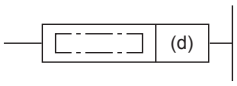
# 8.25 Clock Instruction

## Reading clock data

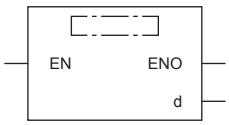
### TRD(P)

FX5S FX5UJ FX5U FX5UC

These instructions read the clock data from the built-in real time clock in the CPU module.

| Ladder diagram | Structured text |
|---|---|
|  | ENO:=TRD(EN,d);<br>ENO:=TRDP(EN,d); |

**FBD/LD**




#### Setting data

##### ■Descriptions, ranges, and data types

| Operand | Description | Range | Data type | Data type (label) |
|---|---|---|---|---|
| (d) | Head device number where the read clock data is stored | — | 16-bit signed binary | ANY16_ARRAY (Number of elements: 7) |
| EN | Execution condition | — | Bit | BOOL |
| ENO | Execution result | — | Bit | BOOL |

##### ■Applicable devices

| Operand | Bit | Word | | | Double word | | Indirect specification | Constant | | | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | X, Y, M, L, SM, F, B, SB, S | T, ST, C, D, W, SD, SW, R | U□\G□ | Z | LC | LZ | | K, H | E | $ | |
| (d) | — | ○ | ○ | — | — | — | ○ | — | — | — | — |

#### Processing details

- These instructions read the clock data (SD210 to SD216) from the built-in real time clock in the CPU module to the device numbers (d) to (d)+6 in the following format.

| Special register | | | Read data | |
|---|---|---|---|---|
| Device | Item | Clock data | Device | Item |
| SD210 | Year | 1980 to 2079 (year, four digits) | (d) | Year |
| SD211 | Month | 1 to 12 | (d)+1 | Month |
| SD212 | Day | 1 to 31 | (d)+2 | Day |
| SD213 | Hour data | 0 to 23 | (d)+3 | Hour data |
| SD214 | Minute data | 0 to 59 | (d)+4 | Minute data |
| SD215 | Second data | 0 to 59 | (d)+5 | Second data |
| SD216 | Day-of-the-week data | 0 (Sunday) to 6 (Saturday) | (d)+6 | Day-of-the-week data |

• The table below shows the related devices. The clock data stored in these special registers is updated during the END processing.

| Device | Name | Description |
|---|---|---|
| Binary code | | |
| SD210 | Binary clock data (year) | The year data in the clock data is stored as a four-digit binary code. |
| SD211 | Binary clock data (month) | The month data in the clock data is stored as a binary code. |
| SD212 | Binary clock data (day) | The day data in the clock data is stored as a binary code. |
| SD213 | Binary clock data (hour) | The hour data in the clock data is stored as a binary code. |
| SD214 | Binary clock data (minute) | The minute data in the clock data is stored as a binary code. |
| SD215 | Binary clock data (second) | The second data in the clock data is stored as a binary code. |
| SD216 | Binary clock data (day of the week) | The day-of-a-week data in the clock data (0: Sunday, 1: Monday, ..., 6: Saturday) is stored as a binary code. |
| Binary code (FX3 compatible area) | | |
| SD8013 | Binary clock data (second) | The second data in the clock data is stored as a binary code. |
| SD8014 | Binary clock data (minute) | The minute data in the clock data is stored as a binary code. |
| SD8015 | Binary clock data (hour) | The hour data in the clock data is stored as a binary code. |
| SD8016 | Binary clock data (day) | The day data in the clock data is stored as a binary code. |
| SD8017 | Binary clock data (month) | The month data in the clock data is stored as a binary code. |
| SD8018 | Binary clock data (year) | The year data in the clock data is stored as a four-digit binary code. |
| SD8019 | Binary clock data (day of the week) | The day-of-a-week data in the clock data (0: Sunday, 1: Monday, ..., 6: Saturday) is stored as a binary code. |

## Precautions

• These instructions occupy seven points of device starting from device number specified by (d). Make sure that these devices are not used by other machine controls.

## Operation error

| Error code (SD0/SD8067) | Description |
|---|---|
| 2820H | The device range specified by (d) exceeds the corresponding device range. |