SECTION 11
Host Link Commands

This section explains the methods and procedures for using host link commands, which can be used for host link communications via the C200HS ports.

11-1 Communications Procedure

Command Chart

The commands listed in the chart below can be used for host link communications with the C200HS. These commands are all sent from the host computer to the PC.

Header code	PC mode			Name	Page
	RUN	MON	PRG		
RR	Valid	Valid	Valid	IR/SR AREA READ	407
RL	Valid	Valid	Valid	LR AREA READ	407
RH	Valid	Valid	Valid	HR AREA READ	408
RC	Valid	Valid	Valid	PV READ	408
RG	Valid	Valid	Valid	TC STATUS READ	409
RD	Valid	Valid	Valid	DM AREA READ	409
RJ	Valid	Valid	Valid	AR AREA READ	410
WR	Not valid	Valid	Valid	IR/SR AREA WRITE	410
WL	Not valid	Valid	Valid	LR AREA WRITE	411
WH	Not valid	Valid	Valid	HR AREA WRITE	411
WC	Not valid	Valid	Valid	PV WRITE	412
WG	Not valid	Valid	Valid	TC STATUS WRITE	412
WD	Not valid	Valid	Valid	DM AREA WRITE	413
WJ	Not valid	Valid	Valid	AR AREA WRITE	413
R#	Valid	Valid	Valid	SV READ 1	414
R$	Valid	Valid	Valid	SV READ 2	415
R%	Valid	Valid	Valid	SV READ 3	416
W#	Not valid	Valid	Valid	SV CHANGE 1	417
W$	Not valid	Valid	Valid	SV CHANGE 2	417
W%	Not valid	Valid	Valid	SV CHANGE 3	418
MS	Valid	Valid	Valid	STATUS READ	419
SC	Valid	Valid	Valid	STATUS WRITE	420
MF	Valid	Valid	Valid	ERROR READ	421
KS	Not valid	Valid	Valid	FORCED SET	422
KR	Not valid	Valid	Valid	FORCED RESET	423
FK	Not valid	Valid	Valid	MULTIPLE FORCED SET/RESET	424
KC	Not valid	Valid	Valid	FORCED SET/RESET CANCEL	425
MM	Valid	Valid	Valid	PC MODEL READ	425
TS	Valid	Valid	Valid	TEST	426
RP	Valid	Valid	Valid	PROGRAM READ	426
WP	Not valid	Not valid	Valid	PROGRAM WRITE	427
MI	Not valid	Not valid	Valid	I/O TABLE GENERATE	427
QQ	Valid	Valid	Valid	COMPOUND COMMAND	427
XZ	Valid	Valid	Valid	ABORT (command only)	429
⁎⁎	Valid	Valid	Valid	INITIALIZE (command only)	430
IC	---	---	---	Undefined command (response only)	430

Host link communications are executed by means an exchange of commands and responses between the host computer and the PC. With the C200HS, there are two communications methods that can be used. One is the normal method, in which commands are issued from the host computer to the PC. The other method allows commands to be issued from the PC to the host computer.

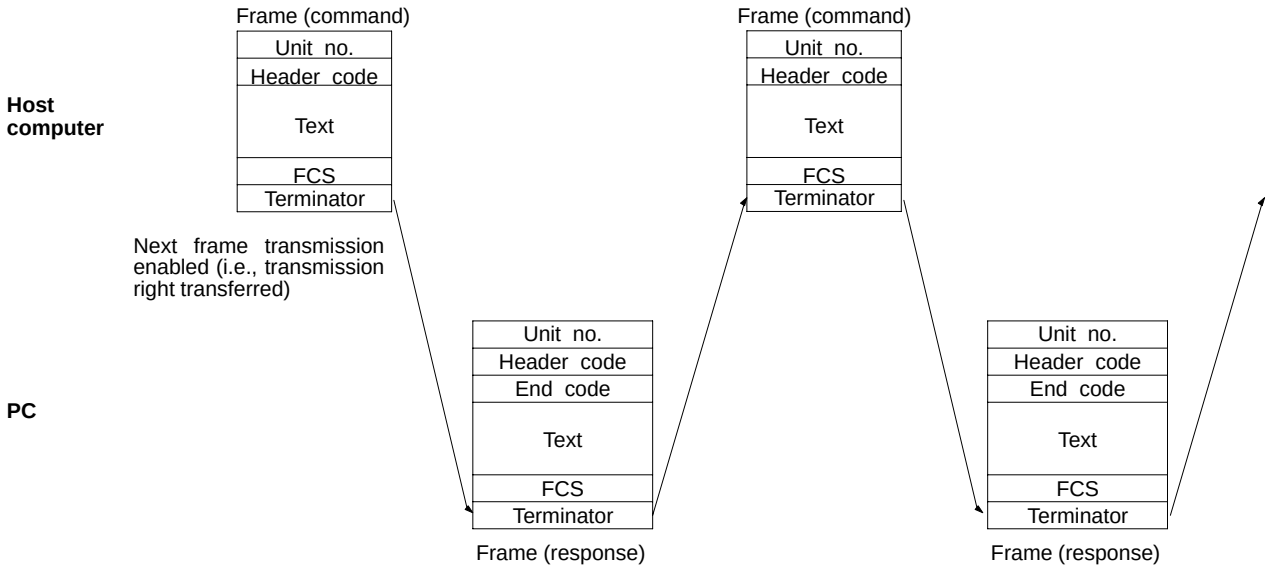
Frame Transmission and Reception

Commands and responses are exchanged in the order shown in the illustration below. The block of data transferred in a single transmission is called a “frame.” A single frame is configured of a maximum of 131 characters of data.

The right to send a frame is called the “transmission right.” The Unit that has the transmission right is the one that can send a frame at any given time. The transmission right is traded back and forth between the host computer and the PC each time a frame is transmitted. The transmission right is passed from the transmitting Unit to the receiving Unit when either a terminator (the code that marks the end of a command or response) or a delimiter (the code that sets frames apart) is received.

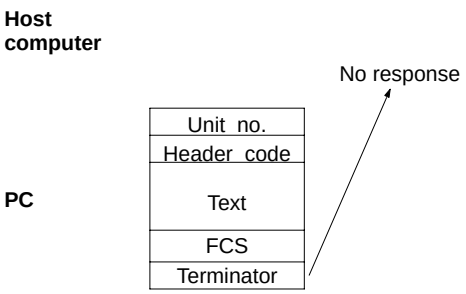
Commands from Host

In host link communications, the host computer ordinarily has the transmission right first and initiates the communications. The PC then automatically sends a response.



Commands from PC

It is also possible in host link communications for the PC to send commands to the host computer. In this case it is the PC that has the transmission right and initiates the communications.



When commands are issued to the host computer, the data is transmitted in one direction from the PC to the host computer. If a response to a command is required use a host link communications command to write the response from the host computer to the PC.

11-2 Command and Response Formats

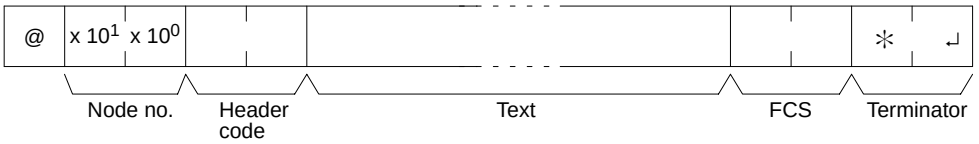
This section explains the formats for the commands and responses that are exchanged in host link communications.

11-2-1 Commands from the Host Computer

When a command is issued from the host computer, the command and response formats are as shown below.

Command Format

When transmitting a command from the host computer, prepare the command data in the format shown below.



@
An "@" symbol must be placed at the beginning.

Node No.
Identifies the PC communicating with the host computer.
Specify the node number set for the PC in the PC Setup (DM 6648, DM 6653).

Header Code
Set the 2-character command code.

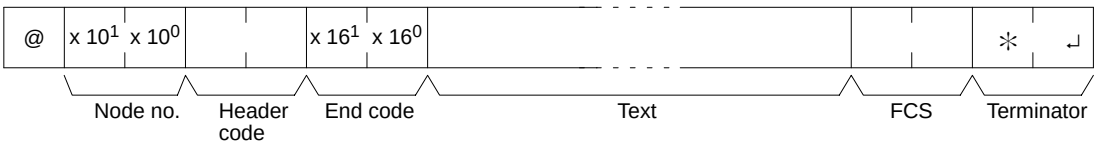
Text
Set the command parameters.

FCS
Set a 2-character Frame Check Sequence code. See page 405.

Terminator
Set two characters, "*" and the carriage return (CHR$(13)) to indicate the end of the command.

Response Format

The response from the PC is returned in the format shown below. Prepare a program so that the response data can be interpreted and processed.



@, Node No., Header Code
Contents identical to those of the command are returned.

End Code
The completion status of the command (e.g., whether or not an error has occurred) is returned.

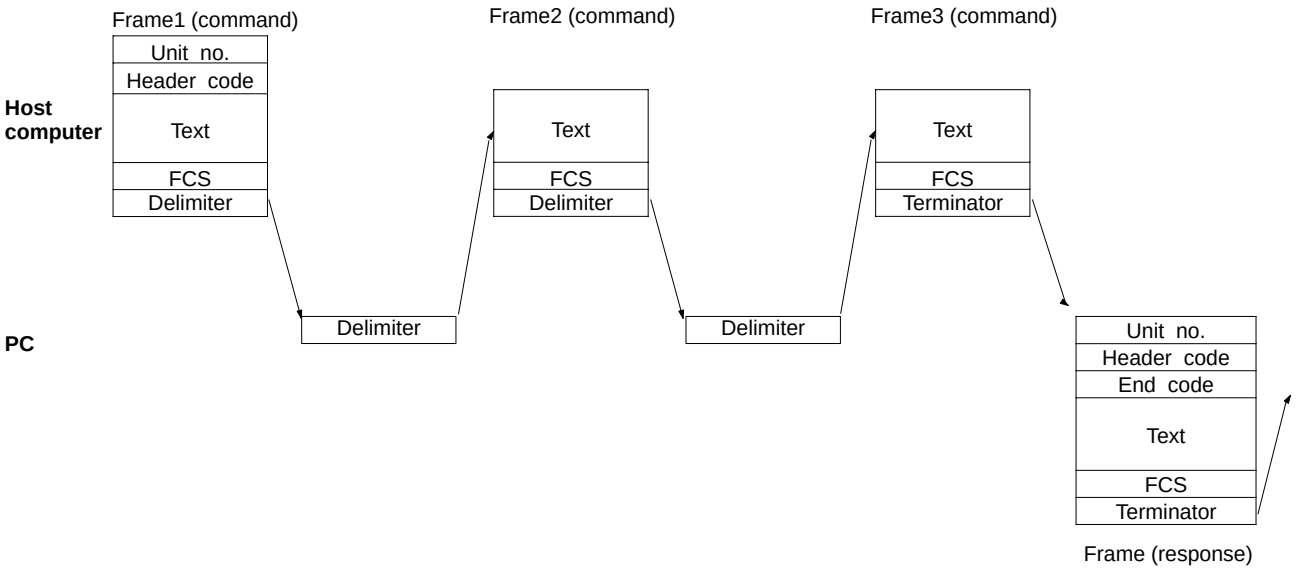
Text
Text is returned only when there is data such as read data.

FCS, Terminator
Refer to the corresponding explanations under "Command Format."

Long Transmissions

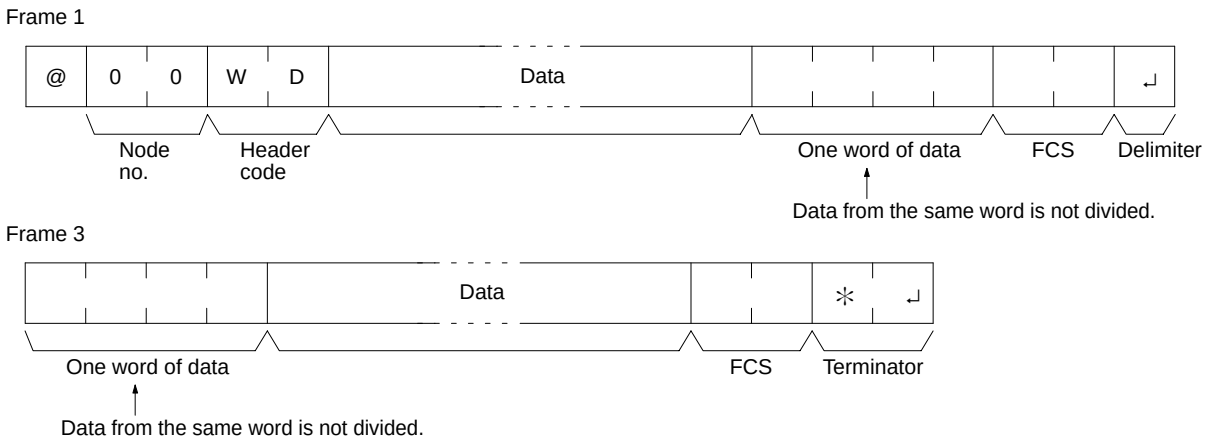
The largest block of data that can be transmitted as a single frame is 131 characters. A command or response of 132 characters or more must therefore be divided into more than one frame before transmission. When a transmission is split, the ends of the first and intermediate frames are marked by a delimiter instead of a terminator.

As each frame is transmitted, the receiving node waits for the delimiter to be transmitted. After the delimiter has been transmitted, the next frame will then be sent. This procedure is repeated until the entire command or response has been transmitted. The following diagram shows an example of host link communications addressed to a PC.



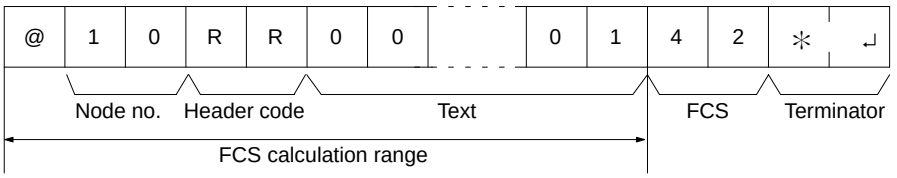
Precautions for Long Transmissions

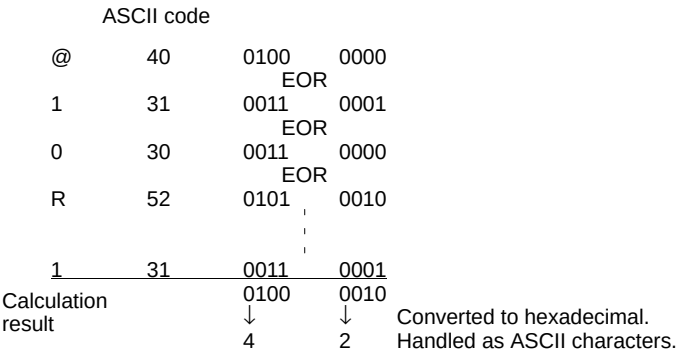
When dividing commands such as WR, WL, WC, or WD that execute write operations, be careful not to divide into separate frames data that is to be written into a single word. As shown in the illustration below, be sure to divide frames so that they coincide with the divisions between words.



FCS (Frame Check Sequence) When a frame is transmitted, an FCS is placed just before the delimiter or terminator in order to check whether any data error has been generated. The FCS is 8-bit data converted into two ASCII characters. The 8-bit data is the result of an EXCLUSIVE OR performed on the data from the beginning of the frame until the end of the text in that frame (i.e., just before the FCS). Calculating the FCS each

time a frame is received and checking the result against the FCS that is included in the frame makes it possible to check for data errors in the frame.





Example Program for FCS

This example shows a BASIC subroutine program for executing an FCS check on a frame received by the host computer.

```
400 *FCSCHECK
410 L=LEN(RESPONSE$) ' ..... Data transmitted and received
420 Q=0:FCSCK$=" "
430 A$=RIGHT$(RESPONSE$,1)
440 PRINT RESPONSE$,AS,L
450 IF A$="*" THEN LENGS=LEN(RESPONSE$)-3
              ELSE LENGS=LEN(RESPONSE$)-2
460 FCSP$=MID$(RESPONSE$,LENGS+1,2) ' ... FCS data received
470 FOR I=1 TO LENGS ' ..... Number of characters in FCS
480 Q=ASC(MID$(RESPONSE$,I,1)) XOR Q
490 NEXT I
500 FCSD$=HEX$(Q)
510 IF LEN(FCSD$)=1 THEN FCSD$="0"+FCSD$ 'FCS result
520 IF FCSD$<>FCSP$ THEN FCSCK$="ERR"
530 PRINT"FCSD$=";FCSD$,"FCSP$=";FCSP$,"FCSCK$=";FCSCK$
540 RETURN
```

Note

1. Normal reception data includes the FCS, delimiter or terminator, and so on. When an error occurs in transmission, however the FCS or some other data may not be included. Be sure to program the system to cover this possibility.
2. In this program example, the CR code (CHR$(13)) is not entered for RESPONSE$. When including the CR code, make the changes in lines 430 and 450.

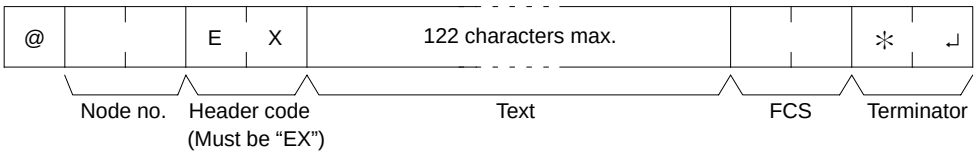
11-2-2 Commands from the PC

In host link communications, commands are ordinarily sent from the host computer to the PC, but it is also possible for commands to be sent from the PC to the host computer. In Host Link Mode, any data can be transmitted from the PC to the host computer. To send a command to the host computer, use the TRANSMIT instruction (TXD(--)) in the PC program in Host Link Mode.

TXD(—) outputs data from the specified port (the RS-232C port or the peripheral port). Refer to page 299 for details on using TXD(—).

Reception Format

When TXD(—) is executed, the data stored in the words beginning with the first send word is converted to ASCII and output to the host computer as a host link command in the format shown below. The "@" symbol, node number, header code, FCS, and delimiter are all added automatically when the transmission is sent. At the host computer, it is necessary to prepare in advance a program for interpreting and processing this format.



One byte of data (2 digits hexadecimal) is converted to two characters in ASCII for transmission, the amount of data in the transmission is twice the amount of words specified for TXD(—). The maximum number of characters for transmission is 122 and the maximum number of bytes that can be designated for TXD(—) is one half of that, or 61.

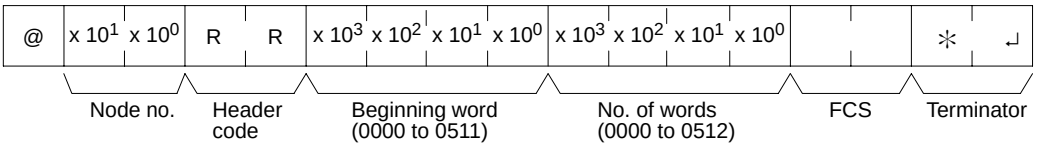
11-3 Host Link Commands

This section explains the commands that can be issued from the host computer to the PC.

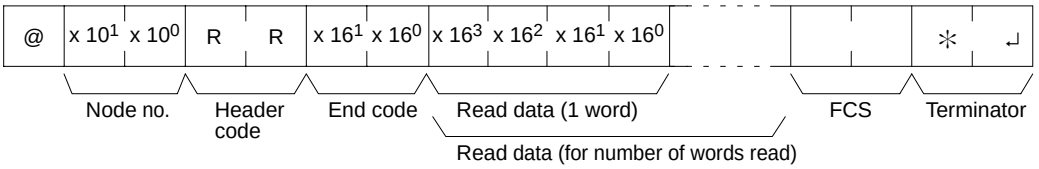
11-3-1 IR/SR AREA READ –– RR

Reads the contents of the specified number of IR and SR words, starting from the specified word.

Command Format



Response Format



Parameters

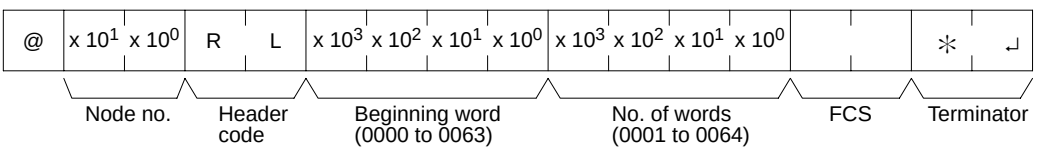
Read Data (Response)

The contents of the number of words specified by the command are returned in hexadecimal as a response. The words are returned in order, starting with the specified beginning word.

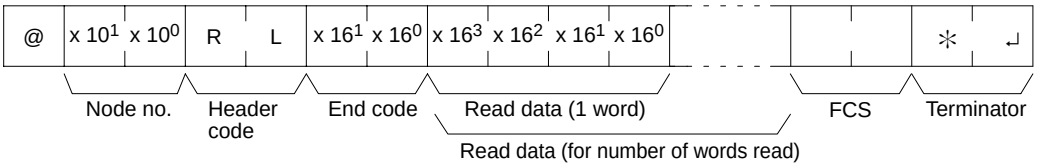
11-3-2 LR AREA READ –– RL

Reads the contents of the specified number of LR words, starting from the specified word.

Command Format



Response Format



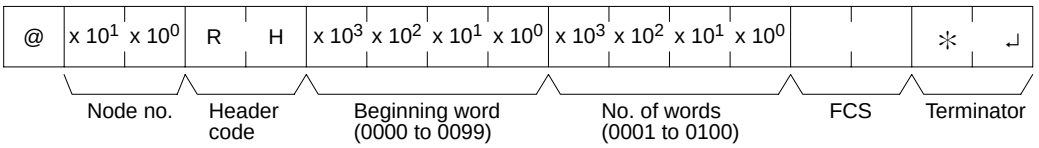
Parameters

Read Data (Response)
The contents of the number of words specified by the command are returned in hexadecimal as a response. The words are returned in order, starting with the specified beginning word.

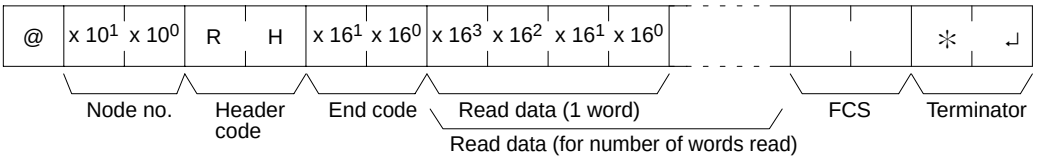
11-3-3 HR AREA READ –– RH

Reads the contents of the specified number of HR words, starting from the specified word.

Command Format



Response Format



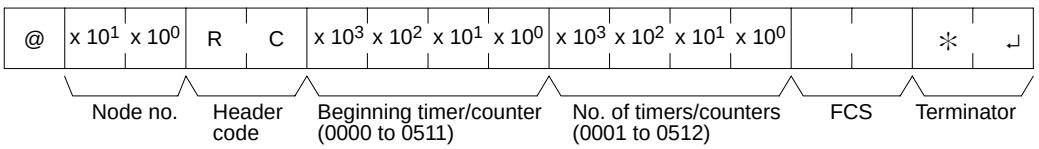
Parameters

Read Data (Response)
The contents of the number of words specified by the command are returned in hexadecimal as a response. The words are returned in order, starting with the specified beginning word.

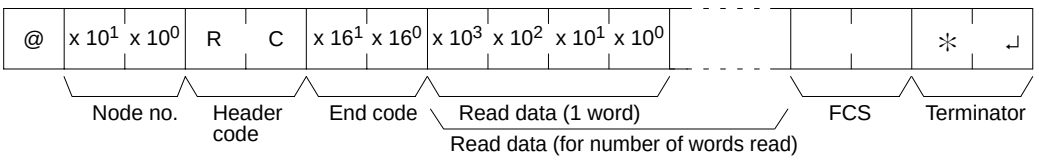
11-3-4 PV READ –– RC

Reads the contents of the specified number of timer/counter PVs (present values), starting from the specified timer/counter.

Command Format



Response Format



Parameters

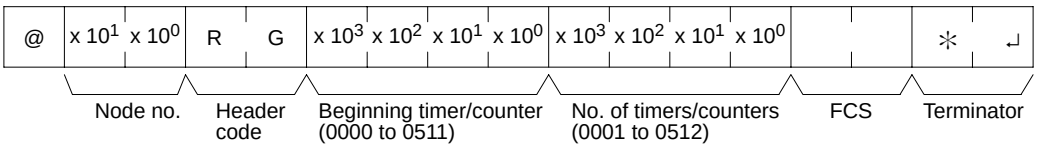
Read Data (Response)
The number of present values specified by the command is returned in hexade-

cimal as a response. The PVs are returned in order, starting with the specified beginning timer/counter.

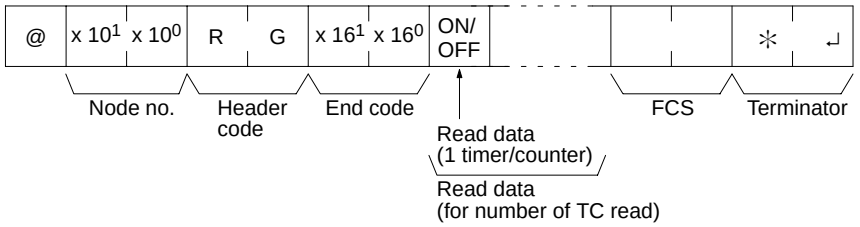
11-3-5 TC STATUS READ –– RG

Reads the status of the Completion Flags of the specified number of timers/counters, starting from the specified timer/counter.

Command Format



Response Format



Parameters

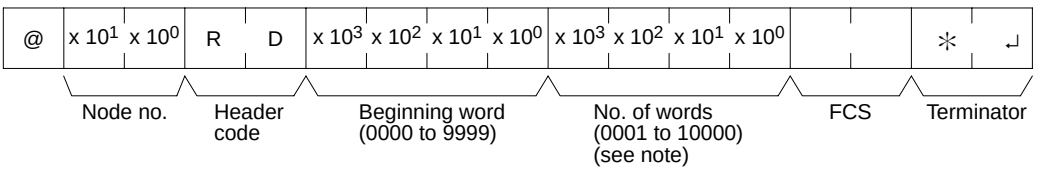
Read Data (Response)

The status of the number of Completion Flags specified by the command is returned as a response. “1” indicates that the Completion Flag is ON.

11-3-6 DM AREA READ –– RD

Reads the contents of the specified number of DM words, starting from the specified word.

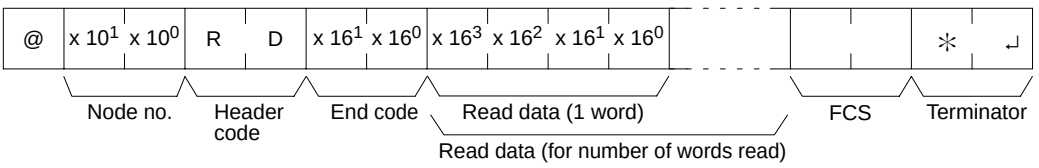
Command Format



Note

1. If 10,000 words have to be read, specify the number of words to be read as 0000.
2. DM 6656 to DM 6999 do not exist. An error will not, however, result if you try to read these words. Instead, “0000” will be returned as a response.

Response Format



Parameters

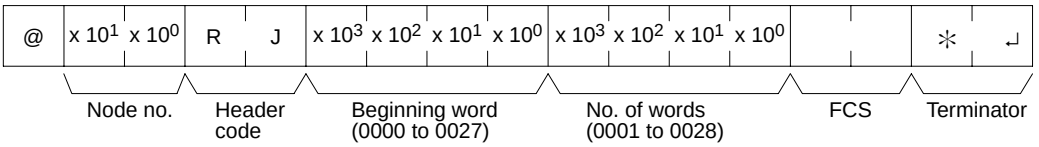
Read Data (Response)

The contents of the number of words specified by the command are returned in hexadecimal as a response. The words are returned in order, starting with the specified beginning word.

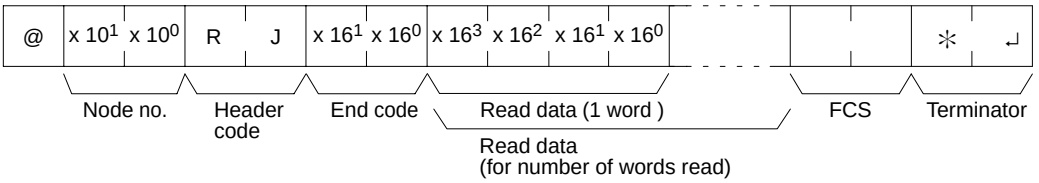
11-3-7 AR AREA READ –– RJ

Reads the contents of the specified number of AR words, starting from the specified word.

Command Format



Response Format



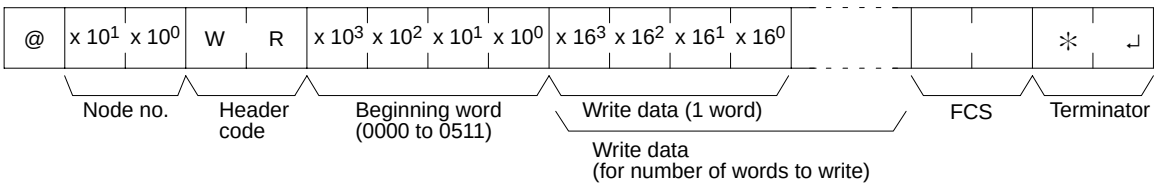
Parameters

Read Data (Response)
The contents of the number of words specified by the command are returned in hexadecimal as a response. The words are returned in order, starting with the specified beginning word.

11-3-8 IR/SR AREA WRITE –– WR

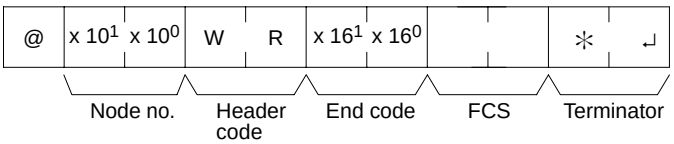
Writes data to the IR and SR areas, starting from the specified word. Writing is done word by word.

Command Format



Note Data cannot be written to words 253 to 255. If there is an attempt to write to these words, no error will result, but nothing will be written to these words.

Response Format



Parameters

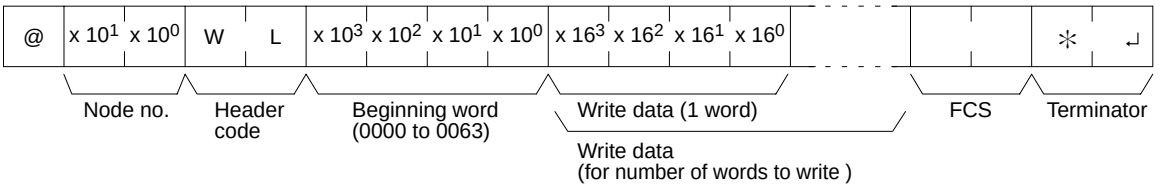
Write Data (Command)
Specify in order the contents of the number of words to be written to the IR or SR area in hexadecimal, starting with the specified beginning word.

Note If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 511 is specified as the beginning word for writing,and two words of data are specified, then 0512 will become the last word for writing data, and the command will not be executed because SR 512 is beyond the writeable range.

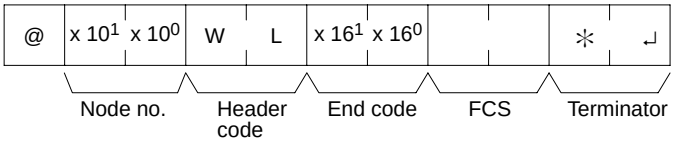
11-3-9 LR AREA WRITE –– WL

Writes data to the LR area, starting from the specified word. Writing is done word by word.

Command Format



Response Format



Parameters

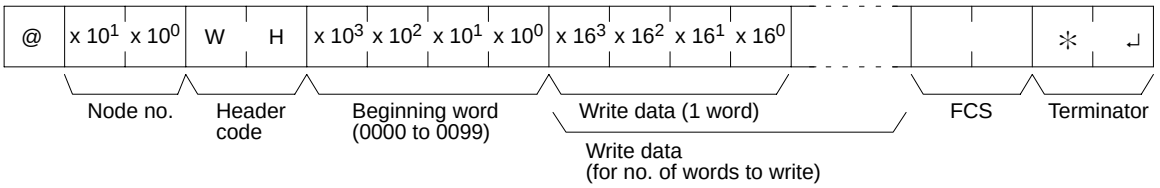
Write Data (Command)
Specify in order the contents of the number of words to be written to the LR area in hexadecimal, starting with the specified beginning word.

Note If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 60 is specified as the beginning word for writing and five words of data are specified, then 64 will become the last word for writing data, and the command will not be executed because LR 64 is beyond area boundary.

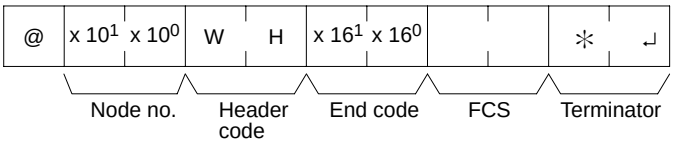
11-3-10 HR AREA WRITE –– WH

Writes data to the HR area, starting from the specified word. Writing is done word by word.

Command Format



Response Format



Parameters

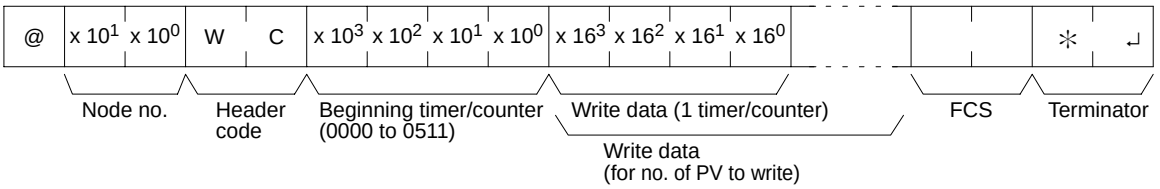
Write Data (Command)
Specify in order the contents of the number of words to be written to the HR area in hexadecimal, starting with the specified beginning word.

Note If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 98 is specified as the beginning word for writing, and three words of data are specified, then 100 will become the last word for writing data, and the command will not be executed because HR 100 is beyond area boundary.

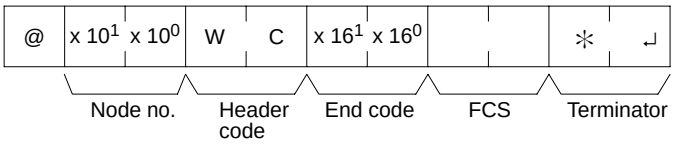
11-3-11 PV WRITE –– WC

Writes the PVs (present values) of timers/counters starting from the specified timer/counter.

Command Format



Response Format



Parameters

Write Data (Command)

Specify in decimal numbers (BCD) the present values for the number of timers/counters that are to be written, starting from the beginning timer/counter.

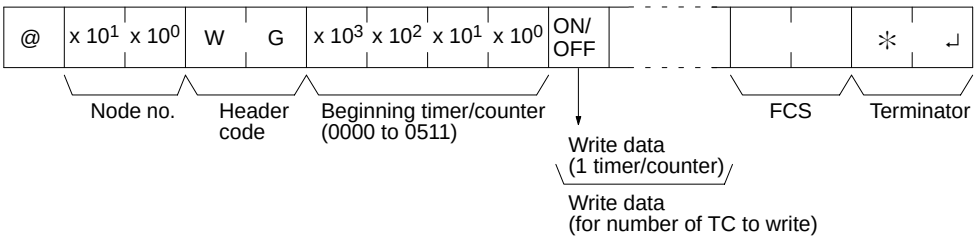
Note

1. When this command is used to write data to the PV area, the Completion Flags for the timers/counters that are written will be turned OFF.
2. If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 510 is specified as the beginning word for writing, and three words of data are specified, then 512 will become the last word for writing data, and the command will not be executed because TC 512 is beyond area boundary.

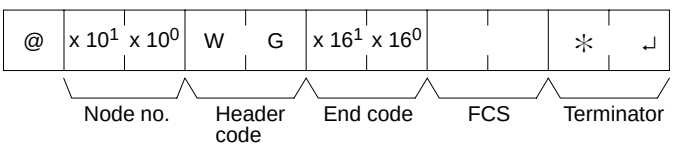
11-3-12 TC STATUS WRITE –– WG

Writes the status of the Completion Flags for timers and counters in the TC area, starting from the specified timer/counter (number). Writing is done number by number.

Command Format



Response Format



Parameters

Write Data (Command)

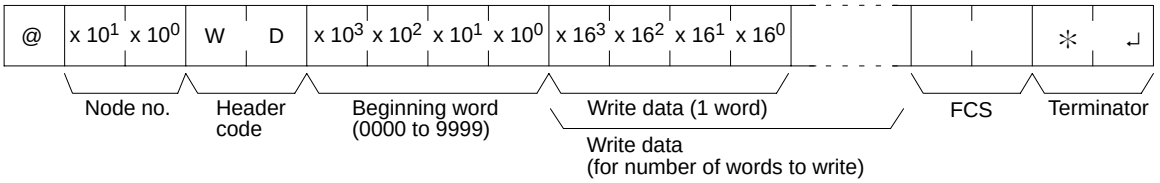
Specify the status of the Completion Flags, for the number of timers/counters to be written, in order (from the beginning word) as ON (i.e., “1”) or OFF (i.e., “0”). When a Completion Flag is ON, it indicates that the time or count is up.

Note If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 510 is specified as the beginning word for writing, and three words of data are specified, then 512 will become the last word for writing data, and the command will not be executed because TC 512 is beyond area boundary.

11-3-13 DM AREA WRITE –– WD

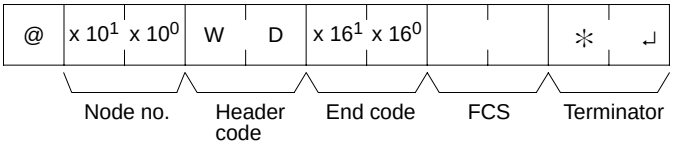
Writes data to the DM area, starting from the specified word. Writing is done word by word.

Command Format



Note DM 6656 to DM 6999 do not exist. An error will not, however, result if you try to write to these words.

Response Format



Parameters

Write Data (Command)

Specify in order the contents of the number of words to be written to the DM area in hexadecimal, starting with the specified beginning word.

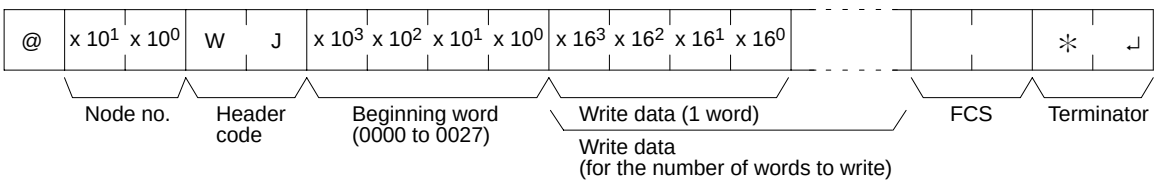
Note

1. If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 9998 is specified as the beginning word for writing, and three words of data are specified, then 10000 will become the last word for writing data, and the command will not be executed because DM 10000 is beyond the writeable range.
2. Be careful about the configuration of the DM area, as it varies depending on the CPU model.

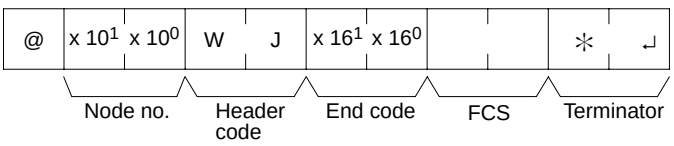
11-3-14 AR AREA WRITE –– WJ

Writes data to the AR area, starting from the specified word. Writing is done word by word.

Command Format



Response Format



Parameters

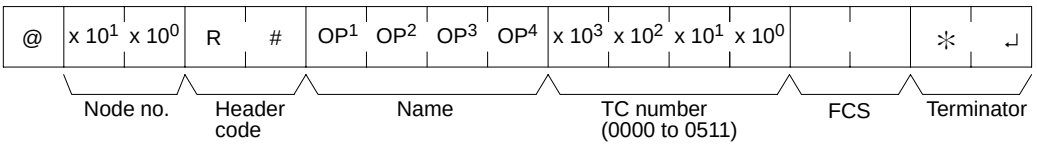
Write Data (Command)
Specify in order the contents of the number of words to be written to the AR area in hexadecimal, starting with the specified beginning word.

Note If data is specified for writing which exceeds the allowable range, an error will be generated and the writing operation will not be executed. If, for example, 26 is specified as the beginning word for writing, and three words of data are specified, then 28 will become the last word for writing data, and the command will not be executed because AR 28 is beyond the writeable range.

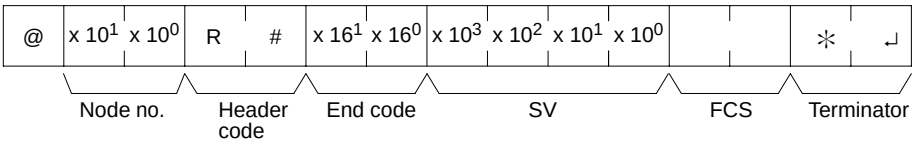
11-3-15 SV READ 1 –– R#

Searches for the first instance of a TIM, TIMH(15), CNT, CNTR(12), or TTIM(87) instruction with the specified TC number in the user's program and reads the PV, which assumed to be set as a constant. The SV that is read is a 4-digit decimal number (BCD). The program is searched from the beginning, and it may therefore take approximately 10 seconds to produce a response.

Command Format



Response Format



Parameters

Name, TC Number (Command)
Specify the instruction for reading the SV in "Name." Make this setting in 4 characters. In "TC number," specify the timer/counter number used for the instruction.

Instruction name				Classification	TC number range
OP1	OP2	OP3	OP4		
T	I	M	(S)	TIMER	0000 to 0511
T	I	M	H	HIGH-SPEED TIMER	
C	N	T	(S)	COUNTER	
C	N	T	R	REVERSIBLE COUNTER	
T	T	I	M	TOTALIZING TIMER	

(S): Space

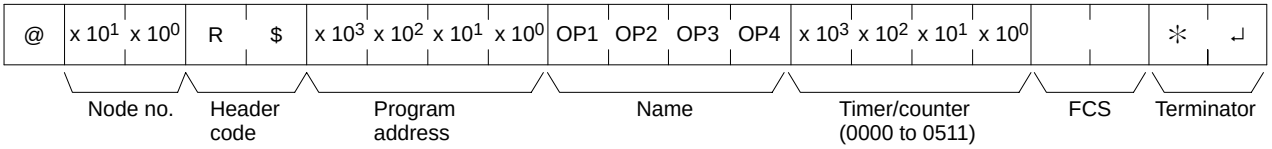
SV (Response)
The constant SV is returned.

Note
1. The instruction specified under "Name" must be in four characters. Fill any gaps with spaces to make a total of four characters.
2. If the same instruction is used more than once in a program, only the first one will be read.
3. Use this command only when it is definite that a constant SV has been set.

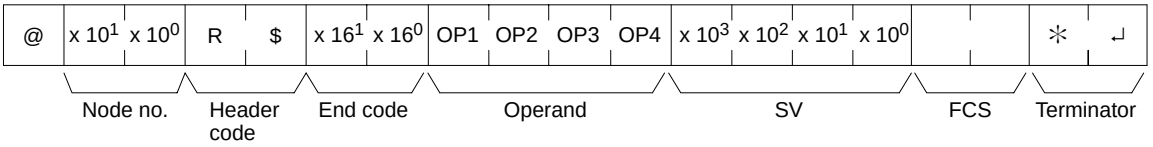
11-3-16 SV READ 2 –– R$

Reads the constant SV or the word address where the SV is stored. The SV that is read is a 4-digit decimal number (BCD) written as the second operand for the TIM, TIMH(15), CNT, CNTR(12), or TTIM(87) instruction at the specified program address in the user's program. This can only be done with a program of less than 10K.

Command Format



Response Format



Parameters

Name, TC Number (Command)
Specify the name of the instruction for reading the SV in "Name." Make this setting in 4 characters. In "TC number," specify the timer/counter number used by the instruction.

Instruction name				Classification	TC number range
OP1	OP2	OP3	OP4		
T	I	M	(S)	TIMER	0000 to 0511
T	I	M	H	HIGH-SPEED TIMER	
C	N	T	(S)	COUNTER	
C	N	T	R	REVERSIBLE COUNTER	
T	T	I	M	TOTALIZING TIMER	

(S): Space

Operand, SV (Response)
The name that indicates the SV classification is returned to "Operand," and either the word address where the SV is stored or the constant SV is returned to "SV."

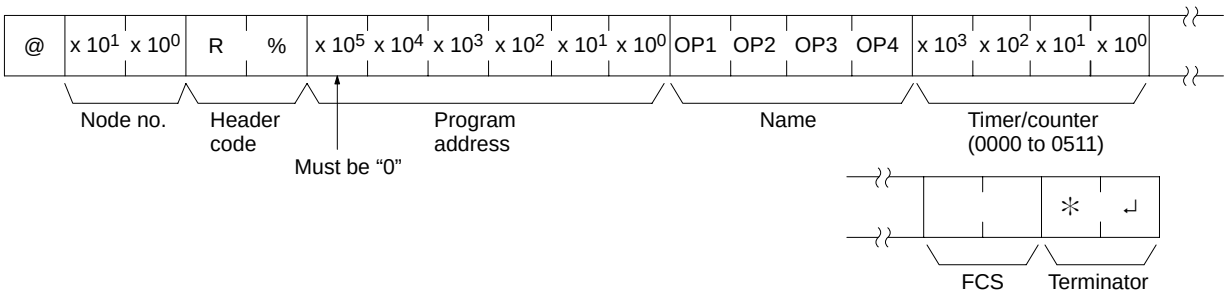
Operand				Classification	Constant or word address
OP1	OP2	OP3	OP4		
C	I	O	(S)	IR or SR	0000 to 0511
L	R	(S)	(S)	LR	0000 to 0063
H	R	(S)	(S)	HR	0000 to 0099
A	R	(S)	(S)	AR	0000 to 0027
D	M	(S)	(S)	DM	0000 to 6655
D	M	*	(S)	DM (indirect)	0000 to 6655
C	O	N	(S)	Constant	0000 to 9999

Note The instruction name specified under "Name" must be in four characters. Fill any gaps with spaces to make a total of four characters.

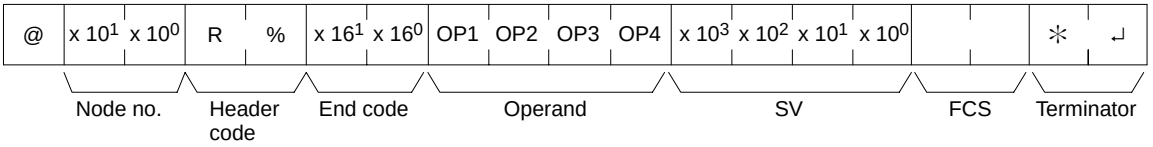
11-3-17 SV READ 3 –– R%

Reads the constant SV or the word address where the SV is stored. The SV that is read is a 4-digit decimal number (BCD) written in the second word of the TIM, TIMH(15), CNT, CNTR(12), or TTIM(87) instruction at the specified program address in the user's program. With this command, program addresses can be specified for a program of 10K or more.

Command Format



Response Format



Parameters

Name, TC Number (Command)

Specify the name of the instruction for reading the SV in "Name." Make this setting in 4 characters. In "TC number," specify the timer/counter number used by the instruction.

Instruction name				Classification	TC number range
OP1	OP2	OP3	OP4		
T	I	M	(S)	TIMER	0000 to 0511
T	I	M	H	HIGH-SPEED TIMER	
C	N	T	(S)	COUNTER	
C	N	T	R	REVERSIBLE COUNTER	
T	T	I	M	TOTALIZING TIMER	

(S): Space

Operand, SV (Response)

The name that indicates the SV classification is returned to "Operand," and either the word address where the SV is stored or the constant SV is returned to "SV."

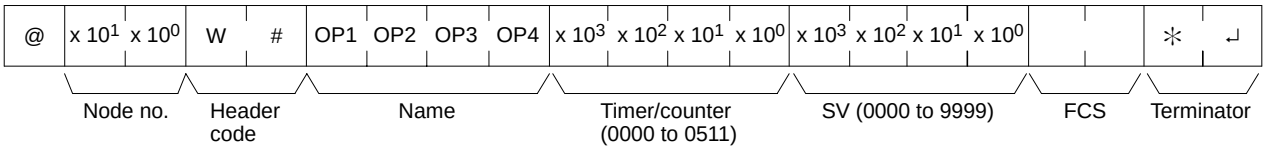
Operand				Classification	Constant or word address
OP1	OP2	OP3	OP4		
C	I	O	(S)	IR or SR	0000 to 0511
L	R	(S)	(S)	LR	0000 to 0063
H	R	(S)	(S)	HR	0000 to 0099
A	R	(S)	(S)	AR	0000 to 0027
D	M	(S)	(S)	DM	0000 to 6655
D	M	*	(S)	DM (indirect)	0000 to 6655
C	O	N	(S)	Constant	0000 to 9999

Note The instruction name specified under "Name" must be in four characters. Fill any gaps with spaces to make a total of four characters.

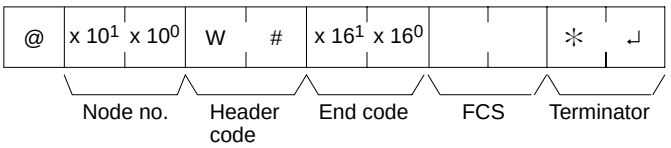
11-3-18 SV CHANGE 1 –– W#

Searches for the first instance of the specified TIM, TIMH(15), CNT, CNTR(12), or TTIM(87) instruction in the user's program and changes the SV to new constant SV specified in the second word of the instruction. The program is searched from the beginning, and it may therefore take approximately 10 seconds to produce a response.

Command Format



Response Format



Parameters

Name, TC Number (Command)

In "Name," specify the name of the instruction, in four characters, for changing the SV. In "TC number," specify the timer/counter number used for the instruction.

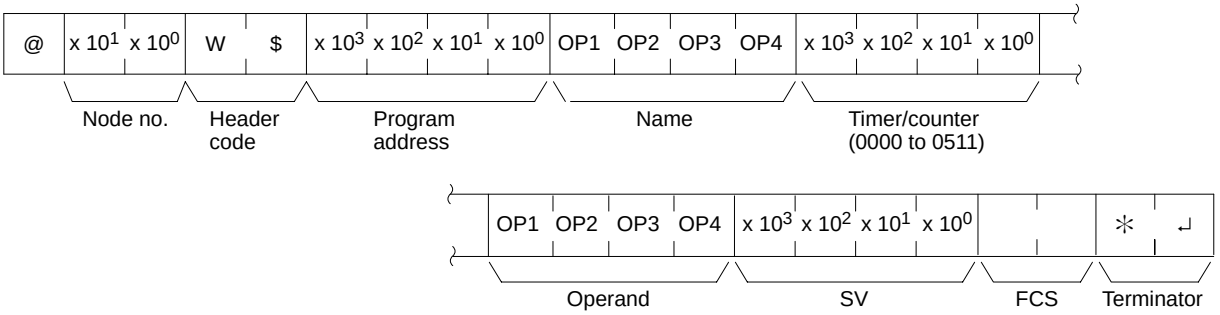
Instruction name				Classification	TC number range
OP1	OP2	OP3	OP4		
T	I	M	(S)	TIMER	0000 to 0511
T	I	M	H	HIGH-SPEED TIMER	
C	N	T	(S)	COUNTER	
C	N	T	R	REVERSIBLE COUNTER	
T	T	I	M	TOTALIZING TIMER	

(S): Space

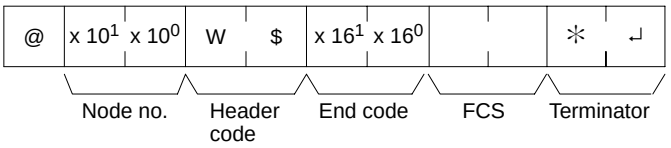
11-3-19 SV CHANGE 2 –– W$

Changes the contents of the second word of the TIM, TIMH(15), CNT, CNTR(12), or TTIM(87) at the specified program address in the user's program. This can only be done with a program of less than 10K.

Command Format



Response Format



Parameters

Name, TC Number (Command)

In “Name,” specify the name of the instruction, in four characters, for changing the SV. In “TC number,” specify the timer/counter number used for the instruction.

Instruction name				Classification	TC number range
OP1	OP2	OP3	OP4		
T	I	M	(S)	TIMER	0000 to 0511
T	I	M	H	HIGH-SPEED TIMER	
C	N	T	(S)	COUNTER	
C	N	T	R	REVERSIBLE COUNTER	
T	T	I	M	TOTALIZING TIMER	

(S): Space

Operand, SV (Response)

In “Operand,” specify the name that indicates the SV classification. Specify the name in four characters. In “SV,” specify either the word address where the SV is stored or the constant SV.

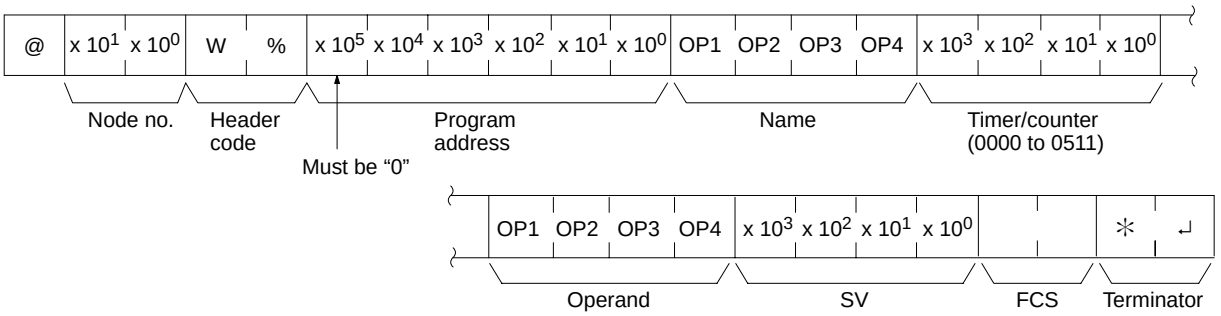
Operand				Classification	Constant or word address
OP1	OP2	OP3	OP4		
C	I	O	(S)	IR or SR	0000 to 0511
L	R	(S)	(S)	LR	0000 to 0063
H	R	(S)	(S)	HR	0000 to 0099
A	R	(S)	(S)	AR	0000 to 0027
D	M	(S)	(S)	DM	0000 to 6655
D	M	*	(S)	DM (indirect)	0000 to 6655
C	O	N	(S)	Constant	0000 to 9999

(S): Space

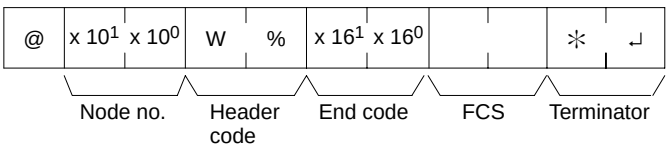
11-3-20 SV CHANGE 3 –– W%

Changes the contents of the second word of the TIM, TIMH(15), CNT, CNTR(12), or TTIM(87) at the specified program address in the user’s program. With this command, program address can be specified for a program of more than 10K.

Command Format



Response Format



Parameters

Name, TC Number (Command)
In “Name,” specify the name of the instruction, in four characters, for changing the SV. In “TC number,” specify the timer/counter number used for the instruction.

Instruction name				Classification	TC number range
OP1	OP2	OP3	OP4		
T	I	M	(S)	TIMER	0000 to 0511
T	I	M	H	HIGH-SPEED TIMER	
C	N	T	(S)	COUNTER	
C	N	T	R	REVERSIBLE COUNTER	
T	T	I	M	TOTALIZING TIMER	

(S): Space

Operand, New SV (Response)
In “Operand,” specify the name that indicates the SV classification. Specify the name in four characters. In “SV,” specify either the word address where the SV is stored or the constant SV.

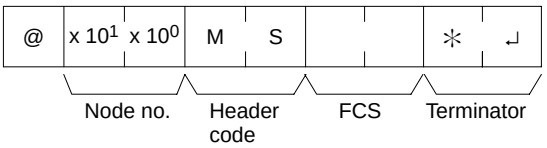
Operand				Classification	Constant or word address
OP1	OP2	OP3	OP4		
C	I	O	(S)	IR or SR	0000 to 0511
L	R	(S)	(S)	LR	0000 to 0063
H	R	(S)	(S)	HR	0000 to 0099
A	R	(S)	(S)	AR	0000 to 0027
D	M	(S)	(S)	DM	0000 to 6655
D	M	*	(S)	DM (indirect)	0000 to 6655
C	O	N	(S)	Constant	0000 to 9999

(S): Space

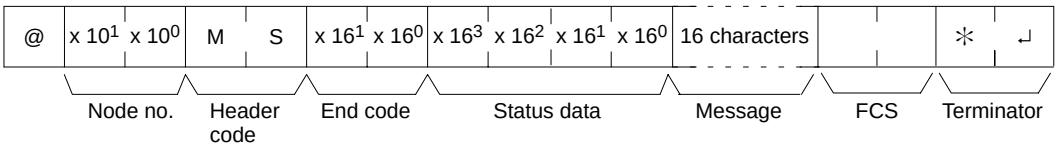
11-3-21 STATUS READ –– MS

Reads the PC operating conditions.

Command Format



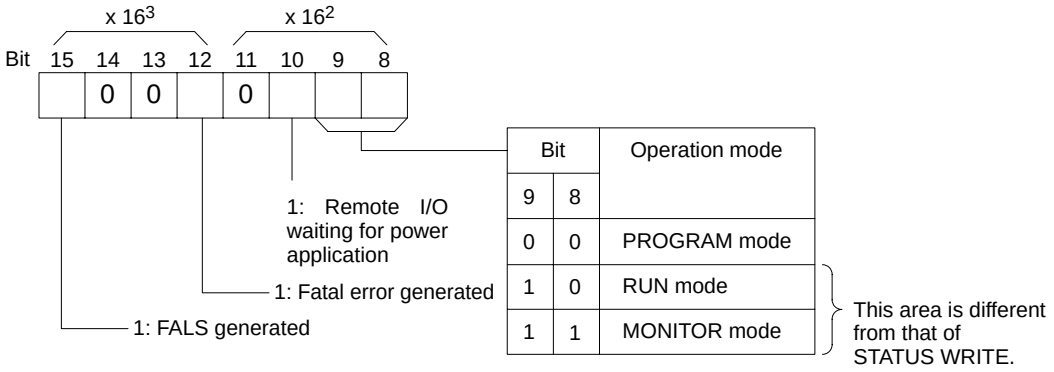
Response Format

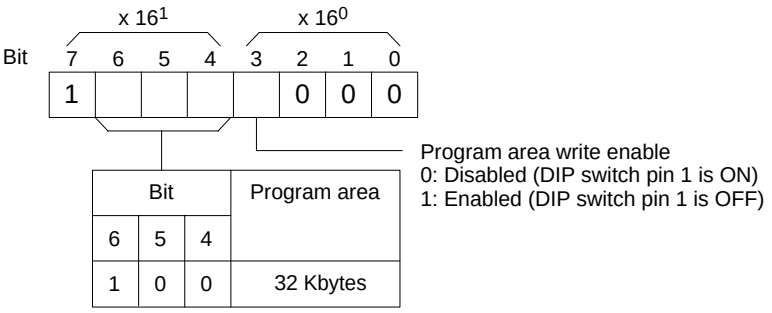


Parameters

Status Data, Message (Response)

"Status data" consists of four digits (two bytes) hexadecimal. The leftmost byte indicates CPU operation mode, and the rightmost byte indicates the size of the program area.



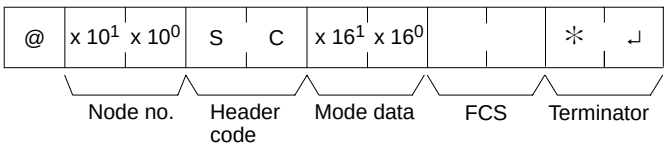


"Message" indicates the FAL/FALS number generated at the point when the command is executed. When there is no message, this is omitted.

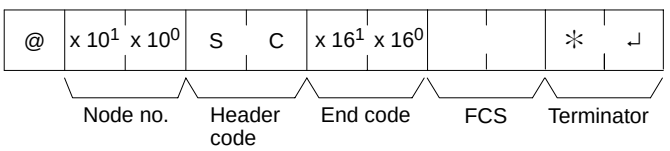
11-3-22 STATUS WRITE –– SC

Changes the PC operating mode.

Command Format



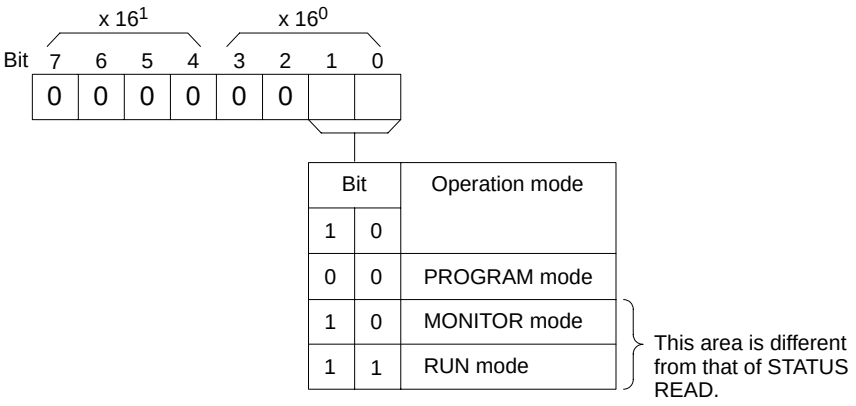
Response Format



Parameters

Mode Data (Command)

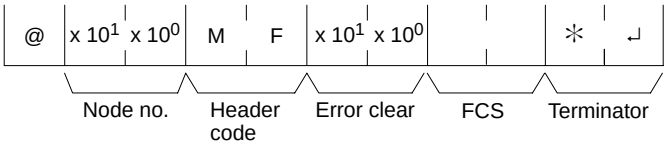
"Mode data" consists of two digits (one byte) hexadecimal. With the leftmost two bits, specify the PC operating mode. Set all of the remaining bits to "0."



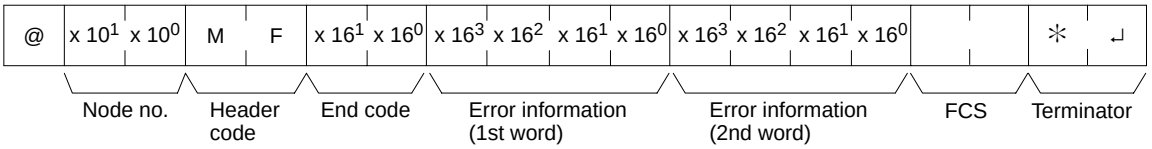
11-3-23 ERROR READ –– MF

Reads and clears errors in the PC. Also checks whether previous errors have been cleared.

Command Format



Response Format



Parameters

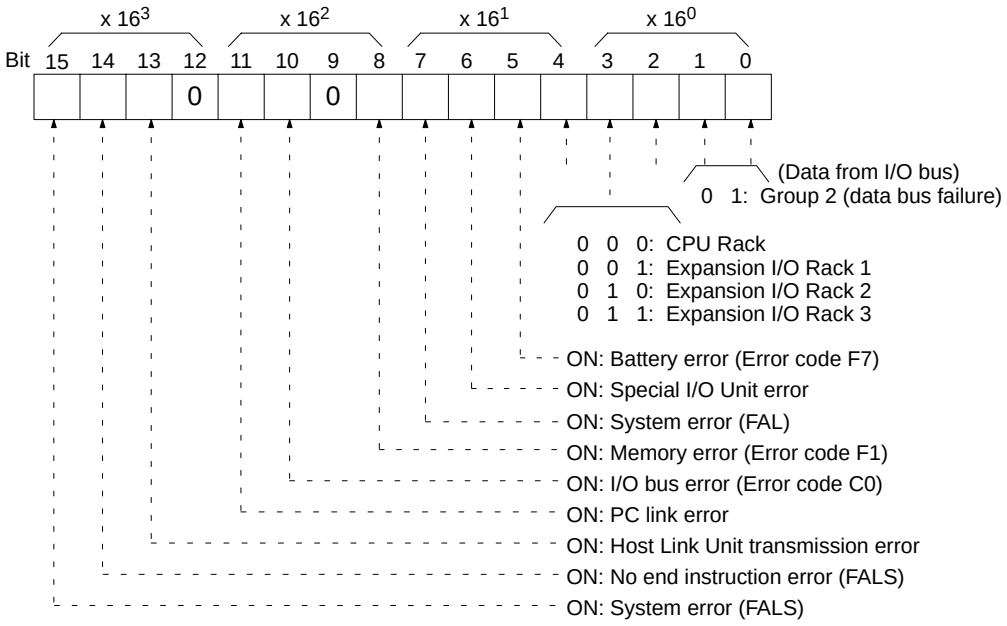
Error Clear (Command)

Specify 01 to clear errors and 00 to not clear errors (BCD). Fatal errors can be cleared only when the PC is in PROGRAM mode.

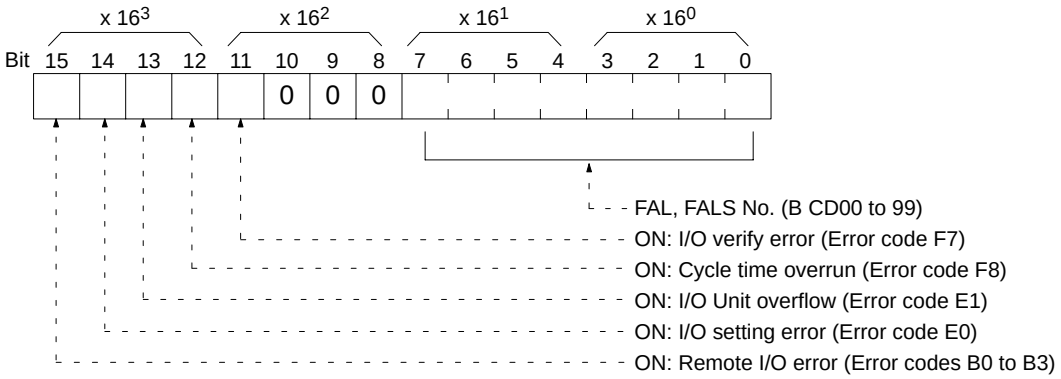
Error Information (Response)

The error information comes in two words.

1st word



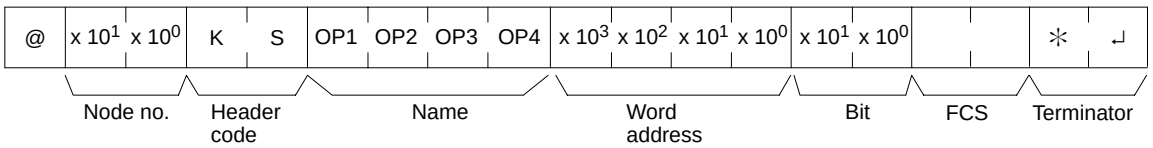
2nd word



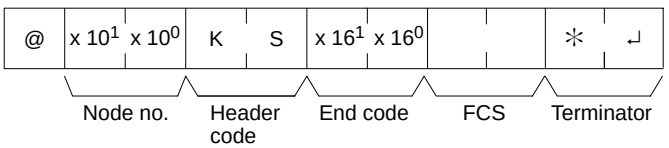
11-3-24 FORCED SET –– KS

Force sets a bit in the IR, SR, LR, HR, AR, or TC area. Once a bit has been forced set or reset, that status will be retained until FORCED SET/RESET CANCEL (KC) is transmitted.

Command Format



Response Format



Parameters

Name, Word address, Bit (Command)

In “Name,” specify the area (i.e., IR, SR, LR, HR, AR, or TC) that is to be forced set. Specify the name in four characters. In “Word address,” specify the address of the word, and in “Bit” the number of the bit that is to be forced set.

Name				Classification	Word address setting range	Bit
OP1	OP2	OP3	OP4			
C	I	O	(S)	IR or SR	0000 to 0511	00 to 15 (decimal)
L	R	(S)	(S)	LR	0000 to 0063	
H	R	(S)	(S)	HR	0000 to 0099	
A	R	(S)	(S)	AR	0000 to 0027	
T	I	M	(S)	Completion Flag (timer)	0000 to 0511	Always 00.
T	I	M	H	Completion Flag (high-speed timer)		
C	N	T	(S)	Completion Flag (counter)		
C	N	T	R	Completion Flag (reversible counter)		
T	T	I	M	Completion Flag (totalizing timer)		

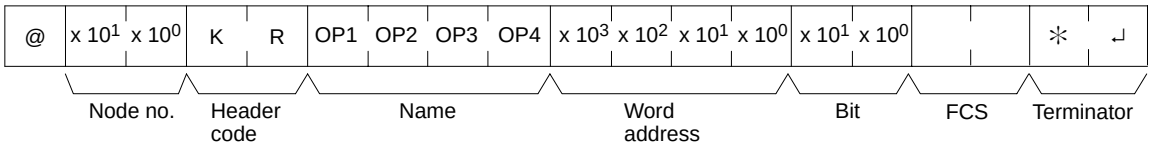
(S): Space

Note
1. The area specified under “Name” must be in four characters. Fill any gaps with spaces to make a total of four characters.
2. Words 253 to 255 cannot be set when the CIO Area is specified.

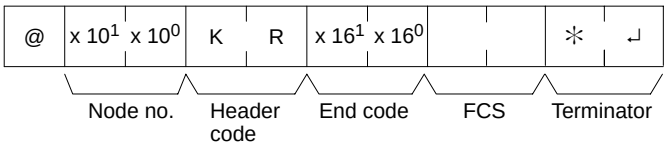
11-3-25 FORCED RESET –– KR

Force resets a bit in an IR, SR, LR, HR, AR, or TC area. Once a bit has been forced set or reset, that status will be retained until FORCED SET/RESET CANCEL (KC) is transmitted.

Command Format



Response Format



Parameters

Name, Word address, Bit (Command)

In “Name,” specify the area (i.e., IR, SR, LR, HR, AR, or TC) that is to be forced reset. Specify the name in four characters. In “Word address,” specify the address of the word, and in “Bit” the number of the bit that is to be forced reset.

Name				Classification	Word address setting range	Bit
OP1	OP2	OP3	OP4			
C	I	O	(S)	IR or SR	0000 to 0511	00 to 15 (decimal)
L	R	(S)	(S)	LR	0000 to 0063	
H	R	(S)	(S)	HR	0000 to 0099	
A	R	(S)	(S)	AR	0000 to 0027	
T	I	M	(S)	Completion Flag (timer)	0000 to 0511	Always 00.
T	I	M	H	Completion Flag (high-speed timer)		
C	N	T	(S)	Completion Flag (counter)		
C	N	T	R	Completion Flag (reversible counter)		
T	T	I	M	Completion Flag (totalizing timer)		

(S): Space