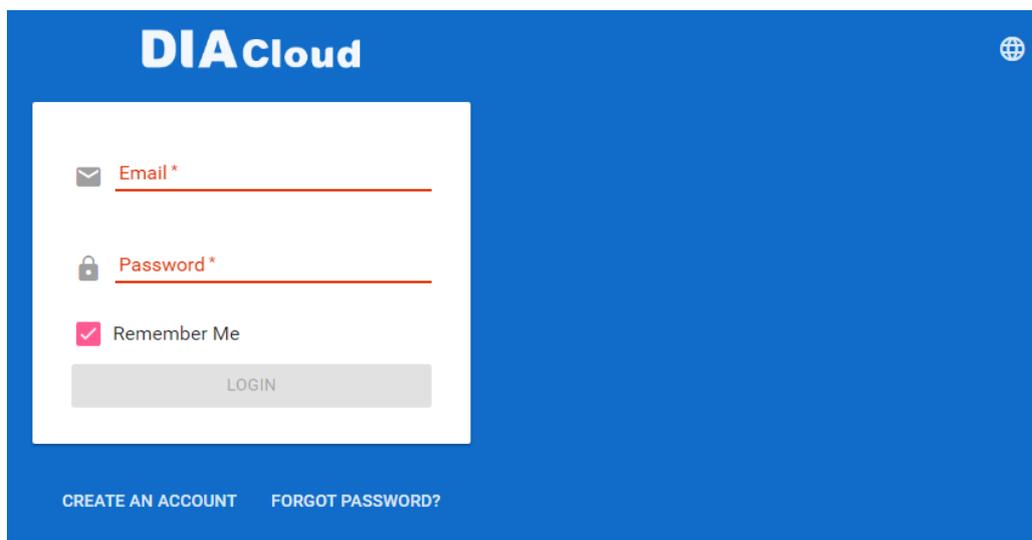
2. Input your email address, password and other relevant information on the registration page. Select "I Agree" and click "CREATE AN ACCOUNT". Pls insure your region information is correct, otherwise it maybe cause problem in payment when you extend your service.
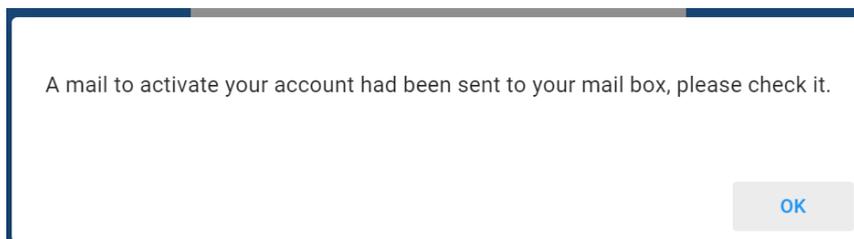
> **Notice**
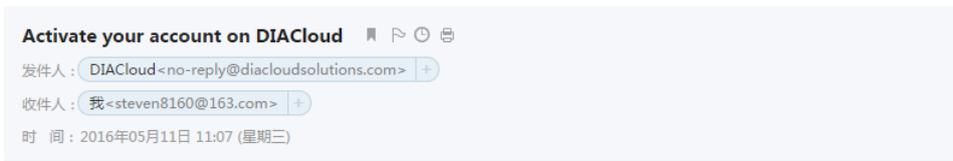> ⚠️ Click 🌐 at the upper right corner to change the interface language to English or Chinese.

3. After clicking "CREATE AN ACCOUNT", a congratulation page will be prompted and an activation email will be sent to the email address you have used as your DIACloud account.

4. You will find an activation email sent from no-reply@DIACloudSolutions.com in your email box. Open the email, click "here" link in the email and complete DIACloud account activation operation. And you will be redirected to the DIACloud login page. Input your account and password to log in to the DIACloud.

Activate your account on DIACloud

发件人 : DIACloud<no-reply@diacloudsolutions.com> +

收件人 : 我<steven8160@163.com> +

时 间 : 2016年05月11日 11:07 (星期三)

Dear User,

Please complete your registration by following the link below:

http://www.diacloudsolutions.com/#/activate?n=steven8160%40163.com&t=fM1xduuNyNZSo4NNyVQCUx5ACGrO5ll

Please activate your account within 48 hours, otherwise you need to re-create your account.

If you did not register recently, or believe you have received this email in error. Please disregard this message.

请点击下面的链接完成注册：

http://www.diacloudsolutions.com/#/activate?n=steven8160%40163.com&t=fM1xduuNyNZSo4NNyVQCUx5ACGrO5ll
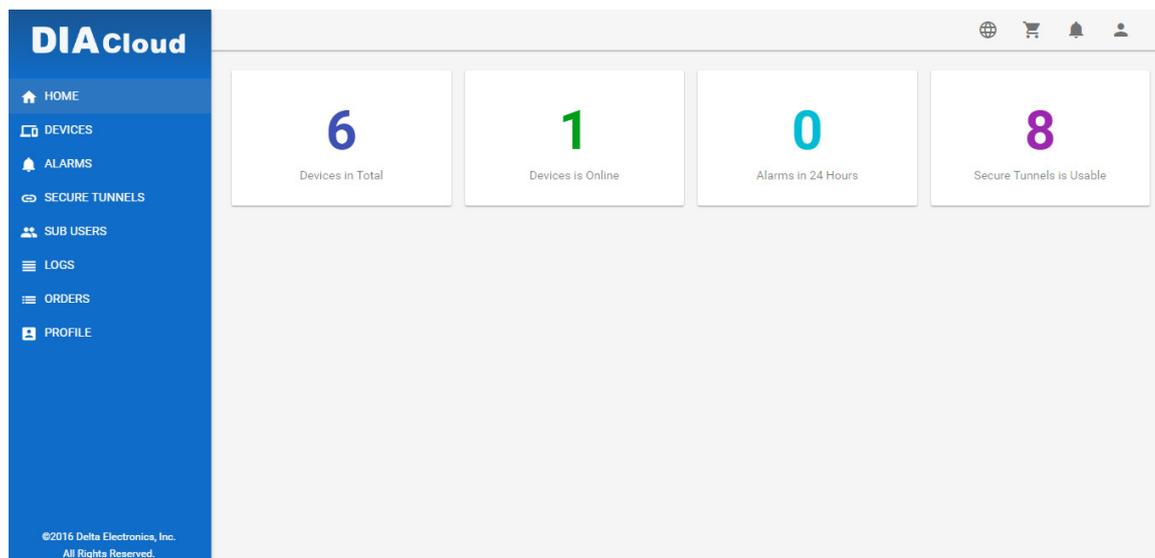
请在48小时内激活您的账号，否则您需要重新注册。

如果该账号不是您本人注册的，请忽略本邮件。

Thanks!

The DIACloud Team

5. Open the DIACloud web page (http://www.DIACloudSolutions.com). Log in using your account that you have registered.

5.2.2 Home

The Home Page will show up after login.

DIACloud

♠ HOME
⊡ DEVICES
🔔 ALARMS
∞ SECURE TUNNELS
👥 SUB USERS
≡ LOGS
≡ ORDERS
🗎 PROFILE

6	1	0	8
Devices in Total	Devices is Online	Alarms in 24 Hours	Secure Tunnels is Usable

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All Rights Reserved.

Item	Description
Menu	User can switch to corresponding function through menu on the left.
Devices Total	The number of total devices
Devices is Online	The number of total online devices
Alarms in 24 Hours	The number of alarms in Recently 24 hours
Secure Tunnel is Usable	It will show the number of Secure Tunnel groups under the account.
🌐	Switching among the Chinese and English
🛒	Show the service package you selected, user can add packeage to shopping cart through Devices function and Profile function.
🔔	Show the alarm message(s) in latest 7 days
👤	Show the profile or logout

Online payment process as below:

1.   After click 🛒, it will show the detail information in shopping cart.

Shopping Cart						⟳
#	Package Name	Unit Price	Number		Price	Operation
1	**DX-Service-T1GB-WW** (SN : DX21000216140002) Data traffic fee of 1-year package for 1G bytes extra traffics per month between device and DIACloud	$ 0.01	4		$ 0.04	🗑
2	**DX-Service-S1MB-WW** Cloud Storage fee of 5-years package for 200MB storage space in one account	$ 0.01	1		$ 0.01	🗑
Total 2 item(s) in Cart				Total Price	**$ 0.05**	**CHECKOUT**

2.   Click **CHECKOUT** to generate an order. DIACloud provides the follow types of invoices.

- No need For Invoice
- Electric Invoice
- Paper Invoice

Confirm Order

Order Detail

DX-Service-T1GB-CN (SN : DXR02010F270086)	¥200	×1

Total Price: **¥ 200**

Invoice

○ No need for Invoice   ◉ Electric Invoice   ○ Paper Invoice

Invoice Title(The name of your company) *

Email *

BACK TO CART   CONFIRM ORDER

3. Click CONFIRM ORDER , we accept PayPal payments and process credit cards on your order forms.

Payment Method

Total to pay now **$ 0.05**

◉ **PayPal**

PAY NOW

5.2.3   Devices

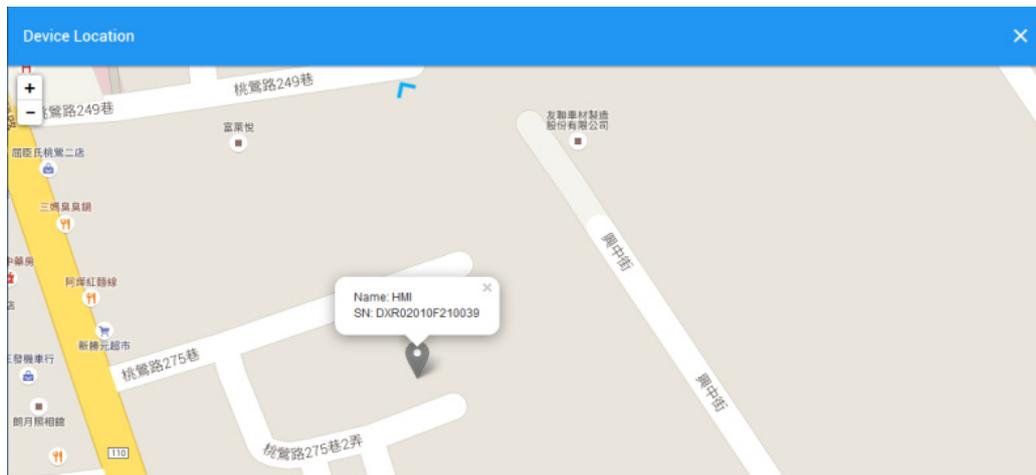It will switch to page of device list after clicking "Devices" in navigation bar.

#	Status ↓	Device Name	SN	Device Type	Storage Usage	Data Usage	Created	Operation
1	online	DX2100_B0B4	DXR02010F210059	DX2100	0.00 MB	0.00 MB	2016-10-17 09:09	···
2	offline	DX2100_F0D3	DXR02010F270038	DX2100	0.00 MB	0.00 MB	2016-07-22 12:36	···
3	offline	DX2300_894D	DX23000216260012	DX2300	0.00 MB	0.00 MB	2016-07-28 22:31	···
4	offline	DX2300_89AB	DX23000216260059	DX2300	0.00 MB	0.00 MB	2016-09-08 13:34	···
5	offline	DX2300_894B	DX23000216260011	DX2300	0.00 MB	0.00 MB	2016-11-14 10:54	···
6	offline	seyi	DX23000216260048	DX2300	0.00 MB	0.01 MB	2016-11-18 15:16	···

Total 6 Device(s)

Item	Description
🔍 Search	You can filter the device base on you input the key word of the device name.

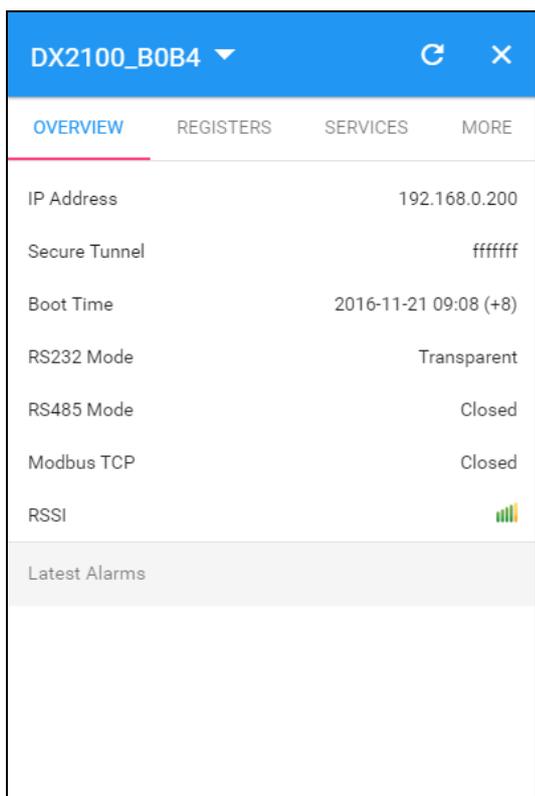|	
🔗 All	Filter base on tunnel group, show all devices or only show the devices under user specified tunnel group.
Devices List	Show the list of device.The information include device's name, device's SN, device's type, storage usage, data usage, the time of binding device. ● Green represents that the device is on-line ● Gray represents the device is off-line.
👁	● 👁 : Represents that all device is displayed currently, and you can switch to on-line device list after clicking this icon. ● 👁 : Represents that on-line device is displayed currently, and you can switch to list of on-line device after clicking this icon.
📍	Show relevant position information of device.
⟳	Refresh pages
⋯	Show detail information of the device

● 📍: It will show relevant position information of device after you click "📍" , which is shown as follows:

It will show the device name and SN of the device after clicking position icon in the map. When there is large number of device of user, it will switch to corresponding device when user clicks blue arrows at the edge of the map.

● ⋯ ：More detail information about device will be shown after clicking ⋯ under the "Operation" at the most right side of device list:

1. **OVERVIEW:** The page will show the basic information of the device and latest alarm message.
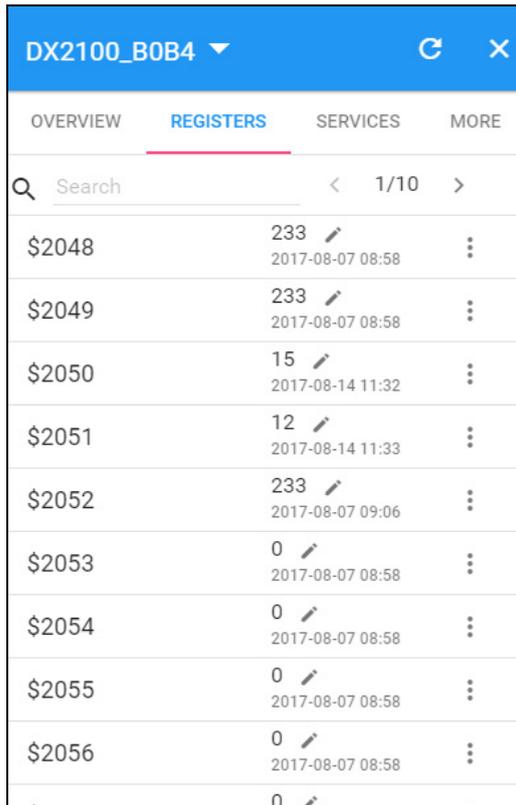
5

Item	Description
Operation zone of device	It represents that device is on-line if background color is blue, and device is off-line if it is gray. • DX2100_B0B4 ▼: Show device names; it can switch device after clicking the drop down arrow. • ↻ : Realize refresh of device data on operation page. • ✕ : Close the operation page.
Page switching	Operation is divided into 4 pages: • **Overview** • **Registers** • **Package** • **More** Different buttons are used to switch different pagers.
Basic information zone	Basic information is shown in Overview page. • **IP Address:** it means the IP that has been bound for device; • **Tunnel Network:** it means virtual network that has been bound to device; • **Boot Time:** it means the boot time of device; • **RS232 Mode:** work modes of RS232, including transparent transmission mode and slave station mode; • **RS485 Mode:** work modes of RS 485, including transparent transmission mode, slave station mode and master station mode; • **Modbus TCP:** work modes of Modbus TCP, including Modbus TCP Server，Modbus TCP Client and Closed

	• **RSSI:** it means signal strength of device which contains 5 bars; the larger the number of green bars is, the stronger the signal strength is;
Latest Alarms	The latest five Alarm of the current device. "✉" represents the state that the email is being sent; • **Green** represents that the email has been sent successfully • **Red** represents failure of sending.

2. **REGISTER:** The page will show and manage register value that uploaded from DX production.

Item	Description
🔍 Search	The filtering function displays a list of keywords that match specific register.
✏	Click ✏ and add the corresponding register and register value, then click "SAVE" button. DIACloud server will send the corresponding data to the device.
< 1/205 >	"<" Pervious page，">" Next page，"1/205" show the current page of register table and the total amount of register table page.
Register Table	Show the register table, registers show a maximum of 10 posts per page.
Register Name	Show the register name, when you do not make an alias configuration in the register, the register number is displayed; an alias configuration in the register will be displayed after you configure the alias
Register Value	Show the current register value and data transfer time. For the double word or float type data, please refer to the 'Config' function.

	You can view the current register of historical data or delete the current register; it can also be configured to register. P.S. If this register is not set to remeber history (device configuration page), the menu does not appear [History] after clicking ⋮ icon.

The History and Config options will be shown after clicking ⋮
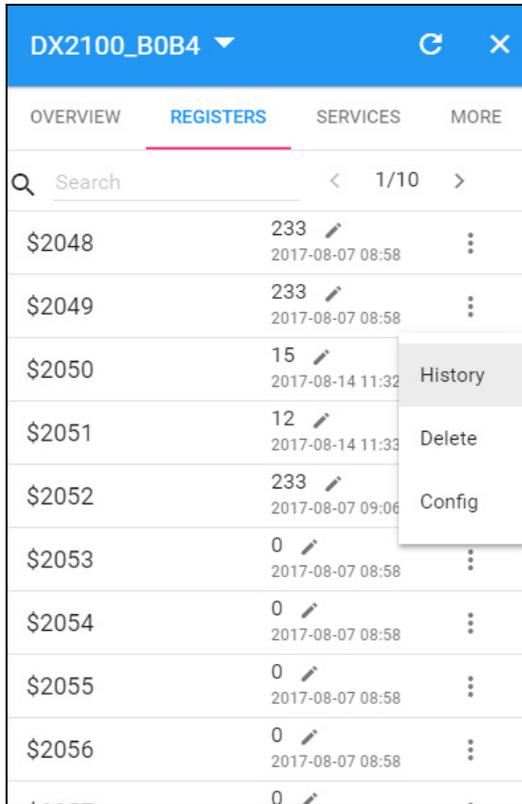
Item	Description
History	It represents trend chart of historical data
Delete	User can delete the all data of this register
Config	User can customize name of register and content returned.

- **History :** The following figure will be shown after clicking "History":

Item	Description
Date Start	Set the Date Stare and query the historical data for a specific time
Date End	Set the Date End and query the historical data for a specific time
Register Value History Diagram	The latest trend chart of value of register;
Time Axis	User can change time scope of historical data by sliding " ".
	Export the data to CSV.file.

● **Config :** The following information will be shown after clicking "Config"

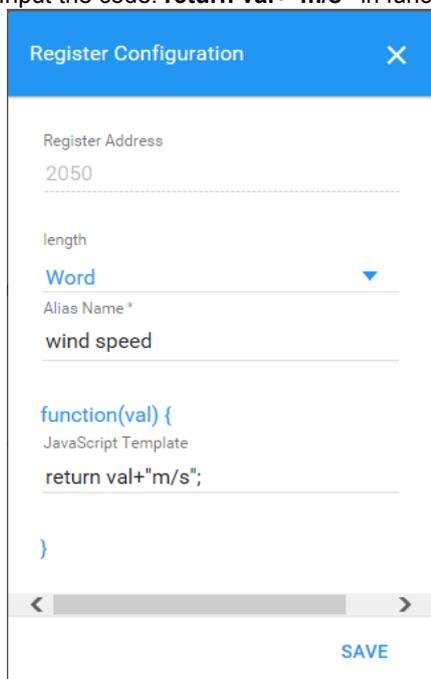| Item	Description
Length	Length can be set to Word, DWord and Float. ● **DWord:** DWord needs to use two DX internal registers. For example: $2050 and $2051 are set to DWord and it will combin to $2050, $2050 will be **LOW Byte** and $2051 will be **HIGH Byte.** $2050 786447 ✏ 2017-08-14 11:33 ⋮ $2052 233 ✏ 2017-08-07 09:06 ⋮ ● **Float:** Float needs to use two DX internal registers. For example: $2050 and $2051 are set to DWord and it will combin to $2050, $2050 will be **LOW Byte** and $2051 will be **HIGH Byte.**
Alias Name	The user can set the name of the register to be displayed in the "Alias Name"
function(val)	function(val) is used for convert the register value, and the grammar of function-supported JavaScript is similar.

There are two examples for "function (val)".

● **Example 1** : If you want to show the wind speed as 10m/s. (Data +unit, such as: speed 10m/s).

Input the code: **return val+"m/s"** in function (val){…} as the following picture.

Register Configuration ✕

Register Address
2050

length
Word ▼

Alias Name *
wind speed

function(val) {
JavaScript Template
return val+"m/s";

}

SAVE

Save the configuration.

● **Example 2**: If you want to convert the register value to the text such as the register value of 1 shows the text as 'NO'; register value of 2 shows the text as 'OFF'

Input the code in function (val) {…} as the following picture.

Save the configuration.

3. **SERVICES:** This page shows the Device Data Usage, Device Storage Usage and Account Storage Usage for users.

Item	Description

Data	• **Device Data Usage:** Show device traffic usage till now and total capacity.
	
	• **Account Traffic Usage:**
	  1. Account traffic is the total amount of traffic showing additional purchases.
	  2. Account traffic can be shared with all devices under your account.
	  3. Before the device traffic is exhausted clould traffic, the account traffic will not be used.
	
	• **[BUY]**: User can purchase more traffic package for this accoount if need. After successful payment, the moment is ready for use.
	
	• **[HISTORY]**: Show the Data Usage History in past 12 months.

Storage	• **Device Storage Usage:** Show device storage usage till now and total capacity
	
	• **Account Storage Usage:**
	  1. Account storage is the total amount of traffic showing additional purchases.
	  2. Account storage can be shared with all devices under your account.
	  3. Before the device storage is exhausted strorage space, the account storage will not be used.
	
	• **[BUY]**: User can purchase more traffic package for this accoount if need. After successful payment, the moment is ready for use.

● After Click the **[BUY]** in Data field, it will show the traffic package select page. User can add a package to cart or pay it direct.

Add To Cart ✕

DX-Service-T1GB-WW

Data traffic fee of 1-year package for 12G bytes extra traffics one year between device and DIACloud

Unit Price: $ 0.01

Expired: 2018-08-14

Package Name
DX-Service-T1GB-WW ▼

Number *
1

ADD TO CART   CHECKOUT
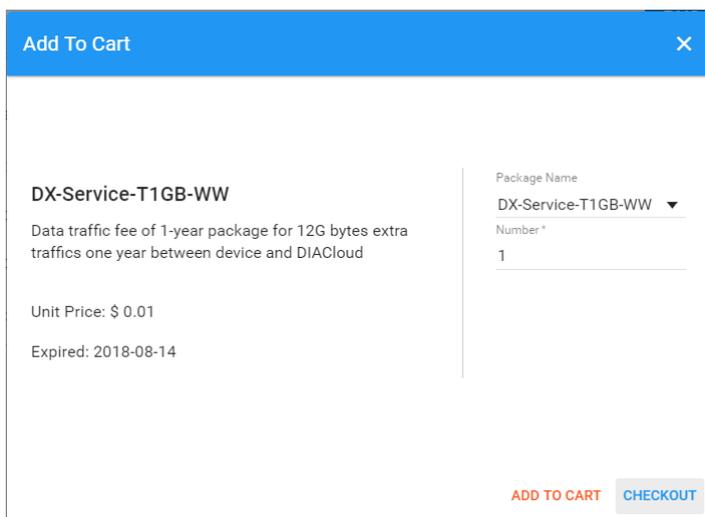
● After Click the **[HISTORY]**, it will show the Data Usage History in past 12 months.

Not measured
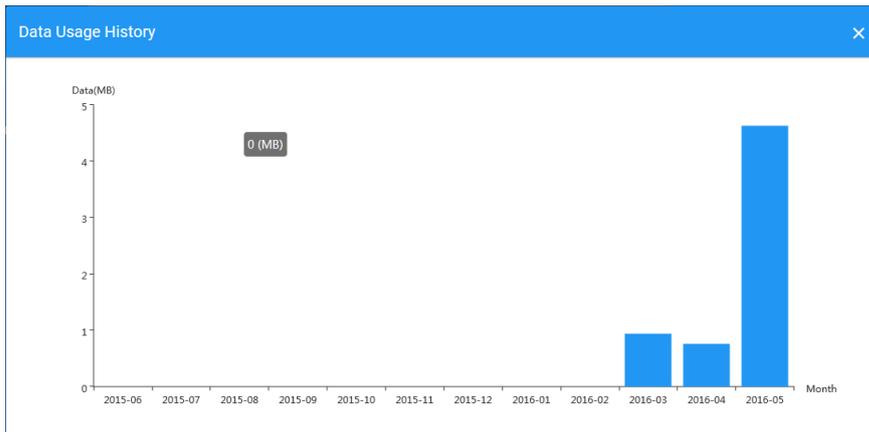
- After Click the [BUY] in Storage field, it will show the storage package select page. User can add a package to cart or pay it direct.

4. **MORE:** This page will show the Serial Number, Software Version, Hardware Version, and IMEI for users.
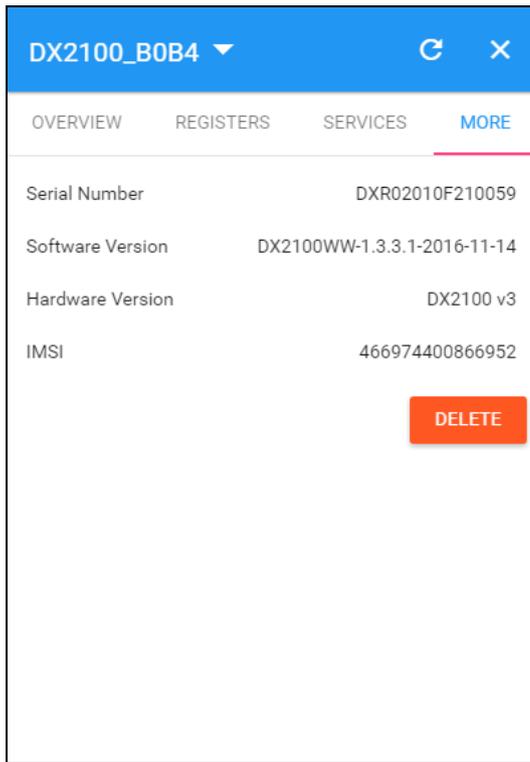
| Item	Description
Serial Number	Serial number of device
Software Version	Version information of software
Hardware Version	Version information of hardware
IMSI	International Mobile Subscriber Identification Number.
DELETE	Delete binding relationship between device and the account. Device needs to be un-bund after clicking this button, and user can recover the device by rebinding.

5.2.4 Alarm

Click the Alarm in the left menu. The warning information in the latest 7 days will be shown in this page. The warning information includes name and serial number of device, content of warning, status of email that is being sent (green"✉" represents that the email has been sent successfully, and red represents fail.), time of warning and content record of warning.

Q Search				↻
#	Device Name	Alarm Message	Status	Created
1	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /1418:18:28 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-14 18:18:31
2	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /1418:16:25 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-14 18:16:41
3	HMI DXR02010F210039	0 1 2016/03/14 18:15:42	✉	2016-03-14 18:16:15
4	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /0913:28:10 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-09 13:28:12
5	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /0913:27:57 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-09 13:28:01
6	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /0913:26:46 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-09 13:26:50
7	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /0913:24:22 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-09 13:24:32
8	HMI DXR02010F210039	0 1 2016/03/09 13:20:16	✉	2016-03-09 13:20:47
9	VFDControl DXR02010F210059	!!!!!!!!WARNING!!!!!!!!!!!! VFD Status : Emergency Stopped Time : 2016/03 /0819:01:37 MS300 has been stopped, please contact the relevant member!!!	✉	2016-03-08 19:01:42

5.2.5 Secure Tunnels

Secure Tunnel is an important concept in DIACloud. Its objective is to realize virtual Switch across Internet; when device is bound to this network, it will be equivalent to adding device with one LAN port; when PC operates DIACom and creates a virtual network, PC and the device will be under the same switch at this time. It is shown as follows
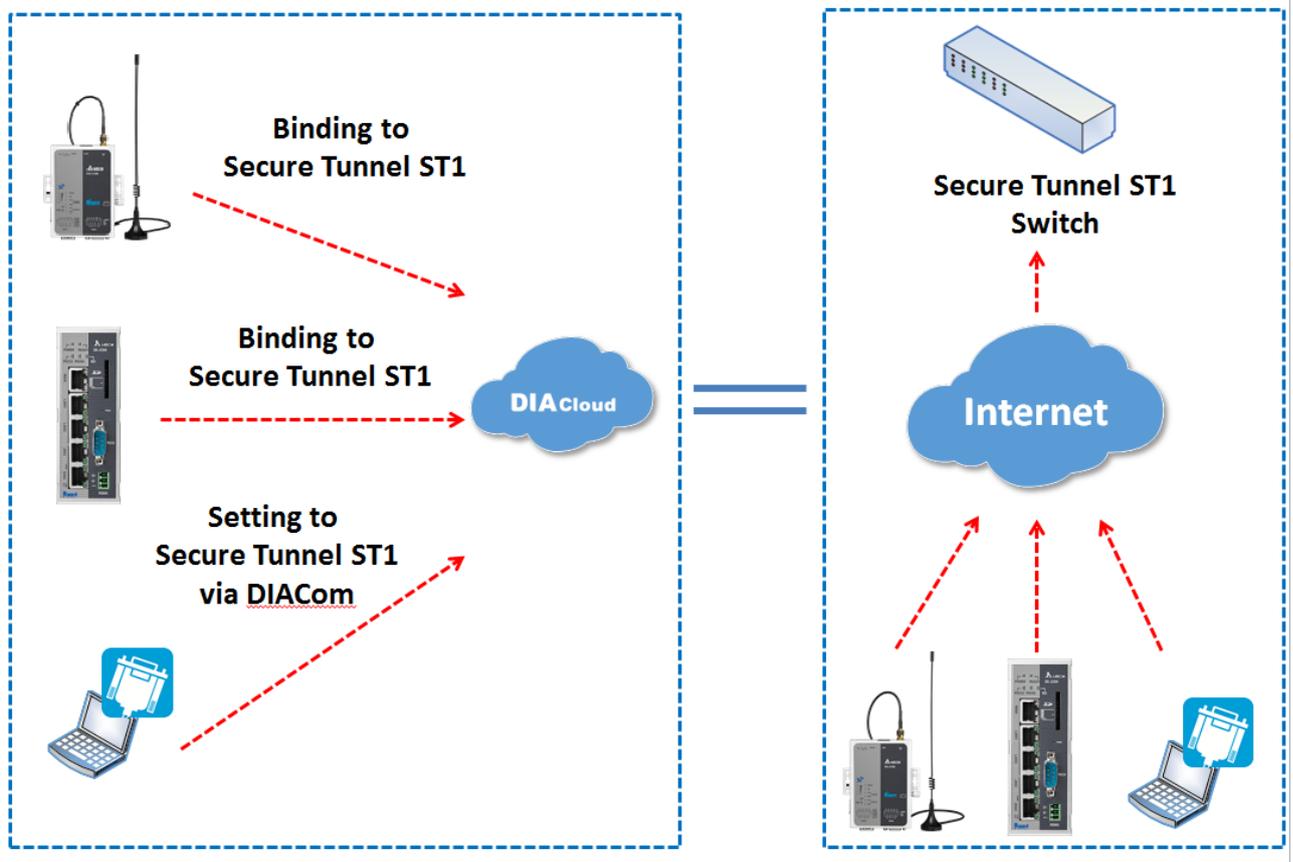
Users can manager the tunnel network in this page. Interface is shown as follows:

tem	Description
Search	Search the existed tunnel network
Tunnel network List	List all tunnel network under this account
+	Add a new tunnel network
C	Refresh the tunnel network list
...	Edit the tunnel network

5

Item	Description
Tunnel Network Information	The detail information of tunnel network: • **Network Name:** User can enter a name of tunnel network. • **DHCP Option:** Automatic IP Address Assignment by DIACloud. • **DHCP IP Start:** it represents the beginning IP in automatic IP distribution address pool of DIACloud • **DHCP IP End:** it represents the ending IP in automatic IP distribution address pool of DIACloud.

	If the DHCP of thes tunnel network is enabled, click will export configurations include DIACloud Servier /account /Tunnel networks info to a file (default file name Provision_vlnname_date_time.bin). ⚠ DX-3001H9 **DOES NOT support** this function.
	Delete the current tunnel network
✕	Close the current operation window.
SAVE	Save the configuration of tunnel network

5.2.6 Sub Users

All accounts that are registered through register page of DIACloud (http://www.DIACloudSolutionscom/#/signup) are main accounts. Every main account can create sub-account, and users can realize power separation and grouping management of device by conducting authorization for virtual network and DIACom by sub-account. Use can conduct addition and operation for sub-account through the "Sub Users" page.

#	Account ↑	Login to EthDirect	Status	Created	Operation
1	3208467055@qq.com	Disabled	Activated	2016-02-24 20:02:29	···
2	444386414@qq.com	Enabled	Activated	2015-10-27 22:04:34	···
3	shinewaker@sina.cn	Enabled	Activated	2016-02-25 17:06:26	···
4	test_iot@126.com	Enabled	Activated	2016-02-29 17:35:54	···

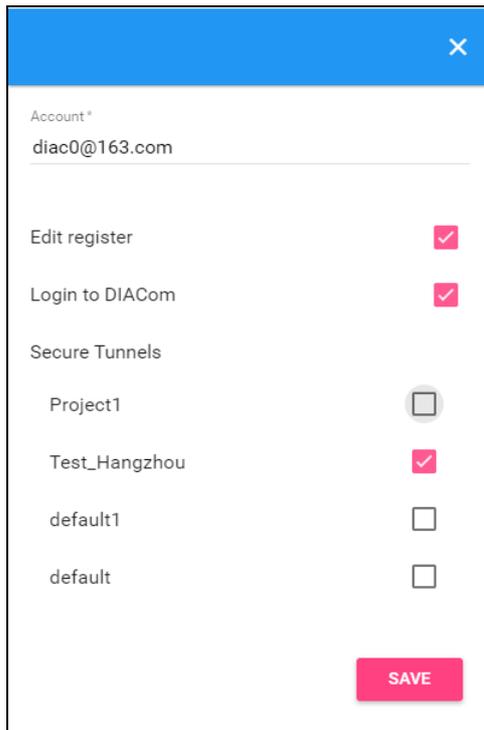Total 4 user(s)

Item	Description
🔍 Search	Search the sub users.
Sub Users List	Show the list of all sub users in main account.
+	Add a sub user.
↻	Refresh the list of sub users.
···	Modify the access control of the tunnel network.

- ··· : User can modify the access control of the tunnel network.

Item	Description
Sub Users Information	• **Edit register:** Allow the Sub User to modify register • **Login to DIACom:** Allow the sub user to access the DIACom if the option is enabled. • **Tunnel Network:** Allow the sub user to access the Tunnel Network if the option of Tunnel Network is checked.
	Delete a sub user.
	Close the current operation window.

● ＋ : User can add sub users after clicking the "+" in the page, and. The following interface will be shown after clicking the "+" in the page:

1. Fill in corresponding account information and conduct authorization for it.

2. The system will send an activation email which is attached with random login password to email box of sub user. The account status is "Un-activated" now.

3. Goto the mailbox, click the hyperlink to complete account activation operation, then sub user can login DIACloud with new account.

4. The page will link to the following page after clicking the activation link in the email:

5. When user login to DIACloud with main account and the sub user that we created has been activated.

5.2.7 Logs

This page will show the web operation information of some users. It includes: login IP, setup of register, API interface call of DIACloud and other information.

#	User Name	Log Content	Created
1	13616061750@163.com	push reg , cmd = 21300,1,2049,556	2016-04-01 11:12:41
2	13616061750@163.com	Login from 211.97.130.218	2016-04-01 11:11:36
3	13616061750@163.com	Login from 218.66.157.46	2016-04-01 10:45:41
4	13616061750@163.com	Login from 211.97.130.218	2016-04-01 10:43:23
5	13616061750@163.com	Edit tunnel network, id= 1247, name = test02, dhcp = 1	2016-04-01 10:38:20
6	13616061750@163.com	Logout	2016-04-01 10:37:55
7	13616061750@163.com	Login from 218.66.157.46	2016-04-01 10:37:54
8	13616061750@163.com	Login failed. username=13616061750@163.com from ip=218.66.157.46	2016-04-01 10:37:48
9	13616061750@163.com	Login failed. username=13616061750@163.com from ip=218.66.157.46	2016-04-01 10:37:41
10	13616061750@163.com	Login failed. username=13616061750@163.com from ip=218.66.157.46	2016-04-01 10:37:35

10 ▾   1 - 10 / 1134

5.2.8   Orders

In this page, user can check his all orders. Continue to pay for the unpaid orders or cancel the unpaid orders.

#	Order NO.	Amount	Created	Status	Operation	
1	120160506042313747581	$ 100	2016-05-06 16:23:13	Wait for Payment Order Detail	PAY	Cancel
2	120160506042243779488	$ 99.99	2016-05-06 16:22:43	Wait for Payment Order Detail	PAY	Cancel
3	120160506110245733298	$ 99.99	2016-05-06 11:02:45	Wait for Payment Order Detail	PAY	Cancel
4	120160505060220111921	$ 0.01	2016-05-05 18:02:20	Finished Order Detail		
5	120160505052319041416	$ 0.01	2016-05-05 17:23:19	Finished Order Detail		
6	120160505052149784903	$ 0.01	2016-05-05 17:21:49	Finished Order Detail		
7	120160505052038875275	$ 0.01	2016-05-05 17:20:39	Finished Order Detail		
8	120160505051413353285	$ 0.01	2016-05-05 17:14:13	Finished Order Detail		
9	120160505051019658664	$ 0.01	2016-05-05 17:10:20	Wait for Payment Order Detail	PAY	Cancel
10	120160505050752270363	$ 0.01	2016-05-05 17:07:52	Wait for Payment Order Detail	PAY	Cancel

10 ▾   1 - 10 / 51 |< < > >|

Item	Description
Order Detail	View the order detail information
PAY	Pay for the unpaid order
Cancel	Cancel the order, order will remove from the list.

- Order detail

Order Detail				×
#	Package Name		Unit Price	Number
1	DX-Service-S1MB-WW Cloud Storage fee of 5-years package for 200MB storage space in one account		$ 0.01	×1
			Total Price	$ 0.01

- Payment Method: Currently, we only support PayPal payment for the world wide user.

Payment Method

Total to pay now $ 99.99

⦿ P PayPal

PAY NOW

5.2.9   Profile

In this page, QR Code of user, Package info, password management and other information will be shown.

Profile

PACKAGE INFO   CHANGE PASSWORD

Account Storage Usage   0.00 MB / 0.00 MB   BUY

Account Traffic Usage   370.00 MB / 370.00 MB   BUY

Account   ▮▮▮▮@126.com

Login to DIACom   Enabled

Country   United States

Item	Description
QR Code	You can get the part information of user by using DIACloud APP and scanning QR Code.
Account	The current account information.
Packeage info	• Show account traffic/storage usage till now • BUY user can purchase more traffic/storage package for this account if need ⚠ Account traffic/storage will share to all devices under this account.traffic/storage will share to all devices under this account.
Change Password	Change the password of DIACloud user account. ⚠ Parts of old users use password in 6 digits; the new password has been increased to 8 digits to improve safety of their accounts.

Change Password page as below

Profile

PACKAGE INFO   CHANGE PASSWORD

| Account Storage Usage | 0.00 MB / 0.00 MB | BUY |
| Account Traffic Usage | 370.00 MB / 370.00 MB | BUY |

Account	████@126.com
Login to DIACom	Enabled
Country	United States

Chapter 6   DIACloud APP

Table of Contents

6.1 Introduction to DIACloud APP

DIACloud APP is the client software of DIACloud cloud platform running on mobile devices. The APP supports both iOS and Android mobile system, it enables users to view the field data collected, the locations of the field devices, and the alarms/notifications pushed by the industrial IOT cloud platform, so that keep users posted anytime and anywhere, and therefore improve the manageability of devices, optimize the device performance and efficiency, save the operation cost and enhance the service quality.
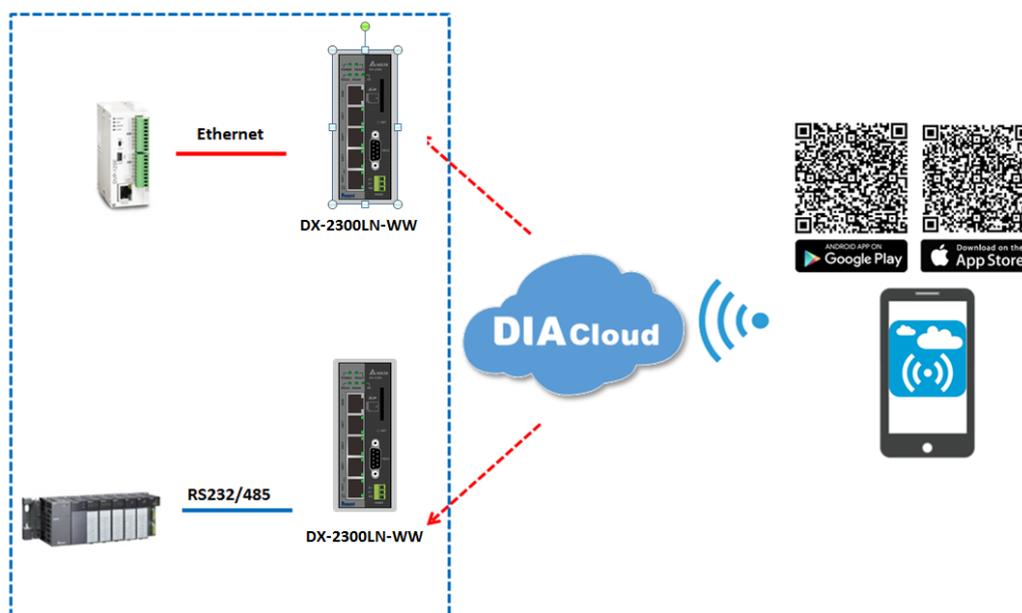
6.1.1 Select a Suitable Firmware Version

The APP can support the devices below:

Device Model	Firmware Version
DX-2100	V1.3.0.0 or above
DX-2300	V1.0.0.0 or above
DX-3001	V1.3.0.0 or above

6.1.2 DIACloud APP Installation

The DIACloud APP is available on Google Play and Apple APP Store.

Mobile Device	OS Version
Android	4.4.0 or above
iPhone	6.2.0 or above

6.2 DIACloud APP Function
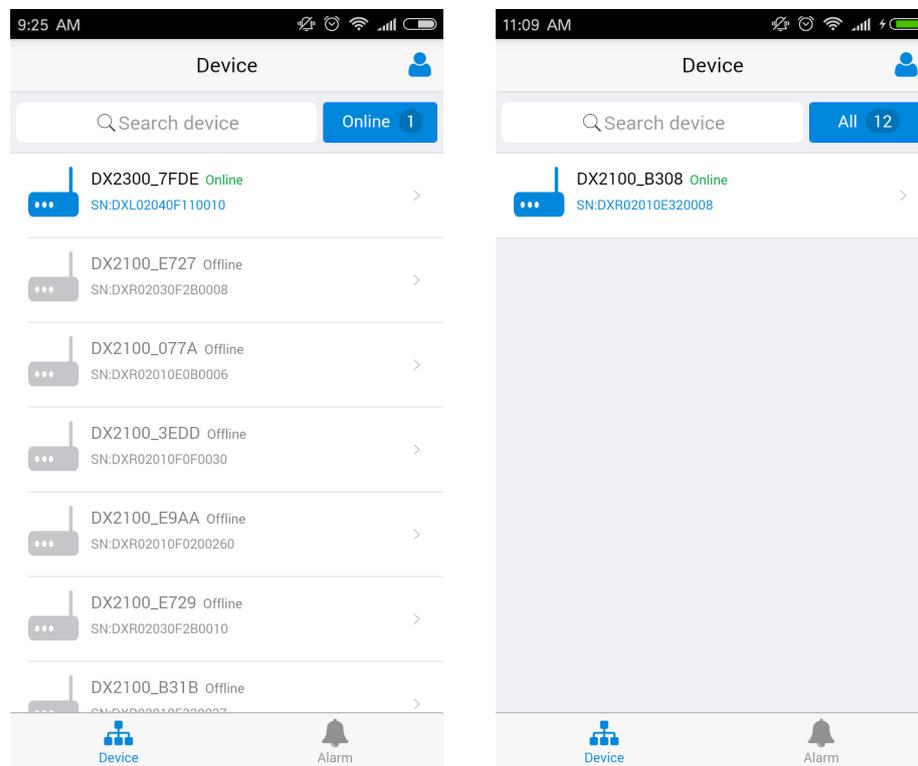
6.2.1 DIACloud APP Login

Enter the DIACloud account and password, then click the "Sign in" button to login the APP. Click the "Sign up" to register an account if you don't have one.

Item	Description
⌐⌐	Scan QR code, the QR code is generated by DIACloud Web portal, which carries the user name and password information. By scanning the QR code, user won't need to input user name. By default, the APP will connect the default DIACloud server in the cloud, if the APP is to connect other servers, QR code should be scanned to provision the APP.
👤	DIACloud account, Email format
🔒	The password of DIACloud account, click 👁 to see what are you input
Auto Login	Save the password and login the APP automatically
Login	Login to App
Sign up	Create a new DIACloud account
Forget	Reset the password if you forget it.
🅰	Switch the language.

6.2.2　Device List
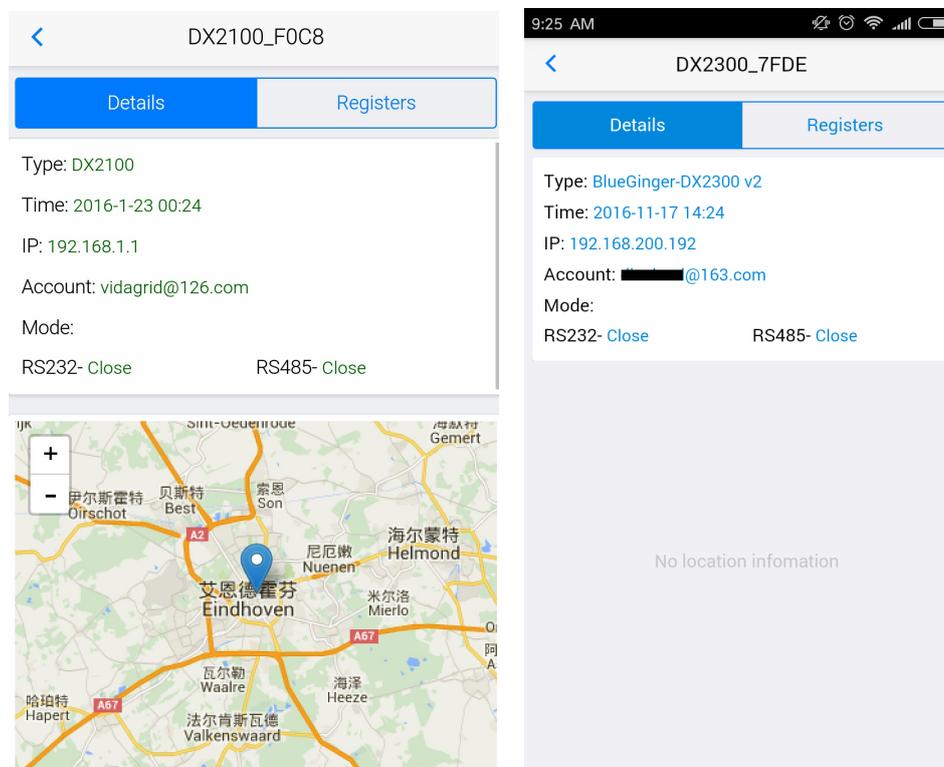
Device list will be shown after user login the APP.

Device tab and alarm tab will be shown in the APP. In the device tab, the device information will be shown, include the value of registers of the remote device. And the value of the register can be changed in the APP as well. In the alarm tab, users can read the alarm messages.

Item	Description
👤	Logoff or exit App
Search	Search device base on key word
All/Online	• Click "ALL" to show all device • Click "Online" only show online device. Digit at the back is the all/online device count.
Device list	Display device online/offline status, device name, device serial number. Click it will go into device detail page
Device	Switch to device list page
Alarm	Switch to alarm list page.

6.2.3 Device Details

Device details will be shown by selecting a device in the device list.

| Item	Description
Type	Type of the device
Time	The time when the device is online.
IP	IP Address of the device
Account	DIACloud account activating the device.
Mode	The working mode of RS485 and RS232. • **RS232:** Transparent transmission mode or Slave mode • **RS485:** Transparent transmission mode / Slave mode / Master mode
Map	Showing the location of the device on the map P.S. DX-2300 Series doesn't support this function.

6.2.4　Registers View

Click [Register] on the device details page to switch to the register page

In the register page, the user can browse the collected data. The register data can be refreshed by the pull-down screen. When the number of registers is large, you can pull up the screen to display more data.

Addr.	Value	
电压	6	✏
2049	0	✏
2050	6	✏
2051	0	✏
2052	0	✏
2053	0	✏
2054	1446	✏
2055	0	✏
2056	0	✏

Item	Description
⟳	Refresh the register data.
✏	Edit the register value.

3:28 PM

<   Edit

Addr.:   voltage

Value: 6

Time: 2016-11-21 09:14:14

Cancel   OK
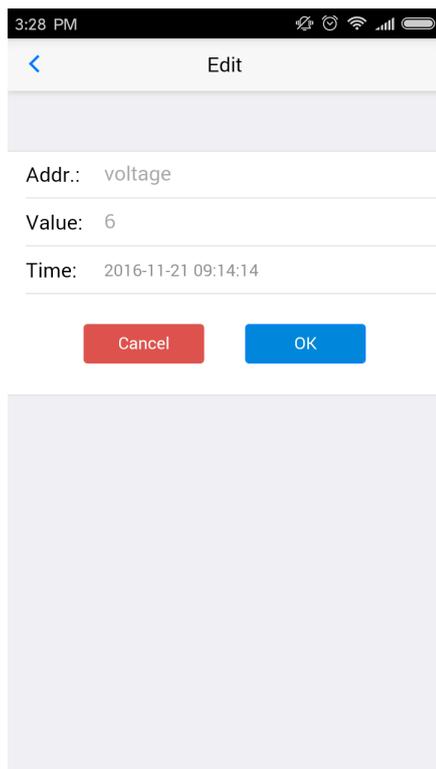
Click "ok" button, the register value will be pushed to the device.

6.2.5   Alarm List

Alarm criteria can be set on the device configuration web page. When the alarm criteria are met, the device will send out alarm messages. User can click the "Alarm" tab to read the alarm messages. When there are new alarm messages, the number of the unread messages will be shown on the icon .

- Alarm tab will be shown by clicking icon , the alarm messages in Red are unread messages. Digit in parentheses is the number of alarm messages.

- Pull down the APP to refresh the alarm list.

Alarm

Search alarm

2016-03-07 (3)

!!!!!!!!!WARNING!!!!!!!!!!!!!! VFD Status :
Emergency Stopped Time :
2016/03/0713:28:09 MS300 has been
stopped, please contact the relevant
member!!!
VFDControl sent at 13:28:41

12 1 2016/03/07 10:26:38
HMI sent at 10:26:41

0 1 2016/03/07 10:16:56
HMI sent at 10:17:28

2016-03-04 (5)

Device   Alarm