

# Device/PLC Connection Manuals

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## About the Device/PLC Connection Manuals

Prior to reading these manuals and setting up your device, be sure to read the "Important: Prior to reading the Device/PLC Connection manual" information. Also, be sure to download the "Preface for Trademark Rights, List of Units Supported, How to Read Manuals and Documentation Conventions" PDF file. Furthermore, be sure to keep all manual-related data in a safe, easy-to-find location.

## A

## Mitsubishi Electric

## A.1

## Maximum Number of Consecutive Device Address

The following lists the maximum number of consecutive addresses that can be read by each PLC. Refer to these tables to utilize *Block Transfer*.



**Note:** When the device is setup using the methods below, the Data Communication Speed declines by the number of times the device is read.

- When consecutive addresses exceed the maximum data number range
- When an address is designated for *division*
- When device types are different

To speed up data communication, plan the tag layout in screen units, as consecutive devices. (Includes the Alarm and Trend screens.)

## ■ PLC

<MELSEC-A Series>

Device	Max. No. of Consecutive Address	Device	Max. No. of Consecutive Address
Input Relay X	32 Words	Data Register D	64 Words
Output Relay Y		Link Register W	
Internal Relay M		File Register R	
Latch Relay L		Extended File Register R	
Latch Relay B		Timer (current value) TN	
Timer (contact) TS		Counter (current value) CN	
Timer (coil) TC			
Counter (contact) CS			
Counter (coil) CC			

<MELSEC-FX Series>

Device	Max. No. of Consecutive Address
Input Relay X	32 Words
Output Relay Y	
Internal Relay M	
State S	
Timer (contact) TS	
Counter (contact) CC	
Data Register D	
Timer (current value) TN	
Counter (current value) CN	

<MELSEC-F<sub>2</sub> Series>

Device	Max. No. of Consecutive Address
Input Relay	8 Words
Output Relay	
Timer (contact)	
Counter (contact)	
Auxiliary Relay	
Keep Relay	
State	
Data Register W	
Timer (current value) TC	
Timer (setup value) TS	
Counter (current value) CC	
Counter (setup value) CS	

<MELSEC-FX Series (using Link I/F)>

Device	Max. No. of Consecutive Address
Input Relay	
Output Relay	
Auxiliary Relay	32 Words
State	
Special Auxiliary Relay	
Timer (contact)	
Counter (contact)	
Timer (current value)	
Counter (current value)	64 Words
Data Register	
Special Data Register	

## &lt;MELSEC-QnA Series&gt;

Device	Max. No. of Consecutive Address	Device	Max. No. of Consecutive Address
Input Relay X	280 Words	Aggregate Timer (contact) SS	280 Words
Output Relay Y		Aggregate Timer (coil) SC	
Internal Relay M		Counter (contact) CS	
Special Relay SM		Counter (coil) CC	
Latch Relay L		Timer (current value) TN	
Annunciator F		Monostable Timer (current value) SW	
Edge Relay V		Counter (current value) CN	
Step Relay S		Data Register D	
Link Relay B		Special Register SD	
Special Link Relay SB		Link Register W	
Timer (contact) TS		Special Link Register SW	
Timer (contact) TC		File Register R	

\* For direct CPU connections, use 480 words for all devices.

## &lt;MELSEC-Q Series (CPU Direct Connection)&gt;

Device	Max. No. of Consecutive Address	Device	Max. No. of Consecutive Address
Input Relay	Total of 960 Words	Special Link Relay	Total of 960 Words
Output Relay		Timer (current value)	
Internal Relay		Aggregate Timer (current value)	
Special Relay		Counter (current value)	
Latch Relay		Data Register	
Annunciator		Special Data Register	
Edge Relay		Link Data Register	
Step Relay		Special Link Register	
Link Relay		File Register (normal)	
		File Register (serial) 0R-31R	

◆ Ethernet Connection

<MELSEC-A Series>

Device	Max. No. of Consecutive Address	
Input Relay	128 Words	
Output Relay		
Latch Relay		
Special Relay		
Annunciator		
Link Relay		
Timer (contact)		
Timer (coil)		
Counter (contact)		
Counter (coil)		
Timer (current value)		258 Words
Counter (current value)		
Data Register		
Special Register		
Link Register		
File Register		

<MELSEC-Q/QnA Series>

Device	Max. No. of Consecutive Address
Input Relay	480 Words
Output Relay	
Internal Relay	
Special Relay	
Latch Relay	
Annunciator	
Edge Relay	
Step Relay	
Link Relay	
Special Link Relay	
Timer (Current Value)	
Aggregate Timer (Current Value)	
Counter (Current Value)	
Data Register	
Special Register	
Link Register	
Special Link Register	
File Register (Normal)	
File Register (Serial) OR - 31R	

◆ **CC-Link Intelligent Device Station**

<MELSEC-A/QnA/Q Series>

Device	Max. No. of Consecutive Address
Input Relay	480 Words
Output Relay	
Internal Relay	
Special Relay	
Latch Relay	
Special Link Relay	
Timer (contact)	
Timer (coil)	
Aggregate Timer (contact)	
Aggregate Timer (coil)	
Counter (contact)	
Counter (coil)	
Timer (current value)	
Aggregate Timer (current value)	
Counter (current value)	
Data Register	
Special Register	
Link Register	
Special Link Register	
File Register	

## ■ Inverter

Device	Max. No. of Consecutive Address
———	1 Words
P	1 Double Words
OPE	1 Words
OUTF	1 Double Words
OUTC	1 Words
OUTV	
SPM	
SSEL	
SOF	
SOC	
SOV	
FSET	
RUNS	
MOT	
RBRK	
ELOF	
OCPV	
COPK	
IPOW	
OPOW	
A12D	
A34D	
A56D	
A78D	
RUNC	
INVS	
RWRT	
SFWE	
SFWR	
SFRE	
SFRR	
ERCL	
RSET	
ALLC	
LNKP	
SECP	

**A.2****Device Codes and Address Codes**

Device codes and address codes are used to specify indirect addresses for the E-tags or K-tags.

The word addresses of data to be displayed are coded and stored in the word address specified by the E-tags and K-tags. (Code storage is done either by the PLC, or with T-tag and K-tags)

**■ PLC**

<MELSEC-A Series (AnA/AnU/A2US/A2USH-S1)>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	X0000~	8000	Save as word address value, with the tenths position "0" removed.
	Output Relay	Y0000~	8800	Save as word address value, with the tenths position "0" removed.
	Internal Relay	M0000~	9000	Save as word address value divided by 16.
	Special Relay	M9000~	B000	Save as word address value minus 9000 divided by 16.
	Annunciator	F0000~	B800	Save as word address value divided by 16.
Word Device	Timer (current value)	TN0000~	6000	Word Address
	Counter (current value)	CN0000~	7000	Word Address
	Data Register	D0000~	0000	Word Address
	Special Register	D9000~	0000	Word Address
	Link Register	W0000~	4800	Word Address
	File Register	R0000~	5800	Word Address
	LS area	LS0000~	4000	Word Address



<MELSEC-A Series(AnN/A2C/A1S/A3H/A0J2/A1SJ/A2SH/A1SH/A2CJ-S3)>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	X0000~	8000	Save as word address value, with the tenths position "0" removed.
	Output Relay	Y0000~	8800	Save as word address value, with the tenths position "0" removed.
	Internal Relay	M0000~	9000	Save as word address value divided by 16.
	Special Relay	M9000~	B000	Save as word address value minus 9000 divided by 16.
	Annunciator	F000~	B800	Save as word address value divided by 16.
Word Device	Timer (current value)	TN000~	6000	Word Address
	Counter (current value)	CN000~	7000	Word Address
	Data Register	D0000~	0000	Word Address
	Link Register	W0000~	4800	Word Address
	File Register	R0000~	5800	Word Address
	LS area	LS0000~	4000	Word Address

<MELSEC-F<sub>2</sub> Series>

	Device	Word Address	Device code (HEX)	Address code
Word Device	Timer (current value)	TC050~ TC450~ TC550~ TC650~	X	X
	Timer (set value)	TS050~ TS450~ TS550~ TS650~	X	X
	Counter (current value)	CC060~ CC460~ CC560~ CC660~	X	X
	Counter (set value)	CS060~ CS460~ CS560~ CS660~	X	X
	Data Register	DW700 ~	0000	Save as word address value minus 700.
	LS area	LS0000 ~	4000	Word Address

<MELSEC-FX Series (FX<sub>0</sub>)>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	X000~	8000	Word Address
	Output Relay	Y000~	8800	Word Address
	Internal Relay	M000~	9000	Save as word address value divided by 16.
	State	S000~	9800	Save as word address value divided by 16.
Word Device	Timer (current value)	TN000~	6000	Word Address
	Counter (current value)	CN000~	7000	Word Address
	Data Register	D000~	0000	Word Address
	LS area	LS0000~	4000	Word Address

<MELSEC-FX Series (FX<sub>1</sub>/FX<sub>2</sub>/FX<sub>2N</sub>/FX<sub>0N</sub>)>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	X000~	8000	Save as word address value, with the tenths position "0" removed.
	Output Relay	Y000~	8800	Save as word address value, with the tenths position "0" removed.
	Internal Relay	M0000~	9000	Save as word address value divided by 16.
	State	S000~	9800	Save as word address value divided by 16.
Word Device	Timer (current value)	TN000~	6000	Word Address
	Counter (current value)	CN000~	7000	Word Address
	Data Register	D000~	0000	Word Address
	LS area	LS0000~	4000	Word Address

## &lt;MELSEC-FX Series (1:N Connection)&gt;

Device	Word Address	Device code (HEX)
Input Relay	X0000~	8000
Output Relay	Y0000~	8800
Auxiliary Relay	M0000~	9000
State	S0000~	9800
Special Auxiliary Relay	M8000~	B000
Timer (current value)	TN000~	6000
Counter (current value)	CN000~	7000
Data Register	D0000~	0000
Special Data Register	D8000~	7800
LS Area	LS000~	4000

<MELSEC-QnA Series>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	X0000~	8000	Save as word address value, with the tenths position "0" removed.
	Output Relay	Y0000~	8800	Save as word address value, with the tenths position "0" removed.
	Internal Relay	M00000~	9000	Save as word address value divided by 16.
	Special Relay	SM0000~	B000	Save as word address value divided by 16.
	Latch Relay	L00000~	C 000	Save as word address value divided by 16.
	Annunciator	F00000~	B800	Save as word address value divided by 16.
	Edge Relay	V0000~	9800	Save as word address value divided by 16.
	Step Relay	S0000~	A800	Save as word address value divided by 16.
	Link Relay	B0000~	C 800	Save as word address value, with the tenths position "0" removed.
	Special Link Relay	SB000~	A000	Save as word address value, with the tenths position "0" removed.
Word Device	Timer (current value)	TN00000~	6000	Word Address
	Aggregate Timer (current value)	SN00000~	5000	Word Address
	Counter (current value)	CN00000~	7000	Word Address
	Data Register	D0000~	0000	Word Address
	Special Register	SD0000~	6800	Word Address
	Link Register	W0000~	4800	Word Address
	Special Link Register	SW000~	7800	Word Address
	File Register (normal)	R00000~	5800	Word Address
	File Register (serial)	0R0000~	0600	Word Address
			0800	Word Address
	LS area	LS0000~	4000	Word Address

## &lt;MELSEC-Q Series&gt;

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	X0000 ~	8000	Save as word address value, with the tenths position "0" removed.
	Output Relay	Y0000 ~	8800	Save as word address value, with the tenths position "0" removed.
	Internal Relay	M0000 ~	9000	Save as word address value divided by 16.
	Special Relay	SM0000 ~	B000	Save as word address value divided by 16.
	Latch Relay	L0000 ~	C000	Save as word address value divided by 16.
	Annunciator	F0000 ~	B800	Save as word address value divided by 16.
	Edge Relay	V0000 ~	9800	Save as word address value divided by 16.
	Step Relay	S0000 ~	A800	Save as word address value divided by 16.
	Link Relay	B0000 ~	C800	Save as word address value, with the tenths position "0" removed.
Special Link Relay	SB000 ~	A000	Save as word address value, with the tenths position "0" removed.	
Word Device	Timer (current value)	TN00000 ~	6000	Word Address
	Aggregate Timer (Current value)	SN00000 ~	5000	Word Address
	Counter (current value)	CN00000 ~	7000	Word Address
	Data Register	D00000 ~	0000	Word Address
	Special Data Register	SD0000 ~	6800	Word Address
	Link Data Register	W0000 ~	4800	Word Address
	Special Link Register	SW000 ~	7800	Word Address
	File Register (normal)	R0000 ~	5800	Word Address
	File Register (serial)	0R0000 ~	0600	Word Address
		1R0000 ~	0800	Word Address
		2R0000 ~	0A00	Word Address
		3R0000 ~	0C00	Word Address
		4R0000 ~	0E00	Word Address
		:	:	:
		29R0000 ~	4200	Word Address
30R0000 ~		4400	Word Address	
31R0000 ~	4600	Word Address		

### ◆ CC-Link Remote Device Station

	Device	Word Address	Device code (HEX)	Address code
Word Device	LS area	LS0000 ~	4000	Word Address

### ◆ CC-Link intelligent Device Station

E-tag or K-tag indirect addresses cannot be designated by CC-Link Intelligent Device Station.

### ■ Inverter

	Device	Word Address	Device code (HEX)	Address code
Word Device	Parameter (except for Pr.37 of FREQROL-S500 and FREQROL-E500)	0000 ~	8000	Word Address
	Parameter (Pr.37 of FREQROL-S500 or FREQROL-E500)	P0037	8200	Word Address
	Operation mode	OPE0	8400	Word Address
	Output frequency (rpm)	OUTF0	8600	Word Address
	Output current	OUTC0	8800	Word Address
	Output voltage	OUTV0	9000	Word Address
	Special monitor	SPM0	9200	Word Address
	Output frequency	SOF0	9400	Word Address
	Output current	SOC0	9600	Word Address
	Output voltage	SOV0	9800	Word Address
	Set frequency value	FRS0	A000	Word Address
	Run speed	RUNS0	A200	Word Address
	Motor torque	MOT0	A400	Word Address
	Regenerative brake	RBRK0	A600	Word Address
	Electronic thermal load factor	ELOF0	A800	Word Address
	Output current peak value	OCPV0	B000	Word Address
	Converter output voltage peak value	COPK0	B200	Word Address
	Input power	IPOW0	B400	Word Address
	Output power	OPOW0	B600	Word Address
	Alarm (latest Nos. 1 & 2)	A12D0	B800	Word Address
	Alarm (latest Nos. 3 & 4)	A34D0	C000	Word Address
	Alarm (latest Nos. 5 & 6)	A56D0	C200	Word Address
	Alarm (latest Nos. 7 & 8)	A78D0	C400	Word Address
	Run command	RUNC0	C600	Word Address
	Inverter status monitor	INVS0	C800	Word Address
	Run frequency write (E2PROM)	RWRT0	D000	Word Address
	Set frequency write (RAM and E2PROM)	SFWE0	D200	Word Address
	Set frequency write (only RAM)	SFWR0	D400	Word Address
	Set frequency read (E2PROM)	SFRE0	D600	Word Address
	Set frequency read (RAM)	SFRR0	D800	Word Address
	Error all clear	ERCL0	E000	Word Address
	Inverter reset	RSET0	E200	Word Address
	Parameter all clear	ALLC0	E400	Word Address
	User clear			Word Address
	Link parameter extended settings	LNKPO	E600	Word Address
	No. 2 parameter change	SECP0	E800	Word Address
	LS area	LS0000 ~	4000	Word Address