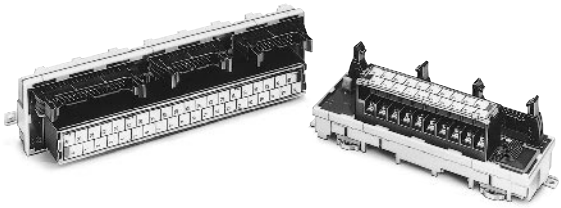
OMRON

# Servo Relay Units

# XW2B

## Connectors and terminal block in a single unit reduces wiring between Servo Drivers and Position Control Units.



- Simplifies control signal wiring between Servo Drivers and Position Control Units.
- With no soldering connections, a screwdriver is all you need.
- Special cables available for between Units.
- Only a 24-VDC power supply is required for control signals.
- Space-saving terminals blocks with M3 screws.
- Mount to DIN Track or via screws.

## ■ Ordering Information

**Servo Relay Units**

| Name | Applicable Units | Model |
|---|---|---|
| One-axis Servo Relay Unit | CJ1W-NC1□3<br>CS1W-NC1□3<br>C200HW-NC113<br>C200H-NC112<br>3F88M-DRT141 | XW2B-20J6-1B |
| Two-axis Servo Relay Unit | CJ1W-NC2□3/NC4□3<br>CS1W-NC2□3/NC4□3<br>C200HW-NC213/NC413<br>C200H-NC211 | XW2B-40J6-2B |
| CQM1 Relay Unit (for one-/two-axis Servos) | CQM1-CPU43-V1<br>CQM1H-PLB21<br>CS1WS-HCP22 | XW2B-20J6-3B |
| Two-axis Servo Relay Unit (with communications support) | CS1W-NC2□3/NC4□3<br>CJ1W-NC2□3/NC4□3 | XW2B-40J6-4A |
| Servo Relay Unit for the CJ1M-CPU Unit (for 1 axis) | CJ1M-CPU22<br>CJ1M-CPU23 | XW2B-20J6-8A |
| Servo Relay Unit for the CJ1M-CPU Unit (for 2 axes) | CJ1M-CPU22<br>CJ1M-CPU23 | XW2B-40J6-9A |

**Servo Driver Connecting Cables**

| Name | Applicable Servo Driver | | Model |
|---|---|---|---|
| 30- to 750-W U-series Connecting Cables | R88D-UP | 1 m | XW2Z-100J-B1 |
| | | 2 m | XW2Z-200J-B1 |
| M-series Connecting Cables | R88D-MT | 1 m | XW2Z-100J-B2 |
| | | 2 m | XW2Z-200J-B2 |
| H-series Connecting Cables | R88D-H | 1 m | XW2Z-100J-B3 |
| | | 2 m | XW2Z-200J-B3 |
| 1-kW min. W- and U-series Connecting Cables | R88D-WT<br>R88D-UT | 1 m | XW2Z-100J-B4 |
| | | 2 m | XW2Z-200J-B4 |
| SMARTSTEP/UE-series Connecting Cables | R7D-AP<br>R88D-UEP | 1 m | XW2Z-100J-B5 |
| | | 2 m | XW2Z-200J-B5 |
| SMARTSTEP Cable with Communications Support | R7D-AP | 1 m | XW2Z-100J-B7 |
| | | 2 m | XW2Z-200J-B7 |

**Connecting Cables for Serial Communications Units and Boards**

| Name | Applicable Serial Communications Units and Boards | | Model |
|---|---|---|---|
| SMARTSTEP Connecting Cables | CJ1W-SCU41<br>CS1W-SCB41 | 1 m | XW2Z-100J-C1 |
| | | 2 m | XW2Z-200J-C1 |

**Position Control Unit Connecting Cables**

| Name | Applicable Units | | Model |
|---|---|---|---|
| One-axis W-, U-, H-, and M-series Connecting Cables | C200H-NC112 | 0.5 m | XW2Z-050J-A1 |
| | | 1 m | XW2Z-100J-A1 |
| Two-axis W-, U-, H-, and M-series Connecting Cables | C200H-NC211 | 0.5 m | XW2Z-050J-A2 |
| | | 1 m | XW2Z-100J-A2 |
| One-axis W-, U-, H-, M-, SMART-STEP, and UE-series Connecting Cables | CQM1-CPU43-V1<br>CQM1H-PLB21 | 0.5 m | XW2Z-050J-A3 |
| | | 1 m | XW2Z-100J-A3 |
| One-axis SMARTSTEP and UE-series Connecting Cables | C200H-NC112 | 0.5 m | XW2Z-050J-A4 |
| | | 1 m | XW2Z-100J-A4 |
| Two-axis SMARTSTEP and UE-series Connecting Cables | C200H-NC211 | 0.5 m | XW2Z-050J-A5 |
| | | 1 m | XW2Z-100J-A5 |
| One-axis W-, U-, H-, and M-series Connecting Cables | CS1W-NC113<br>C200HW-NC113 | 0.5 m | XW2Z-050J-A6 |
| | | 1 m | XW2Z-100J-A6 |
| Two-axis W-, U-, H-, and M-series Connecting Cables | CS1W-NC213/NC413<br>C200HW-NC213/NC413 | 0.5 m | XW2Z-050J-A7 |
| | | 1 m | XW2Z-100J-A7 |
| One-axis SMARTSTEP and UE-series Connecting Cables | CS1W-NC113<br>C200HW-NC113 | 0.5 m | XW2Z-050J-A8 |
| | | 1 m | XW2Z-100J-A8 |
| Two-axis SMARTSTEP and UE-series Connecting Cables | CS1W-NC213/NC413<br>C200HW-NC213/NC413 | 0.5 m | XW2Z-050J-A9 |
| | | 1 m | XW2Z-100J-A9 |
| One-axis W-, U-, H-, and M-series Connecting Cables | CS1W-NC133 | 0.5 m | XW2Z-050J-A10 |
| | | 1 m | XW2Z-100J-A10 |
| Two-axis W-, U-, H-, and M-series Connecting Cables | CS1W-NC233/NC433 | 0.5 m | XW2Z-050J-A11 |
| | | 1 m | XW2Z-100J-A11 |
| One-axis SMARTSTEP and UE-series Connecting Cables | CS1W-NC133 | 0.5 m | XW2Z-050J-A12 |
| | | 1 m | XW2Z-100J-A12 |
| Two-axis SMARTSTEP and UE-series Connecting Cables | CS1W-NC233/NC433 | 0.5 m | XW2Z-050J-A13 |
| | | 1 m | XW2Z-100J-A13 |
| One-axis W-, U-, H-, and M-series Connecting Cables | CJ1W-NC113 | 0.5 m | XW2Z-050J-A14 |
| | | 1 m | XW2Z-100J-A14 |
| Two-axis W-, U-, H-, and M-series Connecting Cables | CJ1W-NC213/NC413 | 0.5 m | XW2Z-050J-A15 |
| | | 1 m | XW2Z-100J-A15 |
| One-axis SMARTSTEP and UE-series Connecting Cables | CJ1W-NC113 | 0.5 m | XW2Z-050J-A16 |
| | | 1 m | XW2Z-100J-A16 |
| Two-axis SMARTSTEP and UE-series Connecting Cables | CJ1W-NC213/NC413 | 0.5 m | XW2Z-050J-A17 |
| | | 1 m | XW2Z-100J-A17 |
| One-axis W-, U-, H-, and M-series Connecting Cables | CJ1W-NC133 | 0.5 m | XW2Z-050J-A18 |
| | | 1 m | XW2Z-100J-A18 |
| Two-axis W-, U-, H-, and M-series Connecting Cables | CJ1W-NC233/NC433 | 0.5 m | XW2Z-050J-A19 |
| | | 1 m | XW2Z-100J-A19 |
| One-axis SMARTSTEP and UE-series Connecting Cables | CJ1W-NC133 | 0.5 m | XW2Z-050J-A20 |
| | | 1 m | XW2Z-100J-A20 |
| Two-axis SMARTSTEP and UE-series Connecting Cables | CJ1W-NC233/NC433 | 0.5 m | XW2Z-050J-A21 |
| | | 1 m | XW2Z-100J-A21 |
| One-axis W-, U-, H-, M-, SMART-STEP, and UE-series Connecting Cables | CS1W-HCP22 (for 1 axis) | 0.5 m | XW2Z-050J-A22 |
| | | 1 m | XW2Z-100J-A22 |
| | CS1W-HCP22 (for 2 axes) | 0.5 m | XW2Z-050J-A23 |
| | | 1 m | XW2Z-100J-A23 |
| One-axis W-, U-, H-, and M-series Connecting Cables | 3F88M-DRT141 | 0.5 m | XW2Z-050J-A24 |
| | | 1 m | XW2Z-100J-A24 |
| One-axis SMARTSTEP and UE-series Connecting Cables | | 0.5 m | XW2Z-050J-A25 |
| | | 1 m | XW2Z-100J-A25 |
| Two-axis SMARTSTEP Connecting Cables | CJ1M-CPU22<br>CJ1M-CPU23 | 1 m | XW2Z-100J-A26 |
| Two-axis SMARTSTEP Connecting Cables | | 1 m | XW2Z-100J-A27 |

## ■ Servo Relay Unit Specifications

**Ratings and Characteristics**

| Item | XW2B-□□J6-□ |
|---|---|
| Rated current | 1 A (temperature rise plus 30°C max.) |
| Rated voltage | 24 VDC |
| Insulation resistance | 5 MΩ min. (at 500 VDC) |
| Dielectric strength | 500 VAC for 1 min (leakage current: 1 mA max.) |
| Degree of protection | IP00 IEC standard |
| Electrical protection class | Class 0 |
| Operating temperature | 0 to 55°C |

**Materials and Finish**

| Item | Part name | Materials and finish |
|---|---|---|
| Units | Main Unit/Expansion Unit | PBT resin (UL94V-0)/gray |
| | DIN Track lock | POM resin (UL94HB)/yellow |
| Flat Cable Connectors | Housing | PBT resin (UL94V-0)/black |
| | Contacts | Brass/gold plated |
| Terminal Block | Main Unit | PBT resin (UL94V-0)/black |
| | Connecting screw | Steel/nickel plated |
| | Cover | PC resin (UL94V-0)/transparent |
| PCB | --- | FCL-GE4 Glass-epoxy Board |

## ■ Position Control Unit and Servo Driver Connecting Cable Specifications

**Ratings and Characteristics**

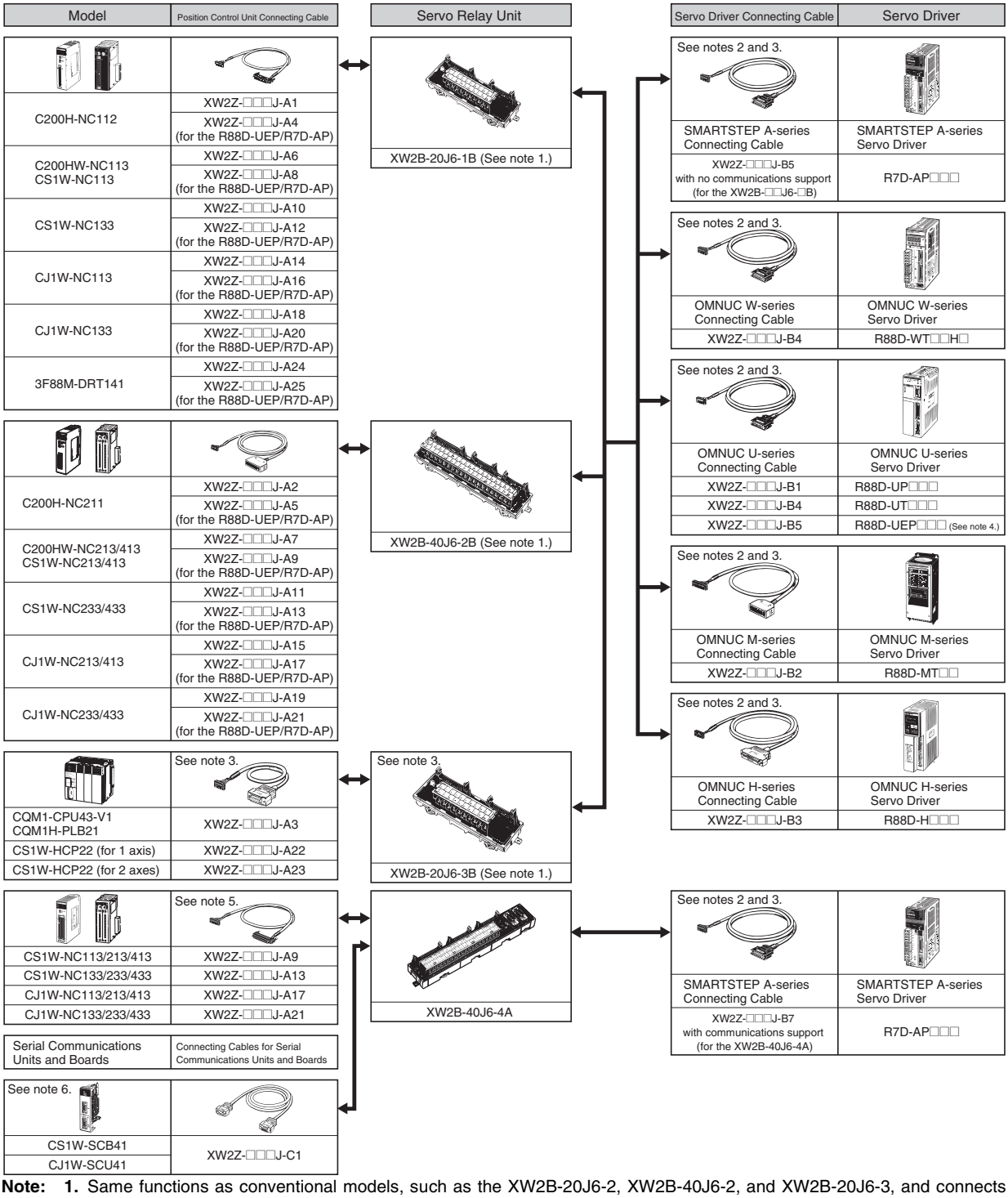
| Item | Specifications |
|---|---|
| Rated current | 1 A (temperature rise plus 30°C max.) |
| Rated voltage | 24 VDC |
| Contact resistance | 20 mΩ max. (at 20 mV, 100 mA max.) (See note 1.) |
| Insulation resistance | 5 MΩ min. (at 500 VDC) |
| Dielectric strength | 500 VAC for 1 min (leakage current: 1 mA max.) (See note 2.) |
| Degree of protection | IP00 IEC standard |
| Electrical protection class | Class 0 |
| Operating temperature | 0 to 55°C |

**Note:** **1.** Contact resistance of the Connector.
**2.** Dielectric strength of the Connector.

**Materials and Finish**

| Item | Part name | | | Materials and Finish |
|---|---|---|---|---|
| Connectors | XG4M-1630<br>XG4M-2030<br>XG4M-3430 | Housing | | Fiber-glass reinforced PBT resin (UL94V-0)/black |
| | | Cover | | |
| | | Contacts | Mating end | Phosphor bronze/nickel base, 0.15-μm gold plating |
| | | | Press-fit end | Phosphor bronze/nickel base, 2.0-μm tin plating |
| | XG4T-1604/2004/3404 | | Strain Relief | Fiber-glass reinforced PBT resin (UL94V-0)/black |
| | XM2A-1501<br>XM2D-1501 | Housing | | Polyamide resin (UL94V-0)/milky white |
| | | Contact terminals | Mating end | Brass/nickel base, 0.2-μm gold plating |
| | | | Press-fit end | |
| | | Shell | | Steel/nickel plated |
| | XM2S-1511/3711 | Housing | | ABS resin/nickel plated |
| | FCN-367J040-AU/F | Housing | | PBT resin (UL94V-0)/black |
| | | Contacts | Mating end | Phosphor bronze/gold plated |
| | | | Press-fit end | Phosphor bronze/tin plated |
| | | Connecting screw | | Steel/nickel plated |
| | MR-34LF<br>MR-50LF | Housing | | Fiber-glass reinforced PBT resin (UL94V-0)/black |
| | | Contacts | Mating end | Brass/nickel base, silver plated |
| | | Cover | | ABS resin (UL94-HB) |
| | 10136-3000VE<br>10150-3000VE | Housing | | Fiber-glass reinforced PBT resin (UL94V-0)/black |
| | | Contacts | | Copper alloy/nickel base, 0.5-μm gold plating |
| | 10136-52A0-008<br>10130-52A0-008 | Housing | | Fiber-glass reinforced PBT resin (UL94V-0)/black |
| Cable | UL2464 Interface Cable | | | AWG28 or the equivalent |

## ■ Servo Relay Unit, Servo Driver and Position Control Unit Combinations




**Note:** 1. Same functions as conventional models, such as the XW2B-20J6-2, XW2B-40J6-2, and XW2B-20J6-3, and connects to the R88D-UEP□□□.

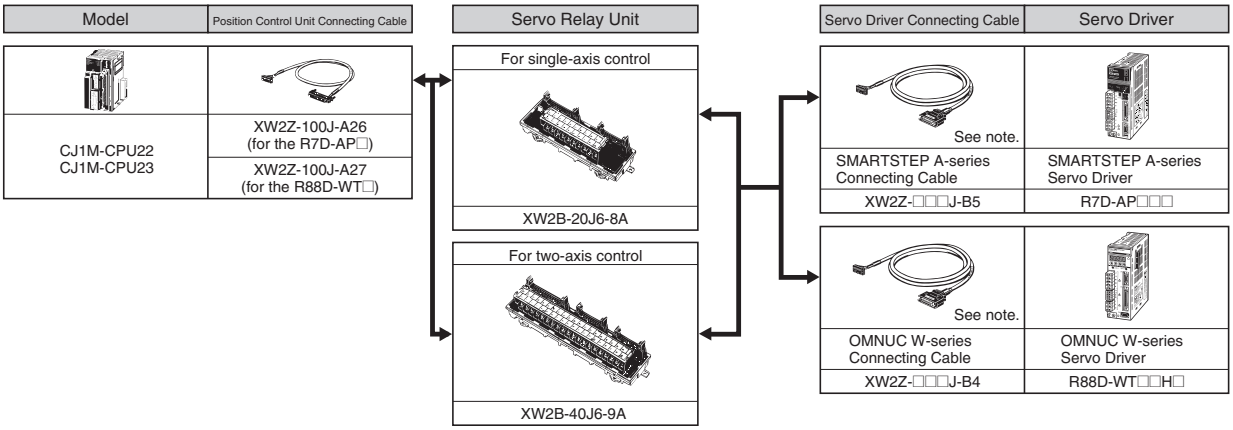
2. Two Servo Driver Connecting Cables are required per Relay Unit when using the C200H-NC211, C200HW-NC213/413, or CS1W-NC213/233/413/433.

3. Two Relay Units, two Position Control Connecting Cables, and two Servo Driver Connecting Cables are required when using the CQM1-CPU43-V1 for 2-axis control.

4. Use the XW2Z-□□□J-A4 Connecting Cable for the C200H-NC112, the XW2Z-□□□J-A8 Connecting Cable for the C200HW-NC113 and CS1W-NC113, the XW2Z-□□□J-A5 Connecting Cable for the C200H-NC211, and the XW2Z-□□□J-A9 Connecting Cable for the C200HW-NC213/413 and CS1W-NC213.

5. Do not connect a signal lines to the Y-axis terminals on the XW2B-40J6-4A when connected to a Position Control Unit used for one-axis control.

6. Use this cable between XW2B-406J-4A communications connectors to control two or more axes.




**Note:** For 2-axis control, two Servo Driver Connecting Cables are required for each Relay Unit.