



A-9N Quick Start Guide Fanless Edge Computing Controller

A-9N setup steps: update wire or wireless correctly in order to login in Node-RED develop interface

CONTENTS OF LISTpage 1/9

(I) Hardware establish/connection(ref. graph1)

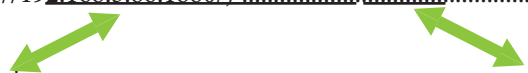
- 1.1 Prepare Hardware and Cables: A/B/C/D/Epage 2/9
- 1.2 A: Wiring USB Cablepage 2/9
- 1.3 B: Wiring RJ45 Cablepage 2/9
- 1.4 C: Wiring 24VDC Extend Powerpage 2/9
- 1.5 D: Wiring Micro HDMI Portpage 2/9
- 1.6 E: Wiring EXTEND 1~3 Piece Of RS485 Slavepage 2/9

(II) Parameters update

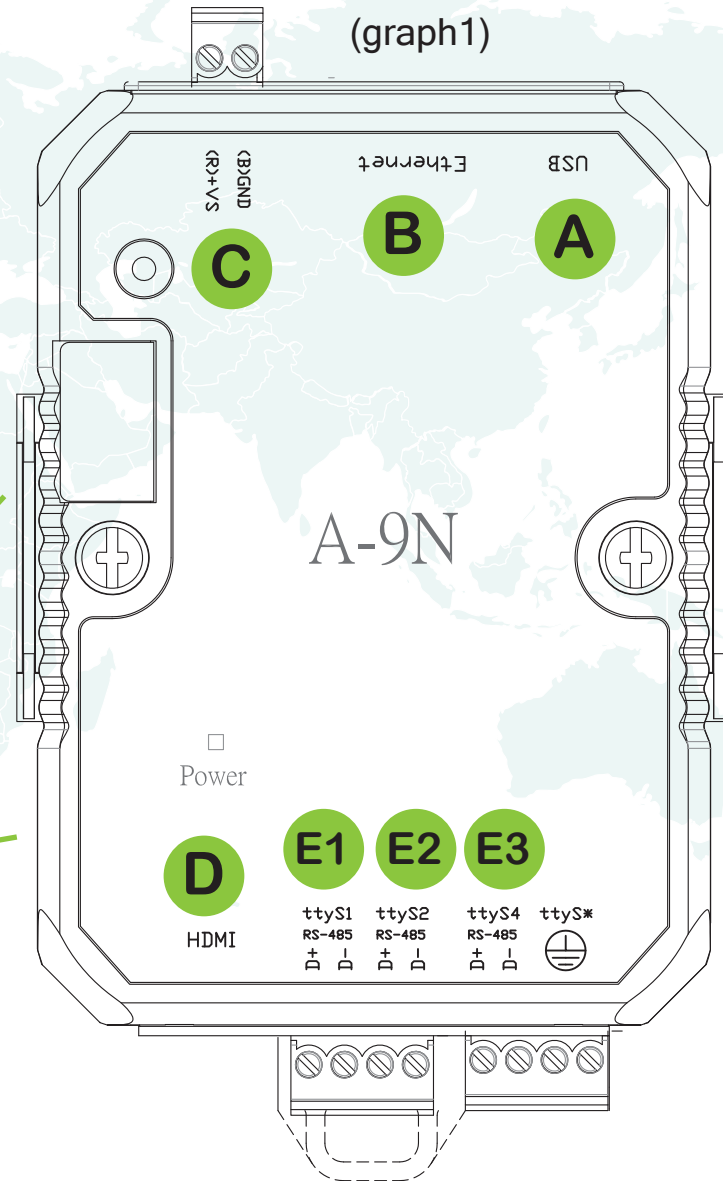
- 1. Power on and check initial parameters
 - 1-1. Power onpage 3/9
 - 1-2. Check initial parameters(key in Linux command)page 3/9
- 2. Update Ethernet parameters(jump to step 3 directly if you only have WIFI network)
 - 2-1. Key in Linux commandpage 4/9
 - 2-2. Enter nano editor screenpage 5/9
- 3. Update WIFI parameters(jump to step 4 directly if you only have RJ45 Ethernet network)
 - 3-1. Key in Linxu commandpage 6/9
 - 3-2. Enter nano editor screenpage 7/9
- 4. Enter the development interface(select any one of the wire or wireless connection to enter)
 - 4-1. Setup the same domain networkpage 8/9
 - 4-2. Login any available browser from port 1880 with PC or smartphone
(for example: keyin <http://192.168.5.86:1880/>)page 9/9

your PC is in the same domain
network:192.168.5.xx

from port 1880



- A** USB/USB hub(external power supply) for mouse and keyboard
USB dongle for WIFI(2.4G) wireless network connection
- B** Ethernet(RJ45) for local wire network connection
- C** External power supply
- D** “Micro” HDMI port for monitor display
- E1** Extended RS485 slave (such as ATC A-10x/12x/51x/52x/53x)
- E2** Extended RS485 slave (such as ATC A-10x/12x/51x/52x/53x)
- E3** Extended RS485 slave (such as ATC A-10x/12x/51x/52x/53x)



```
debian@A9N:~$
```

*--- Wait 2 minutes for the boot until appear the device name: A9N
--- key in Linux command "sudo reboot" then press enter to reboot the device*

```
debian@A9N:~$ ip a
```

--- key in command "ip a" then press enter to get initial internet parameters

```
1: lo: <LOOPBACK, UP, LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
    link/ether de:ad:be:ef:ca:fa brd ff:ff:ff:ff:ff:ff permaddr e0:ff:f1:9e:a7:c2
    inet 192.168.5.201/24 brd 192.168.5.255 scope global dynamic eth0
        valid_lft 30658sec preferred_lft 30658sec
3: usb0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc pfifo_fast state DOWN group default qlen 1000
    link/ether e0:ff:f1:9e:9a:45 brd ff:ff:ff:ff:ff:ff
4: usb1: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc pfifo_fast state DOWN group default qlen 1000
    link/ether e0:ff:f1:9e:9a:47 brd ff:ff:ff:ff:ff:ff
5: can0:<NOARP, ECHO> mtu 16 qdisc noop state DOWN group default qlen 10
    link/can
6: can1:<NOARP, ECHO> mtu 16 qdisc noop state DOWN group default qlen 10
    link/can
7: wlan0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether c4:6e:1f:10:fd:91 brd ff:ff:ff:ff:ff:ff
    inet 192.168.5.86/24 brd 192.168.5.255 scope global dynamic wlan0
        valid_lft 73795sec preferred_lft 73795sec
    inet6 fe80::c66e:1fff:fe10:fd91/64 scope link
        valid_lft forever preferred_lft forever
debian@A9N:~$
```

--- you could find the Ethernet ip is 192.168.5.201

--- you could find the WIFI ip is 192.168.5.86

```
debian@A9N:~$ sudo nano /etc/systemd/network/eth0.network
```

--- key in Linux command “sudo nano /etc/systemd/network/eth0.network” then press enter to get initial Ethernet parameters(go inside to page 5/9), need to reboot system to active the update. initial password for default account(debian) is: temppwd

```
[Match]
Name=eth0
Type=ether
```

```
[Link]
RequiredForOnline=yes
```

```
[Network]
##DHCP
DHCP=ipv4
##STATIC IP
# Address=192.168.5.251/24
# Gateway=192.168.5.1
# DNS=192.168.5.1
```

--initial is DHCP(white letters), please add “#” in front these four white lines and remove”#” in front these six blue lines, then save to change to static address(below is the example)

```
[Match]
Name=eth0
Type=ether

[Link]
RequiredForOnline=yes

[Network]
##DHCP
#DHCP=ipv4
##STATIC IP
Address=192.168.5.251/24
Gateway=192.168.5.1
DNS=192.168.5.1
```

--How to save?

use Ctrl+X to exit, and will ask you if save or not, press Y to save and N to not save

[Read 14 lines]

^G Help
^X Exit

^O Write Out
^R Read File

^W Where Is
^\ **Replace**

^K Cut
^U Paste

^T Excute
^J Justify

^C Location
^_ Go to Line

M-U Undo
M-E Redo

M-A Set Mark
M-6 Copy

M-J To Bracket
^Q Where Was

M-Q Previous
M-W Next

```
debian@A9N:~$ sudo nano /etc/wpa_supplicant/wpa_supplicant-wlan0.conf
```

--- key in command “ sudo nano /etc/wpa_supplicant/wpa_supplicant-wlan0.conf” then press enter to get inital WIFI parameters(go inside to page 7/9), need to reboot system to active the update. initial password for default account(debian) is: temppwd

```
ctrl_interface=DIR=/run/wpa_supplicant GROUP=netdev
update_config=1
p2p_disabled=1
```

```
#country=US
```

```
network={
  ssid="A9N"
  psk="szatc803"
}
```

--initial SSID is A9N(white letters)
--initial password is szatc803(white letters),
--replace your real SSID and Password then save to update
(below is the example)

```
ctrl_interface=DIR=/run/wpa_supplicant GROUP=netdev
update_config=1
p2p_disabled=1

#country=US

network={
  ssid="your real SSID"
  psk="your real password"
}
```

--How to save?

use Ctrl+X to exit, and will ask you if save or not, press Y to save and N to not save

[Read 9 lines]

^G Help
^X Exit

^O Write Out
^R Read File

^W Where Is
^_ Replace

^K Cut
^U Paste

^T Excute
^J Justify

^C Location
^_ Go to Line

M-U Undo
M-E Redo

M-A Set Mark
M-6 Copy

M-J To Bracket
^Q Where Was

M-Q Previous
M-W Next

網路連線

控制台 > 網路和網際網路

組合管理 停用這個網路裝置 診斷這個連線

Wi-Fi A9N Qualcomm Atheros QCA9377 W...

設定

VPN

新增 VPN 連線

尋找設定

網路和網際網路

- 狀態
- Wi-Fi
- 乙太網路
- 撥號
- VPN**
- 飛行模式
- 行動熱點
- Proxy

網路功能 共用

網際網路通訊協定第 4 版 (TCP/IPv4) - 內容

一般

如果您的網路支援這項功能，您可以取得自動指派的 IP 設定。否則，您必須詢問網路系統管理員正確的 IP 設定。

自動取得 IP 位址(O) *Setup the same domain network*

使用下列的 IP 位址(S):

IP 位址(I): 192 . 168 . 5 . 20

子網路遮罩(U): 255 . 255 . 255 . 0

預設閘道(D): 192 . 168 . 5 . 1

自動取得 DNS 伺服器位址(B)

使用下列的 DNS 伺服器位址(E):

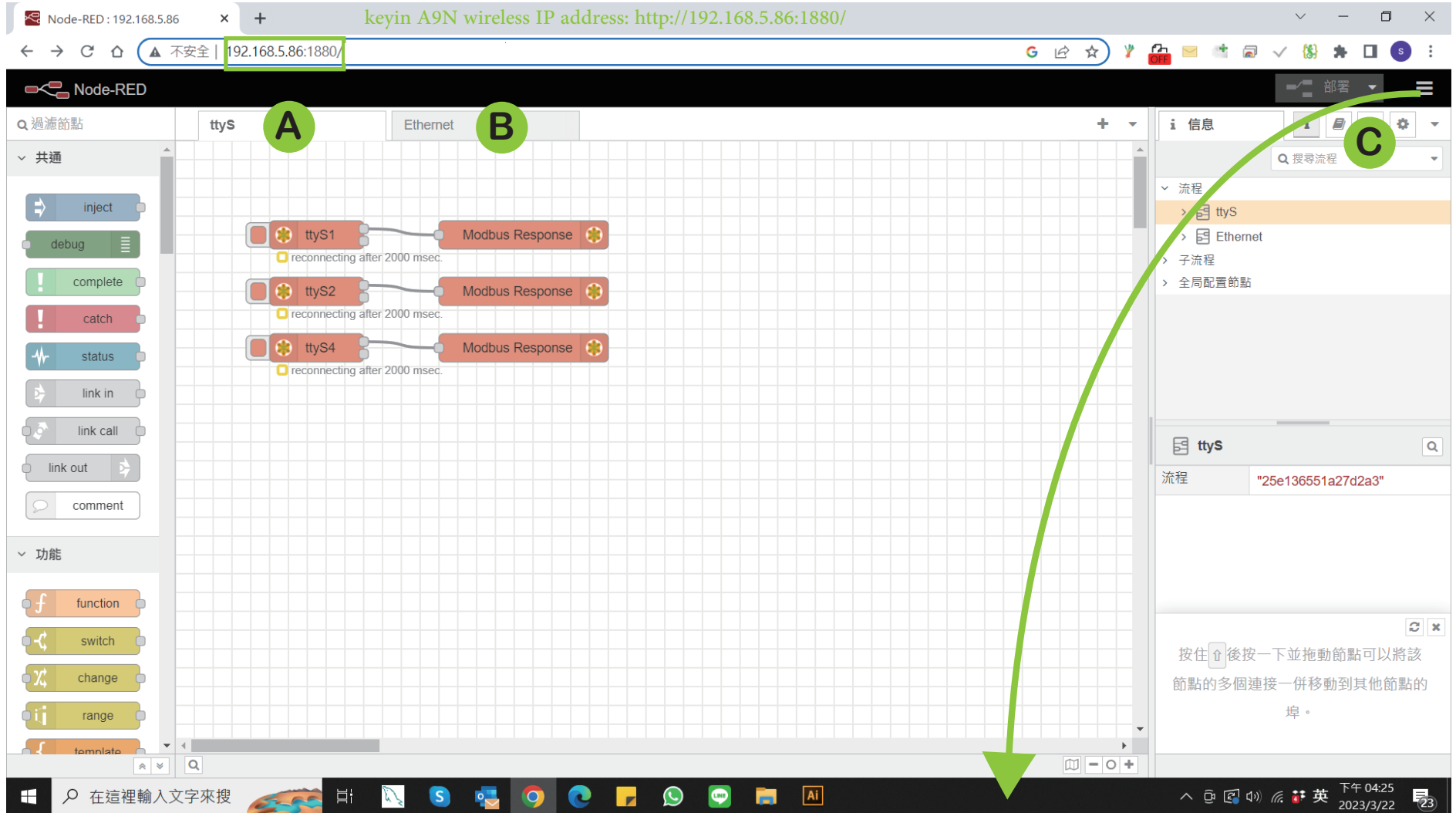
慣用 DNS 伺服器(P): 192 . 168 . 5 . 1

其他 DNS 伺服器(A): 192 . 168 . 5 . 1

結束時確認設定(L) 進階(V...)

確定 取消

3 個項目 | 已選取 1 個項目



Node-RED: 192.168.5.86 x + keyin A9N wireless IP address: http://192.168.5.86:1880/

不安全 | 192.168.5.86:1880/

Node-RED

過濾節點

共通

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

功能

- function
- switch
- change
- range
- template

ttyS **A** Ethernet **B**

ttyS1 Modbus Response
reconnecting after 2000 msec.

ttyS2 Modbus Response
reconnecting after 2000 msec.

ttyS4 Modbus Response
reconnecting after 2000 msec.

信息

搜尋流程 **C**

流程

- ttyS
- Ethernet
- 子流程
- 全局配置節點

ttyS

流程 "25e136551a27d2a3"

按住 ↑ 後按一下並拖動節點可以將該節點的多個連接一併移動到其他節點的埠。

在這裡輸入文字來搜

下午 04:25
2023/3/22

A Demo code for Modbus RTU

B Demo code for Modbus TCP/IP

C Node-Red website to get all documents