# Copley Servo (Stepnet protocol)

**HMI Factory Setting:**
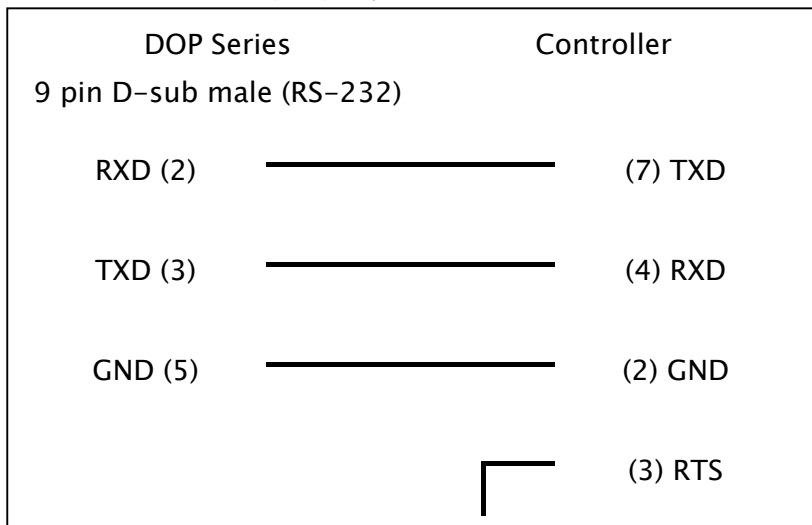
Baud rate: 9600. 8. None. 1

Controller Station Number: 0

Control Area / Status Area: None/None

**Connection**

**a. RS-232 (DOP-A/AE/AS, DOP-B Series)**

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


        RXD (2)    ───────────    (7) TXD


        TXD (3)    ───────────    (4) RXD


        GND (5)    ───────────    (2) GND


                                  (3) RTS
```

**Definition of PLC Read/Write Address**

**a. Registers**

| Type | Format Word No. (n) | Read/Write Range | Data Length | Note |
|------|------|------|------|------|
| Ram memory **R** | **R**nn | **R**00 – **R**FF | Double Word | Hexadecimal |
| Flash memory **F** | **F**nn | **F**00 – **F**FF | Double Word | Hexadecimal |
| Internal Register **IR** | **IR**n | **IR**0 – **IR**31 | Word | |

**b. Contacts**

| Type | Format Word No. (n) Bit No. (b) | Read/Write Range | Note |
|------|------|------|------|
| BIT_DEVICE_RB | **RB**nn.b | **RB**00.0 – **RB**FF.31 | 1 |
| BIT_DEVICE_FB | **FB**nn.b | **FB**00.0 – **FB**FF.31 | 1 |

| Type | Format Word No. (n) Bit No. (b) | Read/Write Range | Note |
|---|---|---|---|
| BIT_DEVICE_T0 | **T0**b | **T0**0 | 2, 5 |
| BIT_DEVICE_T1 | **T1**b | **T1**0 | 2, 5 |
| BIT_DEVICE_T2 | **T2**b | **T2**0 | 2, 5 |
| BIT_DEVICE_RST | **RST**b | **RST**0 | 3, 5 |
| BIT_DEVICE_CPR | **CPR**nn | **CPR**00 – **CPR**FF | Hexadecimal, 4, 5 |
| BIT_DEVICE_CPF | **CPF**nn | **CPF**00 – **CPF**FF | Hexadecimal, 4, 5 |

**NOTE**

1) RB and FB are the bit access of Ram/Flash memory. Therefore, RB0x21.14 indicates bit 14 of Ram memory 0x21.

2) T0, T1 and T2 are virtual devices for simulating Trajectory Generator Command. The number of 0, 1 and 2 indicates the subcommand of that command, so only bit 0 is acceptable.

3) RST is for simulating Reset Command, so only bit 0 is acceptable.

4) CPR and CPF are for simulating Copy Command of Ram and Flash individually. The address (n) after CPR and CPF is just the copy address for Ram/Flash memory. For example, CPR12 indicates that the content of Ram memory 0x12 will be copied into Flash memory 0x12 and CPF6A indicates that the content of Flash memory 0x6A will be copied into Ram memory 0x6A.

5) T0, T1, T2, RST, CPR, CPF are all read-only and they can not be used on Reset button.