

# Firmware Update Manual

## Table of Contents

Chapter 1	Firmware Update Overview .....	1-1
1.1	Requirements for Firmware Update .....	1-1
1.2	Firmware Version Review .....	1-2
Chapter 2	Firmware Update Methods.....	2-1
2.1	Method 1: Update by Using SD card.....	2-1
2.1.1	Steps for Firmware Update via SD Card .....	2-1
2.1.1.1	Formatting SD Card.....	2-1
2.1.1.2	Preparing the Files for Firmware Update .....	2-2
2.1.1.3	Setting the Update Mode .....	2-3
2.1.1.4	Starting the Firmware Update .....	2-3
2.1.1.5	Switching the DIP Switch back to the work mode.....	2-3
2.2	Method 2: Update by Using CANopen Builder through EtherNet.....	2-4

## MEMO

# Chapter 1 Firmware Update Overview

This document is about how the firmware of controllers is updated and is applicable to the controller models including DVP15MC11T, DVP50MC11T, DVP15MC11T-06, DVP50MC11T-06, AS524C-B and AS516E-B.

## 1.1 Requirements for Firmware Update

Firmware update can be conducted through the following two approaches.

1. Use SD card
2. Use CANopen Builder software through EtherNet

See the following requirement of controllers and their firmware versions for the two firmware update methods.

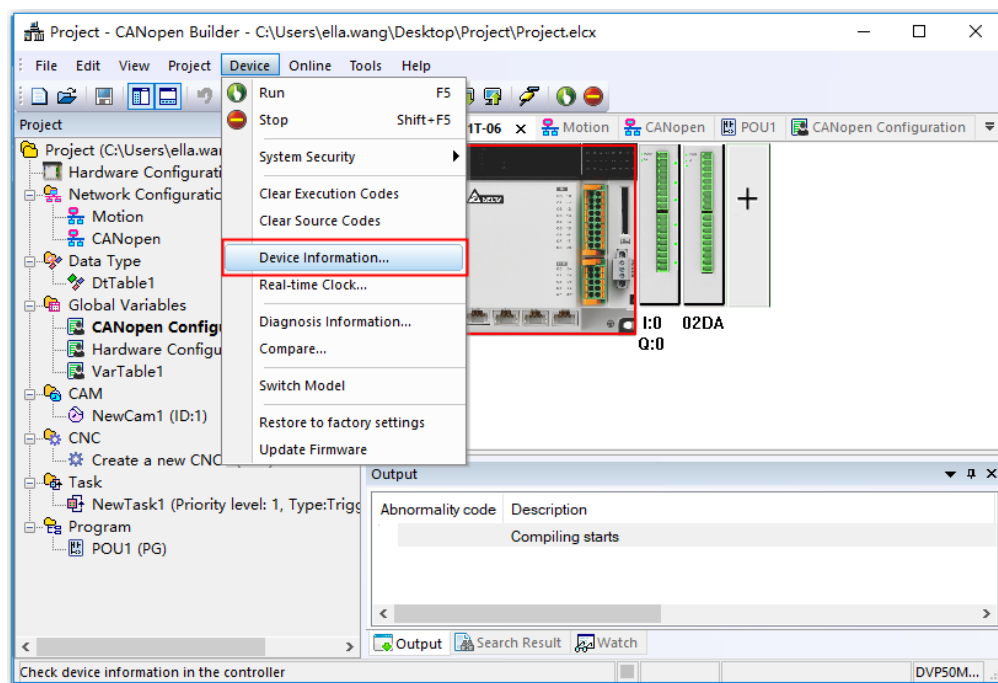
No.	Model Name	Firmware update methods	
		SD card	EtherNet
1	DVP15MC11T	Supported	Supported ( Actual firmware version of DVP15MC11T should be 1.03 and above )
2	DVP50MC11T	Supported	Supported ( Actual firmware version of DVP50MC11T should be 1.02 and above )
3	DVP15MC11T-06	Unsupported	Supported
4	DVP50MC11T-06	Unsupported	Supported
5	AS524C-B	Unsupported	Supported
6	AS516E-B	Unsupported	Supported

## 1.2 Firmware Version Review

**1**

Steps for checking the current firmware version of a controller:

1. Open the CANopen Builder software to build the communication between the software and controller. (Refer to “Communication Setup” in the CANopen Builder help.) Then select **Device** menu > **Device Information...** as below.



2. Then the following “Device Information” dialog box pops up and the current firmware version info is displayed as marked in the red box below.

**Device Information** [X]

Model Name:	DVP50MC11T	Program capacity:	341.142 K
Version:	01. 10. 15	Configuration capacity:	0.110 K
Auxiliary IC version:	01. 03	CNC capacity:	0.256 K
Flash capacity:	20 M	Cam capacity:	0.005 K
Memory capacity:	20 M		
Error Information:			

[Close]

## Chapter 2 Firmware Update Methods

Method 1 and method 2 are both illustrated by taking DVP15MC11T for example below.

### 2.1 Method 1: Update by Using SD card

Preparation 1: Remove the connection between the peripheral interfaces of the controller and other devices, such as encoder interface wiring, input and output points wiring and etc. **Please make sure to do so!**

Preparation 2: Prepare one SD card for storing firmware update documentation. The SD card category that DVP15MC11T supports includes SD and SDHC.

Category	SD	SDHC			SDXC	
Capacity	2GB Max	4GB~32GB			32GB~2TB	
File system	FAT/FAT32	FAT32			exFAT	
Size	<b>SD</b>	<b>SDHC</b>	Mini SDHC	Micro SDHC	SDXC	Micro SDXC
SD speed level	N/A	CLASS 2 (Min. 2MB/Sec.) CLASS 4 (Min. 4MB/Sec.) CLASS 6 (Min. 6MB/Sec.) CLASS 10 (Min. 10MB/Sec.)			CLASS 2 (Min. 2MB/Sec.) CLASS 4 (Min. 4MB/Sec.) CLASS 6 (Min. 6MB/Sec.) CLASS 10 (Min. 10MB/Sec.)	

#### 2.1.1 Steps for Firmware Update via SD Card

##### 2.1.1.1 Formatting SD Card

**Note:**

Generally, SD card has a write-protection switch. If the switch is slid into the write-protected position, the data will not be able to be written to the card. Thus make sure that the write-protection switch is moved to the unlock position before use.



The specific software “HP USB Disk Storage Format Tool” is needed for the formatting of the SD card. **Insert the SD card into a card reader with USB port rather than indirectly insert into the SD card slot of your computer. Then insert the card reader into the USB port of your computer.**

**Please do follow the firmware update steps below in order to prevent the failure of the update!**

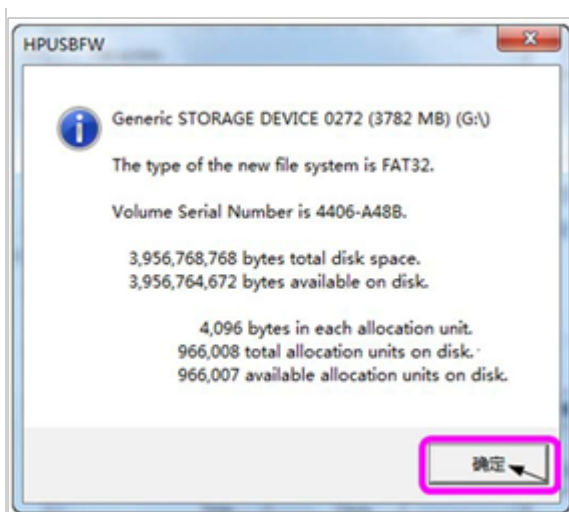
If the SD card you get has been formatted in the “HP USB Disk Storage Format Tool” software, it will not need to be formatted and you can skip this step.

1. The SD card is formatted through the “HP USB Disk Storage Format Tool” software in the PC. The “Device” field will display the corresponding option if the card is inserted properly.
2. Select an item for “File system” according to the SD capacity. Select **FAT32** if the SD card capacity is no less than 4G. Select **FAT** if the SD card capacity is less than 4G.

3. Click "Start" button to start the formatting of the SD card.



4. When the formatting is finished, the information will be shown as below. Then click "OK". The SD card can be used for the firmware update only after being formatted.



### 2.1.1.2 Preparing the Files for Firmware Update

Store the files for the firmware update in the root directory of the SD card via the PC. The following 4 documents are needed for the firmware update.

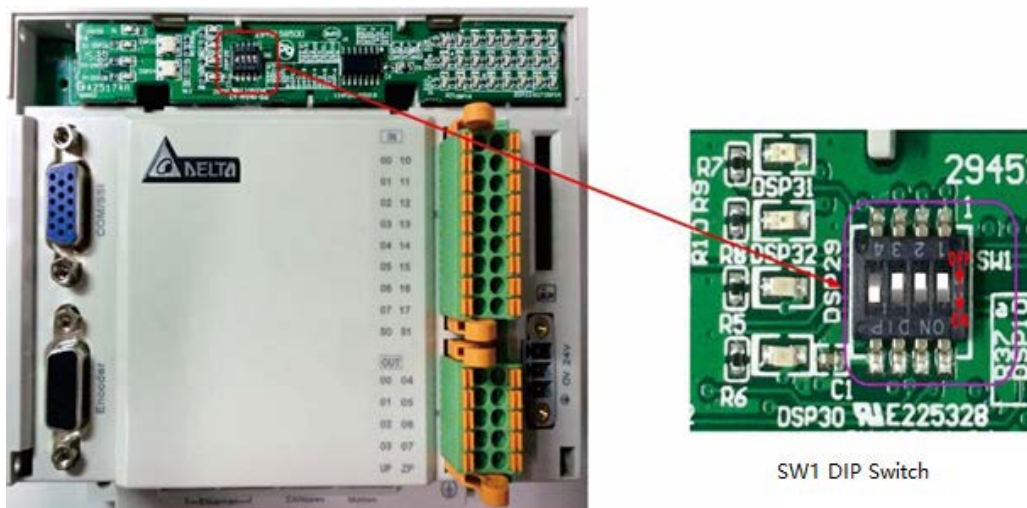


"15MC\_ti.bin" is the firmware file and the rest ones are configuration files.

### 2.1.1.3 Setting the Update Mode

The following steps are proceeded with after the files mentioned above are placed in the root directory of the SD card.

1. Insert the SD card into the SD card slot when DVP15MC11T is powered off.
2. Remove the LED cover and shift switch 3 of the SW1 DIP switch to OFF and switch 4 to ON without changing switch 1 and switch 2 as shown in the figure below.



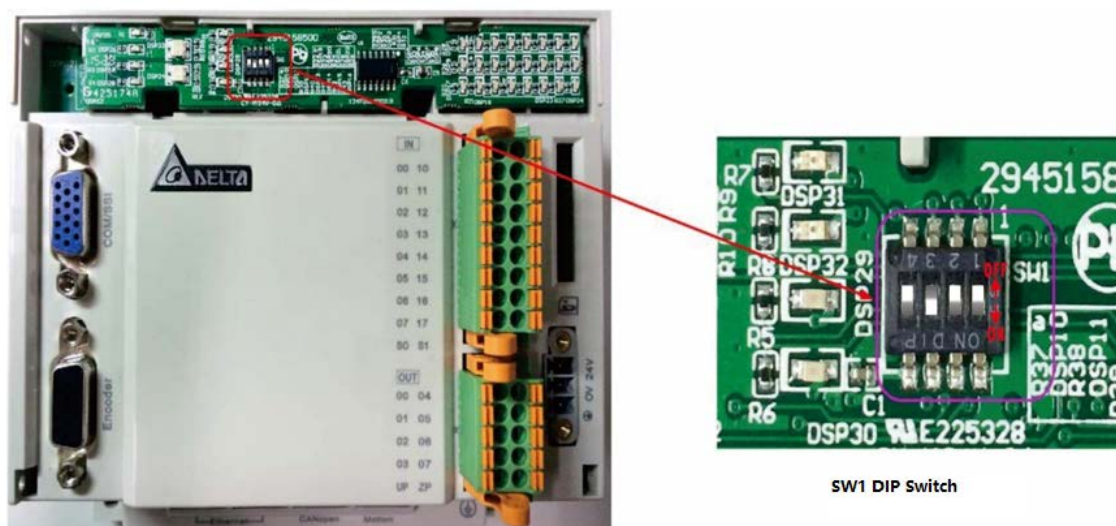
### 2.1.1.4 Starting the Firmware Update

After setting the firmware update mode, repower DVP15MC11T. Then the controller will automatically enter the firmware update mode after power on.

It indicates that the firmware update is done once RUN and ERR lights blink. (If the RUN and ERR lights fail to blink all the time, check if your operation follows the steps in 2.1.1.1~2.1.1.3. Please make sure to make the operation exactly as 2.1.1.1~2.1.1.3.)

### 2.1.1.5 Switching the DIP Switch back to the work mode

After the firmware update is done, power off DVP15MC11T and shift switch 3 of SW1 to ON and switch 4 to OFF. Then the steps for firmware update come to an end. The DVP15MC11T controller can be used normally after repower it.



**1**

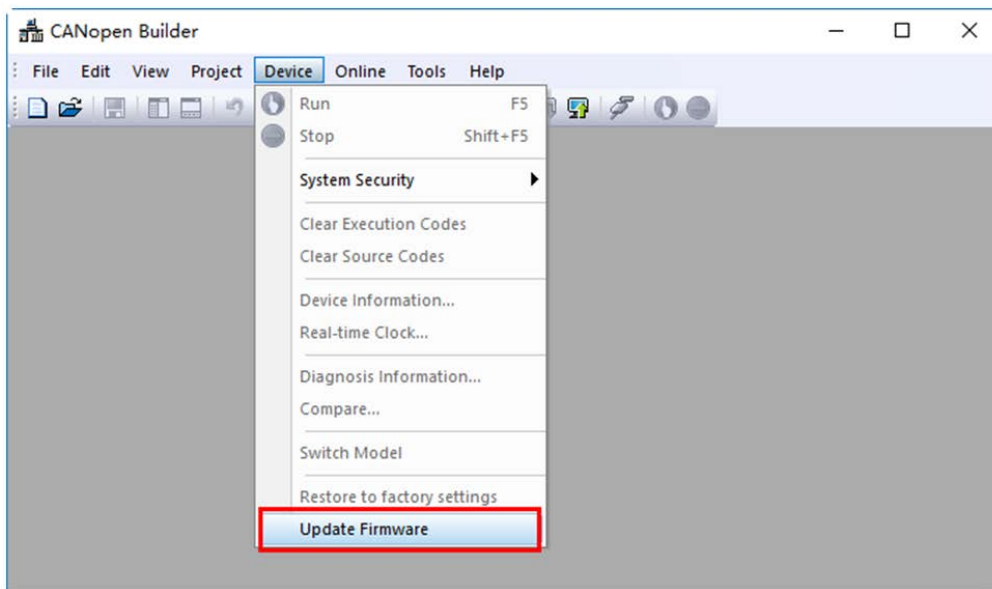
## 2.2 Method 2: Update by Using CANopen Builder through EtherNet

### Steps for the Firmware Update via CANopen Builder:

**2**

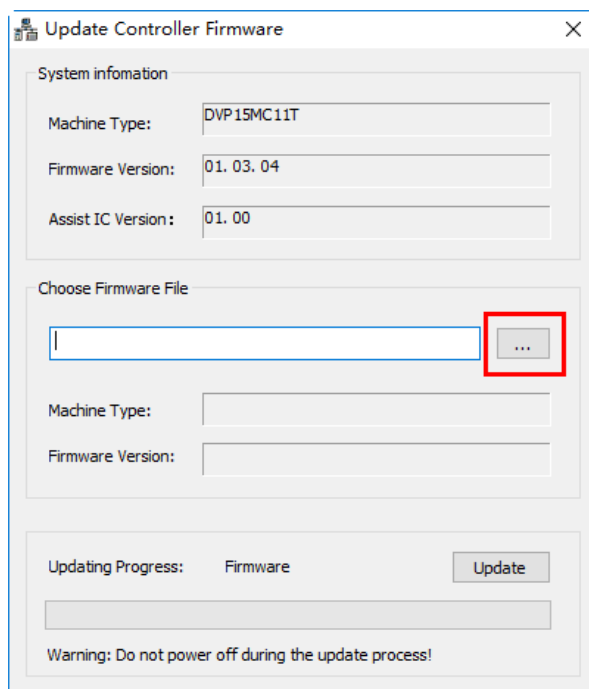
1. Before updating the firmware, **you must remove the controller's input and output terminals as well as the cable of the encoder interface. Connect the controller to PC with an Ethernet cable**, and then make communication settings. For the communication setting method, refer to “Communication Setup” in the CANopen Builder help.
2. When the communication connection works, click **Device** in the menu bar to make the drop-down list appear, and then select the **Update Firmware** option as shown below.

**Only DVP-50MC-series controllers with firmware V1.02 and above as well as DVP-15MC-series controllers with firmware V1.03 and above can update their firmware in this way.**

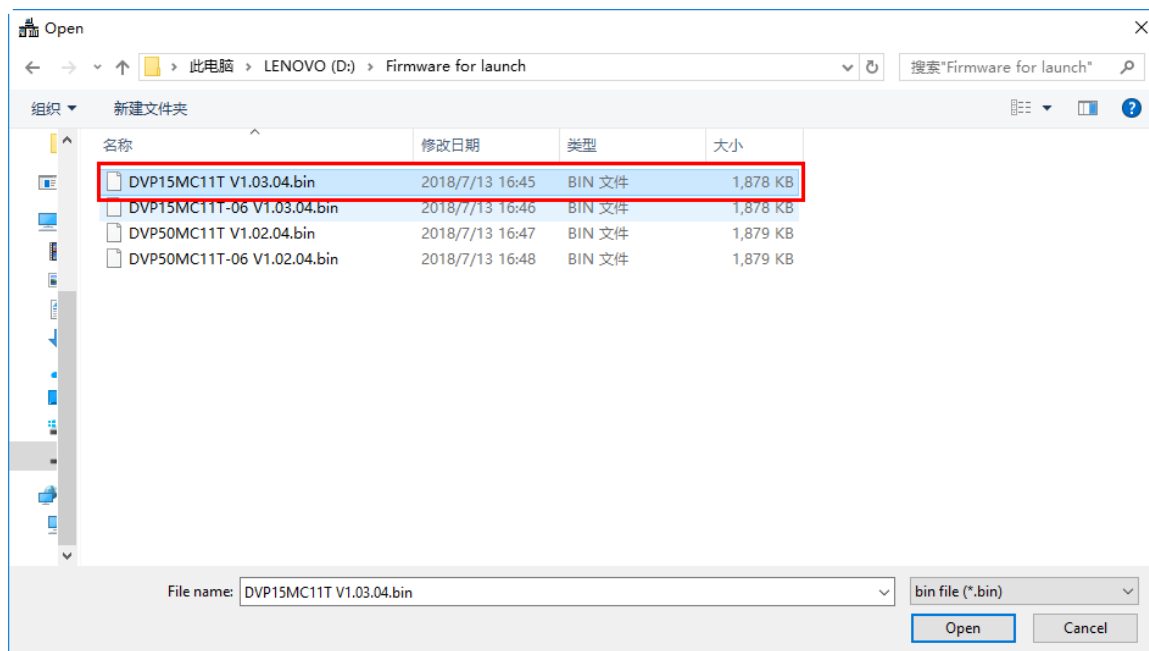




- Then **“Update Controller Firmware”** dialog box pops up, and click the place in red box below to select the path where the firmware is stored.



- Then the **Open** dialog box appears. Select the corresponding firmware for the controller and then click the **Open** button. **The firmware update can be done only when the actually connected machine matches the selected firmware. If the actually connected machine is DVP15MC11T, you must select the right firmware for DVP15MC11T to proceed.**



5. Back to the **Update Controller Firmware** interface, select the firmware for the update.

**1**

**2**

Update Controller Firmware

System information

Machine Type: DVP15MC11T

Firmware Version: 01. 03. 04

Assist IC Version : 01. 00

Choose Firmware File

D:\Firmware for launch\DVP15MC11T V1.03.04.bin

Machine Type: DVP15MC11T

Firmware Version: 01. 03 .04

Updating Progress: Firmware

Update

Warning: Do not power off during the update process!

6. Through clicking **Update** button here, the current controller firmware will be updated into the selected firmware. **Please do not power off during the firmware update!**

**Update Controller Firmware**

System information

Machine Type: DVP15MC11T

Firmware Version: 01. 03. 04

Assist IC Version: 01. 00

Choose Firmware File

D:\Firmware for launch\DVP15MC11T V1.03.04.bin ...

Machine Type: DVP15MC11T

Firmware Version: 01. 03 .04

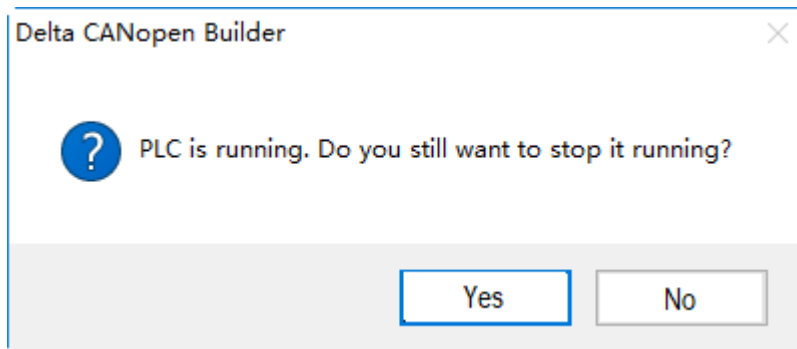
Updating Progress: 9%

**Update**

Warning: Do not power off during the update process!

Item	Type	Explanation
System information	Machine Type	Current controller name
	Firmware version	Current controller firmware version
	Assist IC Version	Current controller-assistant IC version
Choose Firmware File	...	To choose the location where the firmware is stored.
	Machine Type	Shows the name of the device which the selected firmware corresponds to.
	Firmware Version	Shows the version of the selected firmware
Updating progress	Update	To start the firmware update
	Updating Progress bar	If the full bar becomes green, the firmware update is finished.
	Warning	To tell you not to turn the power off during the firmware update.

7. During the firmware update, the following dialog box pops up with a reminder "**PLC is running. Do you still want to stop it running?**" Click **Yes** button. Meanwhile, the RUN indicator of the controller should turn off.



8. When the updating progress becomes 100% and the statement "**Firmware update is finished. Repower on!**" appears as follows, it indicates that the firmware update is completed and then you should click **OK** button.

