

Handling 16-bit data with word devices/labels

■Word device

One point of word device can handle 16-bit data.

■Word type label

One point of word type label can handle 16-bit data.

32-bit data (double word data)

Data size and data range

32-bit data includes signed and unsigned 32-bit data.

In signed 32-bit data, a negative number is represented in two's complement.

Data name	Data size	Value range	
		Decimal notation	Hexadecimal notation
Signed 32-bit data	32 bits (2 word)	-2147483648 to 2147483647	00000000H to FFFFFFFFH
Unsigned 32-bit data		0 to 4294967295	

Handling 32-bit data with bit devices

A bit device can be handled as 32-bit data by performing digit specification.

Item	Notation	Example
Bit device	K□Bit device start number □: Number of digits (Specify the number within the range from 1 to 8.)	K8X10 K6B018

Handling 32-bit data with bit type array labels

A bit type array label can be handled as 32-bit data by performing digit specification.

The following table shows the notation for handling a bit type array label as 32-bit data by digit specification.

Item	Notation	Example
Bit type array label	K□Label name □: Number of digits (Specify a number within the range of 1 to 8.) Specify a label name without an array element.	K8L_BOOL

Digit specification range

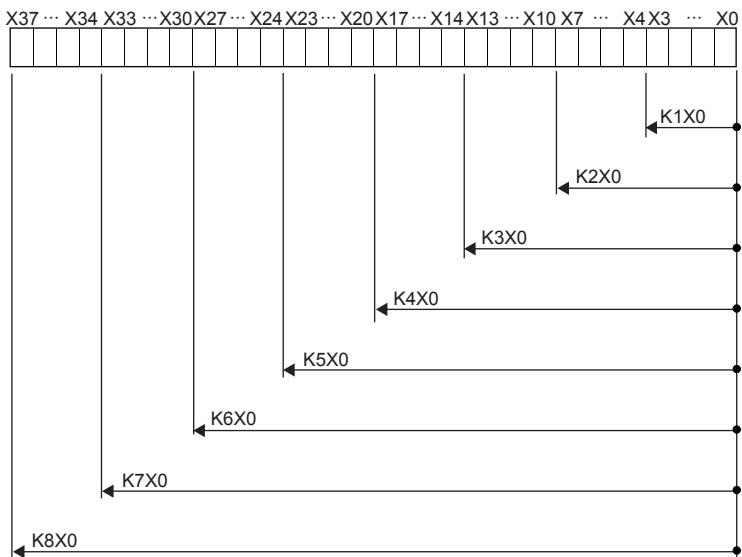
The following table lists the range of 32-bit data for each digit specification.

Digit specification	Decimal notation	Hexadecimal notation
K1	0 to 15	0H to FH
K2	0 to 255	00H to FFH
K3	0 to 4095	000H to FFFFH
K4	0 to 65535	0000H to FFFFH
K5	0 to 1048575	00000H to FFFFFH
K6	0 to 16777215	000000H to FFFFFFFH
K7	0 to 268435455	0000000H to FFFFFFFFH
K8	Signed 32-bit data: -2147483648 to 2147483647 Unsigned 32-bit data: 0 to 4294967295	00000000H to FFFFFFFFH

Ex.

When digit specification is made for X0, the applicable number of points is as follows.

- K1X0 → 4 points from X0 to X3
- K2X0 → 8 points from X0 to X7
- K3X0 → 12 points from X0 to X13
- K4X0 → 16 points from X0 to X17
- K5X0 → 20 points from X0 to X23
- K6X0 → 24 points from X0 to X27
- K7X0 → 28 points from X0 to X33
- K8X0 → 32 points from X0 to X37



■Specifying a bit device with digit specification in the source (s)

When a bit device with digit specification is specified in the source of an instruction, 0 is stored in the bits, which follow the bit for which digit specification is made in the source, in the word device of the destination.

Ladder example	Processing
<ul style="list-style-type: none"> • 32-bit data instruction 	

■Specifying a bit device with digit specification in the destination (d)

When a digit specification is made in the destination of an instruction, the number of points by the digit specification is applicable in the destination.

The bit devices after the number of points specified by nibble remain unchanged.

Ladder example	Processing
<ul style="list-style-type: none"> • When the source data is a word device 	<p>(1): The data remain the same.</p>

Handling 32-bit data with word devices/labels

■Word device

Two points of word device can handle 32-bit data.

Note, however, that one point of the following devices can handle 32-bit data.

- Long counter (LC)
- Long index register (LZ)

■Double word type label

One point of double word device can handle 32-bit data.