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[Title] Addition of the moving averaging process function to the Q64TCTTN, Q64TCRTN, Q64TCTTBWN, Q64TCRTBWN, L60TCTT4, L60TCRT4, L60TCTT4BW, and L60TCRT4BW

[Date of Issue] August 2012

[Relevant Models] Q64TCTTN, Q64TCRTN, Q64TCTTBWN, Q64TCRTBWN, L60TCTT4, L60TCRT4, L60TCTT4BW, L60TCRT4BW

Thank you for your continued support of Mitsubishi programmable controllers, MELSEC-Q and MELSEC-L series.

The moving averaging process function has been added to MELSEC-Q series temperature control modules (Q64TCTTN, Q64TCRTN, Q64TCTTBWN, Q64TCRTBWN) and MELSEC-L series temperature control modules (L60TCTT4, L60TCRT4, L60TCTT4BW, L60TCRT4BW).
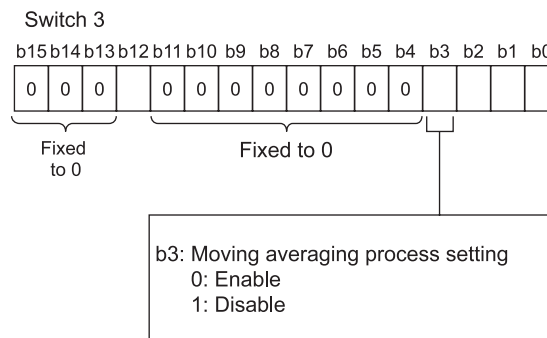
1. Moving averaging process function

This function is used to set the moving averaging process to a temperature process value (PV). With this function, the fluctuation of temperature process values (PV) can be reduced in electrically noisy environments or environments where temperature process values (PV) fluctuate greatly. The number of moving averaging can be set in the range of 2 to 10 times. The moving averaging process is enabled (number of moving averaging: 2 times) as the default action for the module. By disabling the moving averaging process, the response to the change of temperature process values (PV) can be hastened.

2. Intelligent function module switch setting and buffer memory

2.1 Intelligent function module switch setting

The intelligent function module switch setting for the moving averaging process is shown below.

Enable (0) is set as a default value.

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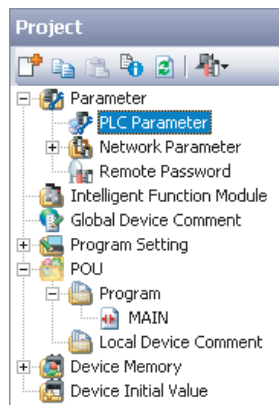
[Title] Addition of the moving averaging process function to the Q64TCTTN, Q64TCRTN, Q64TCTTBWN, Q64TCRTBWN, L60TCTT4, L60TCRT4, L60TCTT4BW, and L60TCRT4BW
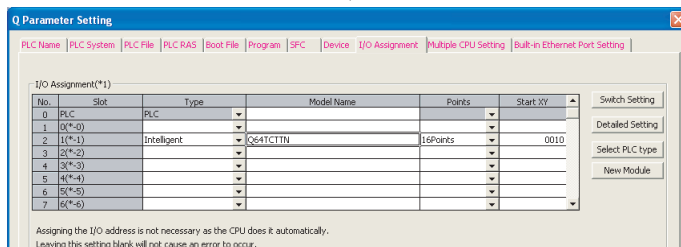**[Date of Issue]** August 2012
[Relevant Models] Q64TCTTN, Q64TCRTN, Q64TCTTBWN, Q64TCRTBWN, L60TCTT4, L60TCRT4, L60TCTT4BW, L60TCRT4BW

2.2 Buffer memory

The buffer memory for the moving averaging process is shown below.

Buffer memory address (decimal (hexadecimal))	Channel	Setting content	Setting range	Default value
698 (2BA$_H$)	CH1	Number of moving averaging	2 to 10 (times)[*1]	2 (times)
699 (2BB$_H$)	CH2			
700 (2BC$_H$)	CH3			
701 (2BD$_H$)	CH4			

*1: When Disable (1) is set to "Moving averaging process setting" in the intelligent function module switch setting, the set value in CH□ Number of moving averaging (Un\G698 to Un\G701) is ignored.
When Enable (0) is set to "Moving averaging process setting" in the intelligent function module switch setting, if the value out of the setting range is set to CH□ Number of moving averaging (Un\G698 to Un\G701), a write data error (error code: □□□4$_H$) occurs. (□□□ indicates the address where the error occurred.)

3. Setting method

The examples of the both settings to operate the module with the moving averaging process enabled and with the moving averaging process disabled are shown below.
Note that the setting examples described here apply to the following cases.
• The case where a MELSEC-Q series temperature control module is mounted on the slot 1 of a base unit
• The case where a MELSEC-L series temperature control module is connected to the right of a CPU module

(1) To operate the module with the moving averaging process enabled
For the module, the moving averaging process is enabled and the number of moving averaging is 2 times as default.
Change the number of moving averaging with the following program if necessary.
• Channel to be used: CH1 to CH4
• Moving averaging process setting: Enable
• Number of moving averaging: 8 times

Create the above program to set the number of moving averaging to CH□ Number of moving averaging (Un\G698 to Un\G701) and turn on and off Setting change instruction (YB).

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(2) To operate the module with the moving averaging process disabled

1) Open "PLC Parameter" window.
   Project window → Double-click [PLC Parameter].

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2) Click the **Switch Setting** button in "Parameter Setting" window.

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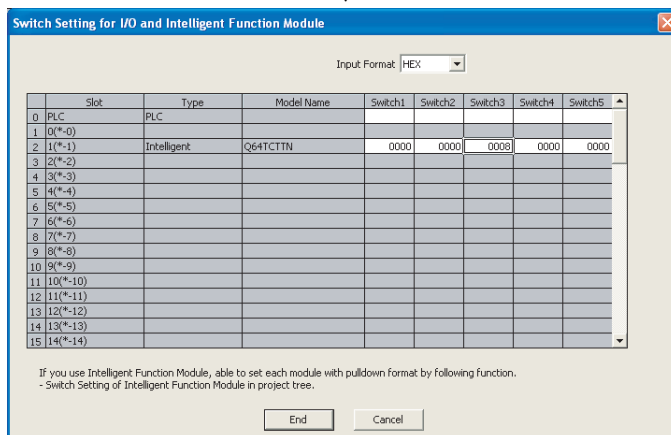
3) For the module, set 1 to the bit3 in Switch3.
4) Click the **End** button.

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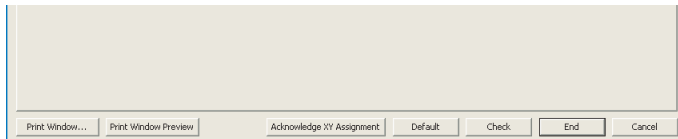
5) Click the [End] button in "Parameter Setting" window.

4. Product information

The product information of the modules with the additional function is shown in the table below.

Series	Model	Product information
Q series	Q64TCTTN	The first five digits are 14062 or later.
	Q64TCRTN	
	Q64TCTTBWN	
	Q64TCRTBWN	
L series	L60TCTT4	The first five digits are 14062 or later.
	L60TCRT4	
	L60TCTT4BW	
	L60TCRT4BW	

The product information can be checked in the system monitor of a programming tool.

The following is the way of checking. The checking method is common to MELSEC-Q series temperature control modules and MELSEC-L series temperature control modules.

[Diagnostics] → [System Monitor] → [Product Information List] button

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