TECHNICAL BULLETIN

Thank you for your continued patronage of the Mitsubishi general-purpose PLC MELSEC-Q Series.

The year 2000 problems include recognizing the year before 1999 and after 2000, and compensating the date in a leap year.
With the MELSEC-Q Series PLC, both the Q mode CPU and A mode CPU will operate correctly after the year 2000.
Details of measures to be taken for the year 2000 problem are described below.
Note that the details differ for the Q mode CPU and A mode CPU.

Q mode CPU	Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, Q25HCPU
A mode CPU	Q02CPU-A, Q02HCPU-A, Q06HCPU-A

In this revision Version A, the explanations regarding problems that occur when processing the year data with two digits and examples of improvement have been deleted. An explanation to refer to the newly prepared Technical Bulletin that explains examples of problems and measures to be taken in detail has been added.

Whereas

[Details]

1. Q mode CPU

(1) Clock measurement range
The measurement range of the Q mode CPU's clock function is from January 1, 1980 to December 31, 2079.

(2) Leap year date compensation
The Q mode CPU automatically compensates the leap year date within the above measurement range.

(3) Year recognition after year 2000
The Q mode CPU uses 4-digit year data.
If a sequence program that handles the year data with four digits is created, the year 2000 will not be incorrectly recognized as the year 1900.

▲ **MITSUBISHI ELECTRIC CORPORATION**

[Issue No.] T40-0001 Ver.A   **[Page]** 2/2

[Title] Measures Regarding Year 2000 Problem for   **[Date of Issue]** November '99
        MELSEC-Q Series CPU Modules.

[Relevant Models] All CPU modules for MELSEC-Q Series

2. A mode CPU

(1) Clock measurement range

The A mode CPU clock function uses only the last two digits of the year data.
In other words, the clock measures from January 1, 00 to December 31, 99 of each century, and does not recognize the difference between years 1900, 2000 and 2100.

(2) Leap year date compensation

The A mode CPU will automatically compensate the leap year date correctly until February 28, 2100.
There is no February 29, 2100, but it will be measured as a leap year date. Thus, the clock data must be reset on March 1, 2100.

(3) Year recognition after year 2000

As explained above, the A mode CPU uses only the last two digits of the year data.
When handling the year data with the sequence program, the process may not be carried out correctly depending on how the data is handled.
For example, size of the year data is compared with the last two digits, it will be interpreted that the year 2000 is older than the year 1999.

For examples of problems that could occur when processing the year data with the last two digits and examples of measures, refer to the Technical Bulletin "PLC-D-374", explaining the specific examples of year 2000 problems and examples of measures for MELSEC-A/QnA/Q Series CPU module.

In a system where an external device such as a personal computer reads the A mode CPU device via the computer link module or MELSECNET(II)/10 modules, etc., and controls the results, if the A mode CPU clock data is also read out and the data is resorted in time order, the data after the year 2000 will be handled as data older than the data before the year 2000.
In this case, the external device's application program must be changed to handle the year data as four digits.
A common method to change the year data from two to four digits is to convert the data into the four digits "19□□" by adding "19" before the data when the two-digit year data is "50 to 99". For the two-digit year data "00 to 49", add "20" to the head to convert the data into the four digits "20□□".