Siemens S7 1200 (ISO TCP)

HMI Factory Setting:

IP Address: 192.168.0.1

COM Port: 102

Control Area / Status Area: DBW0 / DBW20

Connection

Standard Jumper Cable / Network Cable without jumper (Auto-detected by HMI)

Definition of PLC Read/Write Address

a. Registers

Type	Format Word No.(n) Bank No.(m)	Read/Write Range	Data Length	Note
Input Image	**IW**n	**IW**0 – **IW**65534	Word	
	IDn	**ID**0 – **ID**65532	Double Word	
Output Image	**QW**n	**QW**0 – **QW**65534	Word	
	QDn	**QD**0 – **QD**65532	Double Word	
Internal Bits	**MW**n	**MW**0 – **MW**65534	Word	
	MDn	**MD**0 – **MD**65532	Double Word	
Data Area	**DB**m.DBWn	**DB**1.DBW0 – **DB**255.DBW65534	Word	1
	DBm.DBDn	**DB**1.DBD0 – **DB**255.DBW65532	Double Word	1
Data Area (DB10)	**DBW**n	**DBW**0 – **DBW**65534	Word	
	DBDn	**DBD**0 – **DBD**65532	Double Word	
	VWn	**VW**0 – **VW**65534	Word	
	VDn	**VD**0 – **VD**65532	Double Word	
Timer	**T**n	**T**0 – **T**65535	Word	2
Counter	**C**n	**C**0 – **C**65535	Double Word	3

b. Contacts

Type	Format	Read/Write Range	Note
	Word No.(n) Bank No.(m) Bit No.(b)		
Input Image	In.b	I0.0 – I65535.7	
Output Image	Qn.b	Q0.0 – Q65535.7	
Internal Bits	Mn.b	M0.0 – M65535.7	
Data Area	DBm.DBXn.b	DB1.DBX0.0 – DB255.DBX65535.7	
Data Area (DB10)	DBXn.b	DBX0.0 – DBX65535.7	
	Vn.b	V0.0 – V65535.7	

NOTE

1) PLC needs to enable DB memory (**DB**m.DBWn、**DB**m.DBDn、**DB**m.DBXn.b) before DB data can be read.

2) Timer reads only up to 3 digits. If a value input is more than 3 digits, the Timer will regards the highest 3 (decimal) and replace the rest by 0. For example, a value 12345 will be written as 12300 in PLC.

3) Counter reads only up to 3 digits. If a value input is more than 3 digits, the Counter will regards the first 3 digits and leave out the rest. For example, a value 12345 will be written as 123 in PLC.

4) A connection of S7-1200 ISO TCP only supports three HMI at the same time.

5) Except register Tn and Cn，data type of register is Byte and its order is opposite to usual controller , for example：

   1、 IW3 is a word which combined from IB3 and IB4，High Byte of IW3 is IB3；Low Byte of IW3 is IB4.

   2、 ID3 is Double Word which combined from IB3, IB4, IB5 and IB6, and its order from highest to lowest is IB3, IB4, IB5 andIB6.

   And please be attentive to use these registers, because their Data type is different with Data Length, it will need more than one register for each access, for example:

   1、 AIW6 which Data Type is Byte and Data Length is 1 Word, when it used for one word Numeric Entry , it will occupy two addresses AIB6 and AIB7。

   2、 MD12 which Data Type is Byte and Data Length is Double Word，when it used for one word Numeric Entry, it will occupy four addresses MB12,MB13,MB14 and MB15; But data only stored in MB14 and MB15.

3、 IW3 which Data Type is Byte and Data Length is 1 Word , when it used for double word Numeric Entry, it will occupy for addresses IB3,IB4,IB5 and IB6，order from highest to lowest byte is IB5,IB6,IB3 和 IB4.