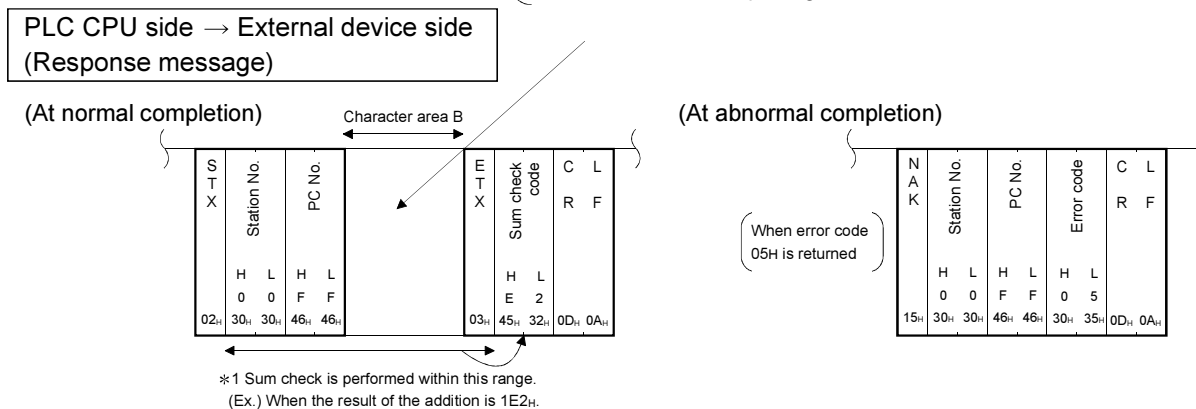
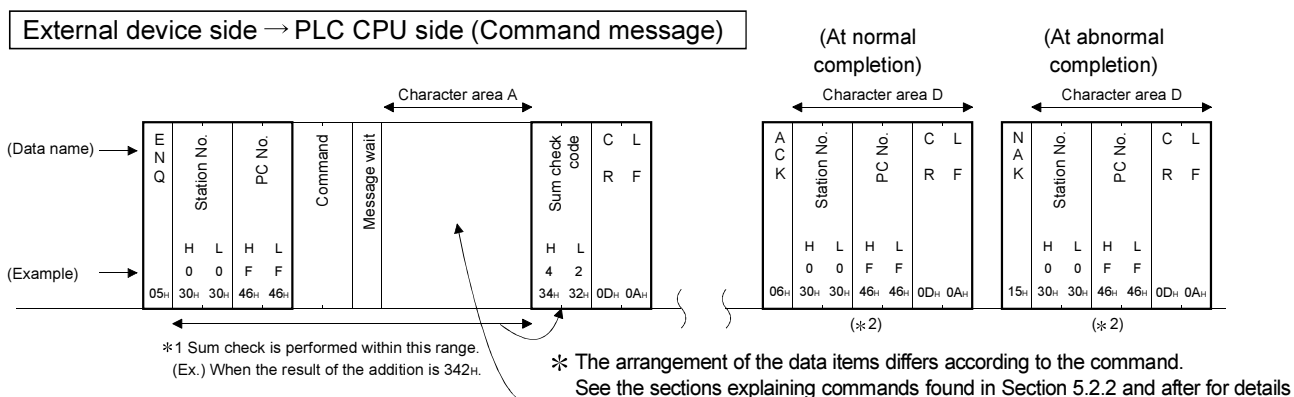
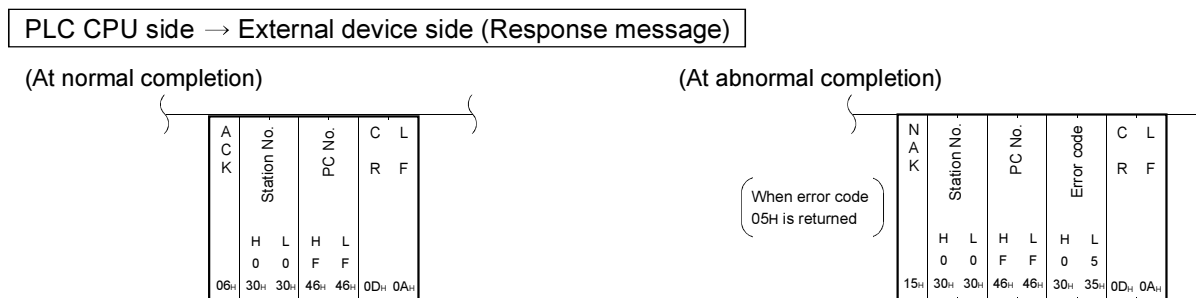
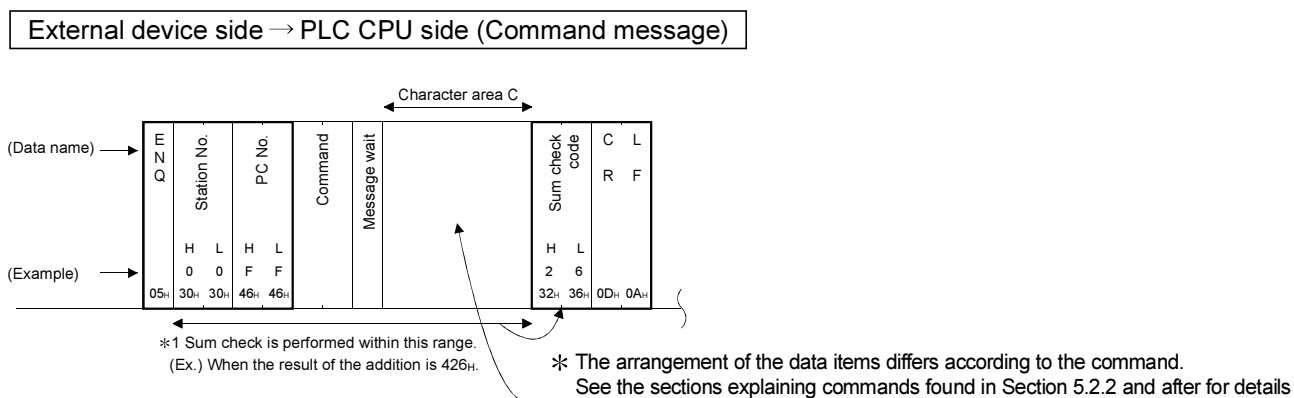


(4) Communication in format 4

(a) When reading data from the local station PLC CPU on the external device side



(b) When writing data to the local station PLC CPU from an external device side



5.2 Device Memory Read/Write

This section explains the designations in the control procedure when reading from and writing to the device memory by providing an example.

5.2.1 Commands and device range

(1) Commands used for reading from and writing to the device memory

(a) ACPU common commands

| Item | | Command | | Processing | Number of points processed per communication | PLC CPU status (* ¹) | | | Reference section |
|--|------------|---------|-----------------------------------|--|--|-----------------------------------|---------------------|------------------------|-------------------|
| | | Symbol | ASCII code | | | During STOP | During RUN | | |
| | | | | | | | Write allow setting | Write prohibit setting | |
| Batch read | Bit units | BR | 45 _H , 52 _H | Reads bit devices (X, Y, M, etc.) in 1-point units. | 256 points | ○ | ○ | ○ | Section 5.2.2 |
| | Word units | WR | 57 _H , 52 _H | Reads bit devices (X, Y, M, etc.) in 16-point units. | 32 words (512 points) | | | | Section 5.2.5 |
| | | | | Reads word devices (D, R, T, C, etc.) in 1-point units. | 64 points | | | | |
| Batch write (* ⁴) | Bit units | BW | 42 _H , 57 _H | Writes to bit devices (X, Y, M, etc.) in 1-point units. | 160 points | ○ | ○ | × | Section 5.2.3 |
| | Word units | WW | 57 _H , 57 _H | Writes to bit devices (X, Y, M, etc.) in 16-point units. | 10 words (160 points) | | | | Section 5.2.6 |
| | | | | Writes to word devices (D, R, T, C, etc.) in 1-point units. | 64 points | | | | |
| Test (random write) (* ⁴) | Bit units | BT | 42 _H , 54 _H | Sets/resets bit devices (X, Y, M, etc.) in 1-point units by randomly designating the devices and device number. | 20 points | ○ | ○ | × | Section 5.2.4 |
| | Word units | WT | 57 _H , 54 _H | Sets/resets bit devices (X, Y, M, etc.) in 16-point units by randomly designating the devices and device numbers. | 10 words (160 points) | | | | Section 5.2.7 |
| | | | | Writes to word devices (D, R, T, C, etc.) in 1-point units by randomly designating the devices and device numbers. | 10 points | | | | |
| Monitor data registration (* ³) | Bit units | BM | 42 _H , 4D _H | Registers bit devices (X, Y, M, etc.) to be monitored in 1-point units. (* ²) | 40 points | ○ | ○ | ○ | Section 5.2.8 |
| | Word units | WM | 57 _H , 4D _H | Registers bit devices (X, Y, M, etc.) to be monitored in 16-point units. (* ²) | 20 words (320 points) | | | | |
| | | | | Registers word devices (D, R, T, C, etc.) to be monitored in 1-point units. | 20 points | | | | |
| Monitor | Bit units | MB | 4D _H , 42 _H | Monitors devices with monitor data registered. | - | ○ | ○ | ○ | Section 5.2.8 |
| | Word units | MN | 4D _H , 4E _H | | | | | | |

In the PLC CPU status column of the table above, ○ indicates that the corresponding function is executable and × indicates it is not executable.

For *1, *2 and *3, see *1, *2 and *3 in Section 5.1.5.

For *4, see *5 in Section 5.1.5.

(8) Sum check code

The sum check code represents the low byte (8 bits) of the result of binary adding up (summing) the data within the sum check range (see Sections 3.1.4 to 3.1.5) in the message.

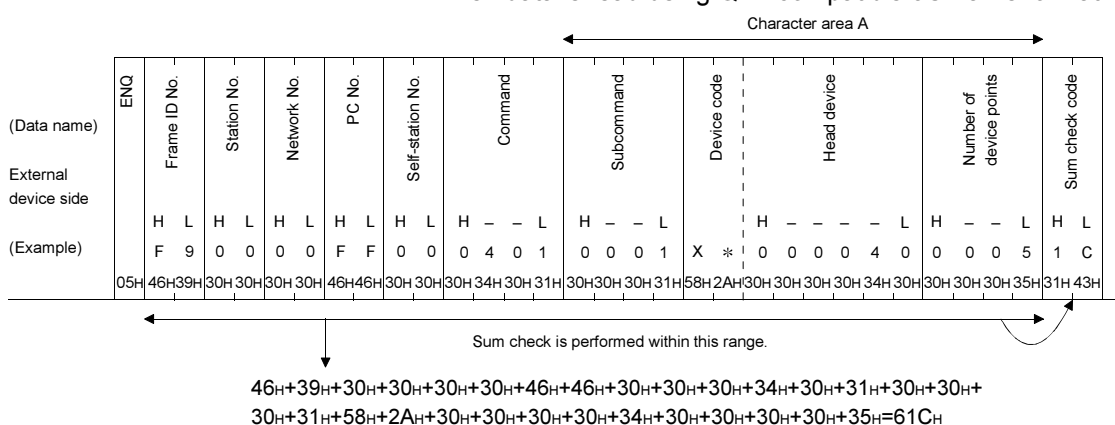
When the "Sum Check Enable/Disable Setting" is set to "Enable" in the transmission specifications setting in GX Developer, the sum check code must be added.

When sum check is enabled, the PLC CPU generates the sum check code and adds it to the transmission message. The PLC CPU also checks the sum check code in the reception message.

When sum check is disabled, the PLC CPU does not add a sum check code to the transmission message. The PLC CPU also processes reception messages as if they did not contain a sum check code.

- 1) During communication in either ASCII or binary code, the sum check code is converted to a 2-digit (hexadecimal) ASCII code and sequentially transmitted beginning from the most significant digit.
- 2) During data communication in binary code, the sum check is calculated after removing the sum check objective range additional code (see Section 3.1.6 (1), Point).
- 3) The examples below show the contents of the sum check code.
(Example 1)

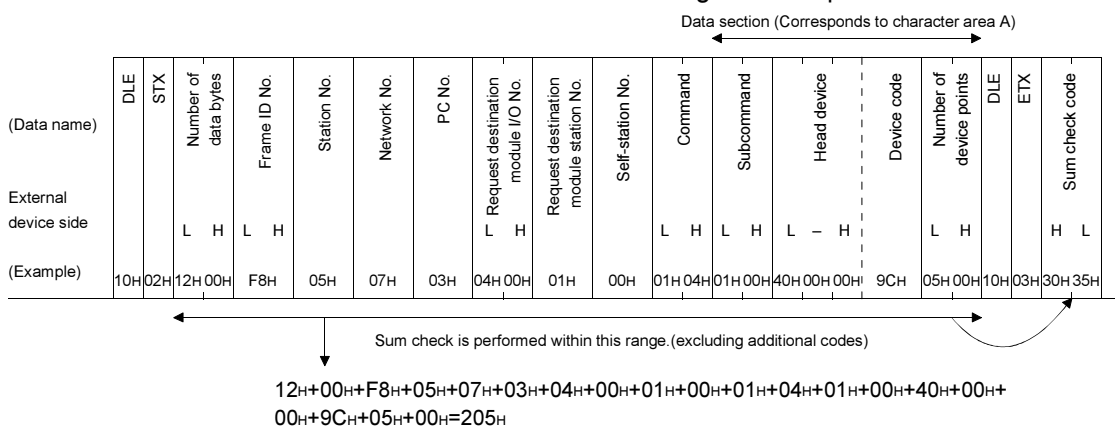
When data is read using QnA compatible 3C frame format 1.



The sum check becomes "1C"(ASCII code 31H, 43H).

(Example 2)

When data is read using QnA compatible 4C frame format 5



The sum check becomes "05"(ASCII code 30H, 35H).