

# Quick Installation Guide

## *DL200* *DATA LOGGER*



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## **Chapter 1 Introduction**

Congratulations on your purchase of this outstanding product: M2M-IoT Gateway. For M2M (Machine-to-Machine) or IoT (Internet of Thing) applications, AMIT M2M-IoT Gateway is absolutely the right choice. With built-in world-class 3G HSPA+ module, you just need to insert SIM card from local mobile carrier to get to Internet. The redundant SIM design provides a more reliable WAN connection for critical applications. By VPN tunneling technology, remote sites easily become a part of Intranet, and all data are transmitted in a secure (256-bit AES encryption) link. Through its serial port, you can control and manage serial devices via Internet anywhere. The feature of DIDO allows gateway to have real-time response whenever events are detected by sensors. To meet a variety of M2M/IoT application requirements, AMIT M2M-IoT gateway products are based on modular design. A new functional module can replace current one to support new application in short time, such as for ZigBee or Bluetooth applications.

This IOG761 series product is loaded with luxuriant security features including VPN, firewall, NAT, port forwarding, DHCP server and many other powerful features for complex and demanding business and IOT (Internet-Of-Thing) applications. The redundancy design in fallback 9-48 VDC power terminal and VRRP, and dual SIM cards make the device as a back-up in power, data transmission, and network connection without lost.









The IOG761 series also provides the DB-9 male port for various serial communication use through connecting the RS-485 serial device to an IP-based Ethernet LAN. These communication protocols make user access serial devices anywhere over a local LAN or the Internet easily.

### **Main Features:**

- Provide various and configurable WAN connection.
- Support dual SIMs for the redundant wireless WAN connection.
- Provide the serial and Ethernet ports for comprehensive LAN connection.
- Feature with VPN and NAT firewall to have powerful security.
- Support the robust remote or local management to monitor network.
- Designed by solid and easy-to-mount metal body for business and IOT environment to work with a variety M2M (Machine-to-Machine) applications.

Before installing and using this product, please read this manual carefully.

## 1.1 Contents List

Items	Description	Contents	Quantity
1	<b>DL200 DATA LOGGER</b>		1pcs
2	<b>3G Antenna</b>		2pcs
3	<b>WiFi Antenna</b>		2pcs
4	<b>Power Adapter (DC 12V/2A) (*<sup>1</sup>)</b>		1pcs
5	<b>RJ45 Cable</b>		1pcs
6	<b>RS485 Cable</b>		1pcs
7	<b>Wall Mount Kits</b>		2pcs
8	<b>DIN-Rail Bracket</b>		1pcs
9	<b>USB flash drive</b>	Mfg: SanDick Type: SDCZ33 (8GB )	1pcs

1 The maximum power consumption of IOG761-0P001 is 15.5W.

## Hardware Installation

### 1.2.1 WARNING



#### **Attention**

- Do not use the product in high humidity or high temperatures.
- Do not connect AC power to this device directly. This product accepts DC power voltage from 9V to 48V. Using a different voltage rating power source will damage the router.
- Do not open or repair the case by yourself. If the Product is too hot, turn off the power immediately and have it repaired at a qualified service center.
- Place the product on a stable surface and avoid using this product and all accessories outdoors.

This equipment has been tested and found to comply with the limits for a Class B 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, uses and can radiate radio frequency energy 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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**IMPORTANT NOTE:**

**Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

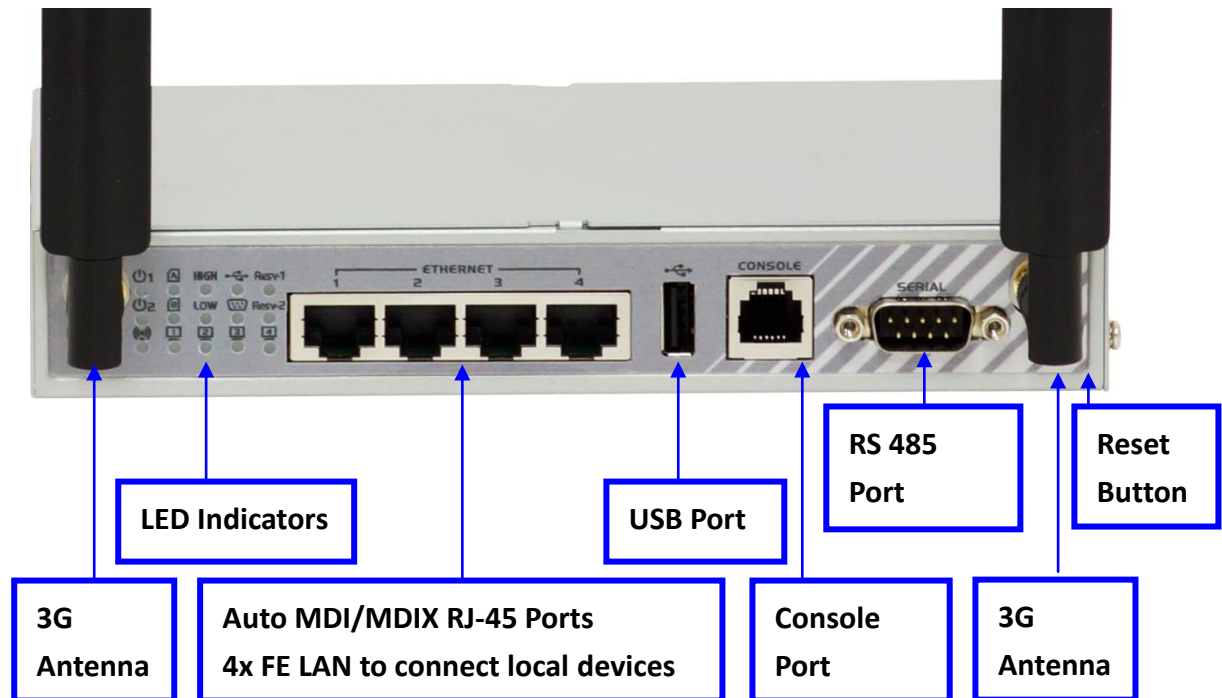
Country Code selection feature to be disabled for products marketed to the US/CANADA

## 1.2.2 SYSTEM REQUIREMENTS

Network Requirements	<ul style="list-style-type: none"><li>• An Ethernet RJ-45 cable or DSL modem</li><li>• 3G cellular service subscription</li><li>• IEEE 802.11n or 802.11b/ g wireless clients</li><li>• 10/100 Ethernet adapter on PC</li></ul>
Web-based Configuration Utility Requirements	<p><b>Computer with the following:</b></p> <ul style="list-style-type: none"><li>• Windows®, Macintosh, or Linux-based operating system</li><li>• An installed Ethernet adapter</li></ul> <p><b>Browser Requirements:</b></p> <ul style="list-style-type: none"><li>• Internet Explorer 6.0 or higher</li><li>• Chrome 2.0 or higher</li><li>• Firefox 3.0 or higher</li><li>• Safari 3.0 or higher</li></ul>
CD Installation Wizard Requirements	<p><b>Computer with the following:</b></p> <ul style="list-style-type: none"><li>• Windows® 7, Vista®, or XP with Service Pack 2</li><li>• An installed Ethernet adapter</li><li>• CD-ROM drive</li></ul>

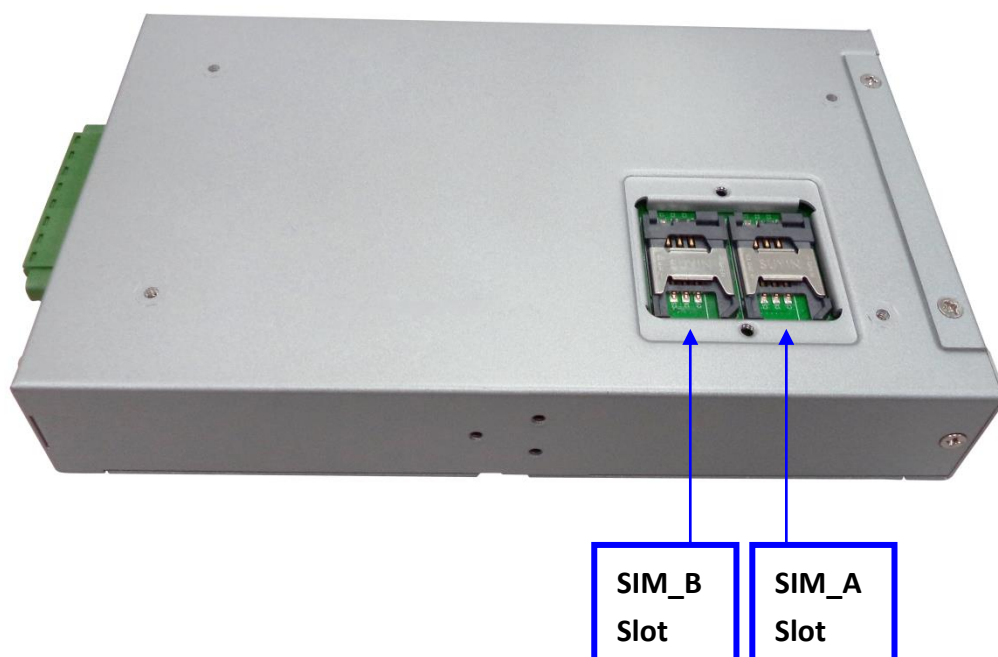


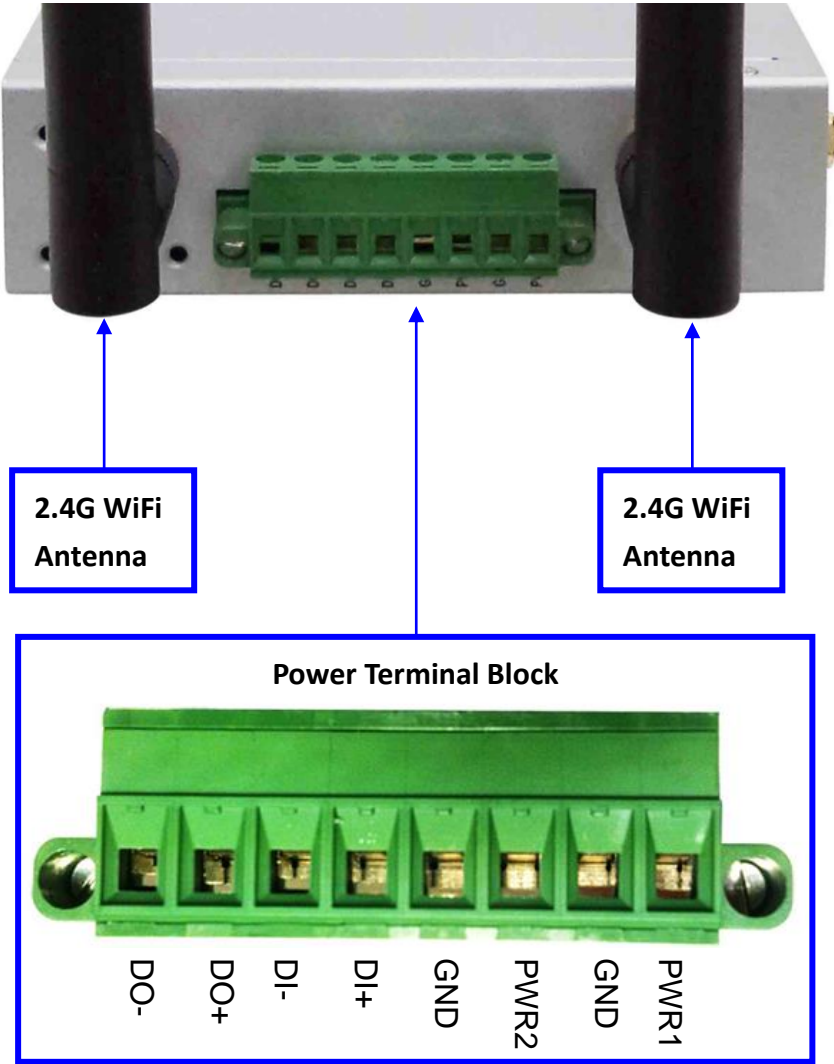
### 1.2.3 Hardware Configuration



#### ※Reset Button











The RESET button provides user with a quick and easy way to resort the default setting. Press the RESET button continuously for 6 sec, and then release it. The device will restore to factory default settings.





## 1.2.4 LED Indication



LED Icon	Indication	LED Color	Description
	Power Source 1	Green	<b>Steady ON:</b> Device is powered on by power source 1
	Power Source 2 (*2)	Green	<b>Steady ON:</b> Device is powered on by power source 2
	WLAN (WiFi)	Green	<b>Steady ON:</b> Wireless radio is enabled <b>Flash:</b> Data packets are transferred <b>OFF:</b> Wireless radio is disabled
	SIM A	Green	<b>Steady ON:</b> SIM card A is used
	SIM B	Green	<b>Steady ON:</b> SIM card B is used
	LAN 1 ~ LAN 4	Green	<b>Steady ON:</b> Ethernet connection of LAN is established <b>Flash:</b> Data packets are transferred
	High 3G Signal	Green	<b>Steady ON:</b> The signal strength of 3G is strong
	Low 3G Signal	Green	<b>Steady ON:</b> The signal strength of 3G is weak
	USB	Green	<b>Steady ON:</b> If USB device is attached
	Serial Port	Green	<b>Steady ON:</b> If serial device is attached

2 If both of power source 1 and power source 2 are connected, the device will choose power source 1 first. The LED of power source 2 will remain OFF at this condition.

## Chapter 2 Getting Started

This chapter describes how to install and configure the hardware and how to use the set-up wizard to configure the network with the web GUI of IOG761 series.

### 2.1 Hardware Installation

#### 2.1.1 Mount the Unit

The IOG761 series can be placed on a desktop, mounted on the wall, or mounted on a DIN-rail. It has designed with “ears” for attaching to the wall or the inside of a cabinet. The wall-mount kits and DIN-rail bracket are not screwed on the product when out of factory. Please screw the wall-mount kits and DIN-rail bracket on the product first.

#### 2.1.2 Insert the SIM Card

**WARNING: BEFORE INSERTING OR CHANGING THE SIM CARD, PLEASE MAKE SURE THAT POWER OF THE DEVICE IS SWITCHED OFF.**

The SIM card slots are located at the bottom side of IOG761-0P001 housing in order to protect the SIM card. You need to unscrew and remove the outer SIM card cover before installing or removing the SIM card. Please follow the instructions to insert a SIM card. After SIM card is well placed, screw back the outer SIM card cover.

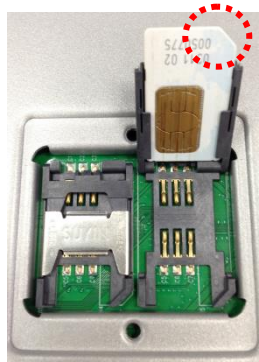
##### Step 1:

Follow red arrow to unlock SIM socket



##### Step 2:

Lift up SIM holder, and insert SIM card



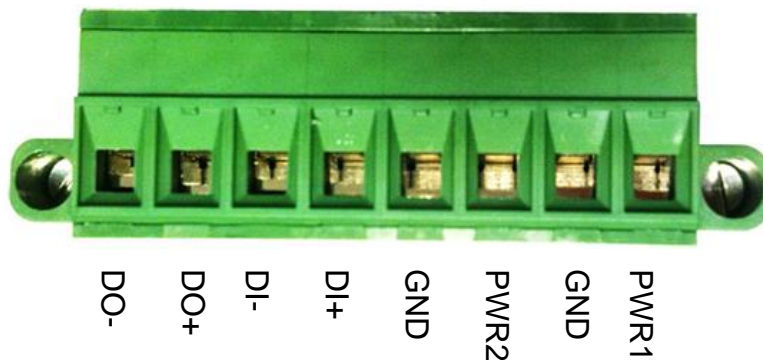
##### Step 3:

Put back SIM holder, and follow red arrow to lock SIM socket



### 2.1.3 Connecting Power

The IOG761 series can be powered by connecting a power source to the terminal block. **It supports dual 12VDC power inputs, 30VDC digital input and output**<sup>3</sup>. Following picture is the power terminal block pin assignments. Please check carefully and connect to the right power requirements and polarity.



There are a DC12V/2A power adapter in the package for you to easily connect DC power adapter to this terminal block.

### 2.1.4 Connecting DI/DO Devices

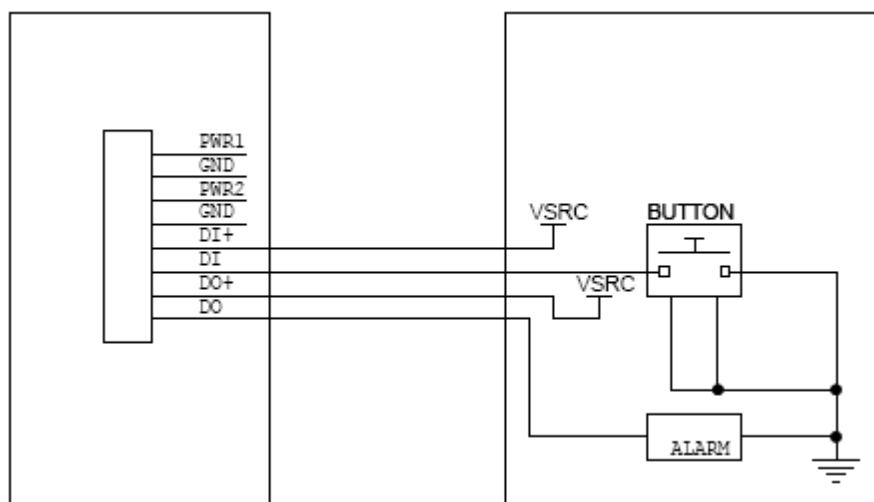
There are a DI and a DO ports together with power terminal block. Please refer to following specification to connect DI and DO devices.

Mode	Specification	
Digital Input	Trigger Voltage (high)	Logic level 1: 3.3V~30V
	Normal Voltage (low)	Logic level 0: 0V~3.0V
Digital Output	Voltage (Relay Mode)	Depends on external device maximum voltage is 30V
	Maximum Current	1A

#### **Example of Connection Diagram**

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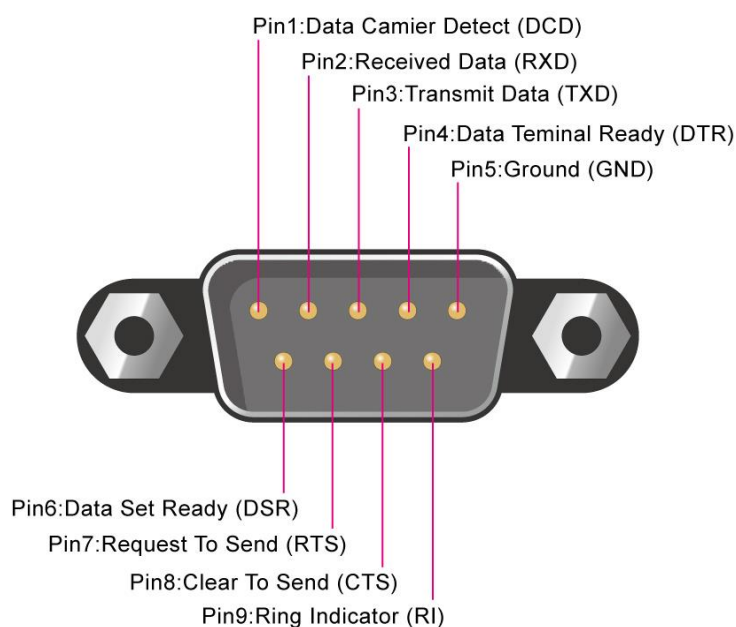
<sup>3</sup> If both of power source 1 and power source 2 are connected, the device will choose power source 1 first. If power outage occurred from power source 1, this device will switch to power source 2 automatically and seamlessly.



## 2.1.5 Connecting Serial Devices

The IOG761 provides one standard serial port DB-9 male connector. Connect the serial device to the unit DB-9 male port with the right pin assignments of RS-232/485 are shown as below.

### RS232 Pinout



	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9
RS-232	DCD	RXD	TXD	DTR	GND	DSR	RTS	CTS	RI
RS-485			DATA+	DATA-	GND				

## **2.1.6 Connecting to the Network or a Host**

The IOG761 series provides four RJ-45 ports to connect 10/100Mbps Ethernet. It can auto detect the transmission speed on the network and configure itself automatically. Connect the Ethernet cable to the RJ-45 ports of the device. Plug one end of an Ethernet cable into your computer's network port and the other end into one of IOG761 series for LAN ports on the front panel. If you need to configure or troubleshoot the device, you may need to connect the IOG761 series directly to the host PC. In this way, you can also use the RJ-45 Ethernet cable to connect the IOG761 series to the host PC's Ethernet port.

## 2.2 Easy Setup by Configuring WEB UI

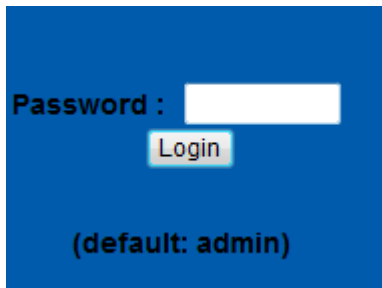
You can browse web UI to configure the device. First you need to launch the Setup Wizard browser and then the Setup Wizard will guide you step-by-step to finish the setup process.

### Browse and Activate the Setup Wizard

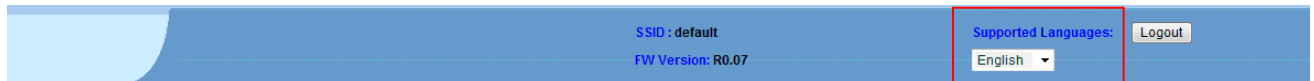
Type in the IP Address (<http://192.168.123.254>)<sup>4</sup>



When you see the login page, type the password 'admin'<sup>5</sup> and then click 'login' button.



After login, Select your **language** from the list.



Select “**Wizard**” for basic settings in a simple way.

Or, you can go to **Basic Network / Advanced Network / Applications / System** to setup the configuration by your own selection.

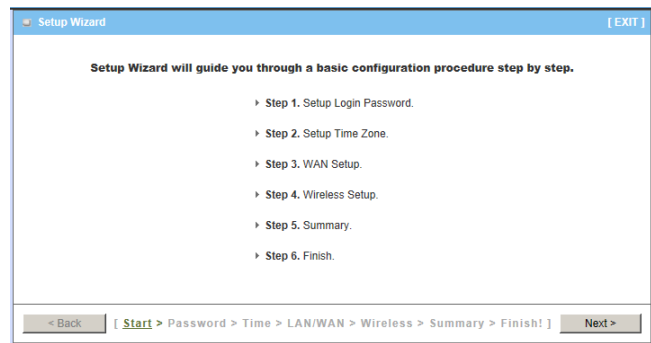


<sup>4</sup> The default LAN IP address of this gateway is 192.168.123.254. If you change it, you need to type new IP address.

<sup>5</sup> It's strongly recommending you to change this login password from default value.



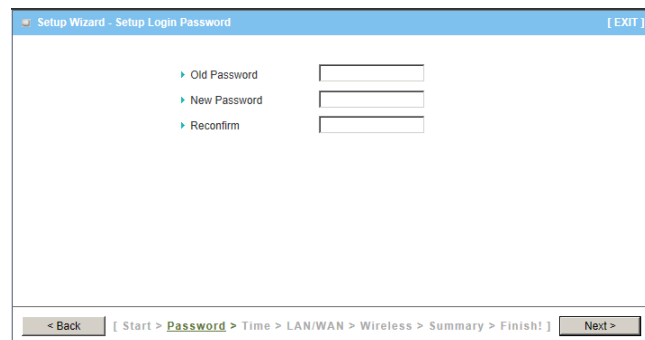
Press “**Next**” to start the Setup Wizard.



## Configure with the Setup Wizard

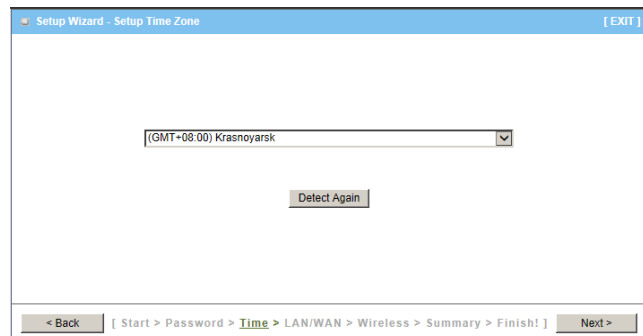
### Step 1

You can change the login password of web UI here. It's strongly recommending you to change this login password from default value.



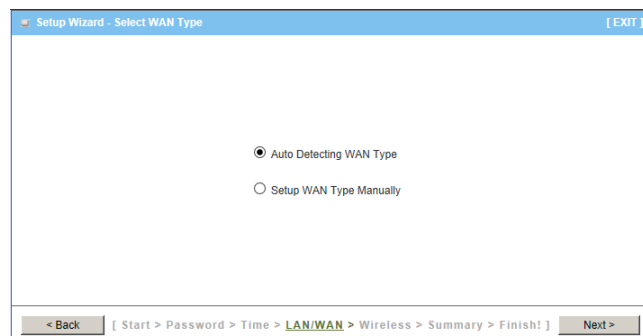
### Step 2

Select Time Zone.



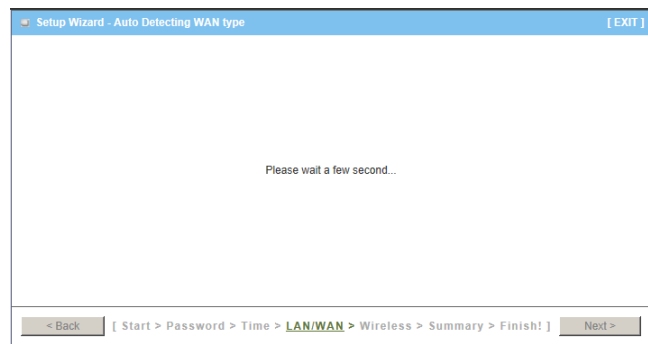
### Step 3

You can select Auto detecting WAN type or setup WAN type manually.

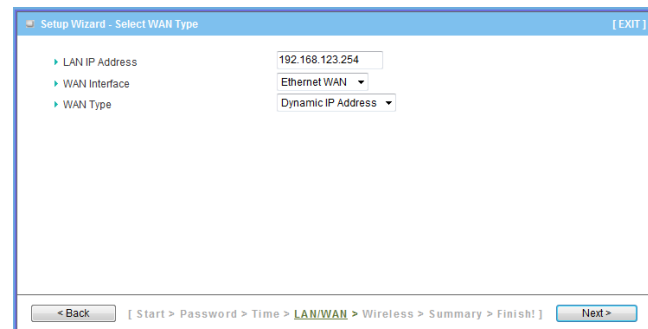


### Step 4

If selecting Auto Detecting WAN type, the system will start to detect the WAN type automatically.

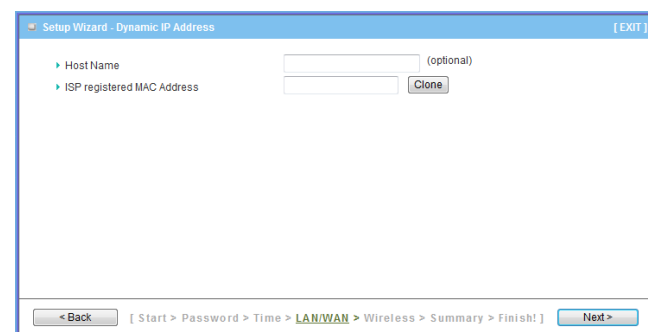


The next page will show result of WAN detection in your environment. If the result is not exactly what you need, you can still choose other WAN type here. You can also change LAN IP address of this gateway here.



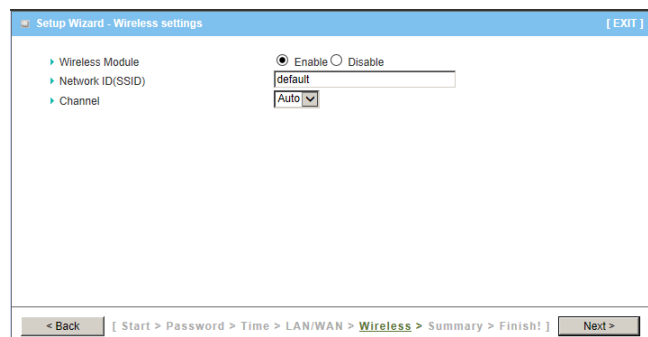
### Step 5

Type in Host name and ISP registered MAC address. If you don't have such information, you can keep in blank and go to next page.




### Step 5-1

Wi-Fi settings. You can change SSID or channel here, or keep them with default settings. SSID is the name that you will see on your PC when doing wireless network scan.



### Step 5-2

Wi-Fi authentication and encryption settings. It's strongly recommending you to add authentication and encryption in your wireless network to prevent any unknown Wi-Fi clients connecting to your wireless network and keep transferred data secured.



Setup Wizard - Wireless settings [EXIT]

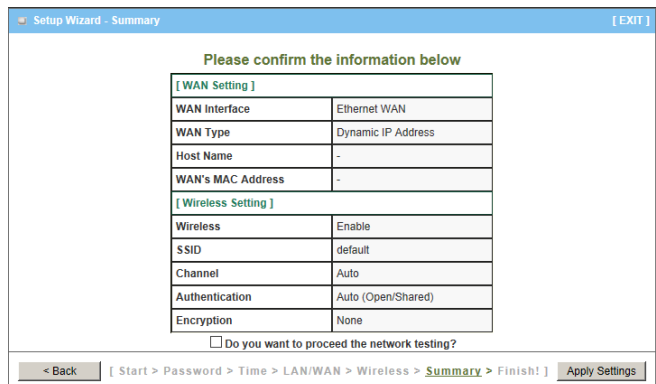
Authentication: Auto

Encryption: None

< Back [ Start > Password > Time > LAN/WAN > **Wireless** > Summary > Finish! ] Next >

### Step 6

Check the information again. If all settings are correct, please press “Apply Settings” button to save new settings. Then it will take 70 seconds to take new settings effective.



Setup Wizard - Summary [EXIT]

Please confirm the information below

[ WAN Setting ]	
WAN Interface	Ethernet WAN
WAN Type	Dynamic IP Address
Host Name	-
WAN's MAC Address	-

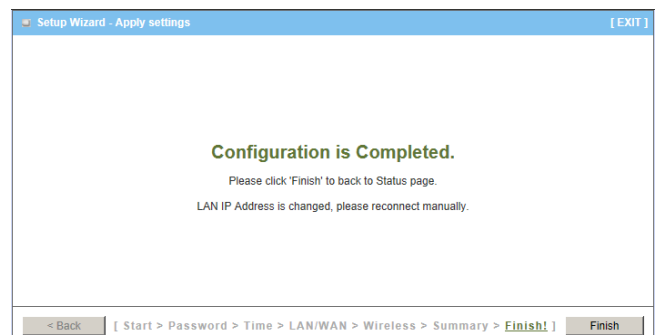
[ Wireless Setting ]	
Wireless	Enable
SSID	default
Channel	Auto
Authentication	Auto (Open/Shared)
Encryption	None

☐ Do you want to proceed the network testing?

< Back [ Start > Password > Time > LAN/WAN > Wireless > **Summary** > Finish! ] Apply Settings Finish!

### Step 7

Configuration is completed. Press “Finish” button to close Setup Wizard and go back to main menu.



Setup Wizard - Apply settings [EXIT]

**Configuration is Completed.**

Please click 'Finish' to back to Status page.

LAN IP Address is changed, please reconnect manually.

< Back [ Start > Password > Time > LAN/WAN > Wireless > Summary > **Finish!** ] Finish

Select “**Darfon**” for Show All of Micro Inverter status in the monitor system.



Press “**Micro Inverter**” to start the Micro Inverter status view.

