Pro-face

Digital Human Machine Interface

Device/PLC Connection Manuals

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 Rockwell (Allen-Bradley)

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.)

■ PLCs

<SLC 500 Series>

Device	Max. No. of Consecutive Address
Output	118 words
Input	
Bit	
Timer(TT : Timing Bit)	1 word
Timer(DN : Complete Bit)	
Timer(PRE : Setup Value)	
Timer(ACC : Current Value)	
Counter(CU : Up Count)	
Counter(CD : Down Count)	
Counter(DN : Complete Bit)	
Counter(PRE : Setup Value)	
Counter(ACC : Current Valu)	
Control (EN : Enable)	
Control (EU : Enable Unload)	
Control (DN : Done)	
Control (EM : Empty)	
Control (ER : Error)	
Control (UL : Unload)	
Control (IN : Inhibit Comp.)	
Control (FD : Found)	
Status	
Integer	118 words
Floating Point	
ASCII	
Long Word	
String	41 words

<PLC-5 Series>

Device	Max. No. of Consecutive Address
Input Relay I	64 Words
Output Relay O	
Internal Relay B	
Data Register N/D/A	
Timer TP/TA	40 Words
Counter CP/CA	
Timer TT/TN	
Counter CU/CD	

<SLC 500 DH485>

Device	Max. No. of Consecutive Address
Status	40 Words
Bit	
Timer	
Counter	
Control	
Integer	

<DH Plus>

Device	Max. No. of Consecutive Address
Output	50 Words
Input	
Status	
Bit	
Timer	
Counter	
Control	
Integer	
Float	
Ascii	

<Control Logix5000 Series>

Device	Max No. of Consecutive Address
Bit (BOOL)	122 Words
8 bit integer (SINT)	
16 bit integer (INT)	
32 bit integer (DINT)	
32 bit float (REAL)	

◆ Ethernet Communication

<SLC500 Series>

Device	Max. No. of Consecutive Address
Bit	126 words
Timer(TT : Timing Bit)	42 words
Timer(DN : Complete Bit)	
Timer(EN : Enable)	
Timer(PRE : Setup Value)	
Timer(ACC : Current Value)	
Counter(CU : Up Count)	
Counter(CD : Down Count)	
Counter(DN : Complete Bit)	
Counter(OV : Overflow)	
Counter(UN : Underflow)	
Counter(UA : Update)	
Counter(PRE : Setup Value)	
Counter(ACC : Current Valu)	
Control (DN : Complete Bit)	
Control (EN : Enable)	
Control (ER : Error)	
Control (UL : Unload)	
Control (IN : In Hight Bit)	
Control (FD : Found)	
Control (LEN : Length)	
Control (EU:Unload Enabled)	
Control (EM:Empty Stack)	
Control (POS : Position)	
Integer	126 words
Floating Decimal Point	63 words

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)

■ PLCs

<SLC500 Series>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Output	O:0.0~	8A00	Upper two digits: 00 Lower two digits: Value that "Element" is indicated in HEX.
	Input	I:0.0~	8200	Upper two digits: 00 Lower two digits: Value that "Element" is indicated in HEX.
	Bit	B3:0~	9000	Upper two digits: Value of "File number minus 3" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Status	S2:0~	9800	Upper two digits: Value of "File number minus 2" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
Word Device	Timer (PRE: set value)	T4:0.PRE~	6800	Upper two digits: Value of "File number minus 4" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Timer (ACC: current value)	T4:0.ACC~	6000	Upper two digits: Value of "File number minus 4" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Counter (PRE: set value)	C5:0.PRE~	7800	Upper two digits: Value of "File number minus 5" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Counter (ACC: current value)	C5:0.ACC~	7000	Upper two digits: Value of "File number minus 5" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Integer	N7:0~	0000	Upper two digits: Value of "File number minus 7" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Floating point	F8:0~	2000	Upper two digits: Value of "File number minus 8" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.

	Device	Word Address	Device code (HEX)	Address code
Word Device	String	ST9:0~	1000	Upper two digits: Value of "File number minus 9" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	Long Word	L9:0~	2E00	Upper two digits: Value of "File number minus 9" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	ASCII	A9:0~	3000	Upper two digits: Value of "File number minus 9" is indicated in HEX. Lower two digits: Value that "Element" is indicated in HEX.
	LS area	LS0000~	4000	Word Address

* *The address codes are as follows:*

Ex. N 23 : 255

Element

File Number

Address code

Upper two digits: 23-7=16 (DEC) -> 10 (HEX)

Lower two digits: 255 (DEC) -> FF (HEX)

Address code is 10FF.

<PLC-5 Series>

	Device	Word Address	Device code (HEX)	Address code
Bit Device	Input Relay	I000~	8040	Word Address
	Output Relay	0000~	8840	Word Address
	Internal Relay	B3000~	9040	Save as word address value minus 3000.
Word Device	Timer (ACC: current value)	TA3000~	6000	Save as word address value minus 3000.
	Timer (PRE: set value)	TP3000~	6800	Save as word address value minus 3000.
	Counter (ACC: current value)	CA3000~	7000	Save as word address value minus 3000.
	Counter (PRE: set value)	CP3000~	7800	Save as word address value minus 3000.
	Data Register Integer	N3000~	0040	Save as word address value minus 3000.
	Data Register BCD	D3000~	0240	Save as word address value minus 3000.
	Data Register ASCII	A3000~	0440	Save as word address value minus 3000.
	LS area	LS0000~	4040	Word Address

<Control Logix5000 Series>

	Device	Word Address	Device Code	Address Code
Bit Device	Bit (BOOL)	BOOL000000~	8000	Double Word Address
		BOOL065000~	8200	
		BOOL130000~	8400	
		BOOL195000~	8600	
		BOOL260000~	8800	
		BOOL325000~	8A00	
		BOOL390000~	8C00	
		BOOL455000~	8E00	
		BOOL520000~	9000	
		BOOL585000~	9200	
		BOOL650000~	9400	
		BOOL715000~	9600	
		BOOL780000~	9800	
		BOOL845000~	9A00	
		BOOL910000~	9C00	
		BOOL975000~	9E00	
Word Device	8 bit integer (SINT)	SINT000000~	4C00	Word Address
		SINT100000~	4E00	
		SINT200000~	5000	
		SINT300000~	5200	
		SINT400000~	8400	
		SINT500000~	5600	
		SINT600000~	5800	
		SINT700000~	5A00	
		SINT800000~	5C00	
		SINT900000~	5E00	

	Device	Word Address	Device Code	Address Code
Word Device	16 bit integer (INT)	INT000000~	0000	Word Address
		INT065000~	0200	
		INT130000~	0400	
		INT195000~	0600	
		INT260000~	0800	
		INT325000~	0A00	
		INT390000~	0C00	
		INT455000~	0E00	
		INT520000~	1000	
		INT585000~	1200	
		INT650000~	1400	
		INT715000~	1600	
		INT780000~	1800	
		INT845000~	1A00	
		INT910000~	1C00	
		INT975000~	1E00	
	32 bit integer (DINT)	DINT000000~	2000	Double Word Address
		DINT065000~	2200	
		DINT130000~	2400	
		DINT195000~	2600	
		DINT260000~	2800	
		DINT325000~	2A00	
		DINT390000	2C00	
		DINT455000~	2E00	
		DINT520000~	3000	
		DINT585000~	3200	
		DINT650000~	3400	
		DINT715000~	3600	
		DINT780000~	3800	
		DINT845000~	3A00	
		DINT910000~	3C00	
		DINT975000~	3E00	
	32 bit float (REAL)	REAL000000~	6000	Double Word Address
		REAL065000	6200	
		REAL130000~	6400	
		REAL195000~	6600	
		REAL260000~	6800	
		REAL325000~	6A00	
		REAL390000~	6C00	
		REAL455000~	6E00	
		REAL520000~	7000	
		REAL585000~	7200	
		REAL650000~	7400	
		REAL715000~	7600	
		REAL780000~	7800	
		REAL845000~	7A00	
		REAL910000~	7C00	
		REAL975000~	7E00	
	LS area (LS)	LS0000~	4000	Word Address

◆ Ethernet Communication

<SLC500 Series/Control Logix 5000 Series>

E-tag or K-tag indirect addresses cannot be designated by a PLC unit on an Ethernet network.

◆ DeviceNet Communication

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