SHARP

Version 3.0
Produced in Feb, 2005

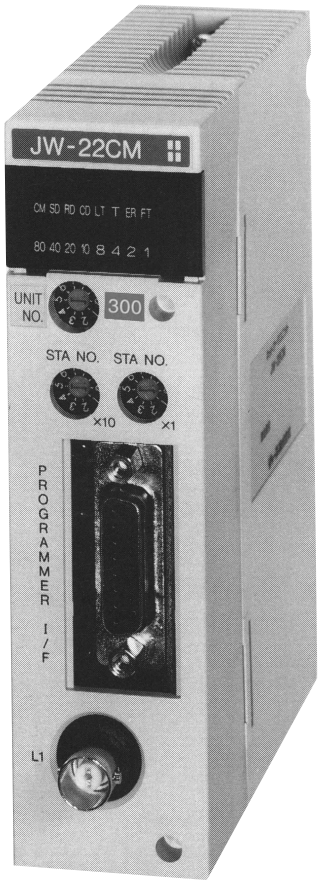
Sharp Programmable Controller

NEW Satellite JW20H/30H/300

Model name

DeviceNet Master Module **JW-22CM**

User's Manual



Thank you for purchasing the network module (JW-22CM) for the SHARP new satellite JW20H/30H/300.

Read this manual thoroughly to completely familiarize yourself with the functions and operation of the JW-22CM.

Besides this manual, the following manuals are available for the JW20H/30H/300 series. We ask you to also read these manuals as well as this manual.

- JW20H control module
  - User's manual, hardware version
  - Programming manual, ladder instruction version
  - Programming manual, step flow version
- JW30H control module
  - User's manual, hardware version
  - Programming manual, ladder instruction version
- JW300 control module
  - User's manual, hardware version
  - Programming manual, ladder instruction version

About the description of this book

- This manual describes the JW-22CM that is applicable to the JW300.
  The JW-22CM that is applied to JW300 has a mark of 300 in front of the module.
  => Refer to page 4-2
- In this manual, number and symbol in parentheses added to address or setting value indications represent the following.
  Octal·····(8) Hexadecimal·····(H) Decimal·····(D) or no symbol

About SL switch

- You have to set the SL switch on the JW-22CM to match the PLC model (JW20H/30H/300) it will be installed in. => Refer to page 11-2

Precautions

- When you plan to use SHARP programmable controllers (hereafter referred to as "PLCs"), you are requested to design each system so that even if a fault or malfunction occurs within the PLC, it will not lead to a serious accident in your system. You should incorporate back-up measures and fail-safe features in your system that will thoroughly protect your system from malfunctions if a fault or error occurs in the PLC.
- SHARP PLCs are designed and manufactured with the idea that they will be used in general applications in ordinary industries. Therefore, they must not be used in specific applications that can affect the health or safety of the public, such as nuclear power plants and other power generating plants. Such applications require a special warranty of quality that SHARP explicitly does NOT offer for these PLCs. However, if a user will certify that he/she does not requires a special quality warranty on the PLC, and will limit the use of the PLC to non critical areas of these applications, SHARP will agree to such use.
  If you are planning to use SHARP PLCs for applications that may affect the lives of human beings and property, and you need particularly high reliability performance, such as in the fields of aviation, medicine, transportation, combustion and fuel processing equipment, passenger cars, amusement park rides, and safety equipment, please contact our sales division so that we can confirm the required specifications.

Notes

- Though this manual is produced with the utmost care, if you have any questions and inquiries, please feel free to contact our dealers.
- The whole or partial photocopy of this booklet is prohibited.
- Contents of this booklet may be revised for improvement without notice.

Safety Precautions

Read this manual and attached documents carefully before installation, operation, maintenance and checking in order to use the machine correctly. Understand all of the machine knowledge, safety information, and cautions before starting to use. In this instruction manual, safety precautions are ranked into "danger" and "caution" as follows.

Danger : Wrong handling may possibly lead to death or heavy injury.

Caution : Wrong handling may possibly lead to medium or light injury.

Even in the case of Caution, a serious result may be experienced depending on the circumstances. Anyway, important points are mentioned. Be sure to observe them strictly.

The picture signs of prohibit and compel are explained below.

: It means don'ts. For example, prohibition of disassembly is indicated as ( ).

: It means a must. For example, obligation of grounding is indicated as ( ).

1) Installation

Caution

- Use in the environments specified in the catalog, instruction manual, and user's manual.
  Electric shock, fire or malfunction may be caused when used in the environments of high temperature, high humidity, dusty or corrosive atmosphere, vibration or impact.
- Install according to the manual.
  Wrong installation may cause drop, breakdown, or malfunction.
- Never admit wire chips or foreign matters.
  Or fire, breakdown or malfunction may be caused.

2) Wiring

Compel

- Be sure to ground.
  Unless grounded, electric shock or malfunction may be caused.

Caution

- Connect the rated power source.
  Connection of a wrong power source may cause a fire.
- Wiring should be done by a qualified electrician.
  Wrong wiring may lead to fire, breakdown or electric shock.

3) Use

Danger

- Don't touch the terminal while the power is being supplied or you may have an electric shock.
- Assemble the emergency stop circuit and interlock circuit outside of the programmable controller. Otherwise breakdown or accident damage of the machine may be caused by the trouble of the programmable controller.

Caution

- "RUN" or "STOP"" during operation should be done with particular care by confirming safety. Misoperation may lead to damage or accident of the machine.
- Turn on the power source in the specified sequence. Turning ON with wrong sequence may lead to machine breakdown or accident.

4) Maintenance

Prohibit

- Don't disassemble or modify the modules.
  Or fire, breakdown or malfunction may be caused.

Caution

- Turn OFF the power source before detaching or attaching the module.
  Or electric shock, malfunction or breakdown may be caused.

Table of contents

Chapter 1. Features and Functions

With installation of the network module JW-22CM to the programmable controller (PLC) JW20H/30H/300, you can construct a communications system (satellite net) which can easily send and receive an ON/OFF signal (machine information) and numerical data (production data) between PLCs and a host computer.

- This manual describes the JW-22CM that is applicable to the JW300.
  The JW-22CM that is applicable to JW300 has a 300 markings in front of the module.

=> Refer to page 4-2

① **Data link function**

- Send and receive an ON/OFF signal (relay link) and data (register link) between JW-22CMs or between the JW-22CM and the network module JW-20CM.

Linkage method	Number of linkage points
Relay link	2048 (256 bytes) in total
Register link	2048 bytes in total

- The JW-22CM has a save memory function which limits to receive only of the required data and provides effective use of the memory.

② **The satellite net is available for communication of up to 64 stations. By using a cable, it can be extended up to 1 km.**

③ **SEND/RECEIVE function**

Data exchange using a program between PLCs is available.

- Data exchange between a network of two hierarchical layer differences is also available. (Satellite net ⇦⇨ satellite net)
- There are two types of starting systems: "Instruction method" and "data memory starting method." When PLC on which the JW-22CM is installed is JW20H, SEND/RECEIVE instructions cannot be used (instruction method). However the equivalent function can be effective by setting the respective information in the data memory (data memory starting method).

④ **Remote programming and remote monitor**

By constructing a satellite system using the JW-22CM, you can program and monitor other station's PLC's on the satellite system using a support tool.

- These remote programming and remote monitor functions are also available beyond one hierarchical layer difference (satellite net ⇦⇨ satellite net, satellite net ⇦⇨ SUMINET-3200) when using JW50H/70H/100H (JW-20CM) or JW30H/300 (JW-22CM) in relay station.
  "SUMINET-3200" is a trademark of Sumitomo Electric Industries, Ltd.
- For remote programming and remote monitor details about the JW300, see page 14-8.

⑤ **Computer link function (When installing JW-22CM into JW20H/30H)**

- The reading/writing memory contents of the JW20H/30H are available by sending a command (instruction) from a host computer integrated into the network module.
- The JW-22CM returns a response to the command (instruction) from a host computer.

=> Refer to chapter 9

Note: When the JW-22CM is installed in a JW300, the computer link function cannot be used.

Chapter 2. Precautions for Use

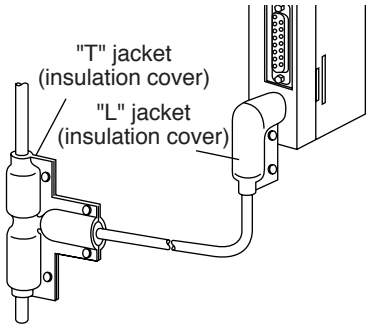
Make sure to follow the precautions below while using the JW-22CM (simply called "this module" from here on).

2-1 Installation

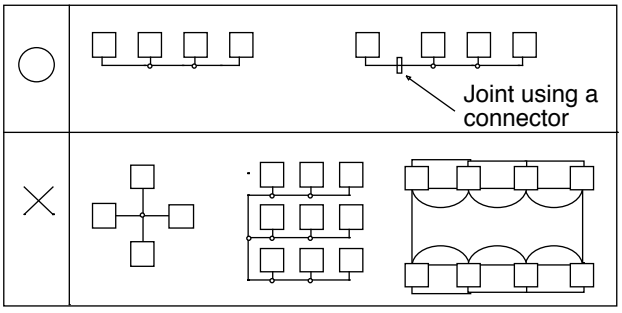
- Do not install or store the JW-22CM in the following conditions.
  - Direct sunlight
  - Ambient temperature exceeding the range of 0 to 55 ℃ (Storage temperature : -20 to 70 ℃)
  - The relative humidity exceeding the range of 35 to 90%.
  - Sudden temperature changes which may cause condensation.
  - Corrosive or inflammable gas
  - Vibration or hard jolts
- Prior to installing or detaching the JW-22CM, make sure to turn OFF the power supply to the JW20H/30H/300 (main PLC of the system).
- All screws must be tightened firmly.

2-2 Wiring

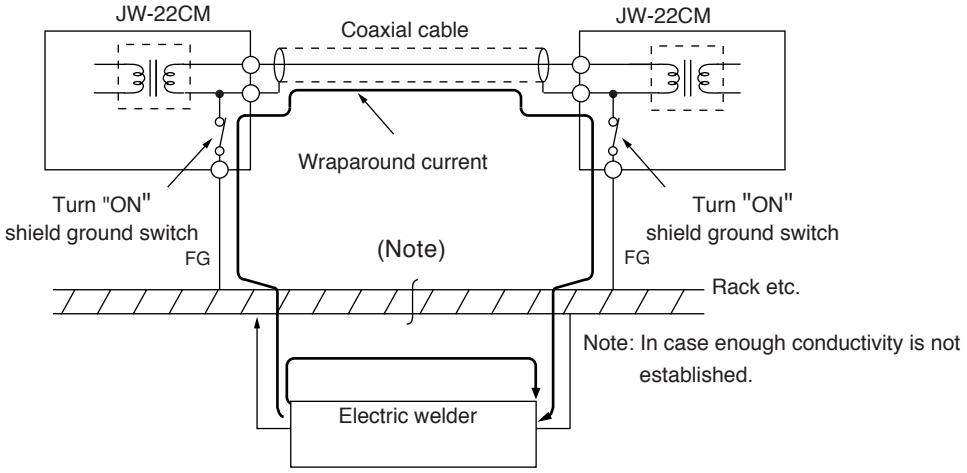
- Make sure to use only the recommended types for cables, connectors, and crimping tools.
  => Refer to page 6-1
- When using connectors for branch or joint lines, provide jackets to protect connectors.
  (When a connector touches with an external enclosure or the like, a communication error may occur.)



- Do not connect the ground terminal of the power supply module together with other equipment's ground lines. Make sure to provide class-D grounding.
  When the JW-22CM is used without connecting a class-D grounding, malfunctions by noise may occur.
- Communication cables should be arranged as far from any high voltage lines and strong power lines as possible. Do not lay the communication cable parallel or proximate to these lines.
- Communication cables should be laid from the master station to the slave station one by one. Multiple wiring from one point or wiring without terminators may cause communication errors.



- Arrange total cable length within 1 km.
- Arrange branch cable line from a trunk within 400 mm.
- Prior to any electric welding around this module, take out the coaxial cable from this module. While the coaxial cable is connected to this module, any electric welding nearby this module will cause the welding current to enter this module and may damage part of its circuit pattern.



2-3 Use method

- For ventilation, holes are provided in the cabinet to prevent a temperature rise. Do not block the ventilation holes. Good ventilation is necessary.
- Never allow a liquid such as water and chemical solution and a metallic object like a copper wire inside this module to avoid a possible hazard. Otherwise, it may be a cause of machine trouble.
- When a trouble or abnormal condition such as overheat, fume, or smoke is met, stop the operation immediately, and call your dealer or our service department.

2-4 Static electricity

In extremely dry circumstances, the human body may have excessive static current. This excessive static current may damage parts in the JW-22CM's PLC board. Therefore, prior to accessing this module, touch your hand to a grounded piece of metal to discharge the static current in your body.

2-5 Maintenance

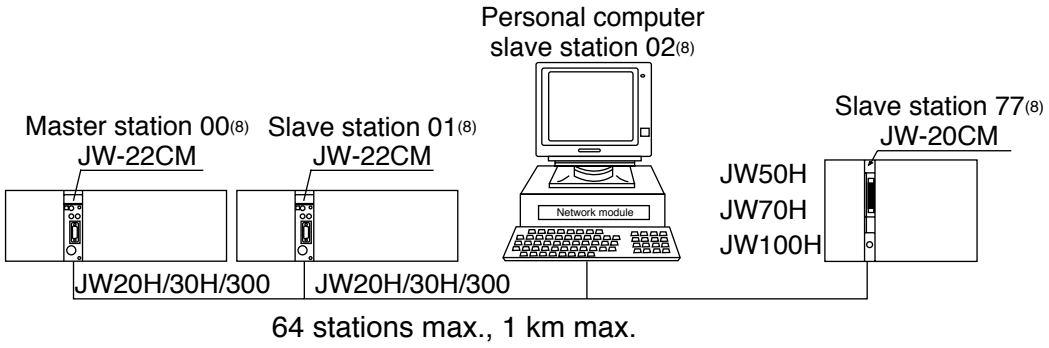
Use a clean, dry cloth when cleaning this module. Do not use volatile chemicals such as thinner or alcohol as it may result in deformation and color fading.

2-6 Allocation of relay number

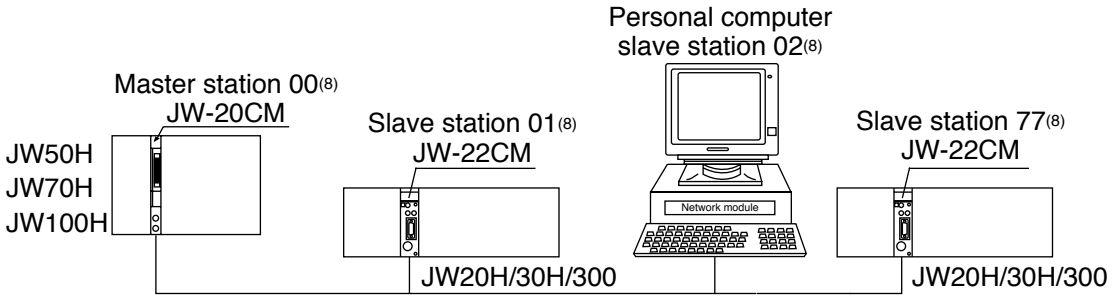
JW20H/30H/300 which installs this module are laid out 16 points to this module as a relay number. These 16 points are dummy area which is not used in JW-22CM.

Chapter 3. System Configuration

■ **Example of system configuration**

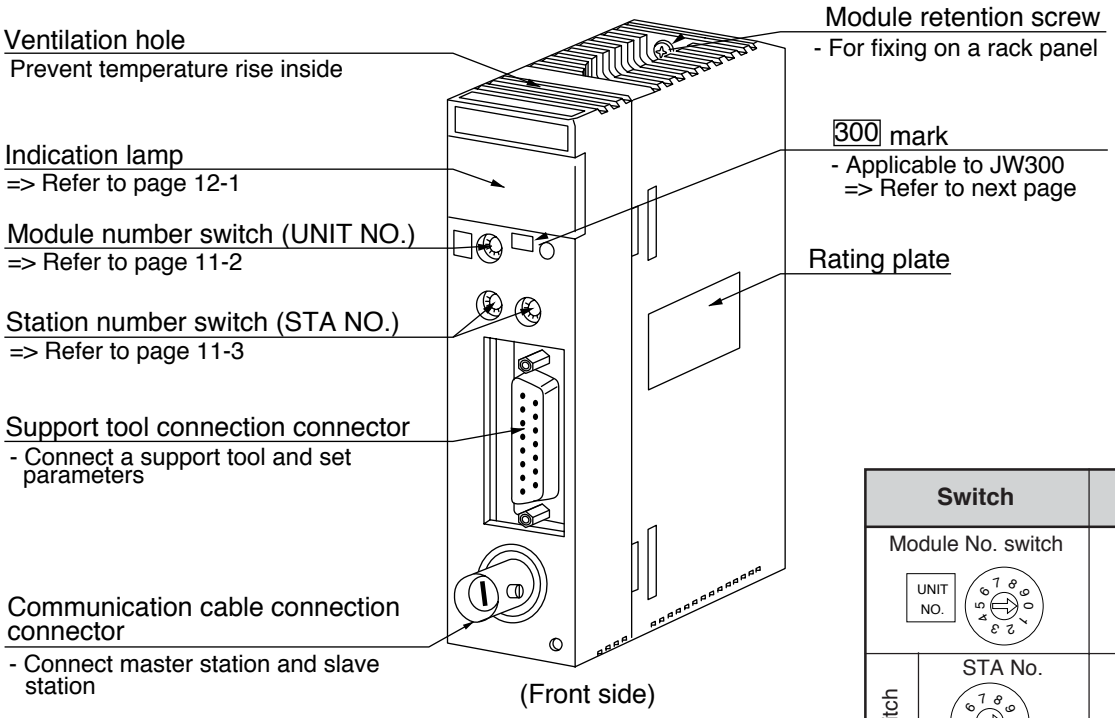


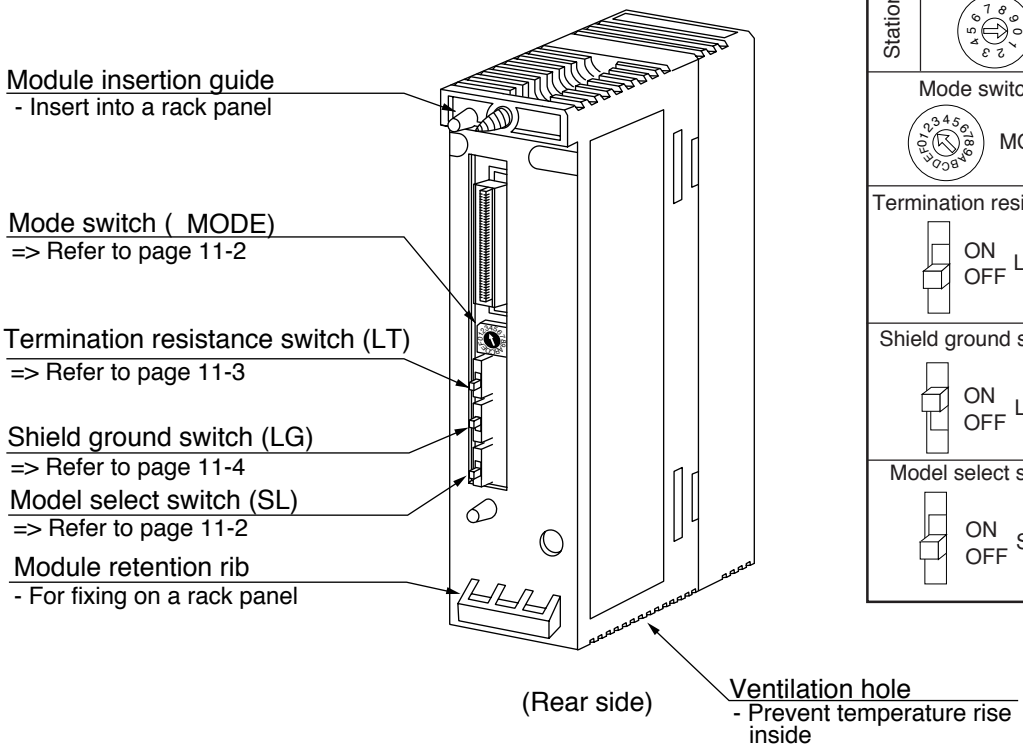
64 stations max., 1 km max.



64 stations max., 1 km max.

Chapter 4. Name and Function of Each Part





Switch		Factory setting
Module No. switch	UNIT NO.	0
Station No. switch	STA No. X10	0
	STA No. X1	0
Mode switch	MODE	2
Termination resistance switch	ON OFF LT	OFF
Shield ground switch	ON OFF LG	ON
Model select switch	ON OFF SL	OFF

300 marking on the JW-22CM

The 300 marking on the front of the JW-22CM means that this JW-22CM is compatible with the JW300.
=> See the previous page.
In addition to JW-22CMs with a 300 marking, some JW-22CMs have a 30Hn marking, some have a 30H marking, and some have no marking.

JW-22CM	Compatible models			
	JW300 series	JW30H series		JW20H series
		*1	*2	
With a 300 marking	○	○	○	○
With a 30Hn marking	×	○	○	○
With a 30H marking	×	△	○	○
No marking	×	×	×	○

*1: Control module; JW-31CUH1, JW-32CUH1, JW-33CUH1/H2/H3, JW-32CUM1/M2
*2: Control module; JW-31CUH, JW-32CUH, JW-33CUH
○: Compatible, ×: Not compatible, △: Compatible within the JW-31CHU, JW-32CUH, and JW-33CUH range.

Chapter 5. Installation Method

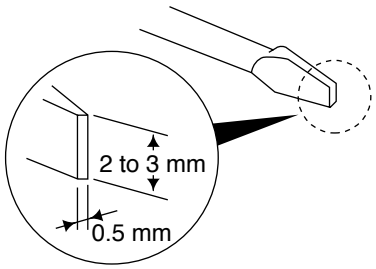
Install the JW-22CM (simply called "this module" from here on) with the following procedure.

① Turn "OFF" the power supply to the JW20H/30H/300.

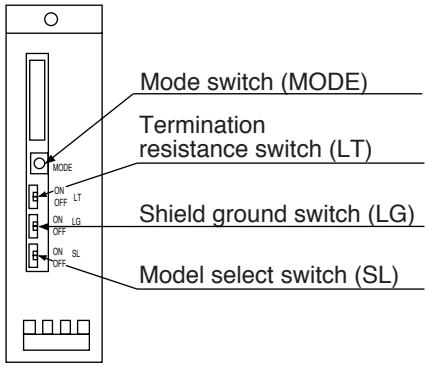
② Set the model select switch, mode switch, the termination resistance switch, and the shield ground switch on the rear side of the JW-22CM.

=> Refer to page 11-2 to 11-4 for settings

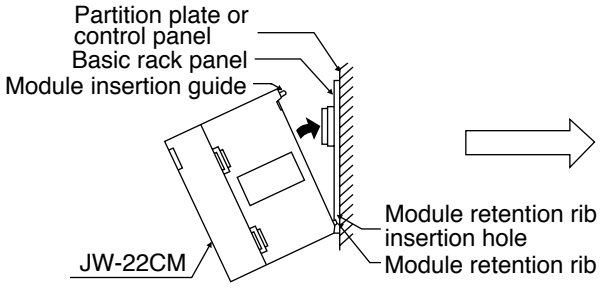
Applicable screwdriver



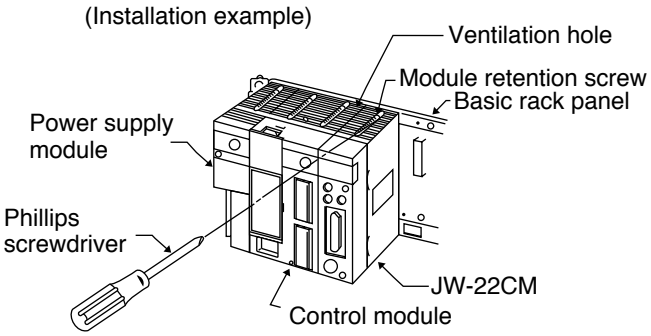
(Rear side of the JW-22CM)



③ Hang the module retention rib of the JW-22CM on the retention rib insertion hole of the JW20H/JW30H/300's basic rack panel, and press in the JW-22CM. Then tighten the module retention screws at the top of the JW-22CM module using a Phillips screwdriver.



(Installation example)

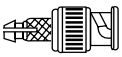
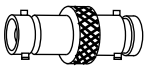
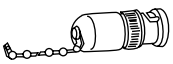


Remarks

- The JW-22CM cannot be installed on the expansion rack panel.
- More than one JW-22CM module can be installed on the same control module (basic rack panel of JW20H/30H/300). However, do not use the same module number switch setting as any other option module (including the JW-22CM).
- Make sure to tighten the module retention screws securely. Looseness of the screws may cause malfunctions.

Chapter 6. Processing of Cables

Make sure to use the recommended models shown below for cables and connectors.

Name		Model	Maker
Cable	High frequency coaxial cable	ME-5C-2V	Mitsubishi Cable Industries,. Ltd. Fujikura Cable,. Ltd. Furukawa Denko Corporation Chugoku Cable,. Ltd. Shinagawa Cable,. Ltd.
Crimping tools		ME-42H Dice: 67-42H	Toko Denshi Corporation
Stripper for high frequency coaxial cable		CST-TM (The system consists of the main body, a blade cassette, and a blade setting gauge)	Nihon Weidmüller Co., Ltd.
Jacket	"L" jacket	SB-2878	Shinagawa Shoko Co., Ltd.
	"T" jacket	SB-2879	
Insulation tape	Self-adhesive tape	NO.11	Nitto Denko Corporation
Connectors	Connector 	ME-GP-01	Toko Denshi Corporation DDK Ltd.
	Straight 	ME-JJ-01	
	Elbow 	ME-LA-01	
	T's 	ME-TA-01	
	Termination 	ME-75	

6-1 Processing cable end

① Applicable cable

High frequency coaxial cable: ME-5C-2V

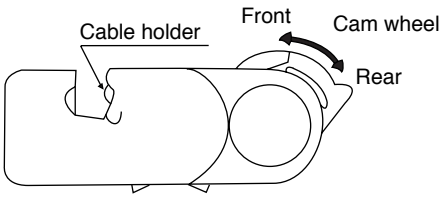
② Required tools

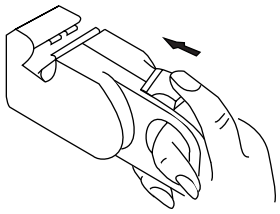
Stripper for high frequency coaxial cable: CST-TM

③ Processing procedure

<Basic operation>

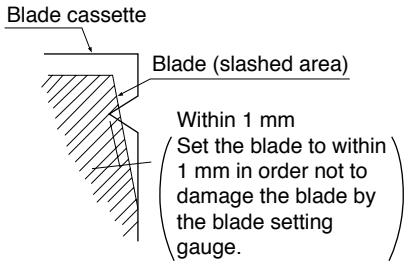
Move the cam wheel of the stripper (amber colored ring) back and forth and the cable holder moves back and forth accordingly. Confirm this movement of the stripper first.
To hold the stripper, put your forefinger through the hole and move the cam while pushing back and forth with your thumb.





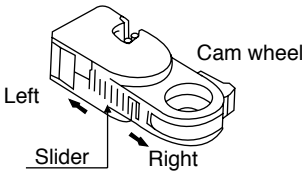
<Pressure setting>

Set the operation range of the cable holder by moving the slider at the bottom of the body. Move to the left to increase pressure.
In this example, set the slider to the cam wheel side's end (right side) to set the pressure to low.

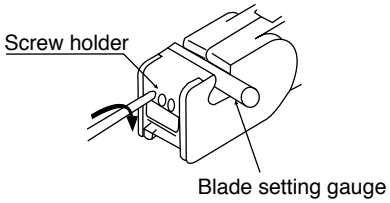


<Adjustment of blade cutting depth>

Adjust the cutting depth of the blade by turning the two screws at both ends of the screw holder. Set the blade position to within 1 mm from the cutting surface of the blade cassette prior to adjusting the cutting depth. For the cutting depth adjustment, use the "blade setting gauge" supplied as an accessory and match the blade position with the caved position of the gauge. Then move the cam wheel forward and secure firmly. Turn right lightly both adjustment screws at either end of the screw holder for adjustment. (Be careful not to break the blade setting gauge as it is made of aluminum.)



(Fine adjustment is required to get the optimum cutting depth.)



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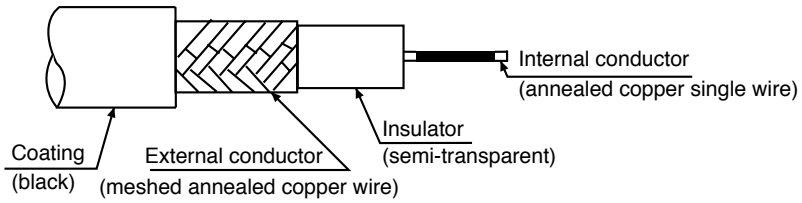

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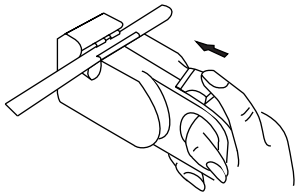
<Cutting of coating, external conductor, and insulator>

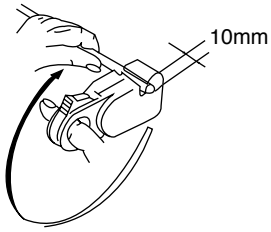
Put a coaxial cable while remaining approximately 10 mm into the cable stripper and securely tighten the cable with the middle finger, ring finger, and little finger of your left hand in order to hold stable during turning the stripper.
Put your right hand forefinger into the cam wheel and execute the procedure in order from step 1 below.



Step 1 Press the cam wheel forward 3 times and turn the stripper in the direction of arrow 2 to 3 times.

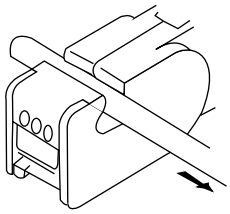
Step 2 Press the cam wheel forward 1 more time and then turn the stripper in the direction of arrow a further 2 to 3 times.

Step 3 Press the cam wheel forward 1 more time and turn the stripper in the direction of the arrow another 2 to 3 times.



<Removal of coating, external conductor, and insulator>

While holding the coaxial cable with your left hand, grip the cable stripper so that it keeps a right angle against the coaxial cable, and press out the cable stripper with your left hand's thumb.

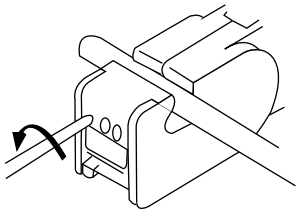


When the adjustment of the blade is not required

If the stripper cannot be removed smoothly, adjustment of the blade is not appropriate. In this case slide the cam wheel backward and remove the coaxial cable. Then adjust the blade.

<Fine adjustment of blade cutting depth>

When the cutting depth is too shallow or too deep, and damages the external conductor or the internal conductor, turn the screws on the screw holder and adjust the blade depth a little.



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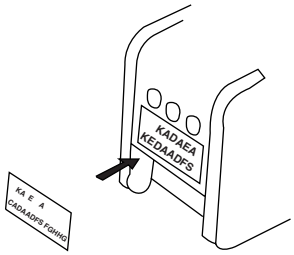
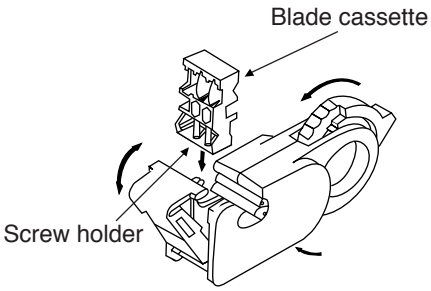
<Display of blade setting>

We recommend that in order to keep the adjusted position of the adjustment screws, after completion of adjustment for the coaxial cable and the screw holder, write the screw position etc. on a sticker and adhere it to the adjustment screws.



<Replacement of blades>

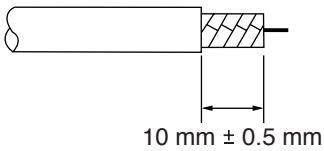
Hold up the upper section of the screw holder with a minus driver, and open the screw holder. Remove the blade cassette and reinsert by turning the current blade back side front or insert a new blade cassette from its top.

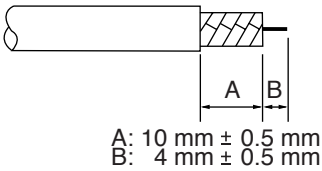


6

<Processing of cable end>

Cut the internal conductor of the coaxial cable, which is already cut by the stripper, using a nipper etc. to the optimum dimension of 4 mm.



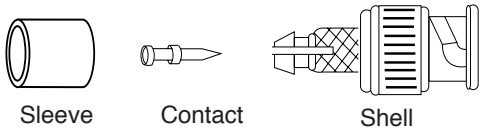


6-2 Connector crimping procedure

① **Required tools: Hand-held crimping tool**

Model	: ME-42H
Dice No.	: 67-42H
Crimping width	: 10 mm

Connector parts

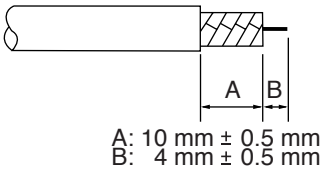


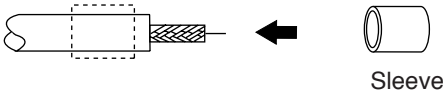
② **Connector: ME-GP-01**

③ **Processing procedure**

<Insert a sleeve>

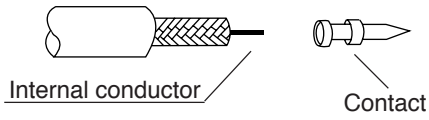
Put through a sleeve to an end-processed high frequency coaxial cable.



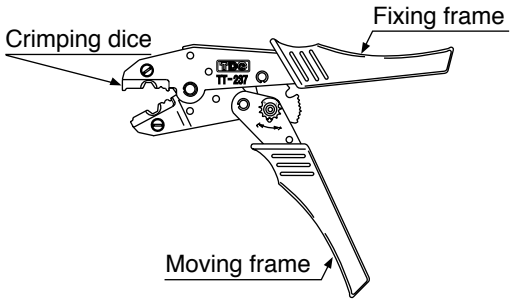


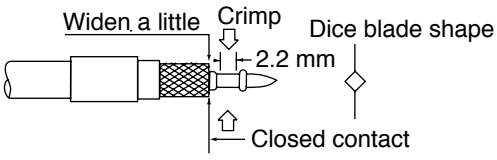
<Crimping contact>

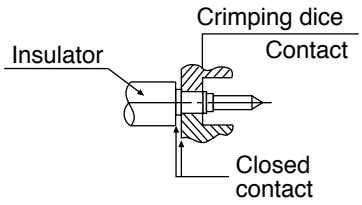
Insert a contact into the internal conductor and crimp.



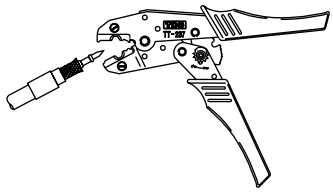
Put a contact into dice having a diamond shape and closely stick its end surface with the insulator and the dice. Pull the moving frame to the fixing frame side and crimp until the ratchet is removed.
(Crimping width: 2.2 mm)







* Use the crimping tool in the direction shown in the illustration right.
Using the crimping tool in the reverse direction will not crimp correctly.

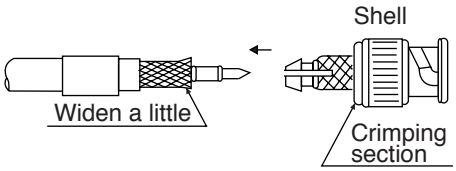


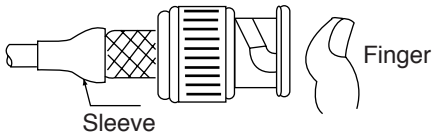
To the next page

From the previous page

<Fixing the connector>

Slightly widen the external conductor of the coaxial cable, which is crimped to a contact on the internal conductor, in order to smoothly enter the shell inside the external conductor. Press in the external conductor end of the coaxial cable to just before the crimping part of the shell and put the sleeve into the crimping section. Then press in the coaxial cable until a "click" sound can be heard. Confirm that the contact end point touches your finger cushion.

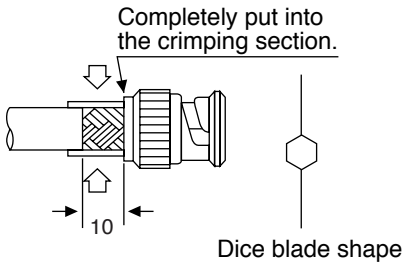




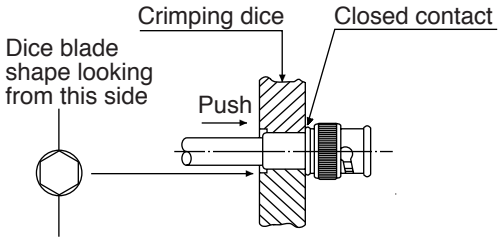
<Crimping external conductor>

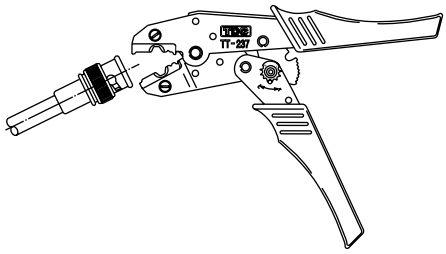
Crimp the external conductor.

Insert thoroughly the sleeve into the crimping section of the shell and crimp. Put the sleeve in the hexagonal dice and closely stick the shell to the crimping dice. Pull the moving frame to the fixing frame side while pressing the coaxial cable and shell from both sides, and crimp until the ratchet is removed. (Crimping width: 10 mm)



* Use the crimping tool in the direction shown in the illustration right. Using the crimping tool in the reverse direction will not crimp correctly.

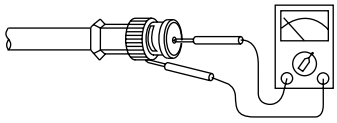




<Insulation test>

Insulation test of shell and contact

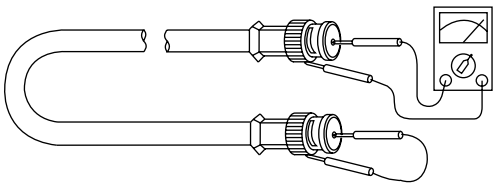
Using a tester, check the conductivity between the internal conductor and the external conductor in the connector. When the indication of the tester shows ∞ ohms, the insulation is appropriate.



<Conductivity test>

Conductivity test

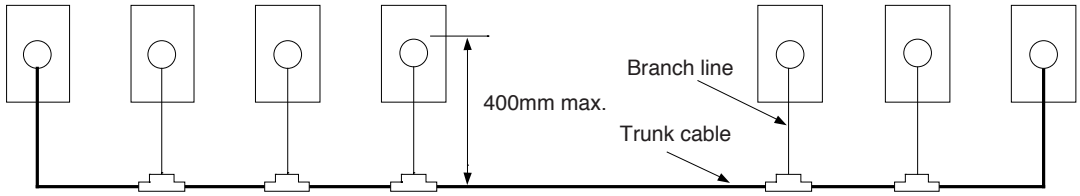
After short-circuiting the one end of the connector crimped to the coaxial cable, check that conductivity is attained.



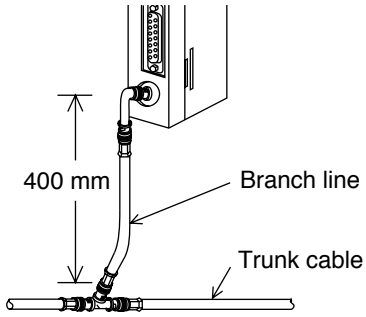
Chapter 7. Wiring Method

7-1 Cable trunk and branch lines

① On the illustration of the cable wiring below, a bold line means a trunk and the thin lines branched from the trunk with a "T" shape are called branch lines.



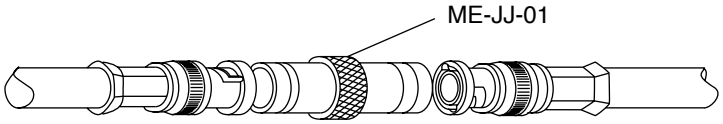
② The length of branch lines branched from the trunk should be within 400 mm.



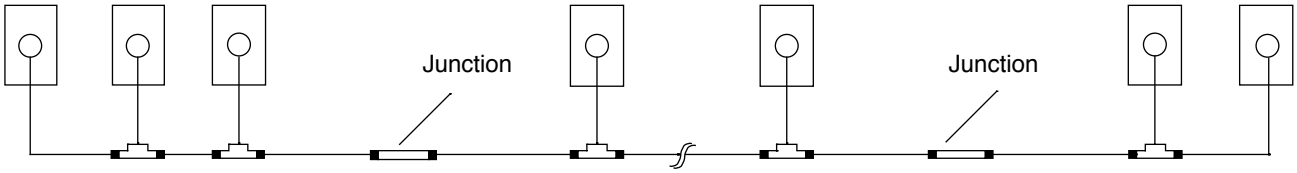
③ Total cable length should be within 1 km.

7-2 Relaying of trunk cables

① To relay trunk cables, use the straight joint (ME-JJ-01).



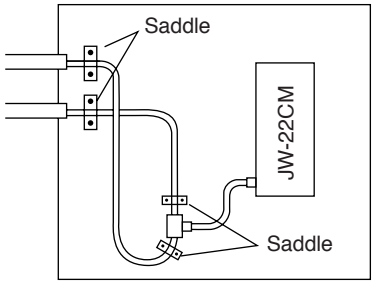
②Relaying of trunk cables should be limited to indispensable cases only. Inadvertent relaying of trunk cables may cause a communication fault such as a weakened signal level due to contact resistance in the junction connector (straight).



7-3 Cable wiring procedure in control panel

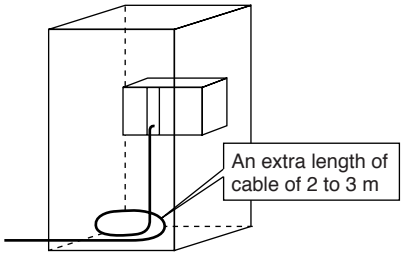
[1] Fixing of the cable

In order not to put any force on the cable and the JW-22CM, fasten the cable to an line nearby input of a control panel or a "T" branch point to the JW-22CM using saddles etc.



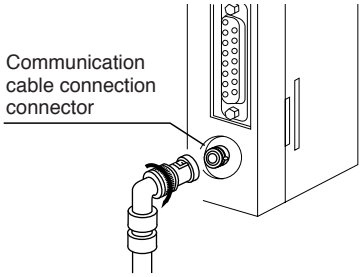
[2] Extra length of cable

Provide an extra length of the cable of 2 to 3 m inside a control panel for easier processing of the cable end and easier wiring when changing module positions.



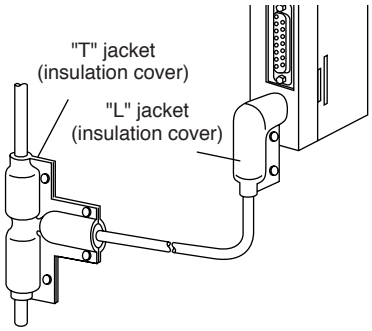
[3] Connection to the JW-22CM

The connector to the JW-22CM should be turned right to secure locking, not merely inserted.



[4] Insulation cover

When the connector touches with a high voltage section or external enclosures, communication errors may occur. Make sure to install an insulation cover.

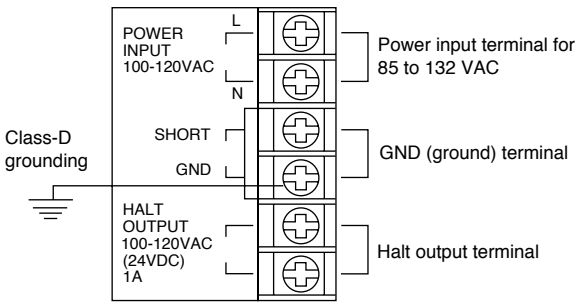


[5] Grounding of power supply module (JW-22PU/31PU)

Make sure to connect the GND terminal of the power supply module to a class-D grounding.

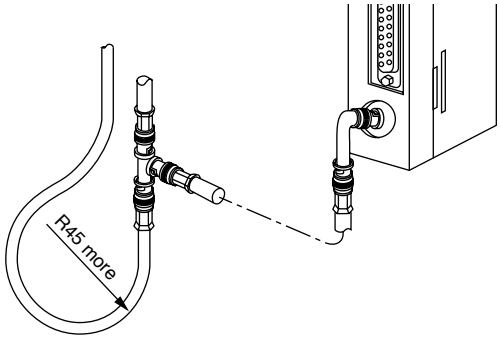
- If the power supply module is not grounded, the JW-22CM cannot conduct with the ground after turning "ON" the shield ground switch.

In case of AC power supply module (JW-31PU)



[6] Minimum bending radius

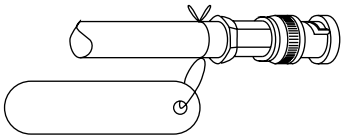
The minimum bending radius of a signal cable is 45 mm (outside).



The specifications from the cable manufacture usually specify a cable bending radius of cable 6 times or more the outer diameter of the cable (approx. 7.5 mm).

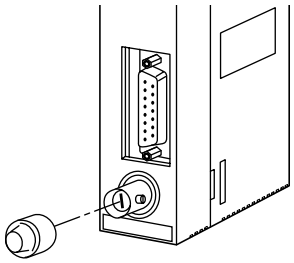
[7] ID tag

When more than one JW-22CM is mounted on a single PLC, put identification tags on each cable so that you will not confuse the cable connections between multiple JW-22CM modules.



[8] Protective cap

When you want to transport or store the JW-22CM, put a protective cap on the JW-22CM connector.

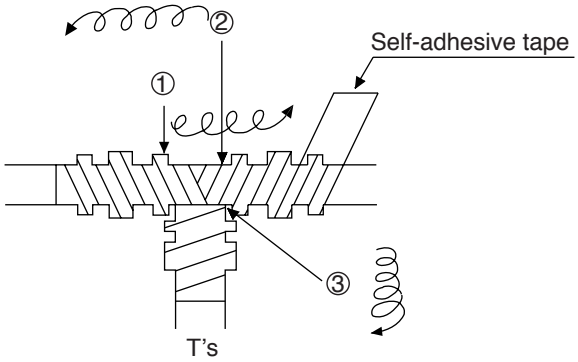


7-4 Waterproof and insulation processing of connectors

In order to prevent water intrusion into the "T" branch connectors and the straight connectors, we recommend to wind a self-adhesive tape and provide waterproof processing for them. For insulation purposes, cover these connectors with jackets.

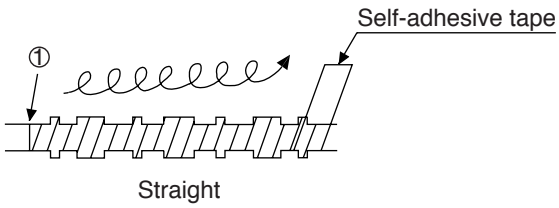
[1] "T" branch connector

To wind a self-adhesive tape, cut the tape at about 10 cm each and start winding from position 1. Start winding cut tapes from ② and ③ as well.



[2] Straight connector

To wind the self-adhesive tape, cut the tape at about 15 cm each and start winding from position ① .



Remarks

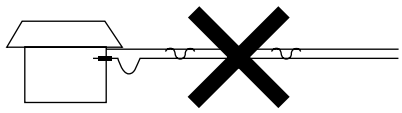
Prior to adhering the tape, clean the surface of the connectors and stick the adhesive side of the tape on the connector surface. Wind to lightly spread on the connector surface, and overlap with the next wrap to half of the tape width. Wind the tape for each wrap evenly so that the connector metal portion is completely covered with the tape.
Be careful not to excessively stretch the tape.

7-5 Wiring of cables at outside control panels

① Do not bundle the coaxial cable (the trunk and branch lines) together with power cables, and separate from power cables at least by 100 mm. Do not put the coaxial cable into a power line wired duct. The best way is to put the communication line in an independent duct.

② Be careful that the coaxial cable does not receive any load by laying under a heavy weight such as other cables.
When other cables run in the same duct as the coaxial cable, run the coaxial cable on the top position.

③ Do not run the coaxial cable outdoors as it may cause damage to the JW-22CM due to inductive lightning or atmospheric charge during lightning.



7-6 Check after wiring

Check the items below after completion of wiring.

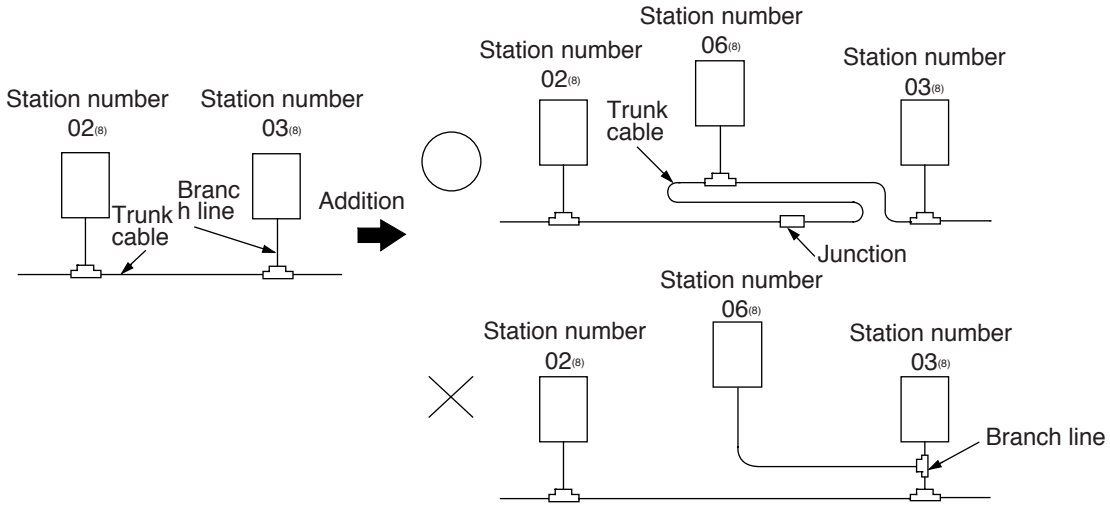
	Check contents
1	The recommended connector types are used.
2	The connectors are securely locked.
3	The connectors are insulated by "T" jacket or "L" jacket.
4	The recommended coaxial cable type is used.
5	Bending radius of the coaxial cables are more than 45 mm.
6	No heavy load is on the coaxial cables.
7	The coaxial cable is not bundled with a power line cable. (Away from power line cables more than 100 mm.)
8	Length of branch lines is shorter than 400 mm.
9	Total length of the cable is less than 1 km.
10	Settings of the termination resistance switch and the shield ground switch are as per the drawings.

7-7 Wiring method for adding communication station

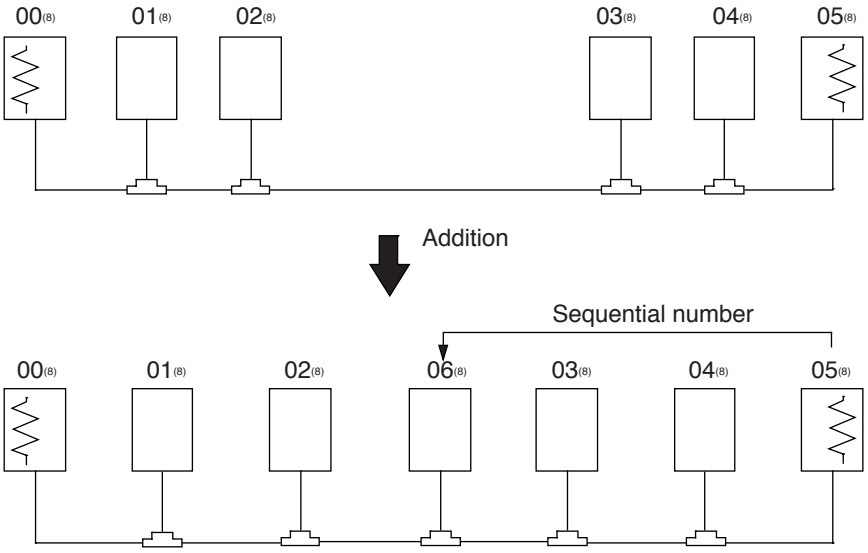
[1] Branching method

When branching a line for an additional station, be sure to branch from the trunk using a T connector. Never branch from a branch line.

[2] Station number of the additional station



Station number of the newly added station should be next largest number from the current largest numbered station. Each station should not be required to be arranged in order of each station's number.



means the termination resistance switch being turned "ON."

[3] Notes

When adding a communication station, follow the items below.

No.	Item	Reason
1	Branch from the trunk cable.	Another branch line from a branch line may not give appropriate communication by reflection wave.
2	Don't use the same station number twice.	The use of the same station number twice may cause communication errors.
3	Check the termination resistance switch.	When the newly added station becomes a termination of the circuit, change the setting of the LT switch.
4	Provide extra length for the expansion cable.	Have enough cable length in order to provide easy wiring.
5	Do not exceed the 1 km limit for total length of the cable.	Longer wiring may cause communication error by signal attenuation.
6	Change the layout drawing for installation.	Maintain the added work data for future maintenance use.
7	Do not overlap with any PLC's communication area.	When the communication area or the flag area of the added station overlaps with other addresses in use, communication errors may occur.
8	Set the parameter memory of the master station and that of the newly added station.	Without setting the parameter memory of the master station and that of the slave station, the added station cannot communicate.

Chapter 8. Description for Data Link Operation

The data link function is used to send and receive ON/OFF signals (relay link) and data (register link) between modules by assigning one module from PLCs or personal computers as the master station and other modules as slave stations in the satellite net system. Up to 64 sets of PLCs and personal computers can be connected in the satellite net.

Each station sends data in its sending area cyclically and stores data received from other stations in its receiving area. For the JW-22CM to execute automatically these sending and receiving procedures, a special program for communications is required.

When the JW-22CM is assigned as a slave station, it has the standard function and save memory function for data link, but the data contents for receiving from other stations is different between these two functions. (When the JW-22CM is used as a master station, only the standard function is available.)

■ When all of a master station and slave stations are JW-22CM

- Master station — Data link (Standard function)
- Slave station — Data link (Standard function)

} Receiving data of all of the relay link area and all of the register link area of all the stations.

Data link (Save memory function) — In order to effectively use the memory, unify a partial data area or sending/receiving address (program) of slave stations.

For the standard function and the save memory function of the JW-22CM, see page 15-2.

8-1 Communication method

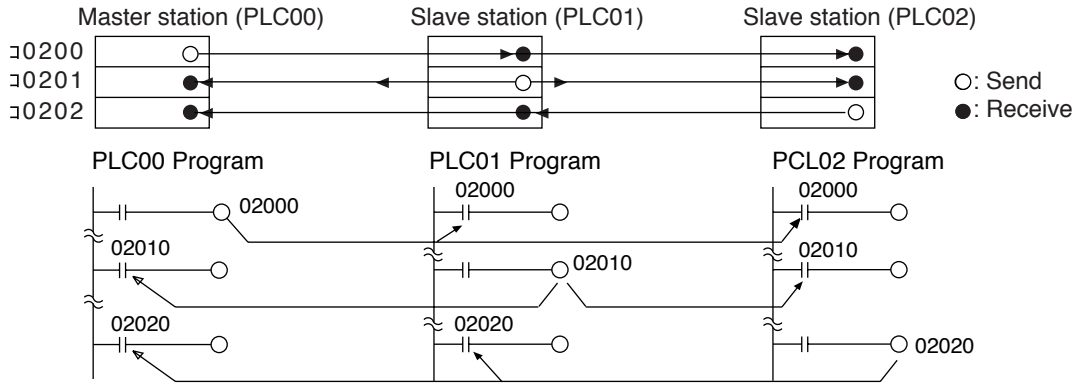
[1] Data link (Standard function)

Each station cyclically sends and receives ON/OFF signals and data of the relay link area and register link area set to a master station parameter.

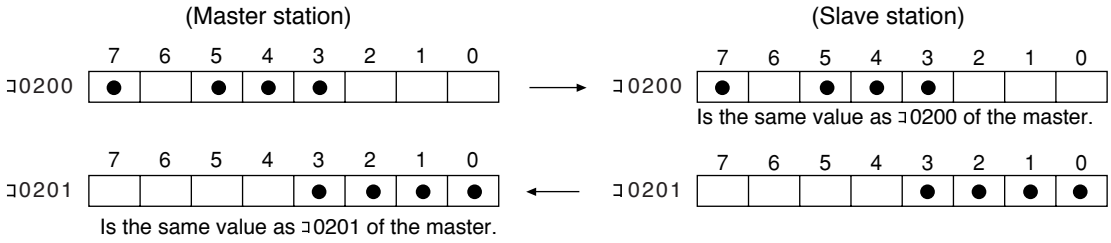
(1) Relay link

Mainly used for sending and receiving ON/OFF information

[Example] In the case of sending 1-byte data from a master station and slave stations 01 and 02.



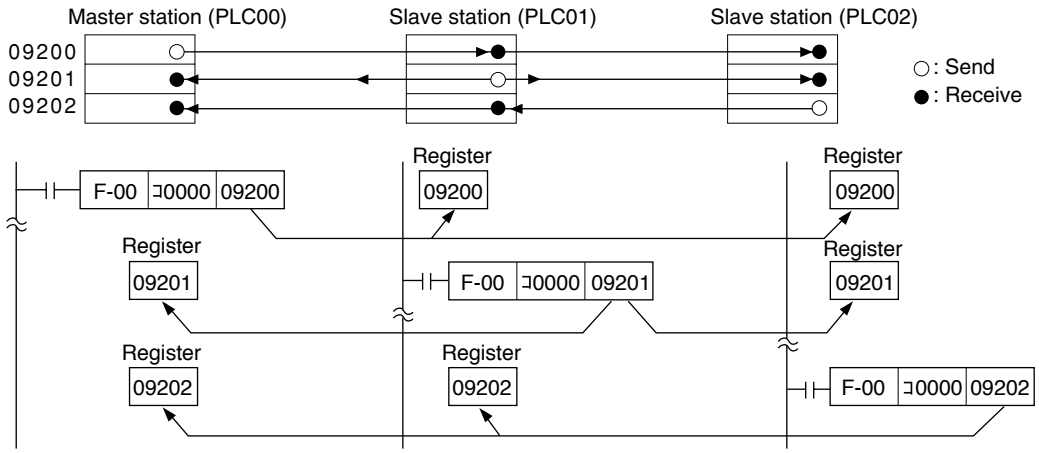
- The link relay of the receiving station must be programmed as input signal by the PLC programming. Also, it may be used as source (S) side of application instruction.
- The sending and receiving data correspond in bits of one point unit.



(2) Register link

Mainly used for sending and receiving numerical data.

[Example] In the case of sending 1 byte data from a master station and slave station 01 and 02.

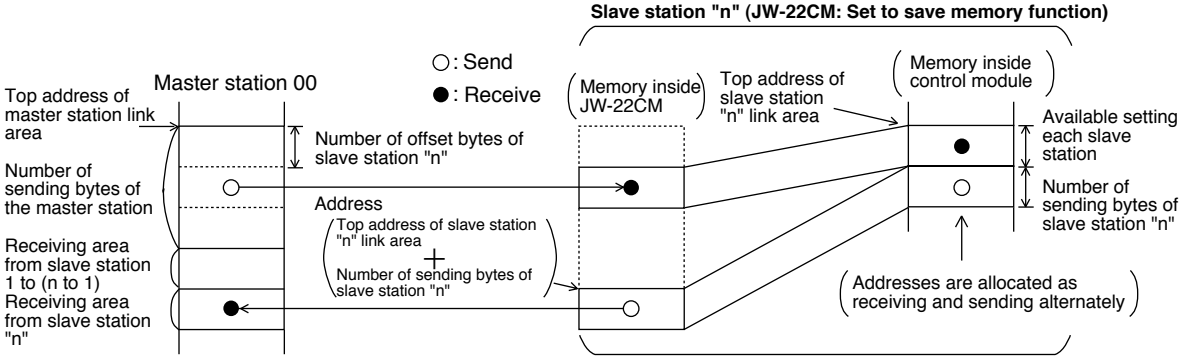


- The register link of the sending station may be used as D (Destination) side of the application instruction of the PLC program.
- The register link of the receiving station may be used as S (Source) side of the application instruction of the PLC program.

[2] Data link (Save memory function)

The save memory function is to provide a part of the data link area in the slave station data memory as a receiving area. A slave station can receive only the required area by relay link/register link so that the slave stations can save on use of the memory area.

As this function can unify the receiving area address and the sending area address of each slave station, the same program can be used for each slave station. Mixed allocation of the addresses with the data link (standard function) is also possible.



- Top address of receiving area in a slave station shall be set by the number of offset bytes from the link area's top. (0 ≦ Number of offset bytes ≦ total number of bytes of link area)

Setting item	Set location
Top address of master station link area	Master station's parameter
Number of sending bytes of the master station	
Number of offset bytes of slave station	
Number of sending bytes of the slave station	
Top address of slave station link area	Module No. switch of slave station
Number of receiving bytes of slave station	Slave station's parameter

8-2 Required transmission time and communication delay time

[1] Required transmission time

This is the time required for the master station to complete communication with all stations, and is determined by the number of connected stations with and the number of data items to transmit.

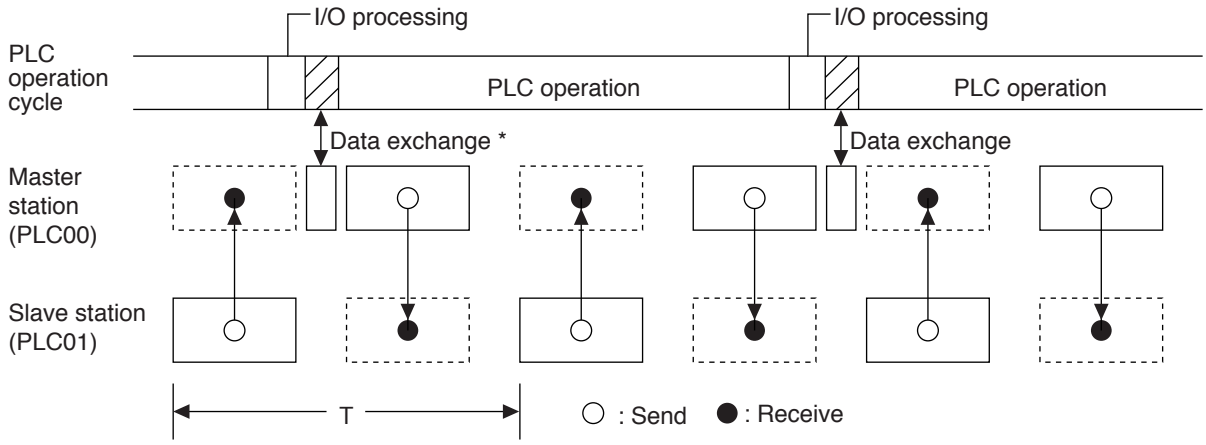
$$\text{Transmission T operation cycle} = \frac{N + 136 \times P}{1250} + 2.5 \times P + \alpha + 16 \text{ (ms)}$$

N : Total number of link points (value to be calculated by relay link bytes and register link bytes 8 points).
P : Number of connected stations (master + slave)
136 : 136 bits are used for station address and error check data on the communication format.
1250 : Transmission rate: 1.25M bits per second
2.5 : Inter-station wait time plus processing time to move to next station (unit : ms)
α : Communication recovery operation time
- When an error occurs at any station, the master station periodically treats the error.
  α = 3.5 X number of error stations (ms)

16 : Time to maintain token bus. It can enter at random intervals.

[Example] In the case of two connected stations and 8 bytes of link points,

$$\text{Transmission T operation cycle} = \frac{8 \text{ bytes} \times 8 \text{ points} \times 2 \text{ stations} + 136 \times 2 \text{ stations}}{1250} + 2.5 \times 2 \text{ stations} + 16 = 21.32 \text{ ms}$$

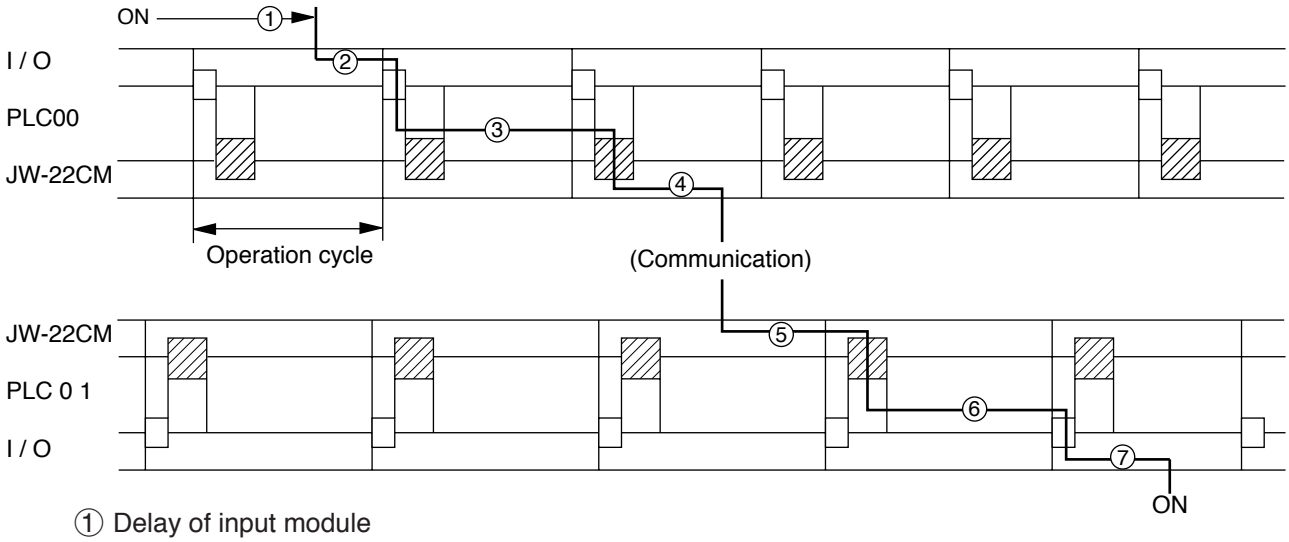


* The data exchange time between a PCL and a JW-22CM can be calculated from the following formula.

- When a JW-31CUH1, JW-32CUH1, JW-33CUH1/H2/H3, or JW-32CUM1/M2 is used as a control module,
  0.5 ms + (0.5 μs x number of bytes being transferred)
  When the maximum number of bytes is being transferred (2304 bytes), 0.5 ms + 0.5 μs x 2304 = 1.65 ms.

[2] Communication delay time

The communication data on the satellite net may have the delay shown below.



① Delay of input module
② Time required for PLC to detect input state (one operation cycle max.)
③ Operation time of sending PLC (one operation cycle)
④ Time to complete sending of operation result (one communication cycle max.)
⑤ Time required for receiving PLC to write receive data in PLC data memory (two operation cycles max.)
⑥ Operation time of receiving PLC (one operation cycle)
⑦ Delay of output module

Communication delay time is the total time of ① to ⑦ above.

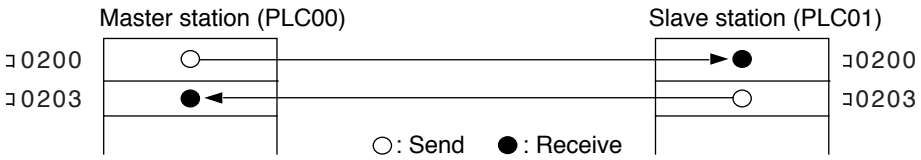
Remarks

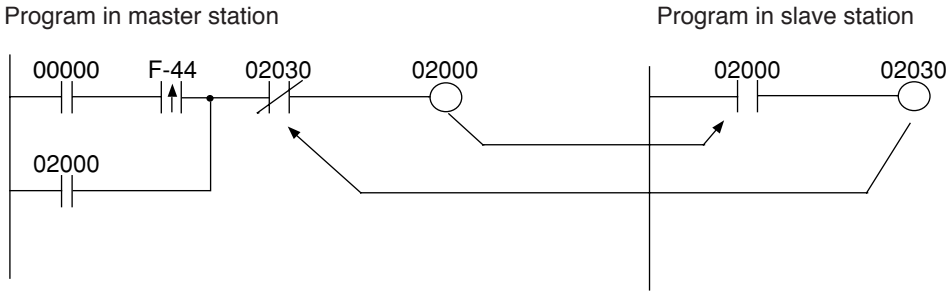
The buffer memory contents of the JW-22CM is renewed for each PLC operation cycle. Therefore, a contact point which turns "ON" for only one operation cycle of a PLC may not be transferred.

[3] Data transmission between master PLC and slave PLC

Providing synchronous transfer gives positive data communication.

■ An example of synchronized transfer by OUT instruction





- 00000 is turned "ON" at the master station side. (OUT02000 is a self-holding circuit.)
- When 02000 is turned "ON" at the slave station side, OUT02030 is also turned "ON." This is sent back to the master station side.

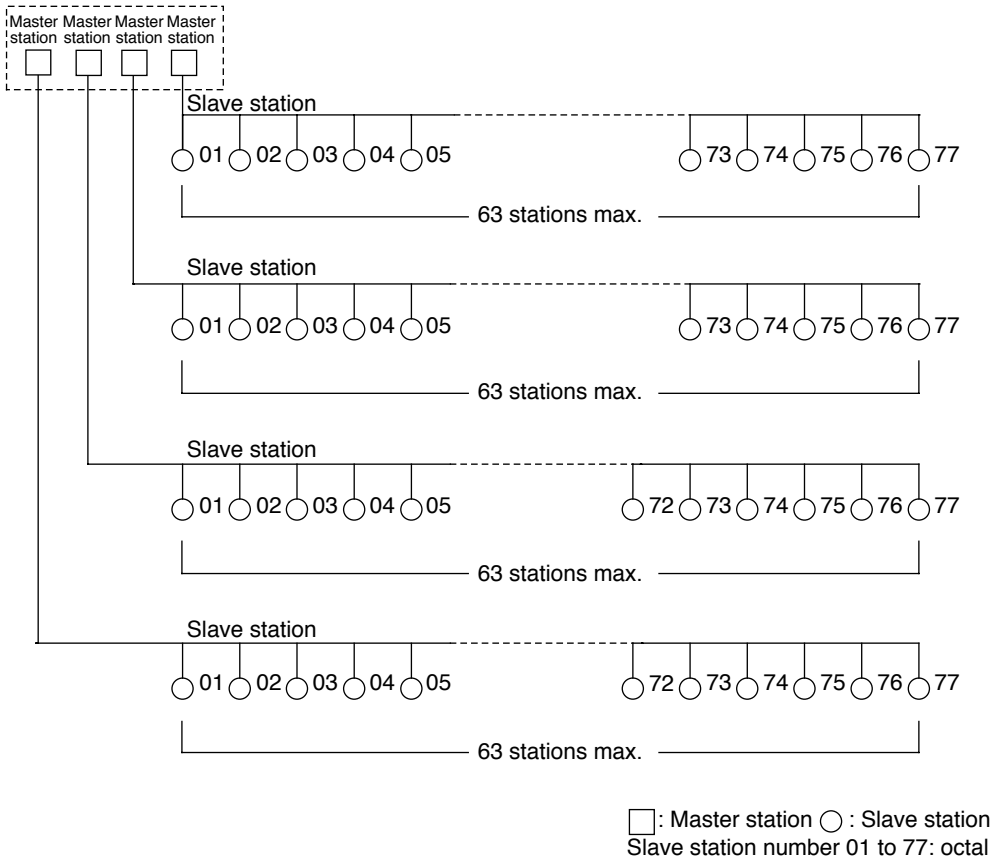
8-3 Expansion of network

The JW-22CM can transmit data between 64 stations at maximum. If more than 64 stations are required for data link, you can add communication stations with the procedure below.

[1] Multiple installation of the JW-22CM

Mounting more than one JW-22CM on the basic rack panel of the JW20H/30H/300 can increase the number of stations.

● In the case of mounting 4 sets of JW-22CM

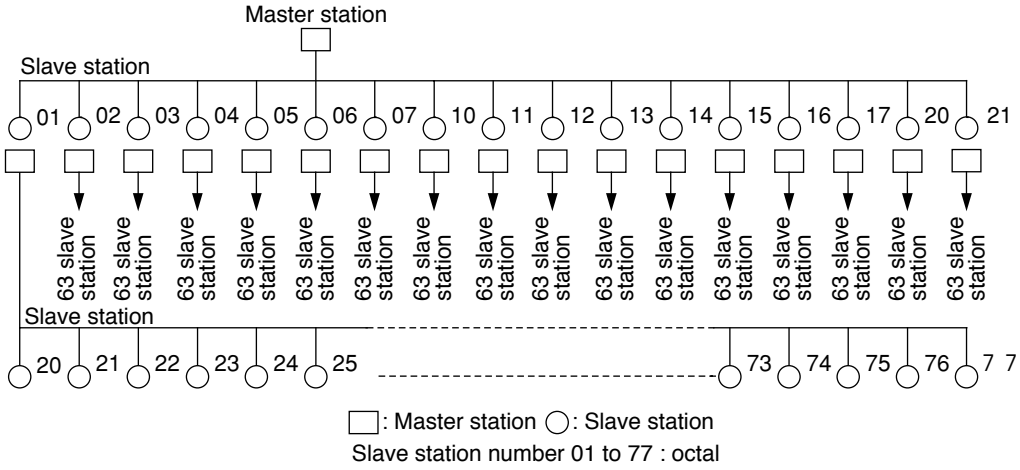


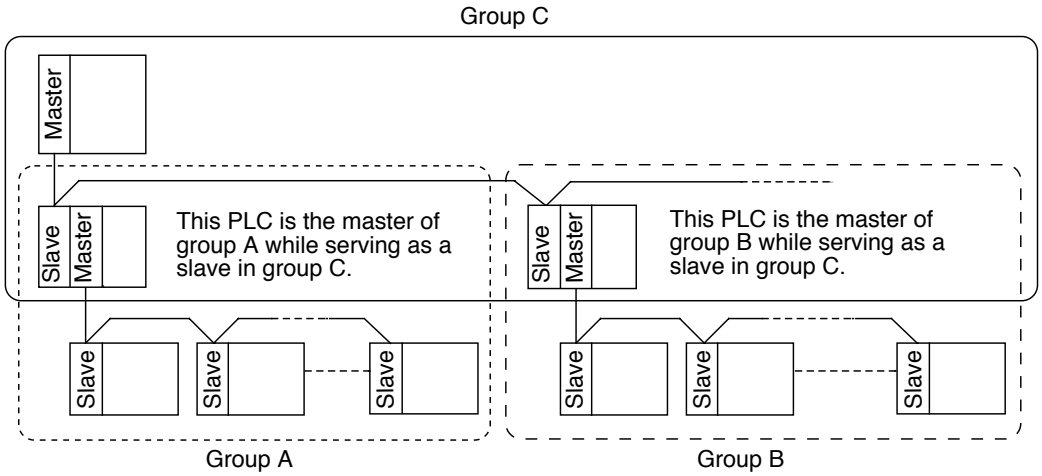
Remarks

- When installing multiple number of modules on a single PLC, make them allocated so that relay link area, register link area, and flag area may not overlap with each other.
- When installing multiple number of modules on a single PLC, pay attention to the total communication data volume and the number of bytes available for communication area.
- Though more than one JW-22CM can be mounted on single basic rack panel, they cannot directly communicate with other stations beyond one network.

[2] Hierarchical link

When 2 sets of JW-22CM are mounted on the basic rack panel of the JW20H/30H/300, hierarchical link communication is possible and can increase the number of stations.





Remarks

- Pay attention to hierarchical link system consisting of more than two levels as it takes time for communication between the stations at the highest level and at the lowest level.
- Though more than one JW-22CM can be mounted on single basic rack panel, they cannot directly communicate with other stations beyond one network.

Chapter 9. Description for Computer Link Operation

When a JW-22CM that is installed on the JW20H/30H is connected to a ZW-98CM or ZW-20AX network module that is installed in a host computer, the JW20H/30H can exchange data (computer link) with the host computer.

Note: When the JW-22CM is connected to a JW300, the computer link cannot be used.

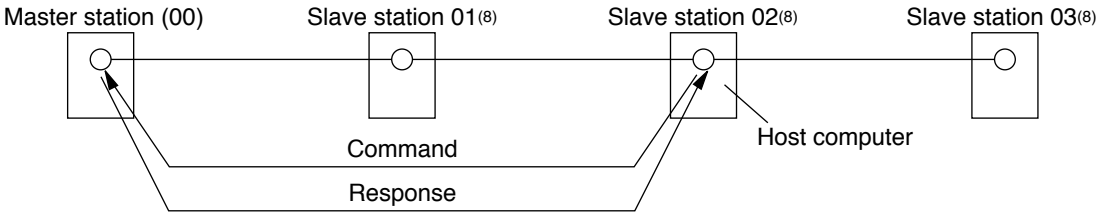
9-1 Computer link function

The host computer communicates with each station number one by one. On the computer link, the host computer can communicate with any required station regardless of whether it is the master or slave station.

① The host computer instructs station number, communication contents, memory address and data etc. of the communicating station as a "command."

② The "command" receiving station processes this data and returns the result as "response."

● **System example**



In order to use the computer link function above, the host computer needs program application software. For programming this software, see the instruction manual attached with the network module ZW-98CM/ZW-20AX and the like.

9-2 Command

A host computer can use the following commands with a PLC (JW20H/30H) having the JW-22CM. For details of communication format, refer to instruction manual of network module ZW-98CM and ZW-20AX of host computer side.

Command (Command name of command code and BASIC mode)	Setting available address range (octal) and notes for use	
	JW20H	JW30H
① Monitor of relay (00(H), MRL)	00000 to 15777 (Relay) 0000 to 0777 (Timer, counter contact)	00000 to 15777, 20000 to 75777 (Relay) 0000 to 0777, 1000 to 1777 (Timer, counter contact)
② Set/reset of relay (10(H), SRR)	00000 to 15777	00000 to 15777 20000 to 75777
③ Monitor current values of registers (01(H), MRG) ④ Write to registers (11(H), WRG) ⑤ Write same data to registers (15(H), FRG)	ↄ0000 to ↄ1577, b0000 to b1777 09000 to 09777, 19000 to 19777 29000 to 29777, 39000 to 39777 49000 to 49777, 59000 to 59777 69000 to 69777, 79000 to 79777 89000 to 89777, 99000 to 99777 E0000 to E0777, E1000 to E1777	ↄ0000 to ↄ1577, ↄ2000 to ↄ7577, b0000 to b1777, b2000 to b3777, 09000 to 09777, 19000 to 19777, 29000 to 29777 39000 to 39777, 49000 to 49777, 59000 to 59777 69000 to 69777, 79000 to 79777, 89000 to 89777 99000 to 99777, E0000 to E7777
⑥ Read file registers (01(H), RFL) ⑦ Write to file registers (11(H), WFL)	———	Vary with control module used - JW-31CUH/H1 ——— File 0 (000000 to 035777) - JW-32CUH ——— File 0 (000000 to 035777) File 1 (000000 to 037777) File 2 (000000 to 177777) - JW-32CUH1 ——— File 0 (000000 to 035777) File 1 (000000 to 037777) File 2 (000000 to 177777) or (000000 to 077777) - JW-33CUH/H1 ——— File 0 (000000 to 035777) File 1 (000000 to 037777) File 2, 3 (each 000000 to 177777) - JW-33CUH2 ——— File 0 (000000 to 035777) File 1 (000000 to 037777) File 2, 3, 10 to 14(H) (each 000000 to177777) - JW-33CUH3 ——— File 0 (000000 to 035777) File 1 (000000 to 037777) File 2, 3, 10 to 2C(H) (each 000000 to 177777)
⑧ Read current values of timer/counter/MD (03(H), MTC) ⑨ Set/reset timer/counter (13(H), SRT)	0000 to 0777	0000 to to 0777 (Timer/Counter/MD) 1000 to 1777 (Timer/Counter)
⑩ Read system memory (04(H), RSM) ⑪ Write system memory (14(H), WSM)	0000 to 0377	0000 to 0377, 0400 to 2177
⑫ Read program memory (05(H), RPM) ⑬ Write to program memory (15(H), WPM) ⑭ Change timer/counter set value (16(H) CTC)	Vary with the control module and memory module - JW-21CU — 000000 to 006777 - JW-22CU — 000000 to 006777 (When using thememory module JW-21MA/21MO/21ME) 000000 to 016777 (When using the memory module JW-22MA)	Vary with control module - JW-31CUH/H1 — 000000 to 016777 - JW-32CUH — 000000 to 036777 - JW-32CUH1 — 000000 to 036777 or 000000 to 076777 - JW-33CUH/H1 — 000000 to 076777 - JW-33CUH2/H3 — 000000 to 076777 100000 to 176777

9

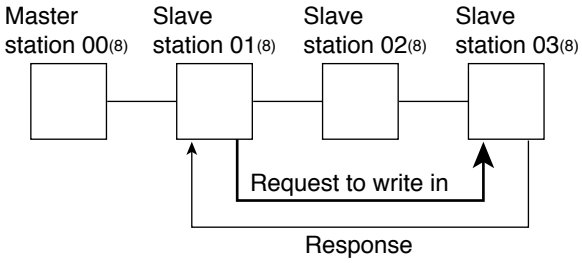
Command (Command name of command code and BASIC mode)	Setting available address range (octal) and notes for use	
	JW20H	JW30H
⑮ Monitor PLC operation status (20(H), MPC)	—	
⑯ Stop/restart PLC operation (30(H), HLT/RUN)		
⑰ Read memory size (21(H), VLM)	—	
⑱ Set memory size (31(H), SVL)		
⑲ Read write mode status (22(H), SWE)	—	
⑳ Specify write mode (32(H), EWR)		
㉑ Read parameter memory bit (08(H), PML)	Parameter address of JW-22CM 000000 to 007777	
㉒ Set/reset parameter memory bit (18(H), PWL)		
㉓ Read parameter memory (09(H) PMR)	Parameter address of JW-22CM 000000 to 007777	
㉔ Write to parameter memory (19(H), PWR)		
㉕ Read date (23(H), MDY)	The control module itself should be the JW-22CU (having clock function).	The control module itself should be the JW-32CUH/H1, JW-33CUH/H1/H2/H3 (having clock function).
㉖ Set date (33(H) SDY)		
㉗ Read time (24(H), MTM)		
㉘ Set time (34(H), STM)		
㉙ Set time correction (35(H), ACL)		
㉚ Set secret function (FB(H), SES)	Unable to use	Password should be 4 letters of alphabetical and numerical figures
㉛ Release secret function Register password (FC(H), PAS)		
㉜ Check secret function (FD(H), SEI)		

Chapter 10. SEND/RECEIVE Function

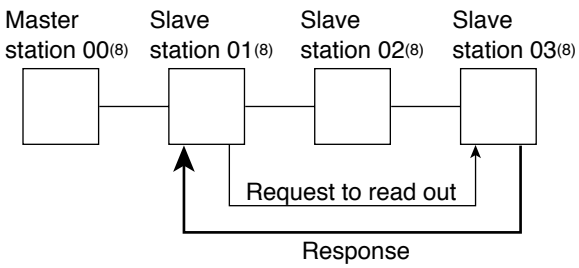
10-1 SEND/RECEIVE function

Different from the data link, the SEND/RECEIVE functions are functions which exchange the data of the required station of the required time between a PLC and a personal computer or between PLCs. The SEND function is the function which writes in the data after assigning a station to send data to, and the RECEIVE function is the function which reads out the data.

● An example of the SEND function



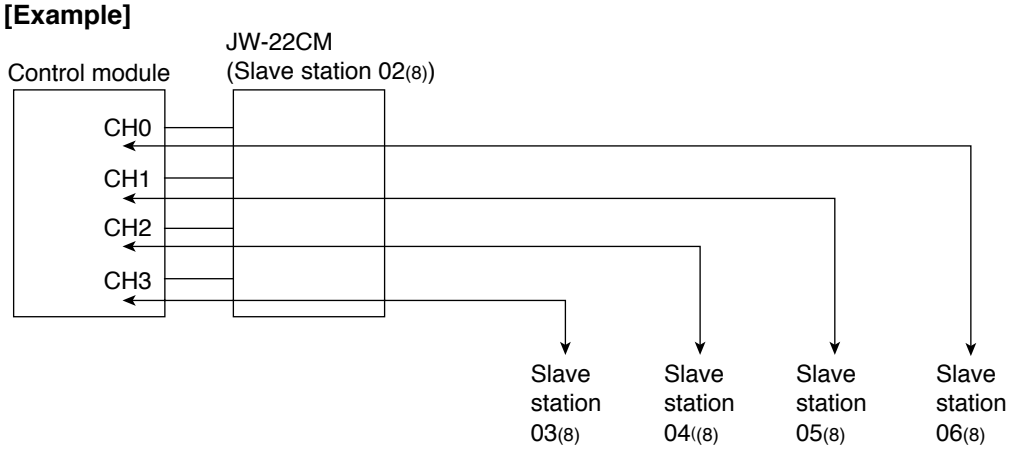
● An example of the RECEIVE function



• In this instruction, the function is completed after the target station replies. A special program is not needed in the connected PLC station. If the target station is an upper computer, a program is required for response after decoding the SEND/RECEIVE instructions.
But if the upper computer cannot decode the SEND/RECEIVE instructions, these instructions can not be used.

• The data route for the SEND/RECEIVE functions between the control module and this module is called a "channel." Each module has four channels, CH0 to CH3, and is able to transfer a maximum of 256 bytes of data with each channel. Therefore, four operations of SEND/RECEIVE functions can be executed simultaneously on a ladder program.

[Example]



10-2 Communication between two hierarchical layer differences

In the SEND/RECEIVE functions, the JW-22CM can communicate between two hierarchical layer differences of satellite nets.
However, there are the following three limitations for usage:
• The JW20H can not be used as relay stations.
• ZW-98CM/ZW-20AX can not be used as communication target stations.
• The maximum amount of data is 256 bytes.

10-3 Starting method

There are the "instruction method" and the "data memory starting method" as the starting method in SEND/RECEIVE functions.
You can select the starting method in each channel using parameters.

[1] Instruction method

The instruction method is the method which starts the SEND/RECEIVE functions using exclusive instructions (F-202 etc.), and it can be used when the PLC is JW30H/300.
Note: When the PLC is JW20H, the instruction method can not be used.

Exclusive instruction to be used	Description	Page
F-202 (OPCH)	Specify target station (1 layer: Specify the station number in octal notation)	10-4
F-203 (OPCH)	Specify target station (1 layer: Specify the station number in hexadecimal notation)	
F-206 (EOP1)	Specify relay station and target station (two hierarchical layer differences)	10-8
F-207 (EOP2)		
F-204 (SEND)	Write data in the target station	10-6
F-205 (RCV)	Read data out of the target station	10-7

Refer to page 10-9 to 10-12 for program examples of the instruction system.

[2] Data memory starting method

The data memory starting system is the system which starts the SEND/RECEIVE functions without using exclusive instructions. Set the target station number, data memory address, etc. on the specified data memory (communication information storage area).
You can increase the amount of data to be transferred in one SEND/RECEIVE operation using multiple connected channels.

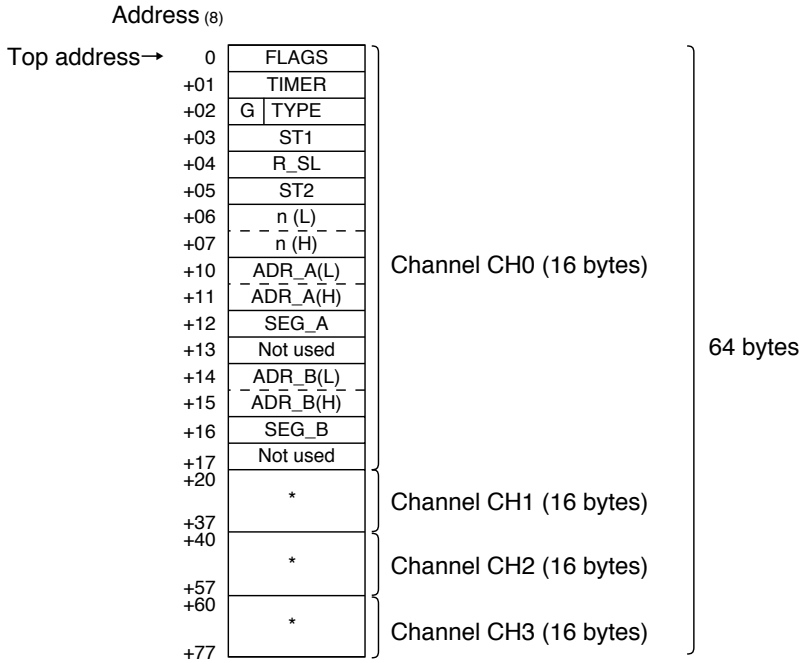
- For cases using 1 channel alone, maximum 256 bytes
- For cases using 2 connected channels, maximum 512 bytes
- For cases using 3 connected channels, maximum 768 bytes
- For cases using 4 connected channels, maximum 1024 bytes

Set these channel connections on the parameter => Refer to page 11-23 and 11-34

10

■ Setting details in a communication information storage area

In order to assign a communication information storage area (64 bytes), set the top address on the parameter. => Refer to page 11-24 and 11-35



* Detail of each area (16 bytes) in channel CH1 to CH3 are the same as CH0.

Area	*Input/ Output	Description
FLAGS	Input	Flag (the same as ↄ0735. Refer to the following table for the details.)
TIMER	Output	Communication monitoring time $001_{(D)}$ (0.1 second) to $255_{(D)}$ (25.5 seconds) (Initial value $000_{(D)}$ is 1 second.)
G (7th bit)	Output	Starting instruction. Turn ON to start communication.
TYPE (0 bit to 6th bit)	Output	Transfer type [$00_{(H)}$: SEND (one hierarchical layer), $01_{(H)}$: SEND (two hierarchical layer) $02_{(H)}$: RCV (one hierarchical layer), $03_{(H)}$: RCV(two hierarchical layer)]
ST1	Output	For cases with one hierarchical layer, the number of the target station is 00 to $77_{(8)}$. For cases with two hierarchical layers, the number of the relay station is 00 to $77_{(8)}$.
R_SL	Output	- For cases with two hierarchical layer differences, the module number of the next hierarchical layer in relay station. (When the relay station is JW50/ 70/100 or JW50H/70H/100H, it represents the rack/slot number.) - For cases with one hierarchical layer, invalid.
ST2	Output	For cases with two hierarchical layer, the number of the target station is 00 to $77_{(8)}$. For cases with one hierarchical layer, invalid.
n	Output	Number of transfer bytes: 000 to $377_{(8)}$ ($000_{(8)}$ is 256 bytes)
ADR __ A	Output	File address of own station - JW20H: File address 000000 to $017777_{(8)}$ - JW30H: File address 000000 to $017777_{(8)}$ - JW50H/70H/100H: File address 000000 to $177777_{(8)}$ - JW300: Address n (000000 to $177777_{(8)}$) => Refer to page 16-26
SEG __ A	Output	File number of own station - JW20H: 0 - JW30H: 0 to 3, 10 to $2C_{(H)}$ - JW50H/70H/100H: 0 to 7 - JW300: file N (00 to $80_{(H)}$) => Refer to page 16-26
ADR __ B	Output	File address of target station (address n)
SEG __ B	Output	File number of target station

* Input : Control module ⇦ JW-22CM
Output : Control module ⇨JW-22CM

• Contents of FLAGS

Value of FLAGS (H)	Description	Bit details				
		7	6	5	4	3 to 0
00	During non-execution	0	0	0	0	0
90	During communicating. Interval after operating the instruction till the completion.	1	0	0	1	0
40	Normal end	0	1	0	0	0
60	Abnormal end (communication time-out)	0	1	1	0	0
E0	Abnormal end (error response)	1	1	1	0	0

Refer to page 10-13 for program examples in the data memory starting method.

10-4 Application instruction using instruction method

This section describes the application instructions (F-202 etc.) that are used in the instruction method of the SEND/RECEIVE function.
The instruction method can be used when the JW-22CM is installed in a JW30H/300.
(The instruction method cannot be used with the JW20H.)

[1] F-202, F-203

F-202 OPCH **Open channel (1 layer: Specify the station number in octal notation)**

F-203 OPCH **Open channel (1 layer: Specify the station number in hexadecimal notation)**

(1) Installed in a JW30H

The F-202 and F-203 instructions when the JW-22CM is installed in a JW30H are as follows.

Symbol	F-202 OPCH | UN CH·ST | file N | n	F-203 OPCH | UN CH·ST | file N | n
Function	Specify the target station for inter-PLC data communications to be performed across the satellite net (JW-22CM, JW-20CM). These instructions are used in conjunction with the F-204 (SEND) or F-205 (RCV) instructions.	
UN	Use range 0 to 6 : Module number of JW-22CM.(Set value of module No. switch)	
CH	Use range 0 to 3 : Channel number for the specified module number. Available for use four times by classifying the same module numbers into CH0, CH1, CH2, and CH3 in the PLC program.	
ST	Use range 000 to 377(8), 00 to FF(H): Communication target station number. F-202 uses octal and F-203 uses hexadecimal notation.	
file N	Use range 0 to 3, 10 to 2C(H) (JW30H)), 0 to 7 (JW50H/70H/100H): Communication target station file number.	*1
n	Use range 000000 to 177777(8): Communication target station file address. [data top address]	
Condition	When an input signal is ON. (Not limited to changing from OFF to ON)	
Flag	Unchanged	

*1: If the communication target is a JW300, change "FILE F, n" used with the JW300 to "file N, n" used with the JW30H. => Refer to next page.

(2) Installed in a JW300

The F-202 and F-203 instructions when the JW-22CM is installed in a JW300 are as follows. Please note that the function, CH, ST, operating condition, and flag items are the same as described above (when installed in a JW30H).

Symbol	F-202 OPCH | UN CH·ST | FILE F | n	F-203 OPCH | UN CH·ST | FILE F | n
UN	Use range 0 to 7: Module number of JW-22CM.(Set value of module No. switch)	
FILE F	Use range 0 and 1: Communication target station file number.	*2
n	Use range 00000000 to 37777777(8): Communication target station file (byte) address. [data top address]	

*2: If the communication target is a JW30H and JW50H/70H/100H, change "file N, n" used with the JW30H etc. to "FILE F, n" used with the JW300. => Refer to next page

- After turning ON the input signal of F-202 and F-203, keep it ON until the finish of the execution of the instruction (error flag or carry flag goes ON). If the input signal is turned OFF during execution of the instruction, the instruction ends in an incomplete condition. Under this condition, when an F-202, F-203 instruction is given next, it will come to a "communication jam," and the instruction will not be executed. Turn the power OFF and then ON again for recovery.
- F-202, F-203 instructions must always be used in conjunction with the F-204 (SEND) or F-205 (RCV) instruction.

■ Correlation of FILE F, n (JW300) and file N, n (JW30H)

The correlation between the "FILE F, n: When installed in a JW300" and the "file N, n: When installed in a JW30H" settings used for application instructions F-202, F-203, and F-207 is as follows.

JW300			JW30H	
File address (8)	**FILE F**	**n**	**file N (hexadecimal)**	**n**
00000000 to 00177777	0 (Except file register)	[File address] 00000000 to 00177777	00	000000 to 177777
00200000 to 00377777		[byte address] 00000000 to 00177777	01	000000 to 177777
00400000 to 00577777		00200000 to 00377777	02	000000 to 177777
00600000 to 00777777		00400000 to 00577777	03	000000 to 177777
01000000 to 01177777		00600000 to 00777777	04	000000 to 177777
01200000 to 01377777		01000000 to 01177777	05	000000 to 177777
01400000 to 01577777		01200000 to 01377777	06	000000 to 177777
01600000 to 01777777		01400000 to 01577777	07	000000 to 177777
02000000 to 02177777		01600000 to 01777777	08	000000 to 177777
04000000 to 04177777		03600000 to 03777777	10	000000 to 177777
04200000 to 04377777		04000000 to 04177777	11	000000 to 177777
04400000 to 04577777		04200000 to 04377777	12	000000 to 177777
04600000 to 04777777		04400000 to 04577777	13	000000 to 177777
05000000 to 05177777		04600000 to 04777777	14	000000 to 177777
05200000 to 05377777		05000000 to 05177777	15	000000 to 177777
05400000 to 05577777		05200000 to 05377777	16	000000 to 177777
05600000 to 05777777		05400000 to 05577777	17	000000 to 177777
06000000 to 06177777	1 (File register)	05600000 to 05777777	18	000000 to 177777
06200000 to 06377777		06000000 to 06177777	19	000000 to 177777
06400000 to 06577777		06200000 to 06377777	1A	000000 to 177777
06600000 to 06777777		06400000 to 06577777	1B	000000 to 177777
07000000 to 07177777		06600000 to 06777777	1C	000000 to 177777
07200000 to 07377777		07000000 to 07177777	1D	000000 to 177777
07400000 to 07577777		07200000 to 07377777	1E	000000 to 177777
07600000 to 07777777		07400000 to 07577777	1F	000000 to 177777
10000000 to 10177777		07600000 to 07777777	20	000000 to 177777
10200000 to 10377777		10000000 to 10177777	21	000000 to 177777
10400000 to 10577777		10200000 to 10377777	22	000000 to 177777
10600000 to 10777777		10400000 to 10577777	23	000000 to 177777
11000000 to 11177777		10600000 to 10777777	24	000000 to 177777
11200000 to 11377777		11000000 to 11177777	25	000000 to 177777
11400000 to 11577777		11200000 to 11377777	26	000000 to 177777
11600000 to 11777777		11400000 to 11577777	27	000000 to 177777
12000000 to 12177777		11600000 to 11777777	28	000000 to 177777
12200000 to 12377777		12000000 to 12177777	29	000000 to 177777
12400000 to 12577777		12200000 to 12377777	2A	000000 to 177777
12600000 to 12777777		12400000 to 12577777	2B	000000 to 177777
13000000 to 13177777		12600000 to 12777777	2C	000000 to 177777
13200000 to 13377777		13000000 to 13177777	2D	000000 to 177777
40000000 to 40177777		37600000 to 37777777	80	000000 to 177777

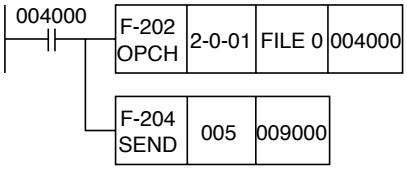
[2] F-204

F-204 SEND Send Data

Symbol		F-204 SEND | n | S
Function		Specify the first address and byte count of the send data for transmission across the satellite net.
Operation		S to S + n - 1 → Specified station
n		Use range: 000 to 377(8) (256 bytes for 000(8))
S		Refer to the programming manual of JW30H/300
Condition		Start of an input signal. (OFF -> ON)
After operation	**S**	Unchanged
	Flag	See the table below

Communication contents	Zero 007357	Carry 007356	Error 007355	Non-carry 007354
No response from port [*1]	0	0	1	0
Communication jam [*2]	0	0	0	1
Communication busy (waiting for response from target station)	1	0	0	1
Normal end	0	1	0	0
Abnormal end [*3] (communication error)	0	1	1	0
Remote station write protected	1	1	1	0

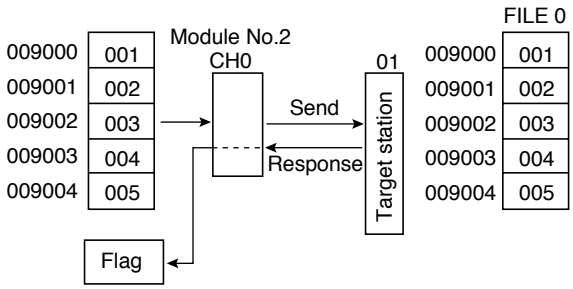
[Example of JW300]



Instruction

```
STR    004000
F-202
       2-0-01
       FILE 0
       004000
F-204
       005
       009000
```

When the input condition of 004000 changes from OFF to ON, this instruction sends the contents (5 bytes data) of registers 009000 to 009004 toward FILE 0's file area beginning with address 004000 (register 009000) on satellite net station 01, via CH0 of module 2.



[*1] In case that the network module of the assigned module number is not installed.

[*2] In case that the channel is used with the other SEND/RECEIVE instruction. This instruction is executed after end of execution of the previously given instruction, and flag sign is changed into "communication busy" from "communication jam."

[*3] In case that response from the target station does not come within the time-out time.

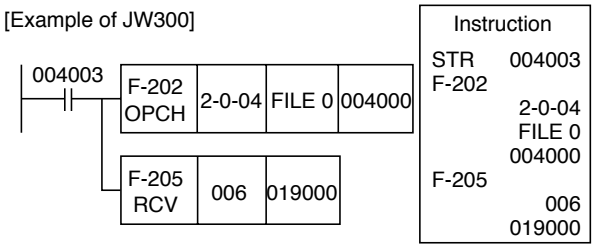
- Make sure to use F-204 together with the following instructions.
  When making a one layer communication, F-202 or F-203.
  When making a two layer communication, F-206 and F207.
- After turning ON the input signal of F-204, keep it ON until the finish of the execution of the instruction. If the input signal is turned OFF during execution of the instruction, the instruction ends in an incomplete condition. Under this condition, when an F-204 instruction is given next, it will come to a "communication jam," and the instruction will not be executed. Turn the power OFF and then ON again for recovery.

[3] F-205

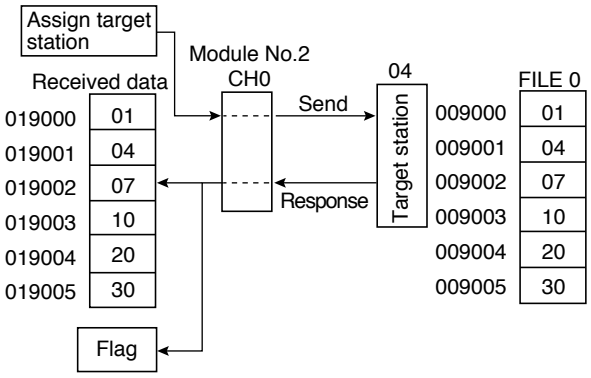
F-205 RCV Receive Data

Symbol	F-205 RCV | n | D					
Function	Specify the first address and byte count of the send data for transmission across the satellite net.					
Operation	Specified station → D to D + n - 1					
n	Use range: 000 to 377(8) (256 bytes for 000(8))					
D	Refer to the programming manual of JW30H/300					
Condition	Start of an input signal. (OFF -> ON)					
After operation	**D**	Unchanged				
	Flag	**Communication contents**	**Zero 007357**	**Carry 007356**	**Error 007355**	**Non-carry 007354**
		No response from port [*1]	0	0	1	0
		Communication jam [*2]	0	0	0	1
		Communication busy (waiting for response from target station)	1	0	0	1
		Nomal end	0	1	0	0
		Abnomal end [*3] (communication error)	0	1	1	0

[Example of JW300]



When the input condition of 004003 changes from OFF to ON, this instruction reads 6 bytes of data from FILE 0's file area beginning with file address 004000 on satellite net station 04, via CH0 of module 2. The data read is stored to registers 019000 to 019005.



[*1] In case that the network module of the assigned module number is not installed.

[*2] In case that the channel is used with the other SEND/RECEIVE instruction. This instruction is executed after end of execution of the previously given instruction, and flag sign is changed into "communication busy" from "communication jam."

[*3] In case that response from the target station does not come within the time-out time.

- Make sure to use F-205 together with the following instructions.
  When making a one layer communication, F-202 or F-203.
  When making a two layer communication, F-206 and F207.
- After turning ON the input signal of F-204, keep it ON until the finish of the execution of the instruction. If the input signal is turned OFF during execution of the instruction, the instruction ends in an incomplete condition. Under this condition, when an F-204 instruction is given next, it will come to a "communication jam," and the instruction will not be executed. Turn the power OFF and then ON again for recovery.

[4] F-206, F-207

F-206 EOP1 **Open channel 1 (1 layer: Specify the station number in octal notation)**

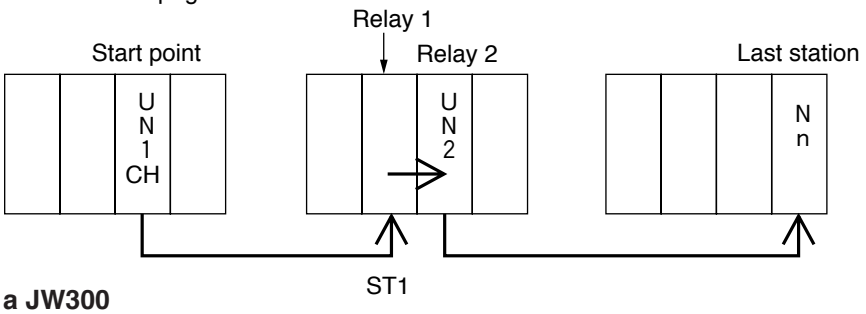
F-207 EOP2 **Open channel 2 (1 layer: Specify the station number in hexadecimal notation)**

(1) Installed in a JW30H

The F-206 and F-207 instructions when the JW-22CM is installed in a JW30H are as follows.

Symbol	F-206 EOP1 | UN1,CH | ST1 | UN2	F-207 EOP2 | ST2 | file N | n
Function	Specify the target station for inter-PLC data communications to be performed across the satellite net (JW-22CM, JW-20CM). F-206 (EOP1) are used in conjunction with the F-207 (EOP2), F-204 (SEND) or F-205 (RCV) instructions.	
UN1	Use range 0 to 6: Module no. of module starts from SEND/RECEIVE instructions.	
UN2	Use range 0 to 7: Module no. of module from relay station 2 of SEND/RECEIVE instructions. Note: When the relay station 2 is JW50H/70H/100H, it becomes slot number.	
CH	Use range 0 to 3: Channel no. of module starts from SEND/RECEIVE instructions.	
ST1	Use range 00 to 77(8): The relay station 1st station number of SEND/RECEIVE instructions.	
ST2	Use range 00 to 77(8): The relay station last station number of SEND/RECEIVE instructions.	
file N	Use range 0 to 3, 10 to 2C(H) (JW30H), 0 to 7 (JW50H/70H/100H): File number in the last station of SEND/RECEIVE instructions.	*1
n	Use range 000000 to 177777(8): File address in the last station of SEND/RECEIVE instructions.	
Condition	When an input signal is ON. (Not limited to changing from OFF to ON)	
Flag	Unchanged	

*1: If the communication target is a JW300, change "FILE F, n" used with the JW300 to "file N, n" used with the JW30H. => Refer to page 10-5.



(2) Installed in a JW300

The F-206 and F-207 instructions when the JW-22CM is installed in a JW300 are as follows. Please note that the function, UN2, CH, ST1, ST2, operating condition, and flag items are the same as described above (when installed in a JW30H).

Symbol	F-206 EOP1 | UN1,CH | ST1 | UN2	F-207 EOP2 | ST2 | FILE F | n
UN1	Use range 0 to 7 : Module no. of module that starts SEND/RECEIVE instructions.	
FILE F	Use range 0 and 1: File address in the last station of SEND/RECEIVE instructions.	*2
n	Use range 00000000 to 37777777(8): File address in the last station of SEND/RECEIVE instructions.	

*2: If the communication target is a JW30H and JW50H/70H/100H, change "file N, n" used with the JW30H etc. to "FILE F, n" used with the JW300. => Refer to page 10-5.

- Make sure to use only the three instructions: F-206, F-207, and F204, or the three instructions; F-206, F-207, and F-205.

10-5 Program example of instruction method

[1] Example of 1 hierarchical communication

(1) Example of writing data of 8 bytes to slave station 03(8)

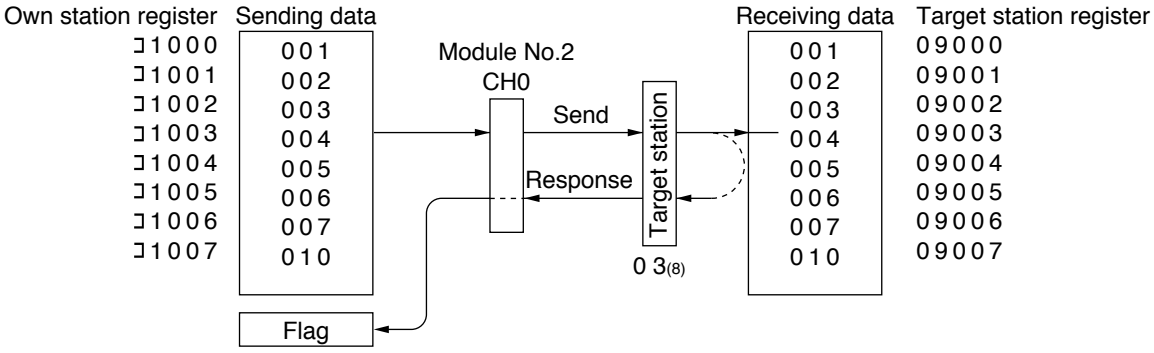
Module number installing own station JW-22CM: 2

Channel number using own station JW-22CM: 0

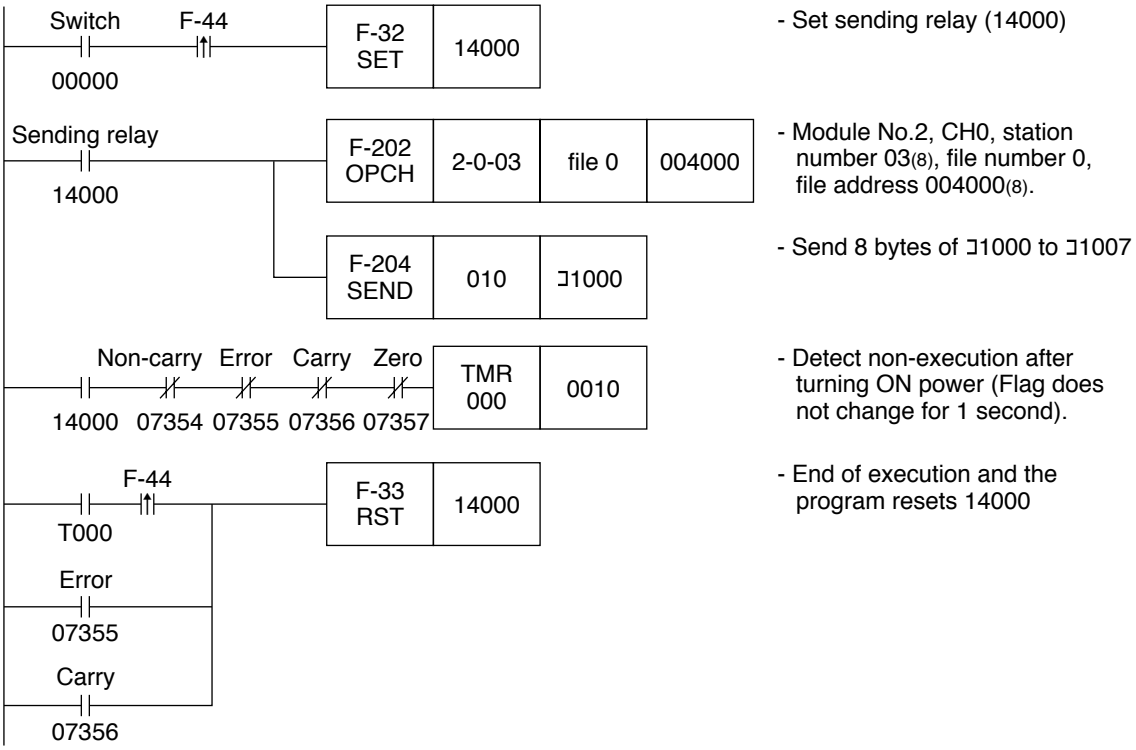
Data area of slave station 03(8): 0 (file number)

Receive top address of slave station 03(8): Register 09000 (file address 004000(8))

Send data top address of own station: ↄ1000



■ **PLC program (JW30H)**



(2) Example of reading data of 8 bytes to slave station 01(8)

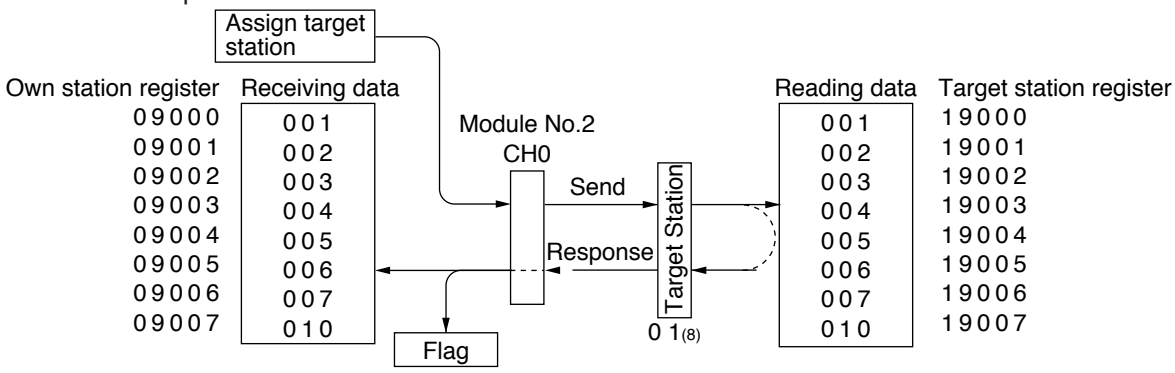
Module number installing own station JW-22CM: 2

Channel number using own station JW-22CM: 0

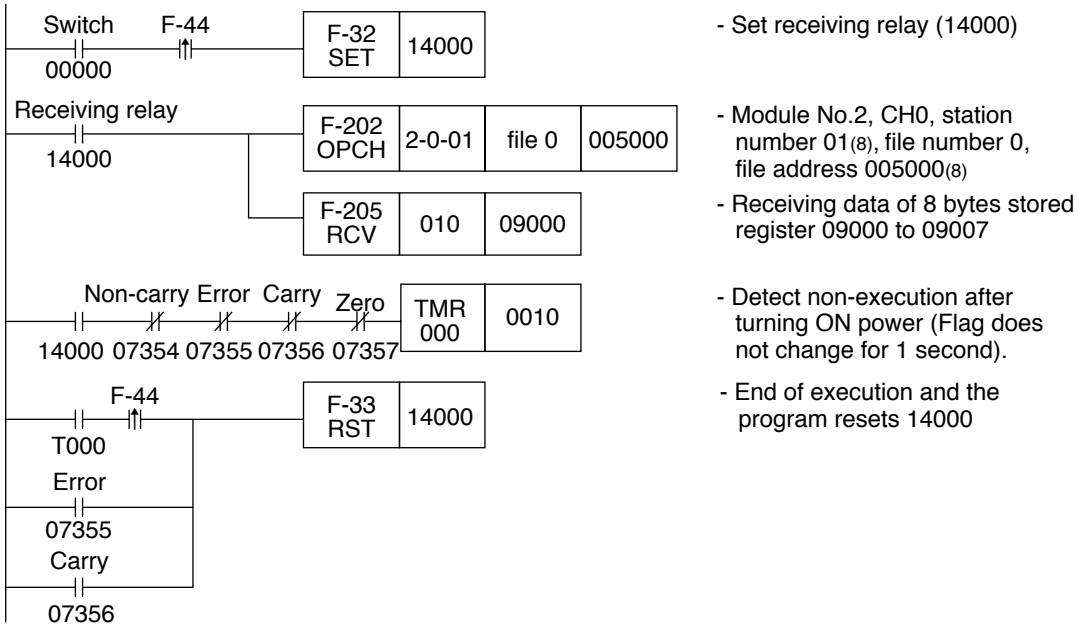
Data area of slave station 01(8): 0 (file number)

Send top address of slave station 01(8): Register 19000 (file address 005000(8))

Receive data top address of own station: 09000



■ **PLC program (JW30H)**



10

Remarks

Input conditions of F-202/204/205 instructions should keep being ON until finishing execution of the instruction (when error flag or carry flag turns to ON.)

- If the input condition is turned OFF during execution of the instruction, the instruction ends in an incomplete condition. Under this condition, when this instruction is given next, it will come to a "communication jam," and the instruction will not be executed. Turn the power OFF and then ON again for recovery.

Take any measure for the cases below:

- In case that on instantaneous power failure of min. 10 ms occurs and the input conditions turn to OFF.

  [Countermeasure] Change the input conditions to a latched relay.

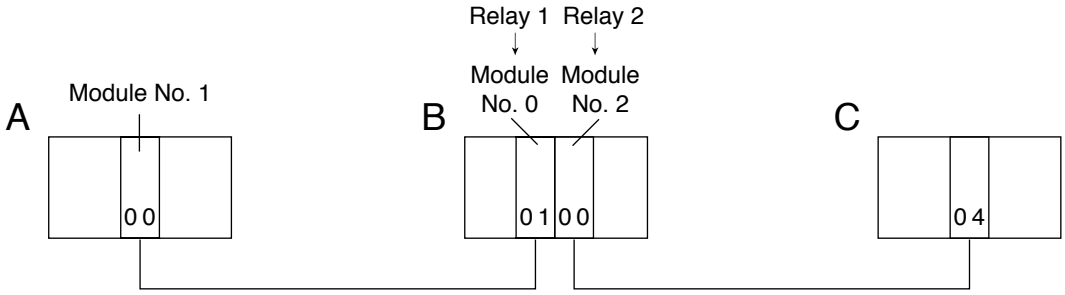
  However if you turn OFF and ON the power during execution of the instruction while the input condition is set to a latched relay, the JW-22CM will come to the following state.

  F-204/205 instruction processing which is being executed is deleted, and rising edge of input signal can not be detected for the input condition is kept ON so that this instruction can not be executed.

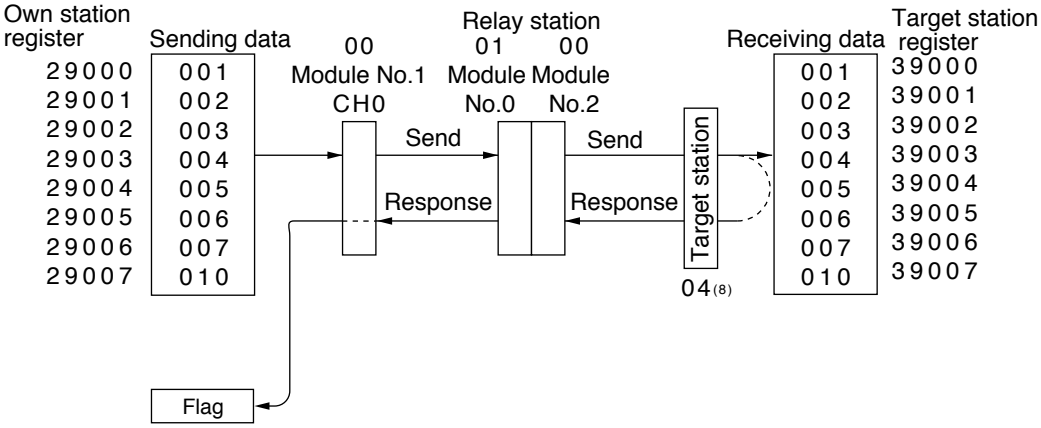
  [Countermeasure] All flags (07354 to 07357) are turned to OFF. Detect them with the timer, and operate the next instruction after resetting the input conditions.

[2] Example of 2 hierarchical communication

(1) Example of writing data in PLC of C through PLC of B from PLC of A



Module number installing own station JW-22CM : 1
Channel number using own station JW-22CM : 0
Station number of relay 1: 01
Module number of relay 2: 2
Target station number: 04
Data area of target station: 39000 (file 0, file address 006000(8))
Sending data top address of own station: 29000



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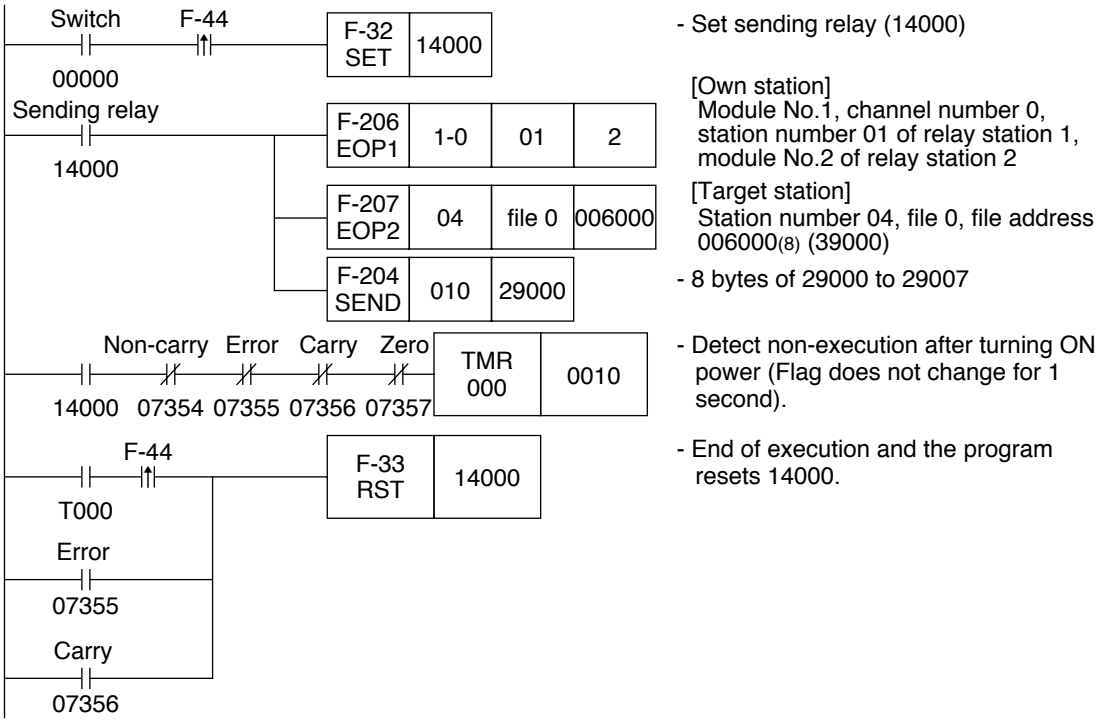
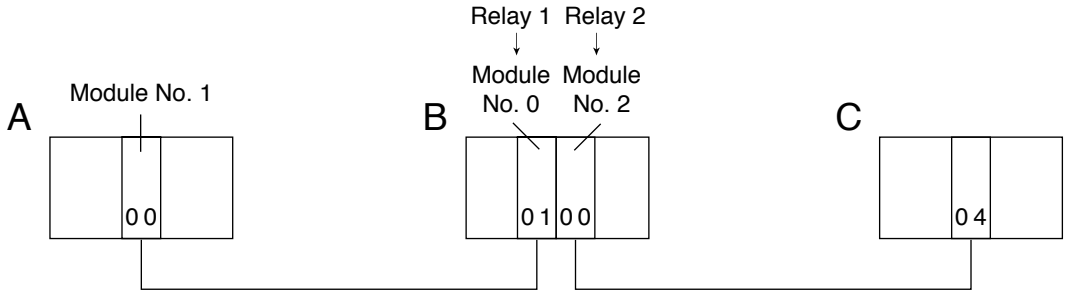
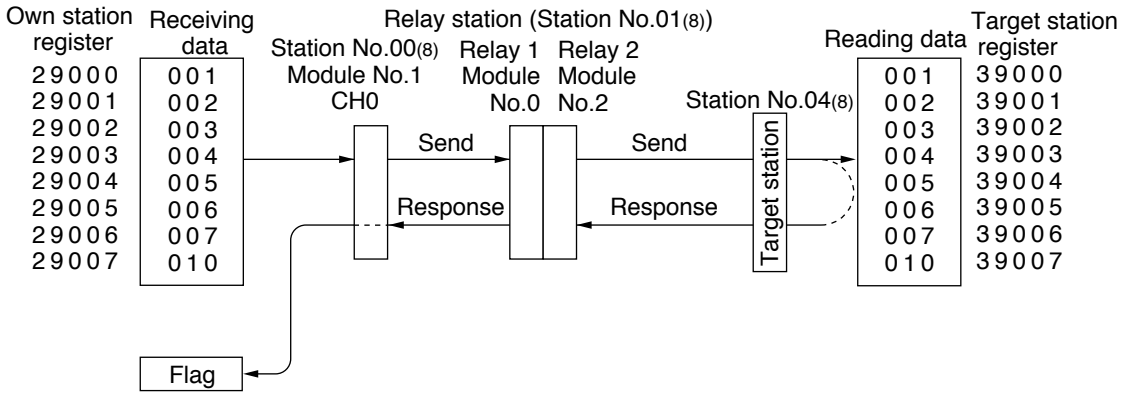
■ **PLC program (JW30H)**



(2) Example of reading out data in PLC of A with RCV instruction through PLC of B from PLC of C

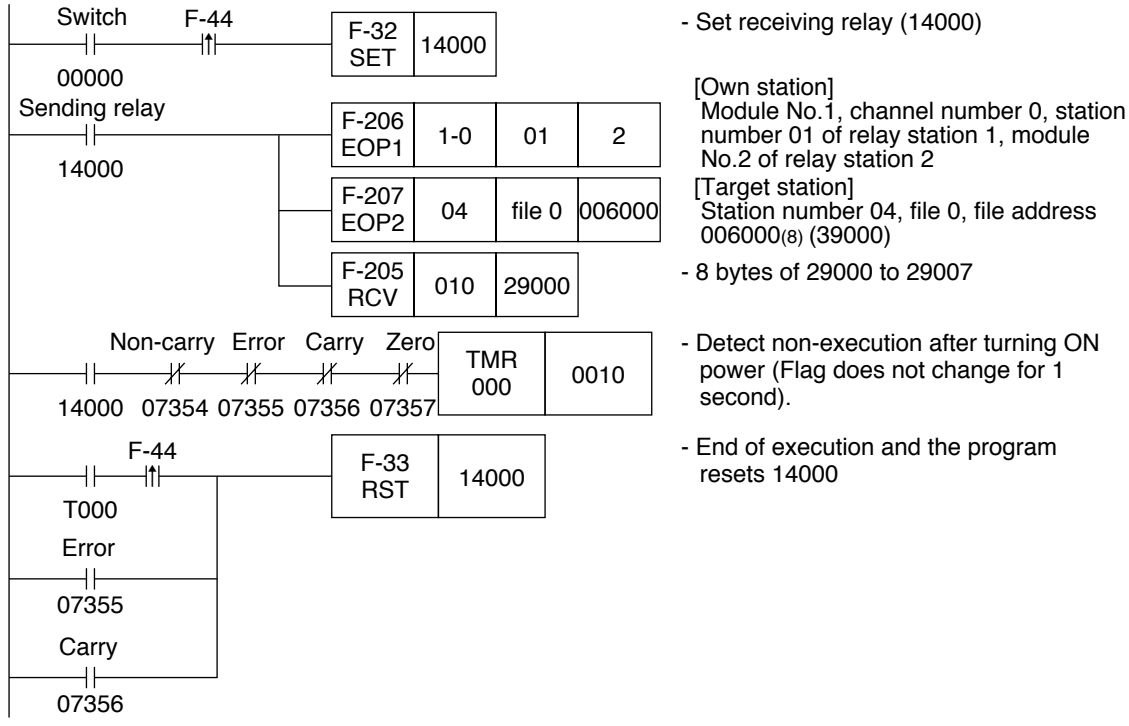


Module number installing own station JW-22CM: 1
Channel number using own station JW-22CM: 0
Station number of relay 1: 01
Module number of relay 2: 2
Target station number: 04
Data area of target station: 39000 (file 0, file address 006000(8))
Sending data top address of own station: 29000



10

■ **PLC program (JW30H)**



- Set receiving relay (14000)

[Own station]
Module No.1, channel number 0, station number 01 of relay station 1, module No.2 of relay station 2
[Target station]
Station number 04, file 0, file address 006000(8) (39000)

- 8 bytes of 29000 to 29007

- Detect non-execution after turning ON power (Flag does not change for 1 second).

- End of execution and the program resets 14000

10-6 Program example of data memory starting system

(1) Example of writing 8 bytes data to slave station 03(8)

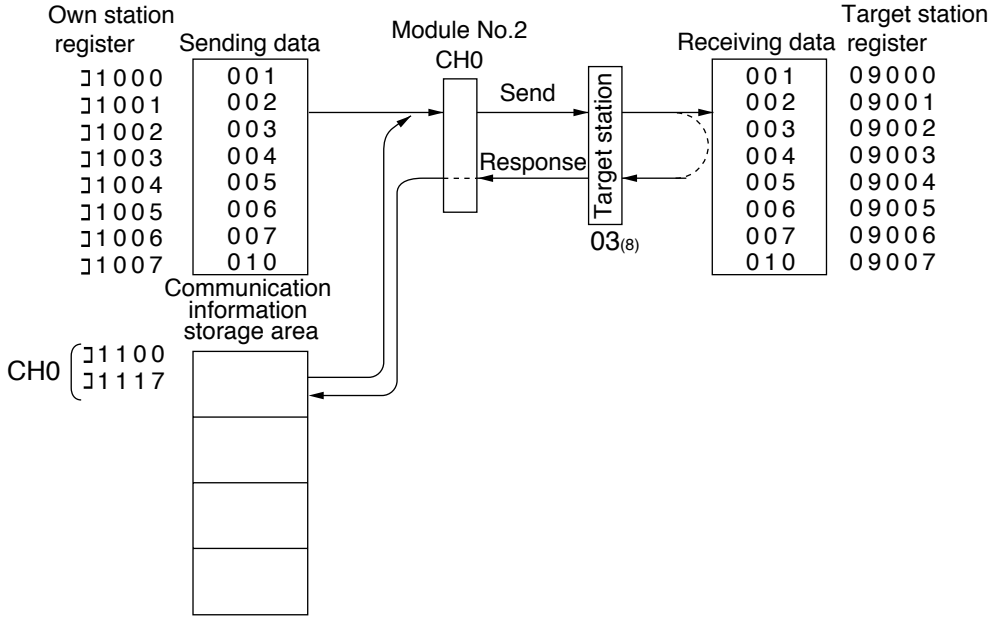
Module number installing own station JW-22CM: 2

Channel number using own station JW-22CM: 0

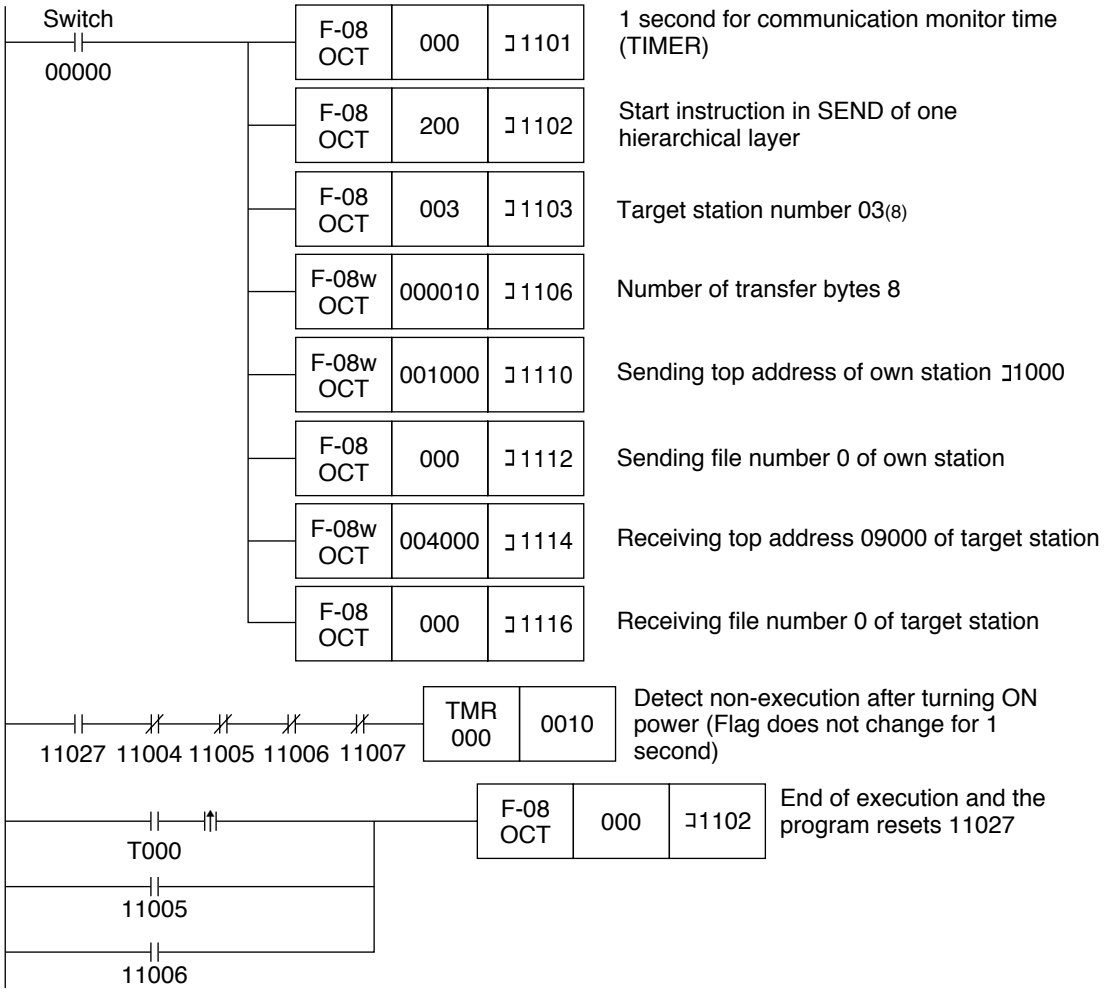
Data area of target station: 09000 (file 0, file address 004000(8))

Sending data top address of own station: ↄ1000 (file 0, file address 001000(8))

Top address of communication information storage area: ↄ1100



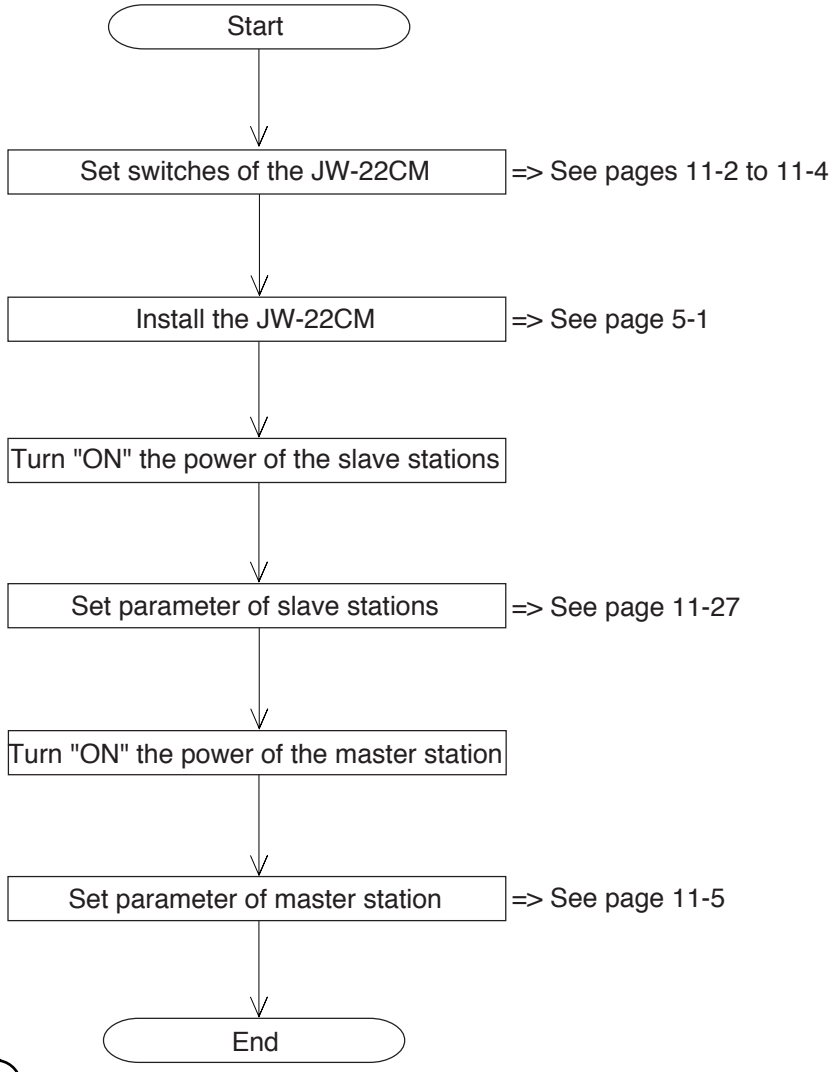
■ **PLC program**



Chapter 11. Setting of Switches and Parameter

This chapter describes settings of switches and parameters (master/slave stations) on the JW-22CM.

11-1 Operation procedure



Remarks

- Make sure to turn "OFF" the power of the PLC prior to setting the module No. switch and station number switch after installing the JW-22CM.
- Before setting parameters, change the JW-22CM connected PLC's mode (JW20H/30H/300) to "program mode."
  If the JW-22CM is connected to JW20/30H, set JW-22CM's mode to "program mode."
  => Refer to page 11-16 and 11-31
- Make sure to write the set parameters into the EEPROM on the JW-22CM after setting.
  => Refer to page 11-26 and 11-37

11-2 Switch setting of master station and slave station

Prior to using the JW-22CM, set the following switches.

(1) Model select switch (SL)

Specify PLC model on which the JW-22CM is mounted.

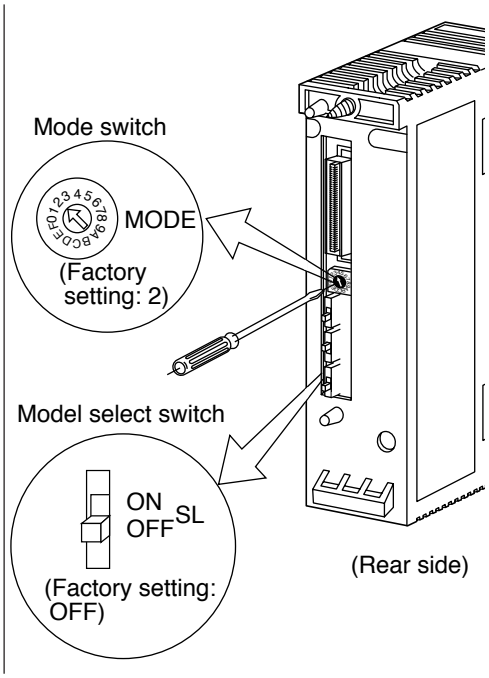
Setting of the Model select switch	PLC model
ON	JW 300
OFF	JW20H, JW30H

(2) Mode switch (MODE)

Set whether the JW-22CM is used as a master station or a slave station as well as the data link type (standard function or save memory function).

Station	Data link	Setting value of the mode switch
Master station	Standard function	2
Slave station	Standard function	2
	Save memory function	3

- Do not set the mode switch to "0," "1," or "4" to "F."
- The computer link function is effective for both "2" and "3" settings.

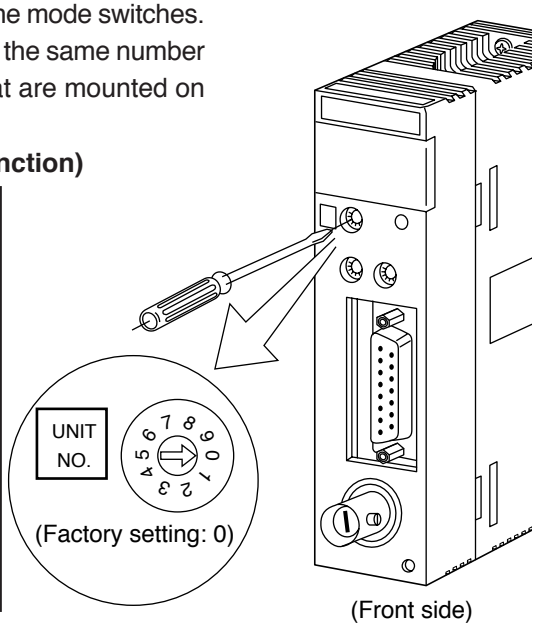


(3) Module No. switch (UNIT NO.)

Select error history storage registration area (*1) and data link (save memory function) area for a slave station by setting the mode switches. For setting the module number switch, do not double the same number with other option modules (including JW-22CM) that are mounted on the same basic rack panel.

① Setting the mode switch to "2" (standard function)

Setting value of the module No. switch	Error history storage register		
	JW20H	JW30H	JW300
0	E1400 to E1577	E7400 to E7577	
1	E1200 to E1377	E7200 to E7377	
2	E1000 to E1177	E7000 to E7177	
3	E0600 to E0777	E6600 to E6777	
4	E0400 to E0577	E6400 to E6577	
5	E0200 to E0377	E6200 to E6377	
6	E0000 to E0177	E6000 to E6177	
7	Prohibited setting		E5600 to E5777
8,9	Prohibited setting		



② Setting the mode switch to "3" (save memory function)

Setting value of the module No. switch	Data link (Save memory function) *2		Error history storage register		
	Relay link area	Register link area	JW20H	JW30H	JW300
0	⊐1000 to ⊐1077	09000 to 09777	E1400 to E1577	E7400 to E7577	
1	⊐1100 to ⊐1177	19000 to 19777	E1200 to E1377	E7200 to E7377	
2	⊐1200 to ⊐1277	29000 to 29777	E1000 to E1177	E7000 to E7177	
3	⊐1300 to ⊐1377	39000 to 39777	E0600 to E0777	E6600 to E6777	
4	⊐1400 to ⊐1477	49000 to 49777	E0400 to E0577	E6400 to E6577	
5 to 9	Prohibited setting				

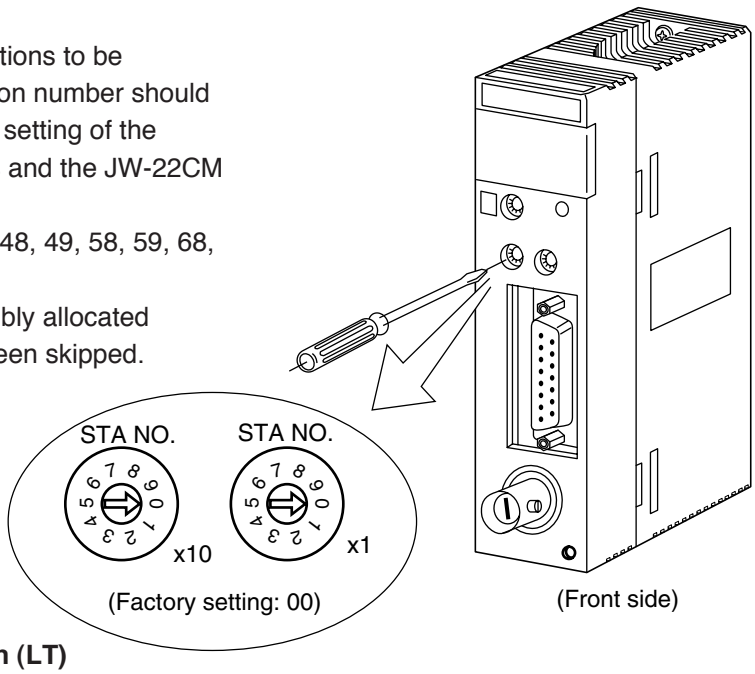
*1: When the JW30H is used, system memory #210=02(H) shall be set. When JW300 is used, system memory #0213=02(H) shall be set.

*2: The top address of each link relay area and register link area corresponds to f_1 to f_n and g_1 to g_n on page 11-8 and 11-9.

(4) Station number switch (STA NO.)

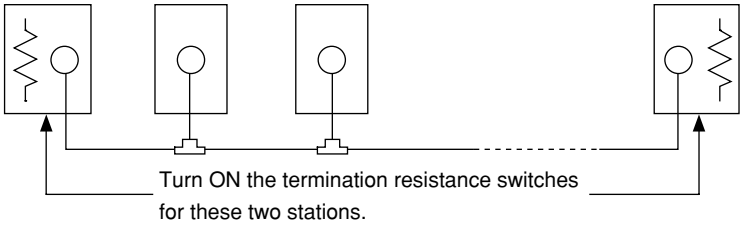
Make sure to set the master station number to "00." For slave stations, set from "01" to "77" in series with octal notation.

- Maximum amount of slave stations to be connected are 63. As the station number should be assigned by octal notation, setting of the following values causes errors and the JW-22CM cannot communicate.
  08, 09, 18, 19, 28, 29, 38, 39, 48, 49, 58, 59, 68, 69, and 78 to 99.
- Be careful that there is no doubly allocated number and no number has been skipped.

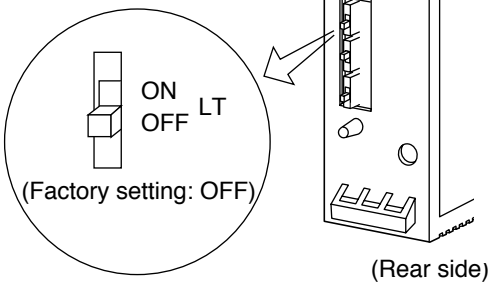


(5) Termination resistance switch (LT)

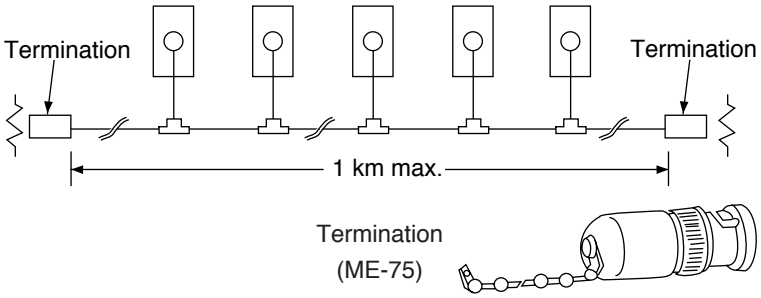
When the JW-22CM is at the termination station of the communication line, make sure to set the termination resistance switch to "ON."



Switch setting	Condition of the JW-22CM
ON	Insert a termination resistance
OFF	Do not insert a termination resistance



- When using a termination (ME-75 made by Toko Denshi) (device to function as terminator) at the end of a signal cable, turn "OFF" the termination resistance switch of the termination station.

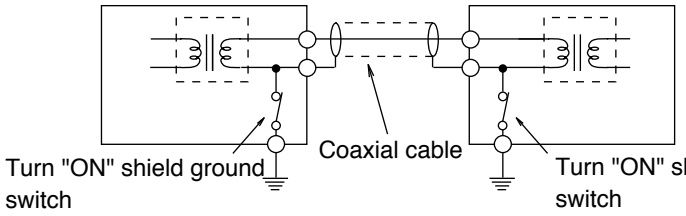


Reference **Need for the termination resistance**

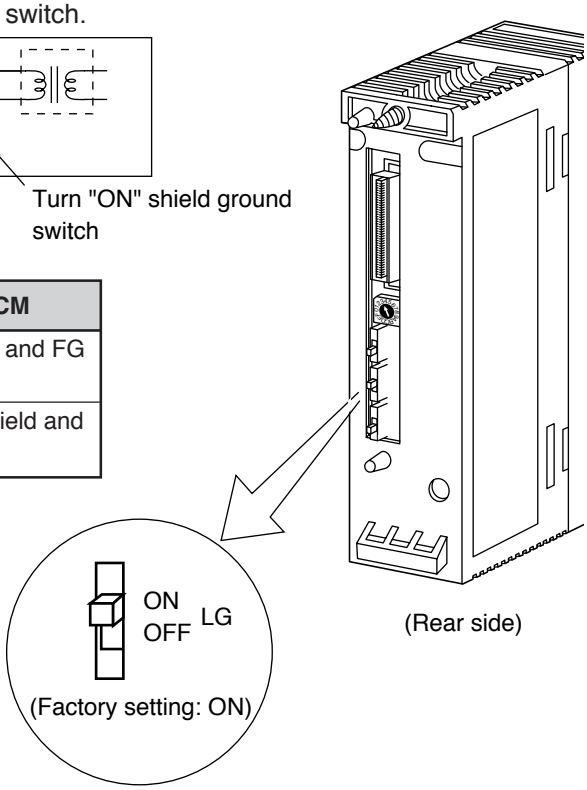
When a termination resistance is not provided at a communication circuit end, the end of the circuit generates reflection waves. These reflection waves collide with sending signals and abnormal communication may occur. The termination resistance prevents the occurrence of these reflection waves. On the other hand, when an intermediate station has its termination resistance switch turned "ON," this station causes reflection and attenuates signals and causes abnormal communication.

(6) Shield ground switch (LG)

For communication lines, use a coaxial cable.
As coaxial cable is an unbalanced circuit, ground its shield by turning "ON" the shield ground switch.

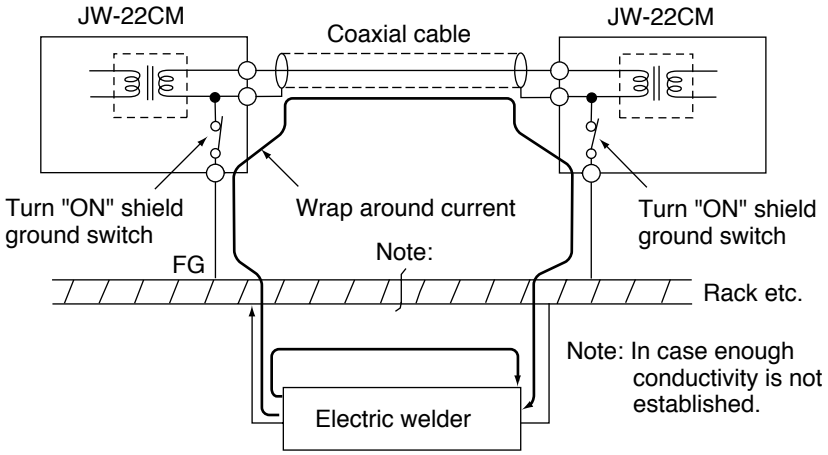


Switch setting	Condition of the JW-22CM
ON	Conductive between the shield and FG of the JW20H/JW30H/300
OFF	Not conductive between the shield and FG of the JW20H/JW30H/300



Remarks

- Make sure to provide a class-D grounding for the GND terminal of the power module. Without grounding the power module, the JW-22CM cannot become conductive with the ground after turning "ON" the shield ground switch. => Refer to page 7-2.
- Prior to any electric welding around the JW-22CM, take out the coaxial cable from the JW-22CM. While the coaxial cable is connected to the JW-22CM, any electric welding nearby the JW-22CM will cause the welding current to the JW-22CM and may damage part of its circuit pattern.



11

11-3 Setting contents of master station parameters

[1] Setting contents

When the JW-22CM is used as a master station, set the following items for parameters.

- Depending PLC model (JW20H/30H, JW300) to mount the JW-22CM, the following items are different.
  1. Parameter address => Refer to the following table
  2. Support tool usable for setting parameters => See page 14-1
  3. Modules to set parameters

     When JW20H/30H is used, set parameters to the JW-22CM. When JW300 is used, set parameters to the main body parameter (corresponding option number) to a control module (JW-3**CU).
- When the JW-22CM is used as a slave station, setting contents of the parameter address 4004 to 4377(8) (0004 to 0377(8)) and 4404 to 4777(8) (0404 to 0777(8)) may vary with the data link setting condition as a slave station (standard function/save memory function).
- For details of the parameter, refer to pages 16-8 to 16-23.

Corresponding signs on page 11-7 to 11-9

Setting item		Parameter address(8) JW20H /30H		Parameter address(8) JW300		Contents (setting range)		
①	Top address of relay link area on the master station	4000 to 4001	00	0000 to 0001	00	Set by file address(8) => Refer to page 11-11 to 11-14		a_0
②	Function	4002	00	0002	00	Set to relay/register link (01(H) only).		-
③	Number of connecting stations	4003	00	0003	00	Set the amount of stations including a master station by decimals (002 to 064(D)).		-
④	Relay link area top address or number of offset bytes on slave station 01(8).	4004 to 4007	00	0004 to 0007	00	- When a slave station is a data link (standard function), set the top address by file address(8) => See page 11-11 to 11-14	- When a slave station is a data link (save memory function), set the number of offset bytes by decimals: 00000 to 00256(D)	a_1
	Relay link area top address or number of offset bytes on slave station 02 to 77(8).	4010 to 4377	00	0010 to 0377	00			a_2 to a_{77}
⑤	Top address of register link area on the master station	4400 to 4403	00	0400 to 0403	00	Set by file address(8) => See page 11-11 to 11-14		b_0
⑥	Register link area top address or number of offset bytes on slave station 01(8).	4404 to 4407	00	0404 to 0407	00	- When a slave station is a data link (standard function), set the top address by file address(8) => See page 11-11 to 11-14	- When a slave station is a data link (save memory function), set the number of offset bytes by decimals: 00000 to 02048(D)	b_1
	Register link area top address or number of offset bytes on slave station 02 to 77(8).	4410 to 4777	00	0410 to 07777	00			b_2 to b_{77}
⑦	Number of sending bytes of master station relay link area.	5000 to 5001	00	1000 to 1001	00	Set the number of bytes by decimals: 00000 to 00256(D)		C_0
⑧	Number of sending bytes of slave station 01(8) relay link area.	5002 to 5003	00	1002 to 1003	00	Set the number of bytes by decimals. - When a slave station is data link (standard function): 00000 to 00256(D). - When a slave station is data link (save memory function): 00000 to 00032(D).		C_1
	Number of sending bytes of slave station 02 to 77(8) relay link area.	5004 to 5177	00	1004 to 1177	00			C_2 to C_{77}
⑨	Number of sending bytes of master register link area	5200 to 5201	00	1200 to 1201	00	Set the number of bytes by decimals: 00000 to 01024(D)		d_0

To the next page

Initial value(H)

Parameter settings of master station

Corresponding signs on page 11-7 to 11-9

	Setting item	Parameter address(8) JW20H /30H		JW300		Contents (setting range)		
⑩	Number of sending bytes of slave station 01(8) register link area.	5202 to 5203	00	1202 to 1203	00	Set the number of bytes by decimals. - When a slave station is data link (standard function): 00000 to 01024(D) - When a slave station is data link (save memory function): 00000 to 00256(D)		d_1
	Number of sending bytes of slave station 02 to 77(8) register link area.	5204 to 5377	00	1204 to 1377	00			d_2 to d_{77}
⑪	Setting time-out time of SEND/RECEIVE instruction	7501 to 7577	91	3501 to 3577	00	Set the time-out time by decimal [001 (0.1 sec.) to 255 (25.5 sec.)]		-
⑫	Setting PLC model of each station in SEND/RECEIVE function	7601 to 7677	00	3601 to 3677	00	Set the 91(H) by hexadecimal.		-
⑬	Select method of each channel in SEND/RECEIVE function	7700 to 7703	00	3700 to 3703	00	Select instruction method or data memory starting method in CH0 to CH3 (instruction method is available with JW30H/300)		-
⑭	Top addresses in communication information storage area when using data memory starting method of SEND/RECEIVE functions	7711 to 7713	00	3710 to 3713	00	Setting by file number, file address. Setting area of communication information strage area (64 bytes) is same as setting area of flag area. => Refer to page 11-11 to 11-14		-
⑮	Connection status of slave station (error code output)	7750 to 7757	00	0400 to 0403	00	Turn ON a bit representing each station. => Refer to page 16-14, 16-22		-
⑯	Whether the station number information should be output or not	7763	00	3763	00	Store the number of own station in the data memory when setting on 01(H). (storage area of 1 byte follows flag area of 24 bytes, valid when 007767(8) is 80(H))		-
⑰	Top address of flag area (Communication and PLC operation condition monitor flag)	7764	E0	3764	00	Lower of file address	Initial value when mounting the JW-22CM on JW20H/30H. 01E0(H) -> 007767(8) (ↄ0740)	e_0
		7765	01	3765	00	Upper of file address		
		7766	00	3766	00	File number		
		7767	80	3767	00	Flag output (Yes: 80(H), No: 00(H))		
⑱	When JW20H/30H - Start/stop operation of the JW-22CM. - Write to EEPROM of the JW-22CM.	7777	01	-	-	Select any of "00," "01," "08," "80," or "81" by hexadecimals. => Refer to page 16-14		-
	When JW300 Start switch	-	-	3777	00	When to set (write) parameters, set to 00(H). When the bits changes from 00(H) to 01(H), the set detail of parameters is transferred from the control module to the JW-22CM.		-

↑ Initial value(H) ↑

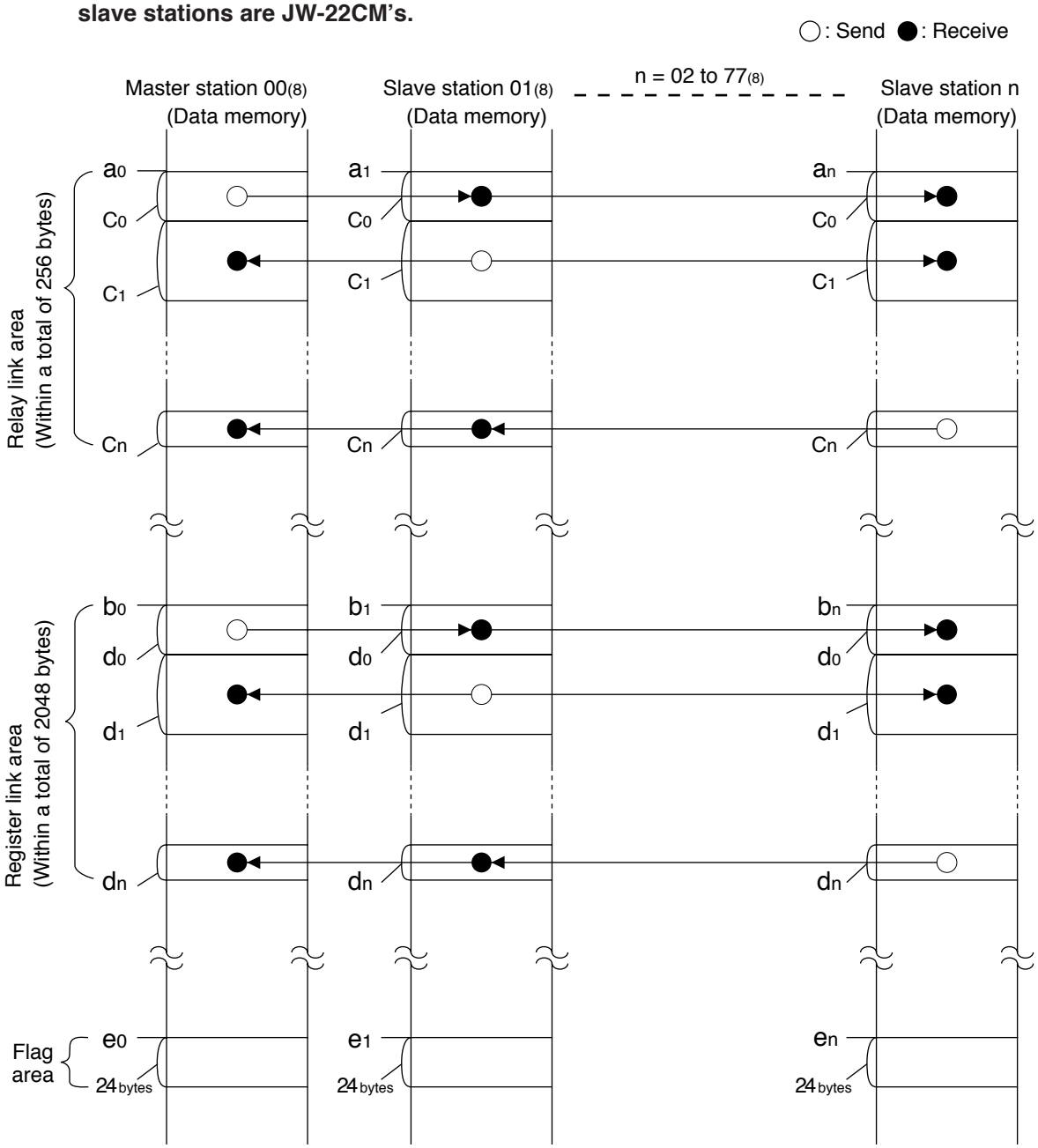
- ① to ⑱ are equivalent to number of page 11-15.
- Parameter addresses other than above mentioned are reserved areas and prohibited to be changed.
- When the JW-22CM is a slave station, set the top address and the number of sending bytes so that the data can be within the setting range of each area. => Refer to page 11-7 to 11-14.
  When any slave stations are except JW-22CM, see the instruction manual (user's manual) of each device.

Remarks

- When the JW-22CM is mounted on JW300, all of the parameter initial values will become 00(H).

[2] Communication area map

(1) In case that setting data link (the standard function) when the master station and all slave stations are JW-22CM's.



- Set the relay link area, register link area, flag area within the setting range nominated in page 11-11 to 11-13, 11-28 and 11-29. However, be careful not to double any address allocation of these.
- Set a_0 to e_n for parameters of master station and slave station. => Refer to page 11-5, 11-6 and 27)

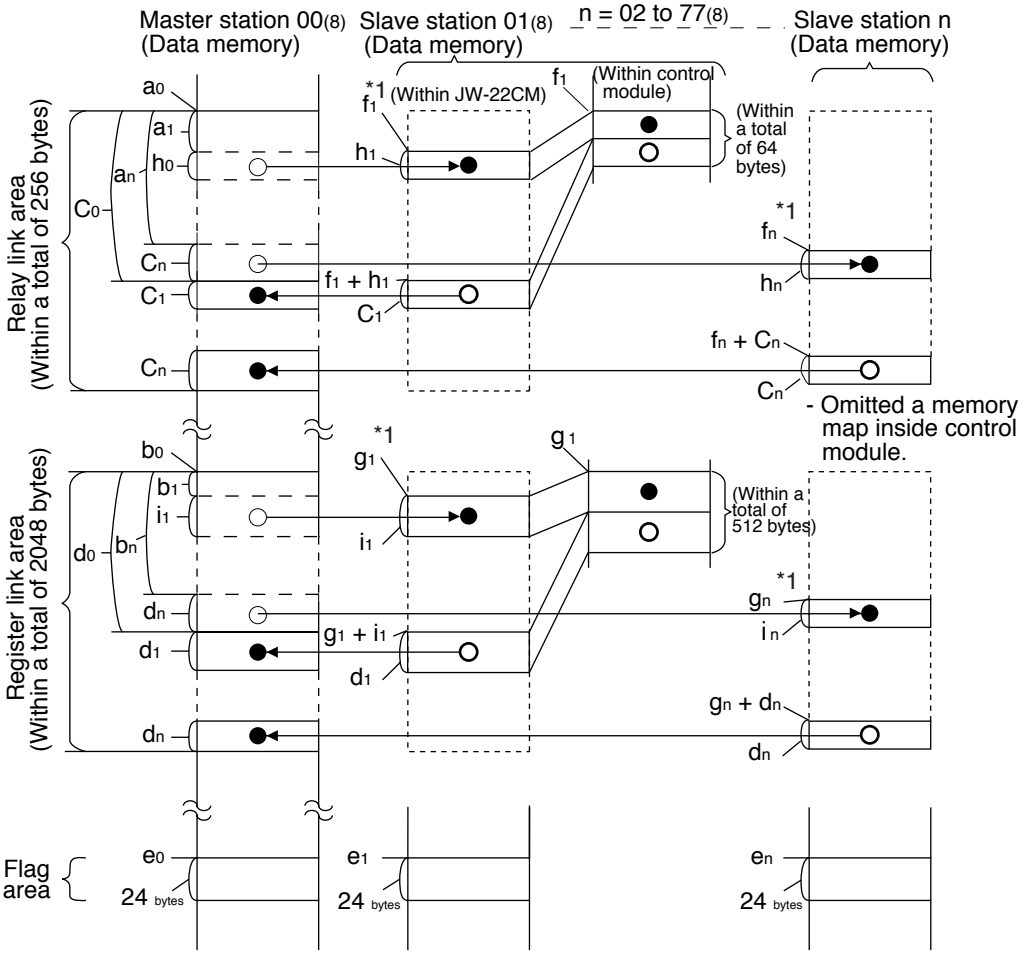
Parameter for setting in master station	Parameter for setting in slave station
Top address of relay link area a_0, a_1 to a_n	Top address of flag area (slave station) e_1 to e_n
Top address of register link area b_0, b_1 to b_n	
Number of sending bytes of relay link area c_0, c_1 to c_n	
Number of sending bytes of register link area d_0, d_1 to d_n	
Top address of flag area (master station) e_0.	

Parameter settings of master station

(2) In case that setting the data link (save memory function) when the master station and all slave stations are JW-22CM's.

Memory addresses inside control module of slave station continue in order of receiving and sending.

○:Send ●:Receive



• Set the relay link area, the register link area, and the flag area within the settings range of page 11-11, 11-12, 11-14, 11-28 and 11-29. Be careful not to double any address allocation of these.

• Set a_0 to e_n, h_1 to i_n above for parameters of master station and slave station. Refer to page 11-5, 11-6 and 11-27 and set $f_1/f_n/g_1/g_n$ marked "*1" by module No. switch of the JW-22CM (refer to page 11-2).

Parameter for setting in master station	Parameter for setting in slave station
Top address of relay link area a_0, a_1 to a_n	Top address of flag area (slave station) e_1 to e_n
Top address of register link area b_0, b_1 to b_n	Number of receiving bytes of relay link area h_1 to h_n
Number of sending bytes of relay link area c_0, c_1 to c_n	Number of receiving bytes of register link area i_1 to i_n
Number of sending bytes of register link area d_0, d_1 to d_n	
Top address of flag area (master station) e_0.	

*2

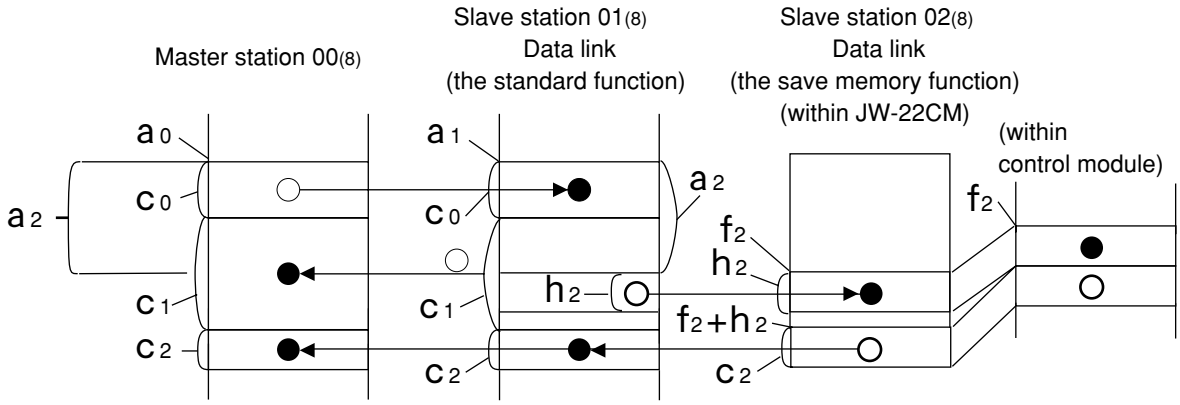
*2 Number of receiving bytes of slave station (h_1 to h_n, i_1 to i_n)

Select self-setting or "same as number of sending bytes (c_1 to c_n, d_1 to d_n)" according to parameter 7720 to 7723 (3720 to 3723) of slave station.

• Set the receiving area for save memory function within the range of the link area.
  $0 \leqq a_1 \leqq$ Total number of bytes of relay link area -h_1
  $0 \leqq a_n \leqq$ Total number of bytes of relay link area -h_n
  $0 \leqq b_1 \leqq$ Total number of bytes of register link area -i_1
  $0 \leqq a_n \leqq$ Total number of bytes of register link area -i_n
• Number of offset bytes can be set exceeding the number of sending bytes of the master station.
  $a_1, a_n \geqq c_0$ and $b_1, b_n \geqq d_0$
• Setting example of top address $f_1/f_n/g_1/g_n$
  When the setting value of the module No. switch is "2," f_1/f_n is ⊐1200, g_1/g_n is 29000.

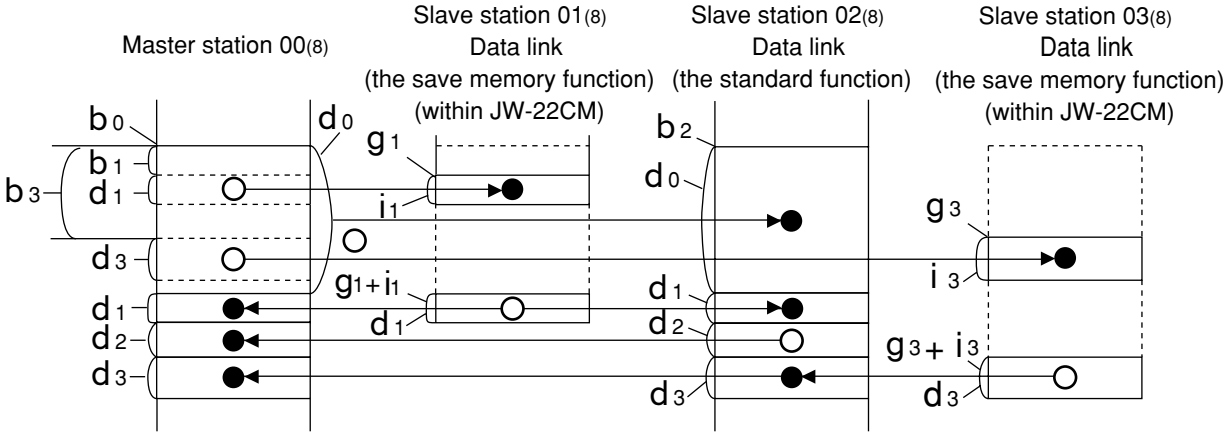
(3) When the master station and slave stations are all JW-22CM's and both data link (the standard function) and data link (the save memory function) are set among slave stations.
Set signs below by the parameters of the master station (page 11-5, 11-6) and the module No. switch of the JW-22CM (page 11-2).

• An example of a relay link area map for the setting of the data link (standard function) for slave station 01 and the data link (save memory function) to slave station 02.



$\left[\begin{array}{l} \text{Total number of bytes of relay link area } (c_0 + c_1 + c_2) \leqq 256 \text{ bytes} \\ c_2 + h_2 \leqq 64 \text{ bytes} \quad 0 \leqq a_2 \leqq c_0 + c_1 \end{array}\right]$

• An example of register link area map for the setting of the data link (the save memory function) to slave station 01 and 03 and data link (the standard function) to slave station 02.



$\left[\begin{array}{l} \text{Total number of bytes of register link area } (d_0 + d_1 + d_2 + d_3) \leqq 2048 \text{ bytes} \\ 0 \leqq b_1 \leqq d_0 + d_2 + d_3 \quad 0 \leqq b_3 \leqq d_0 + d_1 + d_2 \\ i_1 + d_1 \leqq 512 \quad i_3 + d_3 \leqq 512 \end{array}\right]$

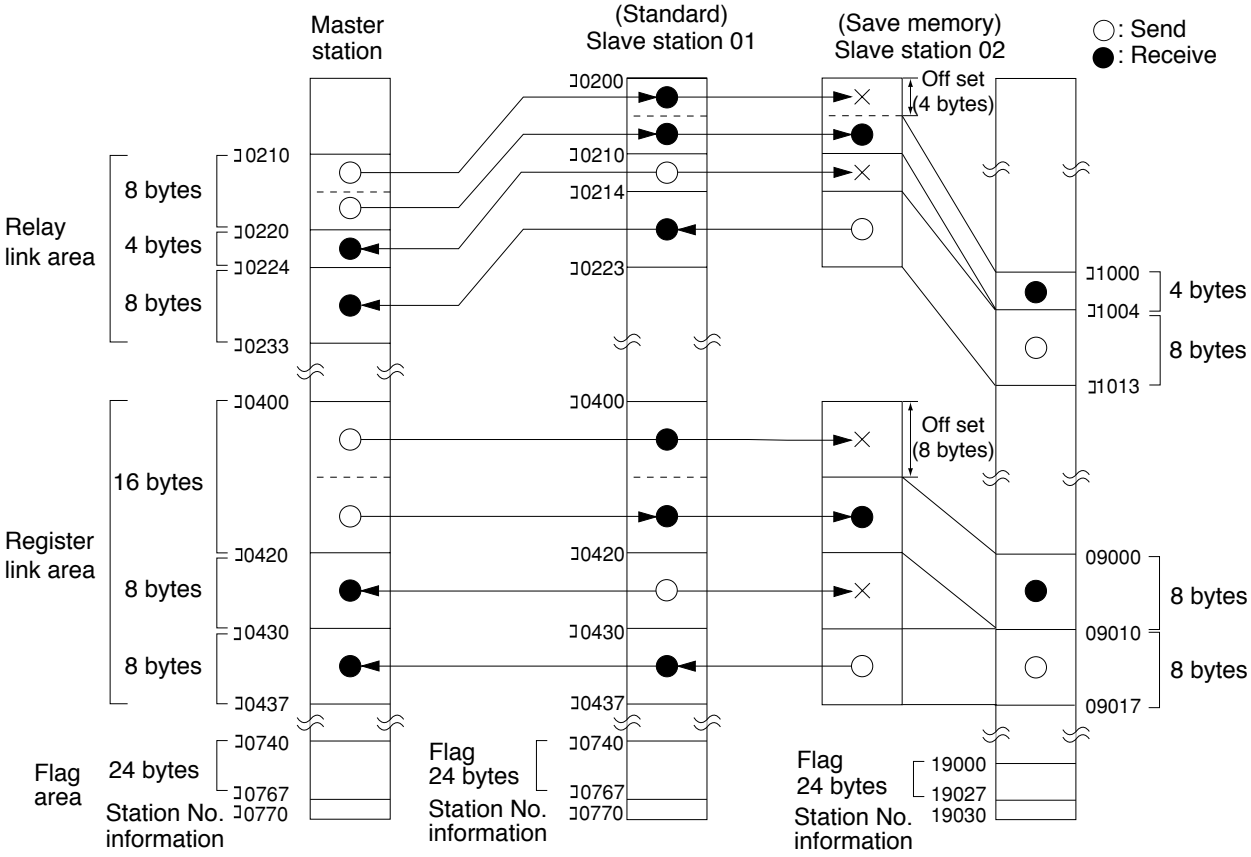
11

Parameter settings of master station

■ **Example for setting**

The master station and slave station 01 and 02 are JW-22CM.

It shows example for setting that slave station 01 is data link (standard function) and slave station 02 is data link (save memory function).



	Maser station	Slave station 1 (standard)	Slave station 2 (save memory)
Top address of relay link area	ↄ0210	ↄ0200	** ↄ1000
Number of off set bytes of relay link area	–	–	4 bytes
Number of sending bytes of relay link	8 bytes	4 bytes	8 bytes
Number of receiving bytes of relay link	–	–	* 4 bytes
Top address of register link area	ↄ0400	ↄ0400	** 09000
Number of off set bytes of register link area	–	–	8 bytes
Number of sending bytes of register link	16 bytes	8 bytes	8 bytes
Number of receiving bytes of register link	–	–	* 8 bytes
Top address of flag area	ↄ0740	* ↄ0740	* 19000
Station number information output	Yes	* Yes	* Yes

No mark -- Setting by parameter of master station

* ---------- Setting by parameter of slave station

** ---------- Setting by module No. switch of slave station

[3] Setting range of relay link area, register link area, and flag area

For setting the top address of the master stations relay link, register link, and flag area, use the file address(8) allocated throughout the memory area and set the number of sending bytes of the relay link and register link area within the setting range shown below. Flag areas are allocated by 24 bytes from each top address.

- When a slave station is a JW-22CM and it is set to data link (the standard function), set the top address and the number of sending bytes of the slave station's relay link and register link area within the setting range shown below.
  When a slave station is a JW-22CM and it is set to data link (the save memory function), the relay link and register link area of the slave station are determined by the setting value of the JW-22CM module No. switch (page 11-2) as shown below.

(1) When master station PLC is JW20H

① When master and slave stations are JW-22CM and set to data link (the standard function) :

File address(8)		Byte address
000000	I / O relay	⌋0000
000377		⌋0377
000400	Auxiliary relay	⌋0400
000677		⌋0677
000700	Latched relay	⌋0700
000777		⌋0777
001000	General purpose relay	⌋1000
001577		⌋1577
001600	Time limited contact point of TMR/CNT	
001777		
002000	Current value of TMR/CNT/MD	b0000
003777		b1777
004000	Register	09000
004777		09777
005000	Register	19000
005777		19777
006000	Register	29000
006777		29777
007000	Register	39000
007777		39777
010000	Register	49000
010777		49777
011000	Register	59000
011777		59777
015000	Register	99000
015777		99777
016000	Register	E0000
016777		E0777
017000	Register	E1000
017777		E1777

Relay link area setting range
Register link area setting range
Flag area setting range

② When slave stations are JW-22CM and set to data link (the save memory function) :

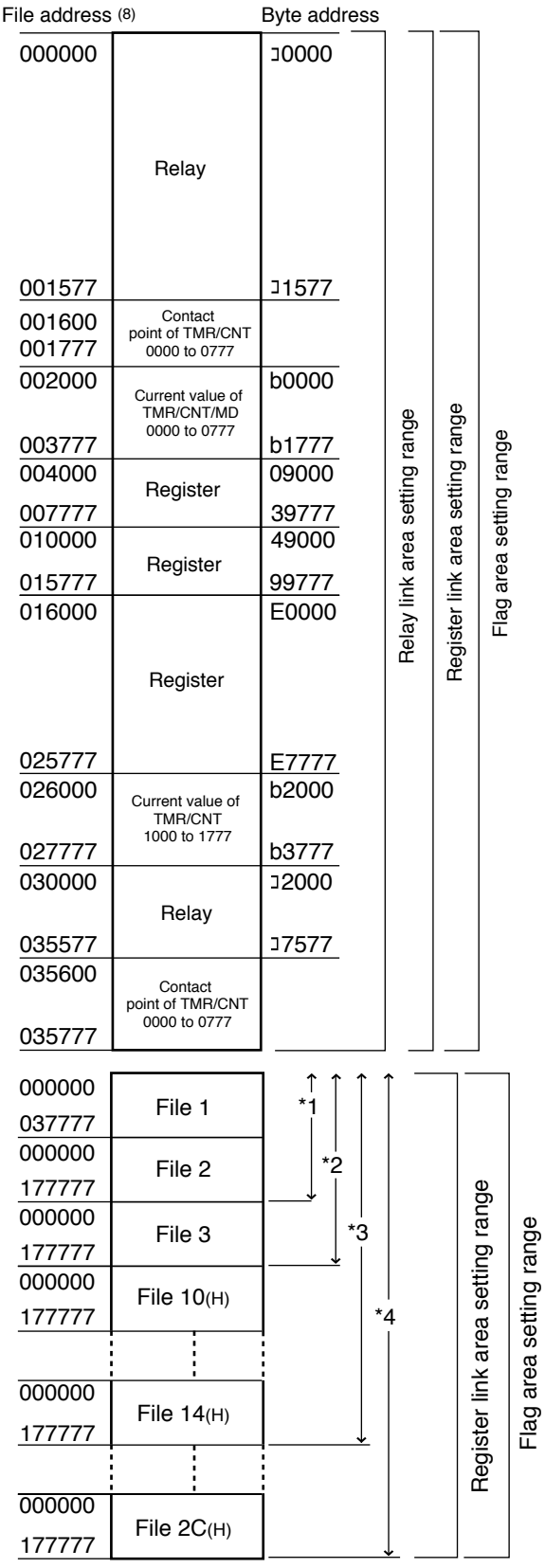
File address(8)		Byte address
000000		⌋0000
001000	Module No. 0	⌋1000
	Module No. 1	⌋1100
	Module No. 2	⌋1200
	Module No. 3	⌋1300
001477	Module No. 4	⌋1400
001500		⌋1500
003777		
004000	Module No. 0	09000
004777		09777
005000	Module No. 1	19000
005777		19777
006000	Module No. 2	29000
006777		29777
007000	Module No. 3	39000
007777		39777
010000	Module No. 4	49000
010777		49777
011000		59000
017777		E1777

Relay link area
Register link area
Flag area setting range

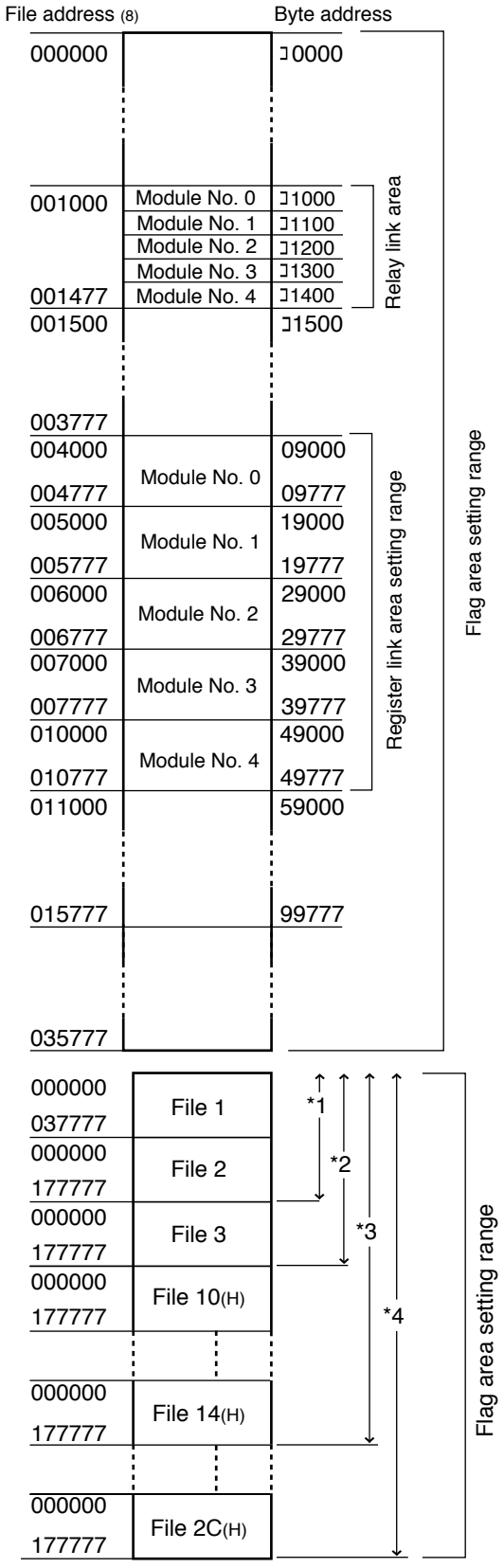
11

(2) When master station PLC is JW30H

① When master and slave stations are JW-22CM and set to data link (the standard function) :



② When slave stations are JW-22CM and set to data link (the save memory function) :



*1: In case of JW-32CUH/H1 (JW-32CUH1 shall be 000000 to 177777 or 000000 to 077777)
*2: In case of JW-33CUH/H1 *3: In case of JW-33CUH2 *4: In case of JW-33CUH3

11

(3) When master station PLC is JW300

① When master and slave stations are JW-22CM and set to data link (the standard function) :

File address (Capacity)						
JW-311CU JW-312CU	**JW-321CU JW-322CU**	**JW-331CU JW-332CU**	**JW-341CU JW-342CU**	**JW-352CU**	**JW-362CU**	
00000000(8) through 00073777(8) (30K bytes)	00000000(8) through 00105777(8) (35K bytes)	00000000(8) through 00177777(8) (64K bytes)				Relay link area setting range
- Relay: 30720 points (3.75K bytes) - Contact point of TMR/CNT: 1024 points (0.25K bytes) - Current value of TMR/CNT/MD: (2K bytes) - Register: (24K bytes)	- Relay: 53248 points (6.5K bytes) - Contact point of TMR/CNT: 2048 points (0.5K bytes) - Current value of TMR/CNT/MD: (4K bytes) - Register: (24K bytes)	- Relay: 180224 points (22K bytes) - Contact point of TMR/CNT: 8192 points (2K bytes) - Current value of TMR/CNT/MD: (16K bytes) - Register: (24K bytes)				Register link area setting range
File register =>	00200000(8) through 00277777(8) (32K bytes)	00200000(8) through 00577777(8) (128K bytes)	00200000(8) through 02177777(8) (512K bytes)	00200000(8) through 10177777(8) (2048K bytes)	00200000(8) through 40177777(8) (8192K bytes)	Flag area setting range

When JW300 is used, specify indirect address specification "fileN, address n" to the "register link area and top address of flag area" of the JW-22CM parameters.

As for relationship between JW300 file address (details) and "fileN, address n," see page 16-24 to 16-29.

Parameter settings of master station

② **When slave stations are JW-22CM and set to data link (the save memory function) :**

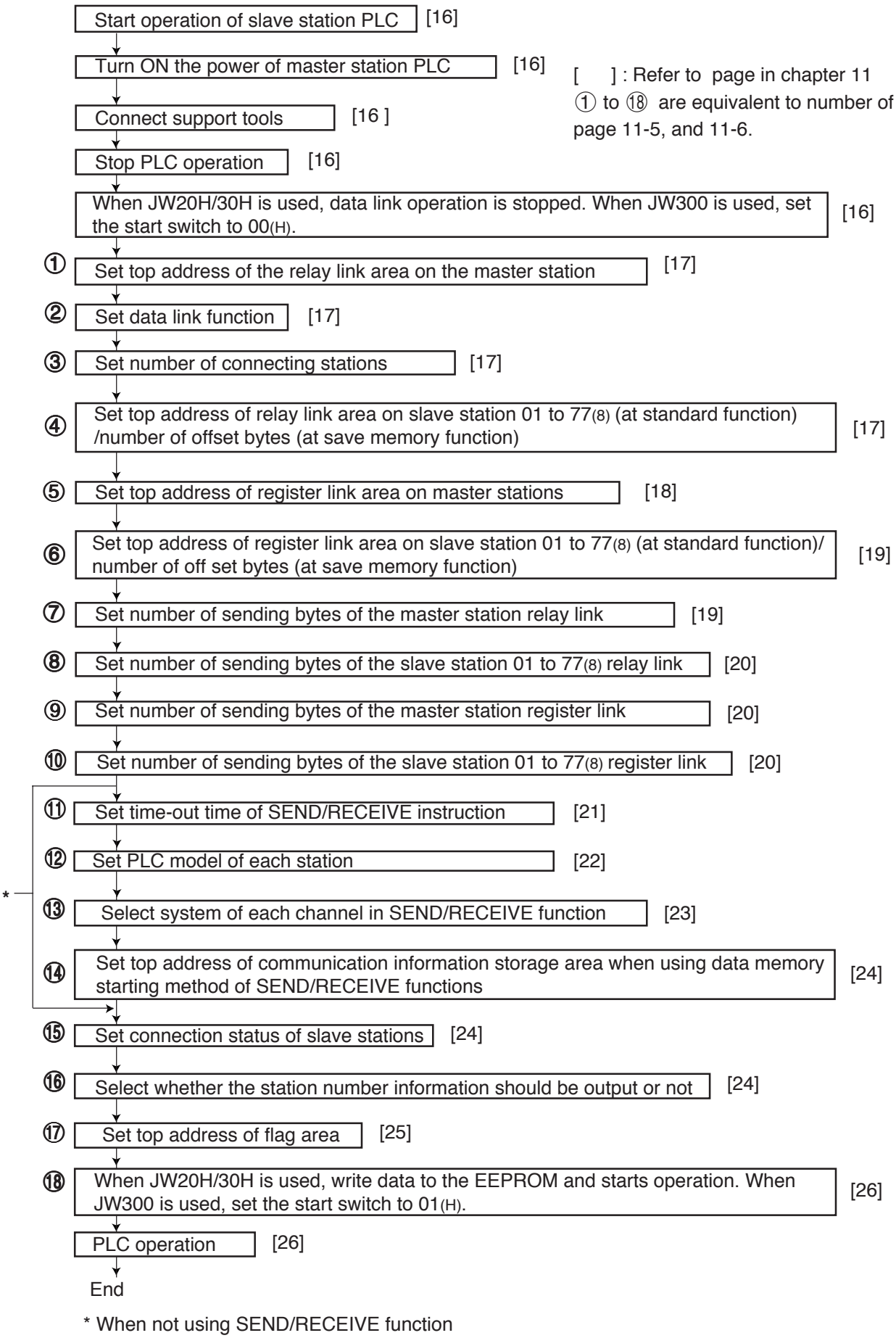
File address (Capacity)						
JW-311CU JW-312CU	**JW-321CU JW-322CU**	**JW-331CU JW-332CU**	**JW-341CU JW-342CU**	**JW-352CU**	**JW-362CU**	
00000000(8) through 00073777(8) (30K bytes)	00000000(8) through 00105777(8) (35K bytes)	00000000(8) through 00177777(8) (64K bytes)				
					Byte address ↓	
00001000(8) 00001077(8)		Module No. 0			⊐01000 ⊐01077	Relay link area
00001100(8) 00001177(8)		Module No. 1			⊐01100 ⊐01177	
00001200(8) 00001277(8)		Module No. 2			⊐01200 ⊐01277	
00001300(8) 00001377(8)		Module No. 3			⊐01300 ⊐01377	
00001400(8) 00001477(8)		Module No. 4			⊐01400 ⊐01477	
00004000(8) 00004777(8)		Module No. 0			009000 009777	Register link area
00005000(8) 00005777(8)		Module No. 1			019000 019777	
00006000(8) 00006777(8)		Module No. 2			029000 029777	
00007000(8) 00007777(8)		Module No. 3			039000 039777	
00010000(8) 00010777(8)		Module No. 4			049000 049777	
File register =>	00200000(8) through 00277777(8) (32K bytes)	00200000(8) through 00577777(8) (128K bytes)	00200000(8) through 02177777(8) (512K bytes)	00200000(8) through 10177777(8) (2048K bytes)	00200000(8) through 40177777(8) (8192K bytes)	Flag area setting range

When JW300 is used, specify indirect address specification "fileN, address n" to the "register link area and top address of flag area" of the JW-22CM parameters.
As for relationship between JW300 file address (details) and "fileN, address n," see page 16-24 to 16-29.

11

[4] Setting procedure

Set parameters of the master station following the procedure below.



[ ] : Refer to page in chapter 11
① to ⑱ are equivalent to number of page 11-5, and 11-6.

* When not using SEND/RECEIVE function

Parameter settings of master station

Indications in [ ] of each item mean as follows:

[Example] Stop operation of data link [HEX (hexadecimal), byte]

This means to set "stop operation" by hexadecimal and byte unit.

"Run" the slave station PLC

↓

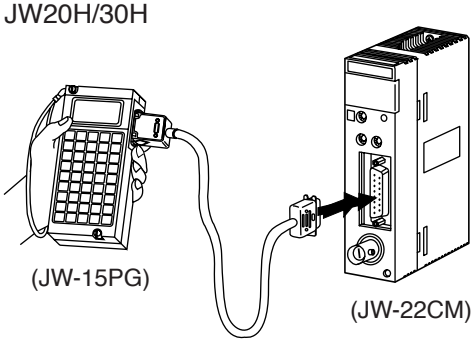
Turn "ON" the power of the master station PLC and connect support tools

Depending on PLC model (JW20H/30H, JW300) on which the JW-22CM is mounted, support tools that can be used for setting JW-22CM parameters, and modules to set parameters (connect a support tool) are different. => See page 14-1.

- When JW20H/30H is used, set parameters to the JW-22CM. When JW300 is used, set parameters to the main body parameter (corresponding option number) to a control module (JW-3CU).**

The following describes an example of JW-15PG's key operation.

● When using a JW15PG for JW20H/30H



When JW-15PG is used with JW300, connect JW-15PG to the control module (JW-3**CU).

↓

Stop PLC operation

Turn to program mode (stop PLC operation). Setting of parameters is only available when the PLC is in program mode.

[*] [*] [PROG MODE] [SET 8] ⟶ Stop PLC operation

Select parameter setting mode.

● When JW20H/30H is used

[クリア CLR] [*] [*] [シフト SHIFT] [INTL DISP] [SET 8] [B 1] (Set parameter)

Select initial mode

● When JW300 is used

[クリア CLR] [編集 EDIT] [A 0] [B 1] [SW number] (Module No. switch) [,]

↓

When JW20H/30H is used, data link operation is stopped. When JW300 is used, set the start switch to 00(H). [HEX (hexadecimal), byte]

● When JW20H/30H is used

Write "00(H)" to parameter address 7777(8) and stop operation of the JW-22CM. Setting of the parameter is only available when the operation of the JW-22CM is stopped.

[7] [7] [7] [7] [モニタ MNTR] [A 0] [書 込 ENT]

Display the contents of parameter address 7777 by hexadecimals.

(Write 00(H))

Screen display of JW-15PG

```
 07775      HEX   00
 07776      HEX   1F
I PARAM.
>07777      HEX   00
```

7777(8) (3777(8)) [00(H)]

Address in the parenthesis ( ) is when JW300 is used.
=> The same will be applied from here to below.

● When JW300 is used

Write 00(H) to parameter address 3777(8) (start switch).

[3] [7] [7] [7] [モニタ MNTR] [A 0] [書 込 ENT]

Display the contents of parameter address 3777 by hexadecimals.

(Write 00(H))

Screen display of JW-15PG

```
  3775      HEX   00
  3776      HEX   00
P PARAM.     O-SW: 0
> 3777      HEX   00
```

← Module No. switch = 0

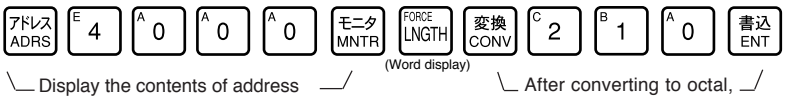
To the next page

From the previous page

Address in the parenthesis ( ) is when JW300 is used.
=> The same will be applied from here to below.

Set top address of the relay link area on the master station [OCT (octal), word]

Set file address(8) to parameter address 4000 to 4001(8) (0000 to 0001(8)).
[Ex.] In case of setting ⊐0210 (file address 000210(8)) => Page 11-10



Display the contents of address 004000(8) (When the JW20H/30H)

After converting to octal, write the data 000210.

4000(8)
4001(8)
(0000(8)
0001(8))
000210(8)

Screen display of JW-15PG (JW20H/30H)

```
 03774     0    000000
 03776     0    000000
I PARAM.
>04000     0    000210
```

Data link function setting [HEX (hexadecimal), byte]

Set "01(H) (=001(8))" in parameter address 4002(8) (0002(8)) and change to "relay/register link" function.

4002(8)
(0002(8))
01(H)

Screen display of JW-15PG (JW20H/30H)

```
 04000  HEX       88
 04001  HEX       00
I PARAM.
>04002  HEX       01
```

Set number of connecting stations [DCM (decimal), byte]

Set the number of connecting stations (02 to 64(D)) including the master station in the parameter address 4003(8) (0003(8)) by octal.
[Ex.] In case of setting in 3 stations (003(D)) => Page 11-10.

4003(8)
(0003(8))
003(D)

Screen display of JW-15PG (JW20H/30H)

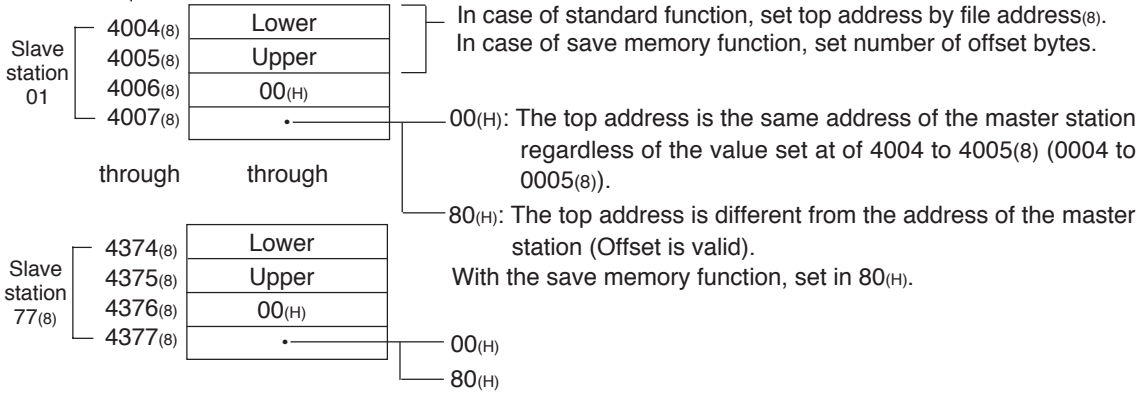
```
 04001  DCM       000
 04002  DCM       001
I PARAM.
>04003  DCM       003
```

11

Set top address of relay link area on slave station (01 to 77) (at standard function)/number of offset bytes (at save memory function)

Set in parameter addresses 4004 to 4377(8) (0004 to 0377(8)). These top addresses should not overlap the resister link area, flag area, or any area used by other option module.

When using JW20H/30H



In case of standard function, set top address by file address(8).
In case of save memory function, set number of offset bytes.

00(H): The top address is the same address of the master station regardless of the value set at of 4004 to 4005(8) (0004 to 0005(8)).

80(H): The top address is different from the address of the master station (Offset is valid).
With the save memory function, set in 80(H).

To the next page

Parameter settings of master station

From the previous page

[Ex.] When JW20H/30H is used, and in case of setting ⊐0200 (file address 000200(8)) in parameter addresses 4004 to 4007(8) (slave station 01) and set 4 (number of off set bytes) in 4010(8) to 04013(8) (slave station 02). => Page 11-10

STEP (+) → FORCE LNGTH (Word display) → 変換 CONV → 変換 CONV → 変換 CONV (Convert to octal figures) → C 2 → A 0 → A 0 → 書込 ENT → Write 000200(8) in parameter addresses 4004 to 4005(8).

Slave station 01

STEP (+) → FORCE LNGTH (Byte display) → A 0 → A 0 → A 0 → 書込 ENT → Write 000(8) (=00(H)) in parameter address 4006(8).

STEP (+) → 変換 CONV → 変換 CONV → 変換 CONV (Convert to hexa-decimal figures) → SET 8 → A 0 → 書込 ENT → Write 80(H) (the top address is not same as the master station) in parameter address 4007(8).

STEP (+) → FORCE LNGTH (Word display) → 変換 CONV → 変換 CONV → E 4 → 書込 ENT → Write 00004(D) (offset 4) in parameter addresses 4010 to 4011(8).

Slave station 02

STEP (+) → FORCE LNGTH (Word display) → 変換 CONV → 変換 CONV → A 0 → A 0 → 書込 ENT → Write 00(H) in parameter address 4012(8).

STEP (+) → SET 8 → A 0 → 書込 ENT → Write 80(H) (offset valid) in parameter address 4013(8).

When JW20H/30H is used

Slave station 01	4004(8)	000200(8)
	4005(8)	
	4006(8)	00(H)
	4007(8)	80(H)
Slave station 02	4010(8)	00004(D)
	4011(8)	
	4012(8)	00(H)
	4013(8)	80(H)

Screen display of JW-15PG (JW20H/30H)

```
 04011      HEX   00
 04012      HEX   00
I PARAM.
>04013      HEX   80
```

11

Set top address of register link area on the master station

Set on the parameter address 4400 to 4403(8) (0400 to 0403(8)) in the file address(8). These top addresses should not overlap the resister link area, flag area, or any area used by other option modules.

When the JW20W/30H

4400(8)	Lower	File address(8)
4401(8)	Upper	
4402(8)	File number	
4403(8)	Unused (00(H))	

[Ex.] When the JW20H/30H is used, and in case of setting ⊐0400 (file address 000400(8)) in parameter addresses 4400 to 4401(8) and set 0 (file number) in 4402(8). => Page 11-10.

アドレス ADRS → E 4 → E 4 → A 0 → A 0 → モニタ MNTR → Display the contents of parameter addresses 4400 to 4401(8)

変換 CONV → E 4 → A 0 → A 0 → 書込 ENT → Write 000400(8)

STEP (+) → FORCE LNGTH (Byte display) → A 0 → 書込 ENT → Write 000(8) (=00(H)) in parameter address 4402(8).

Screen display of JW-15PG

```
 04400      OCT   000
 04401      OCT   001
I PARAM.
>04402      OCT   000
```

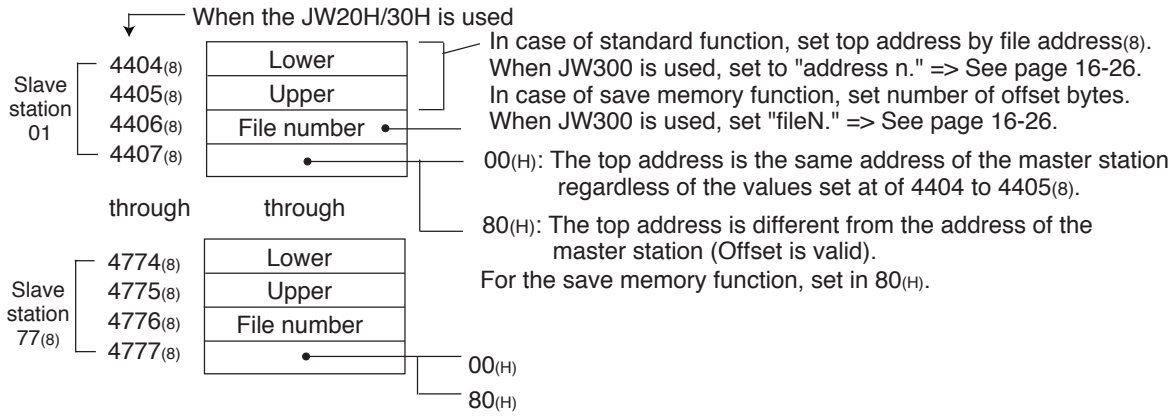
4400(8)	000400(8)
4401(8)	
4402(8)	00(H)
4403(8)	Unused (00(H))

To the next page

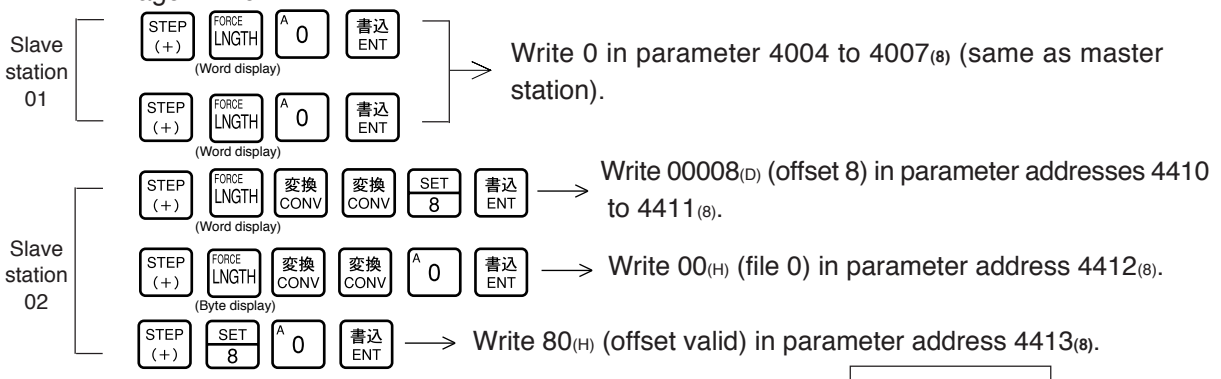
From the previous page

Set top address of register link area on slave station 01 to 77(8) (at standard function)/number of offset bytes (at save memory function)

Set in parameter addresses 4404 to 4777(8) (0404 to 0777(8)). These top addresses should not overlap the resister link area, flag area, or any area used by other option module.

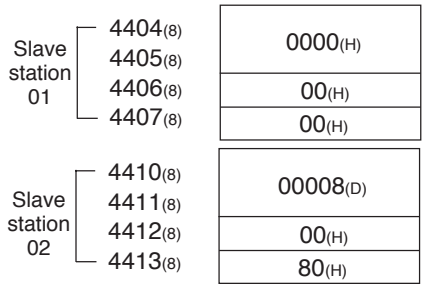


[Ex.] When JW20H/30H is used , and in case of setting 0 (the top address is ⊐0440, the same as the address of the master station) in parameter addresses 4404 to 4407(8) (slave station 01) and the offset byte number 8 and "offset valid" on the parameter address 4410 to 4413(8) (slave station 02). => Page 11-10.



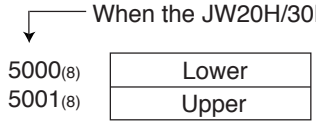
Screen display of JW-15PG

```
 04011      HEX   00
 04012      HEX   00
I PARAM.
>04013      HEX   80
```



Set the number of sending bytes of the master station relay link [DCM (decimal), word]

Set in parameter addresses 5000 to 5001(8) (1000 to 1001(8)).



These top addresses should not overlap the resister link area, or the flag area, or exceed the setting range (0 to 256 bytes for each station, 256 bytes for all stations in total).

[Ex.] When JW20H/30H is used, and in case of setting 8 bytes => Page 11-10.

アドレス ADRS — F 5 — A 0 — A 0 — A 0 — モニタ MNTR → Display the contents of parameter addresses 5000 to 5001(8)

変換 CONV — 変換 CONV — SET 8 — 書込 ENT → Write 00008(D) after converting to decimal.

Screen display of JW-15PG

```
 04774      D  00000
 04776      D  00000
I PARAM.
>05000      D  00008
```

5000(8)
5001(8)
00008(D)

To the next page

Parameter settings of master station

From the previous page

Set the number of sending bytes of the slave station (01 to 77) relay link [DCM (decimal), word]

Set the number of sending bytes in decimal on the parameter addresses 5002 to 5177(8) (1002 to 1177(8)) (set in each station, 2 bytes for each station). These top addresses should not overlap the resister link area, or the flag area, or exceed the setting range (0 to 256 bytes for each station, 256 bytes for all stations in total).

When JW20H/30H is used

Slave station 01(8)	5002(8)	Lower
	5003(8)	Upper
to		to
Slave station 77(8)	5176(8)	Lower
	5177(8)	Upper

[Ex.] When JW20H/30H is used, and in case of setting 4 bytes for parameter addresses 5002 to 5003(8) (slave station 01), and set 8 bytes for parameter addresses 5004 to 5005(8) (slave station 02). => Page 11-10

Slave station 01	5002(8) 5003(8)	00004(D)
Slave station 02	5004(8) 5005(8)	00008(D)

Slave station 01: STEP (+) → E 4 → 書込 ENT → Write 00004(D) in parameter addresses 5002 to 5003(8).

Slave station 02: STEP (+) → SET 8 → 書込 ENT → Write 00008(D) in parameter addresses 5004 to 5005(8).

Screen display of JW-15PG

```
 05000      D  00008
 05002      D  00004
I PARAM.
>05004      D  00008
```

Set the number of sending bytes of the master station register link [DCM (decimal), word]

Set the number of sending bytes in decimal on the parameter addresses 5200 to 5201(8) (1200 to 1201(8)). These top addresses should not overlap the relay link area or the flag area, or exceed the setting value (0 to 2048 bytes for each station, 2048 bytes for all stations in total).

When the JW20H/30H is used

5200(8)	Lower
5201(8)	Upper

[Ex.] When JW20H/30H is used, and in case of setting 16 bytes for parameter addresses 5200 to 5201(8). => Page 11-10.

アドレス ADRS → F 5 → C 2 → A 0 → A 0 → モニタ MNTR → Display the contents of parameter addresses 5200 to 5201(8)

Screen display of JW-15PG

```
 05174      D  00000
 05176      D  00000
I PARAM.
>05200      D  00016
```

B 1 → 6 → 書込 ENT → Write 00016(D)

005200(8) 005201(8)	00016(D)

Set the number of sending bytes of the slave station (01 to 77) register link [DCM (decimal), word]

Set the number of sending bytes in decimal on the parameter addresses 5202 to 5377(8) (1202 to 1377(8)) (set in each station, 2 bytes for each station). These top addresses should not overlap the resister link area, or the flag area, or exceed the setting range (0 to 2048 bytes for each station, 2048 bytes for all stations in total).

When the JW20H/30H is used

Slave station 01	5202(8)	Lower
	5203(8)	Upper
to		to
Slave station 77(8)	5376(8)	Lower
	5377(8)	Upper

[Ex.] When the JW20H/30H is used, and in case of setting 8 bytes for parameter addresses 5202 to 5203(8) (slave station 01), and set 8 bytes for parameter addresses 5204 to 5205(8) (slave station 02). => Page 11-10.

Slave station 01	5202(8) 5203(8)	00008(D)
Slave station 02	5204(8) 5205(8)	00008(D)

Slave station 01: STEP (+) → SET 8 → 書込 ENT → Write 00008(D) in parameter addresses 5202 to 5203(8).

Slave station 02: STEP (+) → SET 8 → 書込 ENT → Write 00008(D) in parameter addresses 5204 to 5205(8).

Screen display of JW-15PG

```
 05200      D  00016
 05202      D  00008
I PARAM.
>05204      D  00008
```

To the next page

From the previous page

● Only when using SEND/RECEIVE function

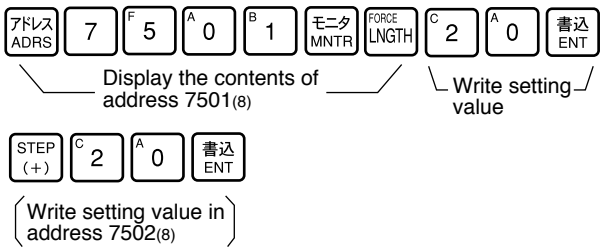
Set time-out time of SEND/RECEIVE function [DCM (decimal), byte]

When the own station uses the SEND/RECEIVE instructions, set the time-out time on each communication target station.
Setting range is 001 (0.1sec.) to 255 (25.5sec.) by decimal. 00(H) of initial value is 1 second.

Address(8)		Station No.(8)	Address(8)		Station No.(8)	Address(8)		Station No.(8)	Address(8)		Station No.(8)
JW20H/30H	JW300		JW20H/30H	JW300		JW20H/30H	JW300		JW20H/30H	JW300	
———	—	—	7520	3520	20	7540	3540	40	7560	3560	60
7501	3501	01	7521	3521	21	7541	3541	41	7561	3561	61
7502	3502	02	7522	3522	22	7542	3542	42	7562	3562	62
7503	3503	03	7523	3523	23	7543	3543	43	7563	3563	63
7504	3504	04	7524	3524	24	7544	3544	44	7564	3564	64
7505	3505	05	7525	3525	25	7545	3545	45	7565	3565	65
7506	3506	06	7526	3526	26	7546	3546	46	7566	3566	66
7507	3507	07	7527	3527	27	7547	3547	47	7567	3567	67
7510	3510	10	7530	3530	30	7550	3550	50	7570	3570	70
7511	3511	11	7531	3531	31	7551	3551	51	7571	3571	71
7512	3512	12	7532	3532	32	7552	3552	52	7572	3572	72
7513	3513	13	7533	3533	33	7553	3553	53	7573	3573	73
7514	3514	14	7534	3534	34	7554	3554	54	7574	3574	74
7515	3515	15	7535	3535	35	7555	3555	55	7575	3575	75
7516	3516	16	7536	3536	36	7556	3556	56	7576	3576	76
7517	3517	17	7537	3537	37	7557	3557	57	7577	3577	77

Initial value: All address 00(H) (1 second)

[Ex.] When the JW20H/30H, in case of setting 020(D) (2 sec.) in parameter addresses 7501(8) (slave station 01) and 7502(8) (slave station 02)



Screen display of JW-15PG

```
 07500      DCM   000
 07501      DCM   020
I PARAM.
>07502      DCM   020
```

To the next page

Parameter settings of master station

From the previous page

● Only when using SEND/RECEIVE function

Set PLC model of each station [HEX (hexadecimal), byte]

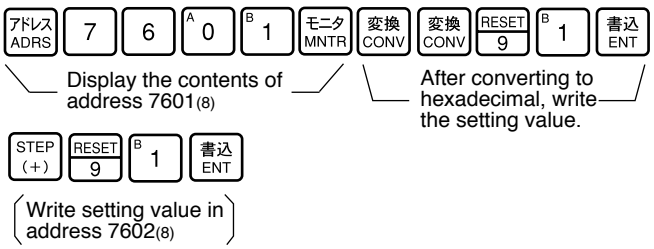
Set 91(H) as communication target station.

Communication module of target station \ PLC of target station	ZW model	JW model
ZW-20CM (without JW applied marking)	Not usable	Not usable
ZW-20CM (with JW applied marking)	Not usable	91(H)
JW-20CM	Not usable	91(H)
JW-22CM	91(H)	

Address(8)		Station	Address(8)		Station	Address(8)		Station	Address(8)		Station
JW20H/30H	JW300	No.(8)	JW20H/30H	JW300	No.(8)	JW20H/30H	JW300	No.(8)	JW20H/30H	JW300	No.(8)
———	—	—	7620	3620	20	7640	3640	40	7660	3660	60
7601	3601	01	7621	3621	21	7641	3641	41	7661	3661	61
7602	3602	02	7622	3622	22	7642	3642	42	7662	3662	62
7603	3603	03	7623	3623	23	7643	3643	43	7663	3663	63
7604	3604	04	7624	3624	24	7644	3644	44	7664	3664	64
7605	3605	05	7625	3625	25	7645	3645	45	7665	3665	65
7606	3606	06	7626	3626	26	7646	3646	46	7666	3666	66
7607	3607	07	7627	3627	27	7647	3647	47	7667	3667	67
7610	3610	10	7630	3630	30	7650	3650	50	7670	3670	70
7611	3611	11	7631	3631	31	7651	3651	51	7671	3671	71
7612	3612	12	7632	3632	32	7652	3652	52	7672	3672	72
7613	3613	13	7633	3633	33	7653	3653	53	7673	3673	73
7614	3614	14	7634	3634	34	7654	3654	54	7674	3674	74
7615	3615	15	7635	3635	35	7655	3655	55	7675	3675	75
7616	3616	16	7636	3636	36	7656	3656	56	7676	3676	76
7617	3617	17	7637	3637	37	7657	3657	57	7677	3677	77

Initial values are 91(H) for all addresses when JW20H/30H is used, and 00(H) for all addresses when JW300 is used.

[Ex.] When JW20H/30H is used, and in case of setting 91(H) (JW-22CM) in parameter addresses 7601(8) (slave station 01) and 7602 (slave station 02). => Page 11-10.



Screen display of JW-15PG

```
 07600      HEX   00
 07601      HEX   91
I PARAM.
>07602      HEX   91
```

To the next page

From the previous page

● Only when using SEND/RECEIVE function

Select system in each channel in SEND/RECEIVE function

Select the method of each channel (instruction or data memory starting) on the parameter address 7700 to 7703(8) (3700 to 3703(8)).

When JW20H/30H is used

7700(8)	CH0
7701(8)	CH1
7702(8)	CH2
7703(8)	CH3

1. When using channel alone

Channel	Setting value (H)	Method
CH0	00	Instruction method
	80	Data memory starting method
CH1	00	Instruction method
	81	Data memory starting method
CH2	00	Instruction method
	82	Data memory starting method
CH3	00	Instruction method
	83	Data memory starting method

2. When using connected channels => Refer to page 10-2

In the SEND/RECEIVE function, the JW-22CM can send and receive a maximum of 256 bytes of data for each channel. For the data memory starting method, the amount of communication data can be increased by connecting channels.

Set the data amount with 8X(H) (X is 0 to 3, determined depending on which channel is used for the connector.)

When using connected channels, these should be consecutive channels. For example, channel 0 and 1, or channel 2 and 3 can be connected to each other, but channel 1 and 3 can not be connected to each other.

[Example 1] When all channels are used for the data memory starting method (using channel alone)

When JW20H/30H is used

CH 0	7700(8)	80(H)
CH 1	7701(8)	81(H)
CH 2	7702(8)	82(H)
CH 3	7703(8)	83(H)

[Example 2] When channel 0 is used for the instruction method, and channel 1 to 3 are the data memory starting method and used connected.

CH 0	7700(8)	00(8)
CH 1	7701(8)	81(8)
CH 2	7702(8)	81(8)
CH 3	7703(8)	81(8)

- In this case, channel 2 and 3 can not be used.

If values other than "00(H), 80 to 83(H)" are set, they will be ignored.

To the next page

Parameter settings of master station

From the previous page

● Only when using SEND/RECEIVE function

Set top address in communication information storage area when using data memory starting method of SEND/RECEIVE functions

Set address of communication information storage area in parameter addresses 7710 to 7713 (8) (3710 to 3713(8)).
Setting range of communication information storage area (64 bytes) is the same as setting range of flag area. => Refer to page 11-11 to 11-14.

When JW20H/30H is used

7710(8)	Lower
7711(8)	Upper
7712(8)	File number of communication information storage area
7713(8)	This setting is valid by 80(H)

Set top address of communication information storage area by file address(8). (When JW300 is used, set to "address n." => Refer to page 16-26.)

When JW300 is used, set "fileN." => Refer to page 16-26.

Set connection status of slave station [bit pattern, byte]

Set "connected slave station as 01 and 02, output error code" in parameter address 7750(8) (3750(8)).

7750(8) (3750(8))

7	6	5	4	3	2	1	0
0	0	0	0	0	1	1	1

アドレス ADRS → 7 → 7 → 5 → 0 → モニタ MNTR → FORCE LNGTH (Word display)
→ Display the contents of parameter address 07750(8) (when the JW20H/30H is used)

変換 CONV → B 1
→ Turn "ON" bit 0 (output error code).

B 1 → B 1 → 書込 ENT
→ Turn "ON" bits 1 and 2 (connects slave station 01 and 02)

Screen display of JW-15PG (JW20H/30H)

```
 07746   □□□□□□□□
 07747   □□□□□□□□
I PARAM.
>07750   □□□□□■■■
```

11

Set whether the station number information should be output or not

Set whether the station number information should be output or not on the parameter address 007763(8) (3763(8)).

7763(8) (3763(8))

Whether the station number information should be output or not

- 00(H): Do not output
- 01(H): Output
  - The station number information is output on the next byte of the flag area (24 bytes.)
  - This setting is valid when the parameter address is 7767(8) (3767(8)) = 80(H).

To the next page

From the previous page

Set top address of flag area

[File address: OCT (octal), word
File number/flag: HEX (hexadecimal), byte]

Set the top address of the flag area (24 bytes) in order to monitor the communication condition and PLC operation condition on the parameter address 7764 to 7767(8) (3764 to 3767(8))
Flag area uses 24 bytes regardless number of connecting stations.

When JW20H/30H is used

7764(8)	Lower	Set top address of by file address(8). When JW300 is used, set to "address n." => Refer to page 16-26
7765(8)	Upper	
7766(8)	File number	When JW300 is used, set "fileN." => Refer to page 16-26
7767(8)		00(H): Do not output flag 80(H): Output flag

[Ex.] When JW20H/30H is used, in case of setting ⊐0740 (file address 000740(8)), "output flag" in parameter address 7764 to7767(8). => Page 11-10

アドレス ADRS | 7 | 7 | 6 | E 4 | モニタ MNTR | FORCE LNGTH | 変換 CONV | 変換 CONV | 7 | E 4 | A 0 | 書込 ENT

(Word display)

Write "000740(8)" in parameter addresses 7764 to 7765(8).

STEP (+) | FORCE LNGTH | A 0 | A 0 | A 0 | 書込 ENT ⟶ Write 000(8) (=00(H)) in parameter address 7766(8).

(Byte display)

STEP (+) | 変換 CONV | 変換 CONV | 変換 CONV | SET 8 | A 0 | 書込 ENT ⟶ Write 80(H) in parameter address 7767(8).

Covert to hexadecimal figures

Screen display of JW-15PG

```
 07765      HEX   01
 07766      HEX   00
I PARAM.
>07767      HEX   80
```

7764(8)	000740(8)
7765(8)	
7766(8)	00(H)
7767(8)	80(H)

11

To the next page

Parameter settings of master station

From the previous page

When JW20H/30H is used, write data to the EEPROM of the JW-22CM and start operation. When JW300 is used, set the start switch to 01(H).

[HEX (hexadecimal), byte]

● When JW20H/30H is used

Write "81(H)" into parameter address 7777(8) and write the set parameter contents into the EEPROM of the JW-22CM. Then start the JW-22CM. After starting operation, the setting value changes to "01(H)".

7777(8)

Setting value (H)	Contents
00	Stop operation of the JW-22CM
01	Start operation of the JW-22CM
80	Writing to the EEPROM of the JW-22CM, stop operation
81	Writing to the EEPROM of the JW-22CM, start operation
08	Initialize setting values of parameter addresses 4000 to 7777(8)

Screen display of JW-15PG

```
 07775     HEX     00
 07776     HEX     36
I PARAM.
>07777     HEX     81
```

· Writing time to EEPROM is approximately 0.7 sec. When any error is found for parameter settings, the JW-22CM lights the error code (6F(H)) by the indication lamp. To recover from this condition, refer to pages 16-2.

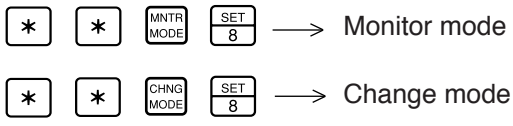
· Written contents into the EEPROM are automatically written to the RAM of the JW-22CM when turning ON the power of the JW20H/30H. At reading, the PLC checks BCC and compares BCC check code of the parameter memory address (7776(8)). When an error is found, the JW-22CM lights the error code (6E(H)) by the indication lamp.

● When JW300 is used

Write 01(H) to parameter address 3777(8) (start switch), and transfer the set parameter contents from the control module to the JW-22CM.

PLC operation

Turning a master station PLC to monitor or change mode (PLC operation).



Screen display of JW-15PG

```
C00000
>
```

11-4 Settings of slave station parameters (common for all slave stations)

When the JW-22CM is used as a slave station, set the following items for parameters.

[1] Setting contents

Corresponding signs on page 11-7 to 11-9

	Setting item	Parameter address(8) JW20H/30H		Parameter address(8) JW300		Contents		
①	Setting time-out time of SEND/RECEIVE instruction	7500 to 7577	00	3500 to 3577	00	Set the time out time by decimal. 001 (0.1 sec.) to 255 (25.5 sec)		——
②	Setting PLC model of each station in SEND/RECEIVE function	7600 to 7677	91	3600 to 3677	00	Set the 91(H) by hexadecimal		——
③	Select system of each channel in SEND/RECEIVE function	7700 to 7703	00	3700 to 3703	00	Select instruction system or data memory starting system in CH0 to CH3 (instruction system is available only when JW-22CM is installed into JW30H/300)		——
④	Top addresses in communication information storage area when using data memory starting method of SEND/RECEIVE functions	7710 to 7713	00	3710 to 3713	00	Setting by file number and file address. - Setting area of communication information storage area (64 bytes) is same as setting area of flag area. => Refer to page 11-28 to 11-29.		——
⑤	Number of receiving bytes of relay link in save memory function	7720 7721	00	3720 3721	00	Set the number of bytes by decimals. (0 to 64) - If 0 is set, the number of bytes will be the same as the number of the sending bytes which is set in the master station		h_1 to h_n
⑥	Number of receiving bytes of register link in save memory function	7722 7723	00	3722 3723	00	Set the number of bytes by decimals. (0 to 512) - If 0 is set, the number of bytes will be the same as the number of the sending bytes which is set in the master station		i_1 to i_n
⑦	Whether the station number information should be output or not	7763	00	3763	00	Store the number of own station in the data memory when setting on 01(H). (storage area of 1 byte follows flag area of 24 bytes, valid when 7767(8), 3767(8) is 80(H))		——
⑧	Top address of flag area (communication and PLC operation condition monitor flag)	7764	E0	3764	00	Lower of file address	Initial value when mounting the JW22CM on JW20H/30H. 01E0 -> 007767(8) (ↄ0740)	e_1 to e_n
		7765	01	3765	00	Upper of file address		
		7766	00	3766	00	File number		
		7767	00	3767	00	Flag output (Yes: 80(H) No: 00(H))		
⑨	When JW20H/30H - Start/stop operation of the JW-22CM - Writing to EEPROM of the JW-22CM	7777	01	——	—	00(H): Stop operation 01(H): Start operation 80(H): Writing to the EEPROM, stop operation 81(H): Writing to the EEPROM, start operation 08(H): Parameter initializing		——
	When JW300 is used Start switch	——	—	3777	00	When to set (write) parameters, set to 00(H). When the bits changes from 00(H) to 01(H), the set detail of parameters is transferred from the control module to the JW-22CM.		——

↑ Initial value(H) ↑

- ① to ⑨ correspond to number of page 11-30.
- Parameter addresses other than above mentioned are reserved areas and prohibited to be changed.
- When any slave stations are except JW-22CM, see the instruction manual (user's manual) of each device.

Remarks

- When the JW-22CM is mounted on JW300, all of the parameter initial values will become 00(H).

[2] Setting range of flag area

Flag areas are allocated by 24 bytes from each top address. For setting the top address of flag area, use the file address(8) allocated throughout the memory area and set within the setting range shown below.

Also, the flag area setting range of data link (standard function) is same as data link (save memory function).

(1) When JW20H is used as PLC

File address(8)		Byte address
000000	I / O relay	]0000
000377		]0377
000400	Auxiliary relay	]0400
000677		]0677
000700	Latched relay	]0700
000777		]0777
001000	General purpose relay	]1000
001577		]1577
001600	Time limited contact point of TMR/CNT	
001777		
002000	Current value of TMR/CNT/MD	b0000
003777		b1777
004000	Register	09000
004777		09777
005000	Register	19000
005777		19777
006000	Register	29000
006777		29777
007000	Register	39000
007777		39777
010000	Register	49000
010777		49777
011000	Register	59000
011777		59777
015000	Register	99000
015777		99777
016000	Register	E0000
016777		E0777
017000	Register	E1000
017777		E1777

Flag area setting range

(2) When JW30H is used as PLC

File address(8)		Byte address
000000	Relay	]0000
001577		]1577
001600	Time limited contact point of TMR/CNT 0000 to 0777	
001777		
002000	Current value of TMR/CNT/MD 0000 to 0777	b0000
003777		b1777
004000	Register	09000
007777		39777
010000	Register	49000
015777		99777
016000	Register	E0000
025777		E7777
026000	Current value of TMR/CNT 1000 to 1777	b2000
027777		b3777
030000	Relay	]2000
035577		]7577
035600	Time limited contact point of TMR/CNT 1000 to 1777	
035777		

Flag area setting range

000000	File 1	*1
037777		
000000	File 2	*2
177777		
000000	File 3	*3
177777		
000000	File 10(H)	*4
177777		
000000	File 14(H)	
177777		
000000	File 2C(H)	
177777		

Flag area setting range

*1: In case of JW-32CUH/H1 (JW-32CUH1 shall be 000000 to 177777 or 000000 to 077777)
*2: In case of JW-33CUH/H1
*3: In case of JW-33CUH2 *4: In case of JW-33CUH3

(3) When JW300 is used as PLC

File address (Capacity)					
JW-311CU JW-312CU	**JW-321CU JW-322CU**	**JW-331CU JW-332CU**	**JW-341CU JW-342CU**	**JW-352CU**	**JW-362CU**
00000000(8) through 00073777(8) (30K bytes)	00000000(8) through 00105777(8) (35K bytes)	00000000(8) through 00177777(8) (64K bytes)			
- Relay: 30720 points (3.75K bytes) - Contact point of TMR/CNT: 1024 points (0.25K bytes) - Current value of TMR/CNT/MD: (2K bytes) - Register: (24K bytes)	- Relay: 53248 points (6.5K bytes) - Contact point of TMR/CNT: 2048 points (0.5K bytes) - Current value of TMR/CNT/MD: (4K bytes) - Register: (24K bytes)	- Relay: 180224 points (22K bytes) - Contact point of TMR/CNT: 8192 points (2K bytes) - Current value of TMR/CNT/MD: (16K bytes) - Register: (24K bytes)			
File register =>	00200000(8) through 00277777(8) (32K bytes)	00200000(8) through 00577777(8) (128K bytes)	00200000(8) through 02177777(8) (512K bytes)	00200000(8) through 10177777(8) (2048K bytes)	00200000(8) through 40177777(8) (8192K bytes)

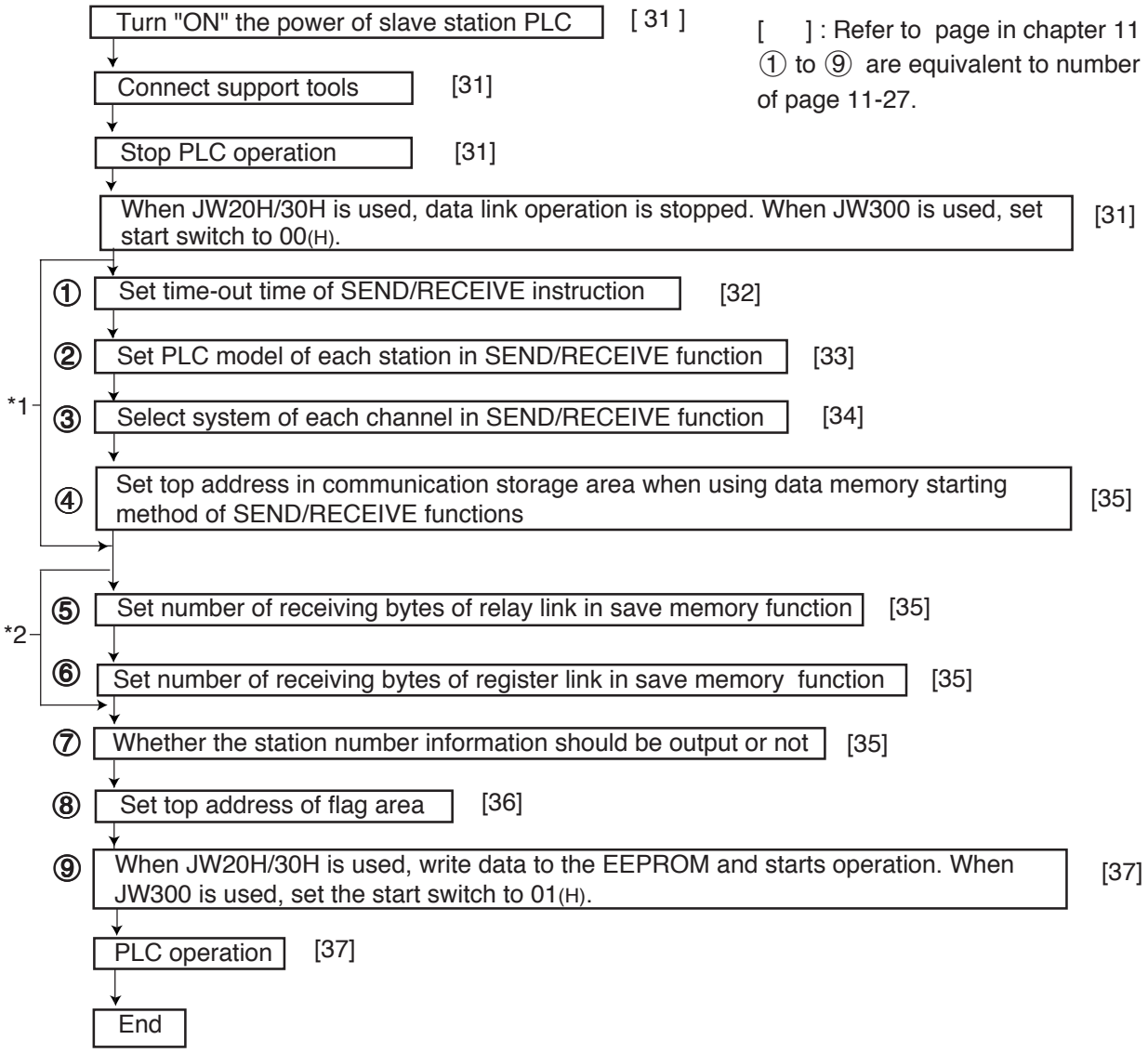
Flag area setting range

When JW300 is used, specify indirect address "fileN, address n" to the "top address of flag area" of the JW-22CM parameters.
As for relationship between JW300 file address (details) and "fileN, address n," see page 16-24 to 16-29.

Parameter settings of slave station

[3] Setting procedure

Set parameters of the slave station following the procedure below.



[ ] : Refer to page in chapter 11
① to ⑨ are equivalent to number of page 11-27.

*1: When not using SEND/RECEIVE function

*2: When not using save memory function

11

Indications in [ ] of each item mean as follows:

[Example] Stop operation of data link [HEX (hexadecimal), byte]

This means to set "stop operation" by hexadecimal and byte unit.

Turn "ON" the power of slave station PLC

↓

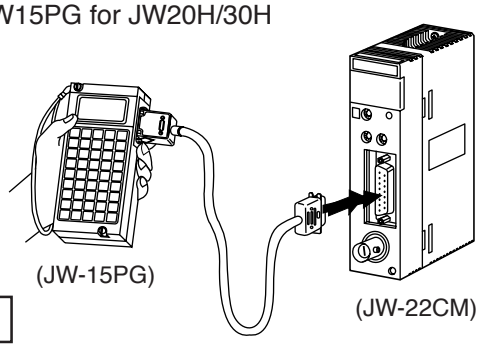
Connect support tools

Depending on PLC model (JW20H/30H, JW300) on which the JW-22CM is mounted, support tools that can be used for setting JW-22CM parameters, and modules to set parameters (connect a support tool) are different. => See page 14-1.

- When JW20H/30H is used, set parameters to the JW-22CM. When JW300 is used, set parameters to the main body parameter (corresponding option number) of a control module (JW-3CU).**

The following describes an example of JW-15PG's key operation.

● When using a JW15PG for JW20H/30H



Stop PLC operation

Turn to program mode (stop PLC operation). Setting of parameters is only available when the PLC is in program mode.

[*] [*] [PROG MODE] [SET 8] ⟶ Stop PLC operation

Select parameter setting mode.

● When JW20H/30H is used

[クリア CLR] [*] [*] [シフト SHIFT] [INTL DISP] [SET 8] [B 1]

Select initial mode — (Set parameter)

● When JW300 is used

[クリア CLR] [編集 EDIT] [A 0] [B 1] [SW number] [,]

(Module No. switch)

When JW20H/30H is used, data link operation is stopped. When JW300 is used, set the start switch to 00(H). [HEX (hexadecimal), byte]

● When JW20H/30H is used

Write "00(H)" to parameter address 7777(8) and stop operation of the JW-22CM. Setting of the parameter is only available when the operation of the JW-22CM is stopped.

[7] [7] [7] [7] [モニタ MNTR] [A 0] [書込 ENT]

Display the contents of parameter address 7777 by hexadecimals. — (Write 00(H))

Screen display of JW-15PG

```
 07775      HEX   00
 07776      HEX   1F
I PARAM.
>07777      HEX   00
```

7777(8) (3777(8)) [00(H)]

Address in the parenthesis ( ) is when JW300 is used.
=> The same will be applied from here to below.

● When JW300 is used

Write 00(H) to parameter address 3777(8) (start switch).

[3] [7] [7] [7] [モニタ MNTR] [A 0] [書込 ENT]

Display the contents of parameter address 3777 by hexadecimals. — (Write 00(H))

Screen display of JW-15PG

```
  3775      HEX   00
  3776      HEX   00
P PARAM.     0-SW: 0
> 3777      HEX   00
```

← When module No. switch is 0.

To the next page

Parameter settings of slave station

From the previous page

● Only when using SEND/RECEIVE function

Set time-out time of SEND/RECEIVE function [DCM (decimal), byte]

When the own station uses the SEND/RECEIVE instructions, set the time-out time on each communication target station.

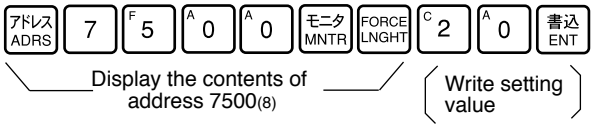
Setting range is 001 (0.1 sec.) to 255 (25.5 sec.) by decimal. 00(H) of initial value is 1 second.

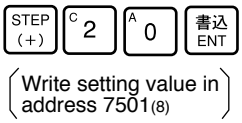
Address(8)		Station No.(8)	Address(8)		Station No.(8)	Address(8)		Station No.(8)	Address(8)		Station No.(8)
JW20H/30H	JW300		JW20H/30H	JW300		JW20H/30H	JW300		JW20H/30H	JW300	
7500	3500	Master station	7520	3520	20	7540	3540	40	7560	3560	60
7501	3501	01	7521	3521	21	7541	3541	41	7561	3561	61
7502	3502	02	7522	3522	22	7542	3542	42	7562	3562	62
7503	3503	03	7523	3523	23	7543	3543	43	7563	3563	63
7504	3504	04	7524	3524	24	7544	3544	44	7564	3564	64
7505	3505	05	7525	3525	25	7545	3545	45	7565	3565	65
7506	3506	06	7526	3526	26	7546	3546	46	7566	3566	66
7507	3507	07	7527	3527	27	7547	3547	47	7567	3567	67
7510	3510	10	7530	3530	30	7550	3550	50	7570	3570	70
7511	3511	11	7531	3531	31	7551	3551	51	7571	3571	71
7512	3512	12	7532	3532	32	7552	3552	52	7572	3572	72
7513	3513	13	7533	3533	33	7553	3553	53	7573	3573	73
7514	3514	14	7534	3534	34	7554	3554	54	7574	3574	74
7515	3515	15	7535	3535	35	7555	3555	55	7575	3575	75
7516	3516	16	7536	3536	36	7556	3556	56	7576	3576	76
7517	3517	17	7537	3537	37	7557	3557	57	7577	3577	77

11

Initial value: All address 00(H) (1 second)

[Ex.] When JW20H/30H is used, in case of setting 020(D) (2 sec.) in parameter addresses 7500(8) (master station) and 7501(8) (slave station 01).





Screen display of JW-15PG

```
 07477      DCM   000
 07500      DCM   020
I PARAM.
> 07501     DCM   020
```

To next page

From the previous page

● Only when using SEND/RECEIVE function

Set PLC model of each station [HEX (hexadecimal), byte]

Set 91(H) as communication target station.

Communication module of remote station \ Target station PLC	ZW model	JW model
ZW-20CM (without JW applied marking)	Not usable	Not usable
ZW-20CM (with JW applied marking)	Not usable	91(H)
JW-20CM	Not usable	91(H)
JW-22CM	91(H)	

Address(8)		Station
JW20H/30H	JW300	No.(8)
7600	3600	Master station
7601	3601	01
7602	3602	02
7603	3603	03
7604	3604	04
7605	3605	05
7606	3606	06
7607	3607	07
7610	3610	10
7611	3611	11
7612	3612	12
7613	3613	13
7614	3614	14
7615	3615	15
7616	3616	16
7617	3617	17

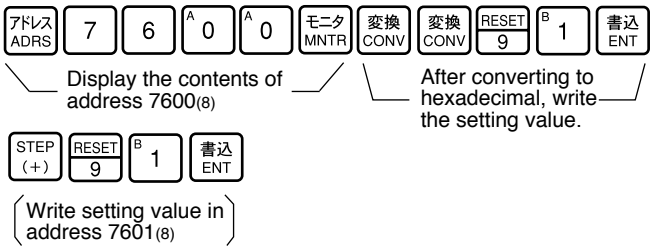
Address(8)		Station
JW20H/30H	JW300	No.(8)
7620	3620	20
7621	3621	21
7622	3622	22
7623	3623	23
7624	3624	24
7625	3625	25
7626	3626	26
7627	3627	27
7630	3630	30
7631	3631	31
7632	3632	32
7633	3633	33
7634	3634	34
7635	3635	35
7636	3636	36
7637	3637	37

Address(8)		Station
JW20H/30H	JW300	No.(8)
7640	3640	40
7641	3641	41
7642	3642	42
7643	3643	43
7644	3644	44
7645	3645	45
7646	3646	46
7647	3647	47
7650	3650	50
7651	3651	51
7652	3652	52
7653	3653	53
7654	3654	54
7655	3655	55
7656	3656	56
7657	3657	57

Address(8)		Station
JW20H/30H	JW300	No.(8)
7660	3660	60
7661	3661	61
7662	3662	62
7663	3663	63
7664	3664	64
7665	3665	65
7666	3666	66
7667	3667	67
7670	3670	70
7671	3671	71
7672	3672	72
7673	3673	73
7674	3674	74
7675	3675	75
7676	3676	76
7677	3677	77

Initial values are 91(H) for all addresses when JW20H/30H is used, and 00(H) for all addresses when JW300 is used.

[Ex.] When JW20H/30H is used, in case of setting 91(H) (JW-22CM) in parameter addresses 7600(8) (master station) and 7601 (slave station 01). => Page 11-10



Screen display of JW-15PG

```
 07577      HEX   01
 07600      HEX   91
I PARAM.
> 07601      HEX   91
```

To the next page

Parameter settings of slave station

From the previous page

● Only when using SEND/RECEIVE function

Select system in each channel in SEND/RECEIVE function

Select the method of each channel (instruction or data memory starting) on the parameter address 7700 to 7703(8) (3700 to 3703(8)).

When JW20H/30H is used

7700(8)	CH0
7701(8)	CH1
7702(8)	CH2
7703(8)	CH3

1. When using channel alone

Channel	Setting value (H)	Method
CH0	00	Instruction method
	80	Data memory starting method
CH1	00	Instruction method
	81	Data memory starting method
CH2	00	Instruction method
	82	Data memory starting method
CH3	00	Instruction method
	83	Data memory starting method

2. When using connected channels => refer to page 10-2

In the SEND/RECEIVE function, the JW-22CM can transfer and receive a maximum of 256 bytes of data for each channel. For the data memory starting system, the amount of communication data can be increased by connecting channels.

Set the data amount with 8X(H) (X is 0 to 3, determined depending on which channel is used for the connector.)

When using connected channels, these should be consecutive channels. For example, channel 0 and 1, or channel 2 and 3 can be connected to each other, but channel 1 and 3 can not be connected to each other.

[Example 1] When all channels are used for the data memory starting method (using channel alone)

When JW20H/30H is used

CH 0	7700(8)	80(H)
CH 1	7701(8)	81(H)
CH 2	7702(8)	82(H)
CH 3	7703(8)	83(H)

[Example 2] When channel 0 is used for the instruction method, and channel 1 to 3 are the data memory starting method and used connected.

CH 0	7700(8)	00(8)
CH 1	7701(8)	81(8)
CH 2	7702(8)	81(8)
CH 3	7703(8)	81(8)

- In this case, channel 2 and 3 can not be used.

If values other than "00(H), 80 to 83(H)" are set, they will be ignored.

To the next page

From the previous page

● Only when using SEND/RECEIVE function

Set top address in communication information storage area when using data memory starting method of SEND/RECEIVE functions

Set address of communication information storage area in parameter addresses 7710 to 7713 (8) (3710 to 3713(8)).
Setting range of communication information storage area (64 bytes) is the same as setting range of flag area. => Refer to page 11-28 to 11-29.

When JW20H/30H is used

7710(8)	Lower	Set top address of communication information storage area by file address(8). (When JW300 is used, set to "address n." => Refer to page 16-26.)
7711(8)	Upper	
7712(8)	File number of communication information storage area	When JW300 is used, set "fileN." => Refer to page 16-26.
7713(8)	This setting is valid by 80(H)	

● Only when using save memory function

Set the number of sending bytes of the relay link in save memory function [DCM (decimal), word]

Set the number of sending bytes in decimal on the parameter address 7720 to 7721(8) (3720 to 3721(8)). Setting range is 0 to 64(D).

When JW20H/30H is used

7720(8)	Lower
7721(8)	Upper

[Ex.] When JW20H/30H is used, and in case of setting 4 bytes => Page 11-10.

アドレス ADRS | 7 | 7 | C 2 | A 0 | モニタ MNTR ⟶ Display the contents of parameter addresses 7720 to 7721(8)

変換 CONV | 変換 CONV | E 4 | 書込 ENT ⟶ Write 00004(D) after converting to decimal

Screen display of JW-15PG

```
 07714      D  00000
 07716      D  00000
I PARAM.
>07720      D  00004
```

7720(8)
7721(8) | 00004(D)

● Only when using save memory function

Set the number of receiving bytes of register link in save memory function [DCM (decimal), word]

Set the number of sending bytes in decimal on the parameter address 7722 to 7723(8) (3722 to 3723(8)). Setting range is 0 to 512(D).

7722(8)	Lower
7723(8)	Upper

[Ex.] When JW20H/30H is used, and in case of setting 8 bytes for parameter addresses 7722 to 7723(8). => Page 11-10.

アドレス ADRS | 7 | 7 | C 2 | C 2 | モニタ MNTR ⟶ Display the contents of parameter addresses 7722 to 7723(8)

Screen display of JW-15PG

SET 8 | 書込 ENT ⟶ Write 00008(D)

```
 07716      D  00000
 07720      D  00004
I PARAM.
>07722      D  00008
```

7722(8)
7723(8) | 00008(D)

Set whether the station number information should be output or not

Set whether the station number information should be output or not on the parameter address 7763(8) (3763(8)).

7763(8) (3763(8))	Whether the station number information should be output or not	00(H): Do not output 01(H): Output - The station number information is output on the next byte of the flag area (24 bytes.) - This setting is valid when the parameter address is 7767(8) (3767(8)) = 80(H).

To the next page

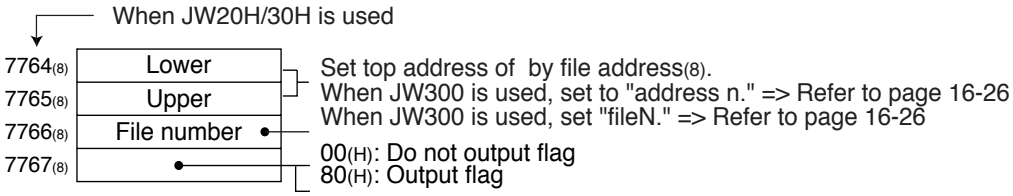
Parameter settings of slave station

From the previous page

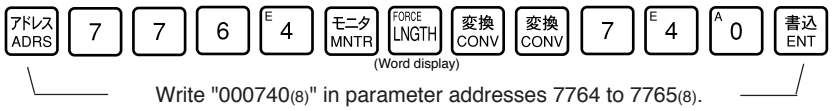
Set top address of flag area

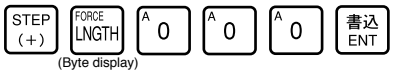
[File address: OCT (octal), word
File number/flag: HEX (hexadecimal), byte]

Set the top address of the flag area (24 bytes) in order to monitor the communication condition and PLC operation condition on the parameter address 7764 to 7767(8) (3764 to 3767(8))
Flag area uses 24 bytes regardless number of connecting stations.

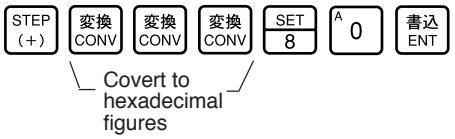


[Ex.] When the JW20H/30H, in case of setting □0740 (file address 000740(8)), "output flag" in parameter address 7764 to7767(8). (Slave station 01 of page 11-10.)





⟶ Write 000(8) (=00(H)) in parameter address 7766(8).



⟶ Write 80(H) in parameter address 7767(8).

Screen display of JW-15PG

```
 07765      HEX   01
 07766      HEX   00
I PARAM.
>07767      HEX   80
```

7764(8)	000740(8)
7765(8)	
7766(8)	00(H)
7767(8)	80(H)

11

To the next page

From the previous page

When JW20H/30H is used, write data to the EEPROM of the JW-22CM and starts operation. When JW300 is used, set the start switch to 01(H). [HEX (hexadecimal), byte]

● When JW20H/30H is used

Write "81(H)" into parameter address 7777(8) and write the set parameter contents into the EEPROM of the JW-22CM. Then start the JW-22CM. After starting operation, the setting value changes to "01(H)".

7777(8)

Setting value (H)	Contents
00	Stop operation of the JW-22CM
01	Start operation of the JW-22CM
80	Writing to the EEPROM of the JW-22CM, stop operation
81	Writing to the EEPROM of the JW-22CM, start operation
08	Initialize setting values of parameter addresses 4000 to 7777(8)

アドレス ADRS | 7 | 7 | 7 | 7 | モニタ MNTR | SET 8 | B 1 | 書込 ENT

Display the contents of address 7777(8)

Write 81(H)

Screen display of JW-15PG

```
 07775     HEX     00
 07776     HEX     36
I PARAM.
>07777     HEX     81
```

· Writing time to EEPROM is approximately 0.7 sec. When any error is found for parameter settings, the JW-22CM lights the error code (6F(H)) by the indication lamp. To recover from this condition, refer to pages 16-2.

· Written contents into the EEPROM are automatically written to the RAM of the JW-22CM when turning ON the power of the JW20H/30H. At reading, the PLC checks BCC and compares BCC check code of the parameter memory address (7776(8)). When an error is found, the JW-22CM lights the error code (6E(H)) by the indication lamp.

● When JW300 is used

Write 01(H) to parameter address 3777(8) (start switch), and transfer the set parameter contents from the control module to the JW-22CM.

PLC operation

Turning a master station PLC to monitor or change mode (PLC operation).

* | * | MNTR MODE | SET 8 ⟶ Monitor mode

* | * | CHNG MODE | SET 8 ⟶ Change mode

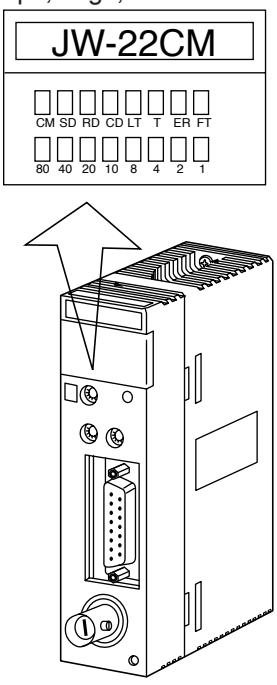
Screen display of JW-15PG

```
C00000
>
```

11

Chapter 12. Errors and Countermeasures

The operating condition of the JW-22CM can be monitored using its indication lamps, flags, and the system memory of a JW20H/30H/300.



12-1 Indication lamps

LED name	Contents	Measure
CM	Lights during data link operation	———
SD	Lights while sending data	———
RD	Lights while receiving data	———
CD	Lights when detecting carrier	———
LT	Lights when turning "ON" the termination resistance	———
T	Lights during testing	———
ER	Lights at a communication error	• Check disconnection of the communication cable • Check the set contents of switches • Cheek the set contents of parameters • Check the power voltage of PLC
FT	Lights at time up of the watchdog timer	Replace the JW-22CM

LED "1" to "80" indicate error codes when an error occurs. Error codes, their causes, and measures are as shown in the table below.

● : ON ○ : OFF

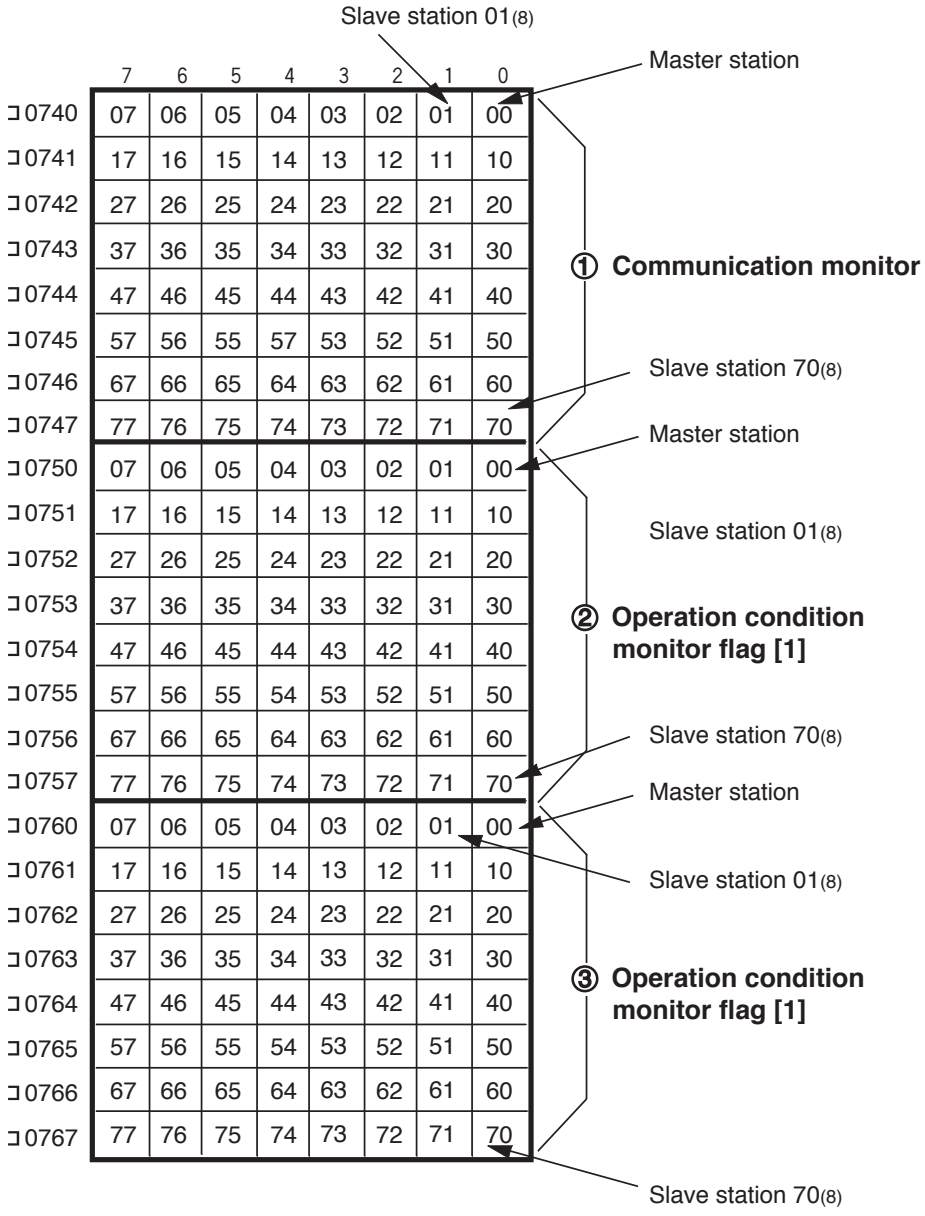
LED name								Error code (HEX)	Cause		Measure
80	40	20	10	8	4	2	1				
○	○	○	○	○	○	○	●	01	ROM error, upper CPU		Replace the JW-22CM
○	○	○	○	○	○	●	○	02	RAM error, upper CPU		
○	○	○	○	○	○	●	●	03	2 port RAM error against PLC, upper CPU		
○	○	○	○	○	●	○	○	04	2 port RAM error against communication CPU, upper CPU		
○	○	○	●	○	○	○	●	11	ROM error, communication CPU		- Check the communication cable - Check for doubled allocation of slave station number - Replace the JW-22CM
○	○	○	●	○	○	●	○	12	RAM error, communication CPU		
○	○	○	●	●	○	○	○	18	Communication LSI error, communication CPU		
○	○	○	●	●	●	●	●	1F	No response, communication CPU		
○	○	●	○	○	○	○	○	20	More than one token detected		Check the parameter setting
○	○	●	○	○	○	○	●	21	Doubled address detected		
○	○	●	○	○	○	●	○	22	Fault of sending section		Replace the JW-22CM
○	○	●	○	○	○	●	●	23	Token does not return within the rated interval		Check the communication cable
○	○	●	○	●	○	●	○	2A	Over flow of receiving buffer. Occurs when the upper CPU processing is delayed.		Check the communication cable
○	○	●	○	●	○	●	●	2B	Flame length error	- Occurs because of a media execution error or noise from outside.	
○	○	●	○	●	●	○	○	2C	Media error		
○	○	●	●	○	○	○	○	30	EEPROM error		Replace the JW-22CM
○	●	●	○	○	○	○	○	60	Switch setting error		Check the switch setting
○	●	●	○	●	●	●	○	6E	BCC error		Check the parameter setting
○	●	●	○	●	●	●	●	6F	Parameter setting error		
●	●	○	○	○	○	○	●	*C1	Communication error - After converting into octal, the lower two digits represent the slave station number of the current error. (Ex. C1(H) = 301(8) = slave station 01)		Check the communication cable and slave module
to								to			
●	●	●	●	●	●	●	●	*FF			

* Prior to displaying the error code C1 to FF(H), the setting of the parameter addresses 7750 to 7757(8) (3750 to 3757(8)) is required. => Refer to page 16-14 and 16-22.

12-2 Flag

Flag area is 24 bytes from the "flag top address" set in the master station/slave station parameters.

[1] Flag table [In case of flag top address is ↄ0740]



Remarks

- Even a slave station can monitor 24 bytes of flag.

[2] In the case of a master station

(1) Communication monitor flag

This flag is used to monitor the communication condition with other stations. Non-connected station keeps this flag as "OFF."

Flag	Condition for flag operation	Flag operation
Own station flag (master station)	When the parameter address $7777_{(8)}$ ($3777_{(8)}$) of the master station is set to "$01_{(H)}$," and the master station is operating normally.	ON
	When the parameter address $7777_{(8)}$ ($3777_{(8)}$) of the master station is set to "$00_{(H)}$."	OFF
	Improper setting of parameter, BCC check error, or other errors.	

Flag	Condition for flag operation	Flag operation	
Other station's flag (01 to 77)	Normal communication with slave stations.	ON	Specific slave station
	Stopped communication or unable to communicate with slave stations.	OFF	
	Communication monitor flag (1) of the master station is turned "OFF."		All slave stations

The master station periodically executes communication recovery operation with the communication error slave station. When the error situation is recovered, the master station returns to normal communication.

(2) Operation condition monitor flag [1]

This flag is used to monitor the operation condition of slave stations when the communication with each slave station is normal.

Non-connected station keeps this flag as "OFF."

Flag	Condition for flag operation	Flag operation
Own station flag (master station)	Communication monitor flag (1) of the master station is turned "ON."	* ON
	Communication monitor flag (1) of the master station is turned "OFF."	OFF

Flag	Condition for flag operation	Flag operation	
Other station's flag (01 to 77)	Slave station is operating.	ON	Specific slave station
	Slave station stops operation (not by an error cause).	OFF	
	Communication monitor flag (1) of the master station is turned "OFF."		All slave stations
	Slave station that communication monitor flag (1) is turned to "OFF."	Not specified	

* Even if a master station PLC has stopped operation normally or by an error, the JW-22CM turns "ON" this flag while communicating.

(3) Operation condition monitor flag [2]

This flag is used to monitor the abnormal stop of each slave station when the communication with each slave station is normal.

Non-connected station keeps this flag as "OFF."

Flag	Condition for flag operation	Flag operation
Own station flag (master station)	Communication monitor flag (1) of the master station is turned "ON."	* ON
	Communication monitor flag (1) of the master station is turned "OFF."	OFF

Flag	Condition for flag operation	Flag operation	
Other station's flag (01 to 77)	Each slave station is normal.	ON	Specific slave station
	Any of the slave stations is faulty (caused to be stopped abnormally).	OFF	
	Communication monitor flag (1) of the master station is turned "OFF."		All stations
	Slave station that communication monitor flag (1) is turned to "OFF."	Not specified	

* Even if a master station PLC has stopped operation normally or by an error, the JW-22CM turns "ON" this flag while communicating.

[3] In the case of slave station 01 to 77(8)

(1) Communication monitor flag

This flag is used to monitor the communication condition with other stations. Non-connected station keeps this flag as "OFF."

Flag	Condition for flag operation	Flag operation
Own station flag	When the parameter address 7777(8) (JW20H/30H), 3777(8) (JW300) of each slave station is set to "01(H)," and at communicating with a master station normally.	ON
	When the parameter address 7777(8) of each slave station is "00(H)."	OFF
	When link start switch "00(H)" of the master station is OFF.	

Flag	Condition for flag operation	Flag operation	
Other station's flag	Normal communication with slave station.	ON	Specific slave station
	Stopped communication or unable to communicate with slave stations.	OFF	
	Communication monitor flag (1) of the master station is turned "OFF."		All stations

(2) Operation condition monitor flag [1]

This flag is used to monitor the operation condition of each station when the communication with each station is normal.

Non-connected station keeps this flag as "OFF."

Flag	Condition for flag operation	Flag operation
Own station flag	Communication monitor flag (1) of the master station is turned "ON."	* ON
	Communication monitor flag (1) of the master station is turned "OFF."	OFF

Flag	Condition for flag operation	Flag operation	
Other station's flag	Slave station is operating.	ON	Specific slave station
	Slave station stops operation (not by an error cause).	OFF	
	Communication monitor flag (1) of the master station is turned "OFF."		All slave stations
	Slave station that communication monitor flag (1) is turned to "OFF."	Not specified	

* Even if the own station PLC has stopped operation normally or by an error, the JW-22CM turns "ON" this flag while communicating.

(3) Operation condition monitor flag [2]

This flag is used to monitor the abnormal stop of each station when the communication with each station is normal.

Non-connected station keeps this flag as "OFF."

Flag	Condition for flag operation	Flag operation
Own station flag	Communication monitor flag (1) of the own station is turned "ON."	* ON
	Communication monitor flag (1) of the own station is turned "OFF."	OFF

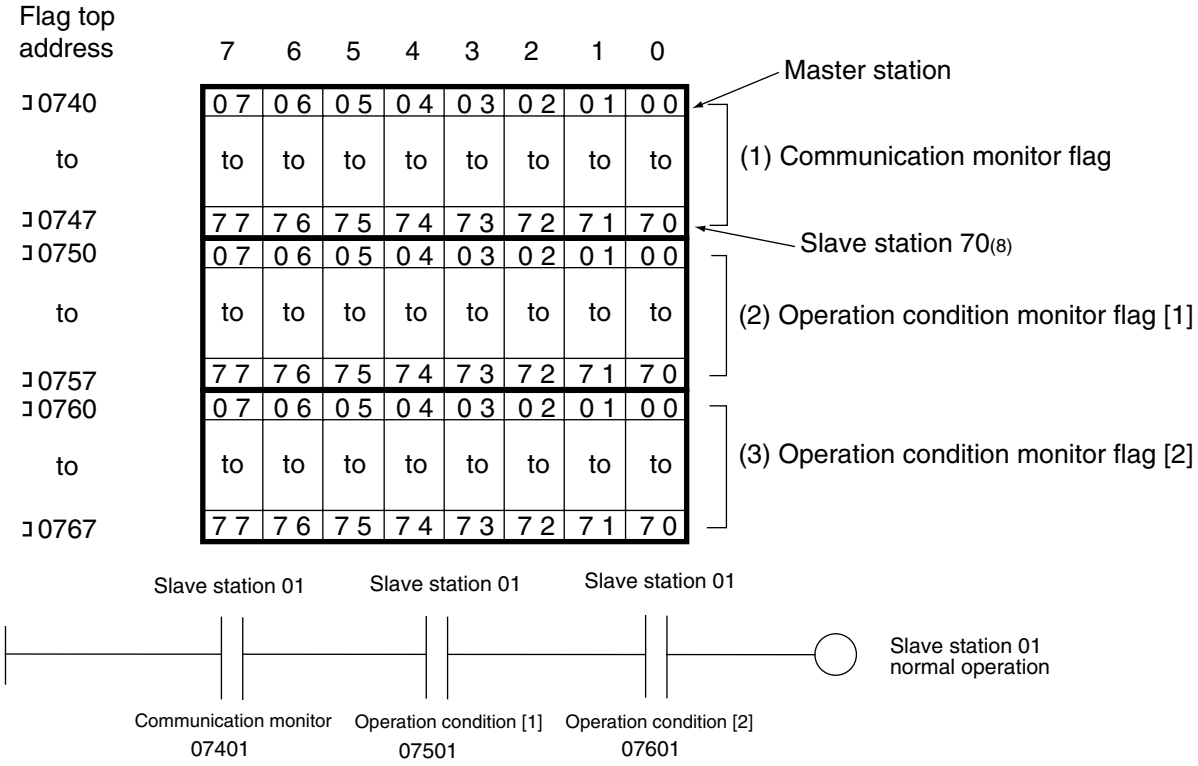
Flag	Condition for flag operation	Flag operation	
Other station's flag	Each station is normal.	ON	Specific slave station
	Any of the stations is faulty (caused to be stopped abnormally)	OFF	
	Communication monitor flag (1) of the own station is turned "OFF."		All stations
	Slave station that communication monitor flag (1) is turned to "OFF."	Not specified	

* Even if a own station PLC has stopped operation normally or by an error, the JW-22CM turns "ON" this flag while communicating.

[4] Monitor operation condition by each station PLC

By creating a program having the flags shown below in each station's PLC, the JW-22CM can monitor the operation condition of each station's PLC.

[Ex.] In this case, the flag top address is ↄ0740



12

12-3 Storage of error code

When an error occurs on the JW-22CM, the following error codes are stored in the error history storage register in PLC system memory (#170 to 177, #160 to 167).

Storage detail	System memory			Detailed page
	JW20H	JW30H	JW300	
Error code of an option module	# 170 to 177			12-7
Error code of the self diagnosis result	# 160 to 167			
Monitor of an abnormal switch number	# 050		# 150	
Error history storage register	E0000 to E1577	E6000 to E7577	E5600 to E7577	12-8

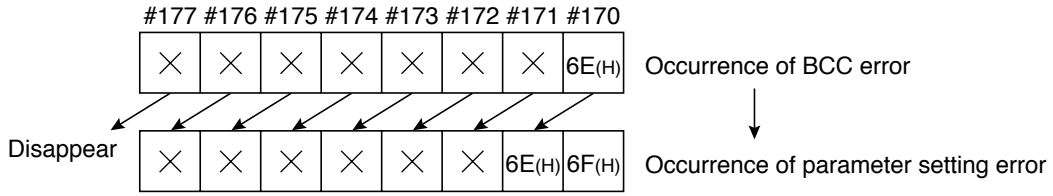
Error code (HEX)	Cause	Error code stored to system memory		Measure
		#160 to #167	#170 to 177	
01	ROM error, upper CPU	53(H)	———	Replace the JW-22CM
02	RAM error, upper CPU			
03	2 port RAM error against PLC, upper CPU			
04	2 port RAM error against communication CPU, upper CPU			
11	ROM error, communication CPU			- Check the communication cable - Check for doubled allocation of slave station number - Replace the JW-22CM
12	RAM error, communication CPU			
18	Communication LSI error, communication CPU			
1F	No response	———	1F(H)	
20	More than one token detected	———	20(H)	Check the switch setting
21	Doubled address detected	———	21(H)	
22	Fault of sending section	———	22(H)	- Replace the JW-22CM
23	Token does not return within the rated interval	———	23(H)	- Check the communication cable
2A	Over flow of receiving buffer. - Occurs when the upper CPU processing is delayed.	———	2A(H)	Check the communication cable
2B	Flame length error - Occurs because of a media execution error or noise from outside.	———	2B(H)	
2C	Media error	———	2C(H)	
30	EEPROM error	———	30(H)	Replace the JW-22CM
60	Switch setting error	———	60(H)	Check the switch setting
6E	BCC error	———	6E(H)	Check the parameter setting
6F	Parameter setting error	———	6F(H)	
C1 to FF	Communication error - After converting into octal, the lower two digits represent the slave station number of the current error. (Ex. C1(H) = 301(8) = slave station 01)	———	C1(H) to FF(H)	Check the communication cable and slave module

- In some cases, error code 23(H) or 2A(H) is stored when inputting power. This is not an error.

12

(1) System memory #170 to #177 -- Error code of an option module

The error code stored in the system memory #170 is shifted to #170 to #177 one after the other as new errors occur. Thus, the system memory can store up to 8 errors. When the PLC is operating by RAM, these error codes do not disappear even after turning OFF the power. The contents of system memory #170 to #177 are kept storing after the JW-22CM recovers from the error.

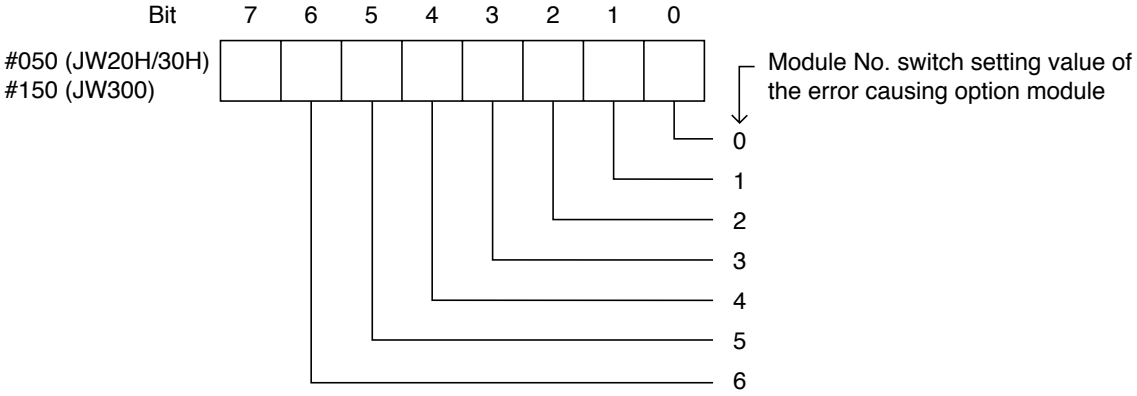


(2) System memory #160 to 167 -- Error code of self diagnosis result

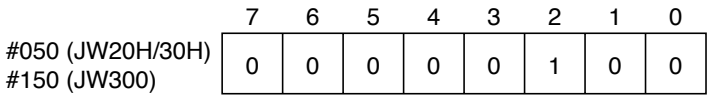
When any of errors "01(H)" to "18(H)" occurs among the error codes, the JW-22CM stores error code "53(H)" (option error) in the system memory #160. Shifted to #160 to #167 one of after the other as new errors occur. Thus, the system memory can store up to 8 errors. It does not store any error code in system memory #170.

(3) System memory #050 (JW20H/30H), #150 (JW300) -- Monitor of an abnormal switch number

When you monitor the system memory #050 (JW20H/30H), #150 (JW300) at the occurrence of error code "53(H)," bit of the error causing option module (module No. switch setting value) turns ON it. When more than one module has an error, multiple bits turn ON. When these modules are recovered, each corresponding bit turns OFF one by one. However, the last recovered bit will not turn OFF.



[Ex.] In the case below, an option module having the module No. switch setting value as "2" is an error.



12

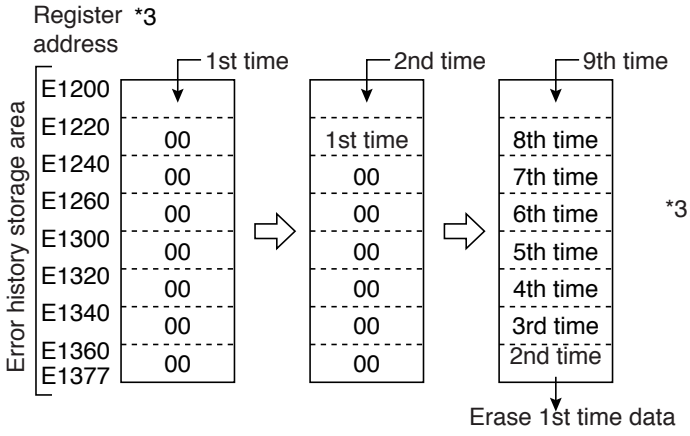
(4) Error history

When an error occurs on the JW-22CM, it stores error history to the register. Area to store is determined by the module number switch on the JW-22CM.

Set value of module number switch	Error history storage register			
	JW20H	JW30H	JW300	*1
0	E1400 to E1577	E7400 to E7577		
1	E1200 to E1377	E7200 to E7377		
2	E1000 to E1177	E7000 to E7177		
3	E0600 to E0777	E6600 to E6777		
4	E0400 to E0577	E6400 to E6577		
5 *2	E0200 to E0377	E6200 to E6377		
6 *2	E0000 to E0177	E6000 to E6177		
7	Prohibited to set		E5600 to E5777 *2	
8, 9	Prohibited to set			

*1: When JW30H is used, set system memory #210=02(H). When JW300 is used, set system memory #0213=02(H).
*2: Valid only when the JW-22CM mode switch is set to "2: Standard function."

Error history storage area (128 bytes) are divided into 8 (16 bytes each), and it can store errors up to 8 times in order of error occurrence timing.
When the number of errors occurred exceeds 9, the first stored error data will be erased.



*3: The left register addresses are true when the module number switch is set to "1" on theJW20H.

Details of each error data (16 bytes) are as follows.

● **When JW20H/30H is used**

Address (*4)		Details		Remarks
n+0	(E1200)	Second	Error occurred date and time	- When control module of JW20H/30H is JW-21CU/31CUH/31CUH1, ignore 1 to 7th byte data. (- JW-21CU/31CUH/31CUH1 do not have clock function so that they cannot store correct data.)
n+1	(E1201)	Minute		
n+2	(E1202)	Time		
n+3	(E1203)	Date		
n+4	(E1204)	Month		
n+5	(E1205)	Year		
n+6	(E1206)	Day of the week		
n+7	(E1207)	Error code	Error code of the JW-22CM	Store error code => See page 12-6.
n+10(8)	(E1210)	———	———	———
n+11(8)	(E1211)	Number of error occurren-ces	000 to 377(8)	- If the same error occurs, the JW-22CM counts it 377(8) times. From 400(8) th time, the number will remain 377(8). (Date and time error occurred is date and time the first error was occurred.)
n+12(8) to n+17(8)	(E1212) to (E1217)	———	———	———

*4: When the top address is E1200 (JW20H)

● **When JW300 is used**

Address (*5)		Details		Remarks
n+0	(E7200)	Second	The fist error occurred date and time.	———
n+1	(E7201)	Minute		
n+2	(E7202)	Time		
n+3	(E7203)	Date		
n+4	(E7204)	Month		
n+5	(E7205)	Year		
n+6	(E7206)	Day of the week		
n+7	(E7207)	Error code	Error code of the JW-22CM	Store error code => See page 12-6.
n+10(8)	(E7210)	———	———	———
n+11(8)	(E7211)	Number of error occurren-ces	000 to 377(8)	- If the same error occurs, the JW-22CM counts it 377(8) times. From 400(8) th time, the number will remain 377(8). (Date and time error occurred is date and time the first error was occurred.)
n+12(8)	(E7212)	Second	The last error occurred date and time.	———
n+13(8)	(E7213)	Minute		
n+14(8)	(E7214)	Time		
n+15(8)	(E7215)	Date		
n+16(8)	(E7216)	Month		
n+17(8)	(E7217)	Year		

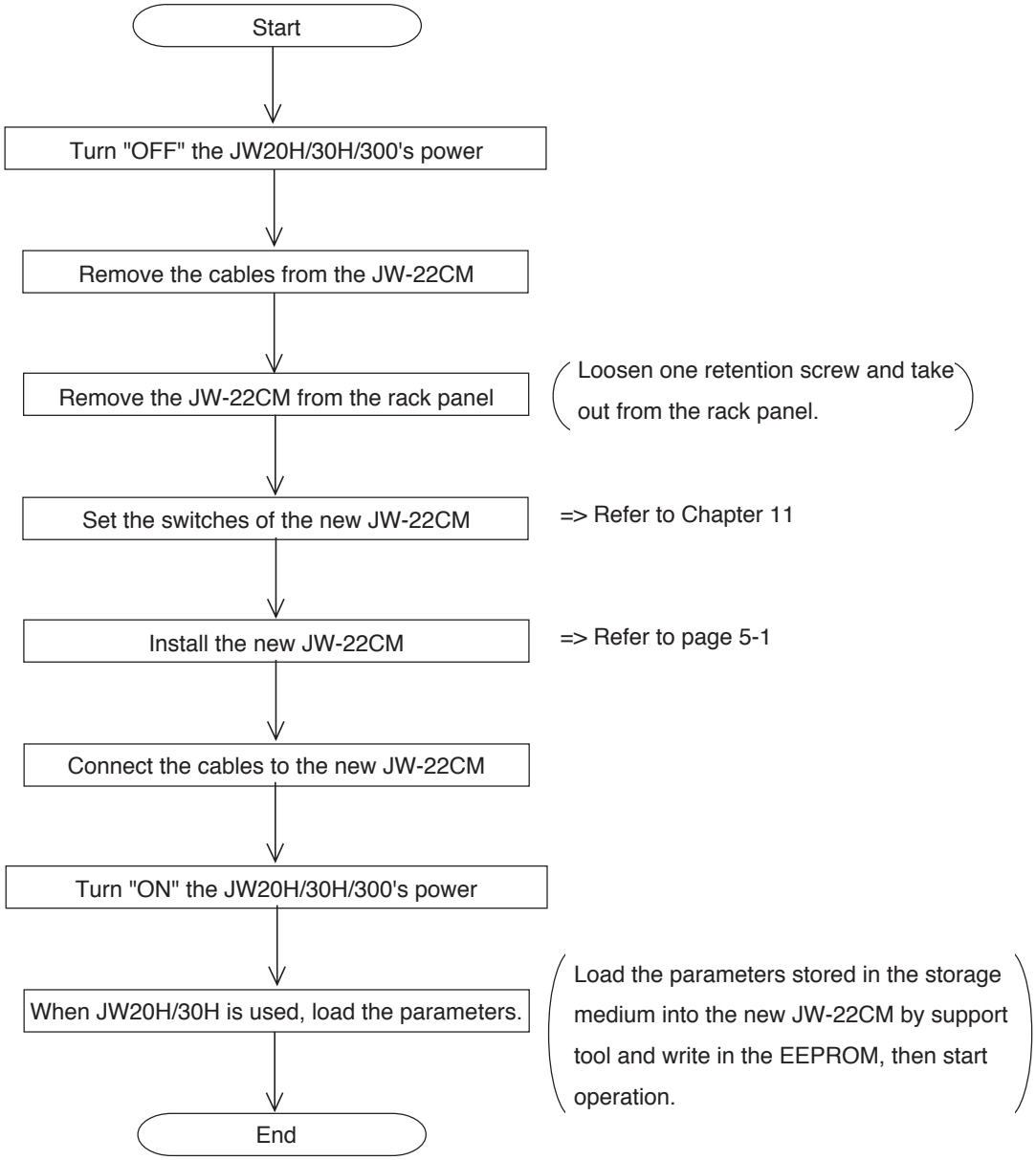
*5: When the top address is E7200

Chapter 13. Replacement of the JW-22CM

When you want to change the JW-22CM due to an operation fault (lighting FT lamp) etc., follow the procedures below.

(Make sure to store the set parameters onto the storage medium using a support tools.)

■ **Operation procedure**



Chapter 14. Support Tools

This chapter describes the support tools that are used for setting parameters in the JW-22CM (with the 300 marking), and the support tools for remote programming and remote monitoring.

14-1 Set parameters of JW-22CM

The correct support tools for setting parameters in the JW-22CM and various modules (modules that can connect to a support tool) depend on the specific PLC model (JW20H/30H/300) in which the JW-22CM is installed.

PLC in which the JW-22CM is installed	Parameter of JW-22CM	
	Support tools used to set JW-22CM parameters	Module in which parameters can be set
JW20H	JW-15PG, JW-14PG (hand-held programmer) JW-300SP, JW-100SP (ladder logic programming software) JW-52SP, JW-92SP (ladder software)	JW-22CM
JW30H		
JW300	JW-15PG (hand-held programmer) JW-300SP (ladder logic programming software)	Control module (JW-3**CU)

- When the JW-22CM is installed in a JW300, set JW-22CM parameters in the option parameters of the control module. When the JW-22CM is installed in a JW20H/30H, set the JW-22CM parameters in the parameter memory in the JW-22CM, as usual.

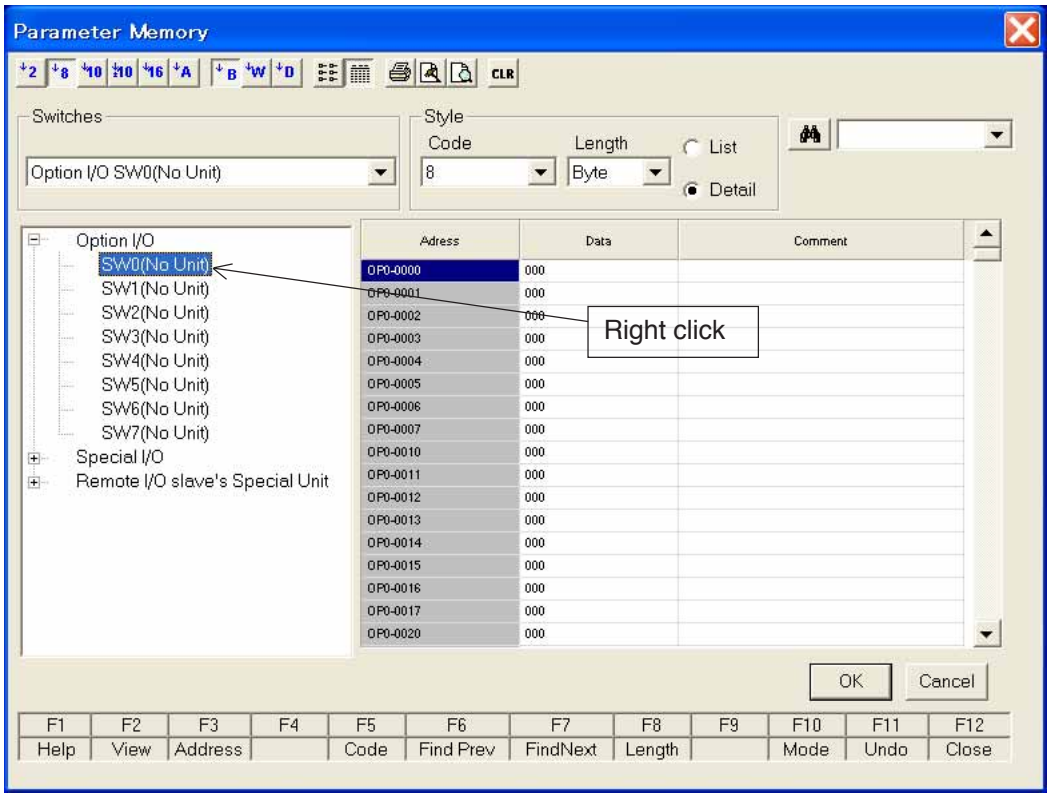
The parameter setting procedures using the JW-300SP or JW-15PG (when the JW-22CM is installed in a JW300) are described on pages 14-2 and 14-3.

- The parameter setting procedures when the JW-22CM is installed in a JW20H/30H are simply the normal procedures.
- For details about the parameter setting operation in the JW-22CM (connected to a JW20H/30H/300) using the JW-15PG, see the master station (pages 11-16 to 11-26) and slave station descriptions (pages 11-31 to 11-37).

(1) Parameter setting procedures using the JW-300SP (when the JW-22CM is installed in a JW300)

This section describes how to set the parameters (main body parameters) in the JW-22CM (installed in a JW300) and transfer them to the option parameters in the JW300 control module (JW-3**CU) using the JW-300SP.

① Select "Parameters" in the "Project window."
=> A parameter window will appear.



② Select the desired module number and click the right mouse button. Then, select "Install" and choose a model.
=> A parameter setting screen will appear for each option module.

③ Enter the values in needed in the parameter boxes and then press the "OK" button.

If the parameter address 3777(8) is written to 01(H) and you try to "PLC forwarding of the parameter" in the control module, a parameter memory transfer error (Message: "Download Parameter memory failed") will occur.
If this happens, clear parameter address 3777(8) (write 00(H) to it) and then try writing to the PLC (JW300) (make a data transfer).

[Procedures] Select the desired module number in the parameter window and click the right mouse button. Select "Settings (0)" and then "Link Stop (S)."

- For details about the operation of the JW-300SP, see the "Ladder logic programming software JW-300SP User's Manual (Help of JW-300SP)."

(2) Parameter setting procedures using the JW-15PG (when the JW-22CM is installed in a JW300)

This section describes how to the set parameters of the JW-22CM (installed in a JW300) in the option parameters in the JW300 control module (JW-3**CU) using a JW-15PG.

① Connect the JW-15PG to the PG/COMM port on the JW-3**CU.

② Put the JW-3**CU in program mode.

③ On the JW-15PG, enter ([クリア CLR] → [編集 EDIT] → [A 0] → [B 1]) to display the PARAM. (option) screen.

④ Enter a module number (SW number) on the main body parameter screen, and display the parameter address (4 digits) you want using the [,] key.

⑤ Write 00(H) at parameter address 3777(8).

If address 3777(8) is other than 00(H), you cannot write setting values to the parameter.

=> "MEM. PROTECTED" will be displayed.

⑥ Enter the parameters you want.

⑦ When through setting the parameters, write 01(H) at parameter address 3777(8).

- For details about the parameter setting operation of the JW-22CM using the JW-15PG, see the master station (pages 11-16 to 11-26) and slave station descriptions (pages 11-31 to 11-37).

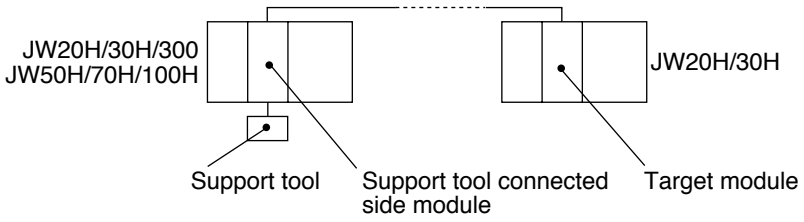
For details about the operation of the JW-15PG, see the "Hand-Held Programmer JW-15PG User's Manual."

14-2 Remote programming and remote monitor

The remote programming and remote monitor are methods for operating another PLC station connected to the satellite net.
The support tools that can be used depend on whether the used PLC is JW20H/30H or a JW300. Each case is described separately below.

[1] When using a JW20H/30H

To do remote programming and remote monitor using a JW20H/30H, please note the relationship between the compatible support tools, support tool connection side module, and target modules.



Compatible support tools	Support tool connection side module	Target module (JW-22CM)		
		With 300 marking	With 30Hn marking	With 30H marking
JW-15PG JW-14PG JW-300SP * JW-100SP JW-92SP (Ver 5.5 or up) JW-52SP (Ver 5.5 or up)	JW-22CM with 300 marking	◎	◎	○
	JW-22CM/JW-20CM with 30Hn marking			
	JW-22CM/JW-20CM with 30H marking	○	○	○
	JW-22CM/JW-20CM without marking	△	△	△

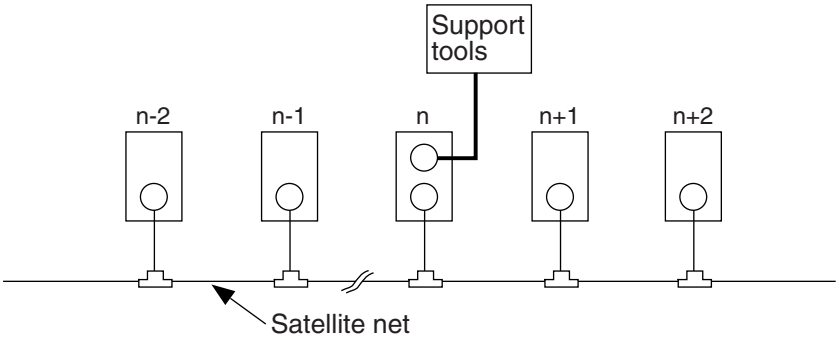
◎ : All functions are available.
○ : Recognize as JW-31CUH/32CUH/33CUH
△ : Recognize as JJW-22CU/50CUH

* They can be connected using the JW-300SP (Ver1.10) through the standard network connection. (They cannot be connected with the extension network connection.)

(1) Function (when using a JW20H/30H)

Remote programming and remote monitor have two operation modes. One uses the standard network connection and the other uses the expansion network connection.

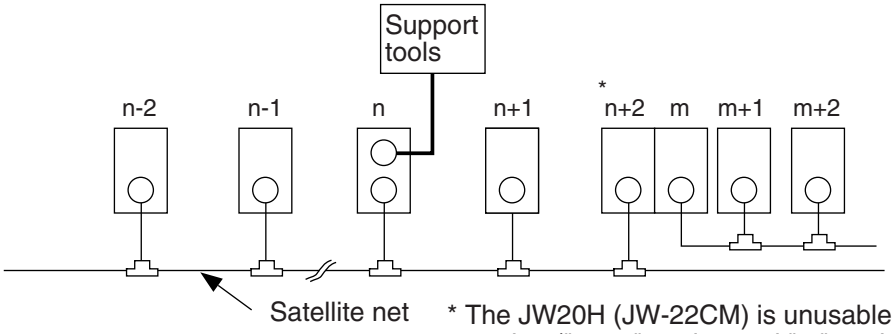
● **Standard network connection**



The following operations are possible for other stations using a support tool (previous page) which is connected to the "n" station.
- Change program
- Monitor
- Change parameter memory (only available with JW-15PG/14PG)

Note: Writing data (change program) during operation of the PLC is not available for hazard prevention reasons. Stop operation of the PLC prior to writing data.

● **Expansion network connection**



* The JW20H (JW-22CM) is unusable as a junction station ("n + 2" station and "m" station in the figure above). Use JW30H/300 (JW-22CM), JW50H/70H/100H (JW-20CM)

The following operations are possible for other stations using a support tool (previous page) which is connected to the "n" station.
- Change program
- Monitor
- Change parameter memory (only available with JW-15PG/14PG)

Note: Writing data (change program) during operation of the PLC is not available for hazard prevention reasons. Stop operation of the PLC prior to writing data.

(2) Setting method (when using a JW20H/30H)

This section describes a rough setting example using ladder logic programming software (JW-100SP).

For operations with other support tools, see the each attached instruction (user's) manuals.

① Connection with the JW-22CM

Connect the JW-100SP (personal computer) to the JW-22CM on the satellite net.

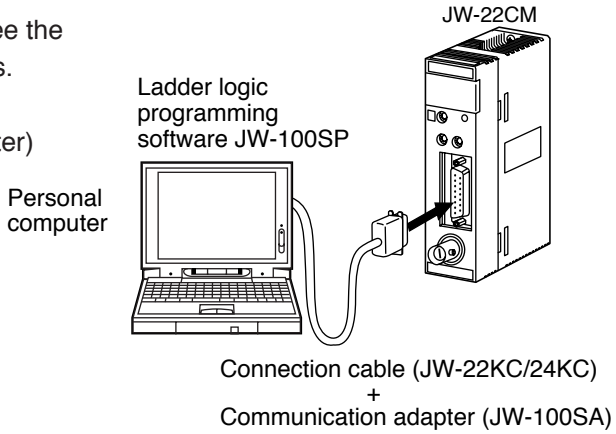
② Communication setting

Specify communication setup of the JW-100SP to "Network."

Select "Communication setup" from the menu bar "setup"

↓

Select "Network"

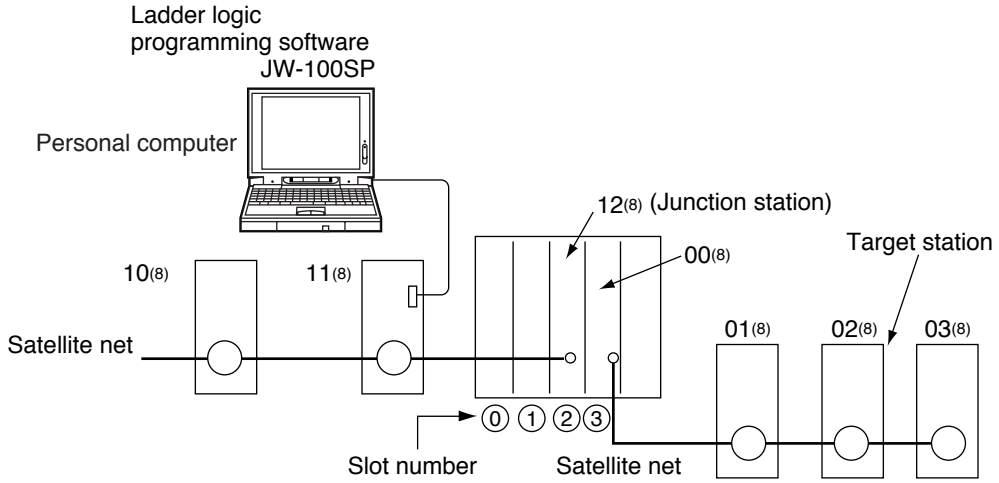


14

③ Network setting

Select whether the target station for remote programming or remote monitor is on the standard network connection or on the extension network connection.

In the case below, 10 to 12(8) are standard network connections. 01 to 03(8) are extension network connections.



● **Standard network connection**

Select network configuration as "standard."

↓

Specify "satellite net" or "SUMINET" for target station module type.

↓

Enter the target station number (00 to 77(8)).

● **Expansion network connection**

Select network configuration as "extension."

↓

Specify "satellite net" or "SUMINET" for junction station module type.

↓

Specify "satellite net" or "SUMINET" for target station module type.

↓

Enter the target station number (00 to 77(8)).

(In the case of the figure above: 02(8))

↓

Enter the junction station number (00 to 77(8)).

(In the case of the figure above: 12(8))

↓

Enter the junction station rack number.

(Leave the initial value "0")

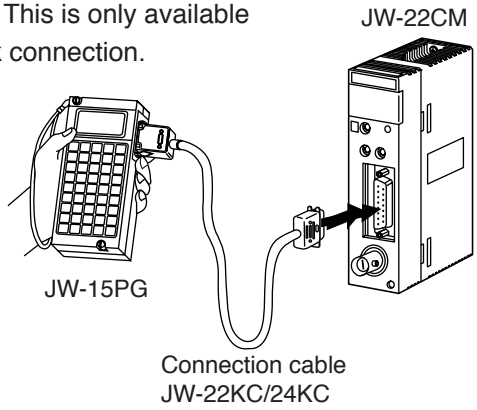
↓

Enter the station slot number.

(Enter the installed slot number of the master station on the target station side. In the case of the figure above: 3.)

(3) Parameter setting by remote function (when using a JW20H/30H)

This paragraph describes how to set the parameters (JW-22CM) of other stations (JW20H/30H) connected on the satellite net. This is only available when the target station is within the standard network connection. Usable support tools are JW-15PG/14PG.



■ **An operation example using the JW20H/30H**

① Connect the JW-15PG to the JW-22CM/JW-20CM.

② Select initial mode.

[＊] [＊] [シフト SHIFT] [INTL DISP] [SET 8] -> Display initial mode

③ Assign the remote parameter setting.

[A 0] [A 0] [B 1] -> Select "LINK," "1PG, 2PG1 MODE," and "TARGET STA."

④ Select the target station to set the parameter remotely.

[変換 CONV] -> Change the code from hexadecimal (H) display to octal (O) display and input the target station ($00_{(8)}$ to $77_{(8)}$).

⑤ Communicate with the target station

[,] -> Initiate communication with the target station.

⑥ After finishing communication with the target station, set the parameters remotely.

[クリア CLR] -> Return to initial menu.

Turn the PLC of the target station to program mode (stop PLC operation).

Select "PARAM." in the initial mode.

[7] [7] [7] [7] [モニタ MNTR] [A 0] [書込 ENT] -> Write $00_{(H)}$ to the parameter address $007777_{(8)}$ to stop operation of the JW-22CM.

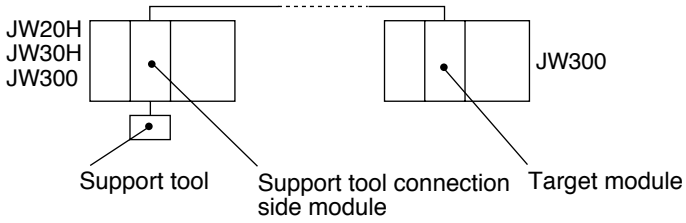
(Input address) [モニタ MNTR] (Input setting value) [書込 ENT] -> Input the setting value to the address to set the parameters.

⑦ Write $81_{(H)}$ to parameter address $007777_{(8)}$ and write the parameter contents onto the EEPROM of the JW-22CM. Then start operation of the JW-22CM.

[2] When using a JW300

The following two conditions must be satisfied to do remote programming and remote monitor with a JW300.

1. A "JW-15PG or JW-300SP" support tool must be connected for use with the JW300.
2. Network modules on the communication circuit shall be JW-22CMs that are capable of being used with the JW300.
   Therefore, please note the relationship between the compatible support tools, support tool connection side module, and target modules.



Compatible support tools	Support tool connection side module	Target module (JW-22CM)
		With 300 marking
JW-15PG JW-300SP *	JW-22CM with 300 marking	◎

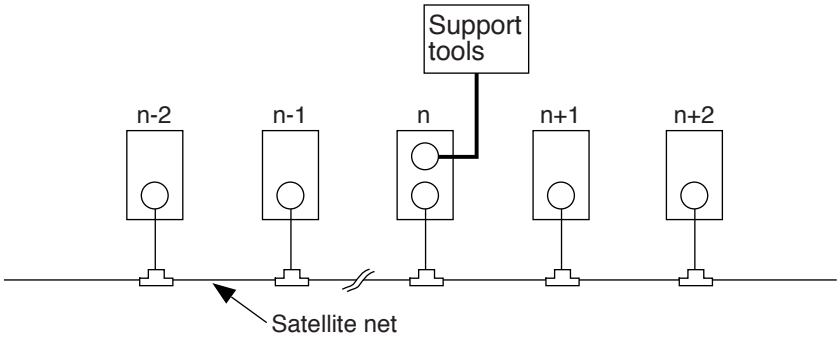
◎: All functions are available.

* They can be connected using the JW-300SP (Ver1.10) through the standard network connection. (They cannot be connected with the extension network connection.)

(1) Function (when using a JW300)

Remote programming and remote monitor have two operation modes. One uses the standard network connection and the other uses the expansion network connection.

● **Standard network connection**

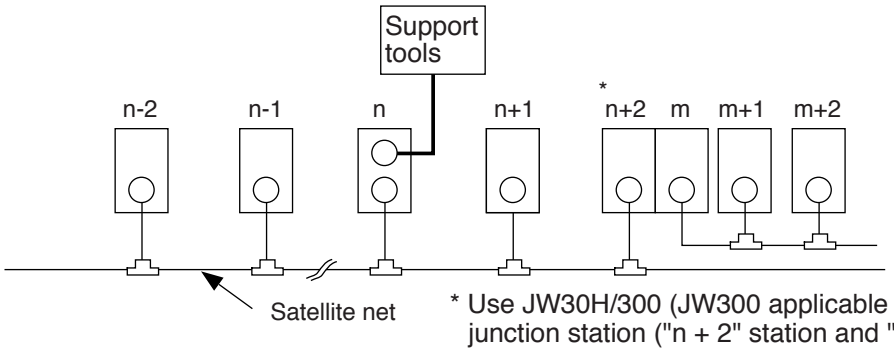


The following operations are possible for other stations using a support tool which is connected to the "n" station.

- Change program (JW-15PG, JW-300SP)
- Monitor (JW-15PG, JW-300SP)
- Change parameter memory (only available with JW-15PG)

Note: Writing data (change program) during operation of the PLC is not available for hazard prevention reasons. Stop operation of the PLC prior to writing data.

● **Expansion network connection**



* Use JW30H/300 (JW300 applicable JW-22CM) for junction station ("n + 2" station and "m" station in the figure above).

The following operations are possible for other stations using a support tool which is connected to the "n" station.

- Change program (JW-15PG)
- Monitor (JW-15PG)

Note: Writing data (change program) during operation of the PLC is not available for hazard prevention reasons. Stop operation of the PLC prior to writing data.

(2) Setting method (when using a JW300)

This section describes setting example (outline) using a hand-held programmer JW-15PG. For details about the operation of the JW-15PG, see the "Hand-Held Programmer JW-15PG User's Manual."

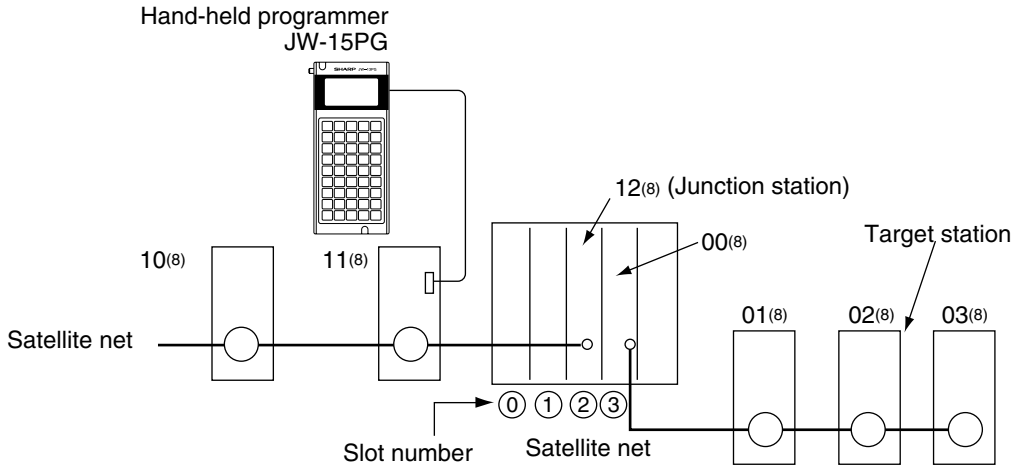
① Connection with the JW-22CM

Connect the JW-15PG to a compatible JW-22CM (JW300 applicable module) on the satellite net using a connection cable (JW-22KC/24KC).

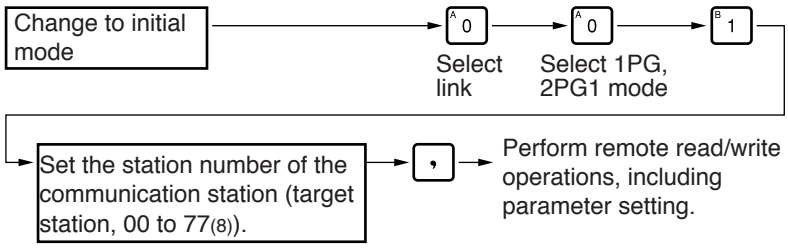
② JW-15PG

Select whether the target station for remote programming or remote monitor is on the standard network connection or on the extension network connection.

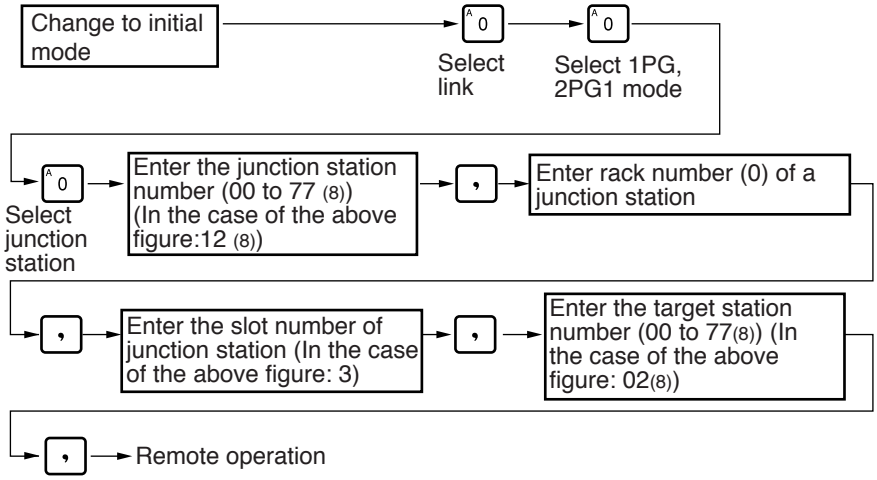
In the case below, 10 to 12(8) are standard network connections. 01 to 03(8) are extension network connections.



● **Standard network connection**



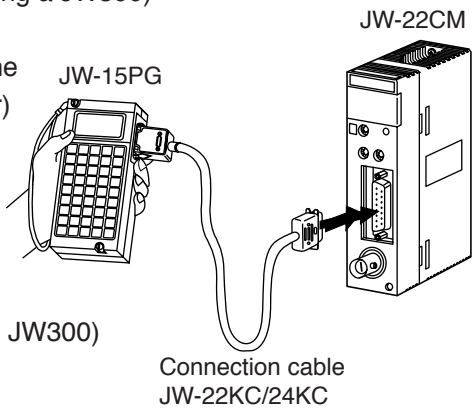
● **Expansion network connection**



14

(3) Parameter setting using remote function (when using a JW300)

This paragraph describes how to set the parameters (JW-22CM) of other stations (JW300) connected on the satellite net to a control module (main body parameter) of its station. This is only available when the target station is within the standard network connection. Usable support tools are JW-15PG.



■ **An operation example using the JW300**

① Connect the JW-15PG to the JW-22CM (applicable to JW300)

② Select initial mode.

[*] [*] [シフト SHIFT] [INTL DISP] [SET 8] **->** Display initial mode

③ Assign the remote parameter setting.

[A 0] [A 0] [B 1] **->** Select "LINK," "1PG, 2PG1 MODE," and "TARGET STA."

④ Select the target station to set the parameter remotely.

[変換 CONV] **->** Change the code from hexadecimal (H) display to octal (O) display and input the target station ($00_{(8)}$ to $77_{(8)}$).

⑤ Communicate with the target station

[,] **->** Initiate communication with the target station.

⑥ After finishing communication with the target station, returns to the initial menu.

[クリア CLR] **->** Return to initial menu.

⑦ Turn the target station JW300 to program mode (stop PLC operation).

⑧ Displays PARAM. (option) screen.

[クリア CLR] → [編集 EDIT] → [A 0] → [B 1] -> Display the PARAM

⑨ Enter a module number (SW number) on the main body parameter screen, and display the parameter address (4 digits) you want using the [,] key.

⑩ Write 00(H) at parameter address 3777(8).

If address 3777(8) is other than 00(H), you cannot write set values to the parameter.

=> "MEM. PROTECTED" will be displayed.

⑪ Enter the parameters you want.

⑫ When through setting the parameters, write 01(H) at parameter address 3777(8).

Chapter 15. Specifications

15-1 General specifications

Item	Specifications
Applicable PLC	- JW20H [JW-21CU/22CU] - JW30H [JW-31CUH, JW-32CUH, JW-33CUH JW-31CUH1, JW-32CUH1, JW-33CUH1/H2/H3 JW-32CUM1/M2 - JW300 [JW-311CU/312CU, JW-321CU/322CU JW-331CU/332CU, JW-341CU/342CU JW-352CU, JW-362CU
Installing slot	Basic rack panel of JW20H/30H/300
Storage temperature	-20 to +70°C
Ambient temperature	0 to +55°C
Ambient humidity	35 to 90%RH (without dew condensation)
Vibration resistance	Compatible to JIS B 3502 (X, Y, Z, 2 hours each)
Shock resistance	Compatible to JIS B 3502
Internal power consumption	Approx. 360mA
Weight	Approx. 285g
Accessory	One instruction manual (Japanese)

15-2 Communication specifications

Item	Specifications
Communication method	Token/passing
Transmission rate	1.25M bits/s
Transmission format	Compatible to JIS X-5014 high level data link control procedure (HDLC) frame configuration
Coding method	NRZI (Non Return To Zero Inverted)
Check method	CRC
Synchronization method	Bit synchronize
Modulation method	Continuous frequency phase modulation (FSK)
Communication network system	Bus type
Connectors	Module side: BNC receptacle (jack) Line side: BNC plug
Transmission line	Coaxial cable: 5C-2V JIS·C-3501 Characteristics impedance: 75 ohm Total cable distance: 1km max.

15-3 Data link specifications

Both standard function and save memory function are available. Select by the mode switch on the JW-22CM.

(1) Standard function

Item	Specifications		
Number of stations to connect	64 stations max.		
Relay link area *1 (Setting: File address)	**JW20H**	**JW30H**	**JW300**
	000000 to 017777(8)	000000 to 035777(8)	00000000 to 00177777(8) *2
Register link area *1 (Setting: File address)	000000 to 017777(8)	000000 to 035777(8) file 1 to file 3, file 10 to file 2C(H) *2	00000000 to 40177777(8) *2
Flag area *1 (Setting range: File address, 24 bytes)	000000 to 017777(8)	000000 to 035777(8) file 1 to file 3, file 10 to file 2C(H) *2	00000000 to 40177777(8) *2
Rink (Total number of links)	Relay link : 2048 points max. Register link: 2048 bytes max.		
Transmit points per station	Relay link : 2048 points max. Register link: 2048 bytes max.		
Communication mode	N: M communication		

(2) Save memory function

Item	Specifications		
Number of stations to connect	64 stations max.		
Relay link area	001000 to 001477(8) (□1000 to □0477(8)) *3		
Register link area	004000 to 010777(8) (09000 to 49777(8)) *3		
Flag area *1 (setting range: File address, 24 bytes)	**JW20H**	**JW30H**	**JW300**
	000000 to 017777(8)	000000 to 035777(8) file 1 to file 3, file 10 to file 2C(H) *2	00000000 to 40177777(8) *2
Rink (Total number of links)	Relay link : 2048 points max. Register link: 2048 bytes max.		
Transmit points per station	Relay link : 2048 points max. Register link: 2048 bytes max.		
Communication mode	N: M communication		

*1: Enter the top address (number of bytes) for the relay link area, register link area, and flag area in the JW-22CM when a JW20H/30H is used, and for the control module when a JW300 is used.

*2: The setting range depends on the control module model that is used.
=> Refer to page 11-12 and 11-28 (JW30H), 11-13,11-14 and 11-29 (JW300)

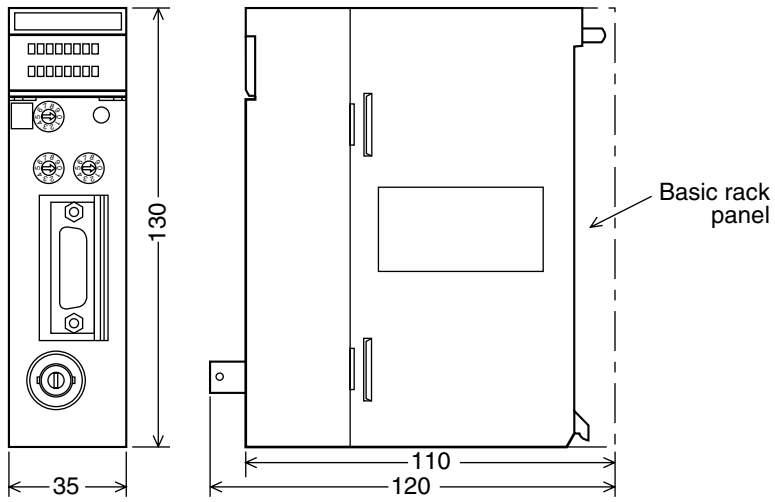
*3: Select the module No. switches of JW-22CM. => Refer to page 11-2.

15-4 Computer link specifications

Item	Specifications
Number of link stations	64 stations max
Communication data size	Maximum 1024 byte per command
Communication control	Respond to the host computer command
Control details	Data memory read/write Program memory read/write System memory read/write PLC control

● **Outside dimensional drawings**

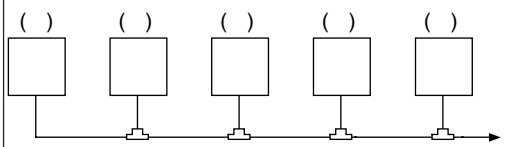
(Unit: mm)



Chapter 16. Appendix

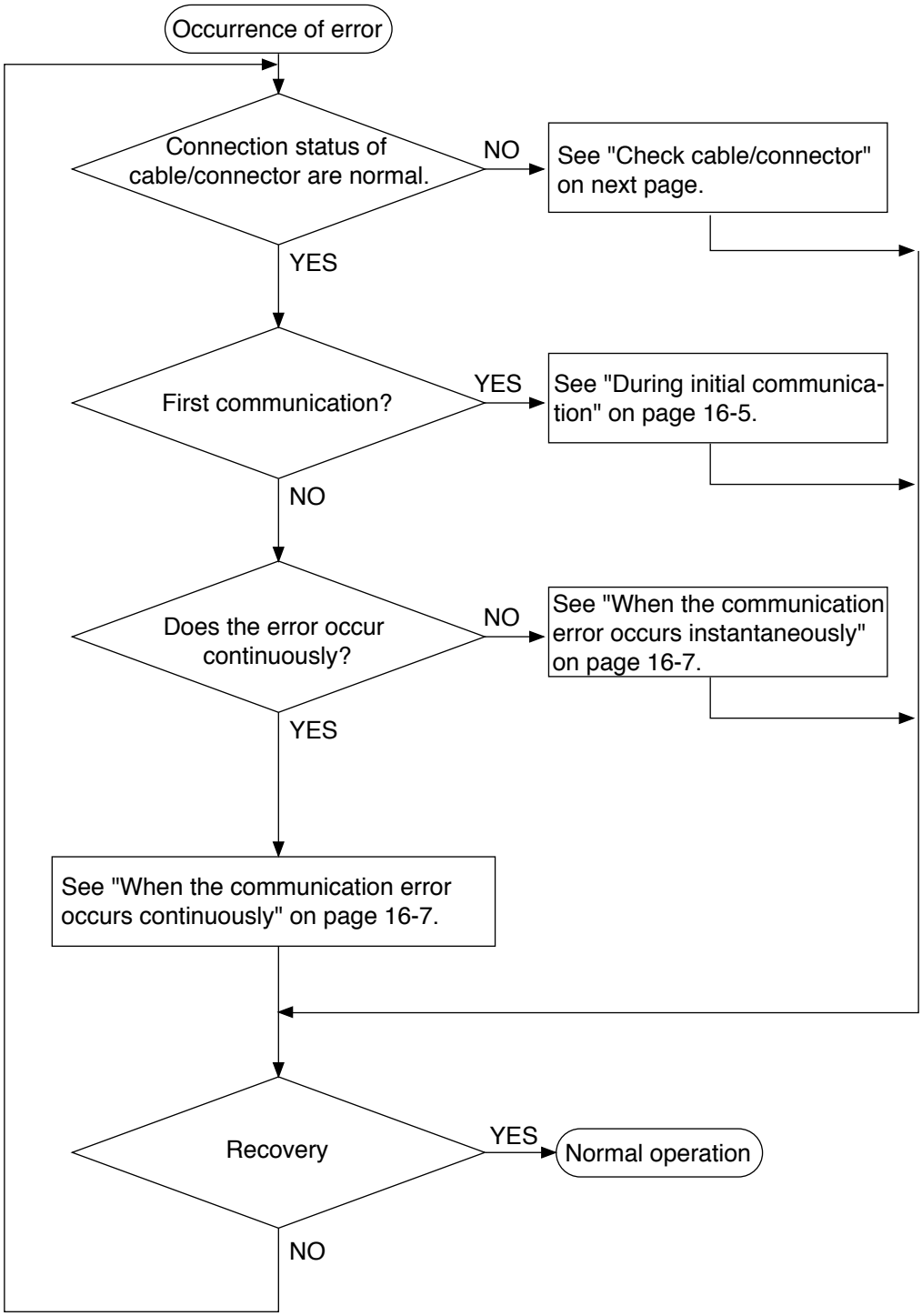
16-1 Maintenance and check

Check wiring, installation, and switch settings.

	Check item	System configuration				
						
Communication cable	Not parallel with or proximate to high voltage lines or strong power lines.					
	Branch lines (drop cable) are within 400 mm.					
	Total length is less than 1 km.					
	No damage or breaks in cables.					
	Connectors are securely assembled.					
	Connectors are securely connected and locked.					
	Insulation covers are put on connectors.					
Power supply module	Securely tighten the module retention screws.					
	A ground line is connected with the GND terminal.					
Control module	Securely tighten the module retention screws.					
	Memory module is appropriately installed.					
I/O module	Securely tighten the module retention screws.					
	No other cables than the communication cable and DC input cables are input in the same duct.					
Basic rack panel is appropriately installed.						
JW-22CM	Securely tighten the module retention screws.					
	Mode switches are appropriately set.					
	Station number switches are appropriately set (00 to $77_{(8)}$).					
	Termination resistance switches are appropriately set.	ON				
	Shield ground switches are appropriately set.					
	Parameters are appropriately set.					

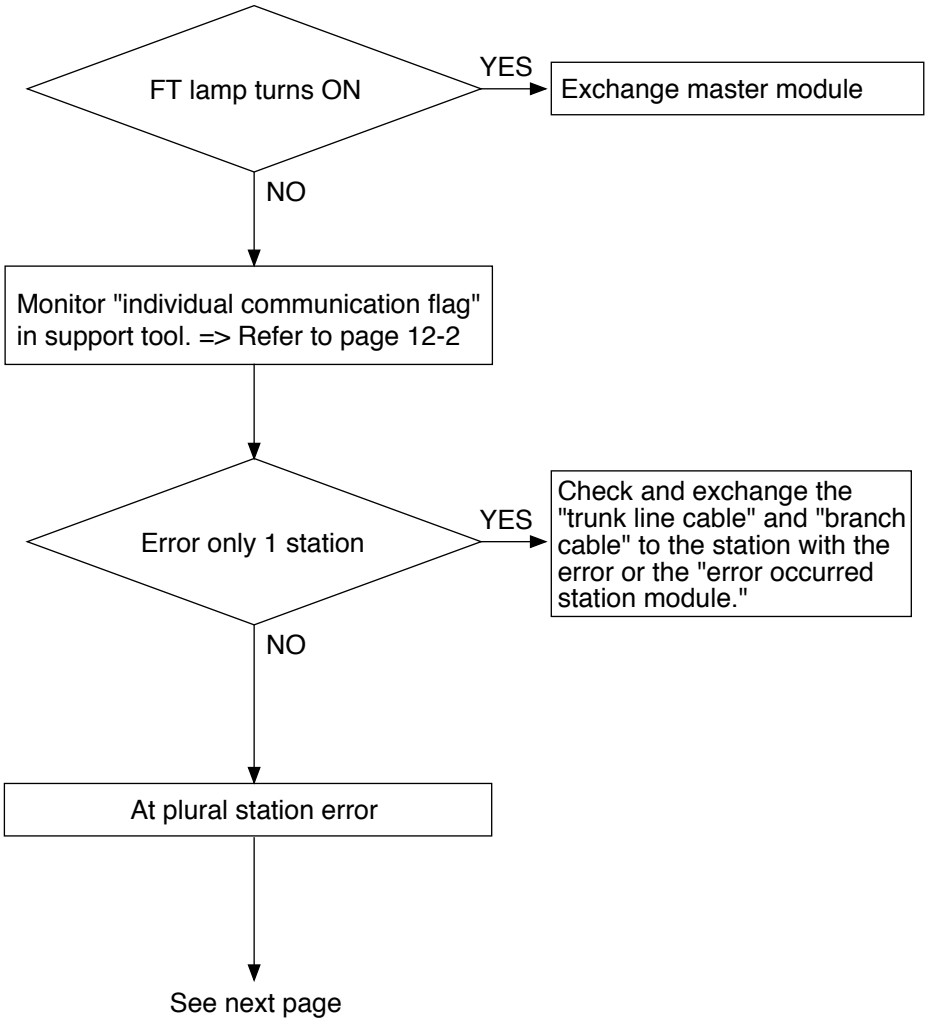
16-2 Recovery method at communication errors

(1) Check flow chart

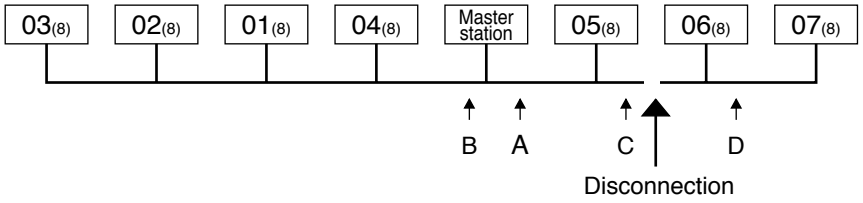


(2) Check cable/connector

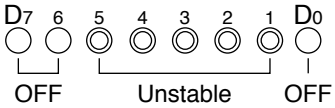
As errors on the junction from the main cable to the drop cable or the contact failure on the connecting point of each station or errors of the master module are assumed, check with the following procedure.



■ If the trunk cable between the slave station $05_{(8)}$ and $06_{(8)}$ is disconnected in the following system.

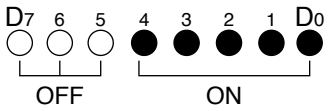


State of an individual communication flag



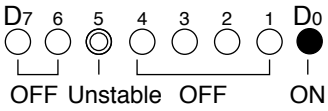
Remove the connector on point A, and turn ON the termination resistance of the master station.

As the communication possible stations $03_{(8)}$, $02_{(8)}$, $01_{(8)}$, and $04_{(8)}$ are normal, the state of communication monitoring flag is as follows.



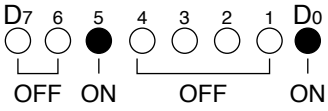
Connect the A connector, and then remove the connector on point B.

As the one side of the termination resistance is lost, all of the communication possible stations $05_{(8)}$, $06_{(8)}$, and $07_{(8)}$ are abnormal, and the station $05_{(8)}$ is unstable.



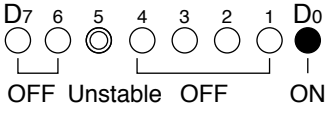
Remove the connector on point C and make sure the B connector is not connected. Turn ON the termination resistance of the slave module $05_{(8)}$.

As the communication possible station $05_{(8)}$ is normal, abnormal points exists ahead of the point C.



Connect the C connector and make sure the B connector is not connected, and remove the connector at the next point to the point D.
Turn OFF the termination resistance of the slave station $05_{(8)}$, and turn ON the termination resistance of the end station $06_{(8)}$.

As the one side of the termination resistance is lost, the station $05_{(8)}$ and $06_{(8)}$ become communication possible stations, but the station $05_{(8)}$ is unstable and the station $06_{(8)}$ is turned to OFF, so the abnormal states occur between the point C and the point D.



16

Cause	Countermeasure
Disconnection in the trunk cable and the branch cable between the station $05_{(8)}$ and $06_{(8)}$, or contact failure of the connectors	Remove both the trunk cable and the branch cable connectors. After that, shorten one of these connectors and check conductivity using a tester.
Error on the slave station $06_{(8)}$	Exchange the slave module.

(3) During initial communication (startup of the system)

Lighting error code 6F(H)

● When the master station indicates error code 6F(H) and the CM lamp is OFF.
The cause may be a parameter setting error of the master station. Check the master station parameters below.

Parameter address(8)		Setting item	Reference page of the setting contents
JW20H/30H	JW300		
4000 to 4001	0000 to 0001	Relay link top address of master station	11-5 to 11-9
4003	0003	Amount of connectable stations	
4400 to 4403	0400 to 0403	Register link top address of master station	
5000 to 5001	1000 to 1001	Relay link transmit bytes of master station	
5200 to 5201	1200 to 1201	Register link transmit bytes of master station	
7710 to 7713	3710 to 3713	Communication information storage area top address	
7764 to 7767	3764 to 3767	Flag top address	

● When the master station indicates error code 6F(H) and the CM lamp lights.
The cause may be a setting error of any of the slave stations which are set in the parameter. Check the following master station parameters.

Parameter address(8)		Setting item	Reference page of the setting contents
JW20H/30H	JW300		
4004 to 4377	0004 to 0377	Relay link top address of each slave station. Number of offset bytes.	11-5 to 11-9
4404 to 4777	0404 to 0777	Register link top address of each slave station. Number of offset bytes.	
5002 to 5177	1002 to 1177	Relay link transmit bytes of each slave station	
5202 to 5377	1202 to 1377	Register link transmit bytes of each slave station	

When slave station is JW-22CM, see "Chapter 11 Setting of Switches and Parameter" for setting range.

● When the master station is normal and the error code 6F(H) of a slave station lights.
The cause may be a faulty setting of the slave station parameter. Check the following slave station parameters.

Parameter address(8)		Setting item	Reference page of the setting contents
JW20H/30H	JW300		
7710 to 7713	3710 to 3713	Communication information storage area top address	11-27
7764 to 7767	3764 to 3767	Flag top address	

When slave station is JW-22CM, see "Chapter 11 Setting of Switches and Parameter" for setting range.

When the CM lamp of the master station is OFF (SD, RD, and CD are flickering).

Check the following master station's parameters.

Parameter address(8)		Contents	Setting value
JW20H/30H	JW300		
4002	0002	Function (relay/register link)	01(H)
7777	-	Start/stop operation of the JW-22CM	01(H)
-	3777	Start switch	01(H)

Other cases

- Check the switches of the JW-22CM => See check item
- Check optional cable of PLC (The JW-22CM does not operate normally without an optional cable.)
- Check cable and connector => See check item
- Check error code

[Switches required check in the JW-22CM]

① Station number (STA. NO.)
② Mode switch (MODE)
③ Termination resistance switch (LT)
④ Shield ground switch (LG)

If there are errors in the station number and the mode switch, change the setting with the power OFF, and then turn ON the power.

[Check items of cables and connectors]

① No looseness or removal of connectors (turn the connector right until it completely locks).
② Connectors are appropriately fixed on the cables (When any faults such as extrusion of pins or connector being easily removed by pulling, reinstall these connectors.)
③ Wiring conditions are appropriate. => See chapters 6 and 7
④ Not too long branch lines (shorter than 400 mm).
⑤ Termination resistance are correctly connected. (Turn "ON" the termination resistance switch of the end stations or install a termination resistance.)

(4) When the communication error occurs instantaneously.

Cause may be:

- Noise on the communication line.
- Fault of a communication module.
- Fault of a communication cable.

Check the error's timing.

When the error occurs synchronous with a peripheral industrial robot's operation, noise to the communication line may be a cause. Consider arrangement of the wiring route.

Identify the error station.

When the error occurs at only the specific station, the cause may be the station or nearby. Check the following items.

- Setting of the LT (termination resistance) switch.
- Cable => Refer to page 16- 6 "check items of cables and connectors"
- Error code => Refer to page 12-1

When identification of the cause is difficult.

Condition of the circuit may be unstable. => Refer to page 16-6 "check items of cables and connectors"

(5) When the communication error occurs continuously.

Identify the error station.

Specify the error's station using the communication flag etc., and check this station.

- Check the power of the error's station.
- Check the error code of the error's station.
- Check cables near the error's station. => Refer to page16-6 "check items of cables and connectors"

When identification of the cause is difficult.

Condition of the whole circuit may be unstable. Check cables and connectors.
=> Refer to page 16-6 "check items of cables and connectors"

16-3 Table of parameter memory

[1] Installed in a JW20H/30H

When the JW-22CM is installed in a JW20H/30H, the parameter (master/slave station) addresses and setting details are as follows. Set the parameters in the JW-22CM. => Refer to page 11-16 and 11-31

(1) Master station (Installed in a JW20H/30H)

The set contents of the parameter addresses 4004 to 4377(8) and 4404 to 4777(8) shown below are in the case that the JW-22CM is used as a slave station. When the ZW-20CM or JW-20CM is used as a slave station, refer to each manual.

(1 / 7)

Address(8)	Set contents		Setting method (value, example)	
0000	Store the mis-setting slave station number in the master station		-	-
4000 4001	Top address of relay link area in the master station		(Octal, word)	When ㅋ1000, set to 001000(8) by file address
4002	Set function (relay/register link)		01(H)	Fixed to 01(H)
4003	Connection station number (2 to 64 stations)		(Decimal, byte)	When 12 stations, set to 012(D)
4004 to 4007	• When slave station 01(8) is set to data link (the standard function), top address of the relay link area on slave station 01(8).	4004	(Octal, word)	When ㅋ1200, set to 001200(8) (Set by file address)
		4005		
		4006	00(H)	00(H): In this case the same as the master station * 80(H): In this case different from the master station
		4007	●	
	• When slave station 01(8) is set to data link (the save memory function), number of offset bytes of relay link area on slave station 01(8).	4004	(Decimal, word)	When 100 bytes, set to 00100(D)
		4005		
		4006	00(H)	
		4007	80(H)	

* When 00(H) is set, the value becomes the same top address of the master station regardless of the setting value of 4004 to 4005(8).

Address(8)	Set contents, method
4010 to 4013	Top address or a number of offset bytes on slave station $02_{(8)}$ (same as 4004 to 4007).
4014 to 4017	$03_{(8)}$ (same as 4004 to 4007)
4020 to 4023	$04_{(8)}$ (same as 4004 to 4007)
4024 to 4027	$05_{(8)}$ (same as 4004 to 4007)
4030 to 4033	$06_{(8)}$ (same as 4004 to 4007)
4034 to 4037	$07_{(8)}$ (same as 4004 to 4007)
4040 to 4043	$10_{(8)}$ (same as 4004 to 4007)
4044 to 4047	$11_{(8)}$ (same as 4004 to 4007)
4050 to 4053	$12_{(8)}$ (same as 4004 to 4007)
4054 to 4057	$13_{(8)}$ (same as 4004 to 4007)
4060 to 4063	$14_{(8)}$ (same as 4004 to 4007)
4064 to 4067	$15_{(8)}$ (same as 4004 to 4007)
4070 to 4073	$16_{(8)}$ (same as 4004 to 4007)
4074 to 4077	$17_{(8)}$ (same as 4004 to 4007)
4100 to 4103	$20_{(8)}$ (same as 4004 to 4007)
4104 to 4107	$21_{(8)}$ (same as 4004 to 4007)
4110 to 4113	$22_{(8)}$ (same as 4004 to 4007)
4114 to 4117	$23_{(8)}$ (same as 4004 to 4007)
4120 to 4123	$24_{(8)}$ (same as 4004 to 4007)
4124 to 4127	$25_{(8)}$ (same as 4004 to 4007)
4130 to 4133	$26_{(8)}$ (same as 4004 to 4007)
4134 to 4137	$27_{(8)}$ (same as 4004 to 4007)
4140 to 4143	$30_{(8)}$ (same as 4004 to 4007)
4144 to 4147	$31_{(8)}$ (same as 4004 to 4007)
4150 to 4153	$32_{(8)}$ (same as 4004 to 4007)
4154 to 4157	$33_{(8)}$ (same as 4004 to 4007)
4160 to 4163	$34_{(8)}$ (same as 4004 to 4007)
4164 to 4167	$35_{(8)}$ (same as 4004 to 4007)
4170 to 4173	$36_{(8)}$ (same as 4004 to 4007)
4174 to 4177	$37_{(8)}$ (same as 4004 to 4007)

Address(8)	Set contents, method
4200 to 4203	Top address or a number of offset bytes on slave station $40_{(8)}$ (same as 4004 to 4007).
4204 to 4207	$41_{(8)}$ (same as 4004 to 4007)
4210 to 4213	$42_{(8)}$ (same as 4004 to 4007)
4214 to 4217	$43_{(8)}$ (same as 4004 to 4007)
4220 to 4223	$44_{(8)}$ (same as 4004 to 4007)
4224 to 4227	$45_{(8)}$ (same as 4004 to 4007)
4230 to 4233	$46_{(8)}$ (same as 4004 to 4007)
4234 to 4237	$47_{(8)}$ (same as 4004 to 4007)
4240 to 4243	$50_{(8)}$ (same as 4004 to 4007)
4244 to 4247	$51_{(8)}$ (same as 4004 to 4007)
4250 to 4253	$52_{(8)}$ (same as 4004 to 4007)
4254 to 4257	$53_{(8)}$ (same as 4004 to 4007)
4260 to 4263	$54_{(8)}$ (same as 4004 to 4007)
4264 to 4267	$55_{(8)}$ (same as 4004 to 4007)
4270 to 4273	$56_{(8)}$ (same as 4004 to 4007)
4274 to 4277	$57_{(8)}$ (same as 4004 to 4007)
4300 to 4303	$60_{(8)}$ (same as 4004 to 4007)
4304 to 4307	$61_{(8)}$ (same as 4004 to 4007)
4310 to 4313	$62_{(8)}$ (same as 4004 to 4007)
4314 to 4317	$63_{(8)}$ (same as 4004 to 4007)
4320 to 4323	$64_{(8)}$ (same as 4004 to 4007)
4324 to 4327	$65_{(8)}$ (same as 4004 to 4007)
4330 to 4333	$66_{(8)}$ (same as 4004 to 4007)
4334 to 4337	$67_{(8)}$ (same as 4004 to 4007)
4340 to 4343	$70_{(8)}$ (same as 4004 to 4007)
4344 to 4347	$71_{(8)}$ (same as 4004 to 4007)
4350 to 4353	$72_{(8)}$ (same as 4004 to 4007)
4354 to 4357	$73_{(8)}$ (same as 4004 to 4007)
4360 to 4363	$74_{(8)}$ (same as 4004 to 4007)
4364 to 4367	$75_{(8)}$ (same as 4004 to 4007)
4370 to 4373	$76_{(8)}$ (same as 4004 to 4007)
4374 to 4377	$77_{(8)}$ (same as 4004 to 4007)

• Initial value of the address 4000 to $4377_{(8)}$ are all $00_{(H)}$.

Address(8)	Set contents		Setting method (value, example)	
4400	Top address of register link area in the master station		(Octal, word)	When 09000(8), set to 004000(8) by file address
4401				
4402			(Hexadecimal, byte)	When file number is 1, set to 01(H).
4403			00(H)	
4404 to 4407	• When slave station 01(8) is set to data link (**the standard function**), **top address** of the register link area on slave station 01(8).	4404	(Octal, word)	When 29000, set to 006000(8) (Set by file address)
		4405		
		4406	(Hexadecimal, byte)	When file number is 2, set to 02(H).
		4407	●	00(H): In this case the same as the master station * 80(H): In this case different from the master station
	• When slave station 01(8) is set to data link (**the save memory function**), **number of offset bytes** of register a link area on slave station 01(8).	4404	(Decimal, word)	When 100 bytes, set to 00100(D)
		4405		
		4406	00(H)	
		4407	80(H)	

* When 00(H) is set, the value becomes the same top address of the master station regardless of the setting value of 4404 to 4405(8).

Address(8)	Set contents, method
4410 to 4413	Top address or number of offset bytes on slave station 02(8) (same as 4404 to 4407).
4414 to 4417	03(8) (same as 4404 to 4407)
4420 to 4423	04(8) (same as 4404 to 4407)
4424 to 4427	05(8) (same as 4404 to 4407)
4430 to 4433	06(8) (same as 4404 to 4407)
4434 to 4437	07(8) (same as 4404 to 4407)
4440 to 4443	10(8) (same as 4404 to 4407)
4444 to 4447	11(8) (same as 4404 to 4407)
4450 to 4453	12(8) (same as 4404 to 4407)
4454 to 4457	13(8) (same as 4404 to 4407)
4460 to 4463	14(8) (same as 4404 to 4407)
4464 to 4467	15(8) (same as 4404 to 4407)
4470 to 4473	16(8) (same as 4404 to 4407)
4474 to 4477	17(8) (same as 4404 to 4407)
4500 to 4503	20(8) (same as 4404 to 4407)
4504 to 4507	21(8) (same as 4404 to 4407)
4510 to 4513	22(8) (same as 4404 to 4407)
4514 to 4517	23(8) (same as 4404 to 4407)
4520 to 4523	24(8) (same as 4404 to 4407)
4524 to 4527	25(8) (same as 4404 to 4407)
4530 to 4533	26(8) (same as 4404 to 4407)
4534 to 4537	27(8) (same as 4404 to 4407)
4540 to 4543	30(8) (same as 4404 to 4407)
4544 to 4547	31(8) (same as 4404 to 4407)
4550 to 4553	32(8) (same as 4404 to 4407)
4554 to 4557	33(8) (same as 4404 to 4407)
4560 to 4563	34(8) (same as 4404 to 4407)
4564 to 4567	35(8) (same as 4404 to 4407)
4570 to 4573	36(8) (same as 4404 to 4407)
4574 to 4577	37(8) (same as 4404 to 4407)

Address(8)	Set contents, method
4600 to 4603	Top address or number of offset bytes on slave station 40(8) (same as 4404 to 4407).
4604 to 4607	41(8) (same as 4404 to 4407)
4610 to 4613	42(8) (same as 4404 to 4407)
4614 to 4617	43(8) (same as 4404 to 4407)
4620 to 4623	44(8) (same as 4404 to 4407)
4624 to 4627	45(8) (same as 4404 to 4407)
4630 to 4633	46(8) (same as 4404 to 4407)
4634 to 4637	47(8) (same as 4404 to 4407)
4640 to 4643	50(8) (same as 4404 to 4407)
4644 to 4647	51(8) (same as 4404 to 4407)
4650 to 4653	52(8) (same as 4404 to 4407)
4654 to 4657	53(8) (same as 4404 to 4407)
4660 to 4663	54(8) (same as 4404 to 4407)
4664 to 4667	55(8) (same as 4404 to 4407)
4670 to 4673	56(8) (same as 4404 to 4407)
4674 to 4677	57(8) (same as 4404 to 4407)
4700 to 4703	60(8) (same as 4404 to 4407)
4704 to 4707	61(8) (same as 4404 to 4407)
4710 to 4713	62(8) (same as 4404 to 4407)
4714 to 4717	63(8) (same as 4404 to 4407)
4720 to 4723	64(8) (same as 4404 to 4407)
4724 to 4727	65(8) (same as 4404 to 4407)
4730 to 4733	66(8) (same as 4404 to 4407)
4734 to 4737	67(8) (same as 4404 to 4407)
4740 to 4743	70(8) (same as 4404 to 4407)
4744 to 4747	71(8) (same as 4404 to 4407)
4750 to 4753	72(8) (same as 4404 to 4407)
4754 to 4757	73(8) (same as 4404 to 4407)
4760 to 4763	74(8) (same as 4404 to 4407)
4764 to 4767	75(8) (same as 4404 to 4407)
4770 to 4773	76(8) (same as 4404 to 4407)
4774 to 4777	77(8) (same as 4404 to 4407)

• Initial value of the address 4400 to 4377(8) are all 00(H).

Address(8)	Set contents	Setting method (value, example)	
5000	The number of sending bytes of master station relay link area	(Decimal, word)	When 8 bytes, set to 00008(D)
5001			
5002	The number of sending bytes of slave station 01(8) relay link area	(Decimal, word)	
5003			

Address(8)	Set contents, method
5004 to 5005	The number of sending bytes of slave station 02(8) relay link area (same as 5002 to 5003).
5006 to 5007	03(8) (same as 5002 to 5003)
5010 to 5011	04(8) (same as 5002 to 5003)
5012 to 5013	05(8) (same as 5002 to 5003)
5014 to 5015	06(8) (same as 5002 to 5003)
5016 to 5017	07(8) (same as 5002 to 5003)
5020 to 5021	10(8) (same as 5002 to 5003)
5022 to 5023	11(8) (same as 5002 to 5003)
5024 to 5025	12(8) (same as 5002 to 5003)
5026 to 5027	13(8) (same as 5002 to 5003)
5030 to 5031	14(8) (same as 5002 to 5003)
5032 to 5033	15(8) (same as 5002 to 5003)
5034 to 5035	16(8) (same as 5002 to 5003)
5036 to 5037	17(8) (same as 5002 to 5003)
5040 to 5041	20(8) (same as 5002 to 5003)
5042 to 5043	21(8) (same as 5002 to 5003)
5044 to 5045	22(8) (same as 5002 to 5003)
5046 to 5047	23(8) (same as 5002 to 5003)
5050 to 5051	24(8) (same as 5002 to 5003)
5052 to 5053	25(8) (same as 5002 to 5003)
5054 to 5055	26(8) (same as 5002 to 5003)
5056 to 5057	27(8) (same as 5002 to 5003)
5060 to 5061	30(8) (same as 5002 to 5003)
5062 to 5063	31(8) (same as 5002 to 5003)
5064 to 5065	32(8) (same as 5002 to 5003)
5066 to 5067	33(8) (same as 5002 to 5003)
5070 to 5071	34(8) (same as 5002 to 5003)
5072 to 5073	35(8) (same as 5002 to 5003)
5074 to 5075	36(8) (same as 5002 to 5003)
5076 to 5077	37(8) (same as 5002 to 5003)

Address(8)	Set contents, method
5100 to 5101	The number of sending bytes of slave station 40(8) relay link area (same as 5002 to 5003).
5102 to 5103	41(8) (same as 5002 to 5003)
5104 to 5105	42(8) (same as 5002 to 5003)
5106 to 5107	43(8) (same as 5002 to 5003)
5110 to 5111	44(8) (same as 5002 to 5003)
5112 to 5113	45(8) (same as 5002 to 5003)
5114 to 5115	46(8) (same as 5002 to 5003)
5116 to 5117	47(8) (same as 5002 to 5003)
5120 to 5121	50(8) (same as 5002 to 5003)
5122 to 5123	51(8) (same as 5002 to 5003)
5124 to 5125	52(8) (same as 5002 to 5003)
5126 to 5127	53(8) (same as 5002 to 5003)
5130 to 5131	54(8) (same as 5002 to 5003)
5132 to 5133	55(8) (same as 5002 to 5003)
5134 to 5135	56(8) (same as 5002 to 5003)
5136 to 5137	57(8) (same as 5002 to 5003)
5140 to 5141	60(8) (same as 5002 to 5003)
5142 to 5143	61(8) (same as 5002 to 5003)
5144 to 5145	62(8) (same as 5002 to 5003)
5146 to 5147	63(8) (same as 5002 to 5003)
5150 to 5151	64(8) (same as 5002 to 5003)
5152 to 5153	65(8) (same as 5002 to 5003)
5154 to 5155	66(8) (same as 5002 to 5003)
5156 to 5157	67(8) (same as 5002 to 5003)
5160 to 5161	70(8) (same as 5002 to 5003)
5162 to 5163	71(8) (same as 5002 to 5003)
5164 to 5165	72(8) (same as 5002 to 5003)
5166 to 5167	73(8) (same as 5002 to 5003)
5170 to 5171	74(8) (same as 5002 to 5003)
5172 to 5173	75(8) (same as 5002 to 5003)
5174 to 5175	76(8) (same as 5002 to 5003)
5176 to 5177	77(8) (same as 5002 to 5003)

• Initial value of the address 5000 to 5177(8) are all 00(H).

Address(8)	Set contents	Setting method (value, example)	
5200	The number of sending bytes of master station register link area	(Decimal, word)	When 64 bytes, set to 00064(D)
5201			
5202	The number of sending bytes of slave station 01(8) register link area	(Decimal, word)	
5203			

Address(8)	Set contents, method
5204 to 5205	The number of sending bytes of slave station 02(8) register link area (same as 5202 to 5203).
5206 to 5207	03(8) (same as 5202 to 5203)
5210 to 5211	04(8) (same as 5202 to 5203)
5212 to 5213	05(8) (same as 5202 to 5203)
5214 to 5215	06(8) (same as 5202 to 5203)
5216 to 5217	07(8) (same as 5202 to 5203)
5220 to 5221	10(8) (same as 5202 to 5203)
5222 to 5223	11(8) (same as 5202 to 5203)
5224 to 5225	12(8) (same as 5202 to 5203)
5226 to 5227	13(8) (same as 5202 to 5203)
5230 to 5231	14(8) (same as 5202 to 5203)
5232 to 5233	15(8) (same as 5202 to 5203)
5234 to 5235	16(8) (same as 5202 to 5203)
5236 to 5237	17(8) (same as 5202 to 5203)
5240 to 5241	20(8) (same as 5202 to 5203)
5242 to 5243	21(8) (same as 5202 to 5203)
5244 to 5245	22(8) (same as 5202 to 5203)
5246 to 5247	23(8) (same as 5202 to 5203)
5250 to 5251	24(8) (same as 5202 to 5203)
5252 to 5253	25(8) (same as 5202 to 5203)
5254 to 5255	26(8) (same as 5202 to 5203)
5256 to 5257	27(8) (same as 5202 to 5203)
5260 to 5261	30(8) (same as 5202 to 5203)
5262 to 5263	31(8) (same as 5202 to 5203)
5264 to 5265	32(8) (same as 5202 to 5203)
5266 to 5267	33(8) (same as 5202 to 5203)
5270 to 5271	34(8) (same as 5202 to 5203)
5272 to 5273	35(8) (same as 5202 to 5203)
5274 to 5275	36(8) (same as 5202 to 5203)
5276 to 5277	37(8) (same as 5202 to 5203)

Address(8)	Set contents, method
5300 to 5301	The number of sending bytes of slave station 40(8) register link area (same as 5202 to 5203).
5302 to 5303	41(8) (same as 5202 to 5203)
5304 to 5305	42(8) (same as 5202 to 5203)
5306 to 5307	43(8) (same as 5202 to 5203)
5310 to 5311	44(8) (same as 5202 to 5203)
5312 to 5313	45(8) (same as 5202 to 5203)
5314 to 5315	46(8) (same as 5202 to 5203)
5316 to 5317	47(8) (same as 5202 to 5203)
5320 to 5321	50(8) (same as 5202 to 5203)
5322 to 5323	51(8) (same as 5202 to 5203)
5324 to 5325	52(8) (same as 5202 to 5203)
5326 to 5327	53(8) (same as 5202 to 5203)
5330 to 5331	54(8) (same as 5202 to 5203)
5332 to 5333	55(8) (same as 5202 to 5203)
5334 to 5335	56(8) (same as 5202 to 5203)
5336 to 5337	57(8) (same as 5202 to 5203)
5340 to 5341	60(8) (same as 5202 to 5203)
5342 to 5343	61(8) (same as 5202 to 5203)
5344 to 5345	62(8) (same as 5202 to 5203)
5346 to 5347	63(8) (same as 5202 to 5203)
5350 to 5351	64(8) (same as 5202 to 5203)
5352 to 5353	65(8) (same as 5202 to 5203)
5354 to 5355	66(8) (same as 5202 to 5203)
5356 to 5357	67(8) (same as 5202 to 5203)
5360 to 5361	70(8) (same as 5202 to 5203)
5362 to 5363	71(8) (same as 5202 to 5203)
5364 to 5365	72(8) (same as 5202 to 5203)
5366 to 5367	73(8) (same as 5202 to 5203)
5370 to 5371	74(8) (same as 5202 to 5203)
5372 to 5373	75(8) (same as 5202 to 5203)
5374 to 5375	76(8) (same as 5202 to 5203)
5376 to 5377	77(8) (same as 5202 to 5203)

• Initial value of the address 5200 to 5377(8) are all 00(H).

Address(8)	Set contents	Setting method (value, example)	
7501	Time out time of SEND/RECEIVE instruction of slave station 01(8) (0.1 to 25.5 sec.)	(Decimal, byte)	When 10 second, set to 100(D)

Address(8)	Set contents, method
7502	Time out time of SEND/RECEIVE instruction of slave station 02(8) (Same as 7501)
7503	03(8) (same as 7501)
7504	04(8) (same as 7501)
7505	05(8) (same as 7501)
7506	06(8) (same as 7501)
7507	07(8) (same as 7501)
7510	10(8) (same as 7501)
7511	11(8) (same as 7501)
7512	12(8) (same as 7501)
7513	13(8) (same as 7501)
7514	14(8) (same as 7501)
7515	15(8) (same as 7501)
7516	16(8) (same as 7501)
7517	17(8) (same as 7501)
7520	20(8) (same as 7501)
7521	21(8) (same as 7501)
7522	22(8) (same as 7501)
7523	23(8) (same as 7501)
7524	24(8) (same as 7501)
7525	25(8) (same as 7501)
7526	26(8) (same as 7501)
7527	27(8) (same as 7501)
7530	30(8) (same as 7501)
7531	31(8) (same as 7501)
7532	32(8) (same as 7501)
7533	33(8) (same as 7501)
7534	34(8) (same as 7501)
7535	35(8) (same as 7501)
7536	36(8) (same as 7501)
7537	37(8) (same as 7501)

Address(8)	Set contents, method
7540	Time out time of SEND/RECEIVE instruction of slave station 40(8) (Same as 7501)
7541	41(8) (same as 7501)
7542	42(8) (same as 7501)
7543	43(8) (same as 7501)
7544	44(8) (same as 7501)
7545	45(8) (same as 7501)
7546	46(8) (same as 7501)
7547	47(8) (same as 7501)
7550	50(8) (same as 7501)
7551	51(8) (same as 7501)
7552	52(8) (same as 7501)
7553	53(8) (same as 7501)
7554	54(8) (same as 7501)
7555	55(8) (same as 7501)
7556	56(8) (same as 7501)
7557	57(8) (same as 7501)
7560	60(8) (same as 7501)
7561	61(8) (same as 7501)
7562	62(8) (same as 7501)
7563	63(8) (same as 7501)
7564	64(8) (same as 7501)
7565	65(8) (same as 7501)
7566	66(8) (same as 7501)
7567	67(8) (same as 7501)
7570	70(8) (same as 7501)
7571	71(8) (same as 7501)
7572	72(8) (same as 7501)
7573	73(8) (same as 7501)
7574	74(8) (same as 7501)
7575	75(8) (same as 7501)
7576	76(8) (same as 7501)
7577	77(8) (same as 7501)

• Initial value of the address 7501 to 7577(8) are all 00(H).

Address(8)	Set contents	Setting method (value, example)	
7601	PLC model of slave station 01(8)	91(H)	• JW-22CM • PLC is JW model, JW-20CM and ZW-20CM is with JW marking

Address(8)	Set contents, method
7602	PLC model of slave station 02(8) (Same as 7601)
7603	03(8) (same as 7601)
7604	04(8) (same as 7601)
7605	05(8) (same as 7601)
7606	06(8) (same as 7601)
7607	07(8) (same as 7601)
7610	10(8) (same as 7601)
7611	11(8) (same as 7601)
7612	12(8) (same as 7601)
7613	13(8) (same as 7601)
7614	14(8) (same as 7601)
7615	15(8) (same as 7601)
7616	16(8) (same as 7601)
7617	17(8) (same as 7601)
7620	20(8) (same as 7601)
7621	21(8) (same as 7601)
7622	22(8) (same as 7601)
7623	23(8) (same as 7601)
7624	24(8) (same as 7601)
7625	25(8) (same as 7601)
7626	26(8) (same as 7601)
7627	27(8) (same as 7601)
7630	30(8) (same as 7601)
7631	31(8) (same as 7601)
7632	32(8) (same as 7601)
7633	33(8) (same as 7601)
7634	34(8) (same as 7601)
7635	35(8) (same as 7601)
7636	36(8) (same as 7601)
7637	37(8) (same as 7601)

Address(8)	Set contents, method
7640	PLC model of slave station 40(8) (Same as 7601)
7641	41(8) (same as 7601)
7642	42(8) (same as 7601)
7643	43(8) (same as 7601)
7644	44(8) (same as 7601)
7645	45(8) (same as 7601)
7646	46(8) (same as 7601)
7647	47(8) (same as 7601)
7650	50(8) (same as 7601)
7651	51(8) (same as 7601)
7652	52(8) (same as 7601)
7653	53(8) (same as 7601)
7654	54(8) (same as 7601)
7655	55(8) (same as 7601)
7656	56(8) (same as 7601)
7657	57(8) (same as 7601)
7660	60(8) (same as 7601)
7661	61(8) (same as 7601)
7662	62(8) (same as 7601)
7663	63(8) (same as 7601)
7664	64(8) (same as 7601)
7665	65(8) (same as 7601)
7666	66(8) (same as 7601)
7667	67(8) (same as 7601)
7670	70(8) (same as 7601)
7671	71(8) (same as 7601)
7672	72(8) (same as 7601)
7673	73(8) (same as 7601)
7674	74(8) (same as 7601)
7675	75(8) (same as 7601)
7676	76(8) (same as 7601)
7677	77(8) (same as 7601)

• Initial value of the address 7601 to 7677(8) are all 91(H).

<table>
<tr><th>Address(8)</th><th colspan="2">Set contents</th><th colspan="3">Setting method (value, example)</th></tr>
<tr><td rowspan="8">7700
to
7703</td><td rowspan="8">System of each channel in SEND/RECEIVE function</td><td rowspan="2">7700</td><td rowspan="2">CH0</td><td>00(H)</td><td>Instruction method</td></tr>
<tr><td>80(H)</td><td>Data memory starting method</td></tr>
<tr><td rowspan="2">7701</td><td rowspan="2">CH1</td><td>00(H)</td><td>Instruction method</td></tr>
<tr><td>81(H)</td><td>Data memory starting method</td></tr>
<tr><td rowspan="2">7702</td><td rowspan="2">CH2</td><td>00(H)</td><td>Instruction method</td></tr>
<tr><td>82(H)</td><td>Data memory starting method</td></tr>
<tr><td rowspan="2">7703</td><td rowspan="2">CH3</td><td>00(H)</td><td>Instruction method</td></tr>
<tr><td>83(H)</td><td>Data memory starting method</td></tr>
<tr><td rowspan="4">7710
to
7713</td><td rowspan="4">Top addresses in communication information storage area when using data memory starting system of SEND/RECEIVE functions</td><td>7710</td><td colspan="2" rowspan="2">(Octal, word)</td><td rowspan="2">When □1100, set to 001100(8)
(Set by file address)</td></tr>
<tr><td>7711</td></tr>
<tr><td>7712</td><td colspan="2">(Hexadecimal, byte)</td><td>When file number is 0, set to 00(H)</td></tr>
<tr><td>7713</td><td colspan="3">This setting is valid by 80(H)</td></tr>
<tr><td rowspan="10">7750
to
7757</td><td rowspan="10">Connection condition of slave station
• Turn ON the corresponding bit of connected station number (01 to 77(8)) from the list at right.
• 00(8) of master station (0 bit of address 000750)
At ON: Output error code
At OFF: Do not output error code.</td><td>Bit address</td><td colspan="3">7 6 5 4 3 2 1 0</td><td rowspan="10">• When connecting slave station 00 to 04(8) and output error code:
(Address) (Bit pattern)
7750 — 00011111
7751 — 00000000
to to
7757 — 00000000</td></tr>
<tr><td>7750</td><td colspan="3">07 06 05 04 03 02 01 00</td></tr>
<tr><td>7751</td><td colspan="3">17 16 15 14 13 12 11 10</td></tr>
<tr><td>7752</td><td colspan="3">27 26 25 24 23 22 21 20</td></tr>
<tr><td>7753</td><td colspan="3">37 36 35 34 33 32 31 30</td></tr>
<tr><td>7754</td><td colspan="3">47 46 45 44 43 42 41 40</td></tr>
<tr><td>7755</td><td colspan="3">57 56 55 54 53 52 51 50</td></tr>
<tr><td>7756</td><td colspan="3">67 66 65 64 63 62 61 60</td></tr>
<tr><td>7757</td><td colspan="3">77 76 75 74 73 72 71 70</td></tr>
<tr><td rowspan="2">7763</td><td colspan="2" rowspan="2">Whether the station number information should be output or not</td><td colspan="2">00(H)</td><td>Do not output</td></tr>
<tr><td colspan="2">01(H)</td><td>Output</td></tr>
<tr><td rowspan="4">7764
to
7767</td><td colspan="2" rowspan="4">Flag area top address on the master station</td><td>7764</td><td colspan="2" rowspan="2">(Octal, word)</td><td rowspan="2">When □0200, set to 000200(8)
(Set by file address)</td></tr>
<tr><td>7765</td></tr>
<tr><td>7766</td><td colspan="2">(Hexadecimal, byte)</td><td>When file number is 2, set to 02(H)</td></tr>
<tr><td>7767</td><td colspan="2">●</td><td>00(H): Do not output flag
80(H): Output flag</td></tr>
<tr><td rowspan="5">7777</td><td colspan="2">Stop operation of the JW-22CM</td><td colspan="2">00(H)</td><td rowspan="5">———</td></tr>
<tr><td colspan="2">Start operation of the JW-22CM</td><td colspan="2">01(H)</td></tr>
<tr><td colspan="2">Writing to EEPROM or operation of the JW-22CM/stop operation</td><td colspan="2">80(H)</td></tr>
<tr><td colspan="2">Writing to EEPROM or operation of the JW-22CM/start operation</td><td colspan="2">81(H)</td></tr>
<tr><td colspan="2">Initialize parameter settings</td><td colspan="2">08(H)</td></tr>
</table>

• For initial values of above addresses, refer to page 11-5 and 11-6.

(2) Slave station 01 to 77(8) (Installed in a JW20H/30H)

(1 / 1)

Address(8)	Set contents		Setting method (value, example)		
7500	Time out time of SEND/RECEIVE instruction of master station (0.1 to 25. 5 sec.)		(Decimal, byte)		When 10 second, set to 100(D)
7501 to 7577	Time out time of SEND/RECEIVE instruction of slave station 01 to 77(8) (Refer to page 16-13 same as data link master station)				
7600	PLC model of master station		91(H)		• JW-22CM • PLC is JW model, JW-20CM and ZW-20CM is with JW marking
7601 to 7677	PLC model of slave station 01 to 77(8) (Refer to page 16-14 same as data link master station)		Same as 7600		
7700 to 7703	System of each channel in SEND · RECEIVE function	7700	CH0	00(H)	Instruction method
				80(H)	Data memory starting method
		7701	CH1	00(H)	Instruction method
				81(H)	Data memory starting method
		7702	CH2	00(H)	Instruction method
				82(H)	Data memory starting method
		7703	CH3	00(H)	Instruction method
				83(H)	Data memory starting method
7710 to 7713	Top addresses in communication information storage area when using data memory starting system of SEND/RECEIVE functions	7710	(Octal, word)		When □1100 to set to 001100(8) (Setting by file address)
		7711			
		7712	(Hexadecimal, byte)		When file number is 0, set to 00(H)
		7713	This setting is valid by 80(H)		
7720 7721	The number of receiving bytes of relay link in save memory function		(Decimal, byte)		If 0 is set, the number of bytes will be the same as the number of transfer bytes set in the master station.
7722 7723	Number of receiving bytes of register link in save memory function		(Decimal, byte)		If 0 is set, the number of bytes will be the same as the number of transfer bytes set in the master station.
7763	Whether the station number information should be output or not		00(H)		Do not output
			01(H)		Output
7764 to 7767	Top address of flag area on each slave station	7764	(Octal, word)		When □0600, set to 000600(8) (Set by file address)
		7765			
		7766	00(H)		When file number is 2, set to 02(H)
		7767	●		00(H): Do not output flag 80(H): Output flag
7777	Stop operation of the JW-22CM		00(H)		———
	Start operation of the JW-22CM		01(H)		
	Writing to EEPROM / stop operation of the JW-22CM		80(H)		
	Writing to EEPROM / start operation of the JW-22CM		81(H)		
	Initialize parameter settings		08(H)		

• For initial values of above address, refer to page 11-27.

[2] Installed in a JW300

When the JW-22CM is installed in a JW300, the parameter (master/slave station) addresses and setting details are as follows. When a JW300 is used, set the parameters in the main body parameters (corresponding to the option number) in the control module (JW-3**CU). => Refer to page 11-16 and 11-31

(1) Master station (Installed in a JW300)

The set contents of the parameter addresses 0004 to 0377(8) and 0404 to 0777(8) shown below are in the case that a JW-22CM is used for a slave station. When the ZW-20CM or JW-20CM is used as a slave station, refer to each manual.

(1 / 7)

Address(8)	Set contents		Setting method (value, example)	
0000	Top address of relay link area in the master station		(Octal, word)	When ∃1000, set to 001000(8) by file address
0001				
0002	Set function (relay/register link)		01(H)	Fixed to 01(H)
0003	A number of stations to connect (2 to 64 stations)		(Decimal, byte)	When 12 stations, set to 012(D)
0004 to 0007	• When slave station 01(8) is set to data link (**the standard function**), **top address** of the register link area on slave station 01(8).	0004	(Octal, word)	When ∃1200, set to 001200(8) (Set by file address)
		0005		
		0006	00(H)	00(H): In this case the same as the master station * 80(H): In this case different from the master station
		0007	●	
	• When slave station 01(8) is set to data link (**the save memory function**), **number of offset bytes** of register a link area on slave station 01(8).	0004	(Decimal, word)	When 100 bytes, set to 00100(D)
		0005		
		0006	00(H)	
		0007	80(H)	

* When 00(H) is set, the value becomes the same top address of the master station regardless of the setting value of 0004 to 0005(8).

Address(8)	Set contents, method
0010 to 0013	Top address or the number of offset bytes on slave station 02(8) (same as 0004 to 0007).
0014 to 0017	03(8) (same as 0004 to 0007)
0020 to 0023	04(8) (same as 0004 to 0007)
0024 to 0027	05(8) (same as 0004 to 0007)
0030 to 0033	06(8) (same as 0004 to 0007)
0034 to 0037	07(8) (same as 0004 to 0007)
0040 to 0043	10(8) (same as 0004 to 0007)
0044 to 0047	11(8) (same as 0004 to 0007)
0050 to 0053	12(8) (same as 0004 to 0007)
0054 to 0057	13(8) (same as 0004 to 0007)
0060 to 0063	14(8) (same as 0004 to 0007)
0064 to 0067	15(8) (same as 0004 to 0007)
0070 to 0073	16(8) (same as 0004 to 0007)
0074 to 0077	17(8) (same as 0004 to 0007)
0100 to 0103	20(8) (same as 0004 to 0007)
0104 to 0107	21(8) (same as 0004 to 0007)
0110 to 0113	22(8) (same as 0004 to 0007)
0114 to 0117	23(8) (same as 0004 to 0007)
0120 to 0123	24(8) (same as 0004 to 0007)
0124 to 0127	25(8) (same as 0004 to 0007)
0130 to 0133	26(8) (same as 0004 to 0007)
0134 to 0137	27(8) (same as 0004 to 0007)
0140 to 0143	30(8) (same as 0004 to 0007)
0144 to 0147	31(8) (same as 0004 to 0007)
0150 to 0153	32(8) (same as 0004 to 0007)
0154 to 0157	33(8) (same as 0004 to 0007)
0160 to 0163	34(8) (same as 0004 to 0007)
0164 to 0167	35(8) (same as 0004 to 0007)
0170 to 0173	36(8) (same as 0004 to 0007)
0174 to 0177	37(8) (same as 0004 to 0007)

Address(8)	Set contents, method
0200 to 0203	Top address or the number of offset bytes on slave station 40(8) (same as 0004 to 0007).
0204 to 0207	41(8) (same as 0004 to 0007)
0210 to 0213	42(8) (same as 0004 to 0007)
0214 to 0217	43(8) (same as 0004 to 0007)
0220 to 0223	44(8) (same as 0004 to 0007)
0224 to 0227	45(8) (same as 0004 to 0007)
0230 to 0233	46(8) (same as 0004 to 0007)
0234 to 0237	47(8) (same as 0004 to 0007)
0240 to 0243	50(8) (same as 0004 to 0007)
0244 to 0247	51(8) (same as 0004 to 0007)
0250 to 0253	52(8) (same as 0004 to 0007)
0254 to 0257	53(8) (same as 0004 to 0007)
0260 to 0263	54(8) (same as 0004 to 0007)
0264 to 0267	55(8) (same as 0004 to 0007)
0270 to 0273	56(8) (same as 0004 to 0007)
0274 to 0277	57(8) (same as 0004 to 0007)
0300 to 0303	60(8) (same as 0004 to 0007)
0304 to 0307	61(8) (same as 0004 to 0007)
0310 to 0313	62(8) (same as 0004 to 0007)
0314 to 0317	63(8) (same as 0004 to 0007)
0320 to 0323	64(8) (same as 0004 to 0007)
0324 to 0327	65(8) (same as 0004 to 0007)
0330 to 0333	66(8) (same as 0004 to 0007)
0334 to 0337	67(8) (same as 0004 to 0007)
0340 to 0343	70(8) (same as 0004 to 0007)
0344 to 0347	71(8) (same as 0004 to 0007)
0350 to 0353	72(8) (same as 0004 to 0007)
0354 to 0357	73(8) (same as 0004 to 0007)
0360 to 0363	74(8) (same as 0004 to 0007)
0364 to 0367	75(8) (same as 0004 to 0007)
0370 to 0373	76(8) (same as 0004 to 0007)
0374 to 0377	77(8) (same as 0004 to 0007)

• Initial value of the address 0000 to 0377(8) are all 00(H).

Address(8)	Set contents		Setting method (value, example)	
0400	Top address of register link area in the master station		(Octal, word)	When 09000(8), set to 004000(8) by file address
0401				
0402			(Hexadecimal, byte)	When file number is 1, set to 01(H).
0403			00(H)	
0404 to 0407	• When slave station 01(8) is set to data link (**the standard function**), **top address** of the register link area on slave station 01(8).	0404	(Octal, word)	When 29000, set to 006000(8) (Set by file address)
		0405		
		0406	(Hexadecimal, byte)	When file number is 2, set to 02(H).
		0407	●	00(H): In this case the same as the master station * / 80(H): In this case different from the master station
	• When slave station 01(8) is set to data link (**the save memory function**), **the number of offset bytes** of register a link area on slave station 01(8).	0404	(Decimal, word)	When 100 bytes, set to 00100(D)
		0405		
		0406	00(H)	
		0407	80(H)	

* When 00(H) is set, the value becomes the same top address of the master station regardless of the setting value of 0404 to 0405(8).

Address(8)	Set contents, method
0410 to 0413	Top address or number of the offset bytes on slave station 02(8) (same as 0404 to 0407).
0414 to 0417	03(8) (same as 0404 to 0407)
0420 to 0423	04(8) (same as 0404 to 0407)
0424 to 0427	05(8) (same as 0404 to 0407)
0430 to 0433	06(8) (same as 0404 to 0407)
0434 to 0437	07(8) (same as 0404 to 0407)
0440 to 0443	10(8) (same as 0404 to 0407)
0444 to 0447	11(8) (same as 0404 to 0407)
0450 to 0453	12(8) (same as 0404 to 0407)
0454 to 0457	13(8) (same as 0404 to 0407)
0460 to 0463	14(8) (same as 0404 to 0407)
0464 to 0467	15(8) (same as 0404 to 0407)
0470 to 0473	16(8) (same as 0404 to 0407)
0474 to 0477	17(8) (same as 0404 to 0407)
0500 to 0503	20(8) (same as 0404 to 0407)
0504 to 0507	21(8) (same as 0404 to 0407)
0510 to 0513	22(8) (same as 0404 to 0407)
0514 to 0517	23(8) (same as 0404 to 0407)
0520 to 0523	24(8) (same as 0404 to 0407)
0524 to 0527	25(8) (same as 0404 to 0407)
0530 to 0533	26(8) (same as 0404 to 0407)
0534 to 0537	27(8) (same as 0404 to 0407)
0540 to 0543	30(8) (same as 0404 to 0407)
0544 to 0547	31(8) (same as 0404 to 0407)
0550 to 0553	32(8) (same as 0404 to 0407)
0554 to 0557	33(8) (same as 0404 to 0407)
0560 to 0563	34(8) (same as 0404 to 0407)
0564 to 0567	35(8) (same as 0404 to 0407)
0570 to 0573	36(8) (same as 0404 to 0407)
0574 to 0577	37(8) (same as 0404 to 0407)

Address(8)	Set contents, method
0600 to 0603	Top address or the number of offset bytes on slave station 40(8) (same as 0404 to 0407).
0604 to 0607	41(8) (same as 0404 to 0407)
0610 to 0613	42(8) (same as 0404 to 0407)
0614 to 0617	43(8) (same as 0404 to 0407)
0620 to 0623	44(8) (same as 0404 to 0407)
0624 to 0627	45(8) (same as 0404 to 0407)
0630 to 0633	46(8) (same as 0404 to 0407)
0634 to 0637	47(8) (same as 0404 to 0407)
0640 to 0643	50(8) (same as 0404 to 0407)
0644 to 0647	51(8) (same as 0404 to 0407)
0650 to 0653	52(8) (same as 0404 to 0407)
0654 to 0657	53(8) (same as 0404 to 0407)
0660 to 0663	54(8) (same as 0404 to 0407)
0664 to 0667	55(8) (same as 0404 to 0407)
0670 to 0673	56(8) (same as 0404 to 0407)
0674 to 0677	57(8) (same as 0404 to 0407)
0700 to 0703	60(8) (same as 0404 to 0407)
0704 to 0707	61(8) (same as 0404 to 0407)
0710 to 0713	62(8) (same as 0404 to 0407)
0714 to 0717	63(8) (same as 0404 to 0407)
0720 to 0723	64(8) (same as 0404 to 0407)
0724 to 0727	65(8) (same as 0404 to 0407)
0730 to 0733	66(8) (same as 0404 to 0407)
0734 to 0737	67(8) (same as 0404 to 0407)
0740 to 0743	70(8) (same as 0404 to 0407)
0744 to 0747	71(8) (same as 0404 to 0407)
0750 to 0753	72(8) (same as 0404 to 0407)
0754 to 0757	73(8) (same as 0404 to 0407)
0760 to 0763	74(8) (same as 0404 to 0407)
0764 to 0767	75(8) (same as 0404 to 0407)
0770 to 0773	76(8) (same as 0404 to 0407)
0774 to 0777	77(8) (same as 0404 to 0407)

• Initial value of the address 0400 to 0777(8) are all 00(H).

Address(8)	Set contents	Setting method (value, example)	
1000 1001	The number of sending bytes of master station relay link area	(Decimal, word)	When 8 bytes, set to 00008(D)
1002 1003	The number of sending bytes of slave station 01(8) relay link area	(Decimal, word)	

Address(8)	Set contents, method
1004 to 1005	The number of sending bytes of slave station 02(8) relay link area (same as 1002 to 1003).
1006 to 1007	03(8) (same as 1002 to 1003)
1010 to 1011	04(8) (same as 1002 to 1003)
1012 to 1013	05(8) (same as 1002 to 1003)
1014 to 1015	06(8) (same as 1002 to 1003)
1016 to 1017	07(8) (same as 1002 to 1003)
1020 to 1021	10(8) (same as 1002 to 1003)
1022 to 1023	11(8) (same as 1002 to 1003)
1024 to 1025	12(8) (same as 1002 to 1003)
1026 to 1027	13(8) (same as 1002 to 1003)
1030 to 1031	14(8) (same as 1002 to 1003)
1032 to 1033	15(8) (same as 1002 to 1003)
1034 to 1035	16(8) (same as 1002 to 1003)
1036 to 1037	17(8) (same as 1002 to 1003)
1040 to 1041	20(8) (same as 1002 to 1003)
1042 to 1043	21(8) (same as 1002 to 1003)
1044 to 1045	22(8) (same as 1002 to 1003)
1046 to 1047	23(8) (same as 1002 to 1003)
1050 to 1051	24(8) (same as 1002 to 1003)
1052 to 1053	25(8) (same as 1002 to 1003)
1054 to 1055	26(8) (same as 1002 to 1003)
1056 to 1057	27(8) (same as 1002 to 1003)
1060 to 1061	30(8) (same as 1002 to 1003)
1062 to 1063	31(8) (same as 1002 to 1003)
1064 to 1065	32(8) (same as 1002 to 1003)
1066 to 1067	33(8) (same as 1002 to 1003)
1070 to 1071	34(8) (same as 1002 to 1003)
1072 to 1073	35(8) (same as 1002 to 1003)
1074 to 1075	36(8) (same as 1002 to 1003)
1076 to 1077	37(8) (same as 1002 to 1003)

Address(8)	Set contents, method
1100 to 1101	The number of sending bytes of slave station 40(8) relay link area (same as 1002 to 1003).
1102 to 1103	41(8) (same as 1002 to 1003)
1104 to 1105	42(8) (same as 1002 to 1003)
1106 to 1107	43(8) (same as 1002 to 1003)
1110 to 1111	44(8) (same as 1002 to 1003)
1112 to 1113	45(8) (same as 1002 to 1003)
1114 to 1115	46(8) (same as 1002 to 1003)
1116 to 1117	47(8) (same as 1002 to 1003)
1120 to 1121	50(8) (same as 1002 to 1003)
1122 to 1123	51(8) (same as 1002 to 1003)
1124 to 1125	52(8) (same as 1002 to 1003)
1126 to 1127	53(8) (same as 1002 to 1003)
1130 to 1131	54(8) (same as 1002 to 1003)
1132 to 1133	55(8) (same as 1002 to 1003)
1134 to 1135	56(8) (same as 1002 to 1003)
1136 to 1137	57(8) (same as 1002 to 1003)
1140 to 1141	60(8) (same as 1002 to 1003)
1142 to 1143	61(8) (same as 1002 to 1003)
1144 to 1145	62(8) (same as 1002 to 1003)
1146 to 1147	63(8) (same as 1002 to 1003)
1150 to 1151	64(8) (same as 1002 to 1003)
1152 to 1153	65(8) (same as 1002 to 1003)
1154 to 1155	66(8) (same as 1002 to 1003)
1156 to 1157	67(8) (same as 1002 to 1003)
1160 to 1161	70(8) (same as 1002 to 1003)
1162 to 1163	71(8) (same as 1002 to 1003)
1164 to 1165	72(8) (same as 1002 to 1003)
1166 to 1167	73(8) (same as 1002 to 1003)
1170 to 1171	74(8) (same as 1002 to 1003)
1172 to 1173	75(8) (same as 1002 to 1003)
1174 to 1175	76(8) (same as 1002 to 1003)
1176 to 1177	77(8) (same as 1002 to 1003)

• Initial value of the address 1000 to 1177(8) are all 00(H).

(4 / 7)

Address(8)	Set contents	Setting method (value, example)	
1200 1201	The number of sending bytes of master station register link area	(Decimal, word)	When 64 bytes, set to 00064(D)
1202 1203	The number of sending bytes of slave station 01(8) register link area	(Decimal, word)	

Address(8)	Set contents, method
1204 to 1205	The number of sending bytes of slave station 02(8) register link area (same as 1202 to 1203).
1206 to 1207	03(8) (same as 1202 to 1203)
1210 to 1211	04(8) (same as 1202 to 1203)
1212 to 1213	05(8) (same as 1202 to 1203)
1214 to 1215	06(8) (same as 1202 to 1203)
1216 to 1217	07(8) (same as 1202 to 1203)
1220 to 1221	10(8) (same as 1202 to 1203)
1222 to 1223	11(8) (same as 1202 to 1203)
1224 to 1225	12(8) (same as 1202 to 1203)
1226 to 1227	13(8) (same as 1202 to 1203)
1230 to 1231	14(8) (same as 1202 to 1203)
1232 to 1233	15(8) (same as 1202 to 1203)
1234 to 1235	16(8) (same as 1202 to 1203)
1236 to 1237	17(8) (same as 1202 to 1203)
1240 to 1241	20(8) (same as 1202 to 1203)
1242 to 1243	21(8) (same as 1202 to 1203)
1244 to 1245	22(8) (same as 1202 to 1203)
1246 to 1247	23(8) (same as 1202 to 1203)
1250 to 1251	24(8) (same as 1202 to 1203)
1252 to 1253	25(8) (same as 1202 to 1203)
1254 to 1255	26(8) (same as 1202 to 1203)
1256 to 1257	27(8) (same as 1202 to 1203)
1260 to 1261	30(8) (same as 1202 to 1203)
1262 to 1263	31(8) (same as 1202 to 1203)
1264 to 1265	32(8) (same as 1202 to 1203)
1266 to 1267	33(8) (same as 1202 to 1203)
1270 to 1271	34(8) (same as 1202 to 1203)
1272 to 1273	35(8) (same as 1202 to 1203)
1274 to 1275	36(8) (same as 1202 to 1203)
1276 to 1277	37(8) (same as 1202 to 1203)

Address(8)	Set contents, method
1300 to 1301	The number of sending bytes of slave station 40(8) register link area (same as 1202 to 1203).
1302 to 1303	41(8) (same as 1202 to 1203)
1304 to 1305	42(8) (same as 1202 to 1203)
1306 to 1307	43(8) (same as 1202 to 1203)
1310 to 1311	44(8) (same as 1202 to 1203)
1312 to 1313	45(8) (same as 1202 to 1203)
1314 to 1315	46(8) (same as 1202 to 1203)
1316 to 1317	47(8) (same as 1202 to 1203)
1320 to 1321	50(8) (same as 1202 to 1203)
1322 to 1323	51(8) (same as 1202 to 1203)
1324 to 1325	52(8) (same as 1202 to 1203)
1326 to 1327	53(8) (same as 1202 to 1203)
1330 to 1331	54(8) (same as 1202 to 1203)
1332 to 1333	55(8) (same as 1202 to 1203)
1334 to 1335	56(8) (same as 1202 to 1203)
1336 to 1337	57(8) (same as 1202 to 1203)
1340 to 1341	60(8) (same as 1202 to 1203)
1342 to 1343	61(8) (same as 1202 to 1203)
1344 to 1345	62(8) (same as 1202 to 1203)
1346 to 1347	63(8) (same as 1202 to 1203)
1350 to 1351	64(8) (same as 1202 to 1203)
1352 to 1353	65(8) (same as 1202 to 1203)
1354 to 1355	66(8) (same as 1202 to 1203)
1356 to 1357	67(8) (same as 1202 to 1203)
1360 to 1361	70(8) (same as 1202 to 1203)
1362 to 1363	71(8) (same as 1202 to 1203)
1364 to 1365	72(8) (same as 1202 to 1203)
1366 to 1367	73(8) (same as 1202 to 1203)
1370 to 1371	74(8) (same as 1202 to 1203)
1372 to 1373	75(8) (same as 1202 to 1203)
1374 to 1375	76(8) (same as 1202 to 1203)
1376 to 1377	77(8) (same as 1202 to 1203)

• Initial value of the address 1200 to 1337(8) are all 00(H).

Address(8)	Set contents	Setting method (value, example)	
3501	Time out time of SEND/RECEIVE instruction of slave station $01_{(8)}$ (0.1 to 25.5 sec.)	(Decimal, byte)	When 10 second, set to $100_{(D)}$

Address(8)	Set contents, method
3502	Time out time of SEND/RECEIVE instruction of slave station $02_{(8)}$ (Same as 3501)
3503	$03_{(8)}$ (same as 3501)
3504	$04_{(8)}$ (same as 3501)
3505	$05_{(8)}$ (same as 3501)
3506	$06_{(8)}$ (same as 3501)
3507	$07_{(8)}$ (same as 3501)
3510	$10_{(8)}$ (same as 3501)
3511	$11_{(8)}$ (same as 3501)
3512	$12_{(8)}$ (same as 3501)
3513	$13_{(8)}$ (same as 3501)
3514	$14_{(8)}$ (same as 3501)
3515	$15_{(8)}$ (same as 3501)
3516	$16_{(8)}$ (same as 3501)
3517	$17_{(8)}$ (same as 3501)
3520	$20_{(8)}$ (same as 3501)
3521	$21_{(8)}$ (same as 3501)
3522	$22_{(8)}$ (same as 3501)
3523	$23_{(8)}$ (same as 3501)
3524	$24_{(8)}$ (same as 3501)
3525	$25_{(8)}$ (same as 3501)
3526	$26_{(8)}$ (same as 3501)
3527	$27_{(8)}$ (same as 3501)
3530	$30_{(8)}$ (same as 3501)
3531	$31_{(8)}$ (same as 3501)
3532	$32_{(8)}$ (same as 3501)
3533	$33_{(8)}$ (same as 3501)
3534	$34_{(8)}$ (same as 3501)
3535	$35_{(8)}$ (same as 3501)
3536	$36_{(8)}$ (same as 3501)
3537	$37_{(8)}$ (same as 3501)

Address(8)	Set contents, method
3540	Time out time of SEND/RECEIVE instruction of slave station $40_{(8)}$ (Same as 3501)
3541	$41_{(8)}$ (same as 3501)
3542	$42_{(8)}$ (same as 3501)
3543	$43_{(8)}$ (same as 3501)
3544	$44_{(8)}$ (same as 3501)
3545	$45_{(8)}$ (same as 3501)
3546	$46_{(8)}$ (same as 3501)
3547	$47_{(8)}$ (same as 3501)
3550	$50_{(8)}$ (same as 3501)
3551	$51_{(8)}$ (same as 3501)
3552	$52_{(8)}$ (same as 3501)
3553	$53_{(8)}$ (same as 3501)
3554	$54_{(8)}$ (same as 3501)
3555	$55_{(8)}$ (same as 3501)
3556	$56_{(8)}$ (same as 3501)
3557	$57_{(8)}$ (same as 3501)
3560	$60_{(8)}$ (same as 3501)
3561	$61_{(8)}$ (same as 3501)
3562	$62_{(8)}$ (same as 3501)
3563	$63_{(8)}$ (same as 3501)
3564	$64_{(8)}$ (same as 3501)
3565	$65_{(8)}$ (same as 3501)
3566	$66_{(8)}$ (same as 3501)
3567	$67_{(8)}$ (same as 3501)
3570	$70_{(8)}$ (same as 3501)
3571	$71_{(8)}$ (same as 3501)
3572	$72_{(8)}$ (same as 3501)
3573	$73_{(8)}$ (same as 3501)
3574	$74_{(8)}$ (same as 3501)
3575	$75_{(8)}$ (same as 3501)
3576	$76_{(8)}$ (same as 3501)
3577	$77_{(8)}$ (same as 3501)

• Initial value of the address 3501 to $3577_{(8)}$ are all $00_{(H)}$.

(6 / 7)

Address(8)	Set contents	Setting method (value, example)	
3601	PLC model of slave station 01(8)	91(H)	• JW-22CM • PLC is JW model, JW20CM or ZW-20CM is with JW marking

Address(8)	Set contents, method
3602	PLC model of slave station 02(8) (Same as 3601)
3603	03(8) (same as 3601)
3604	04(8) (same as 3601)
3605	05(8) (same as 3601)
3606	06(8) (same as 3601)
3607	07(8) (same as 3601)
3610	10(8) (same as 3601)
3611	11(8) (same as 3601)
3612	12(8) (same as 3601)
3613	13(8) (same as 3601)
3614	14(8) (same as 3601)
3615	15(8) (same as 3601)
3616	16(8) (same as 3601)
3617	17(8) (same as 3601)
3620	20(8) (same as 3601)
3621	21(8) (same as 3601)
3622	22(8) (same as 3601)
3623	23(8) (same as 3601)
3624	24(8) (same as 3601)
3625	25(8) (same as 3601)
3626	26(8) (same as 3601)
3627	27(8) (same as 3601)
3630	30(8) (same as 3601)
3631	31(8) (same as 3601)
3632	32(8) (same as 3601)
3633	33(8) (same as 3601)
3634	34(8) (same as 3601)
3635	35(8) (same as 3601)
3636	36(8) (same as 3601)
3637	37(8) (same as 3601)

Address(8)	Set contents, method
3640	PLC model of slave station 40(8) (Same as 3601)
3641	41(8) (same as 3601)
3642	42(8) (same as 3601)
3643	43(8) (same as 3601)
3644	44(8) (same as 3601)
3645	45(8) (same as 3601)
3646	46(8) (same as 3601)
3647	47(8) (same as 3601)
3650	50(8) (same as 3601)
3651	51(8) (same as 3601)
3652	52(8) (same as 3601)
3653	53(8) (same as 3601)
3654	54(8) (same as 3601)
3655	55(8) (same as 3601)
3656	56(8) (same as 3601)
3657	57(8) (same as 3601)
3660	60(8) (same as 3601)
3661	61(8) (same as 3601)
3662	62(8) (same as 3601)
3663	63(8) (same as 3601)
3664	64(8) (same as 3601)
3665	65(8) (same as 3601)
3666	66(8) (same as 3601)
3667	67(8) (same as 3601)
3670	70(8) (same as 3601)
3671	71(8) (same as 3601)
3672	72(8) (same as 3601)
3673	73(8) (same as 3601)
3674	74(8) (same as 3601)
3675	75(8) (same as 3601)
3676	76(8) (same as 3601)
3677	77(8) (same as 3601)

• Initial value of the address 3601 to 3677(8) are all 00(H).

Address(8)	Set contents		Setting method (value, example)		
3700 to 3703	System of each channel in SEND/RECEIVE function	3700	CH0	00(H)	Instruction method
				80(H)	Data memory starting method
		3701	CH1	00(H)	Instruction method
				81(H)	Data memory starting method
		3702	CH2	00(H)	Instruction method
				82(H)	Data memory starting method
		3703	CH3	00(H)	Instruction method
				83(H)	Data memory starting method
3710 to 3713	Top addresses in communication information storage area when using data memory starting system of SEND/RECEIVE functions	3710	(Octal, word)		When ⊐1100 to set to 001100(8) (Setting by file address)
		3711			
		3712	(Hexadecimal, byte)		When file number is 0, set to 00(H)
		3713	This setting is valid by 80(H)		
3750 to 3757	Connection condition of slave station • Turn ON the corresponding bit of connected station number (01 to 77(8)) from the list at right. • 00(8) of master station (0 bit of address 000750) At ON: Output error code At OFF: Do not output error code.	Bit address	7 6 5 4 3 2 1 0		• When connecting slave station 00 to 04(8) and output error code: (Address) (Bit pattern) 3750 — 00011111 3751 — 00000000 to to 3757 — 00000000
		3750	07 06 05 04 03 02 01 00		
		3751	17 16 15 14 13 12 11 10		
		3752	27 26 25 24 23 22 21 20		
		3753	37 36 35 34 33 32 31 30		
		3754	47 46 45 44 43 42 41 40		
		3755	57 56 55 54 53 52 51 50		
		3756	67 66 65 64 63 62 61 60		
		3757	77 76 75 74 73 72 71 70		
3763	Whether the station number information should be output or not		00(H)		Do not output
			01(H)		Output
3764 to 3767	Flag area top address on the master station	3764	(Octal, word)		When ⊐0200, set to 000200(8) (Set by file address)
		3765			
		3766	(Hexadecimal, byte)		When file number is 2, set to 02(H)
		3767	●		00(H): Do not output flag 80(H): Output flag
3777	Start switch		00(H)		When to set (write) parameters, set to 00(H).
			01(H)		When the bits changes from 00(H) to 01(H), the set detail of parameters is transferred from the control module to the JW-22CM.

• Initial value of the above addresses are all 00(H).

(2) Slave station 01 to 77(8) (Installed in a JW300)

Address(8)	Set contents		Setting method (value, example)		
3500	Time out time of SEND/RECEIVE instruction of master station (0.1 to 25. 5 sec.)		(Decimal, byte)		When 10 second, set to 100(D)
3501 to 3577	Time out time of SEND/RECEIVE instruction of slave station 01 to 77(8) (Refer to page 16-22 same as data link master station)				
3600	PLC model of master station		91(H)		• JW-22CM • PLC is JW model, JW-20CM or ZW-20CM is with JW marking
3601 to 3677	PLC model of slave station 01 to 77(8) (Refer to page 16-23 same as data link master station)		Same as 3600		
3700 to 3703	System of each channel in SEND · RECEIVE function	3700	CH0	00(H)	Instruction method
				80(H)	Data memory starting method
		3701	CH1	00(H)	Instruction method
				81(H)	Data memory starting method
		3702	CH2	00(H)	Instruction method
				82(H)	Data memory starting method
		3703	CH3	00(H)	Instruction method
				83(H)	Data memory starting method
3710 to 3713	Top addresses in communication information storage area when using data memory starting system of SEND/RECEIVE functions	3710	(Octal, word)		When □1100 to set to 001100(8) (Set by file address)
		3711			
		3712	(Hexadecimal, byte)		When file number is 0, set to 00(H)
		3713	This setting is valid by 80(H)		
3720 3721	The number of receiving bytes of relay link in save memory function		(Decimal, byte)		If 0 is set, the number of bytes will be the same as the number of transfer bytes set in the master station.
3722 3723	Number of receiving bytes of register link in save memory function		(Decimal, byte)		If 0 is set, the number of bytes will be the same as the number of transfer bytes set in the master station.
3763	Whether the station number information should be output or not		00(H)		Do not output
			01(H)		Output
3764 to 3767	Top address of flag area on each slave station	3764	(Octal, word)		When □0600, set to 000600(8) (Set by file address)
		3765			
		3766	00(H)		When file number is 2, set to 02(H)
		3767	●		00(H): Do not output flag 80(H): Output flag
3777	Start switch		00(H)		When to set (write) parameters, set to 00(H).
			01(H)		When the bits changes from 00(H) to 01(H), the set detail of parameters is transferred from the control module to the JW-22CM.

• Initial value of the above addresses are all 00(H).

16-4 "File address" and "fileN, address n" in the JW300

When JW300 is used, specify indirect address specification "fileN, address n" to the "register link area and top address of flag area" of the JW-22CM parameters.
As for register link area and flag area setting range of a JW300, see page 11-13, 11-14 and 11-29.
As for relationship between file address (details) and "fileN, address n," see page 16-28 to 16-31.

[1] File address of JW300

Shown below is the data memory (file address order) in the JW300.
=> Relate to the page 11-13, 11-14 and 11-29

File address(8)	JW-311CU/312CU	JW-321CU/322CU	JW-331CU/332CU JW-341CU/342CU JW-352CU, JW-362CU	Byte address
00000000		Relay (7168 points)		ↄ00000
00001577				ↄ01577
00001600		TMR·CNT 00000 to 00777 contact point (512 points)		
00001777				
00002000		TMR·CNT·MD 00000 to 00777 current value (1024 bytes)		b00000
00003777				b01777
00004000		Register 009000 to 099777 (5120 bytes)		009000
00015777				099777
00016000		Register E0000 to E7777 (4096 bytes)		E0000
00025777				E7777
00026000		TMR·CNT·MD 01000 to 01777 current value (1024 points)		b02000
00027777				b03777
00030000		Relay (23552 points)		ↄ02000
00035577				ↄ07577
00035600		TMR·CNT 01000 to 01777 contact point (512 points)		
00035777				
00036000		Register 109000 to 199777 (5120 bytes)		109000
00047777				199777
00050000		Register 209000 to 299777 (5120 bytes)		209000
00061777				299777
00062000		Register 309000 to 389777 (4608 bytes)		309000
00072777				389777
00073000		Register Z000 to Z377 (512 bytes)		Z000
00073777				Z377
		00074000 ↄ10000	00074000 ↄ10000	
		Relay (22528 points)	Relay (149504 points)	
		00101377 ↄ15377	00140377 ↄ54377	
		00101400 TMR·CNT·MD 02000 to 03777 contact point (1024 points) 00101777	00140400 TMR·CNT 02000 to 17777 contact points (7168 points) 00143777	
		00102000 b04000 TMR·CNT·MD 02000 to 03777 current value (2048 points) 00105777 b07777	00144000 b04000 TMR·CNT·MD 02000 to 17777 current value (14336 bytes) 00177777 b37777	
		File register => Next page	File register => Next page	

● File address (byte address) of the file register

- In the case of JW-311CU/312CU

There is not a file register.

- In the case of JW-321CU/322CU

Area	File address(8)	Byte address(8)	Capacity (byte)
File register	00200000 to 00277777	00000000 to 00077777	32K

- In the case of JW-331CU/332CU

Area	File address(8)	Byte address(8)	Capacity (byte)
File register	00200000 to 00577777	00000000 to 00377777	128K

- In the case of JW-341CU/342CU

Area	File address(8)	Byte address(8)	Capacity (byte)
File register	00200000 to 02177777	00000000 to 01777777	512K

- In the case of JW-352CU

Area	File address(8)	Byte address(8)	Capacity (byte)
File register	00200000 to 10177777	00000000 to 07777777	2048K

- In the case of JW-362CU

Area	File address(8)	Byte address(8)	Capacity (byte)
File register	00200000 to 40177777	00000000 to 37777777	8192K

[2] "fileN, address n" of JW300

The "fileN, address n" that is set indirectly in the JW300 relates to the file addresses (pages 16-26 and 16-27) as follows.

[Ex.] File address 03100000(8) will be n=100000(8) in file=0C(H).

File address(8)	fileN		n(8)	Capacity (byte)	
	Decimal	Hex.			
00000000 to 00073777	0	00	000000 to 073777	30K	64K
00074000 to 00105777			074000 to 105777	5K	
00106000 to 00177777			106000 to 177777	29K	
00200000 to 00277777	1	01	000000 to 077777	32K	64K
00300000 to 00377777			100000 to 177777	32K	
00400000 to 00577777	2	02	000000 to 177777	64K	
00600000 to 00777777	3	03	000000 to 177777	64K	
01000000 to 01177777	4	04	000000 to 177777	64K	
01200000 to 01377777	5	05	000000 to 177777	64K	
01400000 to 01577777	6	06	000000 to 177777	64K	
01600000 to 01777777	7	07	000000 to 177777	64K	
02000000 to 02177777	8	08	000000 to 177777	64K	
02200000 to 02377777	9	09	000000 to 177777	64K	
02400000 to 02577777	10	0A	000000 to 177777	64K	
02600000 to 02777777	11	0B	000000 to 177777	64K	
03000000 to 03177777	12	0C	000000 to 177777	64K	
03200000 to 03377777	13	0D	000000 to 177777	64K	
03400000 to 03577777	14	0E	000000 to 177777	64K	
03600000 to 03777777	15	0F	000000 to 177777	64K	
04000000 to 04177777	16	10	000000 to 177777	64K	
04200000 to 04377777	17	11	000000 to 177777	64K	
04400000 to 04577777	18	12	000000 to 177777	64K	
04600000 to 04777777	19	13	000000 to 177777	64K	
05000000 to 05177777	20	14	000000 to 177777	64K	
05200000 to 05377777	21	15	000000 to 177777	64K	
05400000 to 05577777	22	16	000000 to 177777	64K	
05600000 to 05777777	23	17	000000 to 177777	64K	
06000000 to 06177777	24	18	000000 to 177777	64K	
06200000 to 06377777	25	19	000000 to 177777	64K	
06400000 to 06577777	26	1A	000000 to 177777	64K	
06600000 to 06777777	27	1B	000000 to 177777	64K	
07000000 to 07177777	28	1C	000000 to 177777	64K	
07200000 to 07377777	29	1D	000000 to 177777	64K	
07400000 to 07577777	30	1E	000000 to 177777	64K	
07600000 to 07777777	31	1F	000000 to 177777	64K	
10000000 to 10177777	32	20	000000 to 177777	64K	

File register

① JW-31*CU ② JW-32*CU ③ JW-33*CU ④ JW-34*CU ⑤ JW-352CU ⑥ JW-362CU

To next page

From the previous page

File address(8)	fileN		n(8)	Capacity (byte)
	Decimal	Hex.		
10200000 to 10377777	33	21	000000 to 177777	64K
10400000 to 10577777	34	22	000000 to 177777	64K
10600000 to 10777777	35	23	000000 to 177777	64K
11000000 to 11177777	36	24	000000 to 177777	64K
11200000 to 11377777	37	25	000000 to 177777	64K
11400000 to 11577777	38	26	000000 to 177777	64K
11600000 to 11777777	39	27	000000 to 177777	64K
12000000 to 12177777	40	28	000000 to 177777	64K
12200000 to 12377777	41	29	000000 to 177777	64K
12400000 to 12577777	42	2A	000000 to 177777	64K
12600000 to 12777777	43	2B	000000 to 177777	64K
13000000 to 13177777	44	2C	000000 to 177777	64K
13200000 to 13377777	45	2D	000000 to 177777	64K
13400000 to 13577777	46	2E	000000 to 177777	64K
13600000 to 13777777	47	2F	000000 to 177777	64K
14000000 to 14177777	48	30	000000 to 177777	64K
14200000 to 14377777	49	31	000000 to 177777	64K
14400000 to 14577777	50	32	000000 to 177777	64K
14600000 to 14777777	51	33	000000 to 177777	64K
15000000 to 15177777	52	34	000000 to 177777	64K
15200000 to 15377777	53	35	000000 to 177777	64K
15400000 to 15577777	54	36	000000 to 177777	64K
15600000 to 15777777	55	37	000000 to 177777	64K
16000000 to 16177777	56	38	000000 to 177777	64K
16200000 to 16377777	57	39	000000 to 177777	64K
16400000 to 16577777	58	3A	000000 to 177777	64K
16600000 to 16777777	59	3B	000000 to 177777	64K
17000000 to 17177777	60	3C	000000 to 177777	64K
17200000 to 17377777	61	3D	000000 to 177777	64K
17400000 to 17577777	62	3E	000000 to 177777	64K
17600000 to 17777777	63	3F	000000 to 177777	64K
20000000 to 20177777	64	40	000000 to 177777	64K
20200000 to 20377777	65	41	000000 to 177777	64K
20400000 to 20577777	66	42	000000 to 177777	64K
20600000 to 20777777	67	43	000000 to 177777	64K
21000000 to 21177777	68	44	000000 to 177777	64K
21200000 to 21377777	69	45	000000 to 177777	64K
21400000 to 21577777	70	46	000000 to 177777	64K
21600000 to 21777777	71	47	000000 to 177777	64K
22000000 to 22177777	72	48	000000 to 177777	64K
22200000 to 22377777	73	49	000000 to 177777	64K
22400000 to 22577777	74	4A	000000 to 177777	64K

⑥

To next page

From the previous page

File address(8)	fileN		n(8)	Capacity (byte)
	Decimal	Hex.		
22600000 to 22777777	75	4B	000000 to 177777	64K
23000000 to 23177777	76	4C	000000 to 177777	64K
23200000 to 23377777	77	4D	000000 to 177777	64K
23400000 to 23577777	78	4E	000000 to 177777	64K
23600000 to 23777777	79	4F	000000 to 177777	64K
24000000 to 24177777	80	50	000000 to 177777	64K
24200000 to 24377777	81	51	000000 to 177777	64K
24400000 to 24577777	82	52	000000 to 177777	64K
24600000 to 24777777	83	53	000000 to 177777	64K
25000000 to 25177777	84	54	000000 to 177777	64K
25200000 to 25377777	85	55	000000 to 177777	64K
25400000 to 25577777	86	56	000000 to 177777	64K
25600000 to 25777777	87	57	000000 to 177777	64K
26000000 to 26177777	88	58	000000 to 177777	64K
26200000 to 26377777	89	59	000000 to 177777	64K
26400000 to 26577777	90	5A	000000 to 177777	64K
26600000 to 26777777	91	5B	000000 to 177777	64K
27000000 to 27177777	92	5C	000000 to 177777	64K
27200000 to 27377777	93	5D	000000 to 177777	64K
27400000 to 27577777	94	5E	000000 to 177777	64K
27600000 to 27777777	95	5F	000000 to 177777	64K
30000000 to 30177777	96	60	000000 to 177777	64K
30200000 to 30377777	97	61	000000 to 177777	64K
30400000 to 30577777	98	62	000000 to 177777	64K
30600000 to 30777777	99	63	000000 to 177777	64K
31000000 to 31177777	100	64	000000 to 177777	64K
31200000 to 31377777	101	65	000000 to 177777	64K
31400000 to 31577777	102	66	000000 to 177777	64K
31600000 to 31777777	103	67	000000 to 177777	64K
32000000 to 32177777	104	68	000000 to 177777	64K
32200000 to 32377777	105	69	000000 to 177777	64K
32400000 to 32577777	106	6A	000000 to 177777	64K
32600000 to 32777777	107	6B	000000 to 177777	64K
33000000 to 33177777	108	6C	000000 to 177777	64K
33200000 to 33377777	109	6D	000000 to 177777	64K
33400000 to 33577777	110	6E	000000 to 177777	64K
33600000 to 33777777	111	6F	000000 to 177777	64K
34000000 to 34177777	112	70	000000 to 177777	64K
34200000 to 34377777	113	71	000000 to 177777	64K
34400000 to 34577777	114	72	000000 to 177777	64K
34600000 to 34777777	115	73	000000 to 177777	64K
35000000 to 35177777	116	74	000000 to 177777	64K

⑥

To next page

File address(8)	fileN		n(8)	Capacity (byte)
	Decimal	Hex.		
35200000 to 35377777	117	75	000000 to 177777	64K
35400000 to 35577777	118	76	000000 to 177777	64K
35600000 to 35777777	119	77	000000 to 177777	64K
36000000 to 36177777	120	78	000000 to 177777	64K
36200000 to 36377777	121	79	000000 to 177777	64K
36400000 to 36577777	122	7A	000000 to 177777	64K
36600000 to 36777777	123	7B	000000 to 177777	64K
37000000 to 37177777	124	7C	000000 to 177777	64K
37200000 to 37377777	125	7D	000000 to 177777	64K
37400000 to 37577777	126	7E	000000 to 177777	64K
37600000 to 37777777	127	7F	000000 to 177777	64K
40000000 to 40177777	128	80	000000 to 177777	64K

From the previous page

⑥

Alphabetical Index

[A]

[B]

[C]

[D]

[E]

[F]

[G]

[H]

[I]

[M]

[N]

[O]

[P]

[R]

[S]

[T]

[U]

[W]

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