Firmware Update Document

Version 2.0.0 Dec. 2025

ECAN-240

(Modbus TCP to 2-port CAN Gateway)



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1. Firmware Update Procedure

The Firmware Update method requires the user to manually adjust the position of the CAN1_SW/CAN2_SW switch to F/F position and reboot the module in order to initialize the firmware update.

ECAN-240 supports firmware update via CAN bus or Ethernet. Users can refer to the blinking status of LEDs (ST1/2, TX1/2, RX1/2) when entering firmware update mode.

- If the ST1/2, TX1/2, RX1/2 LEDs continue to flash every 250 milliseconds, the user should refer to Section 1.1 to update the firmware via CAN bus.
- If the ST1/2, TX1/2, and RX1/2 LEDs continue to illuminate every 500 milliseconds (ST1/2 illuminates ➔ TX1/2 illuminates ➔ RX1/2 illuminates), the user should refer to Section 1.2 to update the firmware via Ethernet.

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1.1. Firmware Update via CAN Bus

The firmware on the ECAN-240 module can be updated via CAN devices produced by ICP DAS. The latest firmware file (“*.fw”) and the latest version of the Firmware Update utility, FW_Update_CAN, are available from the link below.

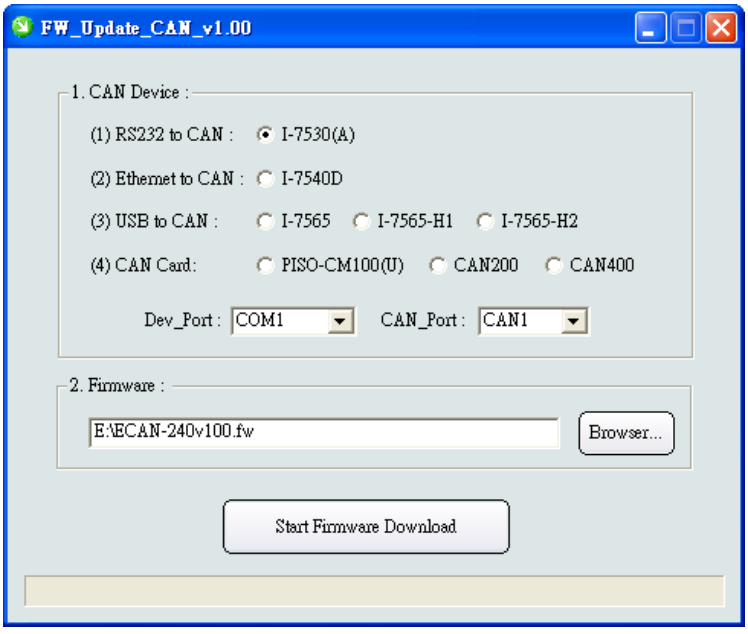
FW_Update_CAN_Tool:
https://www.icpdas.com/tw/download/show.php?num=3956&model=ECAN-240

ECAN-240 Firmware:
https://www.icpdas.com/tw/download/show.php?num=3953&model=ECAN-240

Follow the process described below to update the firmware for the ECAN-240 module using the ICP DAS Firmware Update utility.

Step 1:
Set the CAN_SW/CAN2_SW switches to the 0xF position (Bootloader mode) and reboot the module. Once the ECAN-240 module has been rebooted, all the LEDs on the module will be flashing.

Step 2:
Run the Firmware Update utility, FW_Update_CAN.



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[1] Select CAN devices:

The firmware on the ICP DAS CAN products indicated below can be updated using Firmware Update utility.

(1) RS232 to CAN : I-7530(A).

(2) Ethernet to CAN: I-7540D.

(3) USB to CAN: I-7565, I-7565-H1, and I-7565-H2.

(4) CAN Card: PISO-CM100(U), PISO-/PCM-/PEX-CAN200 and CAN400.

Before updating the firmware, the following parameters need to be set on the utility.

(1) Select CAN hardware device.

(2) Set Dev_Port or Board_ID (only for CAN card).

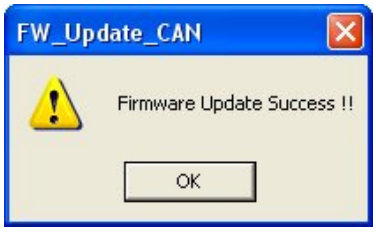
(3) Set CAN_Port number.

(4) Connect to CAN Port 1 of the ECAN-240 module.

[2] Download the Firmware:

(1) Click the “Browser…” button to select the location of the firmware file. The name of the firmware file will be ECAN-240_vXXX.fw (where X denotes the firmware version)

(2) Click the “Start Firmware Download” button to being the firmware update process. While the firmware is being updated, a progress bar will be displayed in the utility to indicate the status of the update process. Once the firmware has been successfully updated, a notification will be displayed.



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1.2. Firmware Update via Ethernet

The firmware update can fail when the computer has multiple network interfaces (e.g., LAN and Wi-Fi). Therefore, enable only one network interface for updating the firmware, and temporarily turn off other network interfaces, firewalls, and anti-virus software first.

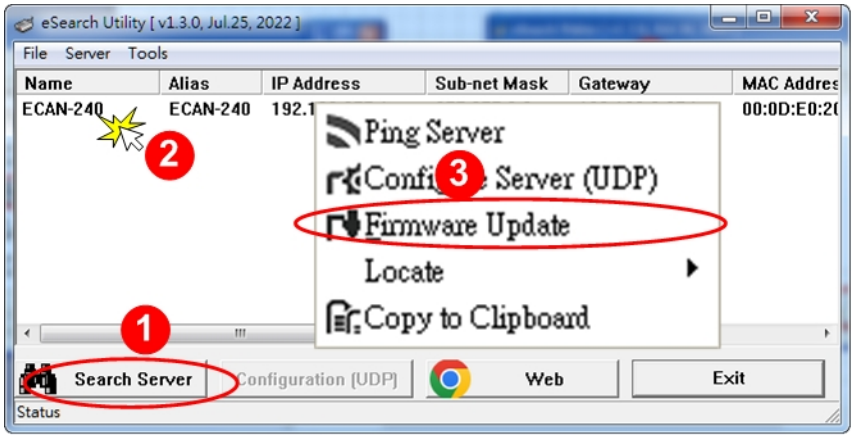
Step 1:

Download the eSearch Utility.

In the eSearch Utility, click the "Search Server" button to search for any ECAN-240 modules connected to the network.

Step 2:

Right click on the name of the ECAN-240 module to be updated.



Step 3:

Select the "Firmware Update" item from the popup menu and the "Open" dialog box will be displayed.

Step 4:

In the "Open" dialog box, select the firmware file (*.dat) that will be used to update the module and then click the "Open" button.

Download the Firmware File.

Step 5:

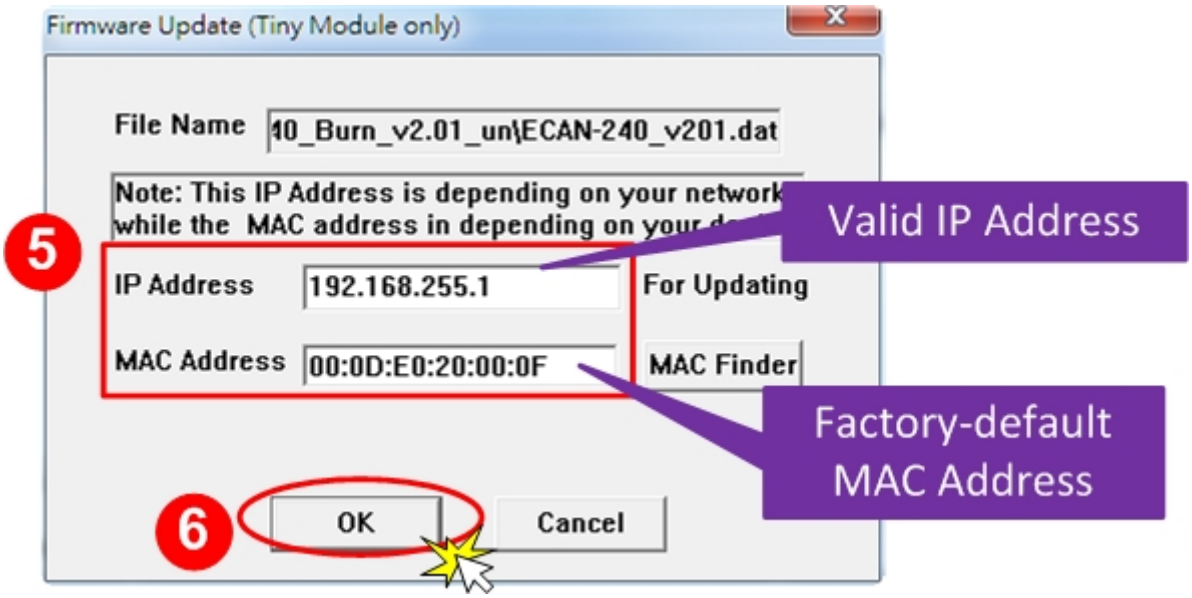
Assign a valid IP Address (can be different with the current IP) and the factory-default MAC Address for the ECAN-240 module. If this IP address is invalid (e.g. IP Address: 0.0.0.0) or a user-defined MAC address is assigned. Refer to note2(Page 13) and note 3(Page13) for more details.

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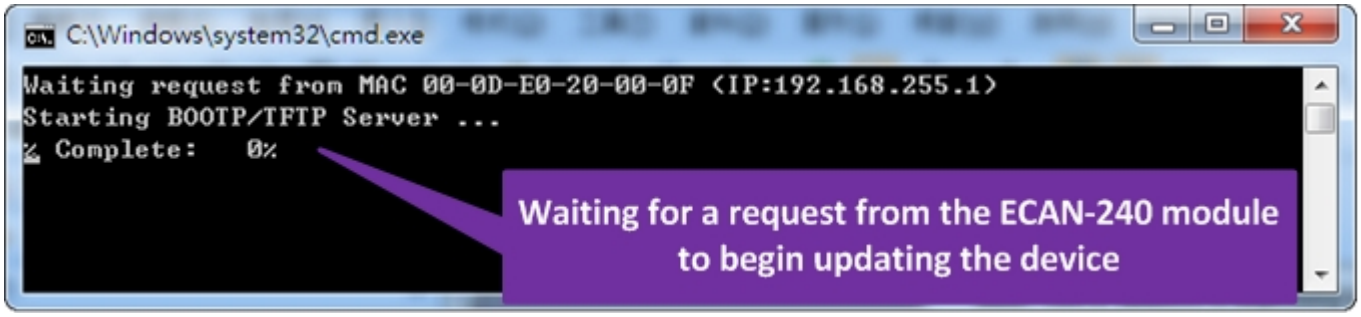
Step 6:

Click the "OK" button.



Step 7:

You are now ready to update the firmware. A Command Prompt windows will be displayed the progress of the update.



Step 8:

Set the "CAN1_SW/CAN2_SW Switch" on the ECAN-240 module to the "F/F" position.

Step 9:

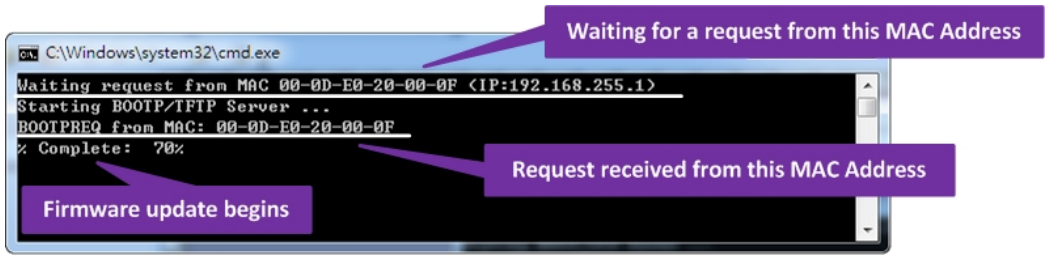
Power-on reset the ECAN-240 module in "Firmware Upgrade Mode" to initiate the update.

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Step 10:

Confirm that the two MAC addresses (factory-default) listed in the Command Prompt window, "Waiting request from MAC x.x.x.x" and "BOOTPREQ from MAC: x.x.x.x", are the same, as indicated in the image below. If these addresses do not match, the update will not work. Refer to note3 (Page 13) below for more details.



Step 11:

Once the update is complete (i.e., when the progress indicator reaches 100%), set the "CAN1_SW/CAN2_SW Switch" to other position (ex: 9/9) and power-on reset the ECAN-240 module.

Step 12:

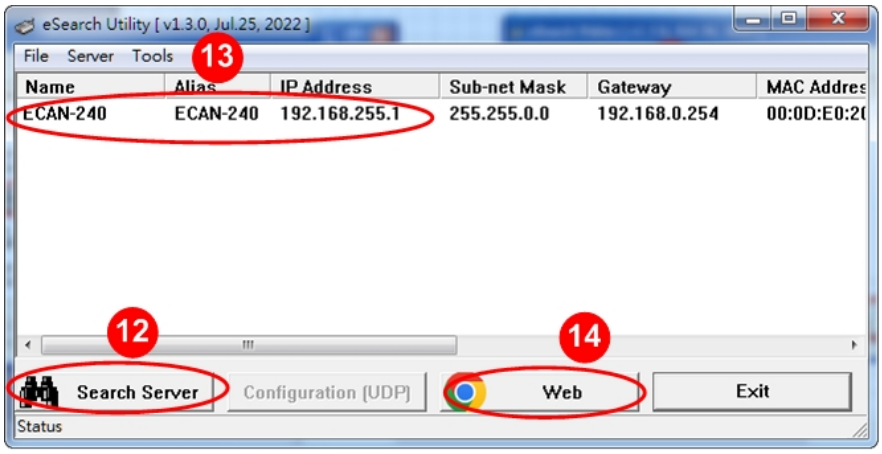
In the eSearch Utility, search for the ECAN-240 module again to verify that it is functioning correctly.

Step 13:

Click the name of the ECAN-240 module to highlight it.

Step 14:

Click the "Web" button and the default web browser will be opened.



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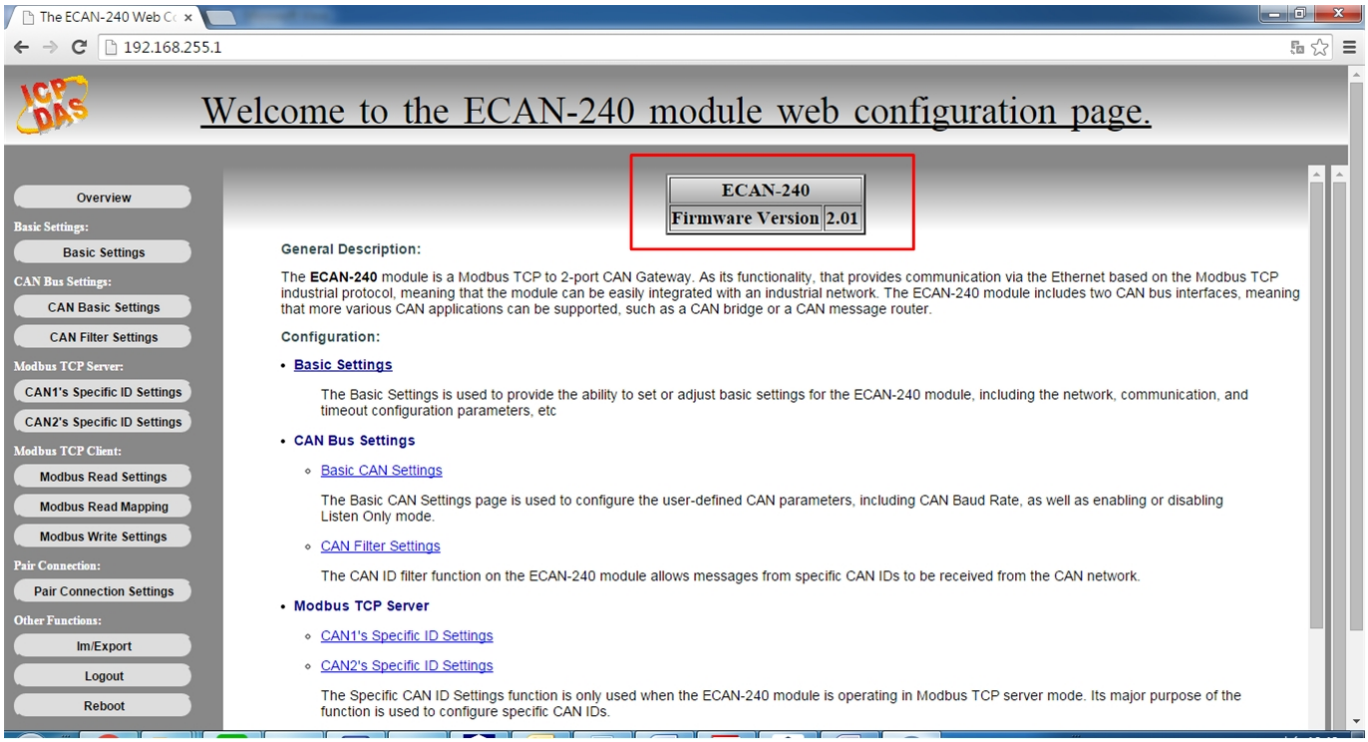
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Step 15:

Login the web configuration page of the ECAN-240.

Step 16:

Verify that the firmware version is correct.



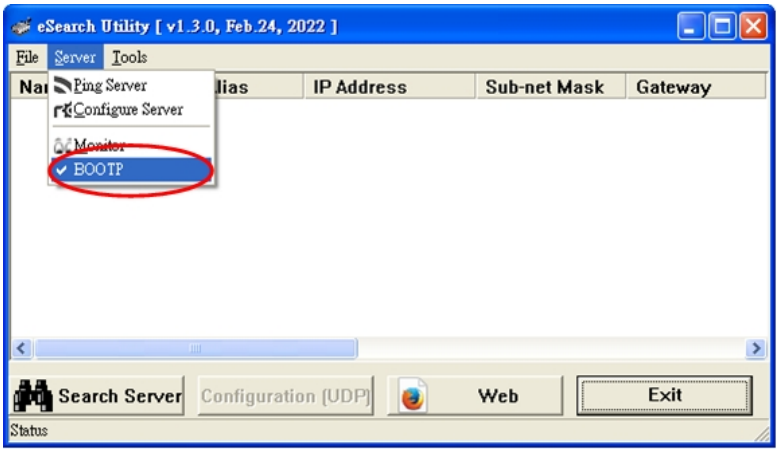
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1.2.1 Firmware update in BOOTP mode

If the module is not functioning correctly (e.g. there is no response to the search request, or if the LEDs are always displayed as ST1/2 illuminates ➔ TX1/2 illuminates ➔ RX1/2 illuminates), please download a new image of the firmware from the ICPDAS web site and then update the firmware for the module using the following procedure.

Step 1: In the eSearch Utility, select the "BOOTP" item from the "Server" menu. A check mark should be displayed next to the item after it has been selected.



Step 2:

Set the "CAN1_SW/CAN2_SW Switch" to the "F/F" position.

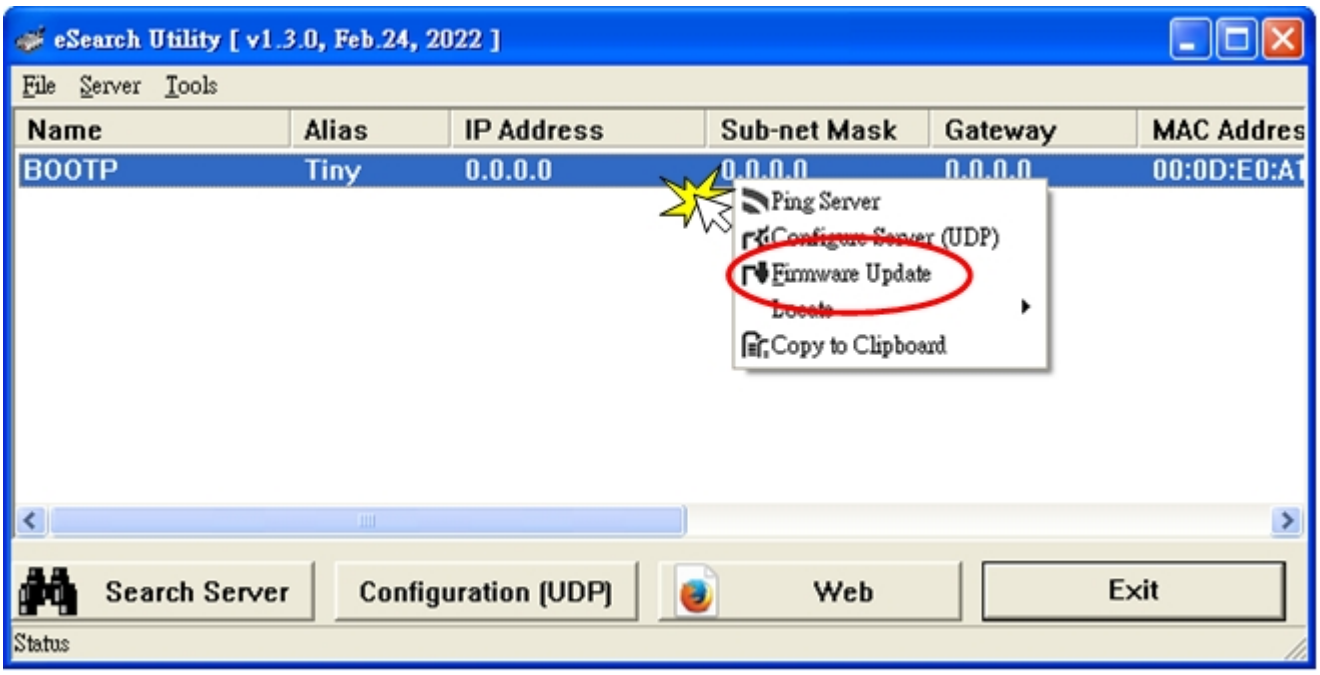
Step 3:

Power-on and reboot the ECAN-240 module and then click the "Search Server" button to search for the ECAN-240 at the same time. Note, the module sends BOOTP messages about 10 seconds when booting. If this step is not successful, reboot the module and execute the search again.

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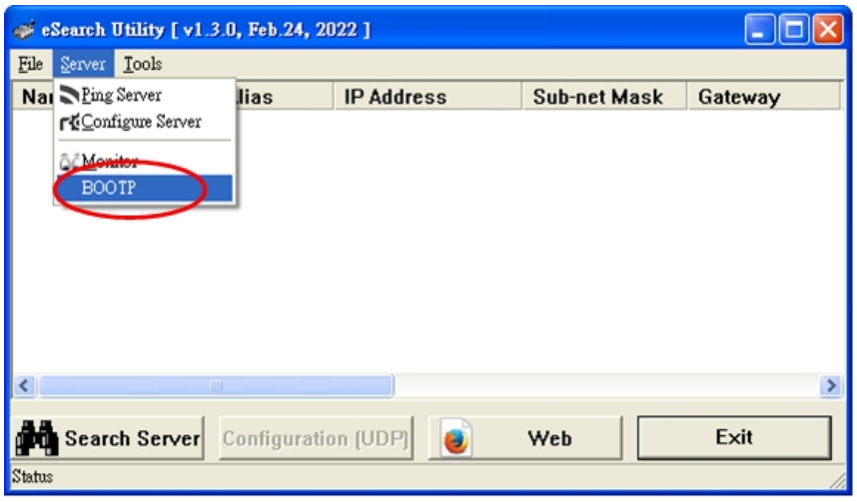
Step 4: Right click on the name "BOOTP" and then select the "Firmware Update" item from the popup menu.



Step 5:

Refer to Steps 4 to 16 in "Section 1.2" to complete the update process. Note, the module will response with no IP address in the BOOTP mode. User has to assign a valid IP manually in step 5 of page7.

Step 6: After updating the firmware, disable BOOTP mode from the eSearch utility. By selecting "BOOTP" item from the "Server" menu.



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2. Additional Information

Notes:

Note1:

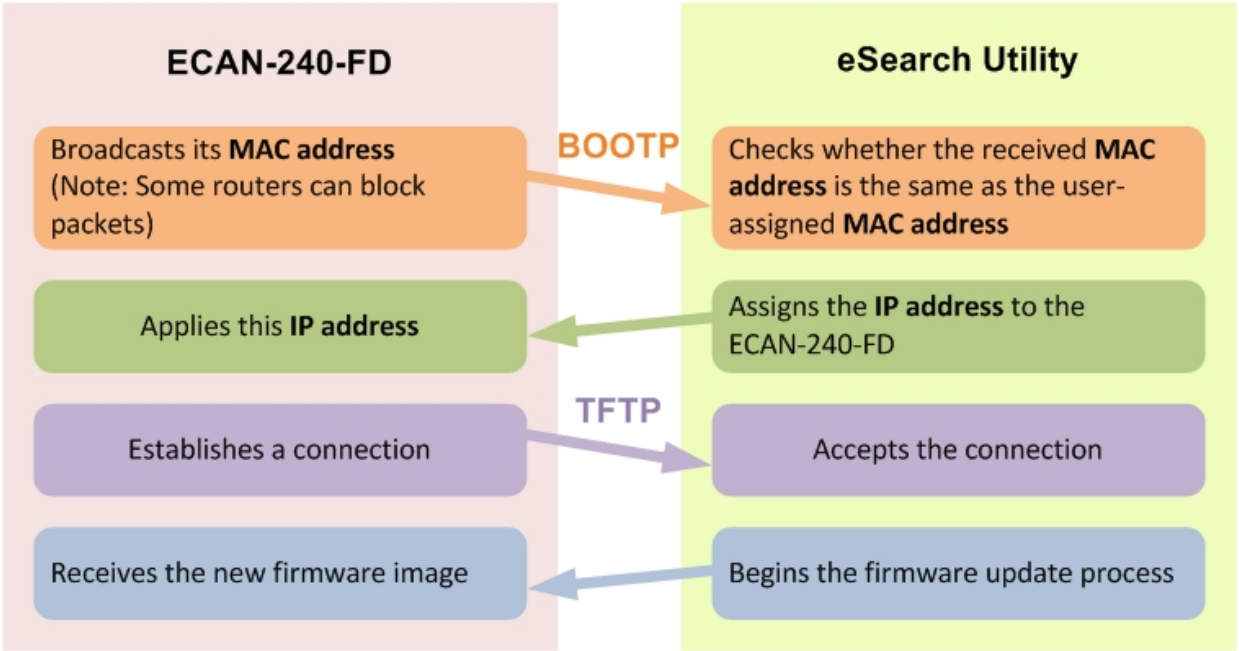
If the IP address settings do not work correctly (e.g. there is no response to a ping command), please contact your network administrator to obtain a valid IP address for the ECAN-240 module.

Note 2:

If the settings displayed in the IP address field of the firmware update window is incorrect or invalid (e.g. IP address: 0.0.0.0), then a valid IP address must be manually specified for the ECAN-240 in order to process the update operation. Please contact your network administrator to obtain a valid IP address before proceeding.

Note 3:

The **"BOOTPREQ from MAC: xx-xx-xx-xx-xx-xx"** message indicates there is a module with the factory-default MAC address "xx-xx…" that is asking for the firmware to be updated. The update process will not begin if you assign a user-defined MAC address in the firmware update window, since the addresses do not match. If this situation occurs, repeat the update procedure and manually enter the factory-default MAC address in the firmware update window, as described in **Step 5 on Page 7**.The firmware update procedure is illustrated in the figure below.



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Note 4:

BOOTP (Bootstrap Protocol) is defined in RFC-951 and uses UDP ports 67 and 68.

Note5:

TFTP (Trivial File Transfer Protocol) is defined in RFC-1350 and uses UDP port 69.

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