

## Siemens S7 300 (Direct MPI)

### HMI Factory Setting:

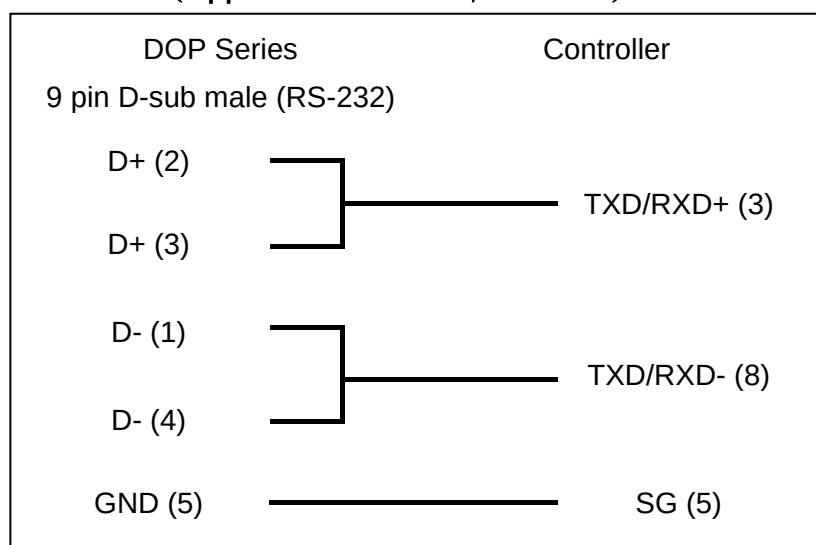
Baud rate: 187500, 8, Even, 1 (RS-485) ([Note1](#))

Controller Station Number: 2([Note2](#)、[Note3](#)、[Note4](#))

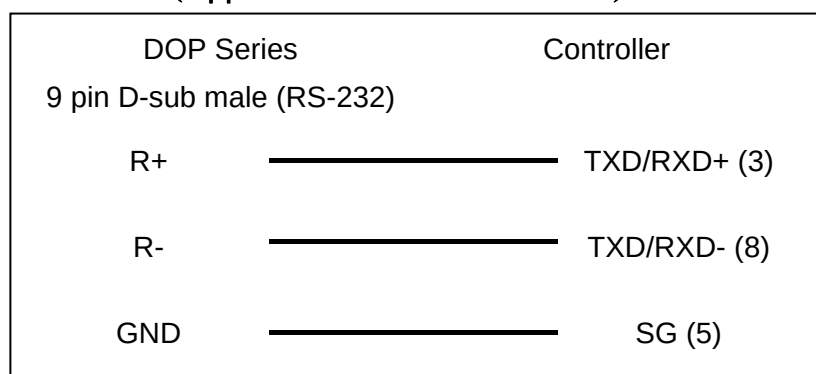
Control Area / Status Area: DBW0/DBW20

### Connection

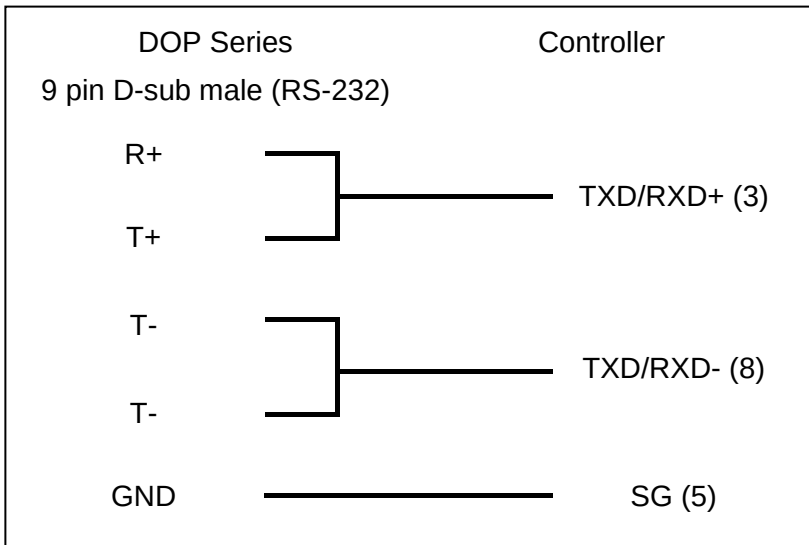
#### a. RS-485 (Applicable to DOP-A/AE Series)



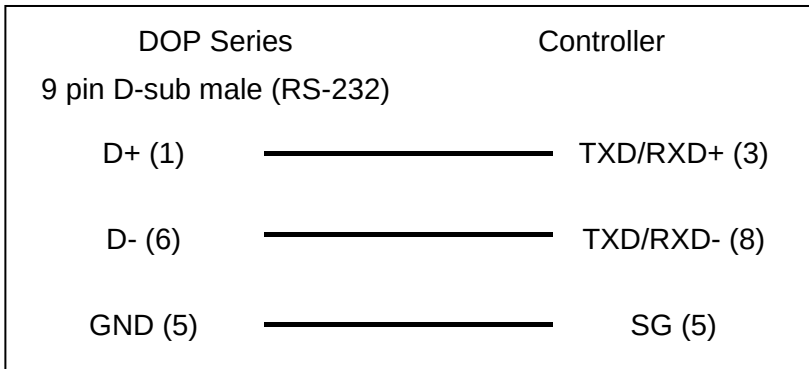
#### b. RS-485 (Applicable to DOP-AS57 Series)



**c. RS-485 (Applicable to DOP-AS35/AS38 Series)**



**d. RS-485 (Applicable to DOP-B Series)**



**Definition of PLC Read/Write Address**

**a. Registers**

| Type          | Format                     | Read/Write Range | Data Length | Note |
|---------------|----------------------------|------------------|-------------|------|
|               | Word No.(n)<br>Bank No.(m) |                  |             |      |
| Input Image   | IWn                        | IW0 - IW65534    | Word        |      |
|               | IDn                        | ID0 - ID65532    | Double Word |      |
| Output Image  | QWn                        | QW0 - QW65534    | Word        |      |
|               | QDn                        | QD0 - QD65532    | Double Word |      |
| Internal Bits | MWn                        | MW0 - MW65534    | Word        |      |
|               | MDn                        | MD0 - MD65532    | Double Word |      |

| Type             | Format                     | Read/Write Range              | Data Length | Note              |
|------------------|----------------------------|-------------------------------|-------------|-------------------|
|                  | Word No.(n)<br>Bank No.(m) |                               |             |                   |
| Data Area        | DBm.DBWn                   | DB1.DBW0 –<br>DB255.DBW65534  | Word        | <a href="#">5</a> |
|                  | DBm.DBDbn                  | DB1.DBDb0 –<br>DB255.DBW65532 | Double Word | <a href="#">5</a> |
| Data Area (DB10) | DBWn                       | DBW0 – DBW65534               | Word        |                   |
|                  | DBDbn                      | DBDb0 – DBDb65532             | Double Word |                   |
|                  | VWn                        | VW0 – VW65534                 | Word        |                   |
|                  | VDn                        | VD0 – VD65532                 | Double Word |                   |
| Timer            | Tn                         | T0 – T65535                   | Word        | <a href="#">6</a> |
| Counter          | Cn                         | C0 – C65535                   | Double Word | <a href="#">6</a> |

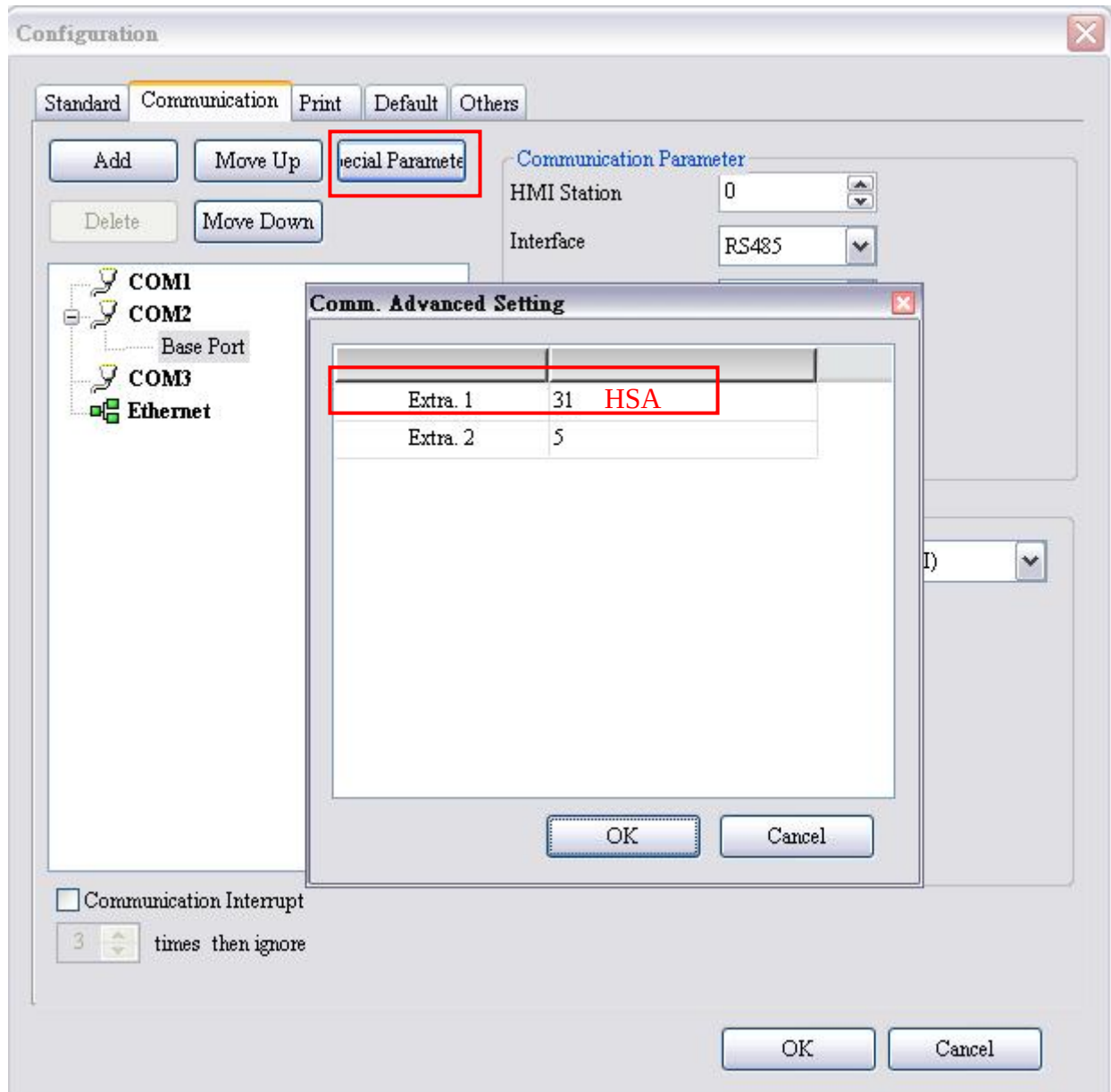
#### b. Contacts

| 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 | <a href="#">5</a> |
| Data Area (DB10) | DBXn.b                                 | DBX0.0 – DBX65535.7           |                   |
|                  | Vn.b                                   | V0.0 – V65535.7               |                   |

#### NOTE

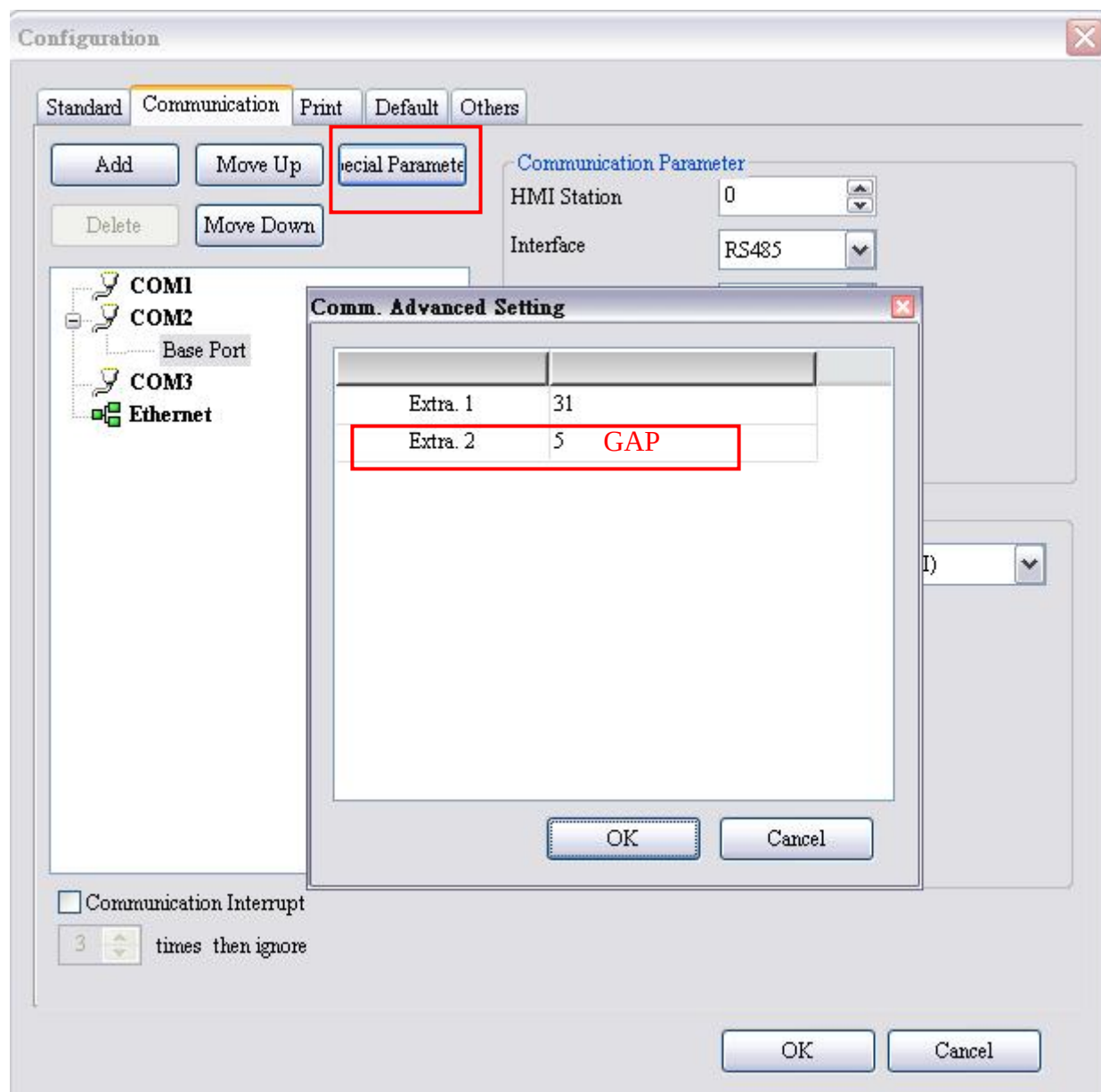
- 1) This communication protocol only supports 187500 bps. Only one COM port can use this communication protocol for one project.
- 2) This communication protocol supports multiple HMI to multiple PLC connection. However, it is still recommend to connect a maximum of two HMI to a PLC at a time. A connection of more than two HMI would cause low baud rate and time out error may occur.

- 3) In order to set Highest Station Address(HSA) click Option > Configuration > Special Parameter > Extra. The default setting for HSA is 31, max. value is 126 and Min. value is 2. The setting for HSA must be in consistent with PLC setting.



- 4) In "Communication" section, click on "Extra" setting, and update GUF coefficient of GAP in setting 2. The GUF coefficient is the frequency of the HMI checking the existence of controller within the communication network. If coefficient is larger, the frequency of update will be low, in another word, it takes longer waiting time for other devices to join the network. The default setting of GUF is 5, maximum value is 31 and minimum value is 1. If multiple HMI connections are required, it is recommended to lower GUF coefficient

in order to shorten the waiting time of newly joined HMI and to prevent the error of “network can not be joined”.



- 5) PLC needs to enable DB memory (**DBm.DBWn**、**DBm.DBDn**、**DBm.DBXn.b**) before DB data can be read.
- 6) The valid digit of value for Timer is 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 write as 12300 in PLC.
- 7) The valid digit of value for Counter is 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 write as 123 in PLC.