

Appendix G

CJ1W-CIF11 RS-422A Converter

The CJ1W-CIF11 RS-422A Converter connects directly to a CS/CJ-series RS-232C port and converts RS-232C to RS-422A/485.

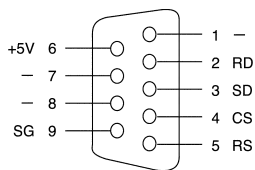
Specifications

General Specifications

| Item | Specification | |
|---------------------------------|-----------------------------------|---|
| Dimensions | 18.2 × 34.0 × 38.8 (W × H × D) | |
| Weight | 20 g max. | |
| Ambient operating temperature | 0 to 55°C | |
| Ambient storage temperature | -20 to 75°C | |
| Ambient operating humidity | 10% to 90% (with no condensation) | |
| Rated power supply voltage | 5 V | (Supplied from pin 6 of the RS-232C connector.) |
| Current consumption | 40 mA max. | |
| Operating atmosphere | No corrosive gases | |
| Vibration resistance | Same as SYSMAC CS/CJ Series. | |
| Shock resistance | Same as SYSMAC CS/CJ Series. | |
| Isolation method | Not isolated | |
| Maximum communications distance | 50 m | |

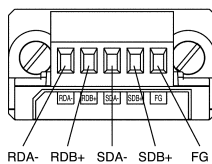
RS-232C Connector

Connector Pin Arrangement for RS-232C Port



| Pin number | Signal |
|------------|--------|
| 1 | NC |
| 2 | RD |
| 3 | SD |
| 4 | CS |
| 5 | RS |
| 6 | +5V |
| 7, 8 | NC |
| 9 | SG |
| Hood | FG |

RS-422A/485 Terminal Block



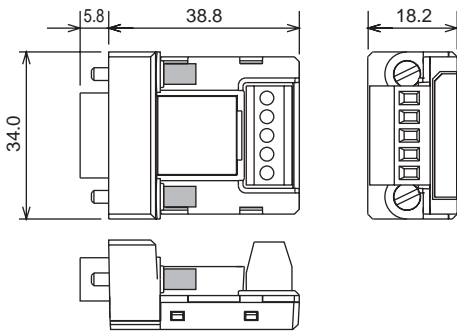
| Signal |
|--------|
| RDA- |
| RDB+ |
| SDA- |
| SDB+ |
| FG |

DIP Switch Settings

| Pin number | Function | ON | OFF |
|------------|---|--|--|
| 1 | Terminating resistance | With (at both ends of the communications path) | Without |
| 2 | Two-wire/four-wire method selection (See note 1.) | Two-wire method | Four-wire method |
| 3 | Two-wire/four-wire method selection (See note 1.) | Two-wire method | Four-wire method |
| 4 | Not used. | --- | --- |
| 5 | Selection of RS control for RD (See note 2.) | With RS control | Without RS control (always ready to receive) |
| 6 | Selection of RS control for SD (See note 3.) | With RS control | Without RS control (always ready to send) |

- Note**
1. Set pins 2 and 3 to the same setting. (ON for the two-wire method or OFF for the four-wire method.)
 2. To prohibit echoback, set pin 5 to ON (with RS control).
 3. When connecting to several devices using the four-wire method in a 1:N connection, set pin 6 to ON (with RS control). When connecting using the two-wire method, set pin 6 to ON (with RS control).

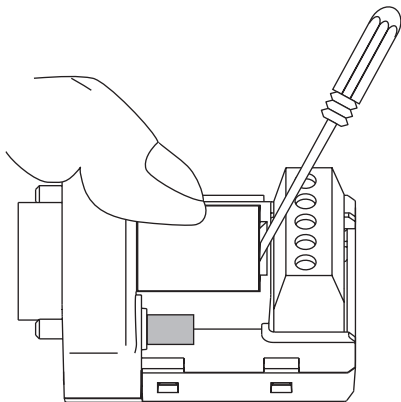
Dimensions



DIP Switch Settings, Wiring, and Installation

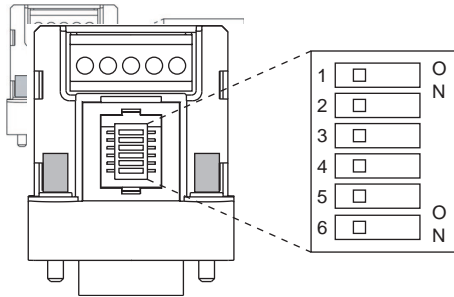
The DIP switch settings must be changed to perform communications according to settings other than the default settings.

1. Remove the DIP switch cover using a flat-bladed screwdriver in the way shown below.



Note Press the cover gently while removing it to prevent it from popping out suddenly.

2. Using a fine pair of tweezers or other tool with a fine point, change the settings of the DIP switch pins to match the desired communications conditions.
3. Be sure to remount the cover after finishing the DIP switch settings.

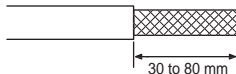


All the pins are factory-set to OFF.

Wiring the RS-422A/485 Terminal Block

- Use either two-wire or four-wire shielded cable.
Recommended cable: CO-HC-ESV-3P×7/0.2 (Hirakawa Hewtech)
- Connect the shield wire at both ends of the cable carrying RS-422A/485 signals to ground, and ground the ground terminal on the Power Supply Unit of the CPU or Expansion Rack to 100 Ω max.

1. Taking care not to damage the shield, strip between 30 and 80 mm of sheath off the end of the cable.



4. Carefully twist the shield mesh together to form a single wire, and carefully cut off the material surrounding the signal wires and any unnecessary signal wires.

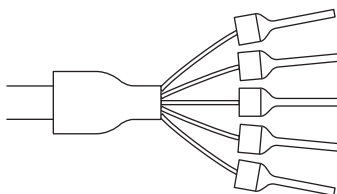


5. Strip the sheath off the signal wires to a length sufficient to attach crimp terminals. Apply vinyl tape or heat-shrinking tube to the sheathes and stripped parts of communications lines.



6. Attach sticktype crimp terminals to ends of the signal lines and crimp them using a crimp tool.

- Recommend crimp terminals:
Phoenix Contact
AI Series
AI-0.5-8WH-B (serial number: 3201369)
- Recommended crimp tool:
Phoenix Contact ZA3

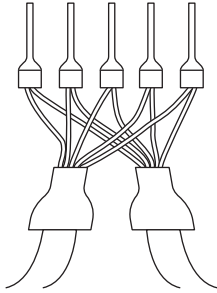


With four-wire cables, insert two signal lines into each crimp terminal together before crimping.

- Recommend crimp terminals:
Phoenix Contact
AI Series
AI-TWIN2×0.5-8WH (serial number: 3200933)

- Recommended crimp tool:
Phoenix Contact
UD6 (serial number: 1204436)

7. Connect the signal lines and the shield line to the RS-422A/485 terminal block.

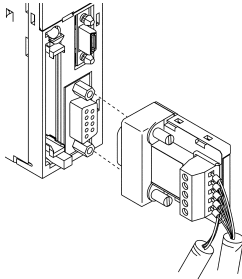


Mounting to the Unit

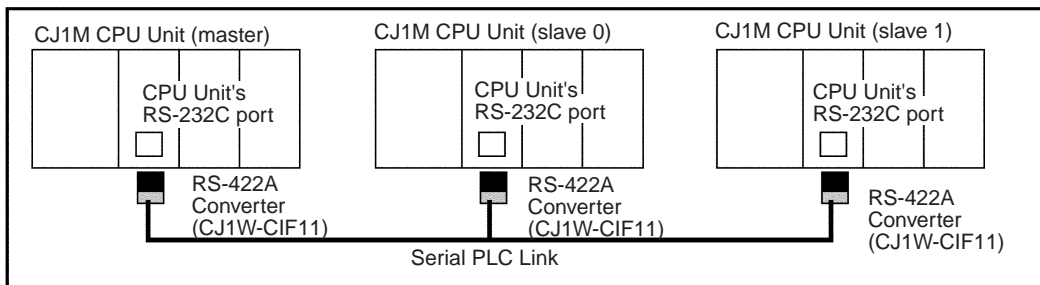
Mount the Converter to the RS-232C port (D-Sub, 9-pin) of the Unit to be connected in the following way.

1. Align the Converter's connector with that of the Unit and push it into the Unit's connector as far as possible.
2. Tighten the mounting screws on either side of the Converter. (Tightening torque: 0.3 N·m.)

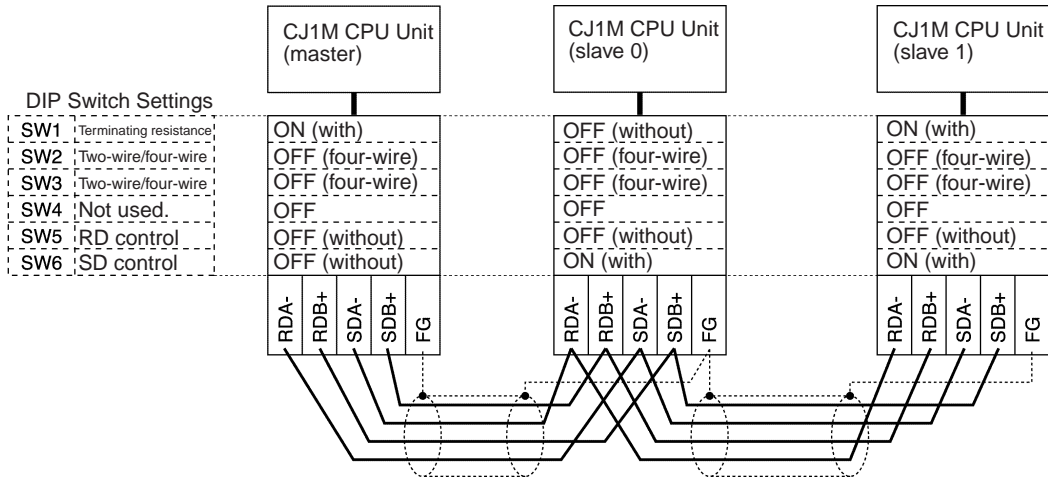
As an example, connection to a CJ1 CPU Unit is shown below.



Wiring Example (CJ1M CPU Units Connected via Serial PLC Link)



Wiring for Four-wire Cable



Wiring for Two-wire Cable

