

TECHNICAL BULLETIN

[Issue No.] FA-A-0083-A

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[Title] Precautions related to the devices that are automatically assigned to the labels

[Date of Issue] May 2010 (Ver. A: February 2011)

[Relevant Models] Mitsubishi Integrated FA Software MELSOFT series
GX Works2, GX Developer

Thank you for your continued support of Mitsubishi Integrated FA Software MELSOFT series.

This bulletin explains the precautions related to the devices that are automatically assigned to the labels in GX Works2, GX Developer.

When executing writing data to the programmable controller CPU or the online program change after compiling all programs or compiling programs after adding/changing labels, check “2 Cause”, then perform the operations in accordance with “3 Precautions”

1. Symptom

When compiling all programs or compiling programs after adding/changing labels and the occurrence conditions shown in “2 Cause” met, the labels may be assigned to the existing devices which were used in other programs before. Therefore, the reassigned device value may be unsettled.

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2. Cause

2.1 GX Works2

2.1.1 Case 1

	Description
Occurrence condition	<p>The symptom may occur when all conditions shown below met.</p> <ol style="list-style-type: none">(1) When using the structured project or the simple project ("Use Label" is specified when creating a new project).(2) When using labels which are already specified the automatically assigned devices.(3) [Tool] → [Options] → "PLC Read/Write" → "When writing to PLC after a Rebuild All operation, clear the device ranges set in the Device/Label Auto-Assign setting to 0." is invalid.*(4) When executing writing data to the programmable controller CPU, but not performing the reset operation after executing either of the operations shown below.<ol style="list-style-type: none">1) "Rebuild All"2) "Build" after executing either of the operations shown below. (Executes same procedures as "Rebuild All")<ol style="list-style-type: none">a. Change the option settings shown below<ol style="list-style-type: none">1. "Default Length of String Data Type" in "Label Setting Editor"2. Overall "Compile"b. Change the PLC Parameter settings shown below<ol style="list-style-type: none">1. "Common Pointer", "Timer Limit Setting" in the <<PLC System>> tab2. "File Register" and "File for Local Device" in the <<PLC File>> tab3. Settings in the <<Device>> tabc. Change the Device/Label Automatic-Assign Settingd. Update Library when opening the structured projecte. Open the projects in other formatsf. Change the project type
Occurrence operation	<p>Write data to the programmable controller CPU after executing "Rebuild All".</p>

Reference:

Compiling all programs reassigns the devices to all labels.

When reassigning the devices to the labels which can be the target of the automatically assigned devices is executed, the labels may be assigned to the existing devices which were used in other programs before.

Therefore, when executing writing data to the programmable controller CPU, but not performing the reset operation after compiling all programs, the reassigned current device value may be unsettled since the device value set before the program change remains on the assigned devices.

*: When using GX Works2 Version 1.24A or earlier, should not be considered.

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2.1.2 Case 2

	Description
Occurrence condition	The symptom may occur when all conditions shown below met. (1) When using the structured project or the simple project (“Use Label” is specified when creating a new project). (2) [Tool] → [Options] → “PLC Read/Write” → “When writing to PLC after a Rebuild All operation, clear the device ranges set in the Device/Label Auto-Assign setting to 0.” is invalid.* (3) When using labels which are already specified the automatically assigned devices. (4) When added or changed labels.
Occurrence operation	Execute the online program change or writing data to the programmable controller CPU without clearing the device current value of the assigned devices to the labels which are added or changed.

Reference:

Compiling after adding/changing the labels which can be the target of the automatically assigned devices assigns unused devices to the added/changed labels.

When assigning the devices, the labels may be assigned to the existing devices which were used in other programs before. Therefore, when compiling after adding/changing the labels, but not performing the clear operation before executing the online program change or writing data to the programmable controller CPU, the assigned current device value may be unsettled since the device value set before executing the online program change or writing data to the programmable controller CPU remains on the assigned devices.

*: When using GX Works2 Version 1.24A or earlier, should not be considered.

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2.2 GX Developer

2.2.1 Case 1

	Description
Occurrence condition	<p>The symptom may occur when all conditions shown below met.</p> <ul style="list-style-type: none">(1) "Use Label" is specified when creating a new project.(2) When using local label or FB variable.(3) When executing writing data to the programmable controller CPU, but not performing the reset operation after executing either of the operations shown below.<ul style="list-style-type: none">1) Compile all programs2) "Build" after executing either of the operations shown below. (Executes same procedures as "Rebuild All")<ul style="list-style-type: none">a. Edit two programs or moreb. Delete the labelsc. Change the PLC Parameter settings shown below<ul style="list-style-type: none">1. "Common Pointer", "Timer Limit Setting" in the <<PLC System>> tab.2. Settings in the <<Device>> tabd. Change the Device/Label Automatic-Assign Setting
Occurrence operation	<p>Write data to the programmable controller CPU after executing "Rebuild All".</p>

Reference:

Refer to "2.1.1 Case 1" "Reference".

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3. Precautions

When all conditions shown in “2 Cause” met, perform the operation in accordance with precautions shown below.

Cause		Precaution
GX Works2	Case 1	<p>Perform either of the operations shown below</p> <p><u>a) Clear the device value of the assigned devices automatically *</u></p> <p>Perform the operation in the following order.</p> <p>(1) Select [Tool] → [Options] → “PLC Read/Write” → enables “When writing to PLC after a Rebuild All operation, clear the device ranges set in the Device/Label Auto-Assign setting to 0.”.</p> <p>(2) Select [Online] → [Write to PLC], to write the programs to the programmable controller CPU. After writing programs to the programmable controller CPU by this operation, automatically clears the device value in the range set by device/label automatic-assign setting to 0.</p> <p><u>b) Clear the device value of the assigned devices manually</u></p> <p>Perform the operation in the following order, do not execute the online program change.</p> <p>(1) Switch the programmable controller CPU to STOP.</p> <p>(2) Select [Online] → [Write to PLC], to write programs to the programmable controller CPU.</p> <p>(3) Select [Online] → [Clear PLC Memory] to clear the device memory, the latch range.</p> <p>(4) When using file register in the device/label automatic-assign setting, select [Online] → [Clear PLC Memory] to clear the file register.</p> <p>(5) Switch the programmable controller CPU to RUN</p>
	Case 2	<p>When adding/changing labels, perform the operation in the following order.</p> <p>(1) Perform the operation of adding /changing labels only. (Do not edit the programs.)</p> <p>(2) Select [Compile] → [Build], to compile the programs.</p> <p>(3) Register added/changed labels to the watch window to clear the current values to 0.</p> <p>(4) Edit the programs and select [Compile] → [Online Program Change] or select [Online] → [Write to PLC], to write the programs to the programmable controller CPU.</p>
GX Developer	Case 1	Refer to “GX Works2” “Case 1” b) in this table.

*: The operation is possible when using GX Works2 Version 1.31H or later.

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4. Functions added/specifications changed in GX Works2 Version 1.31H

The functions are added and the specifications are changed in GX Works2 to deal with “1 Symptom”.

4.1 Functions added

Clear the automatically assigned device function is added.

Function	Description
Clear the automatically assigned device	1. Writing programs to the programmable controller CPU after compiling all programs* clears the device value in the range set by device/label automatic-assign setting to 0. 2. When using this function, select [Tool] → [Options] → “PLC Read/Write” → enable “When writing to PLC after a Rebuild All operation, clear the device ranges set in the Device/Label Auto-Assign setting to 0.”.

*: “After compiling all programs” means after executing the operations in “2.1.1 Case 1” occurrence condition (4) 1) or 2).

4.2 Specifications changed

The operations after compiling all programs are changed as shown below.

Function	Description	
	After change	Before change
Write to PLC	Writing data to the programmable controller CPU cannot be performed after compiling all programs* when the programmable controller CPU is RUN. After the programmable controller CPU is remotely stopped, write data to the programmable controller CPU to clear the device value in the range set by device/label automatic-assign setting to 0.	Executable
Online Program Change	The Online program change cannot be performed after compiling all programs* when the programmable controller CPU is RUN.	
Online program change to change TC setting value	“Write changed program to PLC” after compiling all programs* becomes invalid and online program change cannot be performed.	
Online program change on the “Enter SFC Symbol/Enter program” screen (MELSAP-L (instruction format))	Online program change cannot be performed after compiling all programs*.	
Online program change on the “Enter SFC Symbol/Enter program” screen (MELSAP-L (start conditions format))	“Execute online change after converting” becomes invalid and online program change cannot be performed after compiling all programs*.	

*: “After compiling all programs” means after executing the operations in “2.1.1 Case 1” occurrence condition (4) 1) or 2).

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REVISIONS

Version	Print Date	Revision
-	May 2010	First edition
A	February 2011	Writing style of the following setting item has been changed in GX Works2 version 1.48A. [Previous writing style: Version 1.44W and earlier] "0 clear of the device value in the range set by device/label automatic-assign setting." [Current writing style: Version 1.48A and later] "When writing to PLC after a Rebuild All operation, clear the device ranges set in the Device/Label Auto-Assign setting to 0."