
MEWTOCOL Communication Procedure

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|---|---------------|
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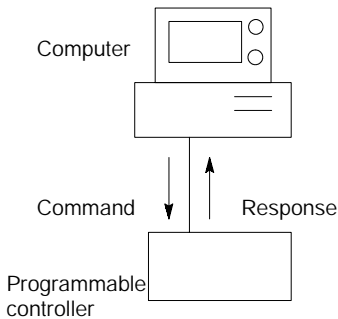
This manual extracted 12-28 pages from 12-1 page of the FP2ET-LAN unit, manuals.

12.1 MEWTOCOL - COM (Computer Link)

12.1.1 Overview of MEWTOCOL - COM

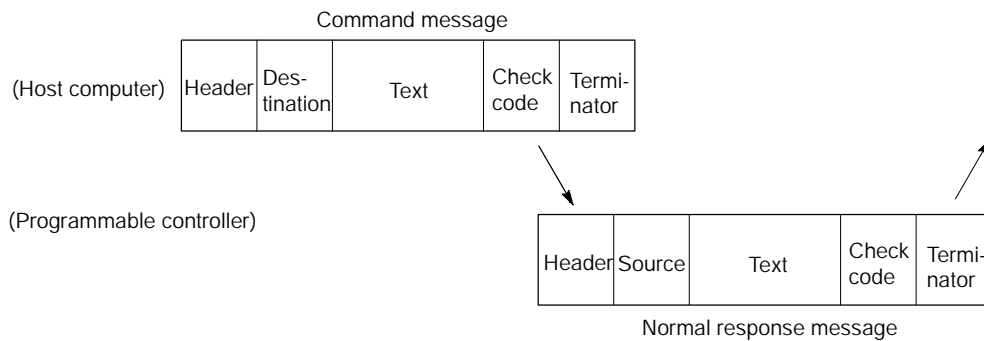
Command and response functions

The computer sends commands (instructions) to the programmable controller, and receives responses in return. This enables the computer and programmable controller to converse with each other, so that various kinds of information can be obtained and provided.



A user program is required on the computer side in order to carry out a computer link. No program is necessary on the programmable controller side.

Command and response formats



Dedicated procedures and conversational formats are used. Transmissions are made by sending ASCII codes (see page 13 - 48). The computer has the first right of transmission, and the right of transmission then shifts each time a message is sent.

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 Notes

- With MEWTOCOL communication through an ET-LAN unit, a format is used in which the special header shown below is added to MEWTOCOL - COM commands and responses.

| | |
|--------------------------------|---------------------------|
| Special header for ET-LAN unit | MEWTOCOL command/response |
|--------------------------------|---------------------------|

- The content of the special header changes depending on the communication conditions.

Control codes

| Name | Character | ASCII code | Explanation |
|-----------------|----------------------|------------|--|
| Header | % or < | 25H or 3CH | Indicates the beginning of a message. |
| Command | # | 23H | Indicates that the data comprises a command message. |
| Normal response | \$ | 24H | Indicates that the data comprises a normal response message. |
| Error response | ! | 21H | Indicates that the data comprises a response message when an error occurs. |
| Terminator | ^C R | 0DH | Indicates the end of a message. |
| Delimiter | & (+ ^C R) | 26H | Indicates a delimiter that splits data into multiple frames. |

Destination and source AD (H), (L)

Two-digit decimal 01 to 32 (ASCII codes)

Command messages contain a unit number for the programmable controller that receives the message. Response messages contain the unit number of the programmable controller that is sending the response.

(H) indicates the upper digit and (L) the lower digit. If there is no particular value to be specified, "01" should be set.

When FF (ASCII code table) is used, however, the transmission is a global transmission (sent to all units at once).

Note) When a global transmission is sent, no response to the command message is returned.

Block check code BCC (H), (L)

Two-digit hexadecimal 00 to FF (ASCII codes)

These are codes (horizontal parity) that are used to detect errors in the transmitted data. If "***" is entered instead of "BCC", however, messages can be transmitted without the BCC. In this case, the BCC is included with the response.

Error code Err (H), (L)

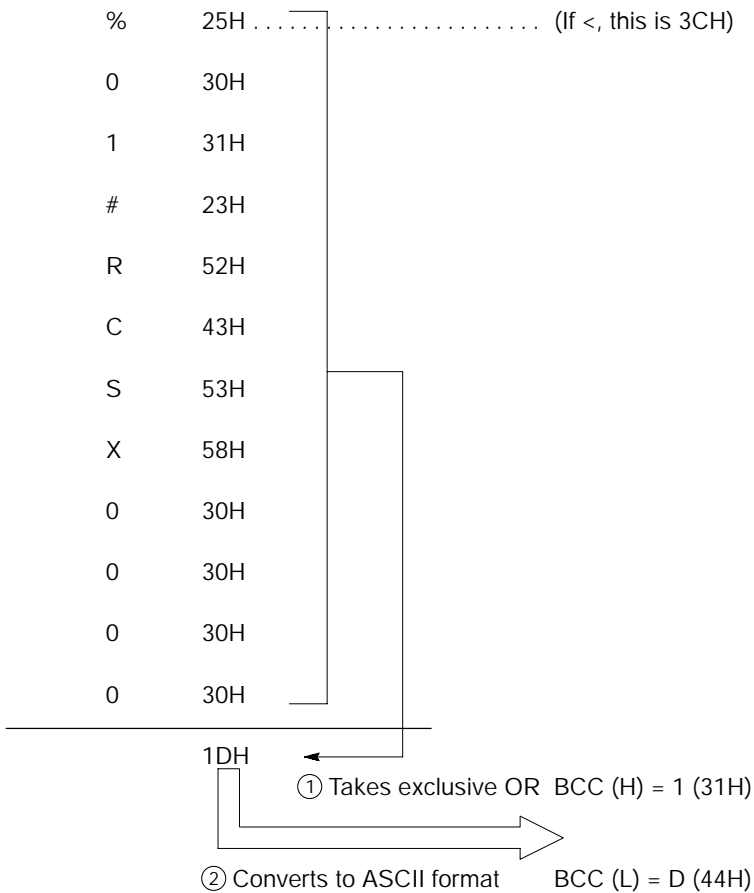
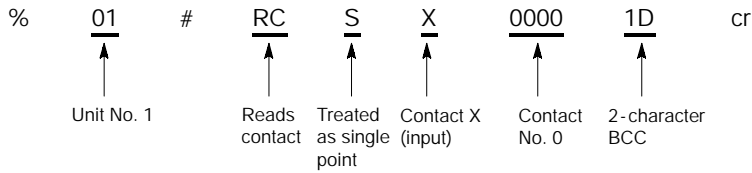
Two-digit hexadecimal 00 to FF (ASCII codes)

These indicate the contents if an error occurs.

BCC (Block Check Code)

- The BCC is a code that carries out an error check using horizontal parity, to improve the reliability of the data being sent.
- The BCC uses an exclusive OR from the header (%) to the final character of the text, and converts the 8-bit data into a 2-character ASCII code.

Example



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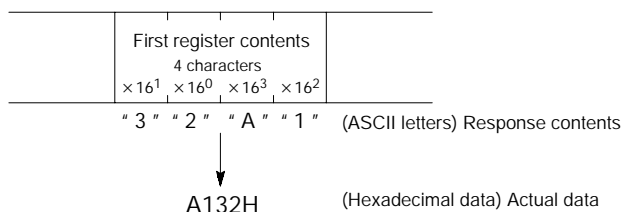
How data is notated in commands and responses

Data used in commands and responses can be notated in the three ways described below.

Hexadecimal data

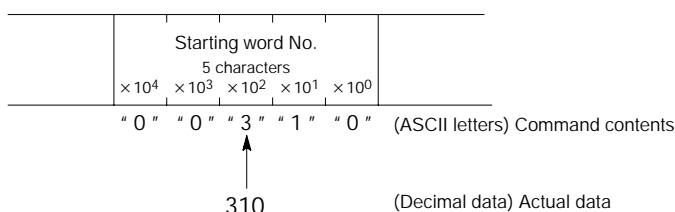
$x16^0$ and $x16^1$ to indicate hexadecimal data.

(Example) Register contents in a data area read (RD) response

**Decimal data**

$x10^0$ and $x10^1$ to indicate decimal data.

(Example) Initial word contents in a data area read (RD) command

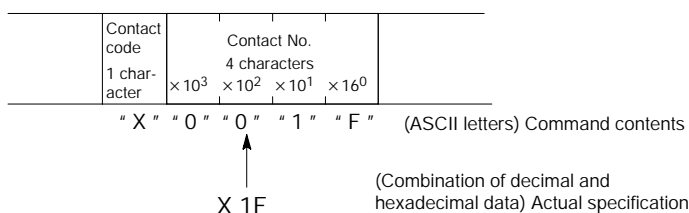
**Decimal - hexadecimal data**

In the relay numbers for external input (X), external output (Y), internal relays (R), and link relays (L), the last digit is in hexadecimal notation, while the preceding digits are in decimal notation. (In T/C contact numbers, all of the digits, including the last digit, are in decimal notation.)

In this case, the notation would read as follows:

$x16^0$, $x10^1$, $x10^2$ to

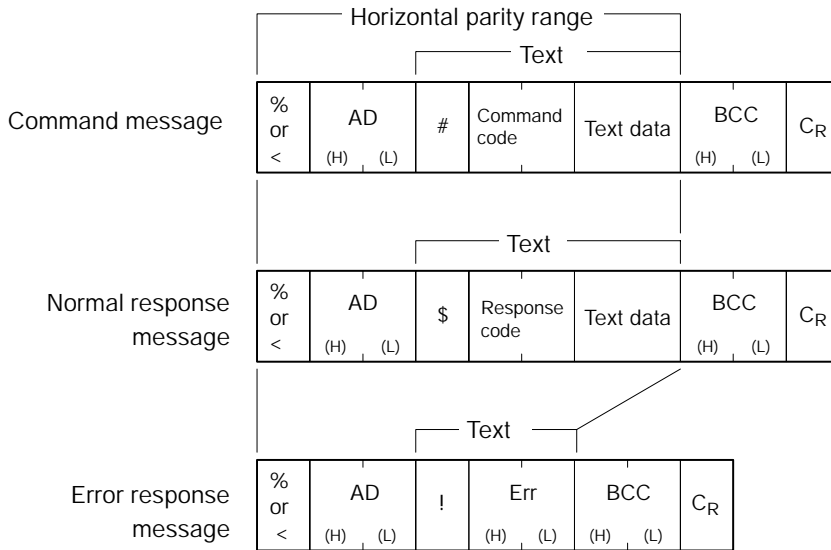
(Example) Specification of command contact of contact area lead (RCS)



Data is limited to a certain number of characters. For example, the contact number above is specified using four characters, so when the X1F contact area is read, a 0 will be added at the beginning to fill out the number of characters and form a four-character string.

12.1.2 Single Frames and Multiple Frames

Single-frame commands and responses



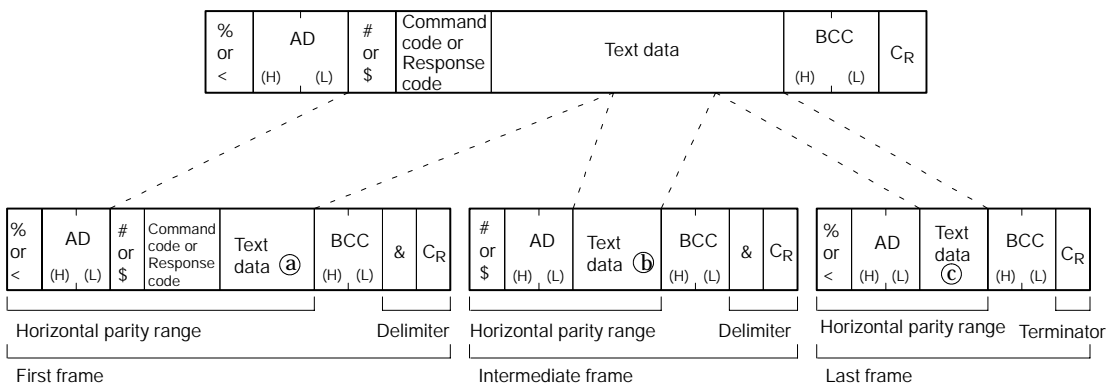
Maximum message length

The maximum message length for a single frame of a command or response (the number of characters from the header to the terminator) is as indicated below. If the maximum message length is exceeded, the message should be split into multiple sections and sent (responses should be split into several frames and sent).

% (Header) 118 characters

< (Expanded header) 2048 characters
Some restrictions apply, however, based on the type and command.

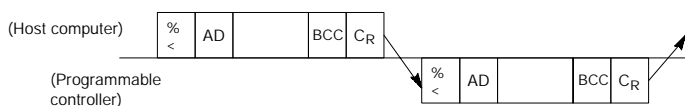
Multiple-frame commands and responses



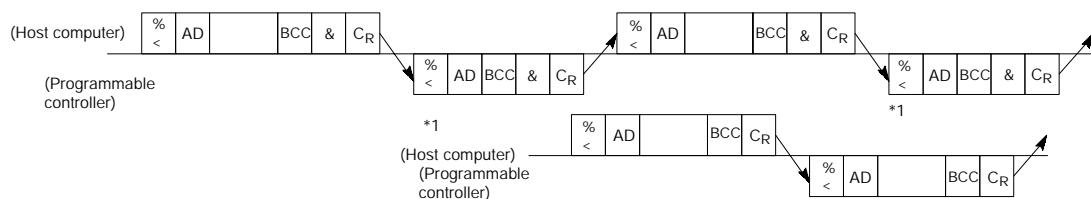
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Sample communication timing chart

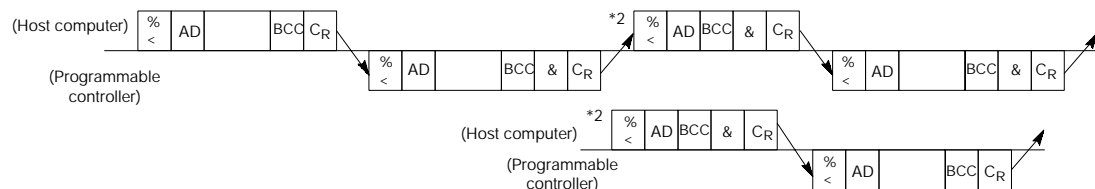
① Single-frame command and single-frame response



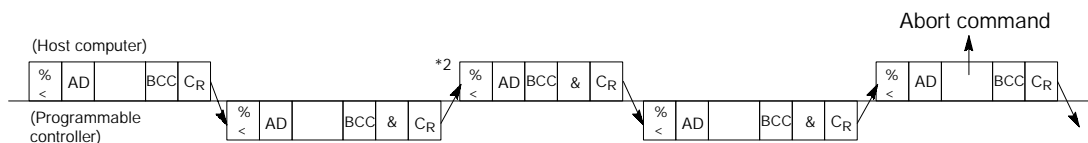
② Multiple-frame command and single-frame response



③ Single-frame command and multiple-frame response



④ When multiple-frame command is aborted before being completed



Note

When a transmission is split into several frames and sent, after one frame has been sent, the next frame cannot be sent until a transmission request message (*1 in the sample communication timing chart) has been received from the partner side. If multiple frames are being received, a transmission request message (*2 in the sample communication timing chart) should be sent to the partner side so that the next frame can be received.

12.1.3 List of MEWTOCOL - COM Commands

Table of command

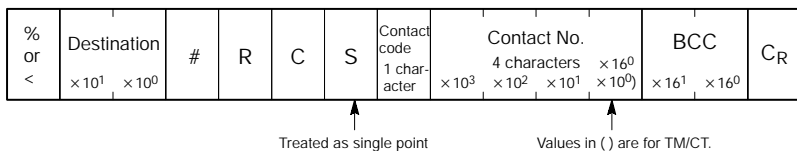
| Command name | Code | Description |
|--|-------------------------------|--|
| Read contact area | RC (RCS) (RCP) (RCC) | Reads the on and off status of contacts. - Specifies only one point - Specifies multiple contacts. - Specifies a range in word units. |
| Write contact area | WC (WCS) (WCP) (WCC) | Turns contacts on and off. - Specifies only one point - Specifies multiple contacts. - Specifies a range in word units. |
| Read data area | RD | Reads the contents of a data area. |
| Write data area | WD | Writes data to a data area. |
| Read timer/counter set value area | RS | Reads the value set for a timer/counter. |
| Write timer/counter set value area | WS | Writes a timer/counter setting value. |
| Read timer/counter elapsed value area | RK | Reads the timer/counter elapsed value. |
| Write timer/counter elapsed value area | WK | Writes the timer/counter elapsed value. |
| Register or Reset contacts monitored | MC | Registers the contact to be monitored. |
| Register or Reset data monitored | MD | Registers the data to be monitored. |
| Monitoring start | MG | Monitors a registered contact or data. |
| Preset contact area (fill command) | SC | Embeds the area of a specified range in a 16-point on and off pattern. |
| Preset data area (fill command) | SD | Writes the same contents to the data area of a specified range. |
| Read system register | RR | Reads the contents of a system register. |
| Write system register | WR | Specifies the contents of a system register. |
| Read the status of PLC | RT | Reads the specifications of the programmable controller and error codes if an error occurs. |
| Remote control | RM | Switches the operation mode of the programmable controller. |
| Abort | AB | Aborts communication. |

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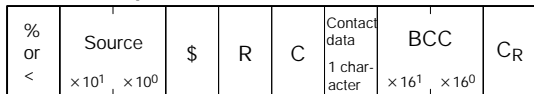
[RCS] Read contact area (single point)

This reads the on and off status for only one contact.

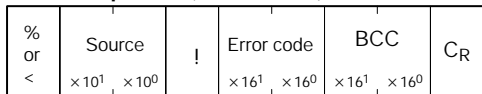
Command



Normal response (Read successful)



Error response (Read error)



Contact code

| Contact | Notation |
|-------------------|----------|
| External input X | " X " |
| External output Y | " Y " |
| Internal relay R | " R " |
| Link relay L | " L " |
| Timer T | " T " |
| Counter C | " C " |

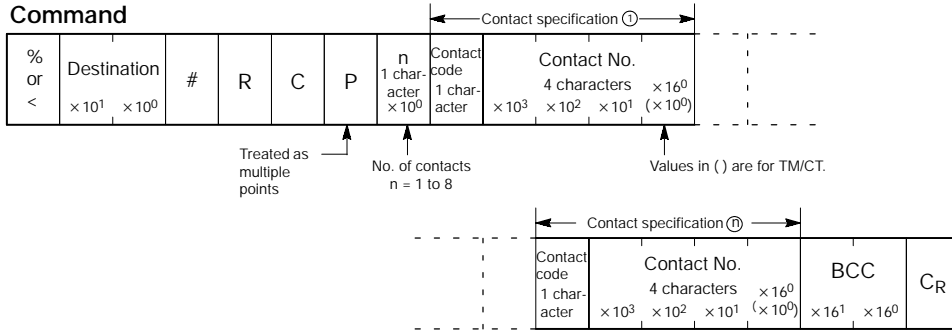
Contact data

| Contact | Notation |
|---------|----------|
| on | " 1 " |
| off | " 0 " |

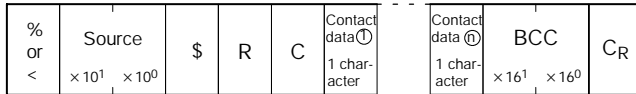
[RCP] Read contact area (plural points)

This reads the on and off status for multiple contacts.

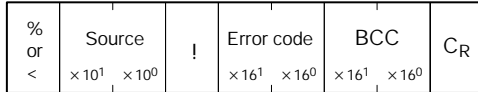
Command



Normal response (Read successful)



Error response (Read error)



Contact code

| Contact | Notation |
|-------------------|----------|
| External input X | " X " |
| External output Y | " Y " |
| Internal relay R | " R " |
| Link relay L | " L " |
| Timer T | " T " |
| Counter C | " C " |

Contact data

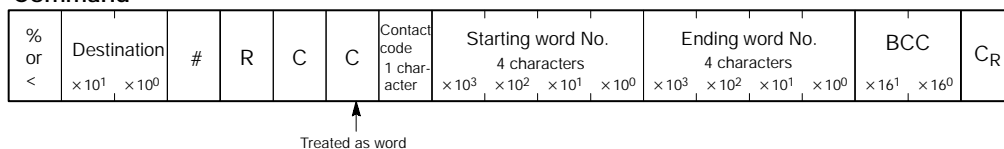
| Contact | Notation |
|---------|----------|
| on | " 1 " |
| off | " 0 " |

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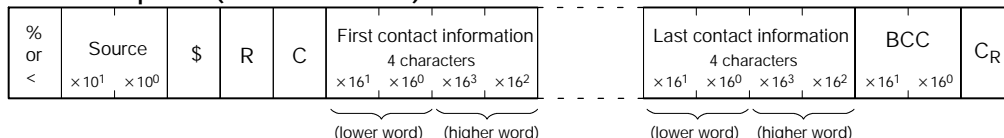
[RCC] Read contact area (word units block)

This reads the on and off status of the contact in word units.

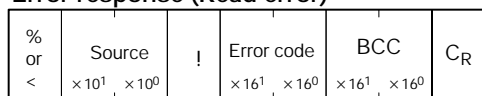
Command



Normal response (Read successful) The contact information is read as hexadecimal data, in word units.



Error response (Read error)



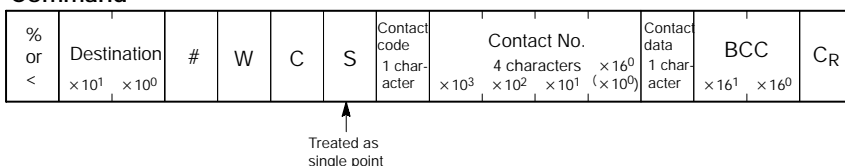
Contact code

| Contact | Notation |
|-------------------|----------|
| External input X | " X " |
| External output Y | " Y " |
| Internal relay R | " R " |
| Link relay L | " L " |
| Timer T | " T " |
| Counter C | " C " |

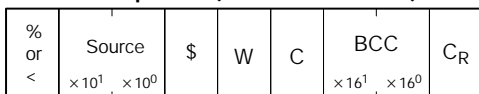
[WCS] Write contact area (single point)

This turns only one contact on or off.

Command



Normal response (Write successful)



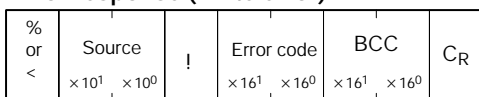
Contact code

| Contact | Notation |
|-------------------|----------|
| External output Y | " Y " |
| Internal relay R | " R " |
| Link relay L | " L " |

Contact data

| Contact | Notation |
|---------|----------|
| on | " 1 " |
| off | " 0 " |

Error response (Write error)

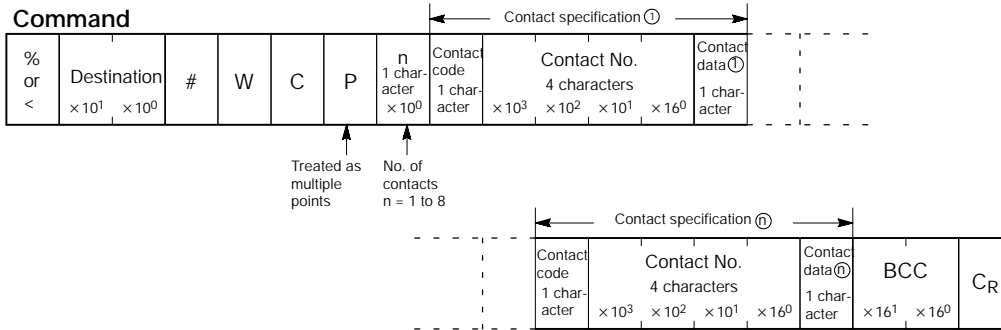


12.1 MEWTOCOL - COM (Computer Link)

[WCP] Write contact area (plural points)

This turns multiple contacts on and off.

Command



Normal response (Write successful)

| | | | | | | |
|---|--|----|---|---|---|----------------|
| % | Source <small>× 10¹ × 10⁰</small> | \$ | W | C | BCC <small>× 16¹ × 16⁰</small> | C _R |
|---|--|----|---|---|---|----------------|

Error response (Write error)

| | | | | | |
|---|--|---|--|---|----------------|
| % | Source <small>× 10¹ × 10⁰</small> | ! | Error code <small>× 16¹ × 16⁰</small> | BCC <small>× 16¹ × 16⁰</small> | C _R |
|---|--|---|--|---|----------------|

Contact code

| Contact | Notation |
|-----------------|----------|
| External output | “ Y ” |
| Internal relay | “ R ” |
| Link relay | “ L ” |

Contact data

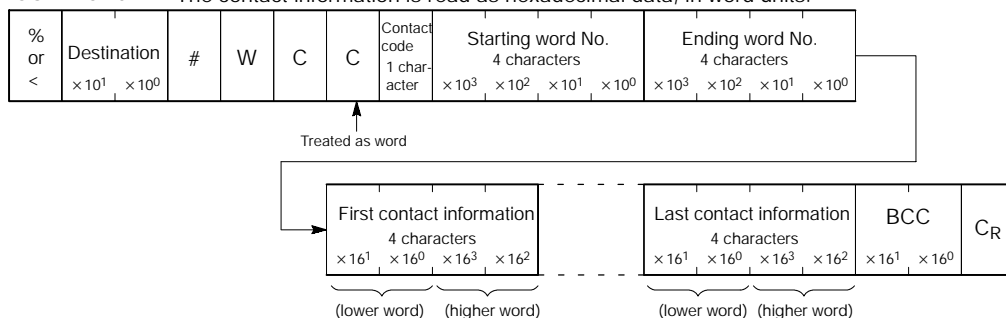
| Contact | Notation |
|---------|----------|
| on | “ 1 ” |
| off | “ 0 ” |

12.1 MEWTOCOL - COM (Computer Link)

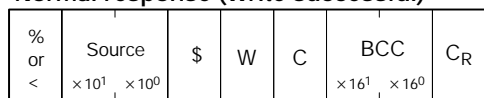
[WCC] Write contact area (word units block)

This turns a contact on or off in word units.

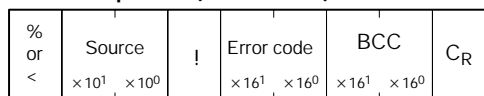
Command The contact information is read as hexadecimal data, in word units.



Normal response (Write successful)



Error response (Write error)



Contact code

| Contact | Notation |
|-----------------|----------|
| External output | Y " Y " |
| Internal relay | R " R " |
| Link relay | L " L " |

[RD] Read data area

This reads the contents of the data area.

To read the contents of DT, LD, and FL:

Command

| | | | | | | | | | |
|--------------|--|---|---|---|--------------------------|--|--|------------------------------------|-------|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | R | D | Data code 1 character | Starting word No. 5 characters $\times 10^4$ $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | Ending word No. 5 characters $\times 10^4$ $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|--|---|---|---|--------------------------|--|--|------------------------------------|-------|

Normal response (Read successful)

| | | | | | | | | |
|--------------|---------------------------------------|----|---|---|--|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | R | D | First register contents 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | Last register contents 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
| | | | | | (lower word) (higher word) | (lower word) (higher word) | | |

Error response (Read error)

| | | | | | |
|--------------|---------------------------------------|---|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|---------------------------------------|---|---|------------------------------------|-------|

Data code

| Data | Notation |
|-----------------------|----------|
| Data register DT | " D " |
| Link data register LD | " L " |
| File register FL | " F " |

To read the contents of an index register:

Command

| | | | | | | | | | |
|--------------|--|---|---|---|---------------------------|-------------------|------------------------------------|-------|--|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | R | D | Data code 2 characters | 0 0 0 0 0 0 0 0 0 | BCC $\times 16^1$ $\times 16^0$ | C_R | |
| | | | | | | | 9 characters | | |

Normal response (Read successful) (For I0 or I1)

| | | | | | | | |
|--------------|---------------------------------------|----|---|---|--|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | R | D | Register contents 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
| | | | | | (lower word) (higher word) | | |

Normal response (Read successful) (For I0 and I1)

| | | | | | | | | |
|--------------|---------------------------------------|----|---|---|---|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | R | D | Register contents (I0) 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | Register contents (I1) 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
| | | | | | (lower word) (higher word) | (lower word) (higher word) | | |

Error response (Read error)

| | | | | | |
|--------------|---------------------------------------|---|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|---------------------------------------|---|---|------------------------------------|-------|

Data code

| Data | Notation |
|--------|-------------|
| I0 | " I " " X " |
| I1 | " I " " Y " |
| I0, I1 | " I " " D " |

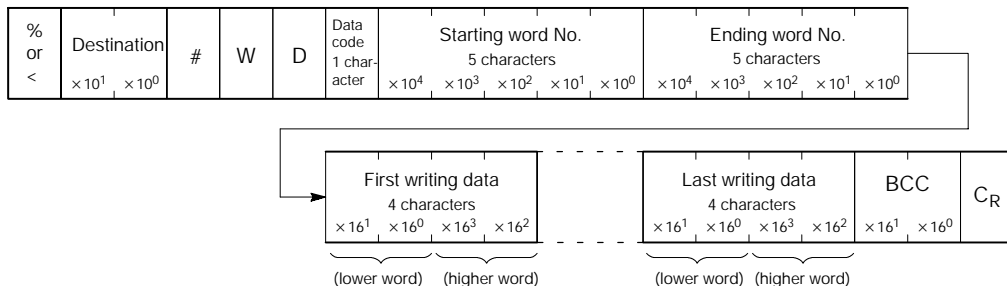
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[WD] Write data area

This writes the contents of the data area.

To write the contents of DT, LD, and FL:

Command



Normal response (Write successful)

| | | | | | | |
|---------|---------------------------------|----|---|---|---------------------------------|----------------|
| % | Source | \$ | W | D | BCC | C _R |
| or < | $\times 10^1 \quad \times 10^0$ | | | | $\times 16^1 \quad \times 16^0$ | |

Data code

| Data | Notation |
|-----------------------|----------|
| Data register DT | " D " |
| Link data register LD | " L " |
| File register FL | " F " |

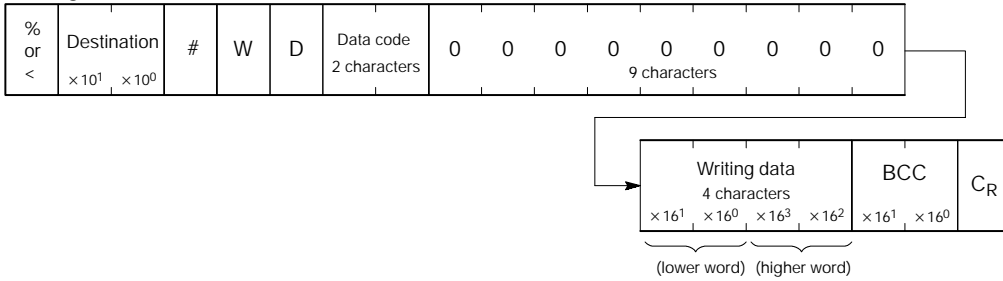
Error response (Write error)

| | | | | | |
|---------|---------------------------------|---|---------------------------------|---------------------------------|----------------|
| % | Source | ! | Error code | BCC | C _R |
| or < | $\times 10^1 \quad \times 10^0$ | | $\times 16^1 \quad \times 16^0$ | $\times 16^1 \quad \times 16^0$ | |

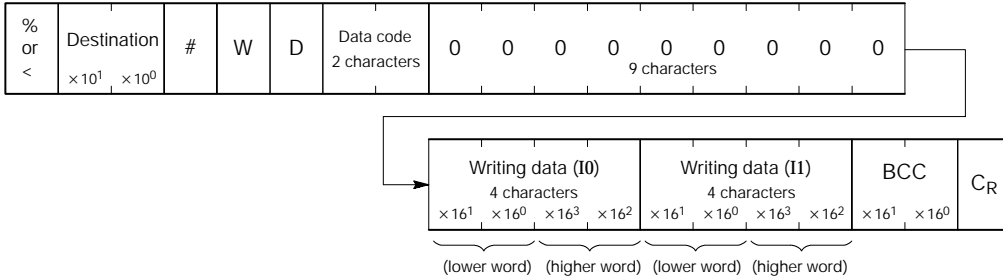
To write to an index register:

Command

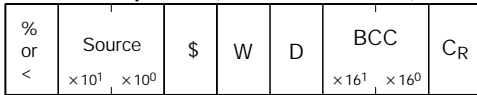
Writing to I0 and I1:



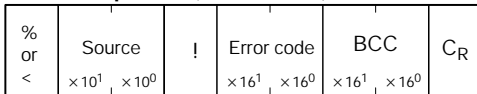
Writing to I0 and I1 at the same time (32-bit data):



Normal response (Write successful)



Error response (Write error)



Data code

| Data | Notation |
|--------|-------------|
| I0 | " I " " Y " |
| I1 | " I " " Y " |
| I0, I1 | " I " " D " |

12.1 MEWTOCOL-COM (Computer Link)

[RS] Read set value area

This reads the value set for a timer/counter.

Command

| | | | | | | | | |
|--------------|--|---|---|---|---|---|------------------------------------|----------------|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | R | S | Starting timer/counter No. 4 characters $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | Ending timer/counter No. 4 characters $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|--|---|---|---|---|---|------------------------------------|----------------|

Normal response (Read successful)

| | | | | | | | | |
|--------------|---------------------------------------|----|---|---|--|---|------------------------------------|----------------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | R | S | First set value 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | Last set value 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | BCC $\times 16^1$ $\times 16^0$ | C _R |
| | | | | | (lower word) | (higher word) | | |
| | | | | | (lower word) | (higher word) | | |

Error response (Read error)

| | | | | | |
|--------------|---------------------------------------|---|---|------------------------------------|----------------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|---------------------------------------|---|---|------------------------------------|----------------|

[WS] Write set value area

This writes the value to be set for a timer/counter.

Command

| | | | | | | | | | | | | |
|--------------|--|---|---|---|---|---|---|--|------------------------------------|----------------|--|--|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | W | S | Starting timer/counter No. 4 characters $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | Ending timer/counter No. 4 characters $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | | | | | | |
| | | | | | | | First writing data 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | Last writing data 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | BCC $\times 16^1$ $\times 16^0$ | C _R | | |
| | | | | | (lower word) | (higher word) | | | (lower word) | (higher word) | | |
| | | | | | (lower word) | (higher word) | | | (lower word) | (higher word) | | |

Normal response (Write successful)

| | | | | | | |
|--------------|---------------------------------------|----|---|---|------------------------------------|----------------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | W | S | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|---------------------------------------|----|---|---|------------------------------------|----------------|

Error response (Write error)

| | | | | | |
|--------------|---------------------------------------|---|---|------------------------------------|----------------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|---------------------------------------|---|---|------------------------------------|----------------|

[RK] Read elapsed value area

This reads the elapsed value for a timer/counter.

Command

| | | | | | | | | |
|--------------|--|---|---|---|---|---|------------------------------------|-------|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | R | K | Starting timer/counter No. 4 characters $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | Ending timer/counter No. 4 characters $\times 10^3$ $\times 10^2$ $\times 10^1$ $\times 10^0$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|--|---|---|---|---|---|------------------------------------|-------|

Normal response (Read successful)

| | | | | | | | | |
|--------------|---------------------------------------|----|---|---|--|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | R | K | First elapsed value 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | Last elapsed value 4 characters $\times 16^1$ $\times 16^0$ $\times 16^3$ $\times 16^2$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
| | | | | | (lower word) (higher word) | (lower word) (higher word) | | |

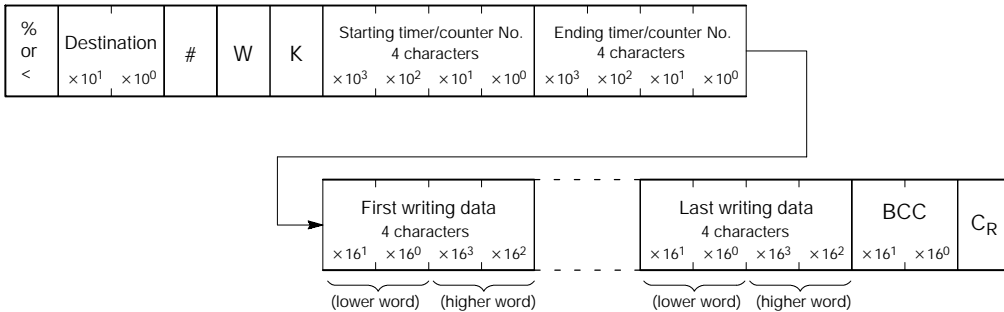
Error response (Read error)

| | | | | | |
|--------------|---------------------------------------|---|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|---------------------------------------|---|---|------------------------------------|-------|

[WK] Write elapsed value area

This writes the elapsed value for a timer/counter.

Command



Normal response (Write successful)

| | | | | | | |
|--------------|---------------------------------------|----|---|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | W | K | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|---------------------------------------|----|---|---|------------------------------------|-------|

Error response (Write error)

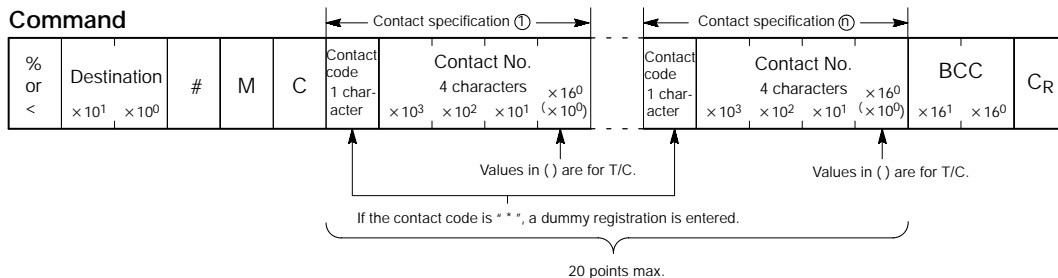
| | | | | | |
|--------------|---------------------------------------|---|---|------------------------------------|-------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C_R |
|--------------|---------------------------------------|---|---|------------------------------------|-------|

12.1 MEWTOCOL - COM (Computer Link)

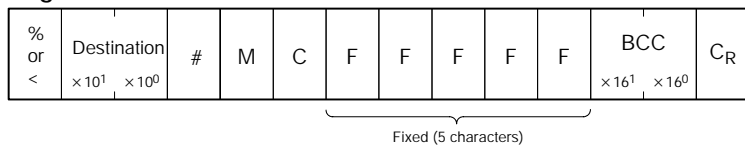
[MC] Register or Reset contacts monitored

This registers a contact to be monitored. Up to 80 points can be registered for one unit.

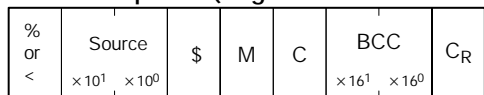
Command



Register reset



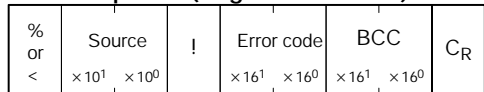
Normal response (Registration successful)



Contact code

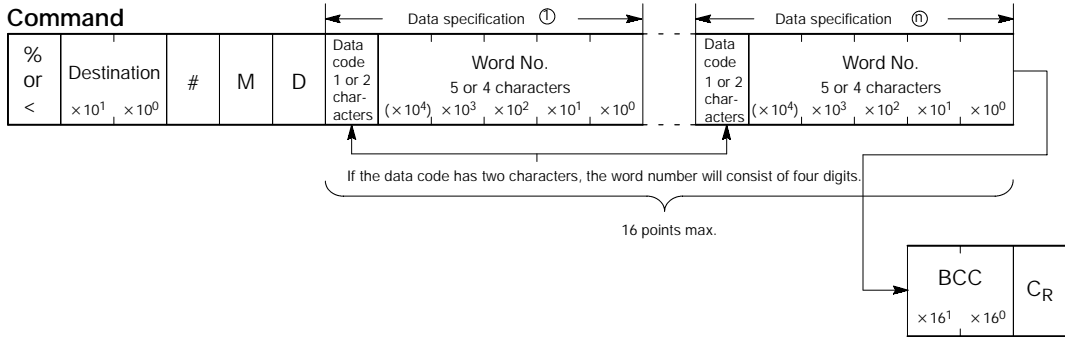
| Contact | Notation |
|-----------------|----------|
| External input | X " X " |
| External output | Y " Y " |
| Internal relay | R " R " |
| Link relay | L " L " |
| Timer | T " T " |
| Counter | C " C " |

Error response (Registration error)

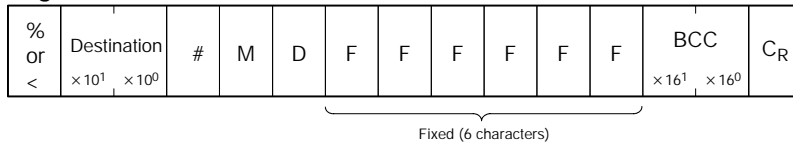


[MD] Register or Reset data monitored

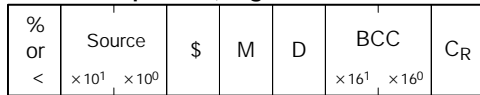
This registers data to be monitored. Up to 16 points can be registered for one unit.



Register reset



Normal response (Registration successful)

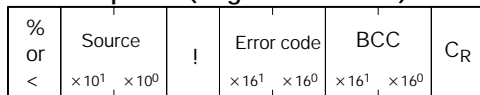


Data code

| Data | Data code |
|----------------------------------|-----------|
| Data register | DT " D " |
| Link data register | LD " L " |
| File register | FL " F " |
| Timer/counter set value area | SV " S " |
| Timer/counter elapsed value area | EV " K " |
| Index register | I0 " IX " |
| Index register | I1 " IY " |
| External input | WX " WX " |
| External output | WY " WY " |
| Internal relay | WR " WR " |
| Link relay | WL " WL " |

2-character data code

Error response (Registration error)



- If the data code is IX or IY, " 0 " should be specified for the four characters of the word number.
- Dummy registrations (" * ") are not possible when registering data to be monitored.

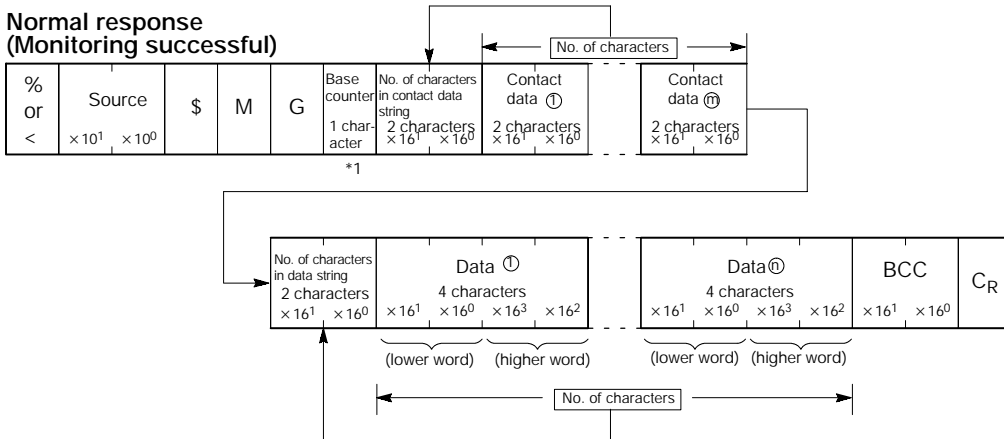
12.1 MEWTOCOL - COM (Computer Link)

[MG] Monitoring start

This monitors a contact or data that has been registered.

Command

| | | | | | | |
|----|-----------------------------|---|---|---|-----------------------------|----------------|
| % | Destination | # | M | G | BCC | C _R |
| or | | | | | | |
| < | $\times 10^1$ $\times 10^0$ | | | | $\times 16^1$ $\times 16^0$ | |

Normal response (Monitoring successful)

*1 The base counter returns "A" if scanning took place ten times or more on the PLC side since the previous response.

Error response (Monitoring error)

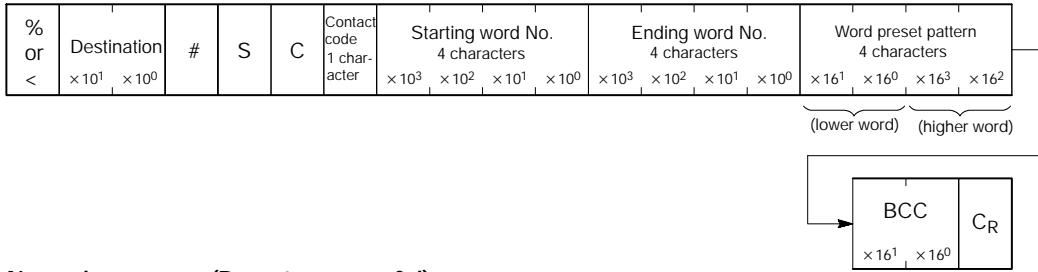
| | | | | | |
|----|-----------------------------|---|-----------------------------|-----------------------------|----------------|
| % | Source | ! | Error code | BCC | C _R |
| or | | | | | |
| < | $\times 10^1$ $\times 10^0$ | | $\times 16^1$ $\times 16^0$ | $\times 16^1$ $\times 16^0$ | |

- Contact data is entered in the order registered, starting from bit 0 of the contact data ①.
- Data is entered in the order registered, starting from the data ①.

[SC] Preset contact area (fill command)

This embeds the areas of the specified range for 16 on and off points.

Command



Normal response (Preset successful)

| | | | | | | |
|---|---------------------------|----|---|---|---------------------------|-------|
| % | Source | \$ | S | C | BCC | C_R |
| < | $\times 10^1 \times 10^0$ | | | | $\times 16^1 \times 16^0$ | |

Error response (Preset error)

| | | | | | |
|---|---------------------------|---|---------------------------|---------------------------|-------|
| % | Source | ! | Error code | BCC | C_R |
| < | $\times 10^1 \times 10^0$ | | $\times 16^1 \times 16^0$ | $\times 16^1 \times 16^0$ | |

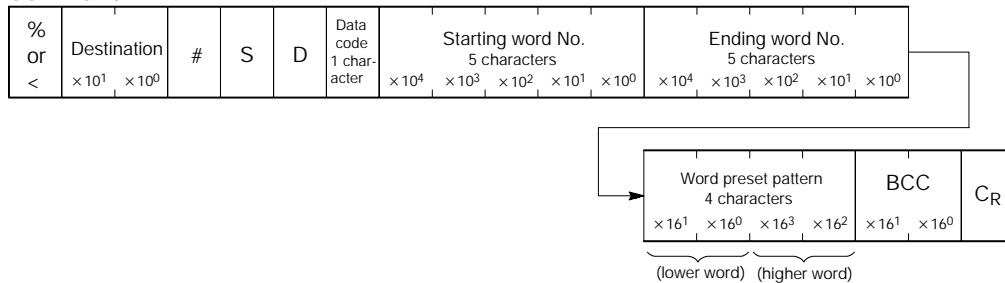
Contact code

| Contact | Notation |
|-------------------|----------|
| External output Y | " Y " |
| Internal relay R | " R " |
| Link relay L | " L " |

[SD] Preset data area (fill command)

This writes the same contents to the data area of the specified range.

Command



Normal response (Preset successful)

| | | | | | | |
|---|---------------------------|----|---|---|---------------------------|-------|
| % | Source | \$ | S | D | BCC | C_R |
| < | $\times 10^1 \times 10^0$ | | | | $\times 16^1 \times 16^0$ | |

Error response (Preset error)

| | | | | | |
|---|---------------------------|---|---------------------------|---------------------------|-------|
| % | Source | ! | Error code | BCC | C_R |
| < | $\times 10^1 \times 10^0$ | | $\times 16^1 \times 16^0$ | $\times 16^1 \times 16^0$ | |

Data code

| Data | Notation |
|-----------------------|----------|
| Data register DT | " D " |
| Link data register LD | " L " |
| File register FL | " F " |

12.1 MEWTOCOL - COM (Computer Link)

[RT] Read the status of PLC

This reads information such as error codes if an error occurs in the programmable controller specifications.

Command

| | | | | | | |
|--------------|---|---|---|---|-----------------------------------|----------------|
| % or < | Destination $\times 10^1, \times 10^0$ | # | R | T | BCC $\times 16^1, \times 16^0$ | C _R |
|--------------|---|---|---|---|-----------------------------------|----------------|

Normal response (Read successful)

| | | | | | | | | | | | | | | |
|--------------|--------------------------------------|----|---|--------------|--|---|--|--|--|--|---|--|-----------------------------------|----------------|
| % or < | Source $\times 10^1, \times 10^0$ | \$ | R | T | Model code 2 characters $\times 10^1, \times 10^0$ | Version 2 characters $\times 16^1, \times 16^0$ | Program capacity 2 characters $\times 16^1, \times 16^0$ | Operation mode 2 characters $\times 16^1, \times 16^0$ | Link informa- tion for system 2 characters $\times 16^1, \times 16^0$ | Error flag 2 characters $\times 16^1, \times 16^0$ | Self-diagnostic error No. 4 characters $\times 16^1, \times 16^0, \times 16^3, \times 16^2$ | | BCC $\times 16^1, \times 16^0$ | C _R |
| | | | | (lower word) | | (higher word) | | | | | | | | |

Error response (Read error)

| | | | | | |
|--------------|--------------------------------------|---|--|-----------------------------------|----------------|
| % or < | Source $\times 10^1, \times 10^0$ | ! | Error code $\times 16^1, \times 16^0$ | BCC $\times 16^1, \times 16^0$ | C _R |
|--------------|--------------------------------------|---|--|-----------------------------------|----------------|

Model code

This expresses the CPU unit type as a 2-character decimal value.

| Code | Model |
|------|---------------|
| 20 | FP2 and FP2SH |

Version

This expresses the CPU unit version as a 2-character decimal value.

For example: 15 → Ver. 1.5

Program capacity

This expresses the program capacity specified by system register no. 0 as a 2-character decimal value. The value is expressed in k-step units.

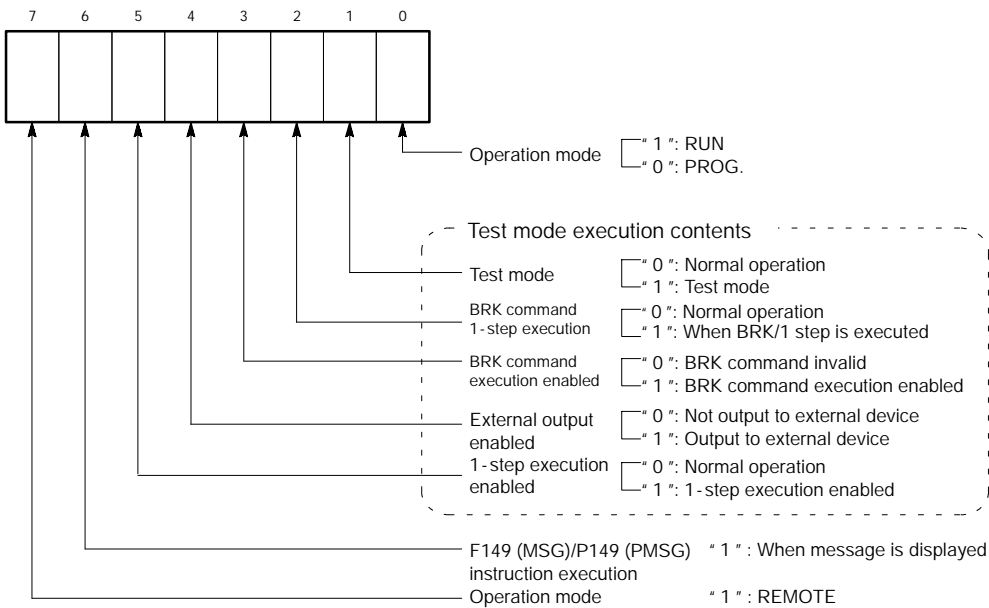
| Code | Program capacity | Last step address |
|------|------------------|--|
| 02 | 2k steps | 1,534 |
| n | n steps | $1,024 \times n - 512 - 2$ For example: If n = 8, the value is 7,678. |
| 16 | 16k steps | 15,870 |
| 32 | 32k steps | 32,254 |

Note: With the FP2SH, this will be "0".

Operation mode

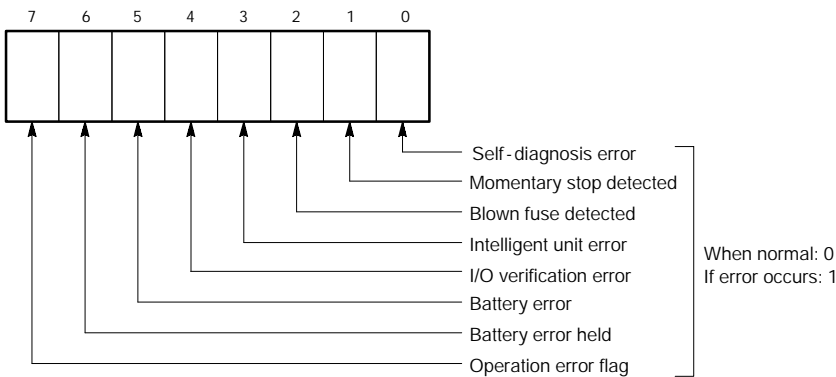
- The contents of special internal relays R9020 to R9027 are expressed as 2-character hexadecimal values.
- The user can check the settings of the mode selector switches on the CPU unit (RUN / PROG. / REMOTE), whether normal operation or test operation is being used, and other elements.

Values are read in binary notation, as shown below.



Error flag

The statuses of the eight error flags (special internal relays) R9000 to R9007 are expressed as 2-character hexadecimal values. They are read using binary notation, as shown below.



12.1 MEWTOCOL - COM (Computer Link)

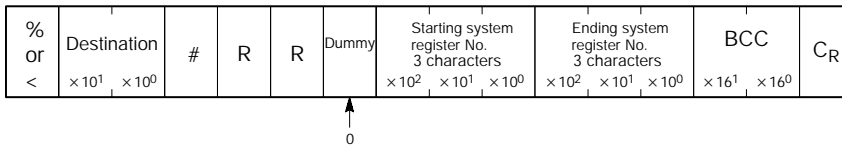
Self-diagnostic error code

- If an error occurs, the self-diagnosis error code is expressed as a 4-digit hexadecimal value. Please be careful, since self-diagnosis error codes are normally treated as decimal values.
For example, if the content is read as "2D00" in hexadecimal format, the self-diagnosis error code will be "2D". In decimal notation it will be read as "45" (operation error).
- If no error has occurred, the value will be "0000".

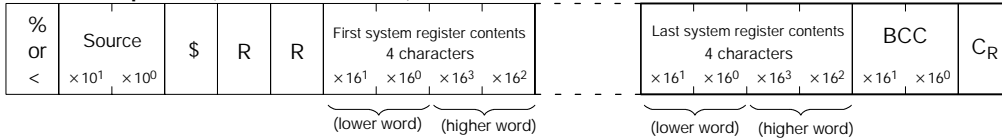
[RR] Read system register

This reads the contents of the system registers.

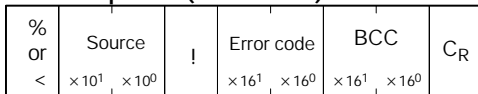
Command



Normal response (Read successful)



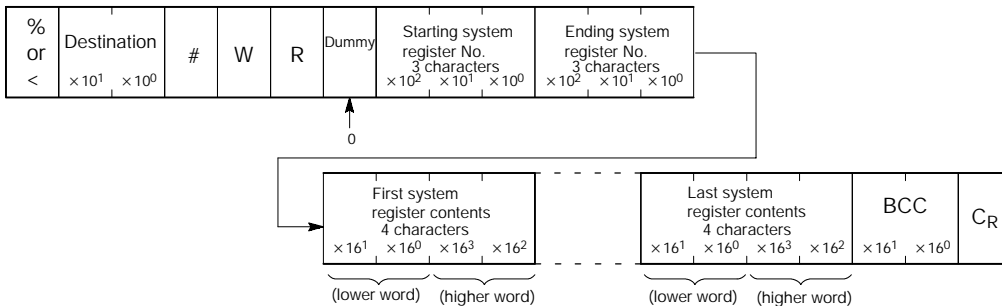
Error response (Read error)



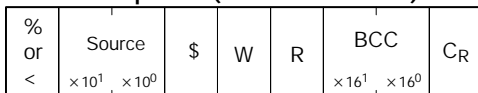
[WR] Write system register

This sets the system registers.

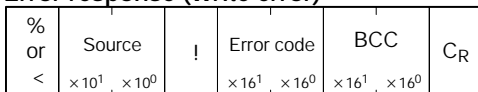
Command



Normal response (Write successful)



Error response (Write error)



12.1 MEWTOCOL - COM (Computer Link)

[RM] Remote control

This switches the operation mode of the programmable controller. It is effective only when the operation mode of the programmable controller is the REMOTE mode.

Command

| | | | | | | | |
|--------------|--|---|---|---|------------------------------------|--------------------------------------|----------------|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | R | M | Operation code 1 char. acter | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|--|---|---|---|------------------------------------|--------------------------------------|----------------|

Normal response (Remote control successful)

| | | | | | | |
|--------------|---|----|---|---|--------------------------------------|----------------|
| % or < | Source $\times 10^1$ $\times 10^0$ | \$ | R | M | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|---|----|---|---|--------------------------------------|----------------|

Operation code

| Code | Operation |
|-------|-----------------------------------|
| " R " | PROGRAM mode → RUN mode (booting) |
| " P " | RUN mode → PROGRAM mode (stopped) |

Error response (Remote control error)

| | | | | | |
|--------------|---|---|---|--------------------------------------|----------------|
| % or < | Source $\times 10^1$ $\times 10^0$ | ! | Error code $\times 16^1$ $\times 16^0$ | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|---|---|---|--------------------------------------|----------------|

[AB] Abort

If a transmission is aborted while a multiple-frame response is being received from the programmable controller, this is issued from the side sending the command (the computer side).

Command

| | | | | | | |
|--------------|--|---|---|---|--------------------------------------|----------------|
| % or < | Destination $\times 10^1$ $\times 10^0$ | # | A | B | BCC $\times 16^1$ $\times 16^0$ | C _R |
|--------------|--|---|---|---|--------------------------------------|----------------|

Response

No response