

# F600AT

CC-Link I/F

## OPERATION MANUAL

01SEP2014REV.3.01

**UNIPULSE**

# INTRODUCTION

This document describes the standard specifications of the CC-Link I/F that links a Mitsubishi general-purpose sequencer and F600AT.

By using the CC-Link I/F, the F600AT can be controlled directly from the Mitsubishi general-purpose sequencer, so that wiring can be substantially reduced.

Readers of this document should have basic knowledge of the programming of the Mitsubishi general-purpose sequencer and basic knowledge of the CC-Link I/F.

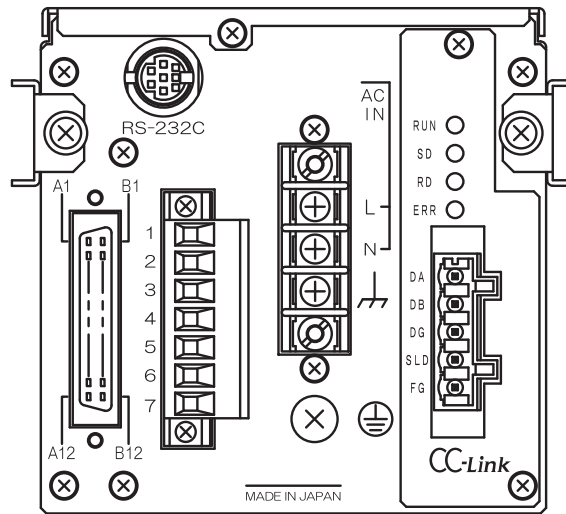
(CC-Link is an abbreviation for Control & Communication Link.)

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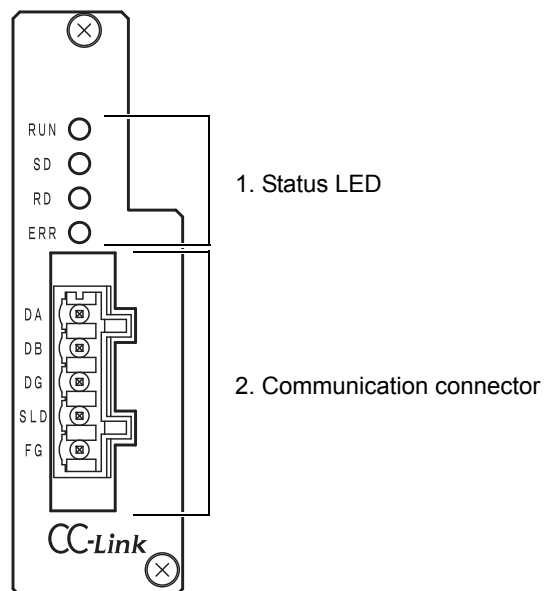
# 1. APPEARANCE DESCRIPTIONS

## 1-1. F600AT with CC-Link I/F



## 2. NAME OF EACH PART

### 2-1. CC-Link I/F



#### 1. Status LED

Displays the status of communication.  
(See "5.STATUS LED" on page 3.)

#### 2. Communication connector

Connector for CC-Link interface.  
(See "4.COMMUNICATION CONNECTOR" on page 2.)

## 3. F600AT SETTING

### Operation

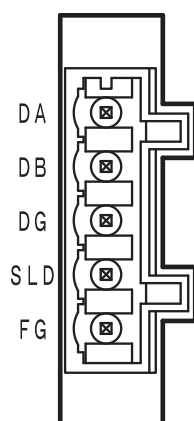
[MODE] → [OPTION]

- OCCUPIED STATION (Initial value: 4 stations) 1, 2, 4 stations
- SPEED (Initial value: 10M) 156k, 625k, 2.5M, 5M, 10M
- STATION NUMBER (Initial value: No.1) No.1 to 64 (when occupied 1 station)  
No.1 to 63 (when occupied 2 stations)  
No.1 to 61 (when occupied 4 stations)
- WGT SELECT CODE (Initial value: Extinput) Network, Extinput

### Explanation for setting

- OCCUPIED STATION Set the numbers of occupied stations as the remote device for F600AT. Address map will be changed according to the numbers of stations.
- SPEED Deciding communication speed.
- STATION NUMBER Setting slave station number.
- WGT SELECT CODE Selecting to indicate the weighing code of F600AT whether by Extinput (Extinput) or CC-Link (Network).

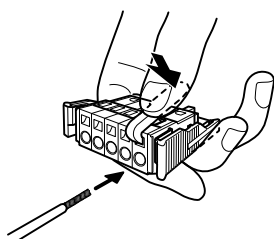
## 4. COMMUNICATION CONNECTOR



Each abbreviation of signal line represents each signal type as follows: SLD and F.G. are connected inside. Suitable plug for the connection is the plug made by WAGO CO., Ltd. or equivalent one. (Accessories) 「721-105/037-000」

Name	Signal Type
DA	Signal line DA side
DB	Signal line DB side
DG	Signal line Ground
SLD	Shield
FG	Frame Ground

## Operating method



- Pick up the plug and operate the lever with a thumb.
- For the protection from the damage, do not operate the lever without removing the plug.



## Notice

When the F600AT is a unit at both ends, terminator resistance must be installed. (Confirm with the CC-Link specifications.) At this time, when the DA and DB signal lines and resistance are to be connected to the connector, be aware that poor contact may result if the nipping conditions differ between the leg of the resistance and signal lines. There is a possibility of abnormal operation.

## 5. STATUS LED

LED expresses the status of communication.

Name of LED	Light ON	Light OFF
RUN	- Normal	- Reset Action - No Communication
SD	- Transmitting	-----
RD	- Receiving	-----
ERR	- Setting Error - CRC Error - Fault	- Normal

## 6. SEQUENCER ADDRESS

F600AT enables to change the numbers of occupied stations by its setting.

Be careful the assignment of station number, double used station number is not available for Mitsubishi PLC.

The address of remote (F600AT) will be changed in accordance with the assignment of station number.

Station No.	Remote Input	Remote Output	Remote Resister	
			M → R	R → M
1	RX0000	RY0000	RW <sub>w</sub> 0000	RW <sub>r</sub> 0000
	00E0H	0160H	01E0H	02E0H
2	RX0020	RY0020	RW <sub>w</sub> 0004	RW <sub>r</sub> 0004
	00E2H	0162H	01E4H	02E4H
3	RX0040	RY0040	RW <sub>w</sub> 0008	RW <sub>r</sub> 0008
	00E4H	0164H	01E8H	02E8H

Following address map shows the status when station number starts from 1.

## 7. ADDRESS MAP

### 7-1. Data Domain

#### 7-1-1. Remote resister M → R (Mitsubishi PLC → F600AT)

When occupied 4 stations (When Final discharge mode)

Station	Buffer Address	Device M → R	Content	
			MSB	LSB
1	01E0H	RWw0000	Final	L
	01E1H	RWw0001		32bit H
	01E2H	RWw0002	SP1	L
	01E3H	RWw0003		32bit H
2	01E4H	RWw0004	SP2	16bit
	01E5H	RWw0005	CPS	16bit
	01E6H	RWw0006	Over	16bit
	01E7H	RWw0007	Under	16bit
3	01E8H	RWw0008	HI	L
	01E9H	RWw0009		32bit H
	01EAH	RWw000A	LO	L
	01EBH	RWw000B		32bit H
4	01ECH	RWw000C	General purpose data area	
	01EDH	RWw000D		L
				32bit H
	01EEH	RWw000E	0	Command No. 8bit
	01EFH	RWw000F	0	Operation mode 8bit

When occupied 4 stations (When High/Low limit comparison mode)

Station	Buffer Address	Device M → R	Content	
			MSB	LSB
1	01E0H	RWw0000	HH	L
	01E1H	RWw0001		32bit H
	01E2H	RWw0002	HI	L
	01E3H	RWw0003		32bit H
2	01E4H	RWw0004	LO	L
	01E5H	RWw0005		32bit H
	01E6H	RWw0006	LL	L
	01E7H	RWw0007		32bit H
3	01E8H	RWw0008	Unused	
	01E9H	RWw0009		
	01EAH	RWw000A		
	01EBH	RWw000B		64bit
4	01ECH	RWw000C	General purpose data area	
	01EDH	RWw000D		L
				32bit H
	01EEH	RWw000E	0	Command No. 8bit
	01EFH	RWw000F	0	Operation mode 8bit

When occupied 2 stations (When Final discharge mode)

Station	Buffer Address	Device M → R	Content	
			MSB	LSB
1	01E0H	RWw0000	Final	
	01E1H	RWw0001		
	01E2H	RWw0002	Unused	
	01E3H	RWw0003	CPS	
2	01E4H	RWw0004	General purpose data area	
	01E5H	RWw0005		
	01E6H	RWw0006	0	Command No. 8bit
	01E7H	RWw0007	0	Operation mode 8bit

When occupied 2 stations (When High/Low limit comparison mode)

Station	Buffer Address	Device M → R	Content	
			MSB	LSB
1	01E0H	RWw0000	HI	
	01E1H	RWw0001		
	01E2H	RWw0002	LO	
	01E3H	RWw0003		
2	01E4H	RWw0004	General purpose data area	
	01E5H	RWw0005		
	01E6H	RWw0006	0	Command No. 8bit
	01E7H	RWw0007	0	Operation mode 8bit

When occupied 1 station

Station	Buffer Address	Device M → R	Content	
			MSB	LSB
1	01E0H	RWw0000	Unused	
	01E1H	RWw0001		
	01E2H	RWw0002		
	01E3H	RWw0003		

M: Master  
R: Remote



**7-1-2. Explanation for remote register M → R****◎ Exclusive data area**

When register Setting value using Request flag 1, set each data in each area respectively.

- Final (32 bit binary) (0 to 99999) (4, 2 stations)

Set a Final value. When Final  $\geq$  99999 was set, it is considered to be 99999. For each Code number.  
Do not set negative data.

- SP1 (32 bit binary) (0 to 99999) (4 stations)

Set a Set point 1 value. When Set point 1  $\geq$  99999 was set, it is considered to be 99999. For each Code number.  
Do not set negative data.

- SP2 (16 bit binary) (0 to 65535) (4 stations)

Set a Set point 2 value. Range 65536 to 99999 is not available for Set point 2. For each Code number.  
Do not set negative data.

- CPS (16 bit binary) (0 to 9999) (4, 2 stations)

Set a CPS value. When CPS  $\geq$  9999 was set, it is considered to be 9999. For each Code number.  
Do not set negative data.

- Over (16 bit binary) (0 to 999) (4 stations)

Set an Over value. When Over  $\geq$  999 was set, it is considered to be 999. For each code number.  
Do not set negative data.

- Under (16 bit binary) (0 to 999) (4 stations)

Set an Under value. When Under  $\geq$  999 was set, it is considered to be 999. For each Code number.  
Do not set negative data.

- HI (32 bit binary) (-99999 to 99999) (4, 2 stations)

Set a HI limit value. For setting a negative value, set using twos-complement numbers. When absolute value  $\geq$  99999 was set, it is considered to be  $\pm 99999$ . For each Code number.

- LO (32 bit binary) (-99999 to 99999) (4, 2 stations)

Set a LO limit value. For setting a negative value, set using twos-complement numbers. When absolute value  $\geq$  99999 was set, it is considered to be  $\pm 99999$ . For each Code number.

- HH (32 bit binary) (-99999 to 99999) (4 stations)

Set a HI-HI limit value. For setting a negative value, set using twos-complement numbers. When absolute value  $\geq$  99999 was set, it is considered to be  $\pm 99999$ . For each Code number.

- LL (32 bit binary) (-99999 to 99999) (4 stations)

Set a LO-LO limit value. For setting a negative value, set using twos-complement numbers. When absolute value  $\geq$  99999 was set, it is considered to be  $\pm 99999$ . For each Code number.

**◎ General purpose data area (32 bit binary with sign) (-99999 to 99999) (4, 2 stations)**

Setting Command or Data to this area by Request flag 2.

Negative expression is to be given by twos-complement numbering system. For setting values not having negative values, do not set a negative value. If each absolute value  $\geq 99999$  is set, it is considered to be  $\pm 99999$ . Also, if a value out of the range is set, it is handled by setting it in the same manner as the maximum value.

**◎ Command No. (8 bit binary) (0 to 255) (4, 2 stations)**

Set a Command number. Be aware that the Request flag 2 does not respond to a invalid command. Ignore Upper byte. When "0" is set, it changes to Operation mode.

**◎ Operation mode (8 bit binary) (0 to 255) (4, 2 stations)**

This function is prepared for further expansion.

**7-1-3. Remote resister R → M (F600AT → Mitsubishi PLC)**

When occupied 4 stations

Station	Buffer Address	Device R → M	Content	
			MSB	LSB
1	02E0H	RWr0000	Net weight	
	02E1H	RWr0001	32bit	
	02E2H	RWr0002	Gross weight	
	02E3H	RWr0003	32bit	
2	02E4H	RWr0004	Latest accumulated value	
	02E5H	RWr0005	32bit	
	02E6H	RWr0006	0	Error code 8bit
	02E7H	RWr0007	0	Error assistance code 8bit
3	02E8H	RWr0008	0	Weighing code 8bit
	02E9H	RWr0009	Undefined	
	02EAH	RWr000A		
	02EBH	RWr000B		
4	02ECH	RWr000C	General purpose data area	
	02EDH	RWr000D	32bit	
	02EEH	RWr000E	0	Command No. (Response) 8bit
	02EFH	RWr000F	0	Operation mode (Response) 8bit

When occupied 2 stations

Station	Buffer Address	Device R → M	Content	
			MSB	LSB
1	02E0H	RWr0000	Indicated value	
	02E1H	RWr0001	(Net / Gross weight)	
	02E2H	RWr0002	0	Error code 8bit
	02E3H	RWr0003	0	Error assistance code 8bit
2	02E4H	RWr0004	General purpose data area	
	02E5H	RWr0005	32bit	
	02E6H	RWr0006	0	Command No. (Response) 8bit
	02E7H	RWr0007	0	Operation mode (Response) 8bit

When occupied 1 station

Station	Buffer Address	Device R → M	Content	
			MSB	LSB
1	02E0H	RWr0000	Indicated value	
	02E1H	RWr0001	(Net / Gross weight)	
	02E2H	RWr0002	0	Error code 8bit
	02E3H	RWr0003	0	Error assistance code 8bit

M: Master

R: Remote

### 7-1-4. Explanation for remote resistor R → M

#### ◎ Net weight (32 bit binary) (-99999 to 99999) (4 stations)

Net weight is indicated. Negative expression is to be given by twos-complement numbering system.

#### ◎ Gross weight (32 bit binary) (-99999 to 99999) (4 stations)

Gross weight is indicated. Negative expression is to be given by twos-complement numbering system.

#### ◎ Latest accumulated value (32 bit binary) (-99999 to 99999) (4 stations)

Latest accumulated value is indicated. Negative expression is to be given by twos-complement numbering system.

#### ◎ Indicated value (Net/Gross weight) (32 bit binary) (-99999 to 99999) (2, 1 stations)

Net or Gross weight is indicated by designated bit.

RY001F ON means Net and OFF means Gross weight. (2 stations)

RY007F ON means Net and OFF means Gross weight. (1 station)

#### ◎ Error code (16 bit binary) (0 to 255) (4, 2, 1 stations)

Error code of the Indicator is indicated.

0:	No error
2:	Sequence error
Other values:	Undefined

#### ◎ Error assistance code (16 bit binary) (0 to 9) (4, 2, 1 stations)

Error code of the Indicator is indicated. When error assistance code is 0 , no error.

When Error code is 2, Error assistance code is 1, it means [Sequence error 1].

#### ◎ Weighing code (8 bit binary) (0 to 7) (4 stations)

Here is the weighing code under weighing.

#### ◎ Undefined (48bit binary)

All bit are always "0".

#### ◎ Command No. response (16 bit binary) (4, 2 stations)

When the Command is set by Request flag 2, the same data is set here.

#### ◎ Operation mode response (16 bit binary) (4, 2 stations)

This function is prepared for further expansion.

Error code	Error assistance code	Meaning
2	1	Sequence Error 1
2	2	Sequence Error 2
2	4	Sequence Error 4
2	5	Sequence Error 5

**7-1-5. Command list for Request flag 2**

Via Request flag 2 writing / reading Setting value or changing Operation mode according to the given Command number.

Writing setting value and operation command (R/W relay OFF)

Writing setting value and operation command		Command No. (at 4 stations RWw000E) (at 2 stations RWw0006)	General purpose data area (at 4 stations RWw000C to 000D) (at 2 stations RWw0004 to 0005)
HH	For each code No.	01	-99999 to 99999
HI		02	-99999 to 99999
LO		03	-99999 to 99999
LL		04	-99999 to 99999
Final		11	0 to 99999
SP1		12	0 to 99999
SP2		13	0 to 99999
CPS		14	0 to 99999
AFFC Regulation		15	0 to 99999
Over		16	0 to 999
Under		17	0 to 999
Near Zero		28	0 to 99999
Preset tare weight		29	0 to 99999
Net weight switch		0	12
Gross weight switch		0	13
Tare subtraction ON (TARE ON)		0	14
Tare subtraction OFF (TARE OFF)		0	15
Digital Zero ON (DZ ON)		0	16
Digital Zero OFF (DZ OFF)		0	17
Print command		0	24
Start (Sequence start)		0	30
Stop (Sequence stop)		0	31
Sequence error reset		0	36
Hold		0	37
Hold release		0	38

Reading out setting value and operation command (R/W relay ON)

Reading setting value and operation command		Command No. (at 4 stations RWw000E) (at 2 stations RWw0006)
HH	For each code No.	01
HI		02
LO		03
LL		04
Final		11
SP1		12
SP2		13
CPS		14
AFFC Regulation		15
Over		16
Under		17
Near Zero		28
Preset Tare Weight		29

## 7-2. Address Map (Relay Domain)

### 7-2-1. Remoto output (Mitsubishi PLC → F600AT)

When occupied 4 stations

Station	Buffer address	Remote output	Content	Class
1	0160H	RY0000	Request flag1	Communication  Used for Communication with Host.
		RY0001		
		RY0002	Request flag2	
		RY0003	R/W	
		RY0004	Request flag3	
		RY0005		
		RY0006		
		RY0007		
		RY0008		
		RY0009		
		RY000A		
		RY000B		
		RY000C		
		RY000D		
		RY000E		
		RY000F		
	0161H	RY0010	Digital Zero ON	
		RY0011	Digital Zero OFF	
		RY0012	Tare subtraction ON	
		RY0013	Tare subtraction OFF	
		RY0014	Hold	
		RY0015	Net weight switch	
		RY0016	Gross weight switch	
		RY0017		
		RY0018	Print command	
		RY0019		
		RY001A	Sequence error reset	
		RY001B		
		RY001C		
		RY001D		
		RY001E		
		RY001F		

When occupied 4 stations

2	0162H	RY0020	Weighing code No.	1	Valid only when WGT SELECT CODE is "NETWORK".
		RY0021		2	
		RY0022		4	
		RY0023			
		RY0024			
		RY0025			
		RY0026			
		RY0027			
		RY0028	Setting code No.	1	Valid at all times.
		RY0029		2	
		RY002A		4	
		RY002B			
		RY002C			
		RY002D			
		RY002D			
		RY002F			
3	0163H		:	:	:
	0164H		:	:	:
	0165H		:	:	:
4	0166H		:	:	:
	0167H		:	:	:

When occupied 2 stations

Station	Buffer address	Remote output	Content	Class
1	0160H	RY0000	Request flag1	Communication  Used for Communication with Host.
		RY0001		
		RY0002	Request flag2	
		RY0003	R/W	
		RY0004	Request flag3	
		RY0005		
		RY0006		
		RY0007		
		RY0008		
		RY0009		
		RY000A		
		RY000B		
		RY000C		
		RY000D		
		RY000E		
		RY000F		



When occupied 2 stations

1	0161H	RY0010	Digital Zero ON		
		RY0011	Digital Zero OFF		
		RY0012	Tare subtraction ON		
		RY0013	Tare subtraction OFF		
		RY0014	Hold		
		RY0015	Net weight switch		
		RY0016	Gross weight switch		
		RY0017			
		RY0018	Print command		
		RY0019			
		RY001A	Sequence error reset		
		RY001B			
		RY001C			
		RY001D			
		RY001E			
		RY001F	Indicated value Net/Gross weight		
2	0162H	RY0020	Weighing code No.	1	Valid only when WGT SELECT CODE is "NETWORK".
		RY0021		2	
		RY0022		4	
		RY0023			
		RY0024			
		RY0025			
		RY0026			
		RY0027			
		RY0028	Setting code No.	1	Valid at all times.
		RY0029		2	
		RY002A		4	
		RY002B			
		RY002C			
		RY002D			
		RY002D			
		RY002F			
	0163H	:		:	:

When occupied 1 station

Station	Buffer address	Remote output	Content		Class
1	0160H	RY0000	Digital Zero ON		
		RY0001	Digital Zero OFF		
		RY0002	Tare subtraction ON		
		RY0003	Tare subtraction OFF		
		RY0004	Hold		
		RY0005	Print command		
		RY0006	Sequence error reset		
		RY0007	Indicated value Net/Gross weight		
		RY0008	Weighing code No.	1	Valid only when WGT SELECT CODE is "NETWORK".
		RY0009		2	
		RY000A		4	
		RY000B			
		RY000C			
		RY000D			
		RY000E			
		RY000F			
	0161H	RY0010			
		RY0011			
		RY0012			
		RY0013			
		RY0014			
		RY0015			
		RY0016			
		RY0017			
RY0018					
RY0019					
RY001A					
RY001B					
RY001C					
RY001D					
RY001E					
RY001F					

**7-2-2. Remote input (F600AT → Mitsubishi PLC)**

When occupied 4 stations

Station	Buffer address	Remote input	Content	Class
1	00E0H	RX0000	Request flag 1 response	Communication
		RX0001		
		RX0002	Request flag 2 response	
		RX0003	R/W (response)	
		RX0004	Request flag 3 response	
		RX0005		
		RX0006	CPU Normal operation	
		RX0007		
		RX0008	Decimal place 0	Used for the Communication with Host.
		RX0009	Decimal place 1	
		RX000A	Decimal place 2	
		RX000B		
		RX000C		
		RX000D		
		RX000E		
		RX000F		
	00E1H	RX0010	Near Zero	Inside of a parenthesis is valid only at the High/Low limit comparison mode.
		RX0011	SP1	
		RX0012	SP2	
		RX0013	SP3	
		RX0014	Over (HH)	
		RX0015	Go	
		RX0016	Under (LL)	
		RX0017	Stable	
		RX0018	Complete	
		RX0019		
		RX001A	Holding	
		RX001B	HI	
		RX001C	LO	
		RX001D		
		RX001E	Sequence error	
		RX001F	Weight error	

When occupied 4 stations

2	00E2H	RX0020	Weight code No.	1	Valid at all times.
		RX0021		2	
		RX0022		4	
		RX0023			
		RX0024			
		RX0025			
		RX0026			
		RX0027			
		RX0028	Setting code No.	1	
		RX0029		2	
		RX002A		4	
		RX002B			
		RX002C			
		RX002D			
		RX002E			
		RX002F			
	00E3H	:		:	:
3	00E4H	:		:	:
	00E5H	:		:	:
4	00E6H	:		:	:
	00E7H	RX0070			
		:		:	:
		RX007A	Error status flag		
		RX007B	Remote ready		
		:		:	:
		RX007F			

When occupied 2 stations

Station	Buffer address	Remote input	Content	Class
1	00E0H	RX0000	Reguest flag 1 response	Communication  Used for the Communication with Host.
		RX0001		
		RX0002	Reguest flag 2 response	
		RX0003	R/W (response)	
		RX0004	Reguest flag 3 response	
		RX0005		
		RX0006	CPU Normal operation	
		RX0007		
		RX0008	Decimal place 0	
		RX0009	Decimal place 1	
		RX000A	Decimal place 2	
		RX000B		
		RX000C		
		RX000D		
		RX000E		
		RX000F		
	00E1H	RX0010	Near Zero	Inside of a parenthesis is valid only at the High/Low limit comparison mode.
		RX0011	SP1	
		RX0012	SP2	
		RX0013	SP3	
		RX0014	Over (HH)	
		RX0015	Go	
		RX0016	Under (LL)	
		RX0017	Stable	
		RX0018	Complete	
		RX0019		
		RX001A	Holding	
		RX001B	HI	
		RX001C	LO	
		RX001D		
		RX001E	Sequence error	
		RX001F	Weight error	

When occupied 2 stations

2	00E2H	RX0020	Weight code No.	1	Valid at all times.
		RX0021		2	
		RX0022		4	
		RX0023			
		RX0024			
		RX0025			
		RX0026			
		RX0027			
		RX0028	Setting code No.	1	
		RX0029		2	
		RX002A		4	
		RX002B			
		RX002C			
		RX002D			
		RX002E			
		RX002F			
	00E3H	RX0031			
		:	:	:	
		RX003A	Error status flag		
		RX003B	Remote ready		
		:	:	:	
		RX003F			

When occupied 1 station

Station	Buffer address	Remote input	Content	Class
1	00E0H	RX0000	Near Zero	Inside of a parenthesis is valid only at the High/Low limit comparison mode.
		RX0001	SP1	
		RX0002	SP2	
		RX0003	SP3	
		RX0004	Over (HH)	
		RX0005	Go	
		RX0006	Under (LL)	
		RX0007	Stable	
		RX0008	Complete	
		RX0009		
		RX000A	Holding	
		RX000B	HI	
		RX000C	LO	
		RX000D		
		RX000E	Sequence error	
		RX000F	Weight error	
1	00E1H	RX0010		
		RX0011		
		RX0012		
		RX0013		
		RX0014		
		RX0015		
		RX0016		
		RX0017		
		RX0018		
		RX0019		
		RX001A	Error status flag	
		RX001B	Remote ready	
		RX001C		
		RX001D		
		RX001E		
		RX001F		

Request flag 1 to 3 become valid when one of Request flag 1 to 3 and Request flag 1 to 3 response turns ON during all of them are OFF.

**7-2-3. RY (Mitsubishi PLC → F600AT) signal**

Name of signal	Meaning of signal
Request flag 1	During write Setting value into Exclusive data area, the Output signal is ON, after receiving Request flag 1 response, the signal goes OFF.
Request flag 2	During write Command into General purpose data area, the Output signal is ON, after receiving Request flag 2 response, the signal goes OFF.
R/W	Read out Command or Write Command into General purpose data area is decided by ON / OFF of the Output signal. Signal is ON → Read while OFF → Write. Read: Read out various Setting value from the indicator. Write: Write various Setting value and give the operation command to F600AT.
Request flag 3	This function is for the expansion. During switch the Operation mode, the Output signal is ON, after receiving Request flag 3 response the signal goes OFF.
Digital Zero ON	Output signal ON while operate Digital Zero.
Digital Zero OFF	Output signal ON while Digital Zero is reset.
Tare subtraction ON	Output signal ON while operate Tare subtraction.
Tare subtraction OFF	Output signal ON while Tare subtraction is reset.
Hold	Output signal ON while hold weighing value (Hold function is not available in Sequence mode). Hold is started when Output signal turns ON and is released while output signal goes OFF.
Net weight switch	Output signal ON while switch to Net weight.
Gross weight switch	Output signal ON while switch to Gross weight.
Print command	Print to the Unipulse printer connected by SI/F.
Sequence error reset	Output signal ON while Sequence error is reset.
Switching indicated value (Net/Gross weight)	Valid only when occupies 2 stations or 1 station. Output signal ON: Net weight output Output signal OFF: Gross weight output
Weighing code	Valid only when the WGT SELECT CODE setting of the F600AT is "NETWORK". Set the weighing code in 3 bits.
Setting code	Set the setting code in 3 bits.



**7-2-4. RX (F600AT → Mitsubishi PLC ) signal**

Name of signal	Meaning of signal
Request flag 1	After Setting value was written into Exclusive data area, Input signal is ON, while confirmed Request flag 1 Output signal went OFF, it goes OFF.
Request flag 2	After Command was written into General purpose data area, Input signal is ON, while confirmed Request flag 2 Output signal went OFF, it goes OFF.
R/W response	When Request flag 2 response signal goes ON, the R/W response signal goes the same status as R/W Output signal.
Request flag 3	This function is for the expansion. After Operation mode was switched, Input signal is ON, while confirmed Request flag 3 Output signal went OFF, it goes OFF.
CPU Normal operation	The signal is reversed between ON and OFF at approx. 1 second interval in Normal operation.
Decimal place 0 Decimal place 1 Decimal place 2	Indicates Decimal place of Weighing value with one of 3 points of Binary value. (ex.) 0: 0, 1: 0.0, 2: 0.00
Near Zero	When Weighing value $\leq$ Setting value of Near Zero, Near Zero signal turns ON.
SP1	When Weighing value $\geq$ (Final-Set point 1), the SP1 Input signal turns ON.
SP2	When Weighing value $\geq$ (Final-Set point 2), the SP2 Input signal turns ON.
SP3	When Weighing value $\geq$ (Final-Set point 3), the SP3 Input signal turns ON.
Over	When Weighing value $>$ (Final+Over), the Over Input signal turns ON. In the high / low limit comparison mode, the signal turns ON when weighing value $>$ HH setting value.
Go	When Final+Over $\geq$ Weighing value $\geq$ Final-Under, the Go Input signal turns ON. In the high / low limit comparison mode, the signal turns ON when HH, HI, LO and LL are all off.
Under	When Weighing value $<$ (Final-Under), the Under Input signal turns ON. In the high / low limit comparison mode, the signal turns ON when weighing value $<$ LL setting value.
Stable	When Weighing value is stable, the Stable Input signal turns ON. (Refer to F600AT Operation Manual Motion Detection)
Complete	When Weighing cycle has completed, the Complete signal turns ON.
Holding	When Weighing value is held, the Holding Input signal turns ON.
High limit	When Weighing value $>$ Hi limit Setting value, the High limit Input signal turns ON.
Low limit	When Weighing value $<$ Low limit Setting value, the Low limit input signal turns ON.
Sequence error	When Sequence Error occurred, the Signal turns ON.
Weight error	When Weight error occurred (LOAD, -LOAD, Net over, Gross over, ZALM happened) the Weight error Input signal turns ON.
Error status flag	When Sequence error occurred, the Input signal turns ON.
Remote ready	After Initial processing was done and Data transmission is available, the Remote ready Input signal turns ON.

## 8. SETTING PROCEDURE

(The Upper row of signal level is ON. The Lower row of signal level is OFF.)

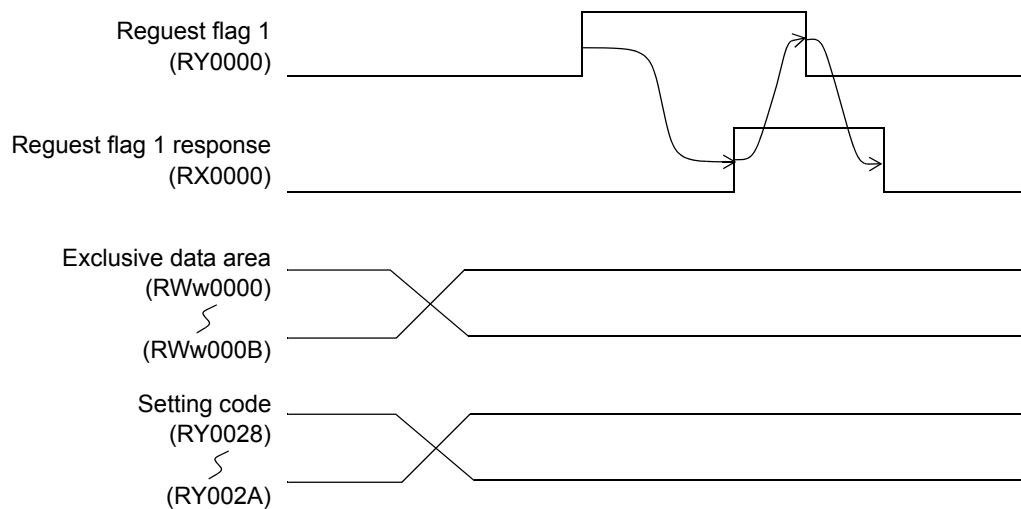
### 8-1. Exclusive Data Area for Setting Value by Request Flag 1

Request flag 1 is used when Setting value is written in.

The Setting value is written in at Request flag ON edge when Request flag 1 to 3 and Request flag response 1 to 3 are OFF.

RWw0000 to RWw000B when 4 stations occupied and RWw0000 to RWw0003 when 2 stations occupied become Exclusive data area.

It is stored in selected code by RY0028 to RY002A.



ex. When 4 stations occupied

## 8-2. General Purpose Data Area for Setting Value, Command No. by Request Flag 2.

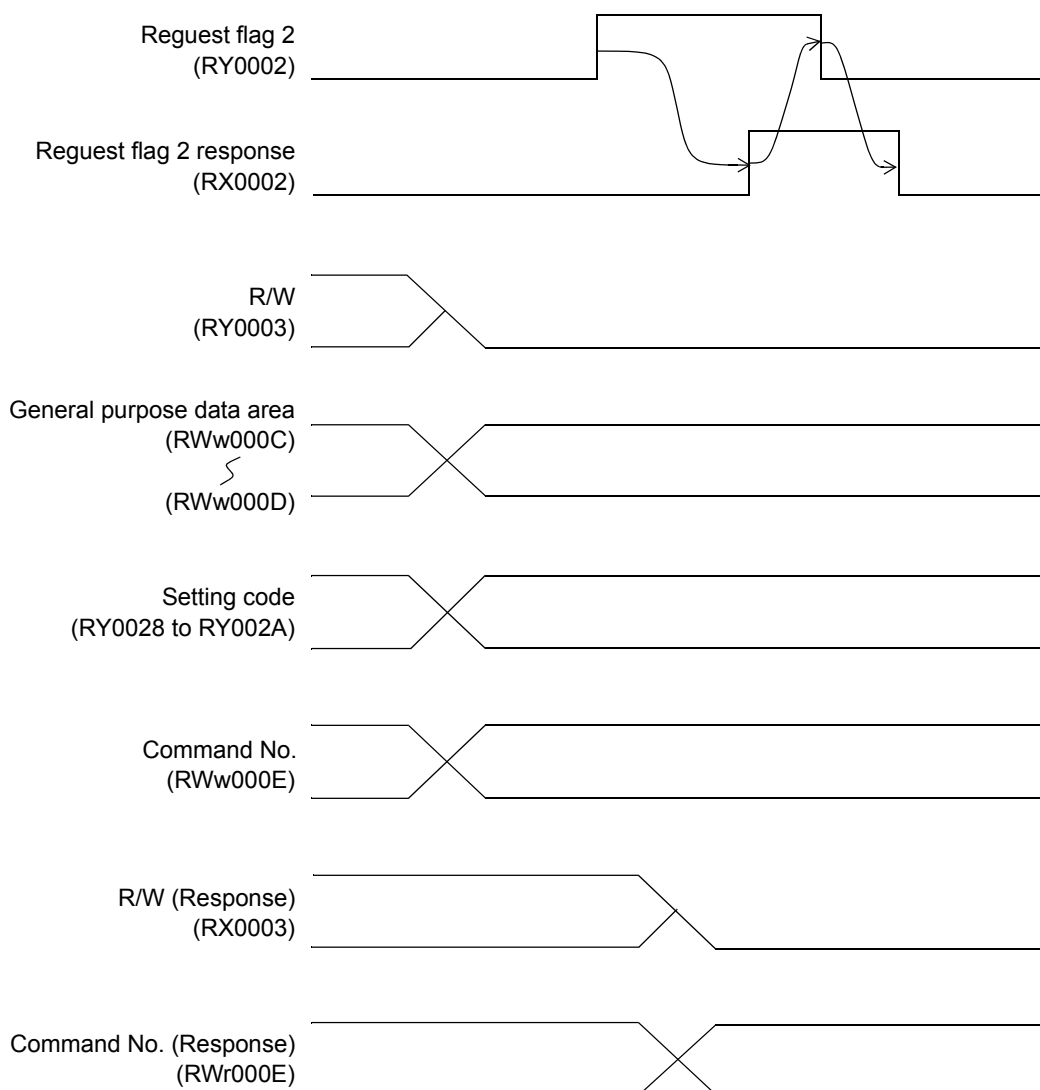
Request flag 2 is used for reading out and writing in Setting value and executing operation command. It is operated at ON edge of Request flag 2 when Request flag 1 to 3 and Request flag 1 to 3 response are OFF.

RWw000C to RWw000D when 4 stations occupied and RWw0004 to RWw0005 when 2 stations occupied become General purpose data area.

RWw000E when 4 stations occupied and RWw0006 when 2 stations occupied become Command No. area.

It is stored in selected code by RY0028 to RY002A.

Turn OFF R/W when writing in Setting value and executing operation command.



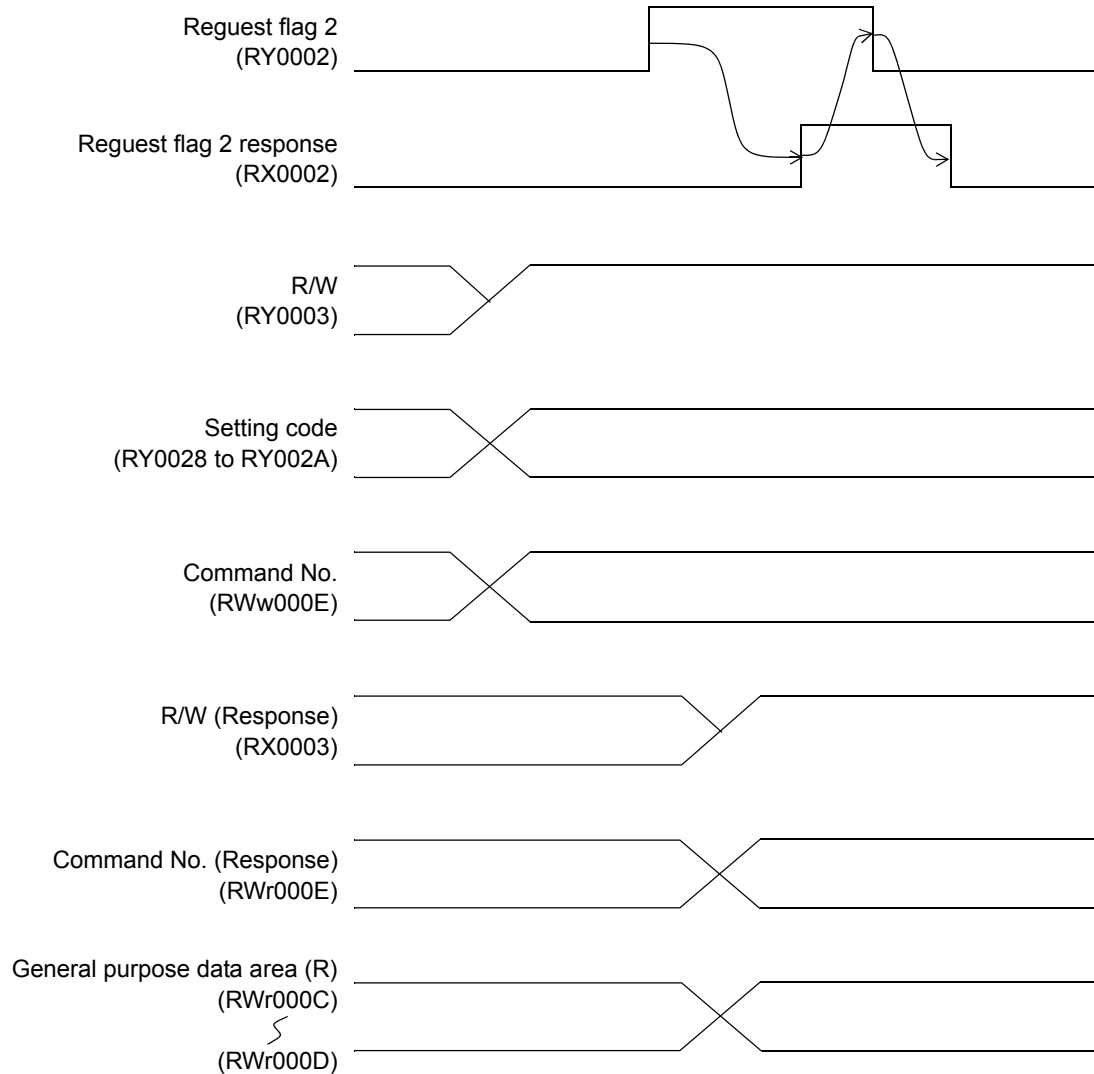
ex. When 4 stations occupied (writing in setting value)

### 8-3. Reading Out Setting Value

Turn ON R/W for reading out Setting value.

The Setting value of selected code is outputted.

Read out General purpose data area(R) after confirming Request flag response ON.



ex. When 4 stations occupied (reading out setting value)

### 8-3-1. Sample of ladder program

Rewriting Final value to Code No.0 by Request flag 2, the Final value are increased from 0 to 99999 in succession.

Use CPU ..... A1SH

Station No. .... 1

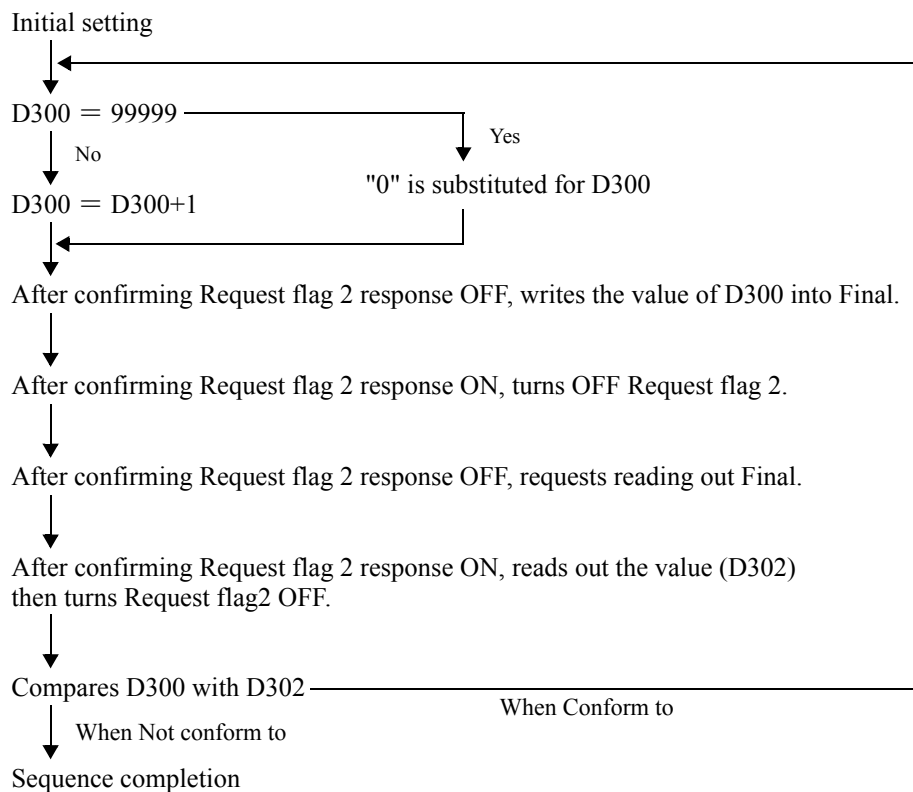
Slot of Master ..... 3

(The relay area to be used is X60 ~ X7F and Y60 ~ Y7F.)

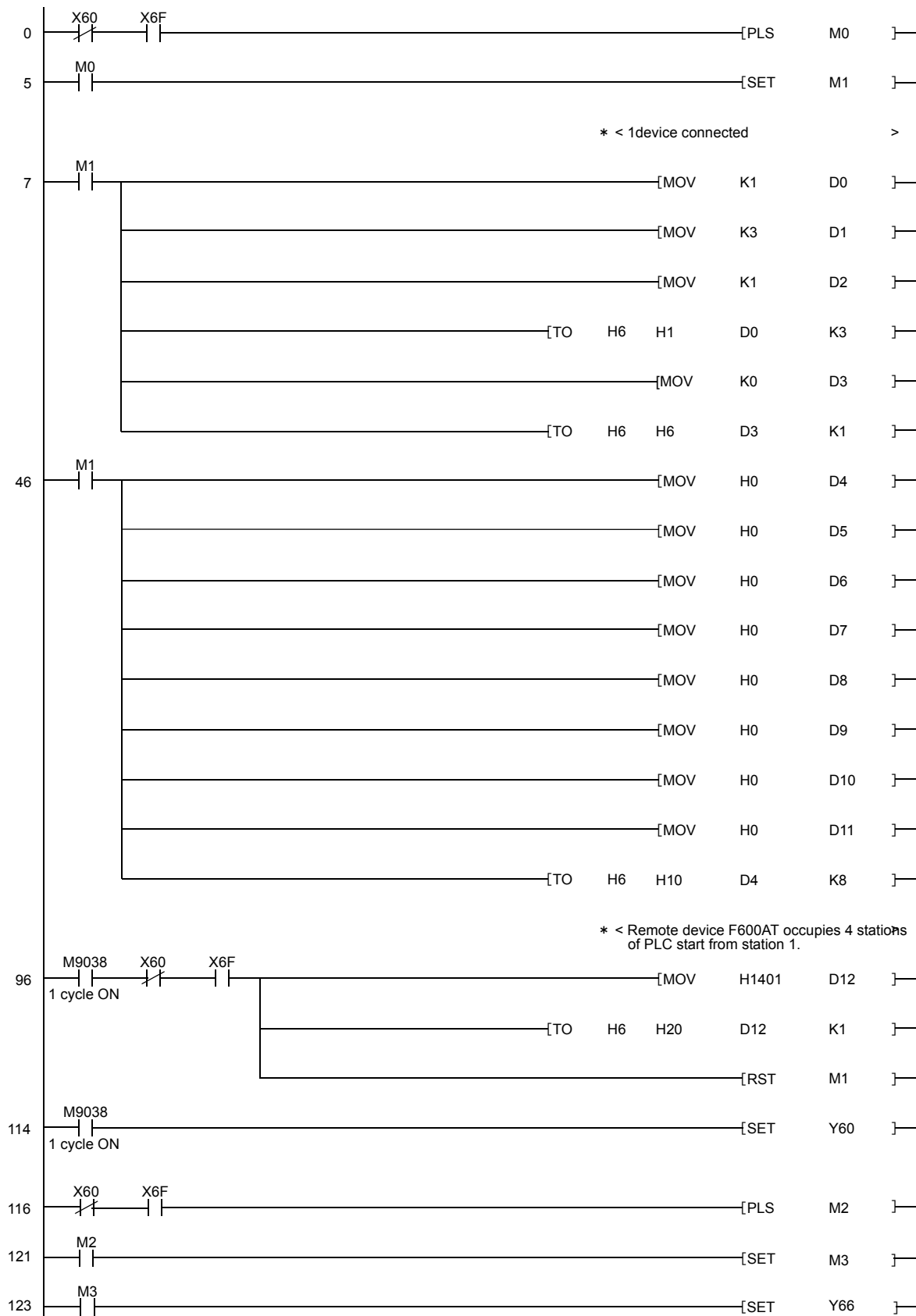
[In detail refer to Control & Communication Link System Master/Local Module Type AJ61BT11/A1SJ61BT11 User's Manual] (Refer to before or after 6-4 pages)

After Writing in and Reading out Final value, compares each value then increases its value if each value coincides. It repeated up to 99999 and returns 0 after reaching 99999.

#### Flow chart

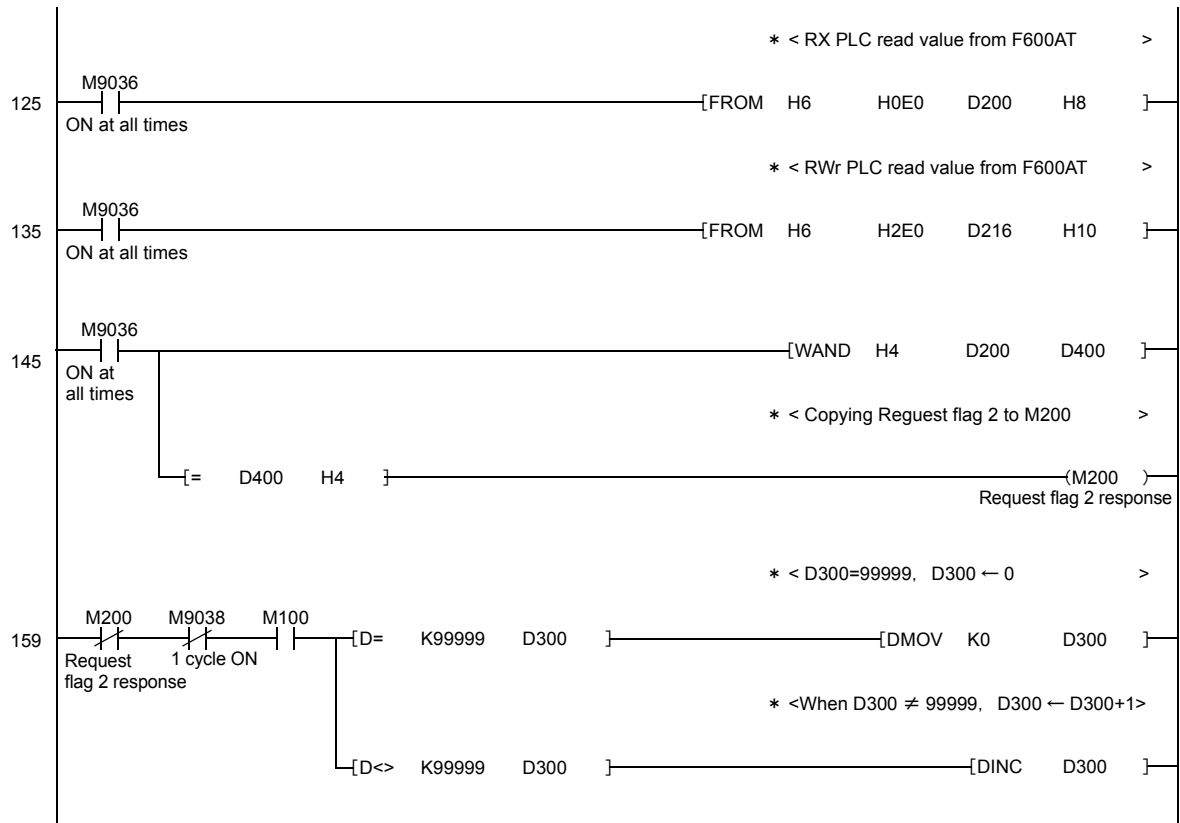


0 to 123 row	Initial setting for Communication speed
96 row	Remote device F600AT occupies 4 stations of PLC start from station 1.
125 row	RX PLC read value from F600AT
135 row	RWr PLC read value from F600AT
145 row	Copying Request flag 2 response to M200
196 row	Writing Final value
263 row	Reading Final value
321 row	Comparing the value written in and the value read out. When each value coincides with proceeds to 159 row.
334 row	Data Initialization

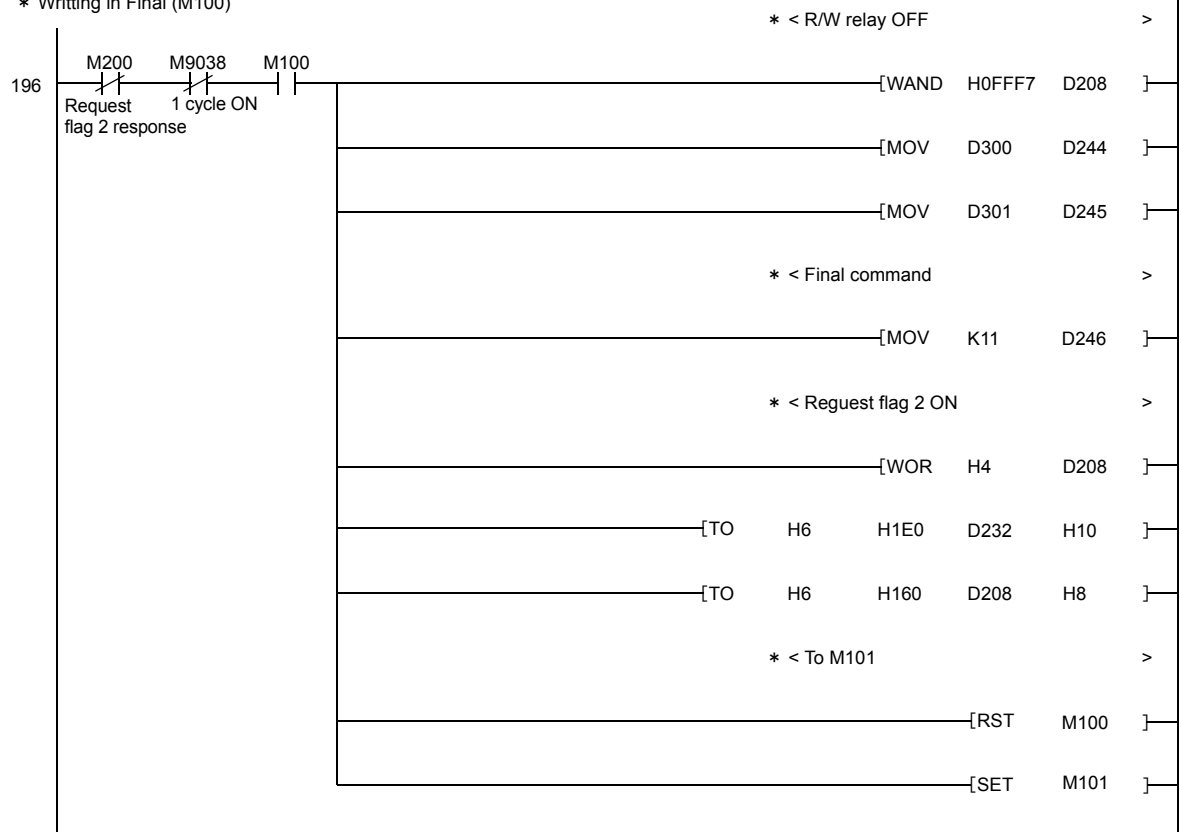


## 8.SETTING PROCEDURE

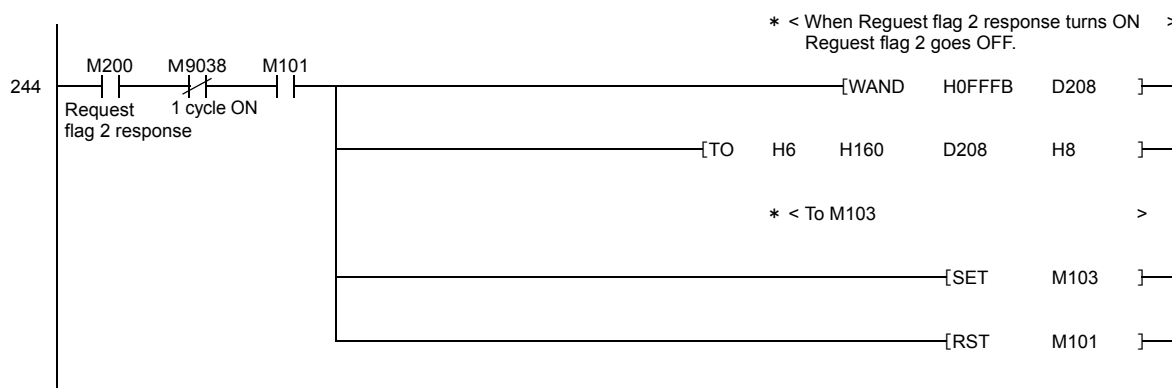
\* Up to here Initial setting for communication



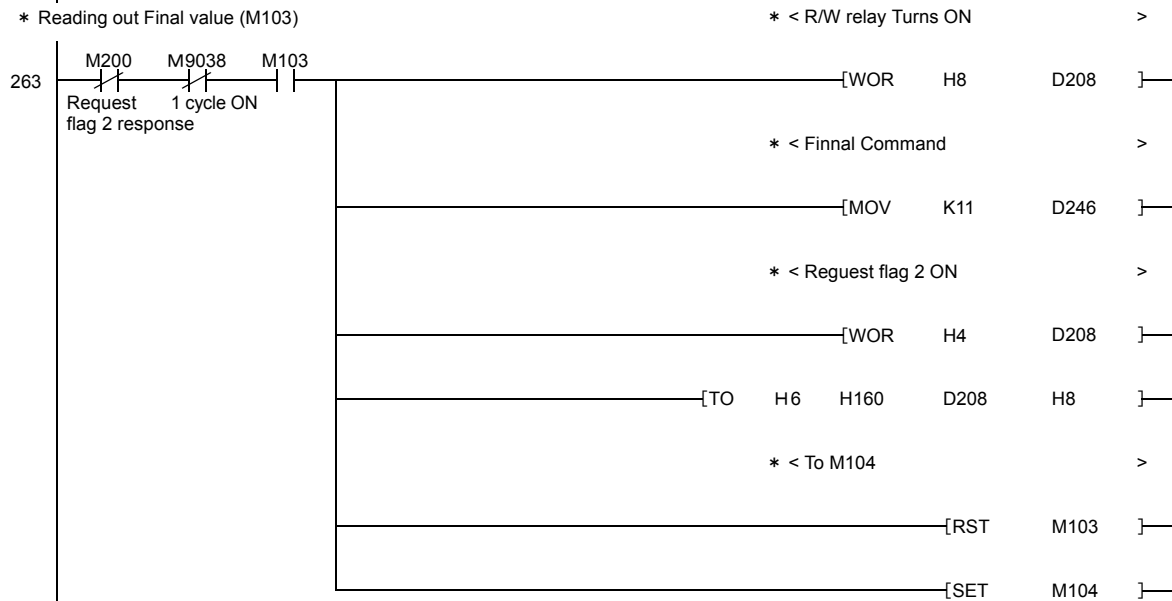
\* Writing in Final (M100)



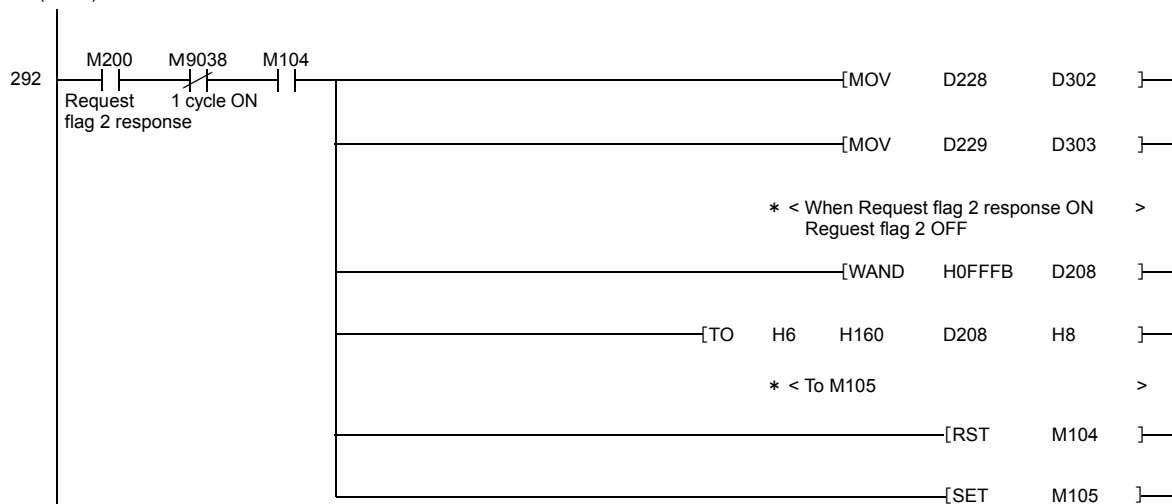
## \* Sequence (M101)



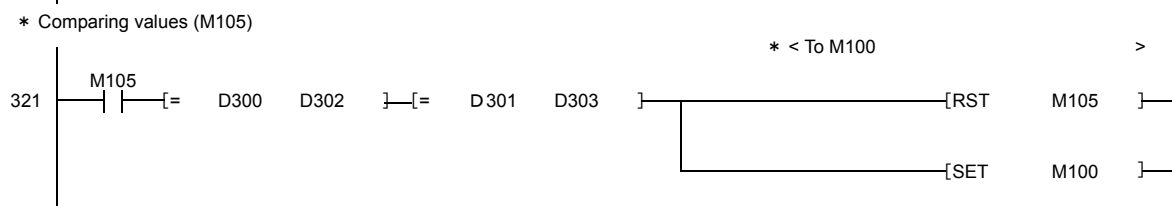
## \* Reading out Final value (M103)



## \* (M104)

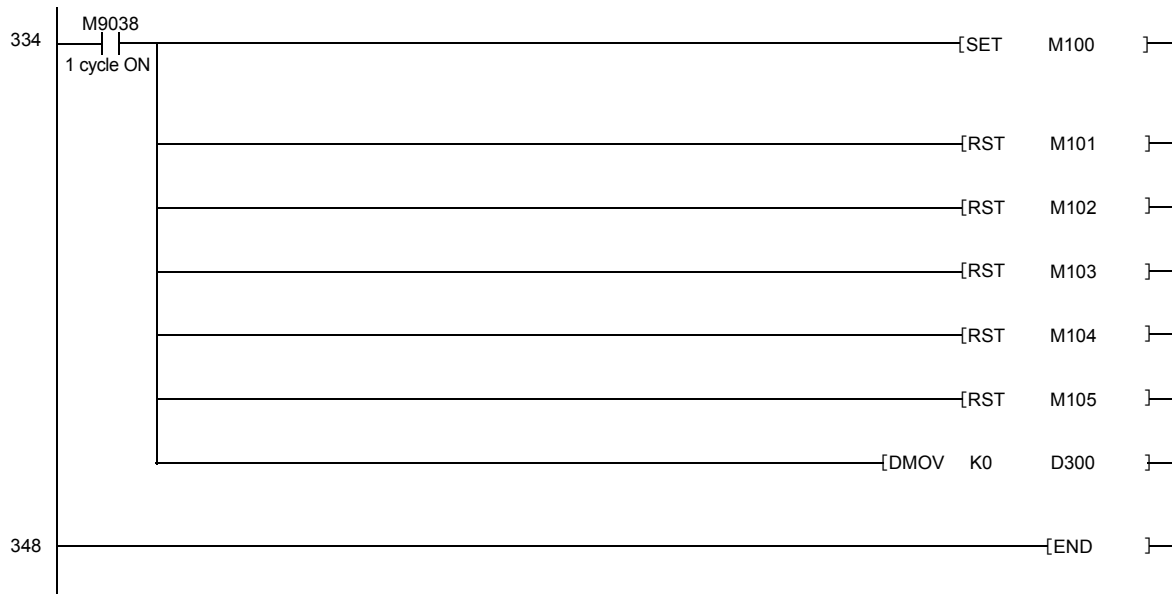


## \* Comparing values (M105)





\* Initialization



## 9. ALARM CODES

The communication status and PLC CPU status are displayed at the bottom of the CC-Link setting screen.

Code	Status
Alarm code 1	Undefined
Alarm code 2	0: Normal, 1: Error When a Time over error occurs, "1" results. It may also be given when the sequencer is reset.
Alarm code 3	Undefined
PLC CPU	STOP / RUN    Displays the PLC CPU status (STOP or RUN). --- / ERR      Displays "---" when the PLC CPU is normal, and "ERR" when it is abnormal.