

## iQ Platform-compatible PAC Module Firmware Update

**MELSEC iQ-R**  
series

Tech-note

**Firmware update**

**eFactory**

### MELSEC iQ-R Series Broadcast

#### Ensuring latest functional version module

Hardware module management is now substantially easier with the MELSEC iQ-R Series. Up to now, obtaining the latest features new module versions offered required purchasing another module.

By utilizing the new module firmware update function, current modules can be updated to newer versions enabling support of newer features without the cost of replacing the module. The updating process is easy and quick, and requires no specialized software, reducing the amount of training required for development and maintenance personnel.

#### Multiple update processes supported

Modules can be updated using either GX Works3 engineering software or directly by models supporting a SD memory card slot. Having these two update processes enables updating depending on the situation that best fits the application.

##### Convenience

- Utilize new functions and features immediately
- No additional hardware or software costs
- Multiple update processes supported

#### Multiple updates using GX Works3

Multiple modules can be updated very easily using GX Works3 without having to consecutively update every time. Updating can be done in one go, without executing the same update process multiple times for each module.

#### Direct updating using a SD memory card

Modules can be updated directly by only preparing a firmware update file, without having to connect a separate computer during the update process.



# Firmware update process using GX Works3

## Software update

With engineering software GX Works3<sup>\*1</sup> updating of multiple modules in one go is possible, without having to execute the same update process multiple times for each module.

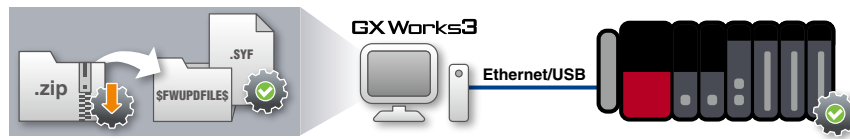
\*1. GX Works3 1.060N or later version supports firmware update.



## Firmware update process

- Obtain the firmware update data (zip file) for the module, unzip and save it in the local folder.
- Using GX Works3, navigate to the Tool menu, click “Firmware Update” and select the module to be updated. Select the relevant firmware update file and click “Update”<sup>\*2</sup>. Check the firmware version after completion.

\*2. Confirm that the CPU module does not stop its operation before updating firmware.



## Update procedure

1 Select “Firmware Update” from the “Tool” menu

2 Supported modules are detected automatically. From here, check current firmware version. Then double-click “firmware update file”

3 Select the relevant firmware update file

Check the current version

Double-click

Select the file

Select the file

Confirm the firmware file version

Check the status

Check the output log

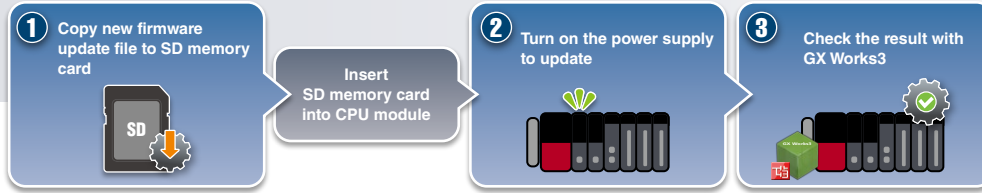
Click to update

Module Name	Module Version	File Version	Firmware Update
Slot 0: RACKCPU	46		
Slot 1: RACKCPU	46		
Slot 2: RACKCPU	46		
Slot 3: RACKCPU	46		
Slot 4: RACKCPU	46		
Slot 5: RACKCPU	46		
Slot 6: RACKCPU	46		
Slot 7: RACKCPU	46		
Slot 8: RACKCPU	46		
Slot 9: RACKCPU	46		
Slot 10: RACKCPU	46		
Slot 11: RACKCPU	46		
Slot 12: RACKCPU	46		
Slot 13: RACKCPU	46		
Slot 14: RACKCPU	46		
Slot 15: RACKCPU	46		
Slot 16: RACKCPU	46		
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Slot 30: RACKCPU	46		
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Slot 95: RACKCPU	46		
Slot 96: RACKCPU	46		
Slot 97: RACKCPU	46		
Slot 98: RACKCPU	46		
Slot 99: RACKCPU	46		
Slot 100: RACKCPU	46		

# Firmware update process using a SD memory card

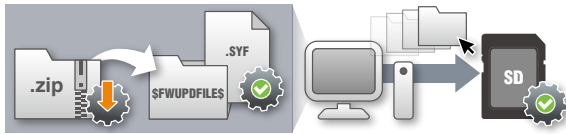
## Hardware update

The entire process requires only copying the firmware file to the SD memory card, inserting the SD memory card into the target module and then simply cycling the system power supply while holding down the SD CARD OFF button.



## Firmware update process

- Obtain\*1 the firmware update data (ZIP file) related to the module to be updated. Decompress the folder "\$FWUPDFILE\$" and save it directly below the SD memory card root folder.



- Turn system power off and insert the SD memory card into the module. To start the update, turn the system power supply back on while holding down the SD CARD OFF button.

- Check the firmware version using GX Works3. Navigate to Diagnostics > System Monitor and click the "Product Information List" button.

Product Information List						
	Network Information (Port 2)	IP Address (Port1 IPv4)	IP Address (Port2 IPv4)	Module Synchronious Status	Firmware Version	Production information
Basic Power Supply	-	-	-	-	-	00032525C0010531
Basic CPU	-	192.168.3.39	-	-	B5	14062C22A0010151
Basic I/O 0	-	-	-	-	-	-
Basic I/O 1	-	-	-	-	-	-
Basic I/O 2	-	-	-	-	-	-
Basic I/O 3	-	-	-	-	-	-
Basic I/O 4	-	-	-	-	-	-
Basic I/O 5	-	-	-	-	-	-

Current firmware version

## Update procedure\*2

### CPU module

**R120CPU**  
READY ERROR PROGRAM RUN USER  
Turn system power off and insert the SD memory card (stored with firmware update files) into the SD memory card slot of the CPU module.

**R120CPU**  
READY ERROR PROGRAM RUN USER  
To start the firmware update, hold down the SD CARD OFF button while turning the system power supply on. The READY LED will turn red and the PROGRAM RUN LED will turn green.

**R120CPU**  
READY ERROR PROGRAM RUN USER  
Once the firmware update process is completed, the PROGRAM RUN LED will flash green. If an error occurs during the update process, the ERROR LED will flash red. Details of abnormal termination are shown below.

\*1. To obtain the firmware update file, please contact your local Mitsubishi Electric sales office or representative.

\*2. Additional information for other modules (including the CPU module and C Controller), please refer to the "MELSEC iQ-R Module Configuration Manual (SH-081262ENG)".

### C Controller

**R12CCPU-V**  
READY ERROR BUS RUN CARD RDY USER USB RDY RS SD/RD  
Turn system power off and insert the SD memory card (stored with firmware update files) into the SD memory card slot of the C Controller module. Set the MODE/SELECT switch to MODE.

- Turn system power on with the MODE/SELECT switch set to MODE. The BUS RUN LED will turn green, and the dot matrix LED display will show "M-00".
- Release the MODE/SELECT switch (to the center), then switch to Select. Repeatedly switch from the center to SELECT position until "0020" is displayed.
- Set the RESET/STOP/RUN switch to RUN. The BUS RUN LED will flash green. When the LED turns green and "0000" is displayed, power off then on or reset.

**R12CCPU-V**  
READY ERROR BUS RUN CARD RDY USER USB RDY RS SD/RD  
The update is executed, while the READY LED will turn red and the BUS RUN LED will turn green. Once the update process is completed, the BUS RUN LED will flash green. If an error occurs during the update process, the READY LED will either turn off, turn red, or flash red and the ERROR LED will flash red.

## Firmware update abnormal termination\*3 CPU module

Operating status	CPU module LEDs	Corrective actions
• FlashROM (system memory) error	<b>R120CPU</b> READY ERROR PROGRAM RUN USER ERROR flashing	• Retry the firmware update process
• Invalid firmware update file • Firmware update prohibited	<b>R120CPU</b> READY ERROR PROGRAM RUN USER ERROR flashing	• Check if the firmware update file name has not been changed and ensure the original name is used • Confirm firmware update prohibition setting is not enabled preventing the update process
• Firmware data error	<b>R120CPU</b> READY ERROR PROGRAM RUN USER READY and ERROR flashing	• Retry firmware update process

\*3. For corrective actions, please refer to the "MELSEC iQ-R Module Configuration Manual (SH-081262ENG)".

## Relevant manual

Manual name	Manual number	Language
MELSEC iQ-R Module Configuration Manual	SH-081262ENG	English
MELSEC iQ-R Motion Module User's Manual(Application)	IB-0300411ENG	English

## Precautions

- Backup any user data including programs and device settings prior to updating the firmware (restoration of user data can be done after updating has been completed)
- Check that the system and other functions are at a stop status
- Do not turn off the power during the firmware update process

For the list of models supporting firmware update, please check the web page below.



[https://www.MitsubishiElectric.com/fa/ref/ref.html?k=plcr&firmware=list\\_en](https://www.MitsubishiElectric.com/fa/ref/ref.html?k=plcr&firmware=list_en)

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**⚠ For safe use**  
 • To use the products listed in this publication properly, always read the relevant manuals before use.

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