07-6 Basic instruction

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Data block instructions

BK+/BIN 16-bit block data addition operation

BK+(P)

Add the BIN 16-bit data of point (N) starting from the device specified in (S1) and the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BK+ (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
S1	The start device that stores the addition operation data	-32,768 to +32,767	BIN16 bit	ANY16_S
S2	Addition data or the starting device that stores the addition data	-32,768 to +32,767	BIN16 bit	ANY16_S
D	The start device that stores the addition operation result	-	BIN16 bit	ANY16_S
N	The number of addition operation data	0 to 65,535	BIN16 bit	ANY16

Device used

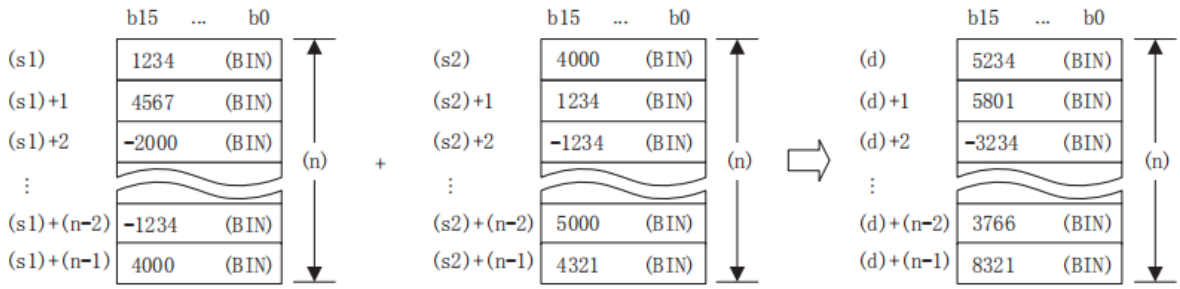
Instruction	Parameter	Devices							Offset modification	Pulse extension
		T	C	D	R	SD	K	H	[D]	XXP
BK+	Parameter 1	●	●	●	●	●			●	●
	Parameter 2	●	●	●	●	●	●	●	●	●
	Parameter 3	●	●	●	●	●			●	●
	Parameter 4			●	●	●	●	●		●

Features

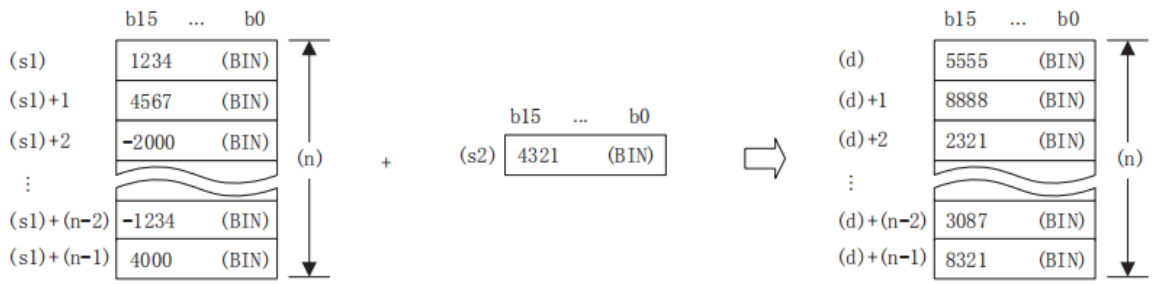
Add the BIN 16-bit data of point (N) starting from the device specified in (S1) and the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the result in the device specified in (D).

• Block addition operations are performed in 16-bit units.

When a device is specified in (S2) (when specified with a sign)

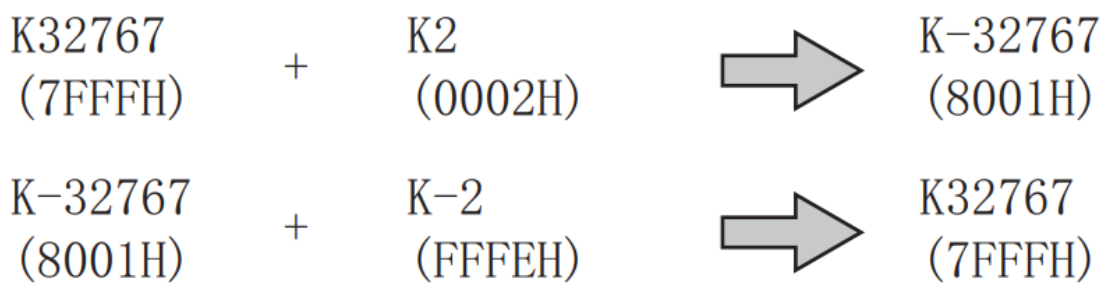


When a constant is specified in (S2) (when specified with a sign)

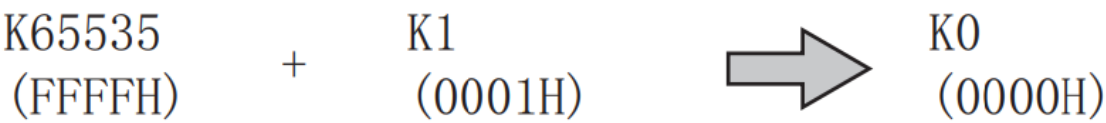


• When an underflow or overflow occurs in the operation result, the conditions are as follows. In this case, the carry flag does not change to ON.

When specifying sign:



When specifying unsigned:



Error code

Error code	Content
4084H	The device range of point (N) starting from (S1) or (S2) is partially consistent with the device range of point (N) starting from (D). (duplicate)
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example

As shown in the above ladder program:

When X0 is ON, add the device data starting from D100 (the number of device points is the value stored in D0), and the number of devices starting from D150(the number of device points is the value stored in D0), and save the result to the program after D200.

DBK+/BIN 32-bit block data addition operation

DBK+(P)

Add the BIN 32-bit data of point (N) starting from the device specified in (S1) and the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[DBK+ (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
S1	The start device that stores addition operation data	-2147483648 to +2147483647	BIN32 bit	ANY32_S
S2	Addition data or the starting device that stores addition operation data	-2147483648 to +2147483647	BIN32 bit	ANY32_S
D	The start device that stores the operation data	-	BIN32 bit	ANY32_S
N	The number of addition operation data	0 to 65535	BIN32 bit	ANY32_S

Device used

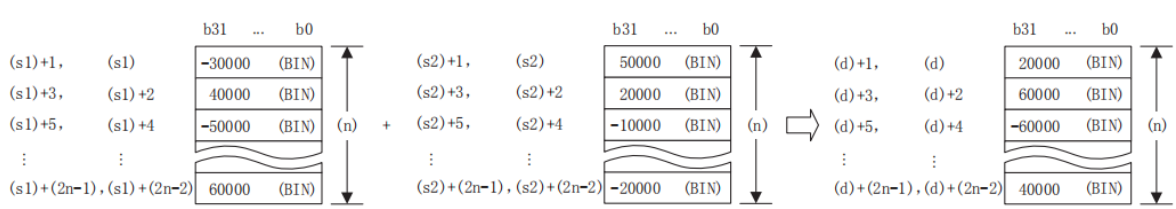
Instruction	Parameter	Devices									Offset modification	Pulse extension
		T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBK+	Parameter 1	●	●	●	●	●	●	●			●	●
	Parameter 2	●	●	●	●	●	●	●	●	●	●	●
	Parameter 3	●	●	●	●	●	●	●			●	●
	Parameter 4			●	●	●			●	●		●

Features

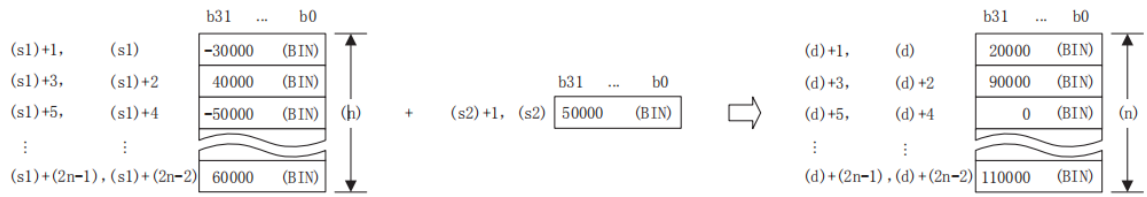
Add the BIN 32-bit data of point (N) starting from the device specified in (S1) and the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

• Block addition operations are performed in 32-bit units.

When a device is specified in (S2) (when specified with a sign)



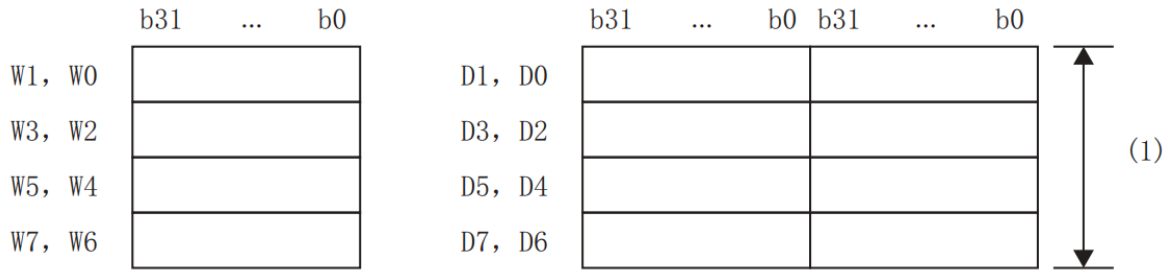
When a constant is specified in (S2) (when specified with a sign)



• When (S1) or (S2) and (D) are specified with the same device (completely consistent), operation could be performed. However, if the device range of point (N) starting from (S1) or (S2) partially matches (overlaps) the device range of point (N) starting from (D), an error occurs.

Example

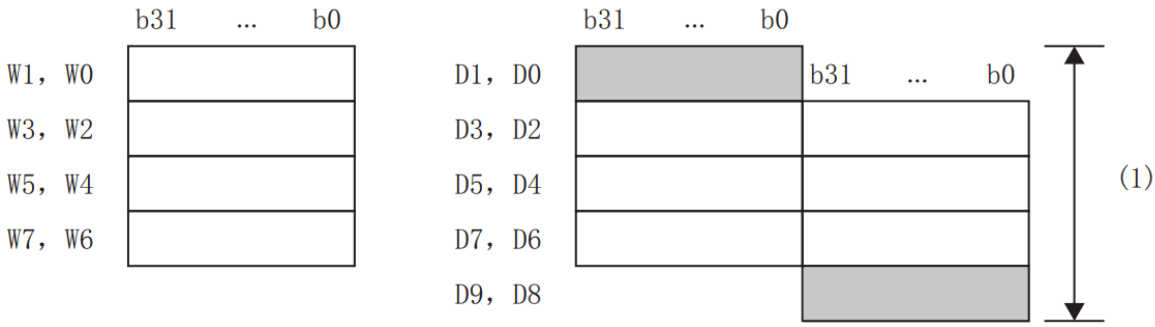
When the first 4 points of the device of (S2) and (D) are completely consistent.



(1)Because it is completely consistent, it can be calculated

(1) Due to the complete consistence, operation could be executed.

When (S2) and (D) the first 4 points of the device are partially consistent.



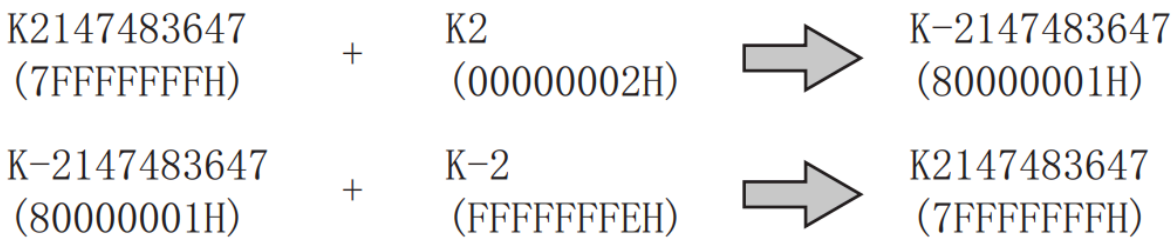
(1) 由于部分一致，因此变为运算出错

(2) Due to partial consistence, an operation error occurs.

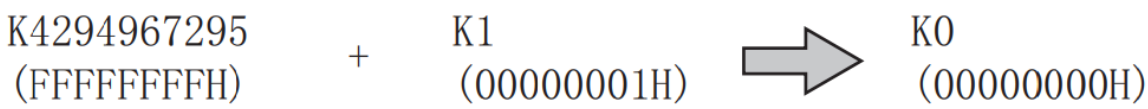
• If the value specified in (N) is 0, it will be no processing.

• When an underflow or overflow occurs in the operation result, the conditions are as follows. In this case, the carry flag does not change to ON.

When a Sign is specified:



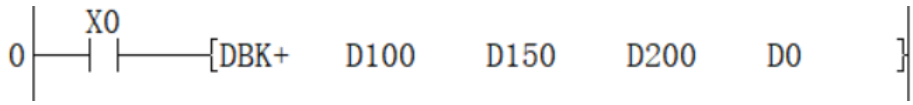
When specifying unsigned:



Error code

Error code	Content
4084H	The device range of point (N) starting from (S1) or (S2) is partially consistent with the device range of point starting from (D). (duplicate)
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



As shown in the above ladder program:

When X0 is ON, add the device data starting from D100 (the number of device points is the value stored in D0), and the number of devices starting from D150 (the number of device points is the value stored in D0), the result is saved to the program in the device after D200.

BK-/BIN 16-bit block data subtraction operation

BK-(P)

Subtract the BIN 16-bit data of point (N) starting from the device specified in (S1) and the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BK- (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)

(S1)	The start device that stores the subtracted data	-32768 to +32767	BIN16 bit	ANY16_S
(S2)	Subtraction data or the start device that stores the subtraction data	-32768 to +32767	BIN16 bit	ANY16_S
(D)	The start device that stores the operation result	-	BIN16 bit	ANY16_S
(N)	The number of subtraction operation data	0 to 65,535	BIN16 bit	ANY16

Device used

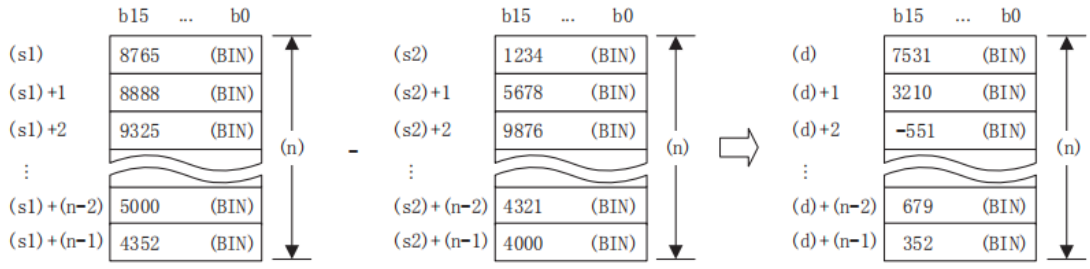
Instruction	Parameter	Devices							Offset modification	Pulse extension
		T	C	D	R	SD	K	H	[D]	XXP
BK-	Parameter 1	●	●	●	●	●			●	●
	Parameter 2	●	●	●	●	●	●	●	●	●
	Parameter 3	●	●	●	●	●			●	●
	Parameter 4			●	●	●	●	●		●

Features

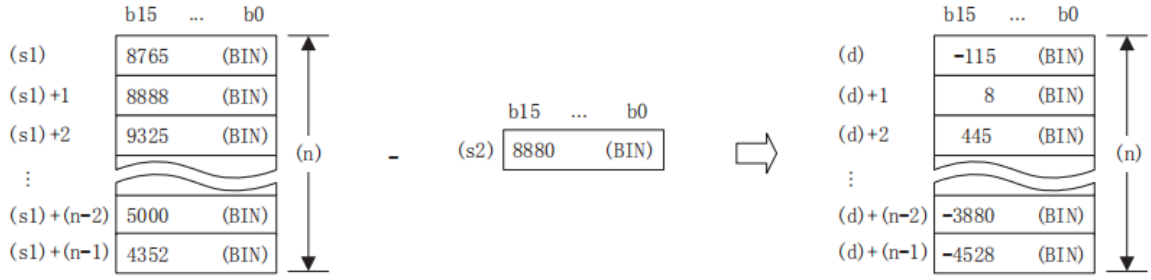
Subtract the BIN 16-bit data of point (N) starting from the device specified in (S1) and the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the result in the device specified in (D).

• Block subtraction operations are performed in 16-bit units.

When a device is specified in (S2)

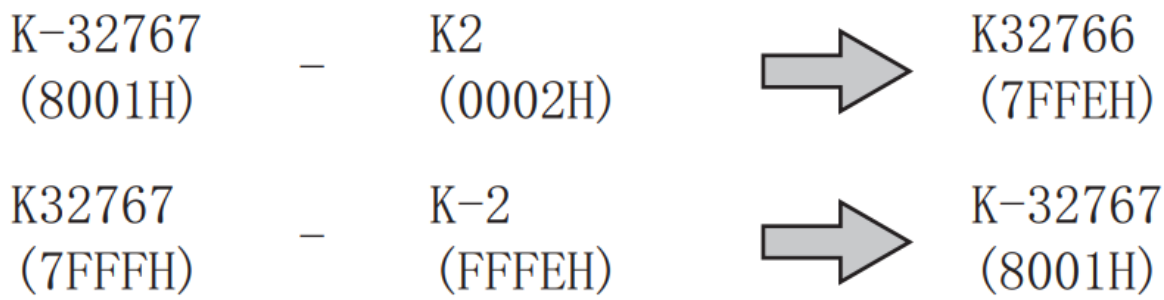


When a constant is specified in (S2)

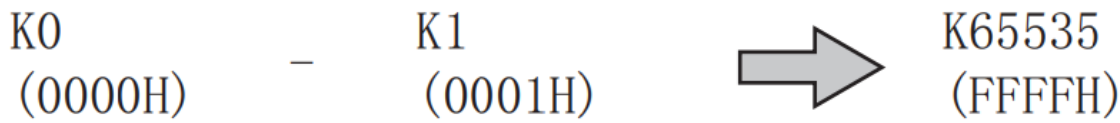


• When an underflow or overflow occurs in the operation result, the conditions are as follows. In this case, the carry flag does not change to ON.

When a Sign is specified:



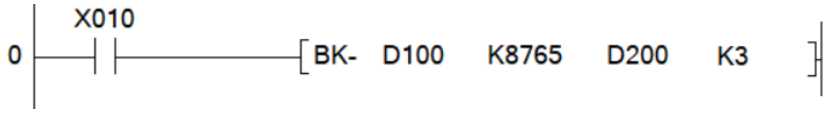
When specifying unsigned:



Error code

Error code	Content
4084H	The device range of point (N) starting from (S1) or (S2) is partially consistent with the device range of point (N) starting from (D). (duplicate)
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



As shown in the ladder program above:

When X010 is ON, after subtracting the 3 point data from D100 and the constant 8765, the result is saved to the program in the device after D200.

DBK-/BIN 32-bit block data subtraction operation

DBK-(P)

Subtract the BIN 32-bit data of point (N) starting from the device specified in (S1) and the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[DBK- (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)

(S1)	The start device that stores the subtracted data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	Subtraction data or the start device that stores the subtraction data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device that stores the operation result	-	BIN32 bit	ANY32_S
(N)	The number of subtraction operation data	0 to 65,535	BIN32 bit	ANY32_S

Device used

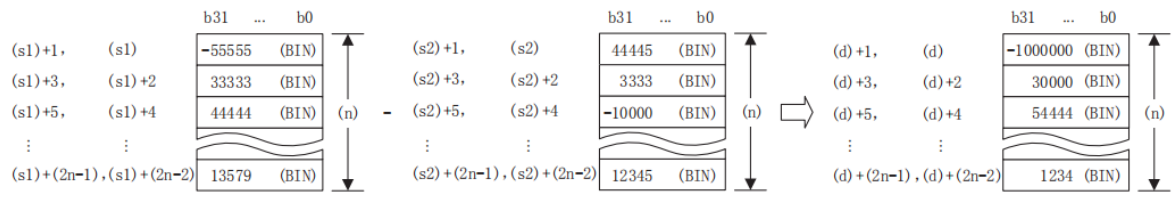
Instruction	Parameter	Devices									Offset modification	Pulse extension
		T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBK-	Parameter 1	●	●	●	●	●	●	●			●	●
	Parameter 2	●	●	●	●	●	●	●	●	●	●	●
	Parameter 3	●	●	●	●	●	●	●			●	●
	Parameter 4			●	●	●			●	●		●

Features

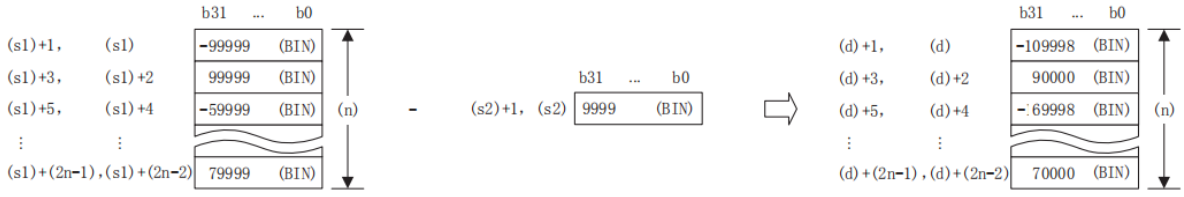
Subtract the BIN 32-bit data of point (N) from the device specified in (S1) and the BIN 32-bit data of point (N) from the device specified in (S2), and store the result in the device specified in (D).

• Block subtraction operations are performed in 32-bit units.

When a device is specified in (S2) (when specified with a sign)



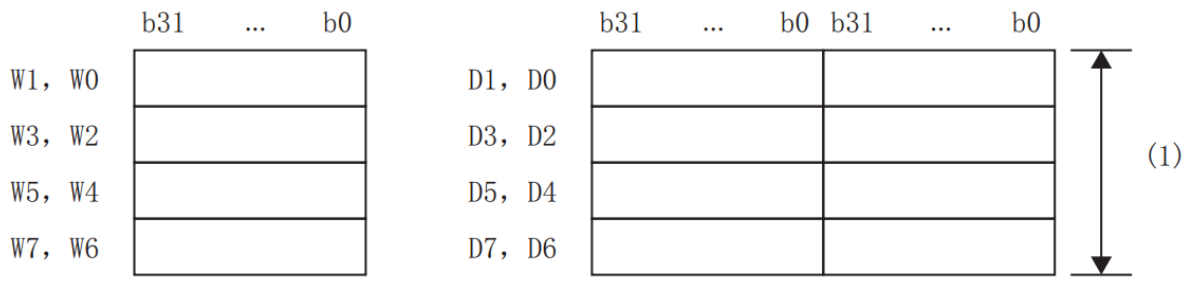
When a constant is specified in (S2) (when specified with a sign)



• When (S1) or (S2) and (D) are specified with the same device (completely consistent), operation could be performed. However, if the device range of point (N) starting from (S1) or (S2) partially matches (overlaps) the device range of point (N) starting from (D), an error occurs.

Example

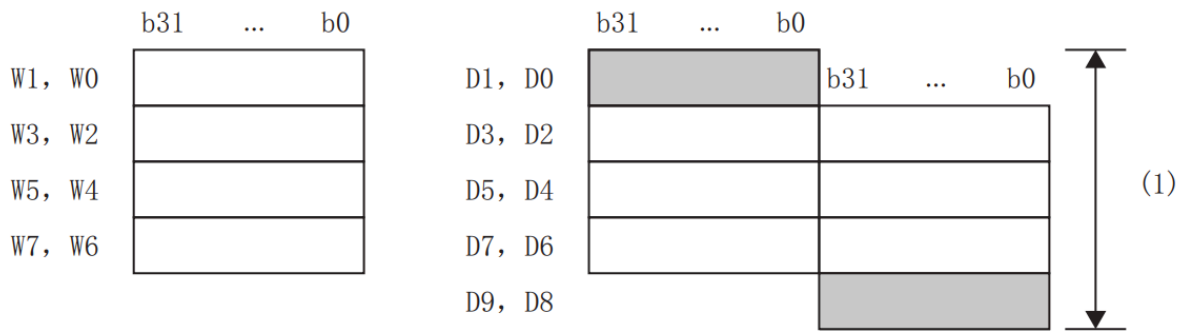
When the first 4 points of the device of (S2) and (D) are completely consistent.



(1)Because it is completely consistent, it can be calculated

(1)Due to the complete consistency, operation could be executed.

When the first 4 points of the device of (S2) and (D) are partially consistent.



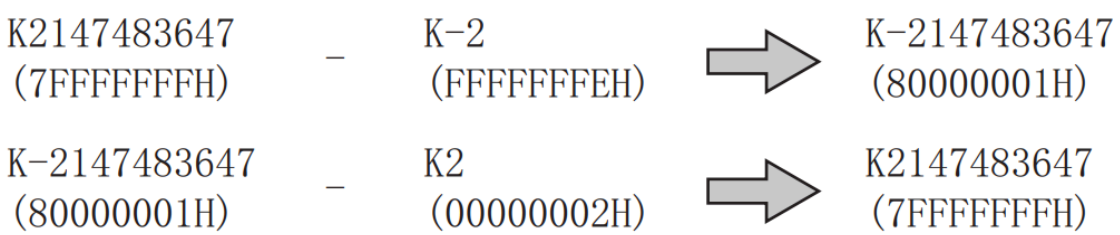
(1)Because of the partial agreement, it becomes an operation error.

(1)Due to the partial consistency, an operation error occurs.

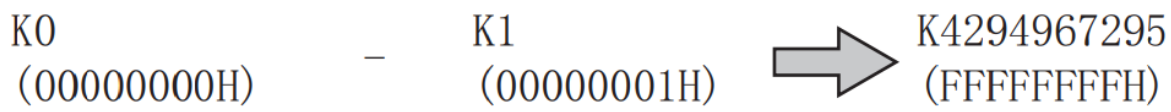
• If the value specified in (N) is 0, it will be no processing.

• When an underflow or overflow occurs in the operation result, the conditions are as follows. In this case, the carry flag does not change to ON.

When specifying Signed:



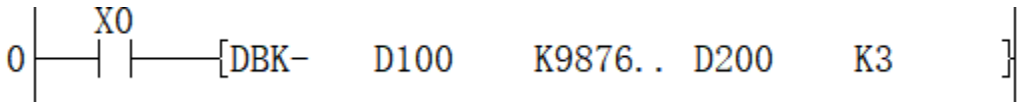
When specifying unsigned:



Error code

Error code	Content
4084H	The device range of point (N) starting from (S1) or (S2) is partially consistent with the device range of point (N) starting from (D). (duplicate)
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



As shown in the ladder program above:

When X010 is ON, after subtracting the 3-point data starting from D100 with the constant 987,654,321, save the result to the program in the device after D200.

BKCMP=/BIN 16-bit block data comparison

BKCMP=(P)

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BKCMP= (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-32768 to 32767	BIN16 bit	ANY16_S
(S2)	The device storing the comparison source data	-32768 to 32767	BIN16 bit	ANY16_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN16 bit	ANY16

Device used

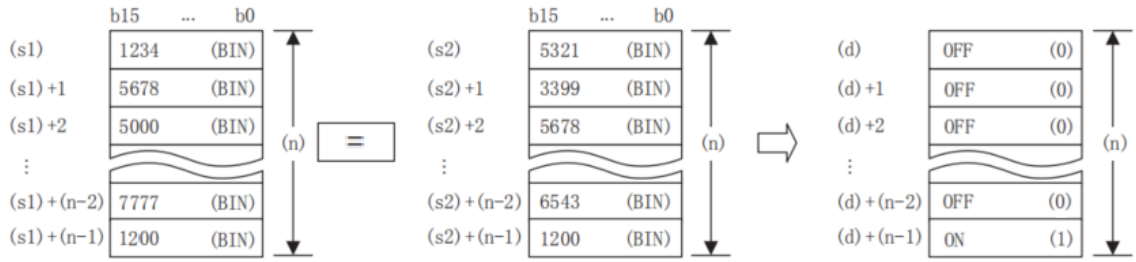
Instruction	Parameter	Devices												Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	K	H	[D]	XXP

BKCMP=	Parameter 1						●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●								●	●
	Parameter 4								●	●		●	●		●

Features

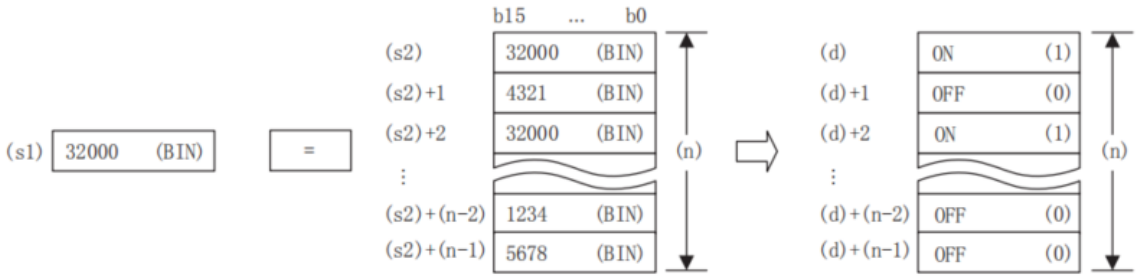
Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the comparative result in the point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 16-bit units.

• (S1) could specify a direct constant.



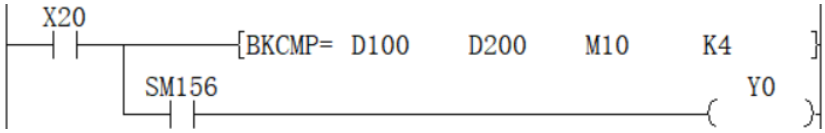
Instruction sign	Condition	Comparative result
BKCMP=	(S1)=(S2)	ON

• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use “BKCMP=” instruction to compare the 4-point 16-bit data (BIN) starting from D100 and the 4-point 16-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

DBKCMP=/BIN32-bit block data comparison

DBKCM=(P)

Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[DBKCMP= (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	The device storing the comparison source data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65,535	BIN32 bit	ANY32_S

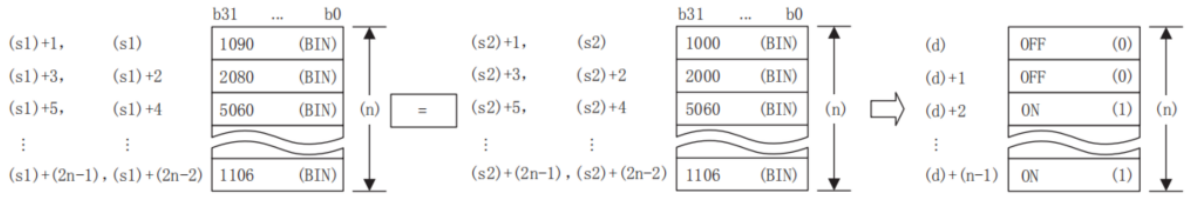
Device used

Instruction	Parameter	Devices														Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBKCMP=	Parameter 1						●	●	●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●										●	●
	Parameter 4								●	●				●	●		●

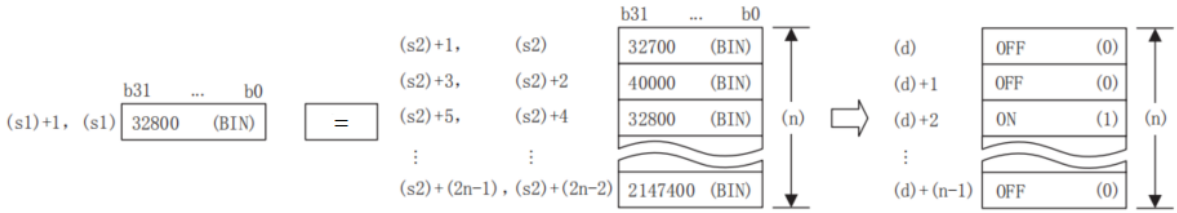
Features

Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the comparison result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



- Comparison operations are performed in 32-bit units.
- (S1) could specify a direct constant.



- (D) is specified outside the device range of point (N) starting from (S1) and (S2).
- The comparison operation result of each instruction is shown below.

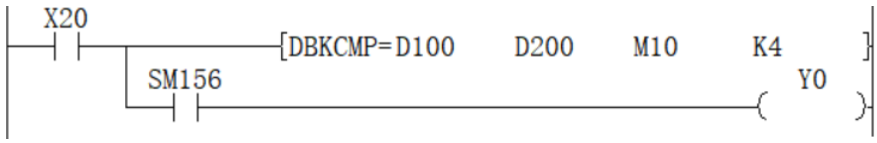
Instruction sign	Condition	Comparative results
DBKCMP=	(S1)=(S2)	ON

- When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4084H	When (N) is out of range
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use DBKCMP= instruction to compare the 4 points 32-bit data (BIN) starting from D100 and the 4 points 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

BKCMP<>/BIN 16-bit block data comparison

BKCMP<>(P)

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

Ladder

-[BKCMP<> (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-32768 to 32767	BIN16 bit	ANY16_S
(S2)	The device storing the comparison source data	-32768 to 32767	BIN16 bit	ANY16_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN16 bit	ANY16

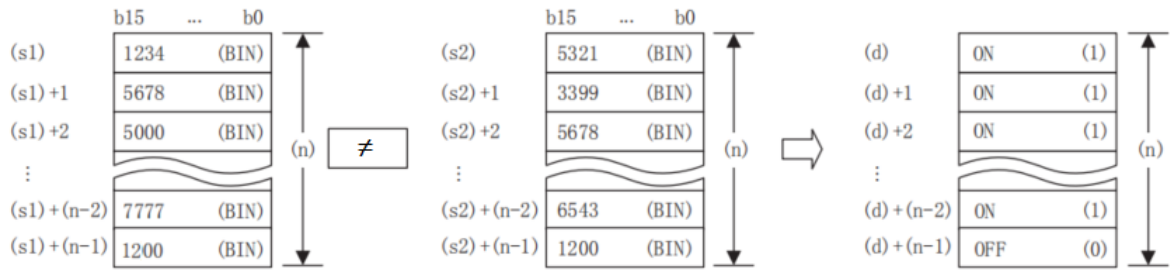
Device used

Instruction	Parameter	Devices												Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	K	H	[D]	XXP
BKCMP	Parameter 1						●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●								●	●
	Parameter 4								●	●		●	●		●

Features

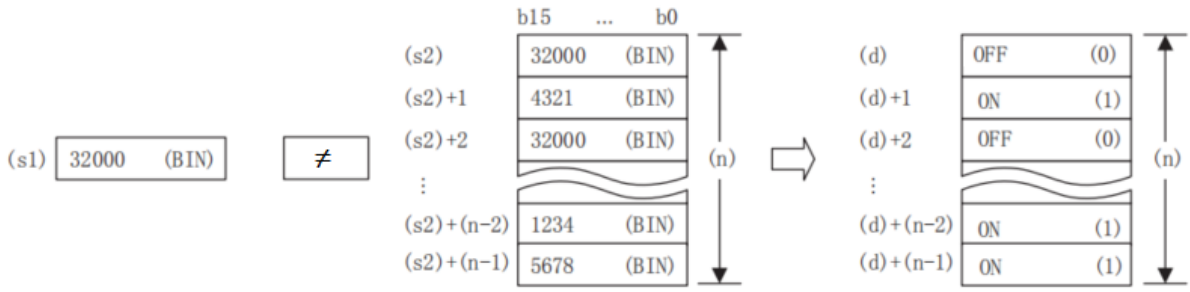
Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the comparison result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 16-bit units.

• (S1) could specify a direct constant.



Instruction Sign	condition	Comparative results
BKCMP<>	(S1)≠(S2)	ON

• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example

When X020 is ON, use BKCMP<> instruction to compare the 4-point 16-bit data (BIN) starting from D100 and the 4-point 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

DBKCMP<>/BIN32-bit block data comparison

DBKCMP<>(P)

Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[DBKCMP<> (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	The device storing the comparison source data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN32 bit	ANY32_S

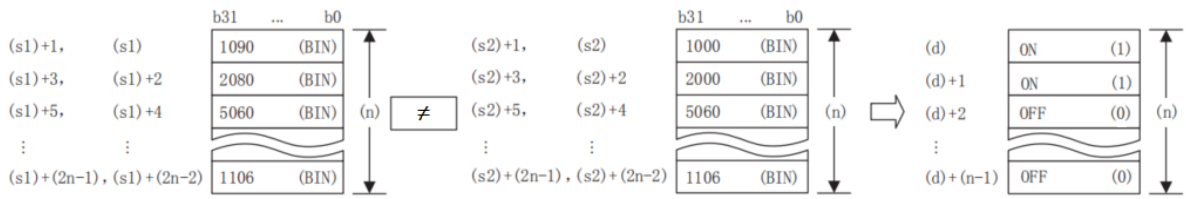
Device used

Instruction	Parameter	Devices													Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBKCMP	Parameter 1						●	●	●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●										●	●
	Parameter 4								●	●				●	●		●

Features

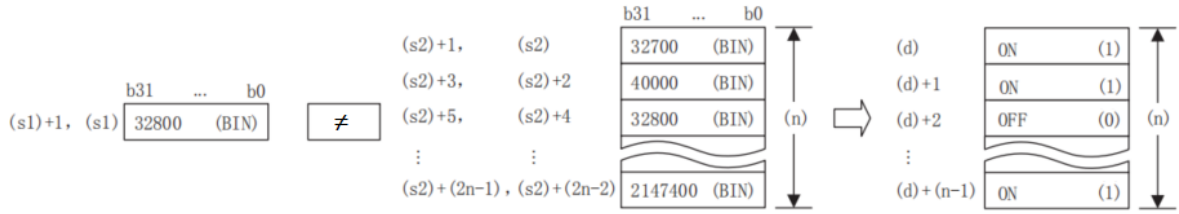
Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the comparison result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 32-bit units.

• (S1) could specify a direct constant.



• (D) is specified outside the device range of point (N) starting from (S1) and (S2).

• The comparative operation result of each instruction is shown below.

Instruction sign	Condition	Comparative results
DBKCMP<>	(S1)≠(S2)	ON

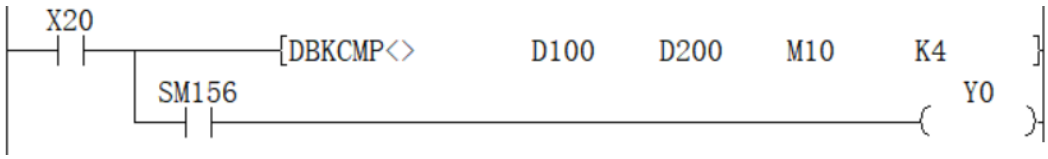
• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4084H	When (N) is out of range
4085H	When the specified device range for reading exceeds the range of the corresponding device

4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use DBKCMP<> instruction to compare the 4-point 32-bit data (BIN) starting from D100 and the 4-point 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

BKCMP>/BIN 16-bit block data comparison

BKCMP>(P)

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BKCMP> (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-32768 to 32767	BIN16 bit	ANY16_S
(S2)	The device storing the comparison source data	-32768 to 32767	BIN16 bit	ANY16_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN16 bit	ANY16

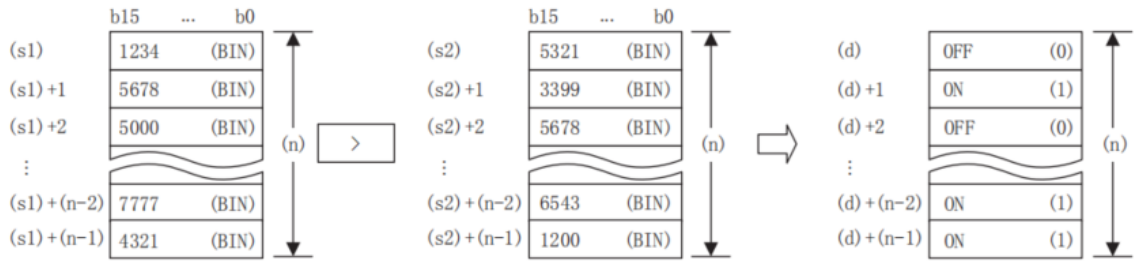
Device used

Instruction	Parameter	Devices												Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	K	H	[D]	XXP
BKCMP>	Parameter 1						●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●								●	●
	Parameter 4								●	●		●	●		●

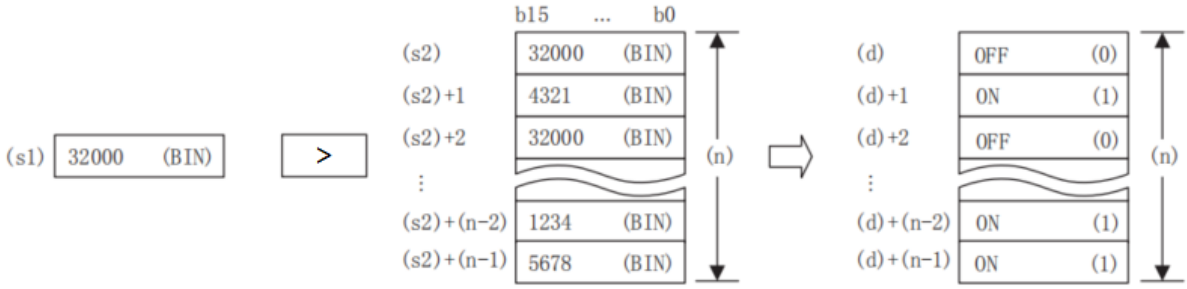
Features

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the comparison result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



- Comparison operations are performed in 16-bit units.
- (S1) could specify a direct constant.



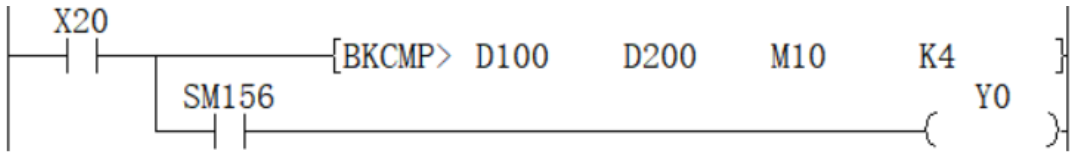
Instruction sign	Condition	Comparative results
BKCMP>	(S1)>(S2)	ON

- When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use BKCMP> instruction to compare the 4-point 16-bit data (BIN) starting from D100 and the 4-point 16-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

DBKCMP>/BIN32-bit block data comparison

DBKCMP>(P)

Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in (D) In the specified device.

-[DBKCMP> (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	The device storing the comparison source data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN32 bit	ANY32_S

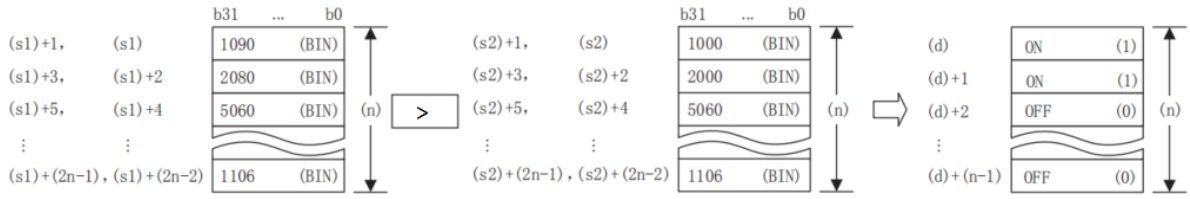
Device used

Instruction	Parameter	Devices														Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBKCMP>	Parameter 1						●	●	●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●										●	●
	Parameter 4								●	●				●	●		●

Features

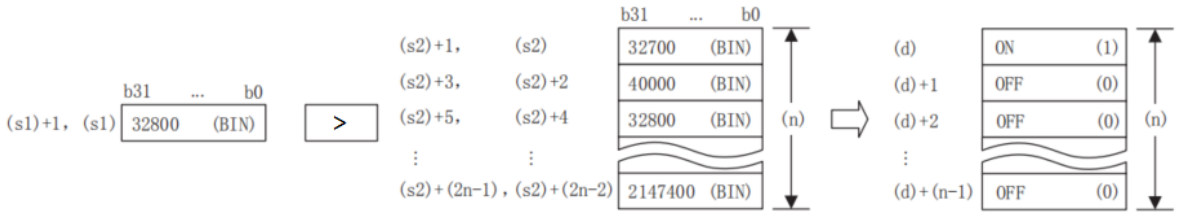
Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the comparison result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 32-bit units.

• (S1) could specify a direct constant.



• (D) is specified outside the device range of point (N) starting from (S1) and the device range of point (N) starting from (S2).

• The comparison operation result of each instruction is shown below.

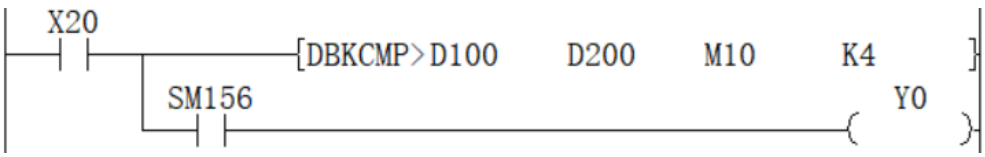
Instruction sign	Condition	Comparative results
DBKCMP>	(S1)>(S2)	ON

• When all the comparative operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4084H	When (N) is out of range
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use DBKCMP> instruction to compare the 4-point 32-bit data (BIN) starting from D100 and the 4-point 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

BKCMP>=/BIN 16-bit block data comparison

BKCMP>=(P)

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BKCMP>= (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-32768 to 32767	BIN16 bit	ANY16_S
(S2)	The device storing the comparison source data	-32768 to 32767	BIN16 bit	ANY16_S

(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65,535	BIN16 bit	ANY16

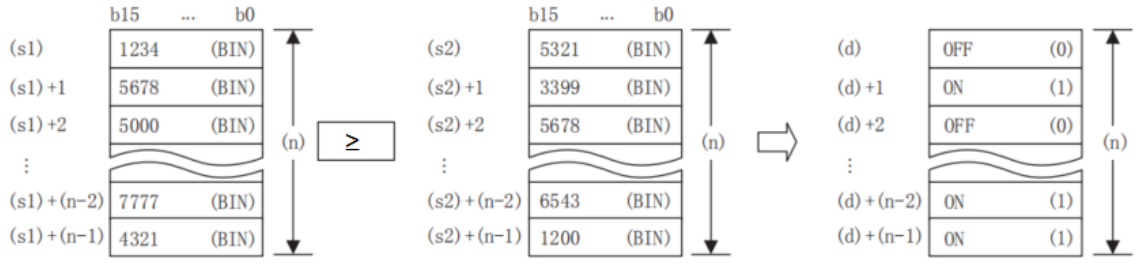
Device used

Instruction	Parameter	Devices												Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	K	H	[D]	XXP
BKCMP>=	Parameter 1						●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●								●	●
	Parameter 4								●	●		●	●		●

Features

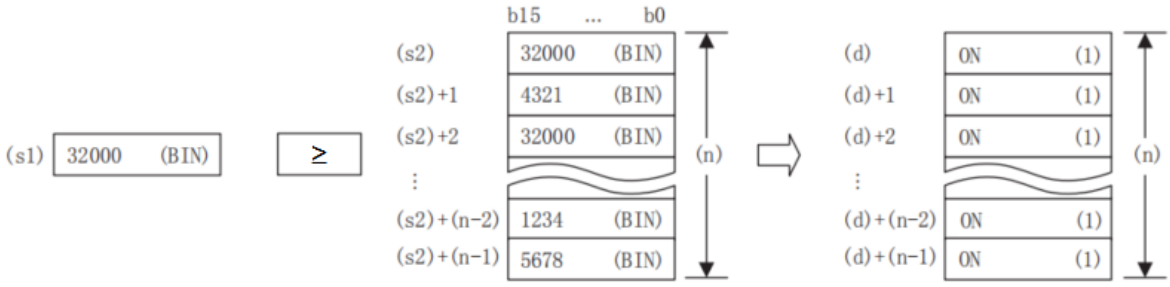
Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point starting from the device specified in (S2), and store the comparative result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 16-bit units.

• (S1) could specify a direct constant.



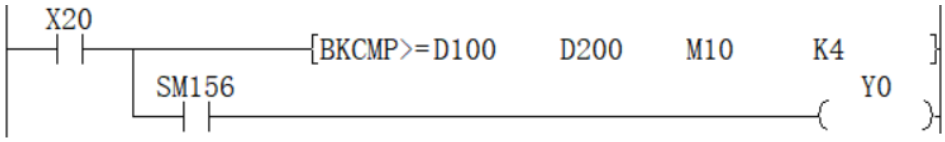
Instruction sign	Condition	Comparative results
BKCMP>=	(S1)>=(S2)	ON

• When all the comparative operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use BKCMP>= instruction to compare the 4-point 16-bit data (BIN) starting from D100 and the 4-point 16-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

DBKCMP>=/BIN32-bit block data comparison

DBKCMP>=(P)

Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[DBKCMP>= (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	The device storing the comparison source data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN32 bit	ANY32_S

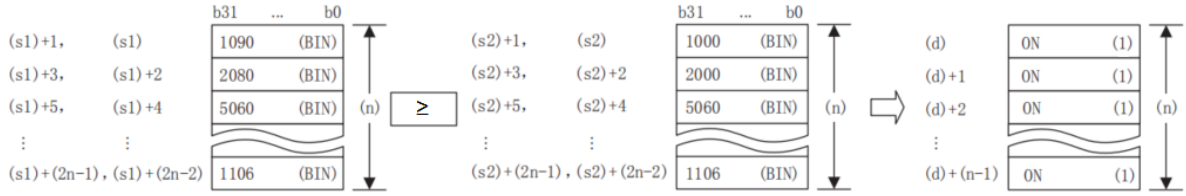
Device used

Instruction	Parameter	Devices														Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBKCMP>=	Parameter 1						●	●	●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●										●	●
	Parameter 4								●	●				●	●		●

Features

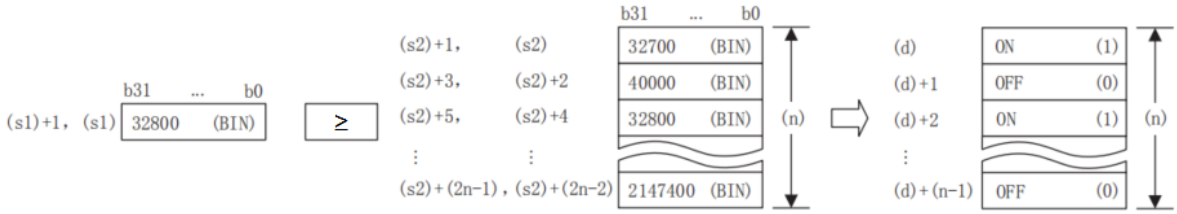
Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the comparative result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 32-bit units.

• (S1) could specify a direct constant.



• (D) is specified outside the device range of point (N) starting from (S1) and the device range of point (N) starting from (S2).

• The comparison operation result of each instruction is shown below

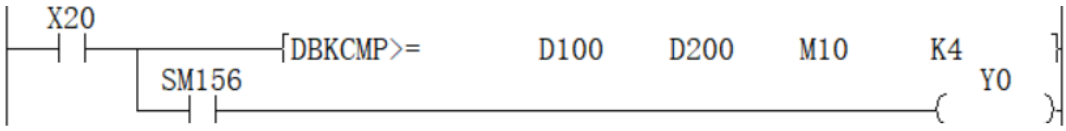
Instruction sign	Condition	Comparative results
DBKCMP>=	(S1)>=(S2)	ON

• When all the comparison operation results stored in point (N) at the beginning of (D) are ON (1), SM349 (block comparison signal) will turn ON.

Error code

Error code	Content
4084H	When (N) is out of range
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use DBKCMP>= instruction to compare the 4-point 32-bit data (BIN) starting from D100 and the 4-point 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

BKCMP</BIN 16-bit block data comparison

BKCMP<(P)

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BKCMP< (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-32768 to 32767	BIN16 bit	ANY16_S
(S2)	The device storing the comparison source data	-32768 to 32767	BIN16 bit	ANY16_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN16 bit	ANY16

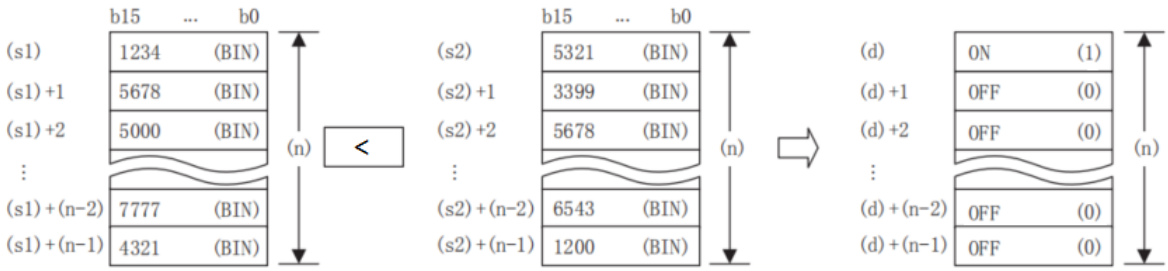
Device used

Instruction	Parameter	Devices												Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	K	H	[D]	XXP
BKCMP	Parameter 1						●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●								●	●
	Parameter 4								●	●		●	●		●

Features

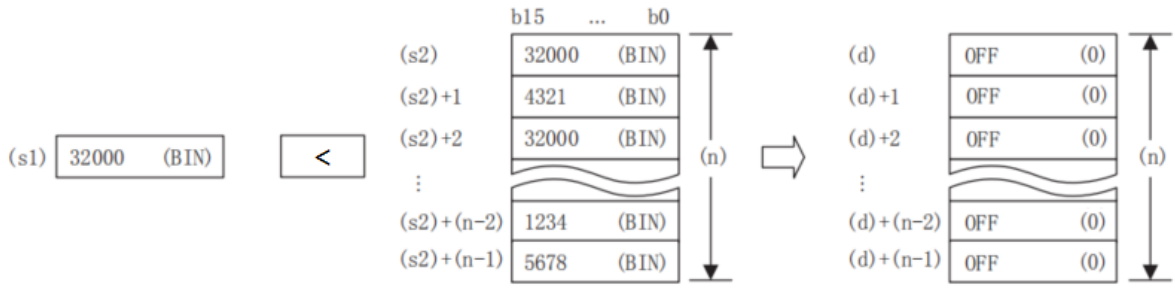
Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the comparative result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 16-bit units.

• (S1) could specify a direct constant.



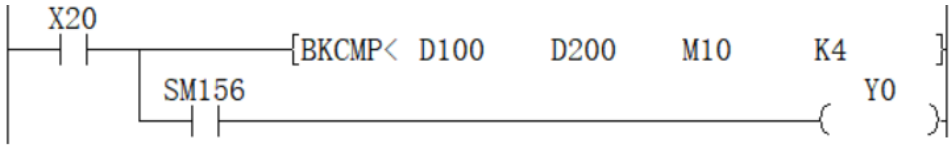
Instruction sign	Condition	Comparative results
BKCMP<	(S1)<(S2)	ON

• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use BKCMP< instruction to compare the 4-point 16-bit data (BIN) starting from D100 and the 4-point 16-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

DBKCMP</BIN 32-bit block data

DBKCMP<(P)

Convert the N characters (bit) in the HEX code data specified in (S) to ASCII codes, and store then after the device number specified in (D).

-[DBKCMP< (P) (S) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	The device storing the comparison source data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN32 bit	ANY32_S

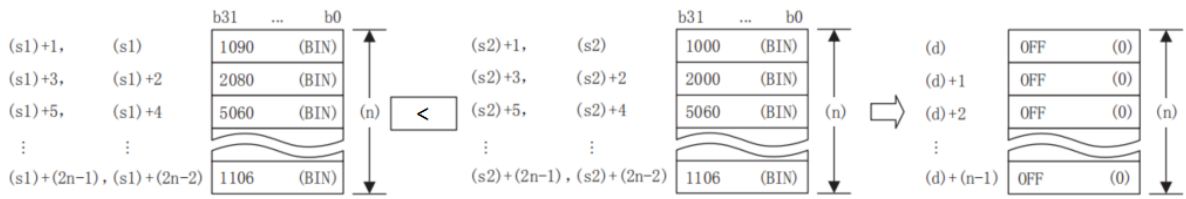
Device used

Instruction	Parameter	Devices													Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
DBKCMP<	Parameter 1						●	●	●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●										●	●
	Parameter 4								●	●				●	●		●

Features

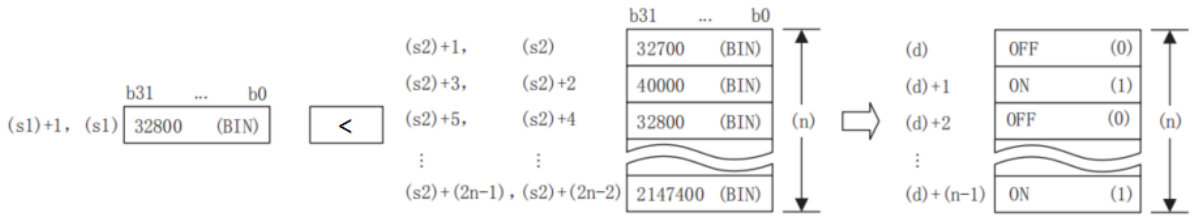
Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the comparative result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 32-bit units.

• (S1) could specify a direct constant.



• (D) is specified outside the device range of point (N) starting from (S1) and the device range of point starting from (S2).

• The comparison operation result of each instruction is shown below.

Instruction sign	Condition	Comparative results
DBKCMP<	(S1)>=(S2)	ON

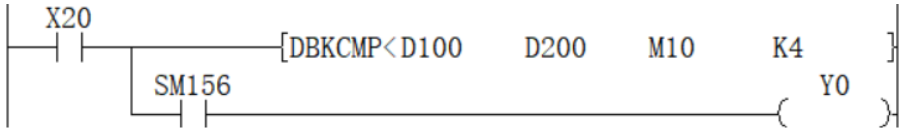
• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM349 (block comparison signal) would turn ON.

Error code

Error code	Content
4084H	When (N) is out of range

4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use DBKCMP< instruction to compare the 4-point 32-bit data (BIN) starting from D100 and the 4-point 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

BKCMP<=/BIN16-bit block data comparison

BKCMP<=(P)

Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[BKCMP<= (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-32768 to 32767	BIN16 bit	ANY16_S
(S2)	The device storing the comparison source data	-32768 to 32767	BIN16 bit	ANY16_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN16 bit	ANY16

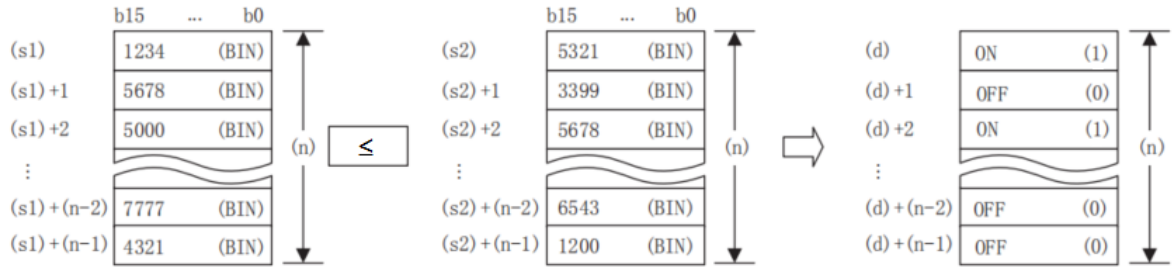
Device used

Instruction	Parameter	Devices													Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	K	H	E	[D]	XXP
BKCMP<=	Parameter 1						●	●	●	●	●	●	●		●	●
	Parameter 2						●	●	●	●	●				●	●
	Parameter 3	●	●	●	●	●									●	●
	Parameter 4								●	●		●	●			●

Features

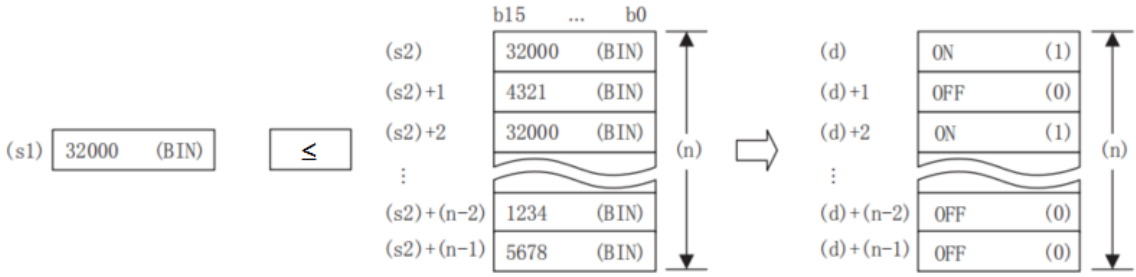
Compare the BIN 16-bit data of point (N) starting from the device specified in (S1) with the BIN 16-bit data of point (N) starting from the device specified in (S2), and store the comparative result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 16-bit units.

• (s1) could specify a direct constant.



• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

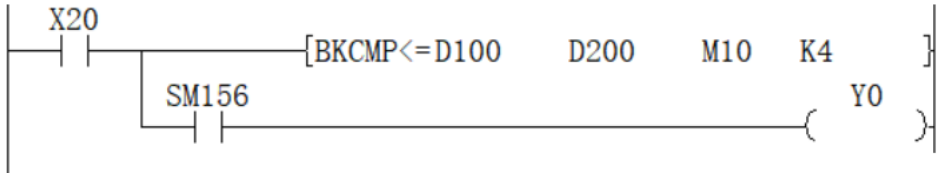
Instruction sign	Condition	Comparative results
BKCMP<=	(S1)>=(S2)	ON

• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use BKCMP<= instruction to compare the 4-point 16-bit data (BIN) starting from D100 and the 4-point 16-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

DBKCMP<=/BIN32-bit block data comparison

DBKCMP<=(P)

Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the operation result in the device specified in (D).

-[DBKCMP<= (S1) (S2) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S1)	Comparative data or the device storing comparative data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(S2)	The device storing the comparison source data	-2147483648 to 2147483647	BIN32 bit	ANY32_S
(D)	The start device storing the comparative result	-	Bit	ANY_BOOL
(N)	The number of comparative data	0 to 65535	BIN32 bit	ANY32_S

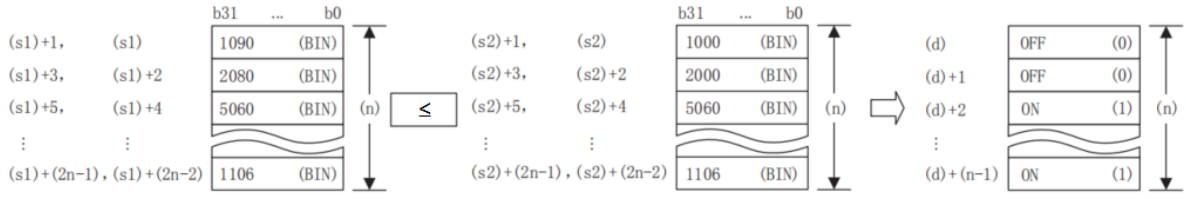
Device used

Instruction	Parameter	Devices														Offset modification	Pulse extension
		Y	M	S	SM	D.b	T	C	D	R	SD	LC	HSC	K	H	[D]	XXP
BKCMP<=	Parameter 1						●	●	●	●	●	●	●	●	●	●	●
	Parameter 2						●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●										●	●
	Parameter 4								●	●				●	●		●

Features

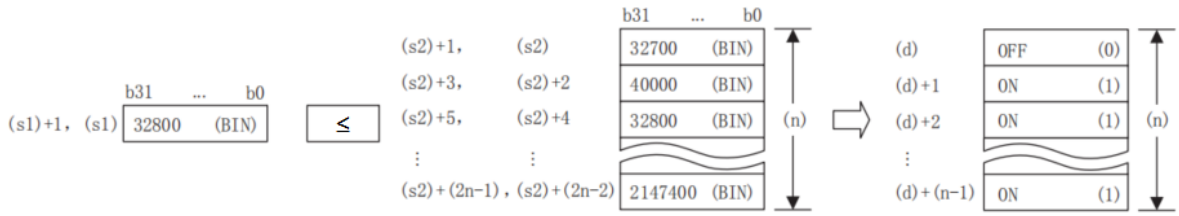
Compare the BIN 32-bit data of point (N) starting from the device specified in (S1) with the BIN 32-bit data of point (N) starting from the device specified in (S2), and store the comparative result in point (N) starting from the device specified in (D).

• The corresponding device at point (N) starting from the device specified in (D) turns on when the comparison condition is satisfied, and turns off when the comparison condition is not satisfied.



• Comparison operations are performed in 32-bit units.

• (s1) could specify a direct constant.



• (D) is specified outside the device range of point (N) starting from (S1) and the device range of point (N) starting from (S2).

• The comparison operation result of each instruction is shown below.

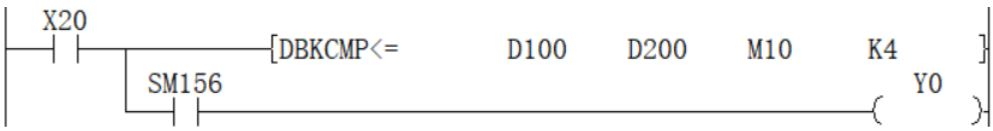
Instruction sign	Condition	Comparative results
DBKCMP<=	(S1)>=(S2)	ON

• When all the comparison operation results stored in point (N) starting from (D) are ON (1), SM156 (block comparison signal) would turn ON.

Error code

Error code	Content
4084H	When (N) is out of range
4085H	When the specified device range for reading exceeds the range of the corresponding device
4086H	When the specified device range for writing exceeds the range of the corresponding device

Example



When X020 is ON, use DBKCMP<= instruction to compare the 4-point 32-bit data (BIN) starting from D100 and the 4-point 32-bit data starting from D200, and save the result to the program in the 4-point of the device starting from M10.

In addition, when the comparative results (4 points starting from M10) are all ON (1), Y000 turns ON.

Data table operation instructions

SFRD/shift read

SFRD(P)

Data read instructions for first-in, first-out and control.

-[SFRD (S) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S)	The start word device number storing data	-	Signed BIN 16 bit	ANY16

	(The start is a pointer, and the data starts from (S)+1)			
(D)	The word device number storing the first-out data	-	Signed BIN 16 bit	ANY16
(N)	It should be specified as the value of the number of points + 1 of the stored data. +1 is pointer	2 to 512	Signed BIN 16 bit	ANY16

Device used

Instruction	Parameter	Devices											Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	C	D	R	SD	K	H	[D]	XXP
SFRD	Parameter 1	●	●	●	●	●	●	●	●	●			●	●
	Parameter 2		●	●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●	●	●	●	●	●	●	●	●

Features

Transfer (S)+1 written sequentially to (D) by SFWR instruction, shift up each point (N)-1 by one word from (S)+1. The number of stored data of (S) subtracts one.

The content of (S)+1 is transferred (read) to (D). At the same time, the content of the pointer (S) decreases, and the data is shifted up by 1 word each. (In the continuous execution instruction SFRD, each operation cycle will shift, so the pulse execution instruction SFRDP should be used for programming).

Related device

Devices	Name	Content
SM153	Zero bit	Data readout usually starts from (S)+1, but when the pointer (S) is 0, the zero bit SM153 will operate.

#Note:

The data after reading would not change the content of (S)+(N) due to reading.

In the case of continuous execution (SFRD) instructions, each scan time (operation cycle) will be read sequentially, but the content of (S) + (N) would not change. When the pointer (S) is 0, it would become no processing, and the content of (D) would not change.

Error code

Error code	Content
4084H	When the value set in (N) is other than the following. 2≤(N)≤512 A negative value is specified in (S).
4085H	When the device specified in the read application instruction (S) and (N) exceeds the corresponding device range.
4086H	When the device specified in the write application instruction (S) and (D) exceeds the corresponding device range.

Example

The following examples illustrate the use of shift write (SFWR) and shift read (SFRD) instructions.

(1) Action content

1) While registering the product number, in order to realize the first-in-first-out principle, the following introduces an example of a ladder circuit program that outputs the current product number.

2) The product number is a hexadecimal number with 4 digits or less, and the maximum inventory is below 99 points.

(2) Program

1) Program 1

Enter the product number from X0 to X17 and transfer it to D256

Data register D258 to D356 (99 points) for pointer D257 storing product number

Output the first-in product number to D357 according to the requirements

Output the product number that should be taken out in hex 4 digits to Y0 to Y17

2) Program 2

First-in-first-out data read instruction

Turn X0 from OFF to ON, and this instruction acts according to the following numbers 1 to 3. (The content of D10 remains unchanged),

1. The content of D2 is read out and sent to D20.
2. D10 to D3 all shift one register to the right.
3. The contents of pointer D1 are reduced by 1.

POP/Read from the back of the data table

POP(P)

Read the last data written by the shift write instruction(SFWR) for first in first out/first in last out control.

-[POP (S) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S)	The start device number that stores the first-in data (including pointer data) (the start word device number that stores data)	-	Signed BIN 16 bit	ANY16
(D)	The device number that stores the last-out data	-	Signed BIN 16 bit	ANY16
(N)	The points of stored data	2 to 512	Signed BIN 16 bit	ANY16

Device used

instruction	parameter	Devices											Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	C	D	R	SD	K	H	[D]	XXP
POP	Parameter 1		●	●	●	●	●	●	●	●			●	●
	Parameter 2		●	●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●	●	●	●	●	●	●	●	●

Features

For the word device of "(S) to (S)+(N)-1", the device of "(S) + instruction data (S)" will be read to (D) (The last data written by the shift write instruction (SFWR) for first-in first-out control is read to (D)). (N) Specifies 2 to 512.

The value of pointer data (S) is reduced by one.

First-in-last-out control data

	Content
(S)	Pointer data (the number of stored data)
(S)+1	Data field
(S) +2	(Data entered by shift write instruction (SFWR))
(S) +3	
.....	
(S)+(N)-3	
(S)+(N)-2	
(S)+(N)-1	

#Note:

#If the POP(P) instruction is programmed in continuous execution type, the instruction will be processed per cycle. Therefore, it may not be possible to achieve the desired action. Generally, POP(P) instruction programming should be executed with "pulse execution type" or "pulse specified contact".

#When the current value of pointer (S) is 0, the zero flag SM153 turns on, and the POP(P) instruction becomes no processing.

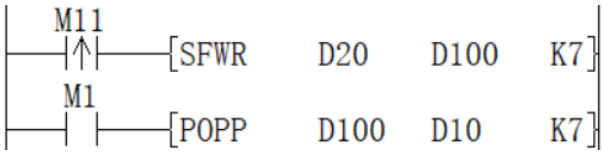
#When the current value of pointer (S) is 1, write 0 to (S), and the zero flag SM153 turns on.

Error code

Error code	Content
4084H	(S)>(N)-1

	(S)<0
	Data outside the specified range is entered in (N). 2≤(N)≤512
4085H	When the device specified in the read application instruction (S) and (N) exceeds the corresponding device range
4086H	When the device specified in the write application instruction (S) and (D) exceeds the corresponding device range

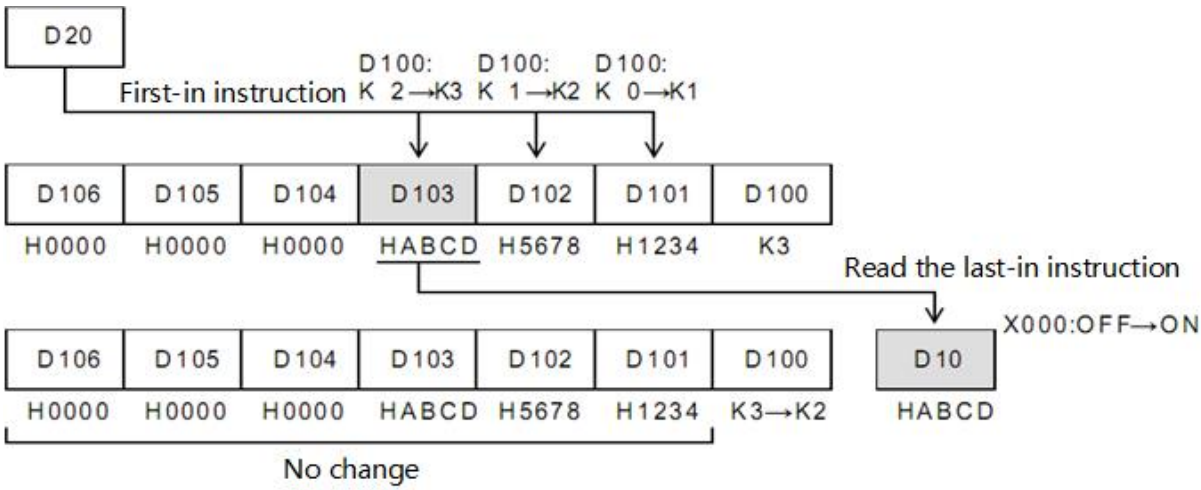
Example



Each time M1 is ON, for the values of D20 input first in D101 to D106, the last saved value would be saved in D10, and then the data saved number (pointer D100) will be reduced by 1.

When the data entered first is the content in the table below.

Pointer	D100	K3
Data	D101	H1234
	D102	H5678
	D103	HABCD
	D104	H0000
	D105	H0000
	D106	H0000



SFWR/Shift write

SFWR(P)

Data writing instructions for first-in-first-out and control.

-[SFWR (S) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S)	The word device number that stores the	-	Signed BIN 16 bit	ANY16

	data you want to enter first			
(D)	The start word device number for storing data and shifting (the start is pointer, and data starts from (d)+1)	-	Signed BIN 16 bit	ANY16
(N)	The value of points + 1 of stored data should be specified	2 to 512	Signed BIN 16 bit	ANY16

Device used

Instruction	Parameter	Devices											Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	C	D	R	SD	K	H	[D]	XXP
SFWR	Parameter 1	●	●	●	●	●	●	●	●	●	●	●	●	●
	Parameter 2		●	●	●	●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●	●	●	●	●	●	●	●	●

Features

Start from (D)+1, write the contents of (S) to point (N)-1, and the stored data of (D) add one. For example, if (D)=0, write to (D) +1, (D)=1, write to (D)+2.

Through the first execution, the content of (S) is stored to (D)+1 and becomes the value of (S).

If the content of (S) is changed and executed for the second time, the content of (S) is stored to (D)+2, and the content of (D)+2 becomes (S) (in the continuous execution instruction SFWR, each operation cycle will be stored sequentially, so the pulse execution instruction SFWRP should be used for programming). After that, the data will be filled in sequentially from the right, and the number of data storage points is displayed by the content of the pointer (D).

Related device

Devices	Name	Content
SM151	carry	When the content of pointer (S) exceeds (N)-1, it becomes no processing (no writing), and the carry flag SM151 turns ON.

#Note:

In the continuous execution type (SFWR) instruction, you should be noted that each scan time (operation cycle) will be stored (overwritten) sequentially.

Error code

Error code	Content
4084H	When the value set in (N) is other than the following. 2≤(N)≤512
	A negative value is specified in (D).
4085H	When the device specified in the read application instruction (S), (D) and (N) exceeds the corresponding device range.

4086H	When the device specified in the write application instruction (D) exceeds the corresponding device range.

Example

The following examples illustrate the use of shift write (SFWR) and shift read (SFRD) instructions.

(1) Action content

1) While registering the product number, in order to realize the first-in-first-out principle, the following introduces an example of a ladder circuit program that outputs the current product number.

2) The product number is a hexadecimal number with 4 digits or less, and the maximum inventory is below 99 points.

(2) Program

1) Program 1

Enter the product number from X0 to X17 and transfer it to D256

Data register D258 to D356 (99 points) for pointer D257 storing product number

Output the first-in product number to D357 according to the requirements

Output the product number that should be taken out in hex 4 digits to Y0 to Y17

2) Program 2

First-in-first-out data read instruction

When X0=1, the content of D0 is stored in D2, and the content of D1 becomes 1. When X0 changes from OFF to ON again, the content of D0 is stored in D3, the content of D1 becomes 2, and so on. If the content of D1 exceeds N-1, the instruction is not processed, and the carry flag M8022 will be set to 1.

FINS/Data table data insertion

FINS(P)

Insert the BIN 16-bit data specified in (S) into the number (N) of the data table specified in (D). After the instruction is executed, the data starting with number (N) in the data table will be postponed downward one by one.

-[FINS (S) (D) (N)]

Content, range and data type

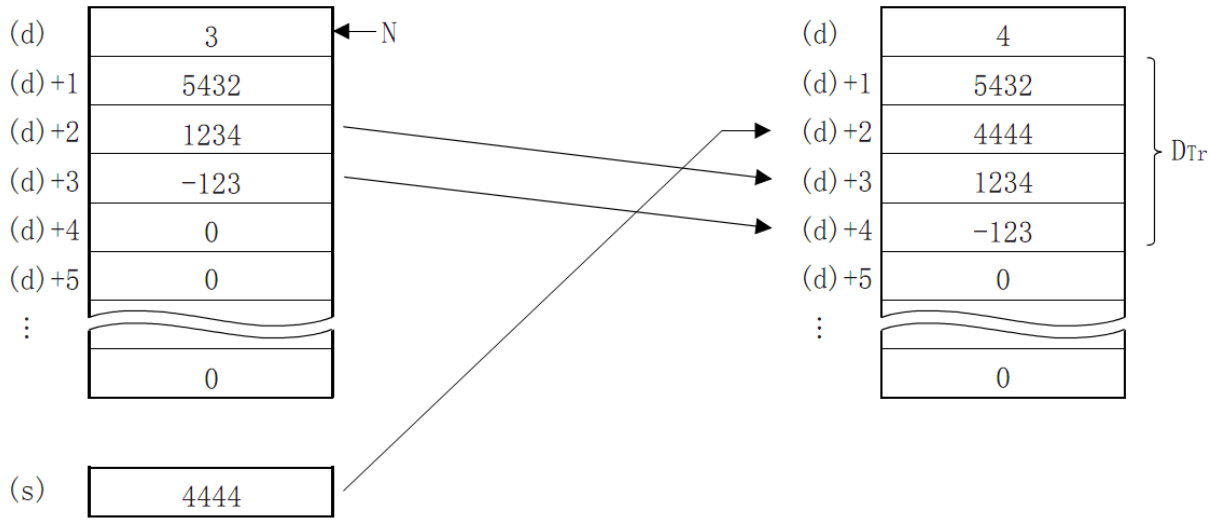
Parameter	Content	Range	Data type	Data type (label)
(S)	The start number of device storing the inserted data	-	Signed BIN 16 bit	ANY16
(D)	The starting number of table	-	word	ANY16
(N)	The position of the inserted table	1-512	Signed BIN 16 bit	ANY16

Device used

Instruction	Parameter	Devices											Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	C	D	R	SD	K	H	[D]	XXP
FINS	Parameter 1	●	●	●	●	●	●	●	●	●	●	●	●	●
	Parameter 2					●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●	●	●	●	●	●	●	●	●

Features

Insert the BIN 16-bit data specified in (S) into the number (N) of the data table specified in (D). After the instruction is executed, the data starting with number (N) in the data table will be postponed downward one by one.



1. N: the number of data storage;
2. **D_{Tr}**: data table range;
3. When (N)=2, it will be inserted into (D)+2.

#Note:

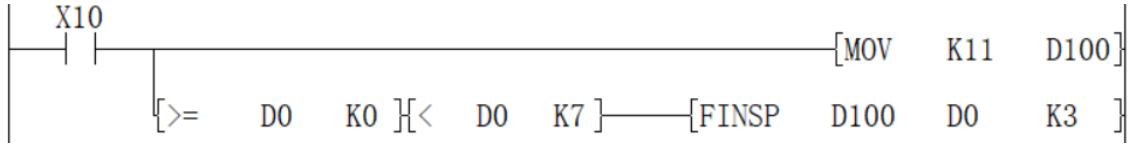
#The range of device used in the data table is managed by user.

#The range of the data table is (D) started from device (D) +1) after the number of data (D).

Error code

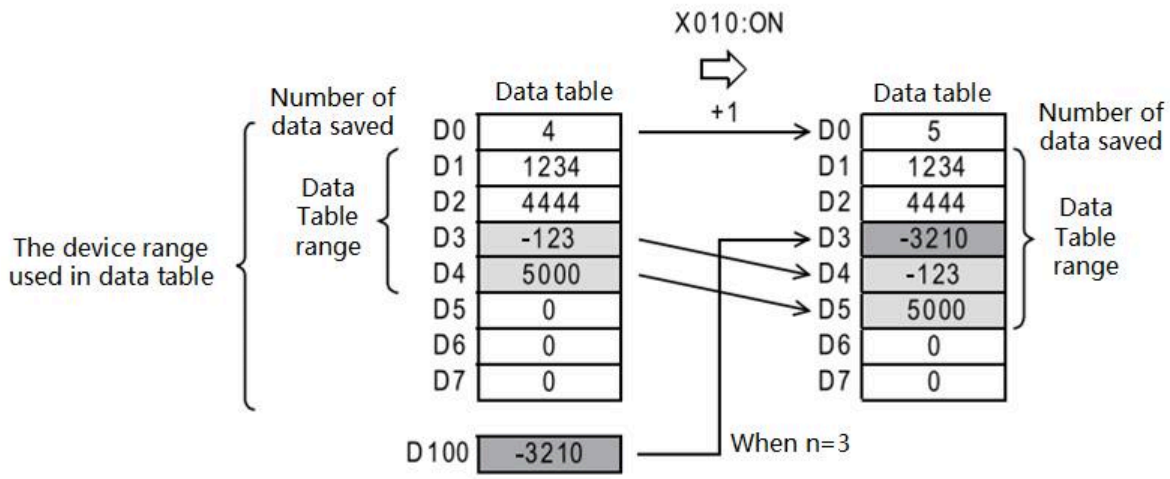
Error code	Content
4084H	FINS(P) instruction is executed when the value of (D) is 0. The storage data of the table of (D) exceeds 512. When the data set in (N) is other than the following, 1≤(N)≤512. When the FINS(P) instruction is executed, the table position (N) of the inserted data is greater than data storage number.
4085H	When the device specified in the read application instruction (S), (D) and (N) exceeds the corresponding device range.
4086H	When the device specified in the write application instruction (D) exceeds the corresponding device range.

Example



When X10=ON, insert the data of D100 into No. 3 of the data table of D0 to D4.

However, when the number of saved data exceeds 7, the FINS(P) instruction is not executed (the device range used in the data table is D0 to D7).



FDEL/Data deletion of data sheet

FDEL(P)

Delete the (N) th data of the data table specified in (D) and store it in the device specified in (S). After the instruction is executed, the data after (N)+1 in the data table will be postponed forward one by one.

-[FDEL (S) (D) (N)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(S)	The start number of the device stored deleted data	-	Signed BIN 16 bit	ANY16
(D)	The starting number of the table	-	word	ANY16
(N)	The position of the deleted table	1-512	Signed BIN 16 bit	ANY16

Device used

Instruction	Parameter	Devices											Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	C	D	R	SD	K	H	[D]	XXP
FDEL	Parameter 1	●	●	●	●	●	●	●	●	●			●	●
	Parameter 2					●	●	●	●	●			●	●
	Parameter 3	●	●	●	●	●	●	●	●	●	●	●	●	●

Features

Delete the (N) th data of the data table specified in (D) and store it in the device specified in (S). After the instruction is executed, the data after (N)+1 in the data table will be postponed forward one by one.

#Note:

#The user is responsible for the management of the device range used in the data sheet.

#The range of the data table is (D) after the data storage number (D) of the device ((D) + 1).

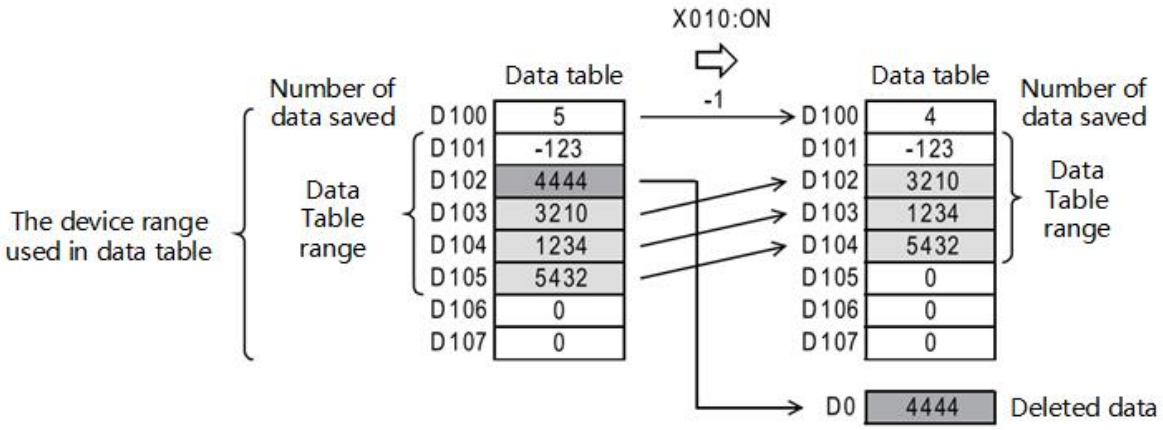
Error code

Code	Content
4084H	FDEL(P) instruction is executed when the value of (D) is 0.
	The storage data of the table of (D) exceeds 512.
	When the data set in (N) is other than the following, 1≤(N)≤512.
	When the FDEL(P) instruction is executed, the table position (N) of the deleted data is greater than data storage number.
4085H	When the device specified in the read application instruction (D) and (N) exceeds the corresponding device range.
4086H	When the device specified in the write application instruction (S) and (D) exceeds the corresponding device range.

Example

```
X10
─┤ ├──[>=   D100   K0 ]{<  D100    K7 ]──────────[FDELP   D0   D100   K2 ]
```

When X10 is ON, delete the second data in the data table of D100 to D105, and save the deleted data in D0. However, when the number of data saved is 0, do not execute the FDEL instruction. (The device range used in the data table is D100 to D107.)


X010:ON
-1
Number of data saved
Data table
D100 5
D101 -123
D102 4444
D103 3210
D104 1234
D105 5432
D106 0
D107 0
Data Table range
The device range used in data table
Data table
D100 4
D101 -123
D102 3210
D103 1234
D104 5432
D105 0
D106 0
D107 0
Number of data saved
Data Table range
D0 4444
Deleted data