

Position Control Terminal Block

XW2B

Simplify Wiring between Motor Controls and Omron's Position Control PLC Modules

- Relays control signals between a servo driver and the PLC position control module or CQM1H PLC with pulse I/O capability
- Connectors are wired with a single screwdriver and no soldering is required
- Dedicated cables connect terminal blocks to position control modules
- Requires 24 VDC for control signal use
- Terminal block organizes wiring and saves space; uses M3 screws
- Mounts to DIN track or with screws for panel mounting

Ordering Information

POSITION CONTROL TERMINAL BLOCKS

| Appearance | Applicable servo driver | Applicable position control module/CQM1H Pulse I/O Board | Part number |
|------------|-------------------------|--|--------------|
| | U-series: R88D-UP | C200H-NC112 C200HW-NC113 | XW2B-20J6-1B |
| | | C200H-NC211 C200HW-NC213 C200HW-NC413 | XW2B-40J6-2B |
| | | CQM1H-PLB21 | XW2B-20J6-3B |

Cables Between Servo Driver and Terminal Block

| Appearance | Position control terminal block | Applicable servo driver | Cable length | Part number |
|------------|---------------------------------|-------------------------|----------------|--------------|
| | XW2B-20J6-1B, | R88D-UP | 1 m (3.28 ft) | XW2Z-100J-B1 |
| | XW2B-40J6-2B | | 2 m (6.56 ft) | XW2Z-200J-B1 |
| | XW2B-20J6-3B | R88D-WT | 1 m (3.28 ft) | XW2Z-100J-B4 |
| | | | 2 m (6.56 ft.) | XW2Z-200J-B4 |

Note: Two cables will be required on the Servo Driver side if the XW2B-40J6-2B Terminal Block is used for two-axis control.



| Appearance | Position control terminal block | Applicable position control module | Cable length | Part number |
|------------|------------------------------------|---|-----------------|--------------|
| | XW2B-20J6-1B | C200H-NC112 (for one axis) | 0.5 m (1.64 ft) | XW2Z-050J-A1 |
| | | | 1 m (3.28 ft) | XW2Z-100J-A1 |
| | XW2B-40J6-2B | C200H-NC211 (for two axes) | 0.5 m (1.64 ft) | XW2Z-050J-A2 |
| | | | 1 m (3.28 ft) | XW2Z-100J-A2 |
| | XW2B-20J6-3B (See Note 1) | CQM1H-PLB21 (for one or two axes) | 0.5 m (1.64 ft) | XW2Z-050J-A3 |
| | (| , | 1 m (3.28 ft) | XW2Z-100J-A3 |
| | XW2B-20J6-1B | C200H-NC113 (for one axis) | 0.5 m (1.64 ft) | XW2Z-050J-A6 |
| | | | 1 m (3.28 ft) | XW2Z-100J-A6 |
| | XW2B-40J6-2B (See Note 2) | C200HW-NC213 (for two axes) C200HW-NC413 (for four axes) | 0.5 m (1.64 ft) | XW2Z-050J-A7 |
| | | | 1 m (3.28 ft) | XW2Z-100J-A7 |

Note: 1. Two cables each will be required on the Servo Terminal Block and Position Control Module side, and on the Servo Driver side if the CQM1H-PLB21 is used for two axes.

2. Two cables each will be required on the Servo Terminal Block and Position Control Module side, and on the Servo Driver side if the C200HW-NC413 (four axes) is used for two axes.

Application Examples _____

■ REDUCE WIRING TO EXTERNAL SENSORS, SWITCHES AND POWER SUPPLY



Position Control Terminal Block



■ TYPICAL CONFIGURATIONS

| Position Control Module, and CQM1 | Cable on the Position Control Module side | Position Control Terminal Block | Cable on the Servo Driver side | Servo Driver |
|---|---|--|--------------------------------|-----------------------|
| | | | (Nee Notes 2, 3 and 4) | |
| Position Control Module (for one axis) for C200H | Cable for C200H-NC112 | Position Control Terminal Block for C200H-NC112 | U-series Cable | U-series Servo Driver |
| C200H-NC112 | XW2Z-□□□J-A1 | XW2B-20J6-1B (See Note 1) | XW2Z-□□J-B1 | R88D-UP |
| | 1 | | | 1 |
| | | | (Nee Notes 2, 3 and 4) | |
| Position Control Module (for one axis) for C200H | Cable for C200HW-NC113 | Position Control Terminal Block for C200HW-NC113 | W-series Cable | W-series Servo Driver |
| C200HW-NC113 | XW2Z-□□□J-A6 | XW2B-20J6-1B (See Note 1) | XW2Z-□□□J-B4 | R88D-WT |
| | | | | |
| | | | | |
| Position Control Module (for two axis) for C200H | Cable for C200H-NC211 | Position Control Terminal Block for C200H-NC211 | | |
| C200H-NC211 | XW2Z-□□□J-A2 | XW2B-40J6-2B (See Note 1) | | |
| | | | | |
| | | | | |
| Position Control Module (for two axes/four axes) for C200HW | Cable for C200HW-NC213 (two axes) and C200HW- NC413 (four axes) | Position Control Terminal Block for C200HW-NC213 (two axes) and C200HW-NC413 (four axes) | | |
| C200HW-NC213 C200HW-NC413 | XW2Z-□□J-A7 | XW2B-40J6-2B (See Note 4) | | |
| | | | | |
| | (See Note 3) | (See Note 3) | | |
| CQM1 (for one/two axes) | Cable for CQM1H-PLB21 | Servo Terminal Unit for CQM1H-PLB21 | | |
| CQM1H-PLB21 Pulse I/O Board | XW2Z-□□J-A3 | XW2B-20J6-3B (See Note 1) | | |

Note: 1. Has the functions of the conventional XW2B-20J6-1, XW2B-40J6-2 and XW2B-20J6-3.

- 2. Two cables will be required on the Servo driver side if the C200H-NC211 (for two axes) is used.
- 3. Two cables each are required on the Position Control Terminal Block and Position Control Module side and on the Servo Driver side if the CQM1H-PLB21 is used for two axes.
- 4. Two cables each will be required on the Position Control Terminal Block and Position Control Module side and on the Servo Driver side if the C200HW-NC413 (four axes) is used.

Specifications _____

■ POSITION CONTROL TERMINAL BLOCKS

| Item | XW2BJ6B |
|-----------------------|--|
| Rated current | 1 A at a temperature of 30°C (86°F) max. |
| Rated voltage | 24 VdC |
| Insulation resistance | 5 MΩ min. at 500 VDC |
| Dielectric strength | 500 VAC for 1 minute with a current leakage of 1 mA max. |
| Enclosure rating | IP00 |
| Electrical protection | Class 0 |
| Ambient temperature | Operating: -0°C to 55°C (32°F to 131°F) |

■ CONNECTORS

| Item | XW2Z-□J-A□/-B□ |
|-----------------------|---|
| Rated current | 1 A |
| Rated voltage | 24 VDC |
| Contact resistance | 20 m Ω max. with 100 mA max. at 20 mV max. (See Note 1) |
| Insulation resistance | 5 M Ω min. at 500 VDC |
| Dielectric strength | 500 VAC for 1 minute with a current leakage of 1 mA max. (See Note 2) |
| Enclosure rating | IP00 |
| Electrical protection | Class 0 |
| Ambient temperature | Operating: 0°C to 55°C (32°F to 131°F) |

Note: 1. The resistance indicated is the contact resistance of the connector.

2. The voltage indicated is the dielectric strength of the connector.

CQM1 side

3.5-

75

29.5

(1.16)

20.5 2.8

Dimensions

Unit: mm (inch)

POSITION CONTROL TERMINAL BLOCKS

XW2B-20J6-1B



Connection to Terminal Block

The terminal signal name varies with the servo driver. Refer to the Operation Manual of the servo driver in use.

Identify the servo driver in use by writing the name on the terminal nameplates provided. Affix the nameplate to the terminal cover.

Connection to One Axis Position Control Modules C200H-NC112-U/C200HW-NC113-U



Note: 1. Use mode 2 for origin search.

135 (5.31)

62

Note: The terminal block has a terminal pitch of 7.62 mm.

Б

34

7.62

A

- 39

MЗ

<u>ה::</u>

2. The XB contact is used to turn the electromagnetic brake ON and OFF.

Servo side

Terminal block (20 P) with rotary cover

0

::::1

3.5

15 5

ŧ

45 (1.77)

2.8

46 (1.81)

44.3 (1.74)

Two, 3.5 dia. holes

- 3. The open terminal must be left unconnected.
- 4. 0 V and Common terminals are connected internally.
- 5. The suitable crimp terminal is R1.25-3 (round or fork type).



Identify the servo driver in use by writing the name on the terminal nameplates provided. Affix the nameplate to the terminal cover.



Connection to Multi Axis Position Control Modules C200H-NC211-U/C200HW-NC213-U/C200HW-NC413-U



Note: 1. The XB contact is used to turn the electromagnetic brake on and off.

- 2. Use mode 2 for origin search.
- 3. When only a single axis is used, short-circuit the unused axis' CW limit and CCW limit to the common terminal.
- 4. The open terminal must be left unconnected.
- 5. 0 V and common terminals are connected internally.
- 6. The suitable crimp terminal is R1.25-3 (round or fork type).

XW2B-20J6-3B

driver in use.



Connection to Terminal Block

nameplate to the terminal cover.

The terminal signal name varies with the servo driver. Refer to the Operation Manual of the servo

Identify the servo driver in use by writing the name

on the terminal nameplates provided. Affix the

CQM1 side Servo side 3.5 135 (5.31) 3.5 34 39 Two, 3.5 dia. holes **1** 29.5 15.5]]..... 1 (1.16) + 7.5 45 (1.77) 7 62 ŴЗ 2.8 Terminal block (20 P) with rotary cover

WX2B



Note: The terminal block has a terminal pitch of 7.62 mm.

Connection to Position Control PLC CQM1H-PLB21 for 1- or 2-Axis Control



- Note: 1. When this signal is input, the output pulses of the CQM1H can be input to the high-speed counters directly.
 - 2. Input this signal output to the CQM1H input modules
 - 3. The XB contact is used to turn the electromagnetic brake on and off.
 - 4. Phase Z is an open collector output.
 - 5. The open terminal must be left unconnected.
 - 6. 0 V and common terminals are connected internally.
 - 7. The suitable crimp terminal is R1.25-3 (round or fork type).

XW2Z CONNECTING CABLES

Use the cables to connect the PLC Position Control Module to the XW2B Position Control Terminal Blocks.

Wiring Diagram XW2Z-

For C200H-NC112 Use

XW2Z-





| C20 (PC with | 0H-NC1 B I/O co 40 pole | 12 nnect s) | tor | | XV (X0 | V2B-20J G4M-26 | 6-1B 30) |
|--------------------|-------------------------------|-------------------|---------------|-----------|-----------|-------------------|-------------|
| | Δ1 | | | | 1 | 1 | |
| | 45 | | | | | 2 | |
| | ~~~ | L | | | | 3 | |
| | Δ3 | . [] | _X_ | X | i | 4 | |
| | ~~ | | | | | 5 | |
| | Δ4 | | _X_ | X | | 6 | |
| | | Li | $\neg \frown$ | | <u>_</u> | 7 | |
| | A6 | | _X_ | X | <u>i</u> | 8 | |
| | A7 | | | | | 9 | |
| | A8 | | $\neg \frown$ | | | 10 | |
| | B8 | i | _X_ | X | i | 11 | |
| | A9 | | | | | 12 | |
| | B9 | | | | | 13 | |
| | A10 | | | | <u>_</u> | 14 | |
| | B10 | ┝──┼ | | | _i | 15 | |
| | A12 | ┝─┼ | | | | 16 | |
| | B12 | \rightarrow | | | | 17 | |
| | A13 | ┝─┤ | | | | 18 | |
| | B13 | ┝──┼ | | Aller I - | | 19 | |
| | A19 | - i | | | | 20 | |
| | B19 | \vdash | | | | 21 | |
| | A20 | ├──¦ | | | + | 22 | |
| | B20 | | | | | 23 | |
| | | L | | | - + | 24 | |
| | | | | | | 25 | |
| | | | | | | 26 | |

For C200HW-NC113 Use

XW2Z-



Connector

Position Control Module side





FCN-367J040-AU/F (Fujitsu)

Wiring Diagram XW2Z-DDJ-A6



Wiring Diagram XW2Z-DDJ-A2

For C200H-NC211 Use

XW2Z-



Connector Position Control Terminal Block side Position Control Module side Heat-shrinkable tube 34_33 ΠO 2 1 MR-34LF (Honda Tsushin Kogyo) XG4M-3430-T



For C200HW-NC213/NC413 Use

XW2Z-





Wiring Diagram XW2Z-

| (M co | 200H-NC2 Iulti-pole s nnector w | i13/NC413 quare ith 34 poles) | XW2B-40J6-2B (XG4M-3430-T) |
|----------|---------------------------------------|-------------------------------------|-------------------------------|
| | A1/B1 | • | |
| | A2/B2 | | 2 |
| | | | |
| | A8 | | |
| | | | |
| | A6 | \downarrow | 6 |
| | | | 7 |
| | A10 | | |
| | | 4 | 9 |
| | A16 | | 10 |
| | A14 | | |
| | A24/B24 | | 12 |
| | A19 | | 13 |
| de | A21 | | 14 |
| | A12 | | 15 |
| | A23 | | 16 |
| | A22 | + . | 17 |
| | A20 | • | 18 |
| | | | 19 |
| | B8 | ++ | 20 |
| | | | 21 |
| | B6 | # <u>+</u> -~_~ | 22 |
| | | | 23 |
| | B10 | \downarrow | 24 |
| | | L. | - 25 |
| | B16 | | 26 |
| | B14 | + | 27 |
| | B23 | + + + | |
| | B22 | + | 29 |
| | B21 | | 30 |
| | B19 | | 31 |
| | B12 | + | 32 |
| | B20 | ه الم | |
| | | 1 | 34 |

XW2B-20J6-3B (XG4M-1630)

4

5

6

7

8

9 10

Wiring Diagram XW2Z-DDJ-A3 CQM1H-PLB21 (XM2D-1501)

1

15 12 13

14

1

3

Δ

Hood cover

For CQM1 Use

XW2Z-





For U-Series Servo Driver and Servo Terminal Block

XW2Z-



Connector





10136-3000VE Plug 10336-52A0-008 Hood (both Sumitomo 3M)

Wiring Diagram XW2Z-

R88D-UP

| 88D-UP alf-pitch th 36 pol | connector es) | XW2B-□□J6-□E (XG4M-2030) |
|--|------------------------------------|--|
| 13 10 3 4 1 2 5 6 | | 1 1 2 1 1 1 1 1 1 1 1 $$ |
| 24 25 8 14 | | 9 10 11 12 13 |
| 15 18 7 | | <u> </u> |
| 34 35 36 | ┝──┆ ┝──↓ ┝── ∳ ───── | 18 19 20 |

OMRON

Wiring Diagram XW2Z-

For W-Series Servo Driver and Servo Terminal Block

XW2Z-



| Position Control Terminal Block | Ser | vo Drive |
|---------------------------------|------|----------|
| No. | No. | Symbol |
| 1 | - 47 | +24VIN |
| 2 | 26 | INP1COM |
| 3 | 11 | +ccw |
| 4 | 12 | -ccw |
| 5 | 7 | +cw |
| 6 | 8 | -cw |
| 7 | 15 | +ECRST |
| 8 | 14 | -ECRST |
| 9 | 28 | TGONCOM |
| 10 | 19 | +z |
| | 20 | —z |
| 12 | - 25 | INP1 |
| 13 | - 40 | RUN |
| 14 | | |
| 15 | 41 | MING |
| 16 | - 44 | RESET |
| 17 | 27 | TGON |
| 18 | 31 | ALM |
| 19 | 32 | ALMCOM |
| 20 | | FG |
| Cable: AWG28 × 4P + AWG28 × 9C | | |

Precautions

WIRING

The open terminal must be left unconnected.

0 V and common terminals are connected internally.

Do not wire the Servo Screw Terminal Block while power is supplied to the unit, or the terminals may be short-circuited with the cable and the Unit may malfunction.

TERMINAL WIRE CONNECTIONS

The suitable crimp terminal is R1.25-3 (round or fork type).

Terminal Screw Tightening Torque

When connecting crimp terminals or wires to the terminal block, be sure to tighten each crimp terminal or wire to 0.5 to 0.8 N \cdot m (4.9 to 7.8 kgf \cdot cm).

TRACK MOUNTING

More than one XW2B Position Control Screw Terminal Block can be densely mounted to a DIN track, in which case, move the mounting stays from both sides of the XW2B to the bottom of the XW2B.

Secure both ends of the XW2B with end plates.



NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.



Cat. No. P20BFAD2

08/01

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