

# MDNET-5W

## Wi-Fi/Ethernet/RS485 Converter

### Operation Manual



Version 01.00

2016/03/24

## I. Features & Specification

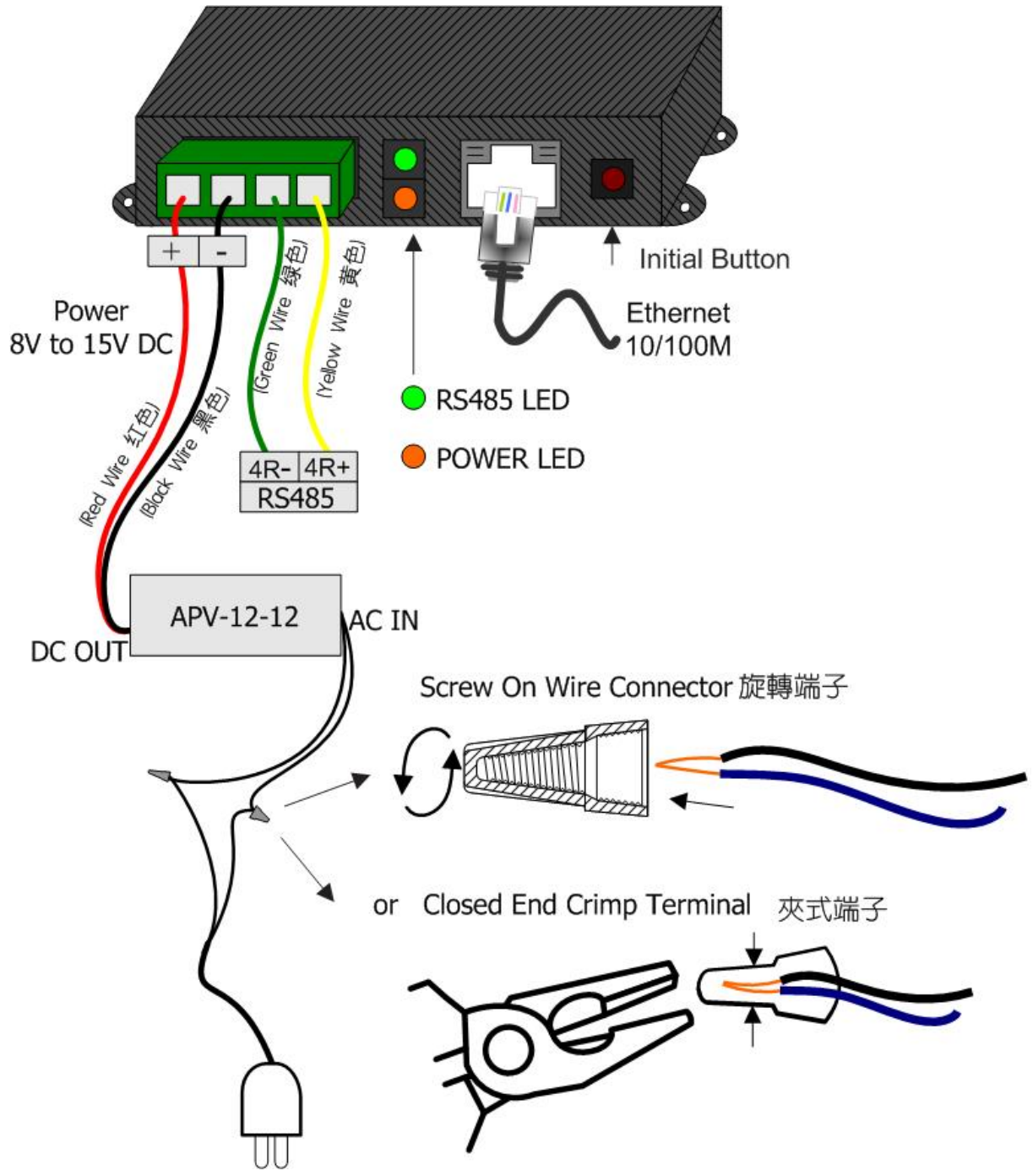
### Features:

- I Connect RS485 devices to Ethernet or Wi-Fi network
- I Connect Ethernet device to Wi-Fi network
- I Multi-Controller connection
- I Remote firmware upgradable


### Specification:

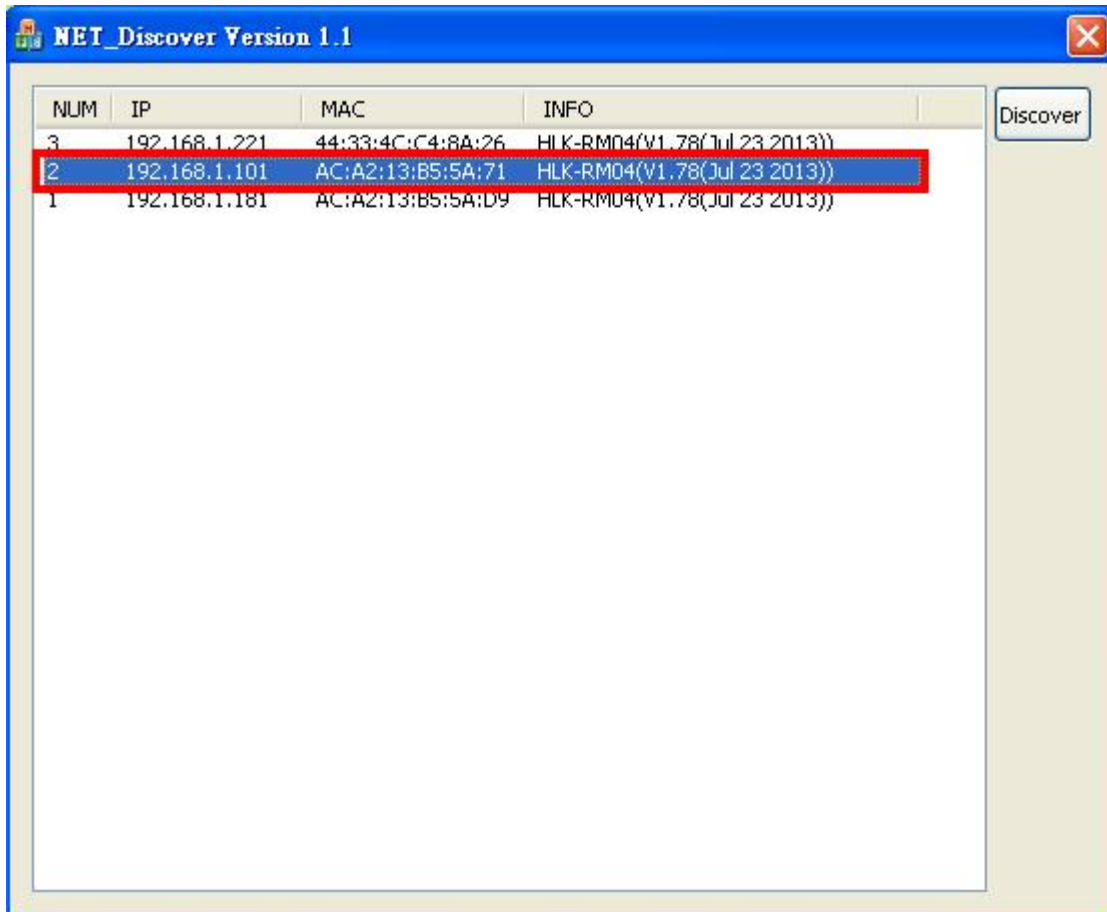
<b>Convert mode</b>	Ethernet ↔ RS485 Wi-Fi ↔ RS485 Ethernet ↔ Wi-Fi
<b>Interface</b>	Wi-Fi / Ethernet / RS485
<b>Wi-Fi</b>	802.11 b/g/n
<b>Ethernet</b>	10/100BaseT, RJ45 connector
<b>Operating Mode</b>	TCP Server, TCP Client, UDP
<b>Connector port</b>	4 PIN (RS485 + DC power)
<b>RS485 Baud Rate</b>	300 ~ 115,200 bps
<b>Parity</b>	None/ Even/ Odd
<b>Data bits</b>	8 / 7
<b>Stop bits</b>	1 / 2
<b>Configuration tool</b>	Web Browser, Windows utility.
<b>Reset function</b>	Initial button
<b>Status Indicator</b>	4 LED
<b>Operating Temperature</b>	-20°C ~ 70°C
<b>Power</b>	8V ~ 28V DC / 1W ~ 2W
<b>Size(mm)</b>	77W x 59H x 22.5D

## II. Wiring Diagram



### III. Network Parameters Setting

1. Execute "NET\_Discover\_V0110.exe" and press  to search MDNET-5W product.
2. Factory default IP is "192.168.1.101". User can check the MAC address from product sticker with IP to confirm the device.



3. Double click IP (192.168.1.101) to open the web configure page(<http://192.168.1.101>)  
**Default login ID / Password : admin / admin**



- Default Net Mode is the same as the following. User can modify Net Mode and other parameters. If device cannot communicate properly after setting, user can reset MDNET-5W with initial button.

### HLK-RM04 Serial2Net Settings

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NetMode:

IP Type:

IP Address:

Subnet Mask:

Default Gateway:

Primary DNS Server:

Secondary DNS Server:

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	Current	Updated
Serial Configure:	230400,8,n,1	<input style="width: 150px;" type="text" value="230400,8,n,1"/> *
Serial Framing Lenth:	1050	<input style="width: 150px;" type="text" value="1050"/>
Serial Framing Timeout:	10 milliseconds	<input style="width: 50px;" type="text" value="10"/> milliseconds (< 256, 0 for no timeout)
Network Mode:	server	<input style="width: 80px;" type="text" value="Server"/>
Remote Server Domain/IP:	192.168.11.245	<input style="width: 150px;" type="text" value="192.168.11.245"/>
Locale/Remote Port Number:	5001	<input style="width: 80px;" type="text" value="5001"/>
Network Protocol:	tcp	<input style="width: 80px;" type="text" value="TCP"/>
Network Timeout:	0 seconds	<input style="width: 50px;" type="text" value="0"/> seconds (< 256, 0 for no timeout)

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Communication Parameters	Factory Default
Serial Configure	230400,8,n,1
Serial Framing Length	1050
Locale/Remote Port Number	5001

## IV. Ethernet / RS485 converter (Default)

### 1. Network module setting:

Default	Ethernet (DHCP) +Wi-Fi AP mode
<b>ETH-SERIAL</b>	<b>Ethernet only (Factory Default)</b>
WIFI(CLIENT)-SERIAL	Wi-Fi client mode
WIFI(AP)-SERIAL	Wi-Fi AP mode

### HLK-RM04 Serial2Net Settings

NetMode: Default

SSID:

Password:

ETH-SERIAL : Factory default is ETH-SERIAL.

When user modify the IP and click on Apply button, device will reboot and apply the setting after 30 seconds.

### HLK-RM04 Serial2Net Settings

NetMode: ETH-SERIAL

IP Type: STATIC

IP Address:

Subnet Mask:

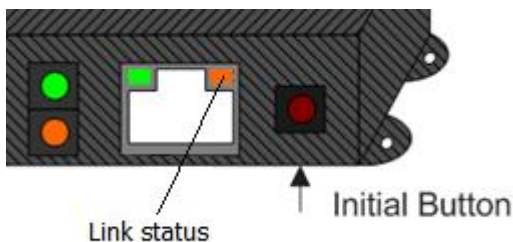
Default Gateway:

Primary DNS Server:

Secondary DNS Server:

### 2. Initial button:

Press initial button 15 seconds until Link status (Ethernet) LED blinking.



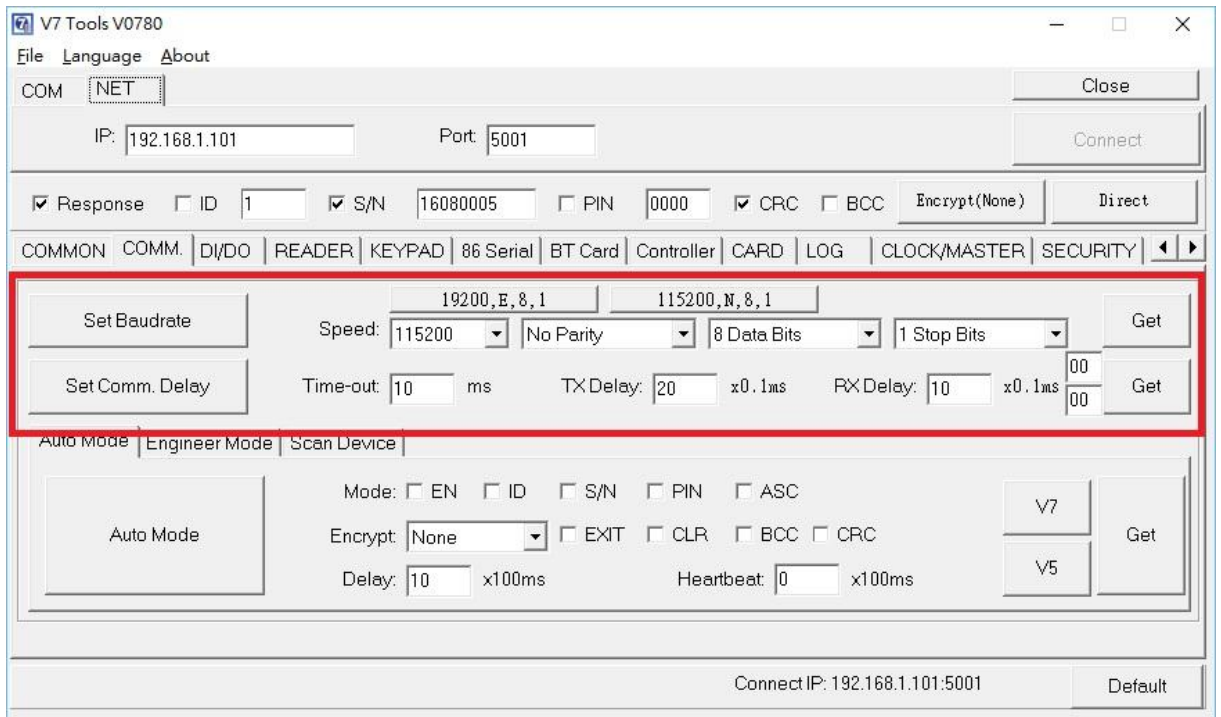
Wait 2 minutes, MDNET-5W will reset to factory default.

3. RS485 baud rate setting

Execute V7 tools to connect MDNET-5W with correct IP and port.




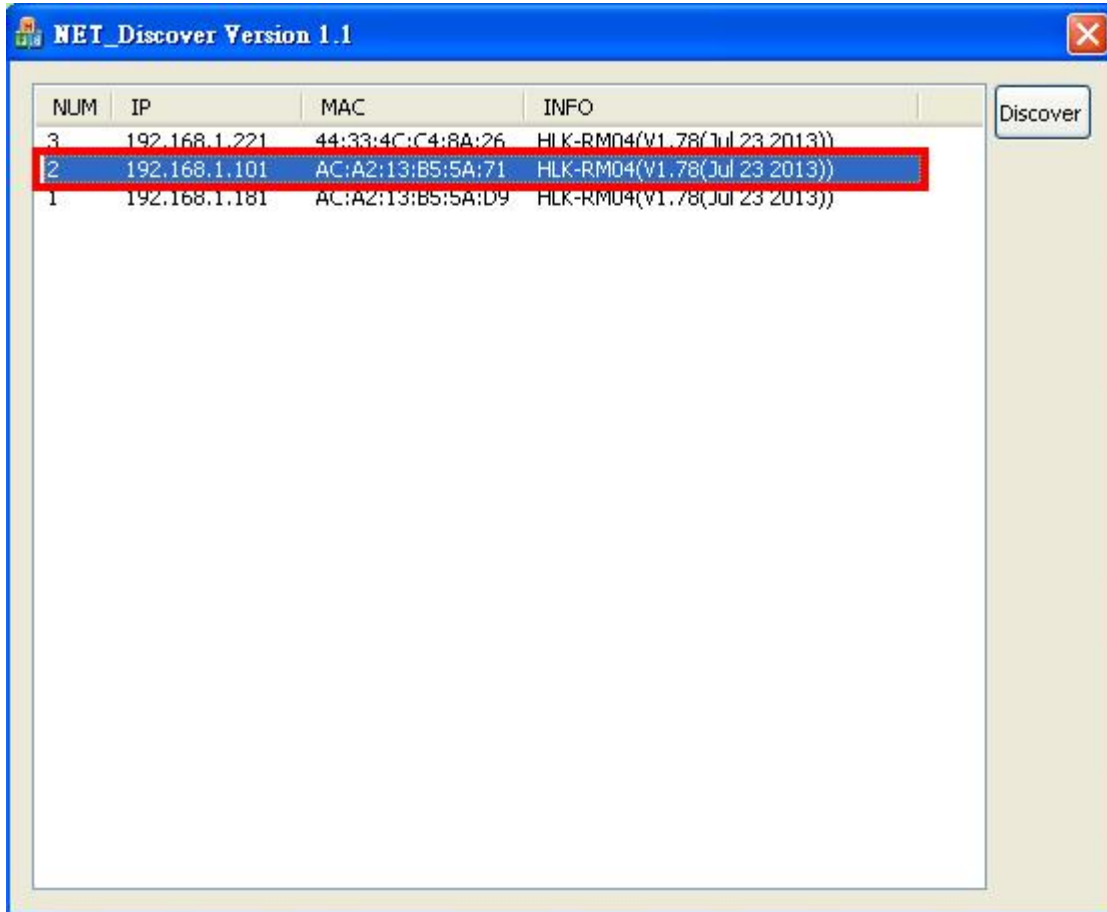
Click Get S/N, and select "COMM." Tab to configure RS485 parameters.





## V. Wi-Fi / RS485 converter

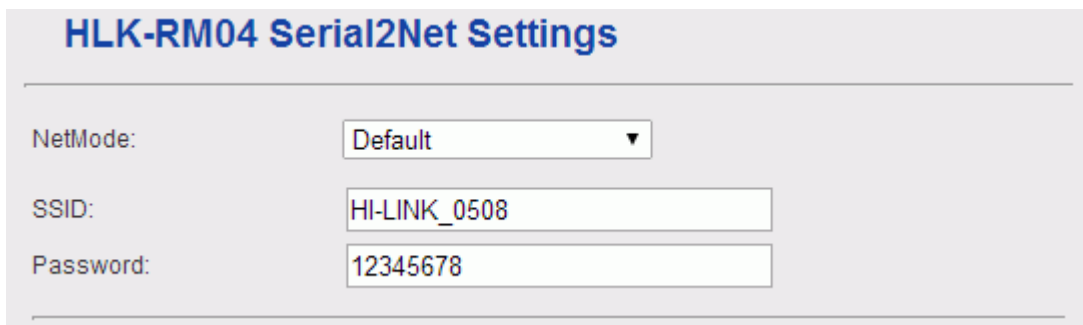
1. Execute "NET\_Discover\_V0110.exe" and press  to search MDNET-5W product.
2. Factory default IP is "192.168.1.101". User can check the MAC address from product sticker with IP to confirm the device.



3. Double click IP (192.168.1.101) to open the web configure page(<http://192.168.1.101>)  
**Default login ID / Password : admin / admin**



4. Change net mode to "Default" to enable Wi-Fi scan function.



5. Execute "NET\_Discover\_V0110.exe" to search MDNET-5W again.

- Change net mode to Wi-Fi client mode.

### HLK-RM04 Serial2Net Settings

NetMode:

SSID:  \*

Encrypt Type:

Password:

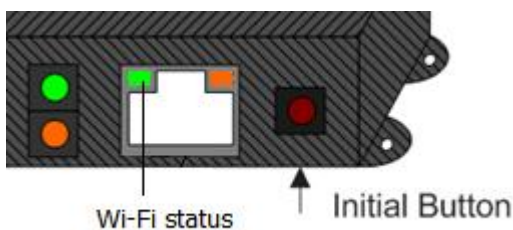
IP Type:

- Click "Scan" button to scan AP in range of MDNET-5W and select one to connect.

Ch	SSID	BSSID	Security	Signal(%)	W-Moe	ExtCh	NT
1	SY-INT-1	04:8d:38:a4:02:39	WPA1PSK/WPA2PSK/TKIP/AES	100	11b/g/n	ABOVE	In
1	HI-LINK_5A95	ac:a2:13:b5:5a:94	WPA1PSK/WPA2PSK/AES	65	11b/g/n	NONE	In
1	HI-LINK_5AAF	ac:a2:13:b5:5a:a6	WPA1PSK/WPA2PSK/AES	50	11b/g/n	NONE	In
1	P880	cc:5d:4e:e5:2d:2d	WPA2PSK/AES	29	11b/g/n	NONE	In
6	RC-INT-1	c8:3a:35:5b:93:90	WPAPSK/AES	10	11b/g/n	NONE	In
6	Chance-HTC-E9+	82:01:84:11:a2:fc	WPA2PSK/AES	29	11b/g/n	ABOVE	In
9	SY-INT-2	04:8d:38:a4:02:42	WPA1PSK/WPA2PSK/TKIP/AES	96	11b/g/n	ABOVE	In
9	HI-LINK_5A87	e8:da:27:40:4d:3e	WPA1PSK/WPA2PSK/TKIP/AES	100	11b/g/n	BELOW	In
11	SY-GUEST-2	04:8d:38:a4:02:81	WPA1PSK/WPA2PSK/TKIP/AES	70	11b/g/n	BELOW	In
11	SY-GUEST-1	04:8d:38:a4:02:30	WPA1PSK/WPA2PSK/TKIP/AES	91	11b/g/n	BELOW	In

- Click apply and wait 30 seconds to reboot MDNET-5W

- Check Wi-Fi status LED is blinking.



- Try to communicate RS-485 device with Wi-Fi network.

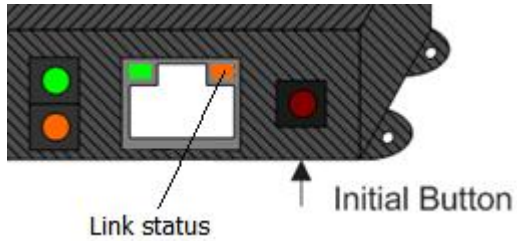
**PS: Wi-Fi MAC address is Ethernet MAC subtract 1.**

**Ex. Ethernet MAC : AC:A2:13:B5:5A:B5 · Wi-Fi MAC : AC:A2:13:B5:5A:B4**

## VI. Wi-Fi / Ethernet converter

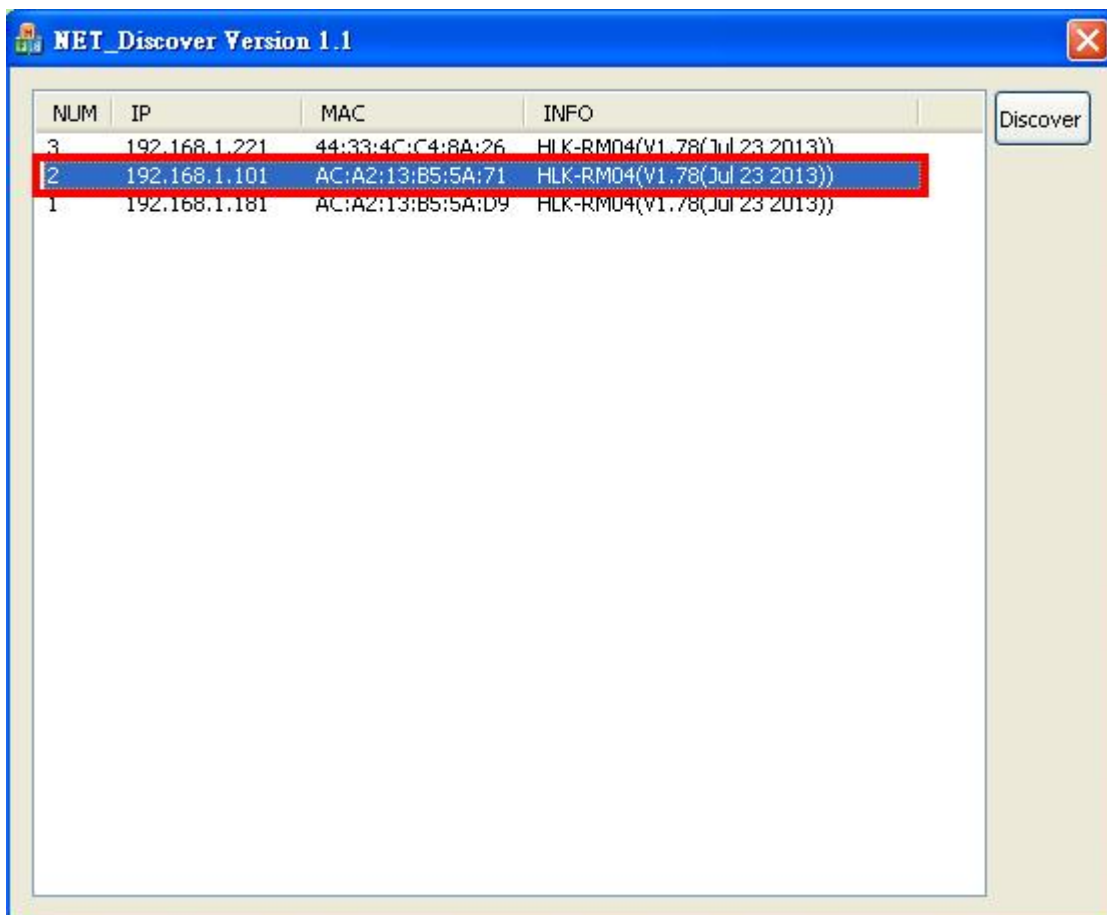
1. Set MDNET-5W to factory default first.

Press initial button 15 seconds until Link status (Ethernet) LED blinking.



Wait 2 minutes, MDNET-5W will reset to factory default.

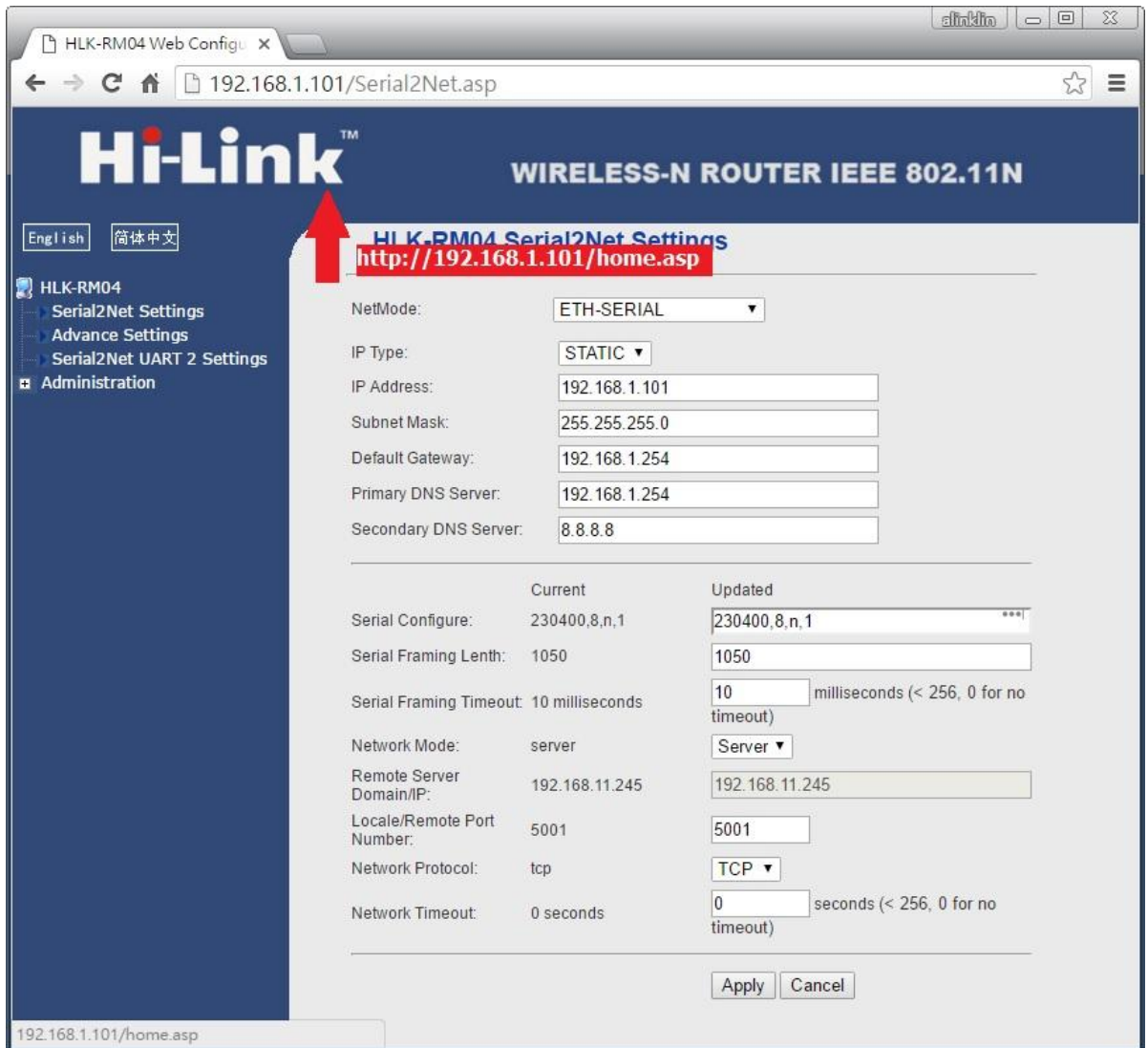
2. Execute "NET\_Discover\_V0110.exe" and press  to search MDNET-5W product.
3. Factory default IP is "192.168.1.101". User can check the MAC address from product sticker with IP to confirm the device.



4. Double click IP (192.168.1.101) to open the web configure page(<http://192.168.1.101>)  
**Default login ID / Password : admin / admin**

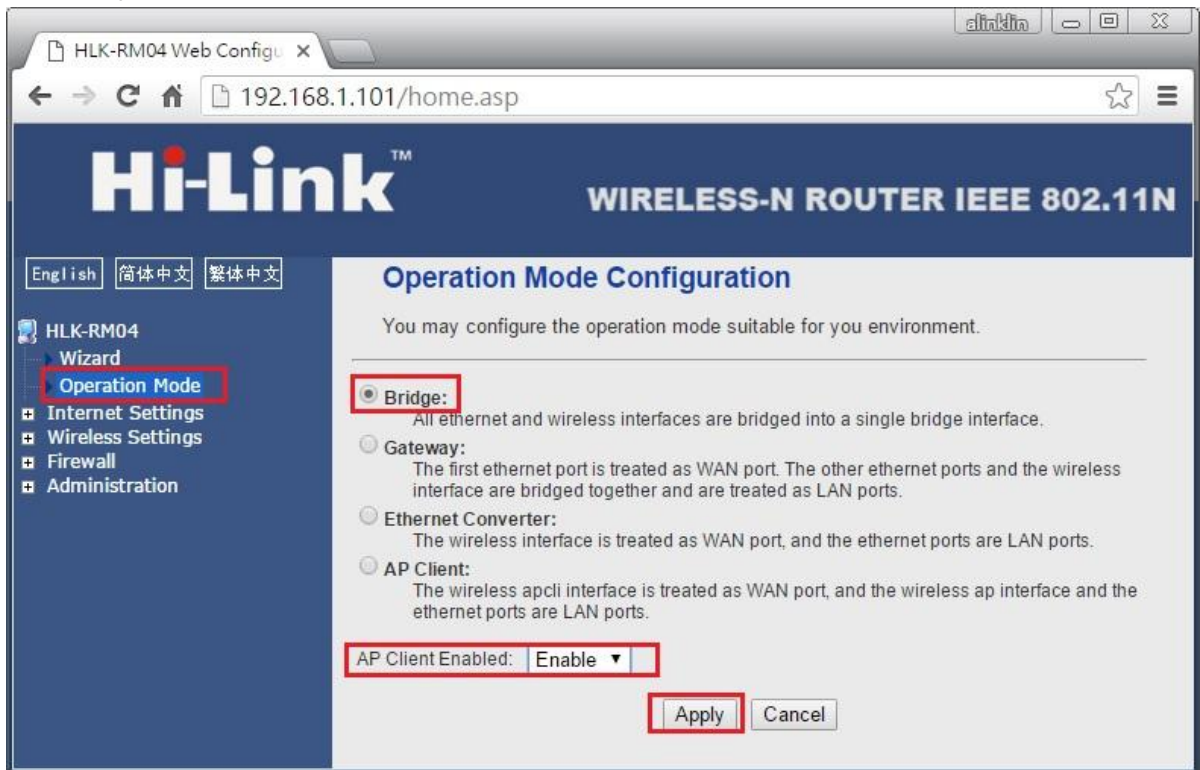


5. Click "Hi-Link" logo to open "<http://192.168.1.101/home.asp>"



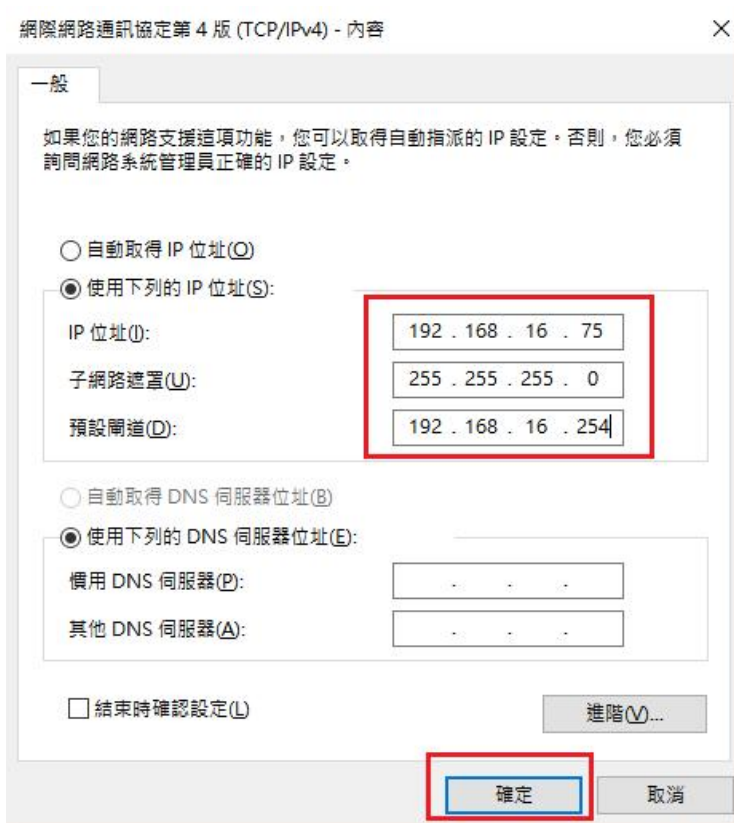
6. Setup operation mode to "Bridge" mode and "enable AP Client"

Click apply and wait 30 seconds to reboot MDNET-5W

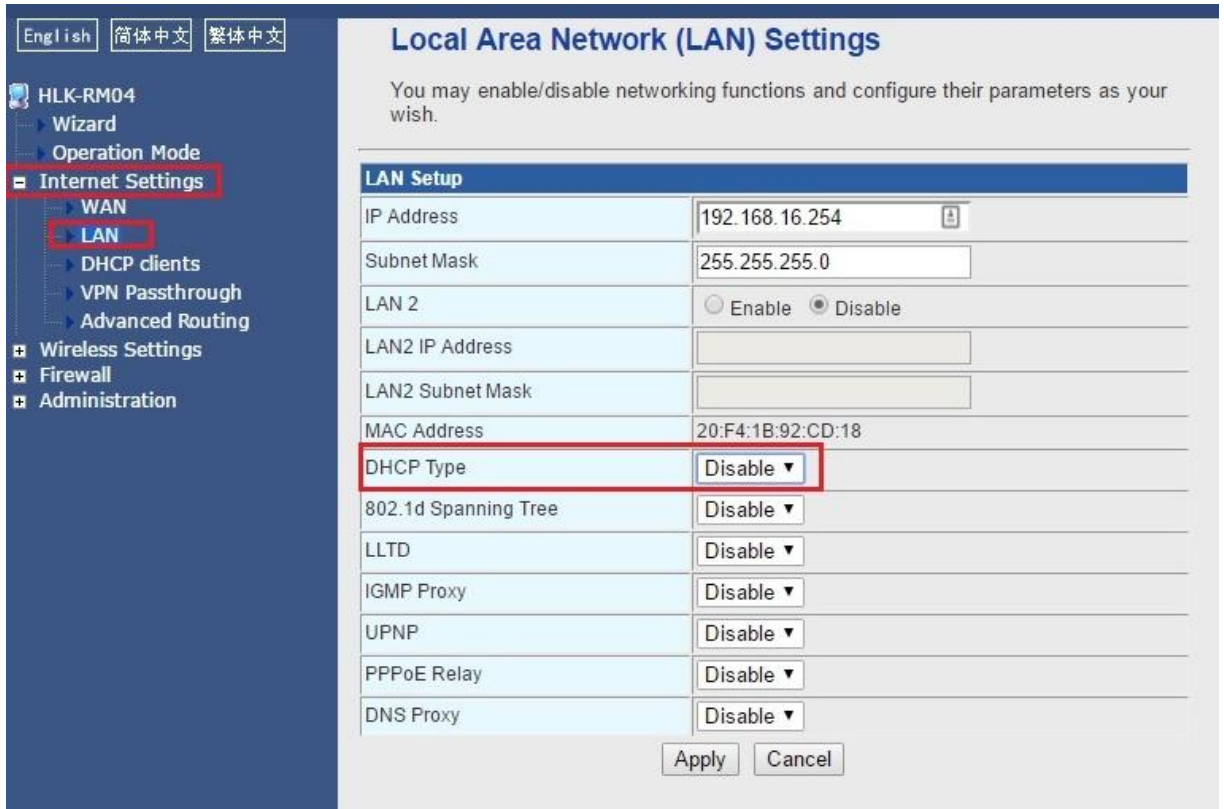


7. MDNET-5W's Ethernet IP address will change to "192.168.16.254"

Please configure computer's IP address to "192.168.16.75"

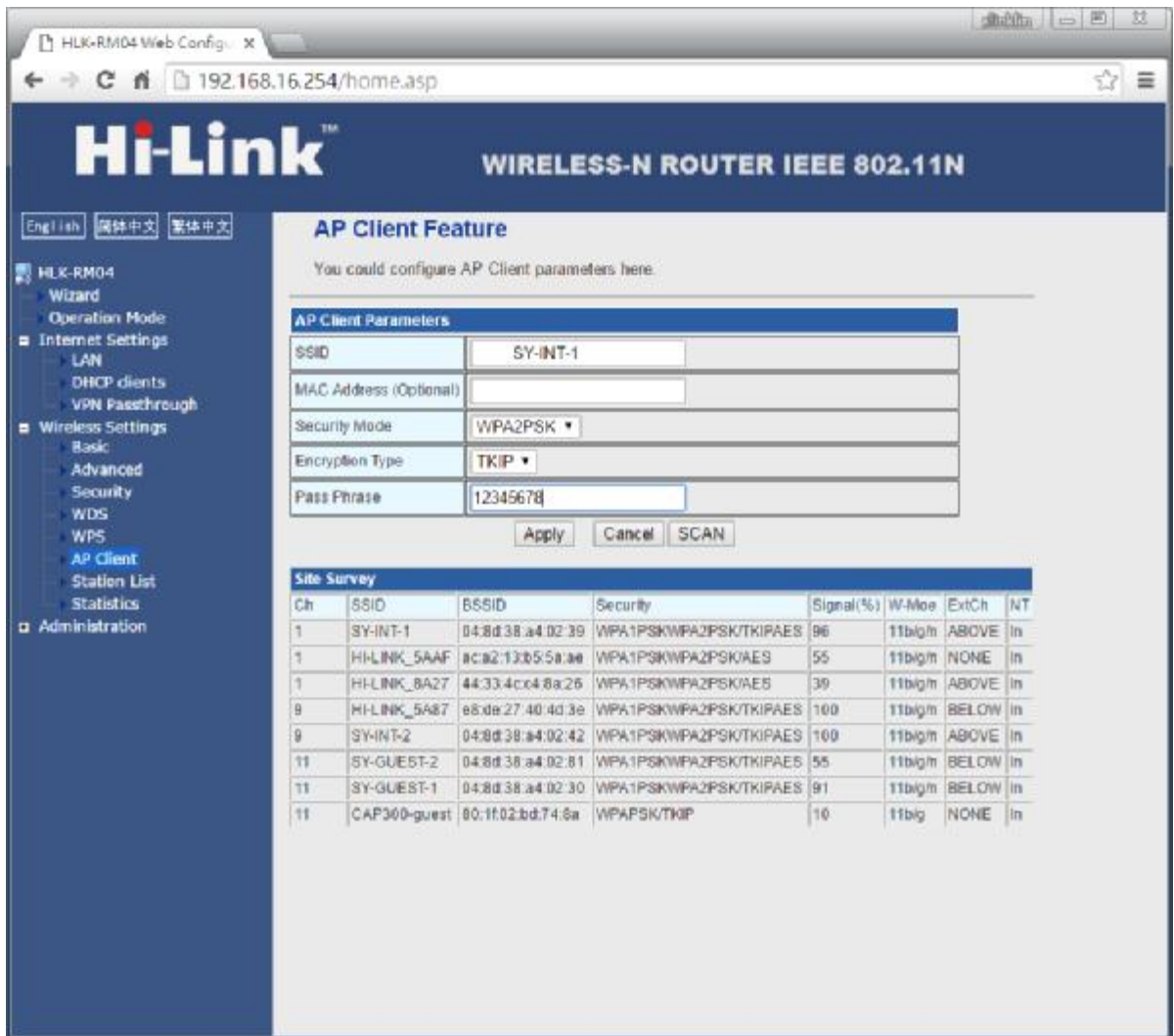


8. Execute "NET\_Discover\_V0110.exe" and press Discover to search MDNET-5W(192.168.16.254)  
Double click IP to open the web configure page.
9. Click "Hi-Link" log to open "<http://192.168.16.254/home.asp>"
10. Go to "Internet Settings" \ "LAN" to Disable DHCP.  
Click Apply to finish setting.





11. Go to "Wireless settings" \ "AP Client" to setup AP's SSID, password.



The screenshot shows the Hi-Link Web Configuration interface for a WIRELESS-N ROUTER IEEE 802.11N. The browser address bar shows 192.168.16.254/home.asp. The page title is "Hi-Link WIRELESS-N ROUTER IEEE 802.11N". The language is set to English. The left sidebar shows the navigation menu with "AP Client" selected under "Wireless Settings".

**AP Client Feature**  
You could configure AP Client parameters here.

**AP Client Parameters**

SSID	SY-INT-1
MAC Address (Optional)	
Security Mode	WPA2PSK
Encryption Type	TKIP
Pass Phrase	12345678

Buttons: Apply, Cancel, SCAN

**Site Survey**

Ch	SSID	BSSID	Security	Signal(%)	W-Moe	ExtCh	NT
1	SY-INT-1	04:8d:38:a4:02:39	WPA1PSKWPA2PSK/TKIPAES	96	11b/g/n	ABOVE	In
1	HI-LINK_5AAF	8c:a2:13:b5:5a:ae	WPA1PSKWPA2PSK/AES	55	11b/g/n	NONE	In
1	HI-LINK_8A27	44:33:4c:c4:8a:25	WPA1PSKWPA2PSK/AES	39	11b/g/n	ABOVE	In
9	HI-LINK_5A87	e8:da:27:40:4d:3e	WPA1PSKWPA2PSK/TKIPAES	100	11b/g/n	BELOW	In
9	SY-INT-2	04:8d:38:a4:02:42	WPA1PSKWPA2PSK/TKIPAES	100	11b/g/n	ABOVE	In
11	SY-GUEST-2	04:8d:38:a4:02:81	WPA1PSKWPA2PSK/TKIPAES	55	11b/g/n	BELOW	In
11	SY-GUEST-1	04:8d:38:a4:02:30	WPA1PSKWPA2PSK/TKIPAES	91	11b/g/n	BELOW	In
11	CAP360-guest	80:1f:02:bd:74:8a	WPA2PSK/TKIP	10	11b/g	NONE	In

Click Apply to finish setting.

12. Try to communicate Ethernet device with Wi-Fi network.