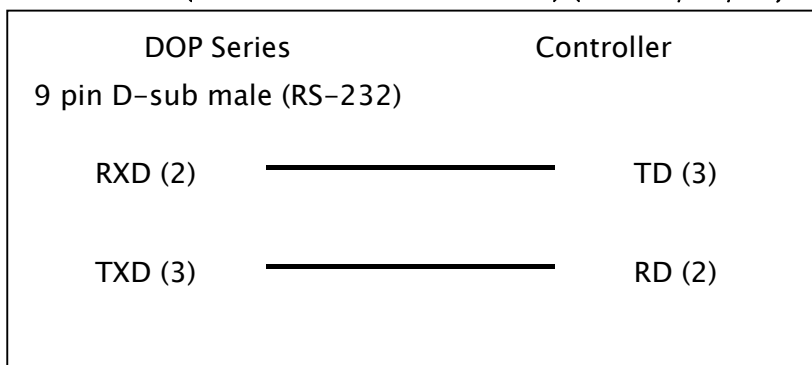# Siemens S7 200

HMI Factory Setting:

Baud rate: 9600, 7, Even, 1

Controller Station Number: 2
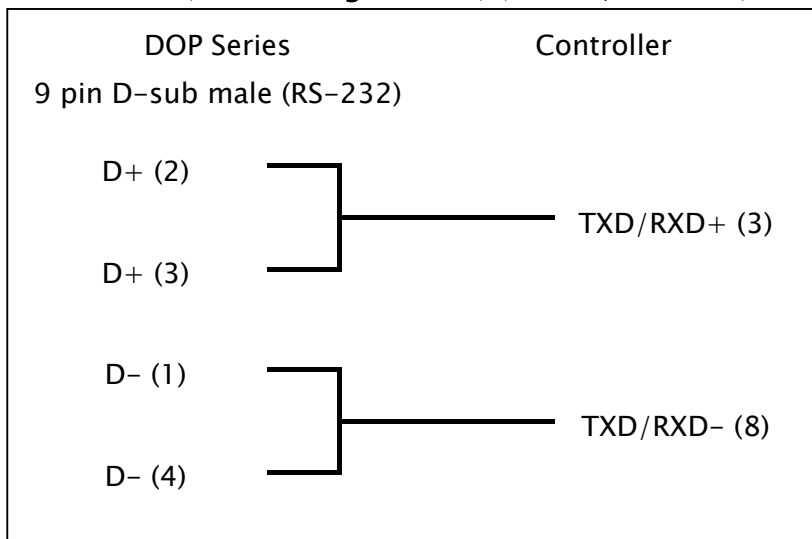
Control Area / Status Area: VW0/VW20

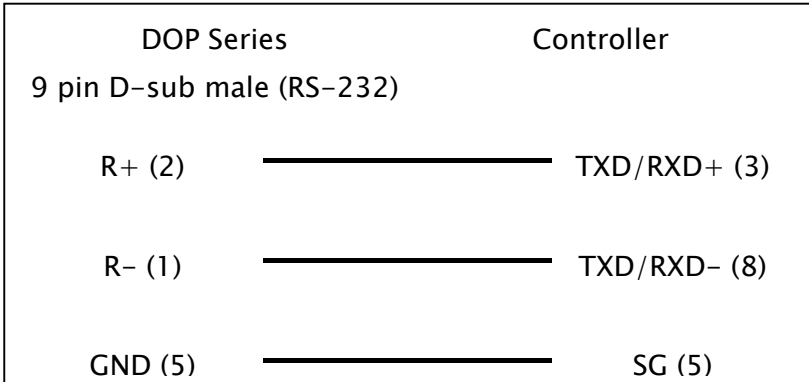## Connection

a.   RS-232 (via PPI Multi-Master Cable) (DOP-A/AE/AS, DOP-B Series)

```
            DOP Series                  Controller
9 pin D-sub male (RS-232)


    RXD (2)    ─────────────────   TD (3)


    TXD (3)    ─────────────────   RD (2)
```

b.   RS-485 (via PLC Program Port) (DOP-A/AE Series)

```
            DOP Series                  Controller
9 pin D-sub male (RS-232)


    D+ (2) ──┐
             ├──────────────  TXD/RXD+ (3)
    D+ (3) ──┘


    D- (1) ──┐
             ├──────────────  TXD/RXD- (8)
    D- (4) ──┘
```

c.   RS-485 (via PLC Program Port) (DOP-AS57 Series)

DOP Series   Controller
9 pin D-sub male (RS-232)

R+ (2) ————————— TXD/RXD+ (3)

R- (1) ————————— TXD/RXD- (8)

GND (5) ————————— SG (5)

d.   RS-485 (via PLC Program Port) (DOP-AS35/AS38 Series)

DOP Series   Controller
9 pin D-sub male (RS-232)

R+

T+   TXD/RXD+ (3)

R-

T-   TXD/RXD- (8)
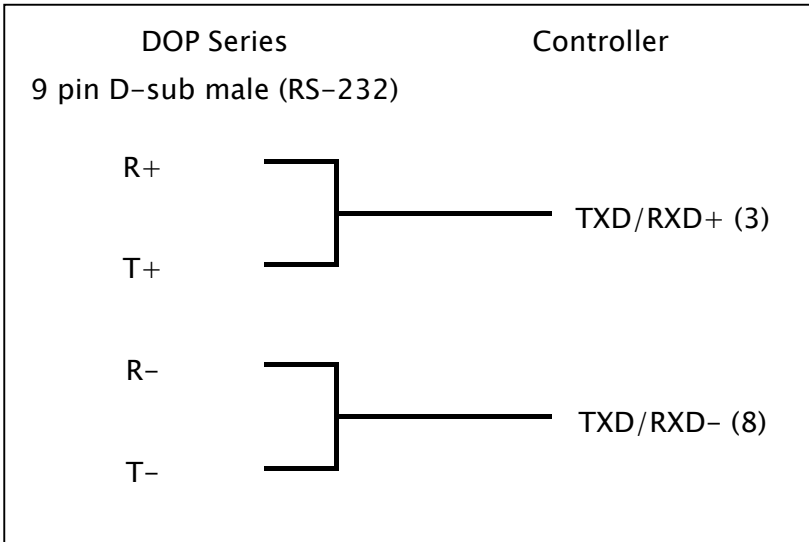
e.   RS-485 (via PLC Program Port) (DOP-B Series)

DOP Series   Controller
9 pin D-sub male (RS-232)

D+ (1) ————————— TXD/RXD+ (3)

D- (6) ————————— TXD/RXD- (8)

GND (5) ————————— SG (5)
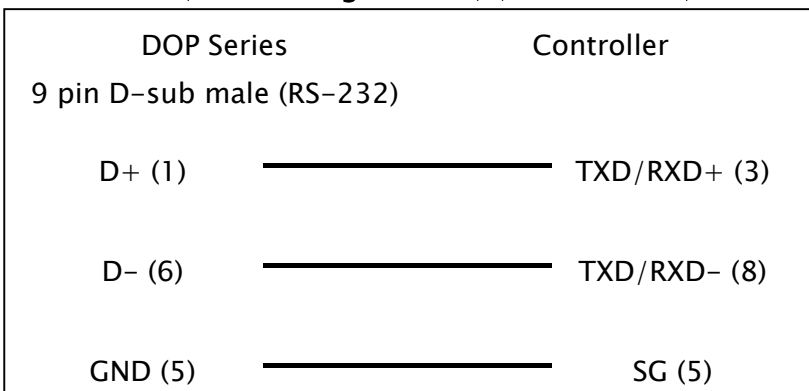
Definition of PLC Read/Write Address

a. **Registers**

Type	Format	Read/Write Range	Data Length	Note
	Word No. (n)			
Timer	**T**n	**T**0 – **T**255	Word	
Analog input word	**AIW**n	**AIW**0 – **AIW**30	Word	1,3
Counter	**C**n	**C**0 – **C**255	Word	
Analog output word	**AQW**n	**AQW**0 – **AQW**30	Word	1, 3
Input Image	**IW**n	**IW**0 – **IW**14	Word	3
Input Image	**ID**n	**ID**0 – **ID**12	Double Word	3
Output Image	**QW**n	**QW**0 – **QW**14	Word	3
Output Image	**QD**n	**QD**0 – **QD**12	Double Word	3
Special Bits	**SMW**n	**SMW**0 – **SMW**199	Word	3
Special Bits	**SMD**n	**SMD**0 – **SMD**197	Double Word	3
Internal Bits	**MW**n	**MW**0 – **MW**98	Word	3
Internal Bits	**MD**n	**MD**0 – **MD**96	Double Word	3
Data Area	**VW**n	**VW**0 – **VW**9998	Word	3
	DBWn	**DBW**0 – **DBW**9998	Double Word	3
Data Area	**VD**n	**VD**0 – **VD**9996	Double Word	3
Special S	**SW**n	**SW**0 – **SW**99	Word	3
Special S	**SD**n	**SD**0 – **SD**97	Double Word	3

b. **Contacts**

Type	Format	Read/Write Range	Note
	Word No. (n) **Bit No. (b)**		
Timer Bit	**T**b	**T**0 – **T**255	Read Only
Counter Bit	**C**b	**C**0 – **C**255	Read Only
Input Image	**I**n.b	**I**0.0 – **I**15.7	
Output Image	**Q**n.b	**Q**0.0 – **Q**15.7	
Special Bit	**SM**n.b	**SM**0.0 – **SM**200.7	
Internal Bit	**M**n.b	**M**0.0 – **M**99.7	
Data Area Bit	**V**n.b	**V**0.0 – **V**9999.7	
Special S Bit	**S**n.b	**S**0.0 – **S**100.7	

1) n must be an even number.

2) S7-200 processes a longer period of internal program scanning or inputs an interruption command may slows down HMI response rate and cause "Must Retry" or "No Such Resource" error message. Communication Delay function is suggested to avoid this problem. The parameter setting unit is ms and suggested setting value is 10. The setting value should not be greater than 30.
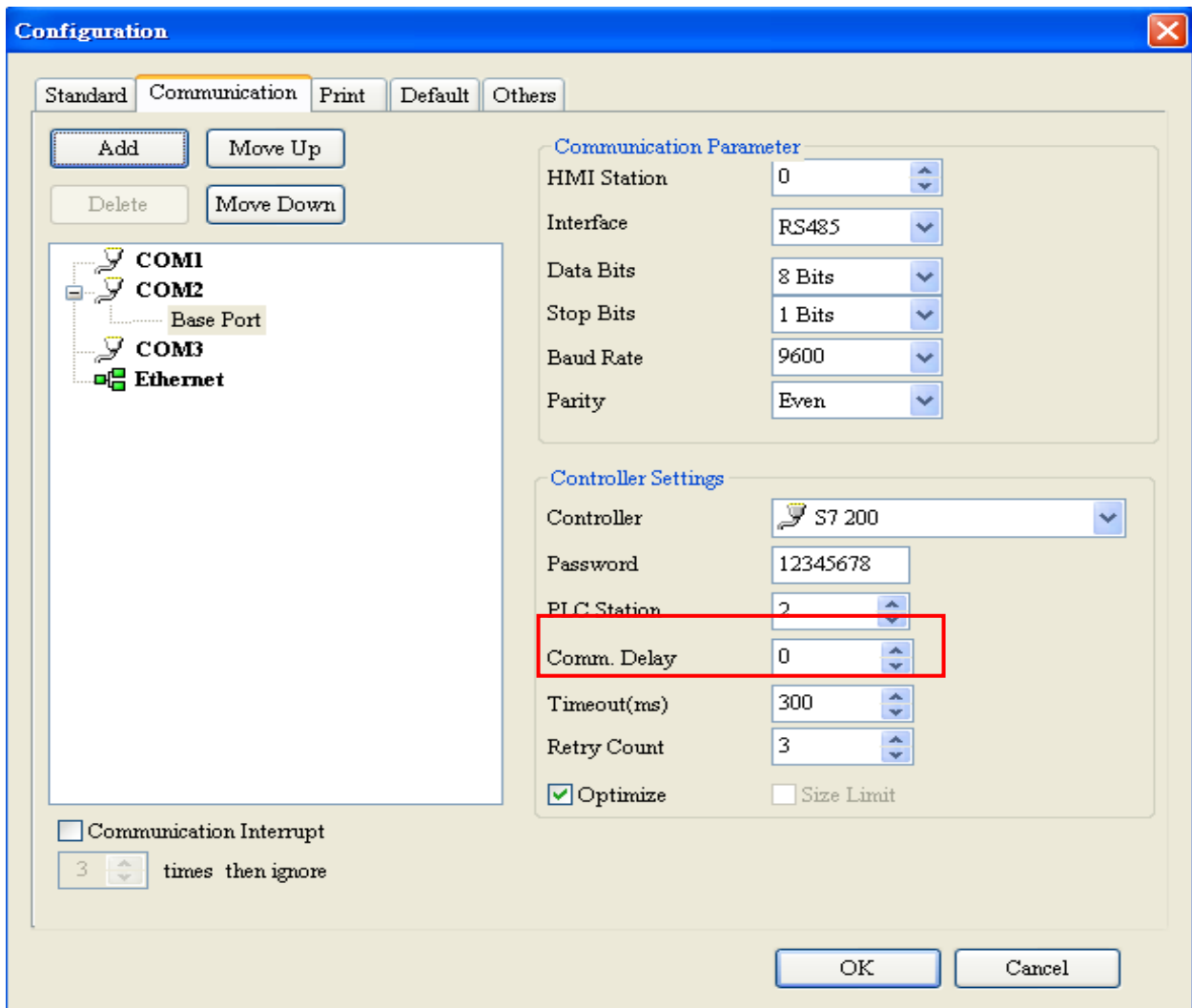
3) Except register Tn and Cn，data type of register is Byte and its order is opposite to usual controller , for example：

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.