

# Wiring Systems

Introduction to I/O Blocks, I/O Terminals, and I/O Block Bases

## G70D, G7TC, and G70A-ZOC16

Unify Wiring with One Connecting Cable.

Simplify Connections to the Controller and Reduce Wiring in the Control Panel.

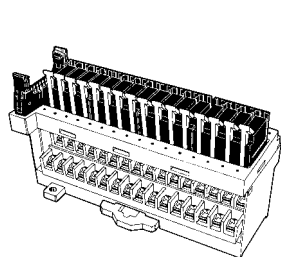
Improve Surge Suppression and Increase Capacity at the Same Time.

### G70D

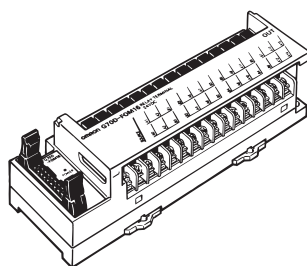
**Compact Output Terminals Save Control Panel Space**

- The G70D Series consists of 16-point Relay Output Terminals.
- Two configurations are available: The standard low-profile version is just 156 × 51 × 39 mm (W×D×H) and the vertical version is just 135 × 46 × 81 mm (W×D×H).
- Relay output models are equipped with G6D power relays (low-profile: SPST-NO 3 A/common; vertical: SPST-NO 3 A/output) and power MOSFET relay models are equipped with G3DZ power MOSFET relays (SPST-NO 0.3 A/output).
- The flat models have 2 common terminals. The vertical models have 16 independent outputs.

**Note:** See page 389 and page 392 for more details.



Vertical models  
(G70D-VSOC16/VFOM16)



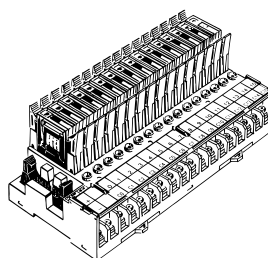
Low-profile models  
(G70D-SOC16/FOM16)

### G7TC

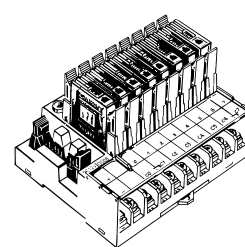
**Both Input Blocks and Output Blocks are Available. G7TC I/O Blocks are Ideal as Controller Interfaces.**

- Output Blocks with 8 or 16 outputs are available. Input Blocks with 16 inputs are available.
- The 16-point Output Blocks are available with PNP circuits.
- The 16-point models are just 182 × 85 × 68 mm (W×D×H) and the 8-point models are just 102 × 85 × 68 mm (W×D×H).
- Equipped with G7T I/O Relays (SPST-NO 5 A/output).
- G7TC models conform to UL and CSA standards.
- 16-point models with independent terminals.
- Models are also available with G3TA Solid State Relays.

**Note:** See page 394 for more details.



16-point model



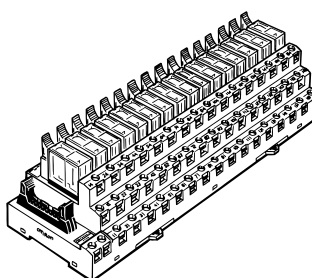
8-point model

### G70A-ZOC16

**High-capacity Relay Sockets can be Equipped with G2R (SPDT) Relays.**

- Sixteen relay terminal sockets for output relays only.
- Models are available with PNP circuits.
- Compact case is just 234 × 75 × 64 mm (W×D×H).
- Install OMRON G2R Power Relays, G3R Solid State Relays, G3RZ Power MOSFET Relays, and H3RN Timers as required. (Relays and Timers are sold separately.)
- High-capacity 10-A Terminal Block
- Conforms to VDE standards.
- Sixteen independent terminals

**Note:** See page 397 for more details.



\*Relays are sold separately.

## G70D-SOC08

### Space-saving and Labor-saving 8-point Output Block

- Compact terminal block is just  $68 \times 80 \times 44$  mm (W  $\times$  H  $\times$  D, when mounted upright).
- Independent contacts and shorting bars allow easy common connections.
- The common can now be connected with a shorting bar in the G70D-SOC08 and G70R-SOC08.
- No tools are required to remove Relays, so Relay replacement is easier than ever.
- The attached terminal cover prevents shocks.
- Equipped with operation indicators.
- Built-in diodes absorb coil surge.
- Mount either to DIN rail or via screws.

**Note:** See page 398 for details.



## G70R-SOC08

### Space-saving and Labor-saving 8-point Output Block

- Compact terminal block is just  $136 \times 80 \times 55$  mm (W  $\times$  H  $\times$  D, when mounted upright).
- Independent contacts and shorting bars allow easy common connections.
- The common can now be connected with a shorting bar in the G70D-SOC08 and G70R-SOC08.
- No tools are required to remove Relays, so Relay replacement is easier than ever.
- The attached terminal cover prevents shocks.
- Built-in diodes absorb coil surge.
- Mount either to DIN rail or via screws.

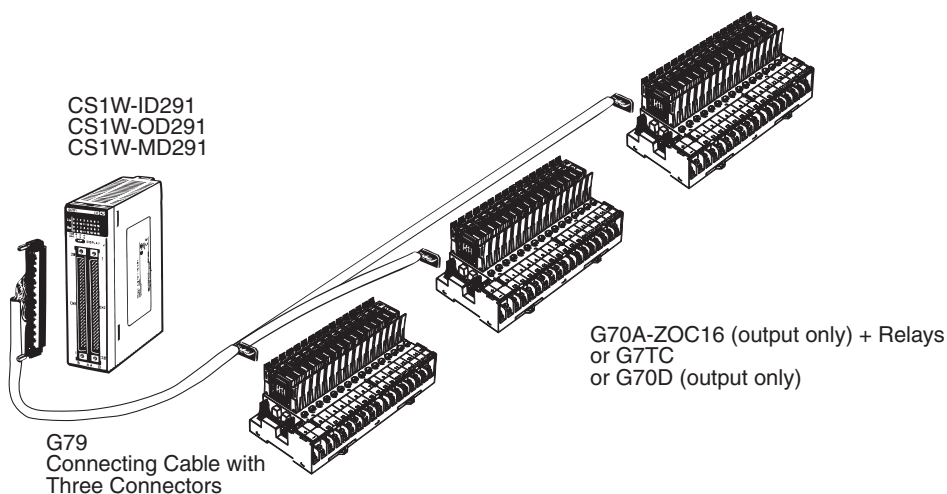
**Note:** See page 401 for details.



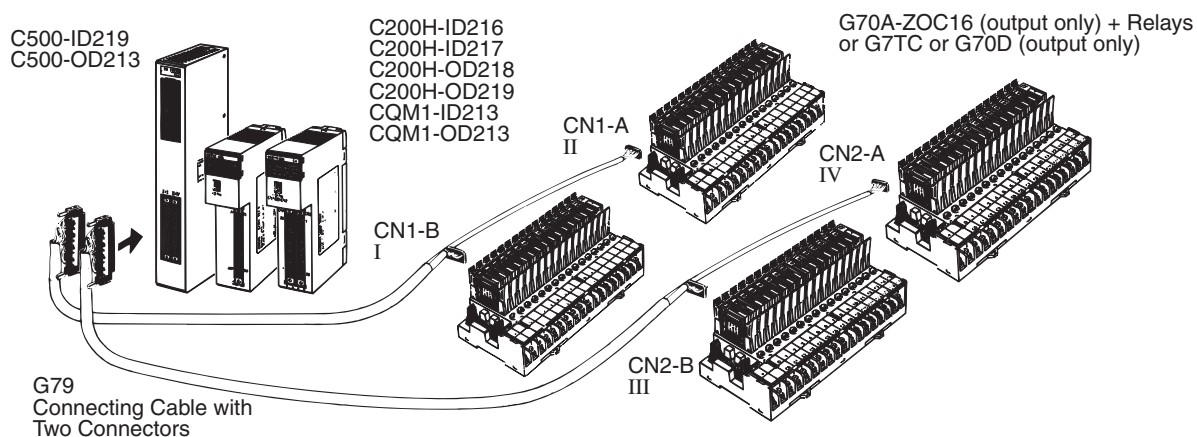
## System Configurations

Connector-equipped cables can be used as shown below to quickly connect I/O Blocks to I/O Units.

### Connecting Cables with Three Connectors

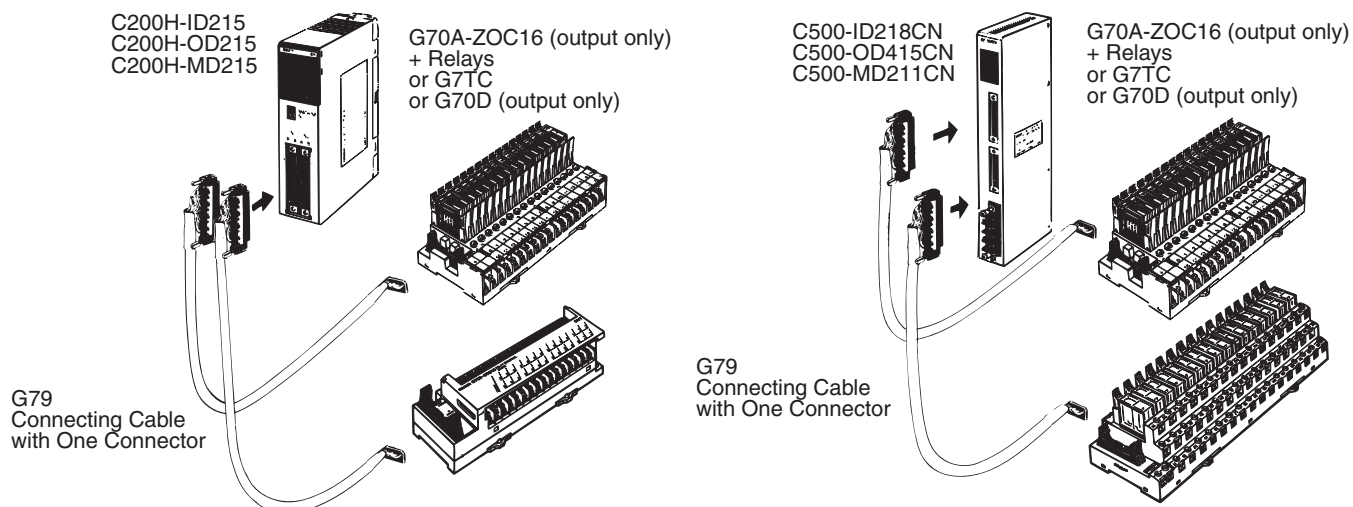


### Connecting Cables with Two Connectors



**Note:** In the diagram above, symbols CN1-A/B and CN2-A/B indicate the column numbers for C200H I/O Unit connector pins and symbols I to IV indicate the column numbers for C500 I/O Unit connector pins.

### Connecting Cables with One Connector

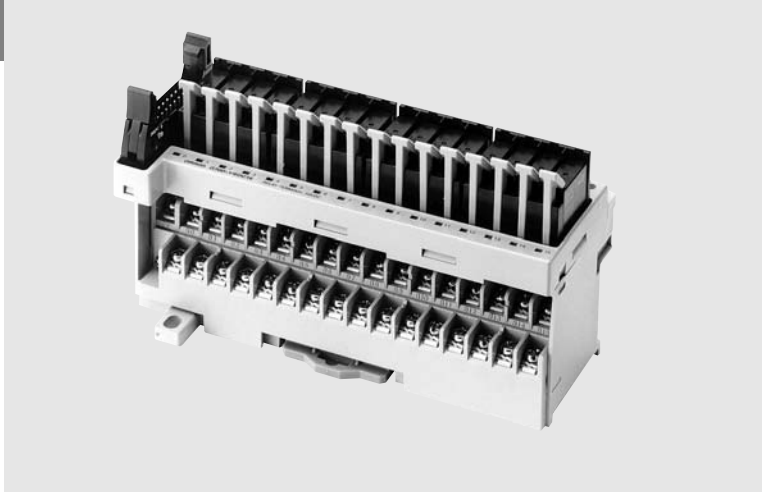


G70D-VSOC16/-VFOM16

# Relay output terminal blocks

## Easy-to-use, Space-saving 16-point Output Block

- Slim terminal block is just 135 × 40 mm (W × D).
- Independent contacts and short bars allow easy common connections.
- An Expansion Terminal Block can be mounted for power line connections.
- M3.5 fork-type crimp terminals (with a maximum terminal width of 6.2 mm) can be used.
- Lever mechanism allows Relays to be installed and removed easily without tools.
- Relay models and power MOSFET Relay models are available.
- Equipped with operation indicators.
- Can be combined with a DRT1-OD32ML I/O Terminal for DeviceNet connectivity or an SRT2-VOD16ML Connector Terminal for CompoBus/S connectivity.
- Built-in diode absorbs coil surge.
- Mount either to DIN rail or via screws.



## Ordering Information

| Classification             | Points                   | Internal output circuit common | Rated voltage | Model       |
|----------------------------|--------------------------|--------------------------------|---------------|-------------|
| Relay outputs              | 16 points (SPST-NO × 16) | NPN compatible                 | 24 V DC       | G70D-VSOC16 |
| Power MOSFET Relay outputs |                          | (+ common)                     |               | G70D-VFOM16 |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

## Specifications

### Ratings

#### Relay Specifications

**Note:** The following specifications apply to G6D Relays mounted in a G70D Output Block and not the G6D Relay itself.

#### Coil Ratings (per G6D Relay)

|                        |                           |
|------------------------|---------------------------|
| Rated voltage          | 24 V DC                   |
| Rated current          | 10.5 mA                   |
| Coil resistance        | 2,880 Ω                   |
| Must-operate voltage   | 70% max. of rated voltage |
| Release voltage        | 10% min. of rated voltage |
| Max. allowable voltage | 130% of rated voltage     |
| Power consumption      | Approx. 200 mW            |

- Note:**
1. The must-operate voltage is 75% max. of the rated voltage if the Relay is mounted upside down.
  2. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ±10%.
  3. Operating characteristics were measured at a coil temperature of 23°C.
  4. The maximum allowable voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.
  5. The rated current includes the current consumption of the operation indicator.

## Contact Ratings (per G6D Relay)

|                                                          |                                                                                                                                                            |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load                                                     | Resistive load ( $\cos\phi = 1$ )                                                                                                                          |
| Rated load                                               | 3 A at 250 V AC, 3 A at 30 V DC                                                                                                                            |
| Rated carry current                                      | 5 A (see note 1)                                                                                                                                           |
| Max. switching voltage                                   | 250 V AC, 30 V DC                                                                                                                                          |
| Max. switching current                                   | 5 A                                                                                                                                                        |
| Max. switching capacity                                  | 1,250 VA, 150 W                                                                                                                                            |
| Min. permissible load (reference value)<br>(See note .2) | 5 V DC, 1 mA                                                                                                                                               |
| Life expectancy                                          | Electrical: 100,000 operations min. (under and at the rated load at 1,800 operations/hr). Mechanical: 20,000,000 operations min. (at 18,000 operations/hr) |

- Note:** 1. Up to 5 A can be carried when 8 or fewer outputs are ON.  
2. This value is for a switching frequency of 120 times per minute.

## Power MOSFET Relay Specifications

**Note:** The following values apply to G3DZ Relays mounted in a G70D Output Block and not the G3DZ Relay itself.

### Input (per G3DZ Power MOSFET Relay)

|                   |                               |
|-------------------|-------------------------------|
| Rated voltage     | 24 V DC                       |
| Operating voltage | 19.2 to 28.8 V DC             |
| Voltage level     | Must operate<br>Must release  |
|                   | 19.2 V DC max.<br>1 V DC min. |
| Input impedance   | 4 k $\Omega$ ±20%             |
| Rated current     | 8.2 mA±20%                    |

**Note:** The rated current includes the current consumption of the operation indicator.

### Output (per G3DZ Power MOSFET Relay)

|                |                              |
|----------------|------------------------------|
| Load voltage   | 3 to 264 V AC, 3 to 125 V DC |
| Load current   | 100 $\mu$ A to 0.3 A         |
| Inrush current | 6 A (10 ms)                  |

## Characteristics

| Item                         | G70D-VS0C16                                                                                                                                                                                                                                                                                                                                              | G70D-VF0M16                                                           |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|                              | Relay outputs                                                                                                                                                                                                                                                                                                                                            | Power MOSFET Relay outputs                                            |
| Contact form                 | 16 points (SPST-NO $\times$ 16)                                                                                                                                                                                                                                                                                                                          |                                                                       |
| Contact mechanism            | Single                                                                                                                                                                                                                                                                                                                                                   | ---                                                                   |
| Contact resistance           | 100 m $\Omega$ max. (see note 2)                                                                                                                                                                                                                                                                                                                         | ---                                                                   |
| Isolation method             | ---                                                                                                                                                                                                                                                                                                                                                      | Photocoupler                                                          |
| Must-operate time            | 10 ms max. (see note 3)                                                                                                                                                                                                                                                                                                                                  | 6 ms max.                                                             |
| Release time                 | 10 ms max. (see note 3)                                                                                                                                                                                                                                                                                                                                  | 10 ms max.                                                            |
| Output ON-resistance         | ---                                                                                                                                                                                                                                                                                                                                                      | 2.4 $\Omega$ max.                                                     |
| Open-circuit leakage current | ---                                                                                                                                                                                                                                                                                                                                                      | 10 $\mu$ A max. (at 125 V DC)                                         |
| Max. switching frequency     | Mechanical: 18,000 operations/hr<br>Rated load: 1,800 operations/hr                                                                                                                                                                                                                                                                                      | ---                                                                   |
| Insulation resistance        | 100 M $\Omega$ min. (at 500 V DC)                                                                                                                                                                                                                                                                                                                        |                                                                       |
| Dielectric strength          | 2,000 V AC for 1 min between coil and contact                                                                                                                                                                                                                                                                                                            | 2,000 V AC for 1 min between input and output terminals               |
| Noise immunity               | Power input (normal mode): 600 V for 10 min with a pulse width of 100 ns to 1 $\mu$ s<br>Power input (common mode): 1.5 kV for 10 min with a pulse width of 100 ns to 1 $\mu$ s<br>Input cable (coiling): 1.5 kV for 10 min with a pulse width of 100 ns to 1 $\mu$ s<br>Unit body (coiling): 600 V for 10 min with a pulse width of 100 ns to 1 $\mu$ s |                                                                       |
| Vibration resistance         | Destruction: 10 to 55 to 10 Hz, 0.5-mm amplitude (1.0-mm double)<br>Malfunction: 10 to 55 to 10 Hz, 0.375-mm amplitude (0.75-mm double)                                                                                                                                                                                                                  |                                                                       |
| Shock resistance             | Destruction: 300 m/s <sup>2</sup> . Malfunction: 100 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                    |                                                                       |
| Operating voltage range      | 24 V DC <sup>+10%</sup> / <sub>-15%</sub>                                                                                                                                                                                                                                                                                                                |                                                                       |
| Current consumption          | Approx. 170 mA at 24 V DC (see note 4)                                                                                                                                                                                                                                                                                                                   | Approx. 125 mA at 24 V DC (see note 5)                                |
| Cable length                 | Between block and controller: 5 m max. (reference value for AWG28)<br>Between block and external device: Dependent on load                                                                                                                                                                                                                               |                                                                       |
| LED color                    | Operation indicator: orange                                                                                                                                                                                                                                                                                                                              |                                                                       |
| Coil surge absorber          | Diode (600 V, 1 A)                                                                                                                                                                                                                                                                                                                                       |                                                                       |
| Ambient temperature          | Operating: -25°C to 55°C (with no icing or condensation)                                                                                                                                                                                                                                                                                                 |                                                                       |
| Ambient humidity             | Operating: 45% to 85%                                                                                                                                                                                                                                                                                                                                    |                                                                       |
| Mounting strength            | No damage when 49 N pull load was applied for 1 s in all directions (except for 9.8 N min. in direction of rail)                                                                                                                                                                                                                                         |                                                                       |
| Terminal strength            | Tightening torque: 0.78 to 1.18 N·m,<br>Pull strength: 49 N for 1 min                                                                                                                                                                                                                                                                                    | Tightening torque: 0.78 to 0.98 N·m,<br>Pull strength: 49 N for 1 min |
| Weight (see note 6)          | Approx. 280 g                                                                                                                                                                                                                                                                                                                                            |                                                                       |

- Note:** 1. These values are initial values.  
2. Measurement condition: 1 A at 5 V DC  
3. Ambient temperature: 23°C  
4. Current consumption is when all points are ON and includes G6D Relay coil current but does not include any external load current.  
5. Current consumption is when all points are ON and includes G3DZ input current but does not include any external load current.  
6. The Unit weighs approximately 315 g with the Expansion Terminal Block mounted.

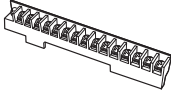
# Accessories (Sold Separately)

## G79 Connecting Cables

| Cable Type                                | Model      |
|-------------------------------------------|------------|
| Cable with Loose Wire and Crimp Terminals | G79-Y□C    |
| Cable with Loose Wires                    | G79-A□C    |
| Cable with Three Connectors (1:3)         | G79-□C-□-□ |
| Cable with Two Connectors (1:2)           | G79-□C-□   |
| Cable with One Connector (1:1)            | G79-□C     |

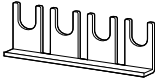
**Note:** See page 404 for details.

## Expansion Terminal Block

| Applicable Output Block | Appearance                                                                        | Model              |
|-------------------------|-----------------------------------------------------------------------------------|--------------------|
| G70D-VSOC16             |  | G70D-ET (see note) |
| G70D-VFOM16             |                                                                                   |                    |

**Note:** This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.

## Short Bar

| Applicable Output Block | Appearance                                                                          | Model    |
|-------------------------|-------------------------------------------------------------------------------------|----------|
| G70D-VSOC16             |  | G6D-4-SB |
| G70D-VFOM16             |                                                                                     |          |

## Replacement Relays

| Applicable Output Block | Rated voltage | Model                         |
|-------------------------|---------------|-------------------------------|
| G70D-VSOC16             | 24 V DC       | G6D-1A (see note 1)           |
|                         | 24 V DC       | G6D-1A-AP (see notes 2 and 3) |
| G70D-VFOM16             | 24 V DC       | G3DZ-2R6PL (see note 3)       |

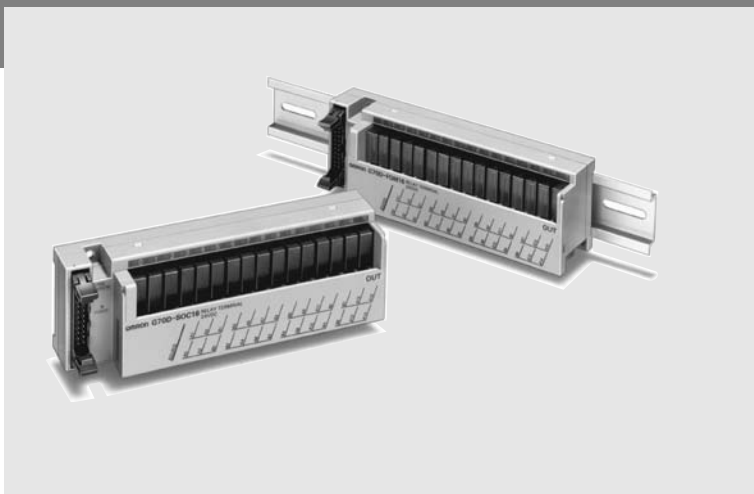
- Note:**
1. The minimum permissible load (reference value) for the G6D-1A is 10 mA at 5 V DC.
  2. The minimum permissible load (reference value) for the G6D-1A-AP is 1 mA at 5 V DC.
  3. These are non-standard models and require a special order. Contact your OMRON representative for details on availability.

G70D

# Relay output terminal blocks

## Compact, Low-profile 16-point Output Block

- Compact terminal block is just 156 × 51 × 39 mm (W × D × H)
- Models with Power MOSFET Relays are available for high-frequency switching of AC or DC loads.
- Wire loads directly from terminal blocks; no need for relaying.
- Operation indicators show each I/O signal's ON/OFF status at a glance.
- The G70D-SOC16 and G70D-FOM16 can be combined with a DRT1-OD32ML I/O Terminal for DeviceNet connectivity or an SRT2-VOD16ML Connector Terminal for CompoBus/S connectivity.
- Equipped with surge-absorbing diodes.
- Relay Removal Tool included.
- Mount either to DIN rail or via screws.



## Ordering Information

| Classification             | Points                   | Internal output circuit common | Rated voltage | Model        |
|----------------------------|--------------------------|--------------------------------|---------------|--------------|
| Relay outputs              | 16 points (SPST-NO × 16) | NPN compatible (+common)       | 24 V DC       | G70D-SOC16   |
|                            |                          | PNP compatible (– common)      |               | G70D-SOC16-1 |
| Power MOSFET relay outputs |                          | NPN compatible (+ common)      |               | G70D-FOM16   |
|                            |                          | PNP compatible (– common)      |               | G70D-FOM16-1 |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

## Specifications

### Ratings

#### Relay Specifications

**Note:** The following specifications apply to G6D Relays mounted in a G70D Output Block and not the G6D Relay itself.

#### Coil Ratings (per G6D Relay)

|                      |                           |
|----------------------|---------------------------|
| Rated voltage        | 24 V DC                   |
| Rated current        | 10.5 mA                   |
| Coil resistance      | 2,880 Ω                   |
| Must-operate voltage | 70% max. of rated voltage |
| Must release voltage | 10% min. of rated voltage |
| Max. voltage         | 130% of rated voltage     |
| Power consumption    | Approx. 200 mW            |

- Note:**
1. The must-operate voltage is 75% or less of the rated voltage if the relay is mounted upside down.
  2. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ±10%.
  3. Operating characteristics were measured at a coil temperature of 23°C.
  4. The maximum allowable voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.
  5. The rated current includes the terminal's LED current.

#### Contact Ratings (per G6D Relay)

|                                                      |                                                                                                                                                              |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load                                                 | Resistive load (cosφ = 1)                                                                                                                                    |
| Rated load                                           | 3 A at 250 V AC, 3 A at 30 V DC                                                                                                                              |
| Rated carry current                                  | 3 A                                                                                                                                                          |
| Max. switching voltage                               | 250 V AC, 30 V DC                                                                                                                                            |
| Max. switching current                               | 3 A                                                                                                                                                          |
| Min. permissible load (reference value) (see note 2) | 10 mA at 5 V DC                                                                                                                                              |
| Life expectancy                                      | Electrical: 100,000 operations min. (under and at the rated load at 1,800 operations/hr)<br>Mechanical: 20,000,000 operations min. (at 18,000 operations/hr) |

- Note:**
1. Up to 3 A can be carried by the power supply terminals for outputs (terminals B0 to B7.)
  2. This value is for a switching frequency of 120 times per minute.

## Power MOSFET Relay Specifications

### Input (per G3DZ Power MOSFET Relay)

|                   |                   |
|-------------------|-------------------|
| Rated voltage     | 24 V DC           |
| Operating voltage | 19.2 to 28.8 V DC |
| Voltage level     | Must-operate      |
|                   | Must release      |
| Input impedance   | 4 kΩ±20%          |
| Rated current     | 8.2 mA±20%        |

### Output (per G3DZ Power MOSFET Relay)

|                |                              |
|----------------|------------------------------|
| Load voltage   | 3 to 264 V AC, 3 to 125 V DC |
| Load current   | 100 μA to 0.3 A              |
| Inrush current | 6 A (10 ms)                  |

**Note:** The rated current includes the terminal's LED current.

### Characteristics

| Item                       | G70D-SOC16(-1)                                                                                                                                                                                                                                                                                                                       | G70D-FOM16(-1)                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Classification             | Relay outputs                                                                                                                                                                                                                                                                                                                        | Power MOSFET relay outputs                              |
| Contact form               | 16 points (SPST-NO × 16)                                                                                                                                                                                                                                                                                                             |                                                         |
| Contact mechanism          | Single                                                                                                                                                                                                                                                                                                                               | ---                                                     |
| Contact material           | AgCdO                                                                                                                                                                                                                                                                                                                                | ---                                                     |
| Contact resistance         | 100 mΩ max. (see note 2)                                                                                                                                                                                                                                                                                                             | ---                                                     |
| Isolation method           | ---                                                                                                                                                                                                                                                                                                                                  | Photocoupler                                            |
| Must-operate time          | 10 ms max. (see note 3)                                                                                                                                                                                                                                                                                                              | 6 ms max.                                               |
| Release time               | 10 ms max. (see note 3)                                                                                                                                                                                                                                                                                                              |                                                         |
| Output ON-resistance       | ---                                                                                                                                                                                                                                                                                                                                  | 2.4 Ω max.                                              |
| Open-state leakage current | ---                                                                                                                                                                                                                                                                                                                                  | 10 μA max. (at 125 V DC)                                |
| Max. switching frequency   | Mechanical: 18,000 operations/hr<br>Rated load: 1,800 operations/hr                                                                                                                                                                                                                                                                  | ---                                                     |
| Insulation resistance      | 100 MΩ min. (at 500 V DC)                                                                                                                                                                                                                                                                                                            |                                                         |
| Dielectric strength        | 2,000 V AC for 1 min between coil and contact                                                                                                                                                                                                                                                                                        | 2,000 V AC for 1 min between input and output terminals |
| Noise immunity             | Power input (normal mode): 600 V for 10 min with a pulse width of 100 ns to 1 μs<br>Power input (common mode): 1.5 kV for 10 min with a pulse width of 100 ns to 1 μs<br>Input cable (coiling): 1.5 kV for 10 min with a pulse width of 100 ns to 1 μs<br>Unit body (coiling): 600 V for 10 min with a pulse width of 100 ns to 1 μs |                                                         |
| Vibration resistance       | Destruction: 10 to 55 to 10 Hz, 0.5-mm amplitude (1.0-mm double)<br>Malfunction: 10 to 55 to 10 Hz, 0.375-mm amplitude (0.75-mm double)                                                                                                                                                                                              |                                                         |
| Shock resistance           | Destruction: 300 m/s <sup>2</sup> (approx. 30G), Malfunction: 100 m/s <sup>2</sup> (approx. 10G)                                                                                                                                                                                                                                     |                                                         |
| Operating voltage range    | 24 V DC <sup>+10%</sup> / <sub>-15%</sub>                                                                                                                                                                                                                                                                                            |                                                         |
| Current consumption        | Approx. 300 mA at 24 V DC (see note 4)                                                                                                                                                                                                                                                                                               | Approx. 300 mA at 24 V DC (see note 5)                  |
| Cable length               | Between block and controller: 5 m max. (reference value for AWG28)<br>Between block and external device: Dependent on load                                                                                                                                                                                                           |                                                         |
| LED color                  | Operation indicator: orange; power supply: green                                                                                                                                                                                                                                                                                     |                                                         |
| Coil surge absorber        | Diode (400 V, 300 mA)                                                                                                                                                                                                                                                                                                                |                                                         |
| Ambient temperature        | Operating: 0°C to 55°C                                                                                                                                                                                                                                                                                                               |                                                         |
| Ambient humidity           | Operating: 35% to 85%                                                                                                                                                                                                                                                                                                                |                                                         |
| Mounting strength          | No damage when 5 kgf (49 N) pull load was applied for 1 s in all directions<br>(except for 1 kgf (9.8 N) in direction of rail)                                                                                                                                                                                                       |                                                         |
| Terminal strength          | Tightening torque: 0.78 to 0.98 N·m, Pull strength: 49 N for 1 min                                                                                                                                                                                                                                                                   |                                                         |
| Weight                     | Approx. 200 g                                                                                                                                                                                                                                                                                                                        |                                                         |

**Note:** 1. These values are initial values.

2. Measurement condition: 1 A at 5 V DC

3. Ambient temperature: 23°C

4. Current consumption is when all points are ON and includes G6D Relay coil current but does not include any external load current.

5. Current consumption is when all points are ON and includes G3DZ input current but does not include any external load current.

### Accessories (Order Separately)

#### G79 Connecting Cables

| Cable Type                                | Model      |
|-------------------------------------------|------------|
| Cable with Loose Wire and Crimp Terminals | G79-Y□C    |
| Cable with Loose Wires                    | G79-A□C    |
| Cable with Three Connectors (1:3)         | G79-□C-□-□ |
| Cable with Two Connectors (1:2)           | G79-□C-□   |
| Cable with One Connector (1:1)            | G79-□C     |

**Note:** See page 404 for details.

#### Replacement Relays

| Applicable Output Block | Rated voltage | Model                 |
|-------------------------|---------------|-----------------------|
| G70D-SOC16              | 24 V DC       | G6D-1A                |
| G70D-SOC16-1            |               |                       |
| G70D-FOM16              | 24 V DC       | G3DZ-2R6PL (see note) |
| G70D-FOM16-1            |               |                       |

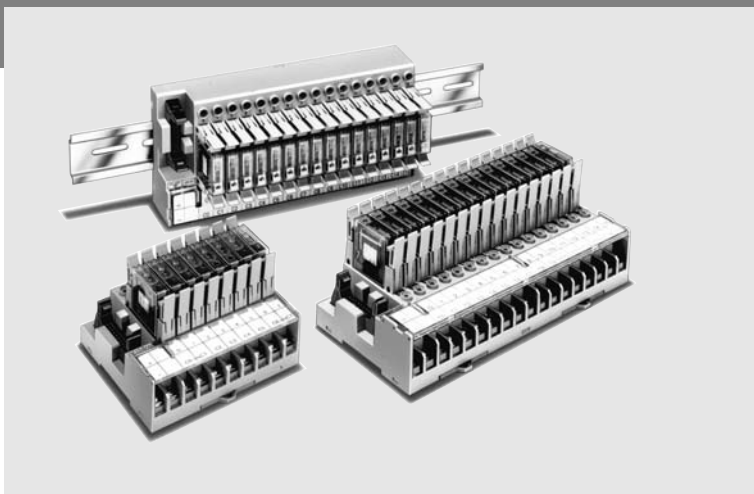
**Note:** This is a non-standard model and requires a special order.  
Contact your OMRON representative for details on availability.

G7TC

# Relay I/O terminal blocks

## Unify PLC Wiring to a Single Cable to Reduce Wiring in the Control Panel and Save Space

- The 16-point Input and Output Blocks are just 182 × 85 × 68 mm (W × D × H) and the 8-point Output Block is just 102 × 85 × 68 mm (W × D × H).
- Also connects to an SBC with a simple snap-in connector.
- Surge suppressor circuit built-in.
- Operation indicators show each I/O signal's ON/OFF status at a glance.
- Mount to DIN rail.
- The G7TC-OC16 and G7TC-OC08 can be combined with a DRT1-OD32ML I/O Terminal for DeviceNet connectivity or an SRT2-VOD16ML Connector Terminal for CompoBus/S connectivity.
- G3TA I/O Solid-state Relays can be mounted.
- Conforms to UL and CSA standards.



## Ordering Information

| I/O classification | I/O points | Internal I/O circuit common | Rated voltage | Model        |
|--------------------|------------|-----------------------------|---------------|--------------|
| Input              | 16         | NPN compatible (– common)   | 12 V DC       | G7TC-ID16*   |
|                    |            |                             | 24 V DC       |              |
|                    |            |                             | 100/110 V DC  |              |
|                    |            |                             | 100/110 V AC  | G7TC-IA16*   |
|                    |            |                             | 200/220 V AC  |              |
| Output             | 16         | NPN compatible (+ common)   | 12 V DC       | G7TC-OC16    |
|                    |            |                             | 24 V DC       |              |
|                    |            | PNP compatible (– common)   | 12 V DC       | G7TC-OC16-1* |
|                    |            |                             | 24 V DC       |              |
|                    | 8          | NPN compatible (+ common)   | 12 V DC       | G7TC-OC08*   |
|                    |            |                             | 24 V DC       |              |
|                    |            | PNP compatible (+ common)   | 24 V DC       | G7TC-OC08-1* |
|                    |            |                             | 24 V DC       |              |

\* This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.

## Specifications

## Coil Ratings (Common to Input/Output per Relay)

| Item |                     | Rated current (mA) |                   | Coil resistance (Ω)    | Must operate     | Must release | Maximum voltage | Power consumption |               |
|------|---------------------|--------------------|-------------------|------------------------|------------------|--------------|-----------------|-------------------|---------------|
|      |                     | 50 Hz              | 60 Hz             |                        | of rated voltage |              |                 | per Relay         | per 16 Relays |
| AC   | 100/110<br>200/220  | 8.2<br>4.1         | 7/7.7<br>3.5/3.88 | 8,700<br>33,300        | 80% max.         | 30% min.     | 105%            | 0.7 VA            | 11 VA         |
| DC   | 12<br>24<br>100/110 | 42<br>21<br>5      |                   | 290<br>1,150<br>20,000 | 80% max.         | 10% min.     | 105%            | 0.5 W             | 8 W           |

- Note:** 1. The rated current and coil resistance are measured at a coil temperature of +23°C with a tolerance of +15%/–20% for AC rated current and  $\pm 15\%$  for coil resistance.  
2. The operating characteristics are measured at a coil temperature of +23°C.  
3. The value for maximum voltage is the maximum value within the allowable voltage fluctuation range for the relay coil's operating power supply. Continuous operation at this voltage is not within product specifications.  
4. Approx. 4 mA flows into each LED indicator. To calculate the power supply capacity, add the current value of each LED indicator.

## Contact Ratings (G7T I/O Relay)

| Classification                                      | For input                                                      |                                                               | For output                              |                                    |
|-----------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------|------------------------------------|
|                                                     | Resistive load (cosφ=1)                                        | Inductive load (cosφ=0.4 L/R=7 ms)                            | Resistive load (cosφ=1)                 | Inductive load (cosφ=0.4 L/R=7 ms) |
| Rated load                                          | 1 A at 24 V DC                                                 | 0.5 A at 24 V DC                                              | 5 A at 24 V DC<br>2 A at 220 V AC       | 2 A at 24 V DC<br>1 A at 220 V AC  |
| Rated carry current                                 | 1 A                                                            |                                                               | 5 A                                     |                                    |
| Max. switching voltage                              | 250 V AC, 125 V DC                                             |                                                               |                                         |                                    |
| Max. switching current                              | 1 A                                                            | 0.5 A                                                         | 5 A                                     | 2 A                                |
| Min. permissible load (reference value) (See note.) | 100 μA at 1 V                                                  |                                                               | 10 mA at 5 V                            |                                    |
| Electrical life expectancy                          | 10,000,000 operations (at 10 mA)<br>50,000 operations (at 1 A) | 2,500,000 operations (at 10 mA)<br>20,000 operations (at 1 A) | 1,000,000 operations (under rated load) |                                    |
| Mechanical life expectancy                          | 50,000,000 operations                                          |                                                               |                                         |                                    |

**Note:** The above values are for a switching frequency of 120 operations/min.

## Characteristics

| Model Item                                                  |                                | G7TC-1A16 (Input, AC coil)                                                                                                             | G7TC-ID16 (Input, DC coil)                 | G7TC-OC16 (-1) (output, DC coil) | G7TC-OC08(-1) (output, DC coil)                                              |
|-------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------|------------------------------------------------------------------------------|
| Contact form                                                |                                | SPST-NO × 16                                                                                                                           |                                            |                                  | SPST-NO × 8                                                                  |
| Contact mechanism                                           |                                | Bifurcated crossbar contact                                                                                                            |                                            |                                  | Single contact                                                               |
| Contact material                                            |                                | Au cladding + Ag                                                                                                                       |                                            |                                  | AgInSn                                                                       |
| Contact resistance (See note 2.)                            |                                | 50 mΩ max.                                                                                                                             |                                            |                                  |                                                                              |
| Must Operate time (See note 3.)                             |                                | 15 ms max.                                                                                                                             |                                            |                                  |                                                                              |
| Release time (See note 3.)                                  |                                | 15 ms max.                                                                                                                             |                                            |                                  |                                                                              |
| Max. switching frequency                                    | Mechanical limit               | 18,000 operations/hour                                                                                                                 |                                            |                                  |                                                                              |
|                                                             | At rated load                  | 1,800 operations/hour                                                                                                                  |                                            |                                  |                                                                              |
| Insulation resistance                                       |                                | 100 MΩ (at 500 V DC)                                                                                                                   |                                            |                                  |                                                                              |
| Dielectric strength                                         | Between coil and contact       | 2,000 V AC, 50/60 Hz for 1 minute                                                                                                      |                                            |                                  |                                                                              |
|                                                             | Between same polarity contacts | 1,000 V AC, 50/60 Hz for 1 minute                                                                                                      |                                            |                                  |                                                                              |
|                                                             | Between paired connectors      | 250 V AC, 50/60 Hz for 1 minute                                                                                                        |                                            |                                  |                                                                              |
| Vibration resistance                                        |                                | 10 to 55 to 10 Hz with 0.5-mm single amplitude (1.0-mm double amplitude)                                                               |                                            |                                  |                                                                              |
| Shock resistance                                            |                                | 200 m/s <sup>2</sup>                                                                                                                   |                                            |                                  |                                                                              |
| Noise immunity                                              |                                | Noise level: 1.5 kV; pulse width: 100 ns to 1 μs                                                                                       |                                            |                                  |                                                                              |
| Rated voltage between positive and negative terminal blocks |                                | Rated voltage of controller's (PLC or other) input circuit                                                                             | 12 V DC ± 5% (See note 5.)<br>24 V DC ± 5% |                                  |                                                                              |
| Rated current between positive and negative terminal blocks |                                | Input circuit current of controller (PLC or other) × number of ON points                                                               |                                            |                                  | 12 V DC: 46 mA × number of ON points<br>24 V DC: 25 mA × number of ON points |
| Cable length (See note 4.)                                  | To controller                  | 5 m max. (reference value)                                                                                                             |                                            |                                  |                                                                              |
|                                                             | To I/O devices                 | 50 m max. (reference value, for 2-mm <sup>2</sup> CVV cable)                                                                           | Dependent on load                          |                                  |                                                                              |
| Ambient operating temperature                               |                                | 0 to 55°C                                                                                                                              |                                            |                                  |                                                                              |
| Ambient operating humidity                                  |                                | 35% to 85% (with no icing or condensation)                                                                                             |                                            |                                  |                                                                              |
| Tightening torque for external connections                  |                                | 0.78 to 1.18 N·m                                                                                                                       |                                            |                                  |                                                                              |
| Tensile strength                                            |                                | No damage when a tensile force of 49 N is applied in each direction. In the direction of the track, the tensile strength is 9.8 N min. |                                            |                                  |                                                                              |
| I/O terminal tightening torque                              |                                | Tightening strength: 0.98 N·m; Tensile strength 49 N for 1 minute                                                                      |                                            |                                  |                                                                              |
| LED color                                                   |                                | Red                                                                                                                                    | Green                                      |                                  |                                                                              |
| Case color                                                  |                                | Transparent red                                                                                                                        | Transparent green                          | Transparent                      |                                                                              |
| Coil surge absorber                                         |                                | Varistor                                                                                                                               | Diode (1 A, 400 V)                         |                                  |                                                                              |
| Weight                                                      |                                | Approx. 640 g                                                                                                                          | Approx. 630 g                              | Approx. 670 g                    | Approx. 350 g                                                                |

- Note:** 1. These are initial values.  
2. Measurement condition: 1 A at 5 V DC.  
3. Ambient temperature: 23°C.  
4. Connecting cables up to 5 m are available as standard products. (See page 404.) For longer cables, enquire separately.  
5. G7TC-OC08-01 is not available in 12 V DC type.

## Accessories (Order Separately)

### G79 Connecting Cables

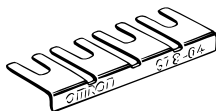
| Cable Type                                | Model      |
|-------------------------------------------|------------|
| Cable with Loose Wire and Crimp Terminals | G79-Y□C    |
| Cable with Loose Wires                    | G79-A□C    |
| Cable with Three Connectors (1:3)         | G79-□C-□-□ |
| Cable with Two Connectors (1:2)           | G79-□C-□   |
| Cable with One Connector (1:1)            | G79-□C     |

**Note:** See page 404 for more details.

### G78-04 Shorting Bar

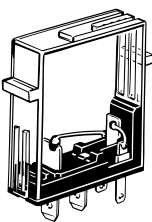
Use this piece to short-circuit adjacent terminals.

Max. current flow: 20 A



### G77-S Output Short-Circuit Module

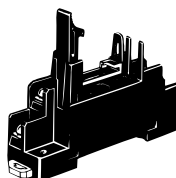
A G77-S Output Short-Circuit Module can be used to output directly without a relay. The G77-S Output Short-Circuit Module cannot be used for inputs.



### P7TF-05 Socket

The G7T (SPST-NO, SPST-NC, and SPDT types) and the G3TA I/O Relays can be mounted on the P7TF-05 Socket.

The P7TF-05 can be used for applications involving sequences that require slim relays, or to enable use of SPDT relays with the I/O Block. To use part of the I/O Block with SPDT specifications, insert an Output Short-Circuit Module into the I/O Block, and use the P7TF-05 Socket in combination with an SPDT Relay for the Module's output.

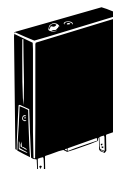


### Specifications

|                       |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| Contact resistance    | 10 mΩ max.<br>(measured at 5 V DC, 1 A)                                  |
| Dielectric strength   | 2,000 V AC for 1 minute                                                  |
| Insulation resistance | 100 MΩ (at 500 V)                                                        |
| Vibration resistance  | 10 to 55 to 10 Hz with 0.5-mm single amplitude (1.0-mm double amplitude) |
| Shock resistance      | 200 m/s <sup>2</sup>                                                     |
| Ambient temperature   | Operating: 0 to 55°C                                                     |
| Ambient humidity      | 35% to 85%                                                               |
| Weight                | Approx. 28 g                                                             |

### P70 Indicator Module and Surge Suppressor

Remove the transparent style strip of the P7TF-05 socket and mount this module and it will function as an operation indicator and surge suppressor.



### Ordering Information

| Model        | Applicable relay coil voltage | Remarks                                               |
|--------------|-------------------------------|-------------------------------------------------------|
| For AC relay | P70A                          | 100 (110) V AC<br>200 (220) V AC                      |
| For DC relay | P70D                          | 12/24 V DC                                            |
|              |                               | Varistor surge suppression<br>Diode surge suppression |

**Note:** 1. Order the indicator module suitable for the relay coil voltage.  
2. The indicator module for DC relays can be used with a 12-V or 24-V DC power supply.

## Precautions

### General

I/O Relays and I/O Block Bases can be combined as follows to form I/O Blocks:

|           | Combinations<br>(See note.)                          | Block Base                                           | I/O Relay | I/O SSR  |
|-----------|------------------------------------------------------|------------------------------------------------------|-----------|----------|
| DC output | G7TC-OC16<br>G7TC-OC16-1<br>G7TC-OC08<br>G7TC-OC08-1 | P7TF-OS16<br>P7TF-OS16-1<br>P7TF-OS08<br>P7TF-OS08-1 | G7T-1112S | AC<br>DC |
| DC input  | G7TC-ID16                                            | P7TF-IS16 (DC type)                                  | G7T-1122S | DC       |
| AC input  | G7TC-IA16                                            | P7TF-IS16 (AC type)                                  |           | AC       |

**Note:** The model numbers given under "Combinations" are for combinations with I/O Relays. To use I/O SSRs, either replace an I/O Relay with the SSR, or purchase an I/O Terminal (Block Base) and an I/O SSR (i.e., not the combined Unit).

• AC Input Relays/SSRs and DC Input Relays/SSRs cannot be used together in the same Terminal because of the specifications for coil surge suppression elements are different.

Furthermore, Relays/SSRs with different voltage specifications cannot be used together in the same Terminal because the specifications of operation indicator circuits are different. (For example, a 100-V AC Input Relay and a 200-V AC Input Relay, or a 12-V DC Output Relay and a 24-V DC Output Relay cannot be used in the same Terminal.)

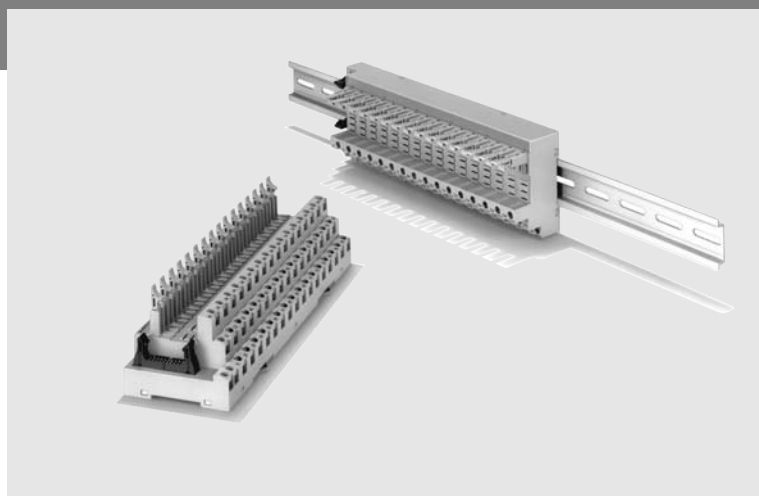
• Only use I/O Terminals, I/O Relays, and I/O SSRs with the same specifications for rated voltage.

## G70A-ZOC16

## I/O Terminal Bases

**16-point I/O Block accepts Various Devices such as G2R Relays, Solid State Relays, and Timers for More System Flexibility**

- Connects to a PLC or SBC with a simple snap-in connector.
- The G70A-ZOC16-3 can be combined with a DRT1-OD32ML I/O Terminal for DeviceNet connectivity or an SRT2-VOD16ML Connector Terminal for CompoBus/S connectivity.
- SPDT relays can be mounted.
- Conforms to VDE (VDE0106) and CE standards.
- Electric-shock preventive (finger-touch protection) terminal block
- DIN rail mountable
- High-capacity (10 A) terminal block
- Excellent noise resistance characteristics
- Built-in diodes for coil surge suppression



## Ordering Information

| Internal I/O circuit common | Rated voltage | Model        | Compatible Relays/Timers (sold separately)                                                                                             |
|-----------------------------|---------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------|
| NPN compatible (+ common)   | 24 V DC       | G70A-ZOC16-3 | G2R-1-S (SPDT), G2R-1-SN (SPDT with indicator), G3R-OA202SZN, G3R-OA202SLN, G3R-ODX02SN, G3R-OD201SN, G3RZ-201SLN, H3RN-1, and H3RN-11 |
| PNP compatible (– common)   | 24 V DC       | G70A-ZOC16-4 |                                                                                                                                        |

**Note:** Each relay to be mounted must incorporate a coil that has proper specifications within the maximum rated voltage range.

## Specifications

## Ratings/Characteristics

| Item                                   | G70A-ZOC16-3 and G70A-ZOC16-4                                                                                                                                                                              |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact resistance                     | 10 mΩ (excluding the resistance of the relay to be used)                                                                                                                                                   |
| Permissible current                    | 10 A                                                                                                                                                                                                       |
| Max. operating voltage                 | 380 V AC, 125 V DC                                                                                                                                                                                         |
| Terminal block                         | Dielectric strength<br>4,000 V AC, 50/60 Hz for 1 min between connector and output terminals<br>2,000 V AC, 50/60 Hz for 1 min between output terminals<br>250 V AC, 50/60 Hz for 1 min between connectors |
|                                        | Insulation resistance<br>1,000 MΩ (at 250/500 V)                                                                                                                                                           |
|                                        | Vibration resistance<br>Malfunction: 10 to 61.2 to 10 Hz, 0.1-mm double amplitude 0.2; 61.2 to 150 to 61.2 Hz, 14.7 m/s <sup>2</sup>                                                                       |
| Shock resistance                       | Malfunction: 200 m/s <sup>2</sup> (approx. 20G)                                                                                                                                                            |
| Noise immunity                         | Noise level: 2.0 kV; pulse width: 100 ns to 1 μs                                                                                                                                                           |
| Ambient temperature                    | Operating: 0°C to 55°C (with no condensation or icing)                                                                                                                                                     |
| Ambient humidity                       | Operating: 35% to 85%                                                                                                                                                                                      |
| Coil surge absorption element          | Diode: 1 A, 400 V                                                                                                                                                                                          |
| Protection against reversed connection | Diode (2 A, withstand inverse voltage: 40 V)                                                                                                                                                               |
| Tensile strength                       | No damage when a tensile force of 49 N is applied for 1 second in any direction                                                                                                                            |
| I/O terminal tightening torque         | Tightening strength: 0.59 N·m; Tensile strength 49 N for 1 min                                                                                                                                             |
| Weight                                 | Approx. 400 g                                                                                                                                                                                              |

## Accessories (Order Separately)

## G79 Connecting Cables

| Cable Type                                | Model      |
|-------------------------------------------|------------|
| Cable with Loose Wire and Crimp Terminals | G79-Y□C    |
| Cable with Loose Wires                    | G79-A□C    |
| Cable with Three Connectors (1:3)         | G79-□C-□-□ |
| Cable with Two Connectors (1:2)           | G79-□C-□   |
| Cable with One Connector (1:1)            | G79-□C     |

## Short Bar

| Applicable I/O block | Model    |
|----------------------|----------|
| G70A-ZOC 16-4        | G78-16-E |

**Note:** See pages page 404 for details.

G70D-SOC08

# Relay Output Terminal Block

## Space-saving and Labor-saving 8-point Output Block

- Compact terminal block is just 68 × 80 × 44 mm (W × H × D, when mounted upright)..
- Independent contacts and shorting bars allow easy common connections.
- The common can now be connected with a shorting bar in the G70D-SOC08 and G70R-SOC08.
- No tools are required to remove Relays, so Relay replacement is easier than ever.
- The attached terminal cover prevents shocks.
- Equipped with operation indicators.
- Built-in diodes absorb coil surge.
- Mount either to DIN rail or via screws.



## Ordering Information

| Classification | Points                 | Internal output circuit common | Rated voltage | Model      |
|----------------|------------------------|--------------------------------|---------------|------------|
| Relay outputs  | 8 points (SPST-NO × 8) | NPN compatible (+ common)      | 24 V DC       | G70D-SOC08 |

This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.

## Specifications

### Ratings

The following specifications apply to G6D Relays mounted in a G70D Output Block and not the G6D Relay itself.

### Coil Ratings (per G6D Relay)

| Rated voltage | Rated current | Coil resistance | Must-operate voltage      | Release voltage           | Max. allowable voltage | Power consumption |
|---------------|---------------|-----------------|---------------------------|---------------------------|------------------------|-------------------|
| 24 V DC       | 10.5 mA       | 2,880 Ω         | 70% max. of rated voltage | 10% min. of rated voltage | 130%                   | Approx. 200 mW    |

- Note:**
1. The must-operate voltage is 75% max. of the rated voltage if the Relay is mounted upside down.
  2. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ±10%.
  3. Operating characteristics were measured at a coil temperature of 23°C.
  4. The maximum allowable voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.
  5. The rated current includes the current consumption of the operation indicator.

### Contact Ratings (per G6D Relay)

| Item                                               | Load       | Resistive load (cosφ = 1)                                                   |
|----------------------------------------------------|------------|-----------------------------------------------------------------------------|
| Rated load                                         |            | 5 A at 250 V AC, 5 A at 30 V DC                                             |
| Rated carry current                                |            | 5 A                                                                         |
| Max. switching voltage                             |            | 250 V AC, 30 V DC                                                           |
| Max. switching current                             |            | 5 A                                                                         |
| Max. switching capacity (reference value)          |            | 1,250 VA, 150 W                                                             |
| Min. permissible load (reference value; see note.) |            | 5 V DC, 10 mA                                                               |
| Life expectancy                                    | Electrical | 100,000 operations min. (at or below the rated load at 1,800 operations/hr) |
|                                                    | Mechanical | 20,000,000 operations min. (at 18,000 operations/hr)                        |

**Note:** This value is for a switching frequency of 120 times per minute.

## Characteristics

| Model                                      |                                        | G70D-SOC08                                                                                                        |
|--------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Item                                       |                                        | Relay outputs                                                                                                     |
| Contact form                               |                                        | 8 points (SPST-NO × 8)                                                                                            |
| Contact mechanism                          |                                        | Single                                                                                                            |
| Contact resistance (See note 1.)           |                                        | 100 mΩ max.                                                                                                       |
| Must-operate time (See note 2.)            |                                        | 100 ms max.                                                                                                       |
| Release time (See note 3.)                 |                                        | 10 ms max.                                                                                                        |
| Max. switching frequency                   | Mechanical                             | 18,000 operations/hr                                                                                              |
|                                            | Rated load                             | 1,800 operations/hr                                                                                               |
| Insulation resistance                      |                                        | 100 MΩ min. (at 500 V DC)                                                                                         |
| Dielectric strength                        | Between coil and contact               | 2,000 V AC for 1 min                                                                                              |
|                                            | Between contacts of same polarity      | 750 V AC for 1 min                                                                                                |
|                                            | Between contacts of different polarity | 1,500 V AC for 1 min                                                                                              |
| Vibration resistance                       | Destruction                            | 10 to 55 to 10 Hz, 0.5-mm amplitude (1.0-mm double)                                                               |
|                                            | Malfunction                            | 10 to 55 to 10 Hz, 0.5-mm amplitude (1.0-mm double)                                                               |
| Shock resistance                           | Destruction                            | 300 m/s <sup>2</sup>                                                                                              |
|                                            | Malfunction                            | 100 m/s <sup>2</sup>                                                                                              |
| Noise immunity                             | Power input (normal mode)              | 600 V for 10 min with a pulse width of 100 ns to 1 μs                                                             |
|                                            | Power input (common mode)              | 1.5 kV for 10 min with a pulse width of 100 ns to 1 μs                                                            |
|                                            | Input cable (coiling)                  | 1.5 kV for 10 min with a pulse width of 100 ns to 1 μs                                                            |
|                                            | Unit body (coiling)                    | 600 V for 10 min with a pulse width of 100 ns to 1 μs                                                             |
| Allowable power supply voltage fluctuation |                                        | 24 V DC +10%/–15%                                                                                                 |
| Current consumption (See note 3.)          |                                        | Approx. 80 mA at 24 V DC                                                                                          |
| Cable length                               | Between block and controller           | 5 m max. (reference value for AWG 28)                                                                             |
|                                            | Between block and external device      | Determine appropriate length for the connected load.                                                              |
| LED indicator color                        |                                        | Orange                                                                                                            |
| Coil surge absorber                        |                                        | Diode                                                                                                             |
| Ambient operating temperature              |                                        | –10 to 55°C                                                                                                       |
| Ambient storage temperature                |                                        | 35% to 85%                                                                                                        |
| Ambient operating humidity                 |                                        | –20 to 65°C                                                                                                       |
| Mounting strength                          |                                        | No damage when 49 N pull load was applied for 1 s in all directions (except for 9.8 N min. in direction of track) |
| Terminal strength                          | Tightening torque                      | 9.8 N·m                                                                                                           |
|                                            | Pull strength                          | 49 N for 1 min                                                                                                    |
| Weight                                     |                                        | Approx. 145 g                                                                                                     |

**Note:** 1. These values are initial values.

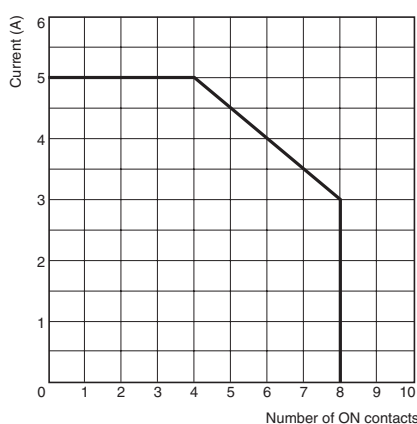
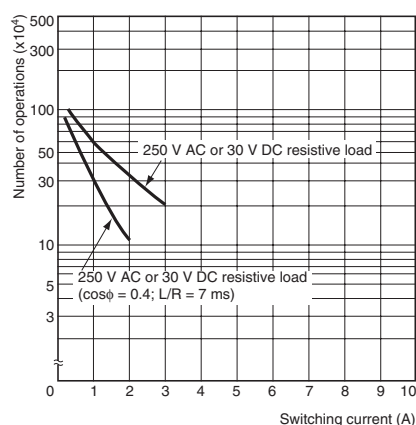
2. Measurement conditions: 1 A at 5 V DC

3. Ambient temperature: 23°C

4. The current consumption is the value when all points are ON and includes the G6D Relay coil current.

## Engineering Data

## Life expectancyMaximum switching capacity

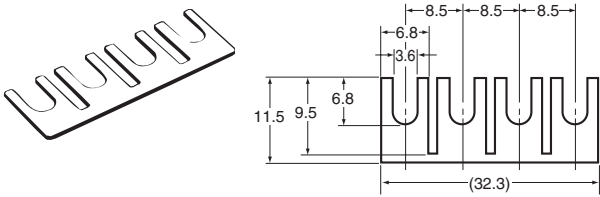


**Note:** The data shown in these graphs is based on actual values sampled from a production line; please use this data for reference only. As a general rule, allow for slight variations in the Relays because the Relays are mass produced.

- When using with a carry current of 5 A, no more than 4 contacts may be ON.
- The carry current is 3 A when all contacts are ON.

Accessories for the G70D-SOC08 (Order Separately)

Shorting Bar



| Applicable Output Block | Model    |
|-------------------------|----------|
| G70D-SOC08              | G6B-4-SB |

Replacement Relays

| Applicable Output Block | Rated voltage | Model                 |
|-------------------------|---------------|-----------------------|
| G70D-SOC08              | 24 V DC       | G6D-1A (See note.)    |
|                         |               | G6D-1A-AP (See note.) |

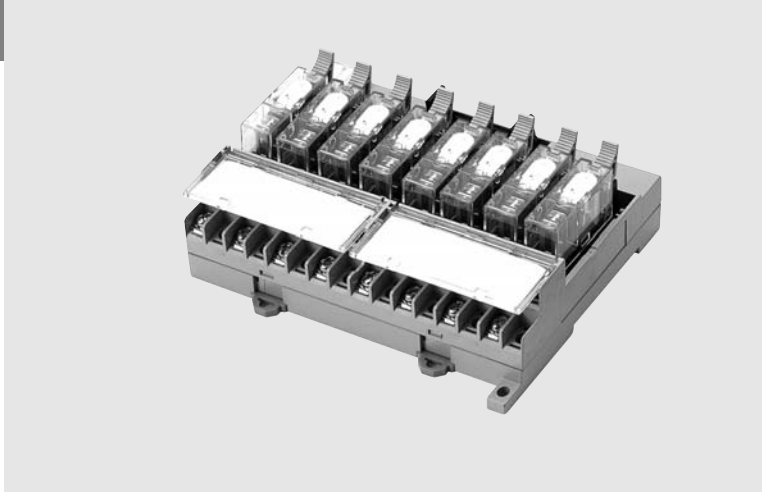
**Note:** The minimum permissible load (reference value) for the G6D-1A is 10 mA at 5 V DC.

G70R-SOC08

# Relay output terminal block

## Space-saving and Labor-saving 8-point Output Block

- Compact terminal block is just 136 × 80 × 55 mm (W × H × D) when mounted upright).
- Independent contacts and shorting bars allow easy common connections.
- The common can now be connected with a shorting bar in the G70D-SOC08 and G70R-SOC08.
- No tools are required to remove Relays, so Relay replacement is easier than ever.
- The attached terminal cover prevents shocks.
- Built-in diodes absorb coil surge.
- Mount either to DIN rail or via screws.



## Ordering Information

| Classification | Points                 | Internal output circuit common | Rated voltage | Model      |
|----------------|------------------------|--------------------------------|---------------|------------|
| Relay outputs  | 8 points (SPST-NO × 8) | NPN compatible (+ common)      | 24 V DC       | G70R-SOC08 |

This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.

## Specifications

### Ratings

The following specifications apply to G2R Relays mounted in a G70R Output Block and not the G2R Relay itself.

#### Coil Ratings (per G2R Relay)

| Rated voltage | Rated current | Coil resistance | Must-operate voltage      | Release voltage           | Max. allowable voltage | Power consumption |
|---------------|---------------|-----------------|---------------------------|---------------------------|------------------------|-------------------|
| 24 V DC       | 25.8 mA       | 1,100 Ω         | 70% max. of rated voltage | 15% min. of rated voltage | 130%                   | Approx. 530 mW    |

- Note:**
1. The must-operate voltage is 75% max. of the rated voltage if the Relay is mounted upside down.
  2. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ±10%.
  3. Operating characteristics were measured at a coil temperature of 23°C.
  4. The maximum allowable voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.
  5. The rated current includes the current consumption of the operation indicator.

#### Contact Ratings (per G2R Relay)

| Item                                               | Load       | Resistive load (cosφ = 1)                                           |
|----------------------------------------------------|------------|---------------------------------------------------------------------|
| Rated load                                         |            | 10 A at 250 V AC, 10 A at 30 V DC                                   |
| Rated carry current                                |            | 10 A                                                                |
| Max. switching voltage                             |            | 380 V AC, 125 V DC                                                  |
| Max. switching current                             |            | 10 A                                                                |
| Max. switching capacity (reference value)          |            | 2.50 VA, 300 W                                                      |
| Min. permissible load (reference value; see note.) |            | 5 V DC, 10 mA                                                       |
| Life expectancy                                    | Electrical | 100,000 operations min. (at the rated load and 1,800 operations/hr) |
|                                                    | Mechanical | 10,000,000 operations min. (at 18,000 operations/hr)                |

**Note:** This value is for a switching frequency of 120 times per minute.

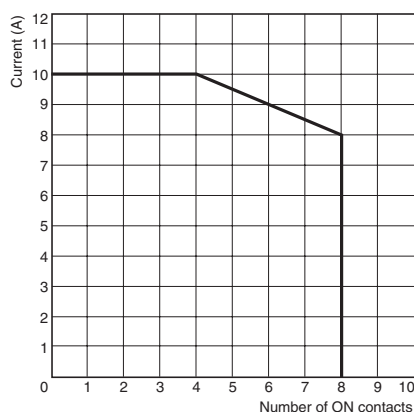
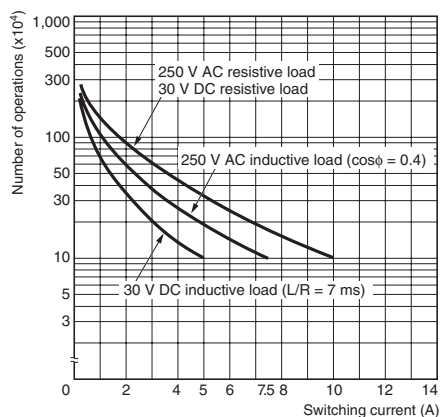
## Characteristics

| Model                                      |                                        | G70R-SOC08                                                                                                        |
|--------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Item                                       |                                        | Relay outputs                                                                                                     |
| Contact form                               |                                        | 8 points (SPST-NO × 8)                                                                                            |
| Contact mechanism                          |                                        | Single                                                                                                            |
| Contact resistance (See note 1.)           |                                        | 30 mΩ max.                                                                                                        |
| Must-operate time (See note 2.)            |                                        | 15 ms max.                                                                                                        |
| Release time (See note 3.)                 |                                        | 15 ms max.                                                                                                        |
| Max. switching frequency                   | Mechanical                             | 18,000 operations/hr                                                                                              |
|                                            | Rated load                             | 1,800 operations/hr                                                                                               |
| Insulation resistance                      |                                        | 100 MΩ min. (at 500 V DC)                                                                                         |
| Dielectric strength                        | Between coil and contact               | 2,000 V AC for 1 min                                                                                              |
|                                            | Between contacts of same polarity      | 750 V AC for 1 min                                                                                                |
|                                            | Between contacts of different polarity | 1,500 V AC for 1 min                                                                                              |
| Vibration resistance                       | Destruction                            | 10 to 55 to 10 Hz, 0.5-mm amplitude (1.0-mm double)                                                               |
|                                            | Malfunction                            | 10 to 55 to 10 Hz, 0.5-mm amplitude (1.0-mm double)                                                               |
| Shock resistance                           | Destruction                            | 300 m/s <sup>2</sup>                                                                                              |
|                                            | Malfunction                            | 100 m/s <sup>2</sup>                                                                                              |
| Noise immunity                             | Power input (normal mode)              | 600 V for 10 min with a pulse width of 100 ns to 1 μs                                                             |
|                                            | Power input (common mode)              | 1.5 kV for 10 min with a pulse width of 100 ns to 1 μs                                                            |
|                                            | Input cable (coiling)                  | 1.5 kV for 10 min with a pulse width of 100 ns to 1 μs                                                            |
|                                            | Unit body (coiling)                    | 600 V for 10 min with a pulse width of 100 ns to 1 μs                                                             |
| Allowable power supply voltage fluctuation |                                        | 24 V DC +10%/-15%                                                                                                 |
| Current consumption (See note 3.)          |                                        | Approx. 185 mA at 24 V DC                                                                                         |
| Cable length                               | Between block and controller           | 5 m max. (reference value for AWG 28)                                                                             |
|                                            | Between block and external device      | Determine appropriate length for the connected load.                                                              |
| Coil surge absorber                        |                                        | Diode                                                                                                             |
| Ambient operating temperature              |                                        | -10 to 55°C                                                                                                       |
| Ambient operating humidity                 |                                        | 35% to 85%                                                                                                        |
| Ambient storage temperature                |                                        | -20 to 65°C                                                                                                       |
| Mounting strength                          |                                        | No damage when 49 N pull load was applied for 1 s in all directions (except for 9.8 N min. in direction of track) |
| Terminal strength                          | Tightening torque                      | 0.98 N·m                                                                                                          |
|                                            | Pull strength                          | 49 N for 1 min                                                                                                    |
| Weight                                     |                                        | Approx. 350 g                                                                                                     |

- Note:**
- These values are initial values.
  - Measurement conditions: 1 A at 5 V DC
  - Ambient temperature: 23°C
  - The current consumption is the value when all points are ON and includes the G2R Relay coil current.

## Engineering Data

### Life expectancyMaximum switching capacity

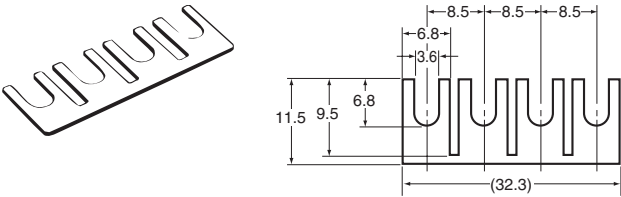


**Note:** The data shown in these graphs is based on actual values sampled from a production line; please use this data for reference only. As a general rule, allow for slight variations in the Relays because the Relays are mass produced.

- When using with a carry current of 10 A, no more than 4 contacts may be ON.
- The carry current is 8 A when all contacts are ON.

Accessories for the G70R-SOC08 (Order Separately)

Shorting Bar



| Applicable Output Block | Model    |
|-------------------------|----------|
| G70R-SOC08              | G6B-4-SB |

Replacement Relays

| Applicable Output Block | Rated voltage | Model    |
|-------------------------|---------------|----------|
| G70R-SOC08              | 24 V DC       | G2R-1-S  |
|                         |               | G2R-1-SN |

G79

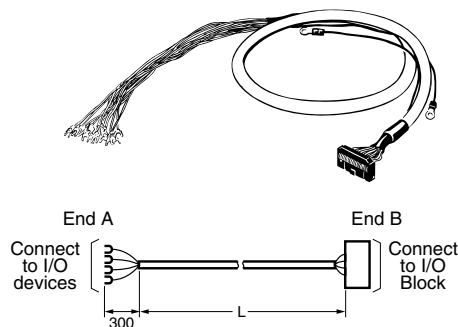
# I/O Block Connecting Cables

## G79 Connecting Cables

### Connecting Cables with Crimp Terminals (G79-Y□C)

This Cable is convenient for connecting I/O Blocks to devices equipped with screw terminals.

| Length (L) | Model      |
|------------|------------|
| 1,000 mm   | G79-Y100C* |
| 1,500 mm   | G79-Y150C* |
| 2,000 mm   | G79-Y200C* |
| 3,000 mm   | G79-Y300C* |
| 5,000 mm   | G79-Y500C* |

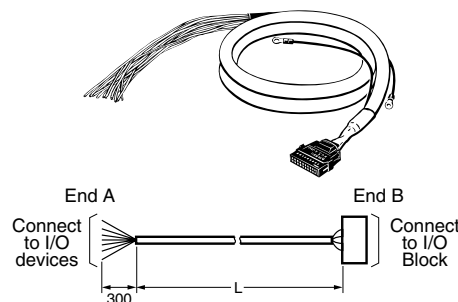


- Note:**
1. The power line capacity is 50 mA max. per I/O point. Also, always check the driver capacity and I/O relay power consumption when using an Output Block.
  2. The crimp terminals are labeled with the corresponding connector pin numbers in parentheses.
  3. Connect terminals 9 and 19 and terminals 10 and 20 together when using the G7TC-OC08.
  4. The wire gauge of the wires in the cable is 28 AWG (10/0.38).

### Loose-wire Connecting Cables (G79A□C)

This Cable has loose wires at the device end.

| Length (L) | Model      |
|------------|------------|
| 2,000 mm   | G79-A200C* |
| 5,000 mm   | G79-A500C* |

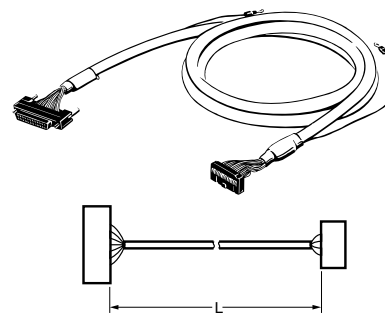


- Note:**
1. The wire gauge of the wires in the cable is 24 AWG (7/0.203).
  2. Connect terminals 9 and 19 and terminals 10 and 20 together when using the G7TC-OC08.

### Connecting Cables with One Connector (G79-□C)

This Cable is convenient for connecting an I/O Block to a single device equipped with one connector socket.

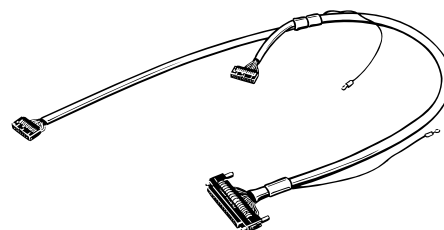
| Length (L) | Model     |
|------------|-----------|
| 1,000 mm   | G79-100C* |
| 1,500 mm   | G79-150C* |
| 2,000 mm   | G79-200C* |
| 3,000 mm   | G79-300C* |
| 5,000 mm   | G79-500C* |



### Connecting Cables with Two Connectors (G79-O□C-□ and G79-I□C-□)

Cables for both Output Blocks (for connection to SYSMAC I/O Units; tape color: red) and Input Blocks (for connection to SYSMAC I/O Units; tape color: yellow) are available.

| Length   |          | Cables for Input Blocks | Cables for Output Blocks |
|----------|----------|-------------------------|--------------------------|
| A        | B        |                         |                          |
| 1,000 mm | 750 mm   | G79-I100C-75*           | G79-O100C-75*            |
| 1,500 mm | 1,250 mm | G79-I150C-125*          | G79-O150C-125*           |
| 2,000 mm | 1,750 mm | G79-I200C-175*          | G79-O200C-175*           |
| 3,000 mm | 2,750 mm | G79-I300C-275*          | G79-O300C-275*           |
| 5,000 mm | 4,750 mm | G79-I500C-475*          | G79-O500C-475*           |



**Note:** The 32-point card-type connectors for the Input Block Cables and Output Block Cables have different pin arrangements.

\* This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.

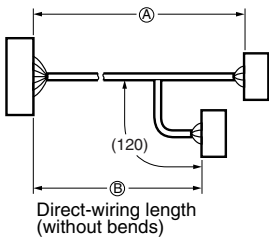
Connecting Cables for Mitsubishi PLCs

The following cables can be used to connect a Mitsubishi PLC (with a 32-point connector) to I/O Blocks.

| Length   |          | Model                           | Model            |
|----------|----------|---------------------------------|------------------|
| A        | B        |                                 |                  |
| 1,000 mm | 750 mm   | G79-I100C-75-MN<br>(See note.)  | G79-O100C-75-MN  |
| 1,500 mm | 1,250 mm | G79-I150C-125-MN<br>(See note.) | G79-O150C-125-MN |
| 2,000 mm | 1,750 mm | G79-I200C-175-MN                | G79-O200C-175-MN |
| 3,000 mm | 2,750 mm | G79-I300C-275-MN                | G79-O300C-275-MN |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

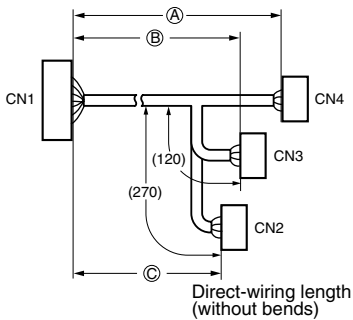
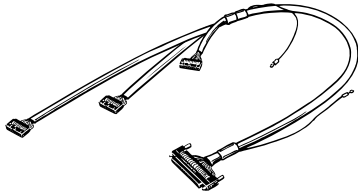
**Note: 1.** Applicable Mitsubishi PLC models  
Inputs: AX42, A1SX41, and A1SX42  
Outputs: AY42, A1SY41, and A1SY42



Connecting Cables with Three Connectors  
(G79-□C-□-□)

| Length   |          |          | Model            |
|----------|----------|----------|------------------|
| A        | B        | C        |                  |
| 1,500 mm | 1,250 mm | 1,000 mm | G79-150C-125-100 |
| 2,000 mm | 1,750 mm | 1,500 mm | G79-200C-175-150 |
| 3,000 mm | 2,750 mm | 2,500 mm | G79-300C-275-250 |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.



XW2

# I/O terminal blocks and cables

Ideal for Reducing Wiring to PLCs and Other Equipment in the Control Panel

## Connecting Components (PLC Units, Connector-Terminal Conversion Units, and Cables)

### Use the XW2D for Connections to Controllers

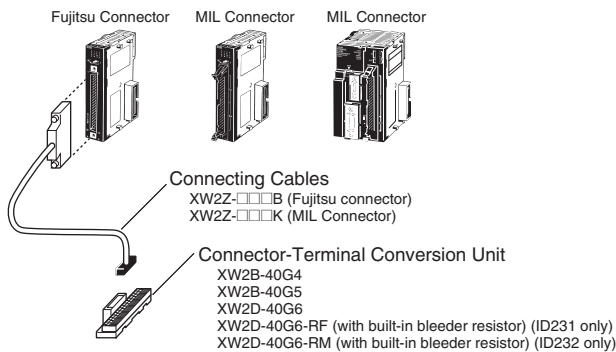
#### CJ1 Basic I/O Units

CJ Basic I/O Units with 32-point connectors

- CJ1W-ID231 (Fujitsu Connector/Input Unit)
- CJ1W-OD231 (Fujitsu Connector/Output Unit)
- CJ1W-ID232 (MIL Connector/Input Unit)
- CJ1W-OD232/OD233 (MIL Connector/Output Unit)

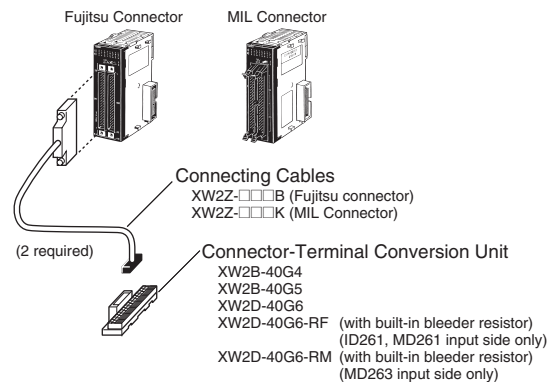
CJ1M CPU Unit

- CJ1M-CPU22/CPU23 (MIL Connector/Built-in I/O)



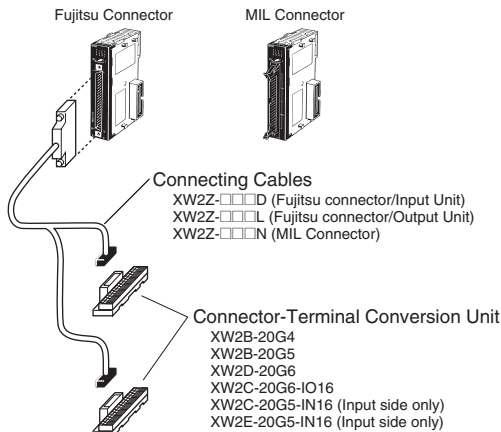
CJ Basic I/O Units with 64-point connectors

- CJ1W-ID261 (Fujitsu connector/Input Unit)
- CJ1W-OD261 (Fujitsu connector/Output Unit)
- CJ1W-MD261 (Fujitsu connector/I/O Unit)
- CJ1W-ID262 (MIL Connector/Input Unit)
- CJ1W-OD263 (MIL Connector/Output Unit)
- CJ1W-MD263 (MIL Connector/I/O Unit)
- CJ1W-MD563 (MIL Connector/I/O Unit)



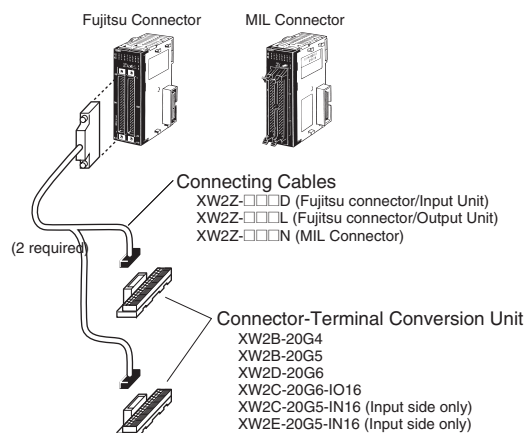
CJ Basic I/O Unit with 32-point Connectors

- CJ1W-ID231 (Fujitsu Connector/Input Unit)
- CJ1W-OD231 (Fujitsu Connector/Output Unit)
- CJ1W-ID232 (MIL Connector/Input Unit)
- CJ1W-OD232/OD233 (MIL Connector/Output Unit)



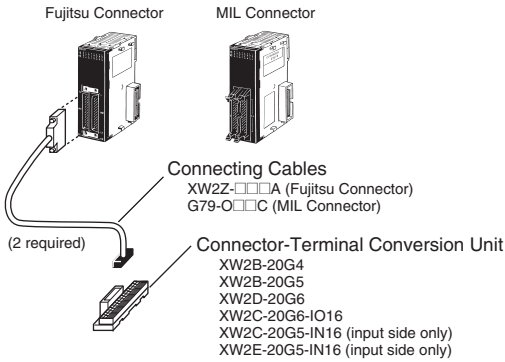
CJ Basic I/O Unit with 64-point Connectors

- CJ1W-ID261 (Fujitsu Connector/Input Unit)
- CJ1W-OD261 (Fujitsu Connector/Output Unit)
- CJ1W-MD261 (Fujitsu Connector/I/O Unit)
- CJ1W-ID262 (MIL Connector/Input Unit)
- CJ1W-OD263 (MIL Connector/Output Unit)
- CJ1W-MD263 (MIL Connector/I/O Unit)
- CJ1W-MD563 (MIL Connector/I/O Unit)



### CJ Basic I/O Unit with 32-point Connectors

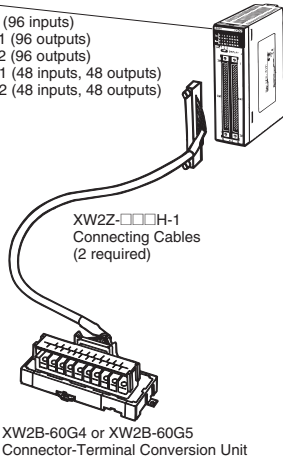
CJ1W-MD231 (Fujitsu Connector/Input Unit)  
CJ1W-MD233 (MIL Connector/I/O Unit)



### CS1 Basic I/O Units with 96-point and Two 48-point Connectors

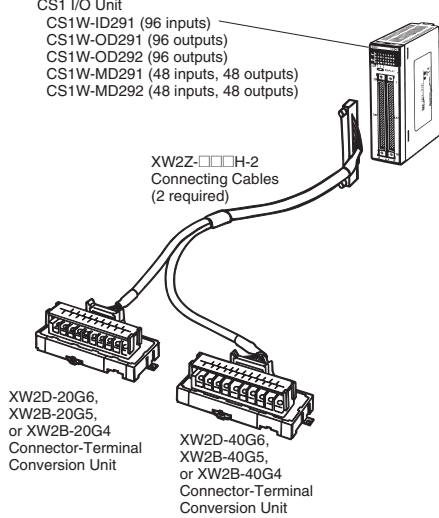
#### CS1 I/O Unit

CS1W-ID291 (96 inputs)  
CS1W-OD291 (96 outputs)  
CS1W-OD292 (96 outputs)  
CS1W-MD291 (48 inputs, 48 outputs)  
CS1W-MD292 (48 inputs, 48 outputs)



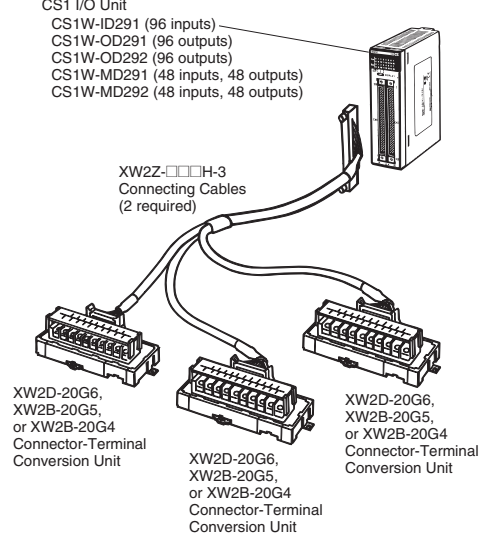
#### CS1 I/O Unit

CS1W-ID291 (96 inputs)  
CS1W-OD291 (96 outputs)  
CS1W-OD292 (96 outputs)  
CS1W-MD291 (48 inputs, 48 outputs)  
CS1W-MD292 (48 inputs, 48 outputs)



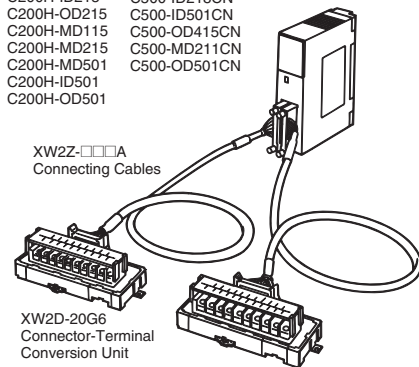
#### CS1 I/O Unit

CS1W-ID291 (96 inputs)  
CS1W-OD291 (96 outputs)  
CS1W-OD292 (96 outputs)  
CS1W-MD291 (48 inputs, 48 outputs)  
CS1W-MD292 (48 inputs, 48 outputs)



### I/O Units with 32-point Connectors

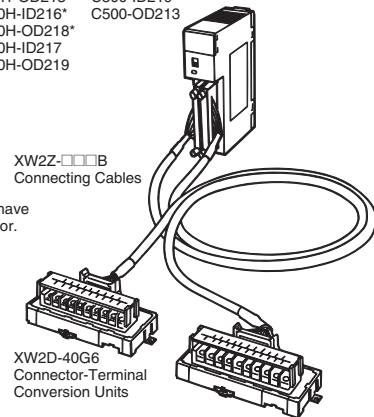
C200H-ID215      C500-ID218CN  
C200H-OD215      C500-ID501CN  
C200H-MD115      C500-OD415CN  
C200H-MD215      C500-MD211CN  
C200H-MD501      C500-OD501CN  
C200H-ID501  
C200H-OD501



### I/O Units with 32-point Connectors (Group-2) I/O Units with 64-point Connectors

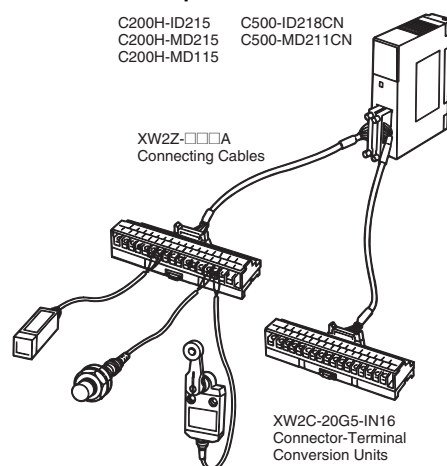
CS1W-ID231\*      CQM1-ID213\*      C500-ID114  
CS1W-OD231\*      CQM1-OD213\*      C500-ID219  
CS1W-OD232\*      C200H-ID216\*      C500-OD213  
CS1W-ID261      C200H-ID218\*  
CS1W-OD261      C200H-ID217  
CS1W-OD262      C200H-OD219  
CS1W-MD261  
CS1W-MD262  
CJ1W-ID231\*  
CJ1W-OD231\*  
CJ1W-ID261  
CJ1W-OD261

\*These I/O Units have just one connector.

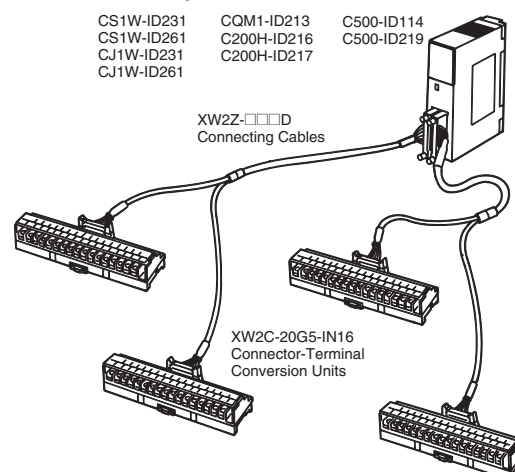


Use the XW2C-20G5-IN16 when a Power Supply Common Terminal is Required.

## I/O Units with 32-point Connectors



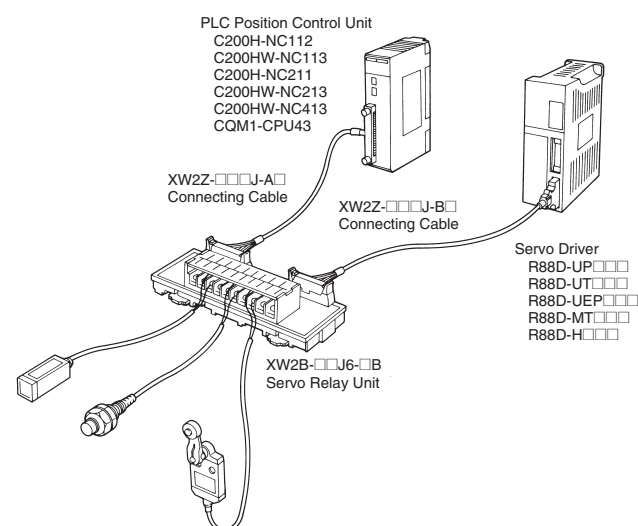
## I/O Units with 32-point Connectors (Group-2) I/O Units with 64-point Connectors



## Connecting a PLC's Position Control Unit with a Servo Driver

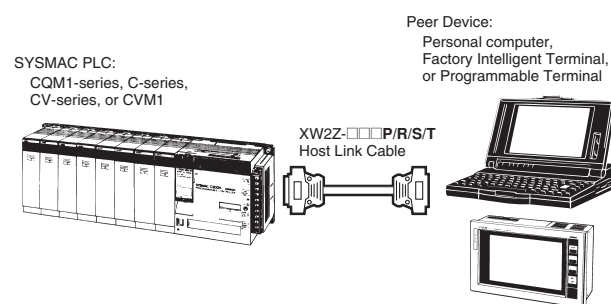
### XW2B Servo Relay Units

#### Position Control Units and Servo Drivers



## Connecting to a PLC via Host Link

### XW2Z Host Link Cable

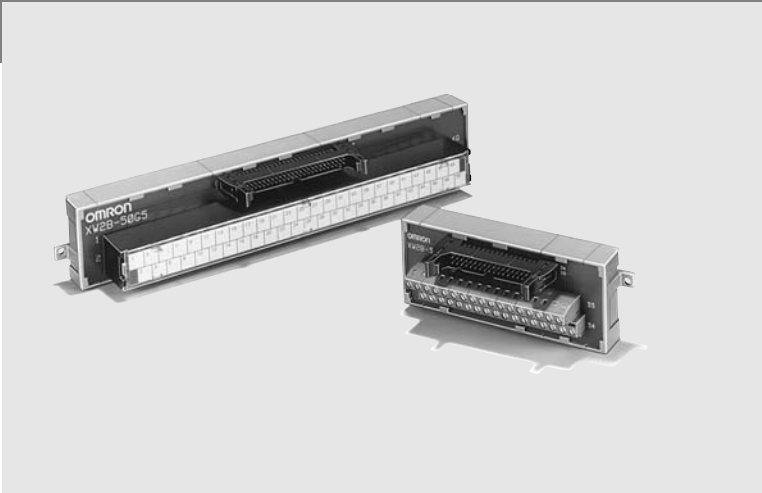


XW2B

# I/O terminal block

### Easily wire connectors to Terminal Blocks and Reduce Control Panel Wiring

- Can be mounted with screws or snapped onto DIN rail.
- Standard models are available with MIL flat cable connectors and multipole rectangular connectors.
- Terminal Blocks are available with M2.5 or M3.5 screws.
- Cables are available for OMRON PLC connectors.



### Ordering Information

| Poles | Model      |
|-------|------------|
| 20    | XW2B-20G5  |
| 34    | XW2B-34G5* |
| 40    | XW2B-40G5  |
| 50    | XW2B-50G5* |
| 60    | XW2B-60G5* |
| 20    | XW2B-20G4  |
| 34    | XW2B-34G4* |
| 40    | XW2B-40G4  |
| 50    | XW2B-50G4* |
| 60    | XW2B-60G4* |

\* This is a non-standard model and requires a special order.  
Contact your OMRON representative for details on availability.

### Specifications

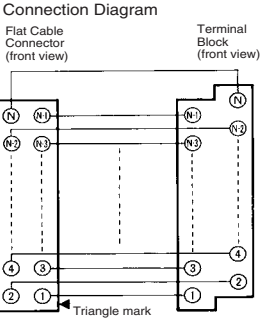
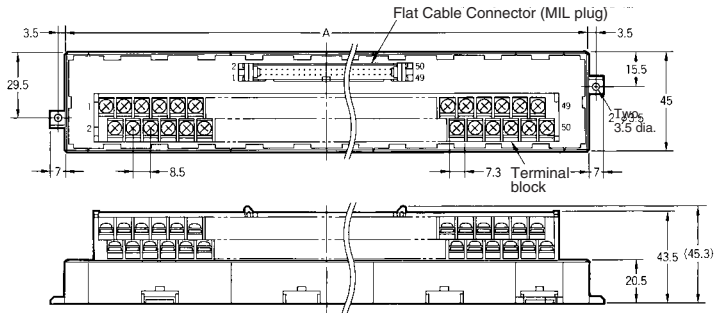
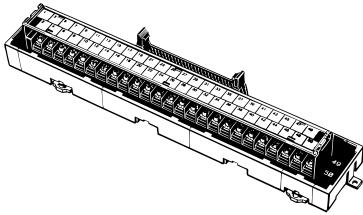
#### Ratings/Characteristics

|                       |                                                          |
|-----------------------|----------------------------------------------------------|
| Rated current         | 1 A                                                      |
| Rated voltage         | 125 V AC                                                 |
| Insulation resistance | 100 MΩ min. (at 500 V DC)                                |
| Dielectric strength   | 500 V AC for 1 min (with a leakage current of 1 mA max.) |
| Ambient temperature   | Operating: -25 to 80 °C                                  |

Dimensions

Note: All dimensions are in mm.

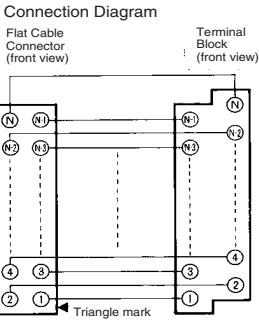
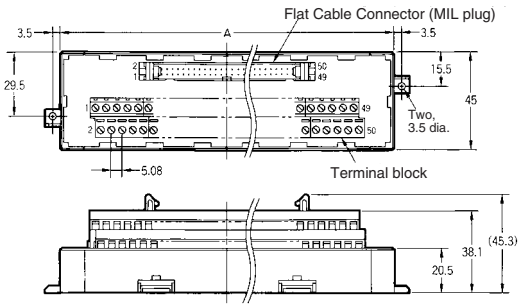
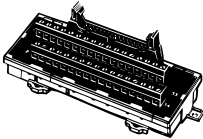
XW2B-□□G5  
(M3.5 Screws)



Dimensions

| Model     | Poles | Dimension A (mm) |
|-----------|-------|------------------|
| XW2B-20G5 | 20    | 112.5            |
| XW2B-34G5 | 34    | 180.0            |
| XW2B-40G5 | 40    | 202.5            |
| XW2B-50G5 | 50    | 247.5            |
| XW2B-60G5 | 60    | 292.5            |

XW2B-□□G4  
(M2.5 Screws)



Dimensions

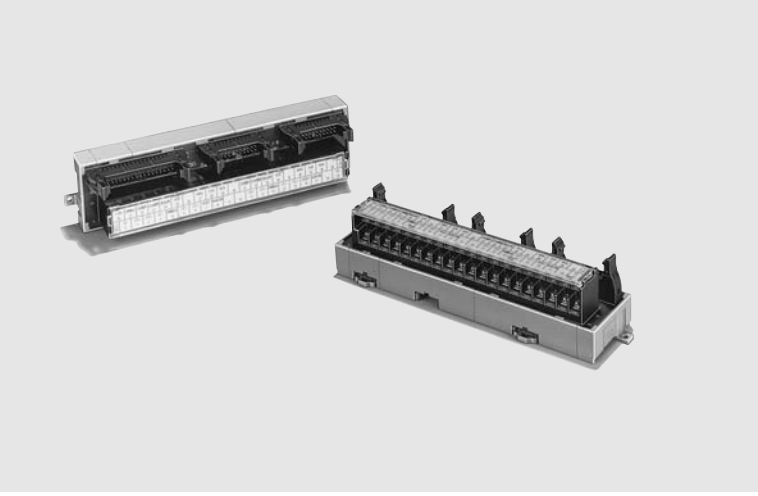
| Model     | Poles | Dimension A (mm) |
|-----------|-------|------------------|
| XW2B-20G4 | 20    | 67.5             |
| XW2B-34G4 | 34    | 112.5            |
| XW2B-40G4 | 40    | 135.0            |
| XW2B-50G4 | 50    | 157.5            |
| XW2B-60G4 | 60    | 180.0            |

XW2B

# Servo I/O terminal block

## Combines Connectors and the Terminal Block to Reduce Wiring between Servo Drivers and Position Control Units

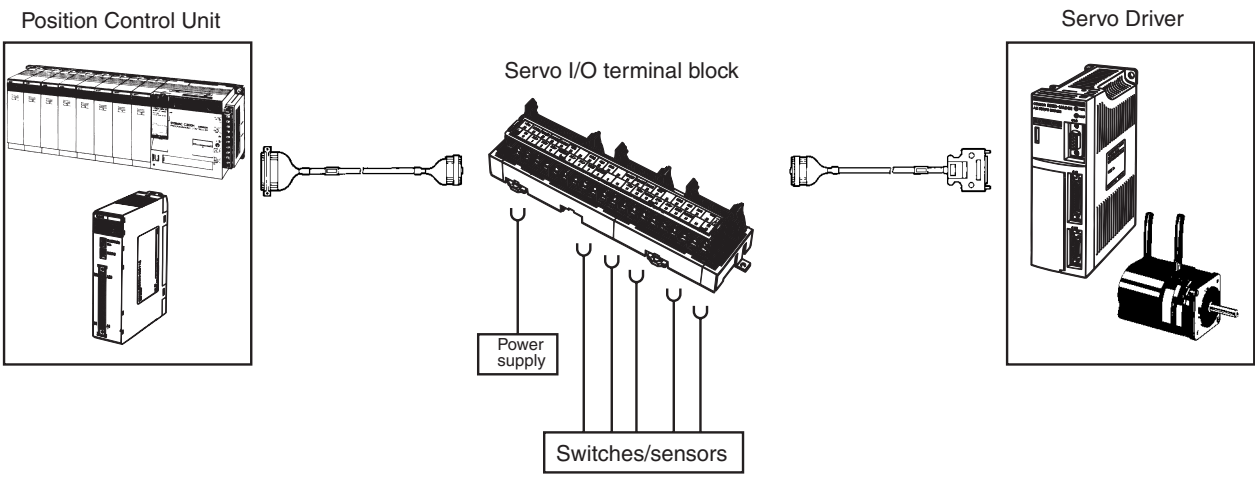
- Allows simple terminal block wiring of control signals between a Servo Driver and a Position Control Unit or CQM1 PLC (with built-in pulse I/O function).
- No need to solder connections; all you need is a screwdriver.
- Special cables are available to connect various Units.
- Only a 24-V DC power supply is required for control signals.
- Space-saving terminal blocks use M3.0 screws.
- Can be mounted with screws or snapped onto DIN rail.



## Ordering Information

| Compatible Servo Drivers                                                                                                                                                     | Compatible Position Control Units                                                                                                             | Model number            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| SMARTSTEP Series:<br>R7D-AP□□□<br>W Series:<br>R88D-WT□□□□<br>U Series:<br>R88D-UP□□□□<br>R88D-UT□□□□<br>R88D-UEP□□□□<br>M Series:<br>R88D-MT□□□□<br>H Series:<br>R88D-H□□□□ | NC Units (Communications functions are not supported.)<br>CS1W-NC113/133CJ1W-NC113/133<br>C200HW-NC113<br>C200H-NC112<br>3F88M-DRT141         | XW2B-20J6-1B            |
|                                                                                                                                                                              | NC Units (Communications functions are not supported.)<br>CS1W-NC213/233/413/433<br>CJ1W-NC213/233/413/433<br>C200HW-NC213/413<br>C200H-NC211 | XW2B-40J6-2B            |
|                                                                                                                                                                              | Other Units (Communications functions are not supported.)<br>CS1W-HCP22<br>CQM1H-PLB21<br>CQM1-CPU43-V1                                       | XW2B-20J6-3B            |
|                                                                                                                                                                              | NC Units (Communications functions are supported.)<br>CS1W-NC213/233/413/433<br>CJ1W-NC213/233/413/433                                        | XW2B-40J6-4A            |
|                                                                                                                                                                              | CPU units (Communications functions are not supported)<br>CJ1M-CPU22/23                                                                       | XW2B-20J6-8A (one axis) |
|                                                                                                                                                                              | CPU units (Communications functions are not supported)<br>CJ1M-CPU22/23                                                                       | WX2B-20J6-9A (two axis) |

## Connection Example



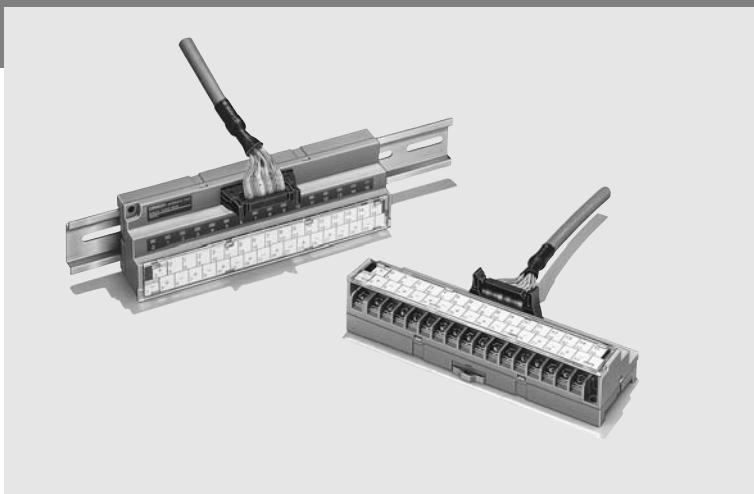
- Simple terminal block wiring of control signals between Servo Driver and Position Control Unit.
- No need to solder connections; all you need is a screwdriver
- Special cables are available to connect the Units.

XW2C

# Input terminal block

## Equipped with Power Supply Common and Operation Indicators and Reduces Control Panel Wiring to Input Devices

- Equipped with a power supply common for input devices.
- Operation indicators show each I/O signal's ON/OFF status at a glance.
- Can be mounted on DIN rail or screw-mounted.
- Compatible Connecting Cables are available (sold separately.)



## Ordering Information

| Points    | Internal I/O circuit common | Model          |
|-----------|-----------------------------|----------------|
| 16 inputs | NPN compatible (+ common)   | XW2C-20G5-IN16 |

This is a non-standard model and requires a special order.  
Contact your OMRON representative for details on availability.

## Specifications

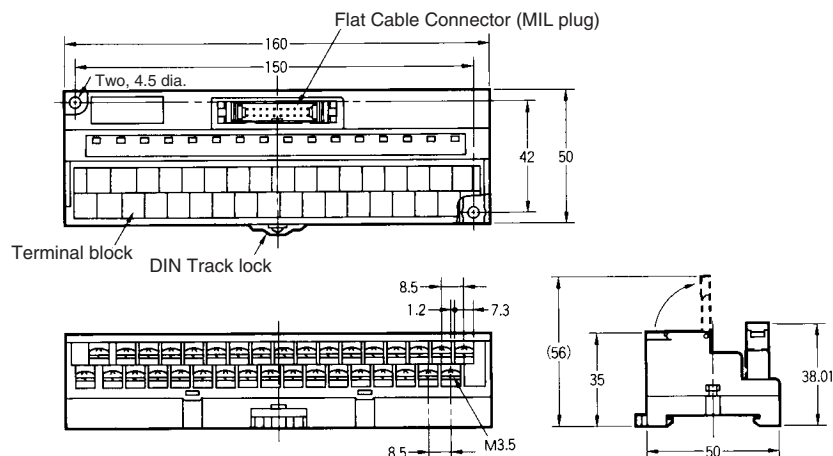
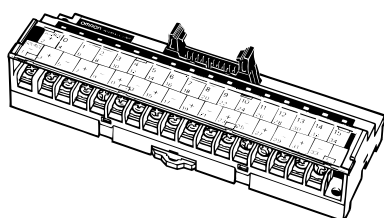
### Ratings/Characteristics

|                            |                                  |
|----------------------------|----------------------------------|
| Rated current              | 1 A/common                       |
| Rated voltage              | 12 to 24 V DC                    |
| Number of circuits         | 16 points                        |
| Input display              | LED indicators (orange)          |
| Power supply voltage range | 12 to 24 V DC $\pm 5\%$          |
| LED indicator current      | 10 mA/input max. at 24 V DC      |
| Insulation resistance      | 50 M $\Omega$ min. (at 500 V DC) |
| Dielectric strength        | 500 V AC for 1 min               |
| Ambient temperature        | Operating: 0 to 55 °C            |

## Dimensions

**Note:** All dimensions are in mm.

### XW2C-20G5-IN16

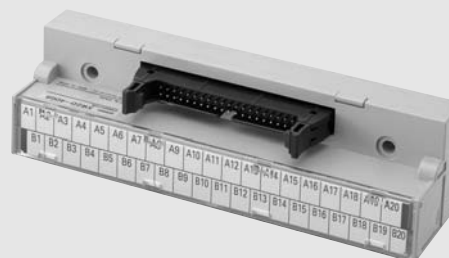


## XW2D

## Slim Input terminal block

## Introducing the XW2D Series, a Slim Version of the I/O terminal block

- Required mounting area reduced by 35% (compared to OMRON's 40-pole XW2B Unit), allowing for smaller control panels and automatic equipment.
- Terminal screw mechanism prevents lost terminal screws.
- Use either round or forked crimp terminals.
- Mount via DIN rail or screws. Unique DIN rail lock to mount or remove Units from DIN rail while open.
- Terminal cover can be fixed in the open position.
- Easy-count terminal numbers with different colors every five terminals.



## Ordering Information

| Mounted connector          | Poles | Model                       | Dimension A | Dimension B | Mounted connector model | Cable connector model |
|----------------------------|-------|-----------------------------|-------------|-------------|-------------------------|-----------------------|
| MIL, XG4A                  | 20    | XW2D-20G6                   | 79          | 57          | XG4A-2031               | XG4M-2030-T           |
|                            | 34    | XW2D-34G6*                  | 128         | 100         | XG4A-3431               | XG4M-3430-T           |
|                            | 40    | XW2D-40G6                   | 149         | 110         | XG4A-4031               | XG4M-4030-T           |
|                            |       | XW2D-40G6-RF* (See note 1.) | 149         | 110         | XG4A-4031               | XG4M-4030-T           |
|                            |       | XW2D-40G6-RM* (See note 2.) | 149         | 110         | XG4A-4031               | XG4M-4030-T           |
| MIL, XG4C                  | 50    | XW2D-50G6*                  | 184         | 144         | XG4A-5031               | XG4M-5030-T           |
|                            | 20    | XW2D-20C6*                  | 79          | 57          | XG4C-2031               | XG4M-2030-U           |
|                            | 34    | XW2D-34C6*                  | 128         | 100         | XG4C-3431               | XG4M-3430-U           |
|                            | 40    | XW2D-40C6*                  | 149         | 110         | XG4C-4031               | XG4M-4030-U           |
|                            | 50    | XW2D-50C6*                  | 184         | 144         | XG4C-5031               | XG4M-5030-U           |
| MR Socket<br>(See note 3.) | 20    | XW2D-20X6*                  | 79          | 57          | MR-20RFD2               | MR-20M                |
|                            | 34    | XW2D-34X6*                  | 128         | 100         | MR-34RFD2               | MR-34M                |
|                            | 50    | XW2D-50X6*                  | 184         | 144         | MR-50RFD2               | MR-50M                |
| MR Plug<br>(See note 3.)   | 20    | XW2D-20Y6*                  | 79          | 57          | MR-20RMD2               | MR-20F                |
|                            | 34    | XW2D-34Y6*                  | 128         | 100         | MR-34RMD2               | MR-34F                |
|                            | 50    | XW2D-50Y6*                  | 184         | 144         | MR-50RMD2               | MR-50F                |

**Note:** 1. Has a built-in bleeder resistor and is for the CJ1W-ID231/ID261. External dimensions are the same as the XW2D-40G6.

2. Has a built-in bleeder resistor and is for the CJ1W-ID232. External dimensions are the same as the XW2D-40G6.

3. The MR Connectors are manufactured by Honda Tsushin Kogyo Co., Ltd.

## Specifications

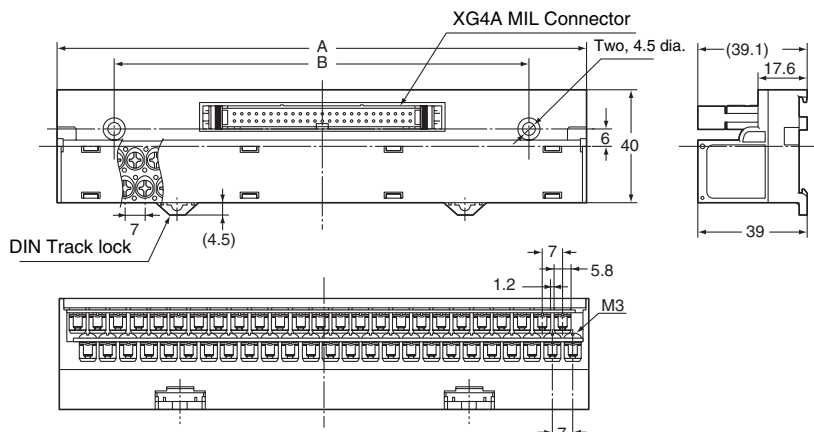
## Ratings /Characteristics

|                       |                                                          |
|-----------------------|----------------------------------------------------------|
| Rated current         | 1 A                                                      |
| Rated voltage         | 125 V AC, 24 V DC                                        |
| Insulation resistance | 100 MΩ max. (at 500 V DC)                                |
| Dielectric strength   | 500 V AC for 1 min (with a leakage current of 1 mA max.) |
| Ambient temperature   | Operating: 0 to 55 °C                                    |

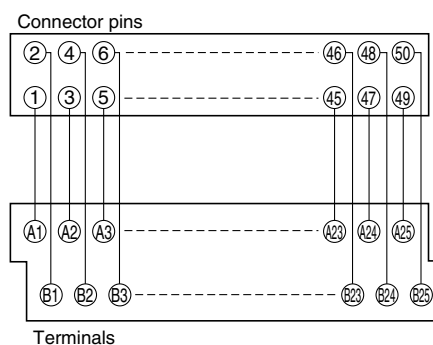
## Dimensions

### XW2D-□□G6 with XG4A MIL Connector

**Note:** In the 20-pole models, there is just one DIN rail lock located at the bottom-center of the Unit.



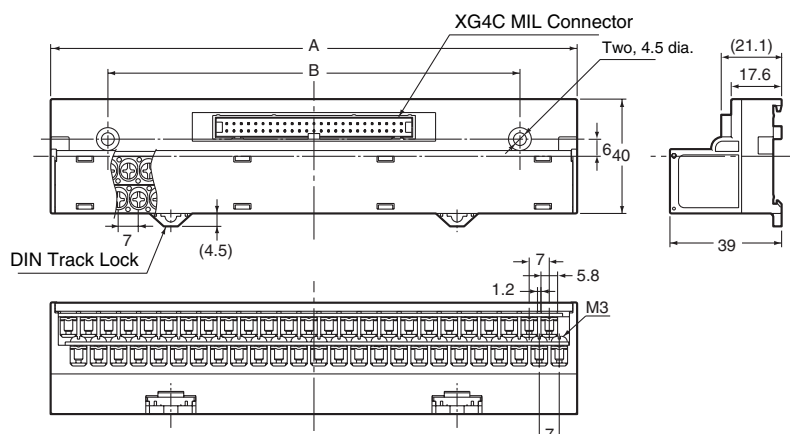
Connection Diagram (50-pole model)



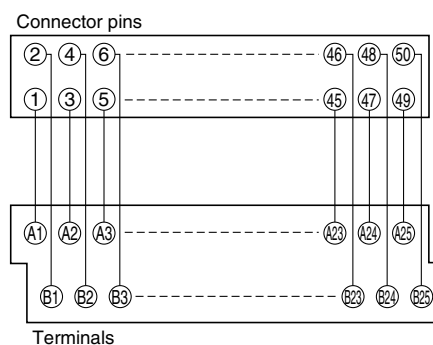
**Note:** The connector's odd-numbered poles connect to the "A" terminals and the connector's even-numbered poles connect to the "B" terminals.

### XW2D-□□C6 with XG4C MIL Connector

**Note:** In the 20-pole models, there is just one DIN rail lock located at the bottom-center of the Unit.



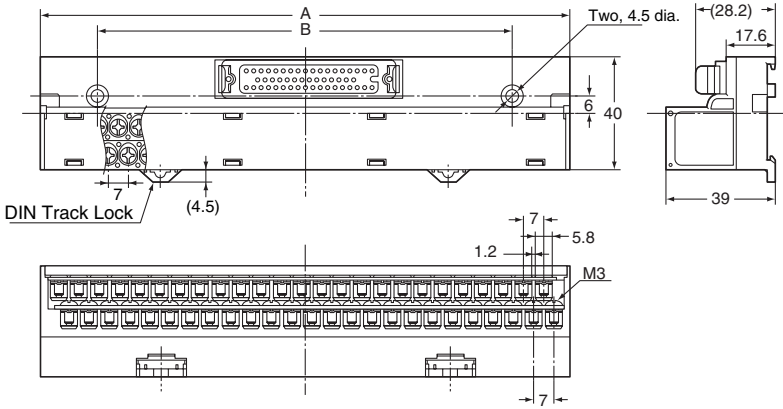
Connection Diagram (50-pole model)



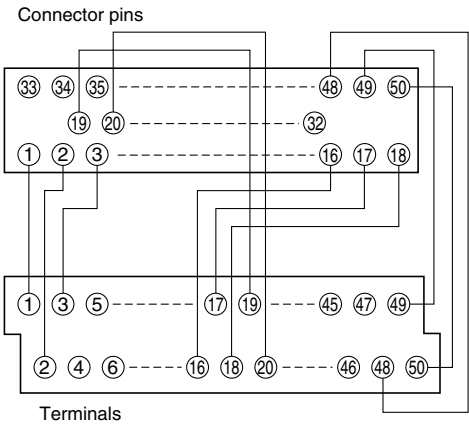
**Note:** The connector's odd-numbered poles connect to the "A" terminals and the connector's even-numbered poles connect to the "B" terminals.

### XW2D-□□X6 with MR Socket Connector

**Note:** In the 20-pole models, there is just one DIN rail lock located at the bottom-center of the Unit.



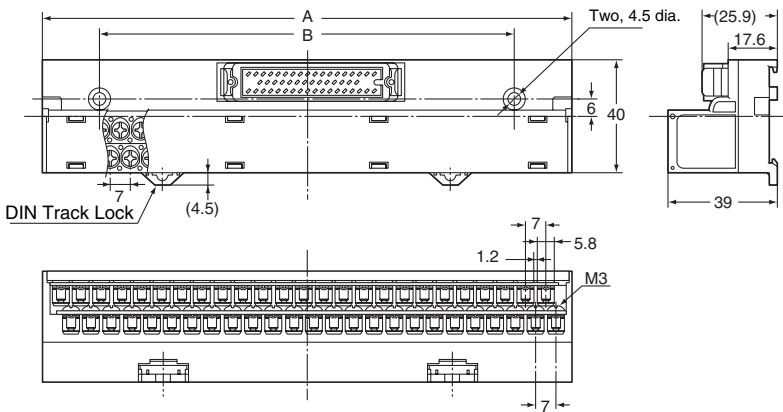
Connection Diagram (50-pole model)



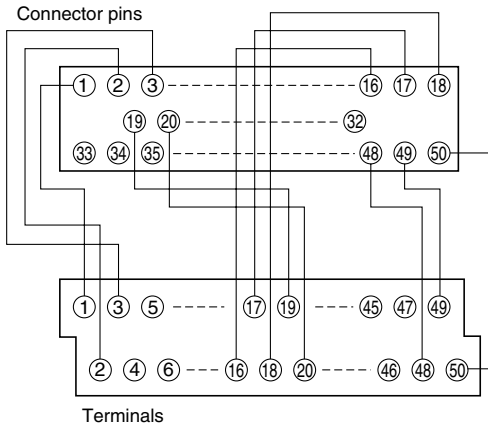
**Note:** The connector's poles connect to the MR socket terminals with the same number.

### XW2D-□□Y6 with MR Plug Connector

**Note:** In the 20-pole models, there is just one DIN rail lock located at the bottom-center of the Unit.



Connection Diagram (50-pole model)



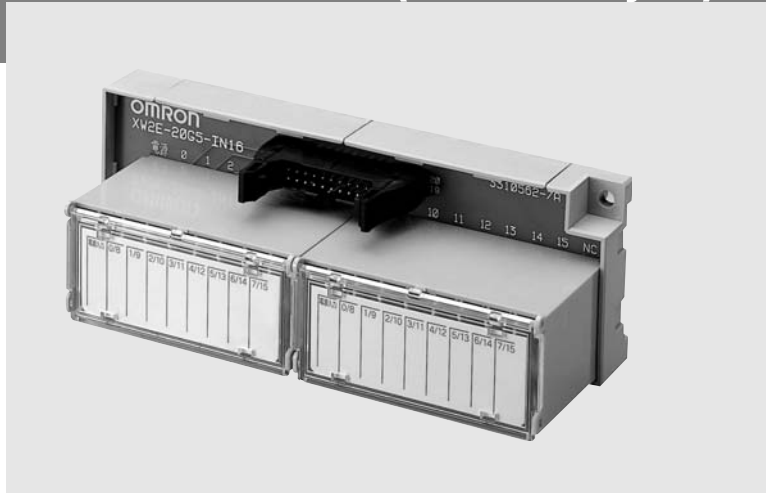
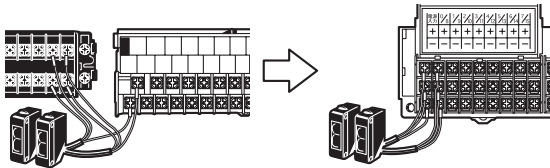
**Note:** The pin numbers on the connector correspond directly to the terminal numbers on the terminal block.

XW2E

# Input terminal block with Common (3-tier Style)

## Easy-to-wire 3-row Terminal Block with Power Supply Terminals and Common

- Special-purpose Terminal Block for 16 PLC inputs
- The 3-row terminal configuration simplifies wiring since only one crimp terminal connection to the power supply is required.



## Ordering Information

| Points    | Poles | Model          | Mounted connector model | Cable connector model |
|-----------|-------|----------------|-------------------------|-----------------------|
| 16 inputs | 20    | XW2E-20G5-IN16 | XG4A-2031               | XG4M-2030-T           |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

**Note:** Use a XW2Z-□□□A Cable only.

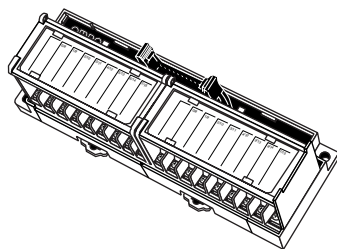
## Specifications

### Ratings/Characteristics

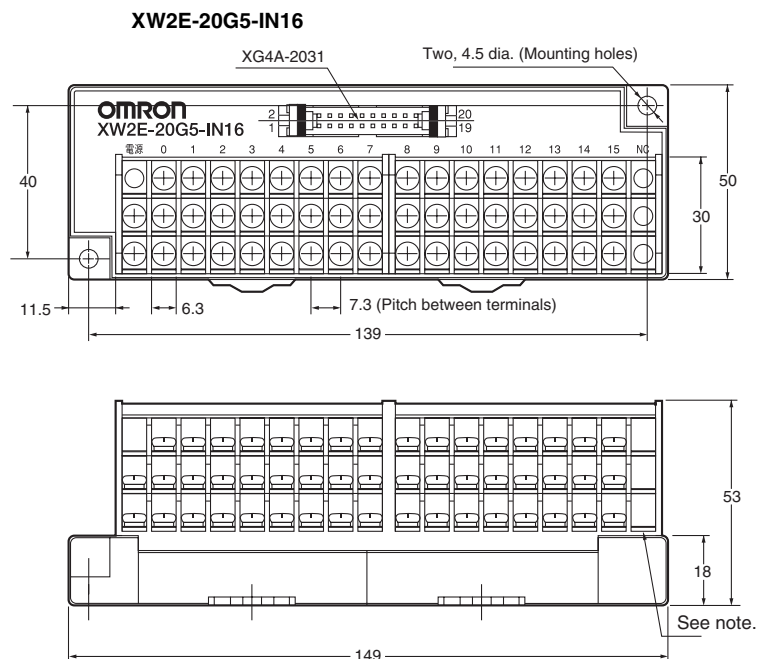
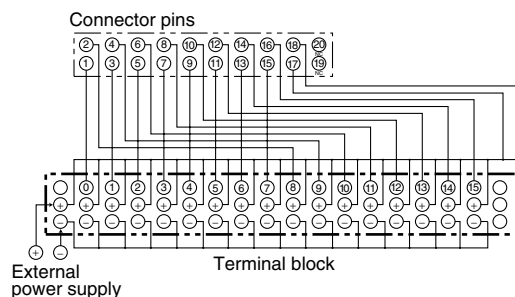
|                       |                                                             |
|-----------------------|-------------------------------------------------------------|
| Rated current         | 1 A/common                                                  |
| Rated voltage         | 12 to 24 V DC                                               |
| Insulation resistance | 50 MΩ min. (at 500 V DC)                                    |
| Dielectric strength   | 500 V AC for 1 min<br>(with a leakage current of 1 mA max.) |
| Ambient temperature   | Operating: 0 to 55 °C                                       |

## Dimensions

**Note:** All dimensions are in mm.



Connection Diagram



Note: No terminals in this example.

# XW2Z

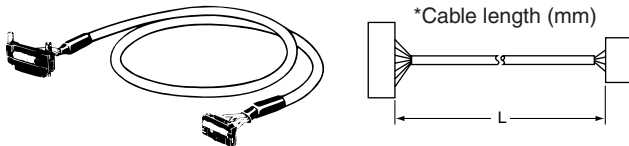
# Connecting Cables for I/O terminal blocks

• Refer to page 422 for connection details.

## XW2Z-□□□A Cables for PLC Units with 32-point Connectors

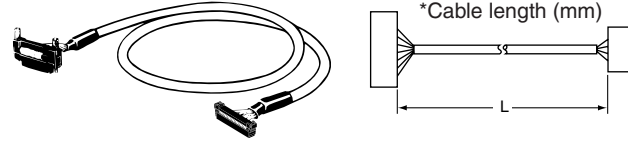
### Ordering Information

#### XW2Z-□□□A



| *Cable length L (mm) | Model      |
|----------------------|------------|
| 500 mm               | XW2Z-050A  |
| 1,000 mm             | XW2Z-100A  |
| 1,500 mm             | XW2Z-150A* |
| 2,000 mm             | XW2Z-200A  |
| 3,000 mm             | XW2Z-300A* |
| 5,000 mm             | XW2Z-500A* |

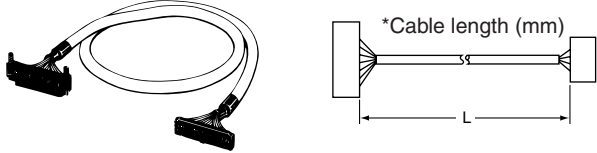
#### XW2Z-□□□AU (See note.)



| *Cable length L (mm) | Model       |
|----------------------|-------------|
| 500 mm               | XW2Z-050AU* |
| 1,000 mm             | XW2Z-100AU* |
| 1,500 mm             | XW2Z-150AU* |
| 2,000 mm             | XW2Z-200AU* |
| 3,000 mm             | XW2Z-300AU* |
| 5,000 mm             | XW2Z-500AU* |

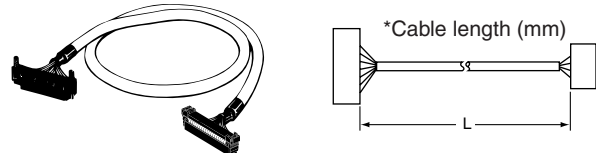
## XW2Z-□□□B Cables for Group-2 PLC I/O Units with 32-point Connectors and PLC I/O Units with 64-point Connectors

#### XW2Z-□□□B



| Wiring        | *Cable length L (mm) | Model      |
|---------------|----------------------|------------|
| Normal wiring | 500 mm               | XW2Z-050B  |
|               | 1,000 mm             | XW2Z-100B  |
|               | 1,500 mm             | XW2Z-150B* |
|               | 2,000 mm             | XW2Z-200B  |
|               | 3,000 mm             | XW2Z-300B  |
|               | 5,000 mm             | XW2Z-500B  |

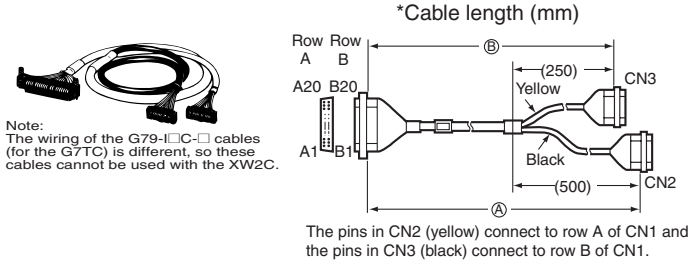
#### XW2Z-□□□BU (See note.)



| Wiring        | *Cable length L (mm) | Model       |
|---------------|----------------------|-------------|
| Normal wiring | 500 mm               | XW2Z-050BU* |
|               | 1,000 mm             | XW2Z-100BU* |
|               | 1,500 mm             | XW2Z-150BU* |
|               | 2,000 mm             | XW2Z-200BU* |
|               | 3,000 mm             | XW2Z-300BU* |
|               | 5,000 mm             | XW2Z-500BU* |

## XW2Z-□□□D Cables for Group-2 PLC Input Units with 32-point Connectors and PLC Input Units with 64-point Connectors

#### XW2Z-□□□D

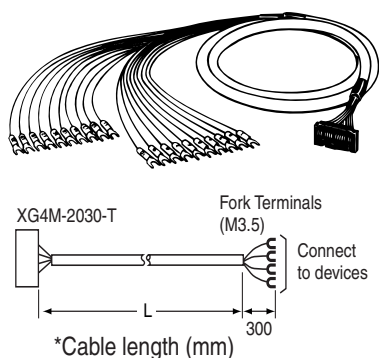


| *Cable lengths (mm) |          | Model      |
|---------------------|----------|------------|
| A                   | B        |            |
| 1,000 mm            | 750 mm   | XW2Z-100D* |
| 1,500 mm            | 1,250 mm | XW2Z-150D* |
| 2,000 mm            | 1,750 mm | XW2Z-200D* |
| 3,000 mm            | 2,750 mm | XW2Z-300D* |
| 5,000 mm            | 4,750 mm | XW2Z-500D* |

\* This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.

## XW2Z-□□□F Cables with Crimp Terminals (20 poles)

### XW2Z-□□□F

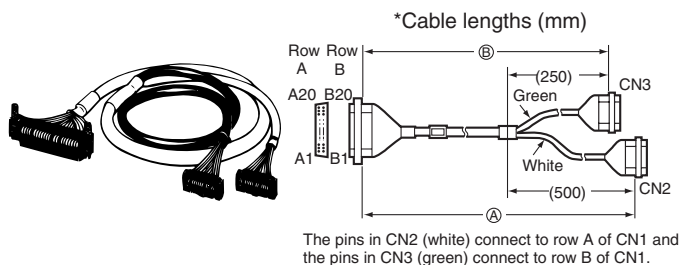


| *Cable length L (mm) | Model     |
|----------------------|-----------|
| 1,000 mm             | XW2Z-100F |
| 1,500 mm             | XW2Z-150F |
| 2,000 mm             | XW2Z-200F |
| 3,000 mm             | XW2Z-300F |
| 5,000 mm             | XW2Z-500F |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

## XW2Z-□□□L Cables for Group-2 PLC Output Units with 32-point Connectors and PLC Output Units with 64-point Connectors

### XW2Z-□□□L

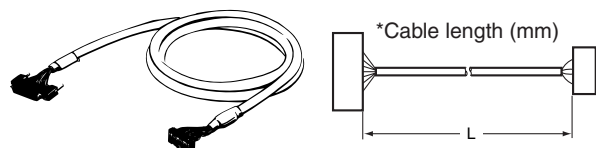


| *Cable lengths (mm) |          | Model     |
|---------------------|----------|-----------|
| A                   | B        |           |
| 1,000 mm            | 750 mm   | XW2Z-100L |
| 1,500 mm            | 1,250 mm | XW2Z-150L |
| 2,000 mm            | 1,750 mm | XW2Z-200L |
| 3,000 mm            | 2,750 mm | XW2Z-300L |
| 5,000 mm            | 4,750 mm | XW2Z-500L |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

## XW2Z-□□□H Cables for PLC I/O Units with 96-point Connectors

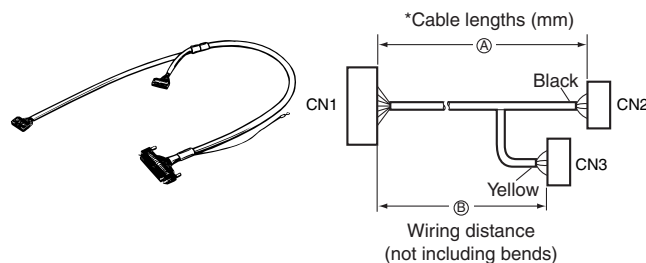
### XW2Z-□□□H-1



| Cable length (mm) | Model       |
|-------------------|-------------|
| 500 mm            | XW2Z-050H-1 |
| 1,000 mm          | XW2Z-100H-1 |
| 1,500 mm          | XW2Z-150H-1 |
| 2,000 mm          | XW2Z-200H-1 |
| 3,000 mm          | XW2Z-300H-1 |
| 5,000 mm          | XW2Z-500H-1 |
| 7,000 mm          | XW2Z-700H-1 |
| 10,000 mm         | XW2Z-010H-1 |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

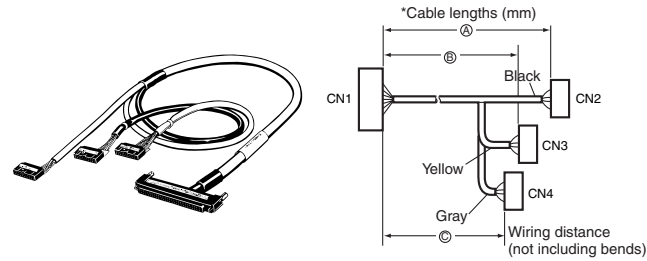
### XW2Z-□□□H-2



| Cable lengths (mm) |          | Model       |
|--------------------|----------|-------------|
| A                  | B        |             |
| 1,000 mm           | 750 mm   | XW2Z-100H-2 |
| 1,500 mm           | 1,250 mm | XW2Z-150H-2 |
| 2,000 mm           | 1,750 mm | XW2Z-200H-2 |
| 3,000 mm           | 2,750 mm | XW2Z-300H-2 |
| 5,000 mm           | 4,750 mm | XW2Z-500H-2 |
| 10,000 mm          | 9,750 mm | XW2Z-010H-2 |

These are all non-standard model and require a special order. Contact your OMRON representative for details on availability.

XW2Z-□□□H-3

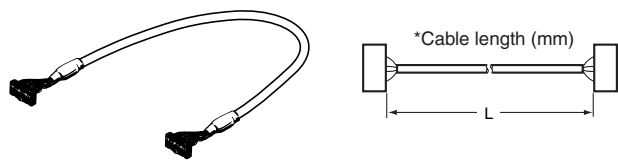


| Cable lengths (mm) |          |           | Model       |
|--------------------|----------|-----------|-------------|
| A                  | B        | C         |             |
| 1,000 mm           | 750 mm   | 1,000 mm  | XW2Z-100H-3 |
| 1,500 mm           | 1,250 mm | 1,500 mm  | XW2Z-150H-3 |
| 2,000 mm           | 1,750 mm | 2,000 mm  | XW2Z-200H-3 |
| 3,000 mm           | 2,750 mm | 3,000 mm  | XW2Z-300H-3 |
| 5,000 mm           | 4,750 mm | 5,000 mm  | XW2Z-500H-3 |
| 10,000 mm          | 9,750 mm | 10,000 mm | XW2Z-010H-3 |

These are all non-standard model and require a special order.  
Contact your OMRON representative for details on availability.

XW2Z-□□□K/N Cables for PLC I/O Units with 32-point MIL Connectors

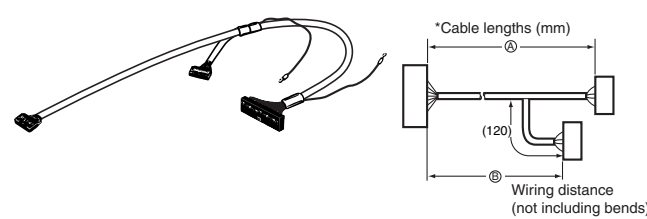
XW2Z-□□□K



| Cable length (mm) | Model (See note.) |
|-------------------|-------------------|
| 1,000 mm          | XW2Z-100K         |
| 1,500 mm          | XW2Z-150K*        |
| 2,000 mm          | XW2Z-200K         |
| 3,000 mm          | XW2Z-300K*        |
| 5,000 mm          | XW2Z-500K*        |

\* This is a non-standard model and requires a special order.  
Contact your OMRON representative for details on availability.

XW2Z-□□□N



| Cable lengths (mm) |          | Model     |
|--------------------|----------|-----------|
| A                  | B        |           |
| 1,000 mm           | 750 mm   | XW2Z-100N |
| 1,500 mm           | 1,250 mm | XW2Z-150N |
| 2,000 mm           | 1,750 mm | XW2Z-200N |
| 3,000 mm           | 2,750 mm | XW2Z-300N |
| 5,000 mm           | 4,750 mm | XW2Z-500N |

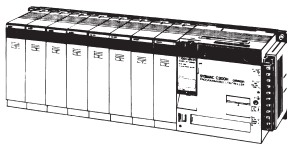
These are all non-standard model and require a special order.  
Contact your OMRON representative for details on availability.

XW2Z

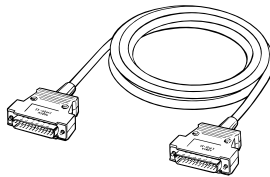
# Host Link Cables

**PLC-compatible RS-232C Cables Ideal for Host Link Connections between a PLC and Host Computer or other Device**

## Connection Example



SYSMAC PLC  
CQM1, C-series,  
CV-series, or CVM1



XW2Z Host Link Cable



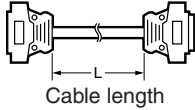
Host device  
Personal computer, Factory Intelligent  
Terminal, or Programmable Terminal

## Ordering Information

| SYSMAC PLC end                                                                                                                                                                                                                                                                         | XW2Z Host Link Cable (PLC-compatible RS-232C cable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                 | Host device end |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------|--------------|---|----|---|----|---|----|---|----|---|----|---|-------------------|---|-------------------|----|-------------------|----|---|----|---|----|---|----|---|----|---|----|----|----|------------|--------------------------|------------|--------------------------|------------|--------------------------|---------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                        | Wiring configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Cable length L<br>(See note 1.) |                 | Model number |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| C20-LK201-V1<br>C500-LK203<br>C500-LK201-V1<br>C120-LK201-V1<br>C200H-LK201<br>CV500-LK201<br>(Port 1, full-duplex mode)                                                                                                                                                               | <div>25-pin D-Sub Plug</div> <div>PLC end</div> <table><tr><td>Connector hood FG</td><td></td></tr><tr><td>FG</td><td>1</td></tr><tr><td>SD</td><td>2</td></tr><tr><td>RD</td><td>3</td></tr><tr><td>RS</td><td>4</td></tr><tr><td>CS</td><td>5</td></tr><tr><td>SG</td><td>7</td></tr><tr><td>DR</td><td>6</td></tr><tr><td>ER</td><td>20</td></tr></table> <div>Shield</div> <div>25-pin D-Sub Plug</div> <div>Host end</div> <table><tr><td>Connector hood FG</td><td></td></tr><tr><td>1</td><td>FG</td></tr><tr><td>2</td><td>SD</td></tr><tr><td>3</td><td>RD</td></tr><tr><td>4</td><td>RS</td></tr><tr><td>5</td><td>CS</td></tr><tr><td>7</td><td>SG</td></tr><tr><td>6</td><td>DR</td></tr><tr><td>20</td><td>ER</td></tr></table> | Connector hood FG               |                 | FG           | 1 | SD | 2 | RD | 3 | RS | 4 | CS | 5 | SG | 7 | DR                | 6 | ER                | 20 | Connector hood FG |    | 1 | FG | 2 | SD | 3 | RD | 4 | RS | 5 | CS | 7  | SG | 6          | DR                       | 20         | ER                       | 2 m<br>5 m | XW2Z-200P*<br>XW2Z-500P* | Programmable Terminal:<br>NT20M, NT600M,<br>NT610C, or NT610G |
| Connector hood FG                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| FG                                                                                                                                                                                                                                                                                     | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SD                                                                                                                                                                                                                                                                                     | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| RD                                                                                                                                                                                                                                                                                     | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| RS                                                                                                                                                                                                                                                                                     | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| CS                                                                                                                                                                                                                                                                                     | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SG                                                                                                                                                                                                                                                                                     | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| DR                                                                                                                                                                                                                                                                                     | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| ER                                                                                                                                                                                                                                                                                     | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| Connector hood FG                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 1                                                                                                                                                                                                                                                                                      | FG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 2                                                                                                                                                                                                                                                                                      | SD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 3                                                                                                                                                                                                                                                                                      | RD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 4                                                                                                                                                                                                                                                                                      | RS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 5                                                                                                                                                                                                                                                                                      | CS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 7                                                                                                                                                                                                                                                                                      | SG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 6                                                                                                                                                                                                                                                                                      | DR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 20                                                                                                                                                                                                                                                                                     | ER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| C200HS-CPU31/33/21/23<br>CQM1-CPU21/41/42/43/44<br>(Units with RS-232C port)<br>C20H<br>C28H<br>C40H<br>C60H<br>(Units with built-in Host Link)                                                                                                                                        | <div>9-pin D-Sub Plug</div> <div>PLC end</div> <table><tr><td>Connector hood FG</td><td></td></tr><tr><td>FG</td><td>1</td></tr><tr><td>SD</td><td>2</td></tr><tr><td>RD</td><td>3</td></tr><tr><td>RS</td><td>4</td></tr><tr><td>CS</td><td>5</td></tr><tr><td>SG</td><td>7</td></tr><tr><td>SG</td><td>9</td></tr></table> <div>Shield</div> <div>25-pin D-Sub Plug</div> <div>Host end</div> <table><tr><td>Connector hood FG</td><td></td></tr><tr><td>1</td><td>FG</td></tr><tr><td>2</td><td>SD</td></tr><tr><td>3</td><td>RD</td></tr><tr><td>4</td><td>RS</td></tr><tr><td>5</td><td>CS</td></tr><tr><td>7</td><td>SG</td></tr><tr><td>6</td><td>DR</td></tr><tr><td>20</td><td>ER</td></tr></table>                                 | Connector hood FG               |                 | FG           | 1 | SD | 2 | RD | 3 | RS | 4 | CS | 5 | SG | 7 | SG                | 9 | Connector hood FG |    | 1                 | FG | 2 | SD | 3 | RD | 4 | RS | 5 | CS | 7 | SG | 6  | DR | 20         | ER                       | 2 m<br>5 m | XW2Z-200R*<br>XW2Z-500R* |            |                          |                                                               |
| Connector hood FG                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| FG                                                                                                                                                                                                                                                                                     | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SD                                                                                                                                                                                                                                                                                     | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| RD                                                                                                                                                                                                                                                                                     | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| RS                                                                                                                                                                                                                                                                                     | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| CS                                                                                                                                                                                                                                                                                     | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SG                                                                                                                                                                                                                                                                                     | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SG                                                                                                                                                                                                                                                                                     | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| Connector hood FG                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 1                                                                                                                                                                                                                                                                                      | FG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 2                                                                                                                                                                                                                                                                                      | SD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 3                                                                                                                                                                                                                                                                                      | RD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 4                                                                                                                                                                                                                                                                                      | RS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 5                                                                                                                                                                                                                                                                                      | CS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 7                                                                                                                                                                                                                                                                                      | SG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 6                                                                                                                                                                                                                                                                                      | DR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 20                                                                                                                                                                                                                                                                                     | ER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| C200HS-CPU31/33/21/23<br>CQM1-CPU21/41/42/43/44<br>(Units with RS-232C port)<br>CV500/CV1000/CV2000, CVM1<br>(Units with built-in Host Link)<br>CV500-LK201<br>(Port 2, full-duplex mode)<br>C200HE-CPU42<br>C200HG-CPU43/63<br>C200HX-CPU44/64<br>C200HW-COM02/04/05/06<br>CPM1-CIF01 | <div>9-pin D-Sub Plug</div> <div>PLC end</div> <table><tr><td>Connector hood FG</td><td></td></tr><tr><td>---</td><td>1</td></tr><tr><td>SD</td><td>2</td></tr><tr><td>RD</td><td>3</td></tr><tr><td>RS</td><td>4</td></tr><tr><td>CS</td><td>5</td></tr><tr><td>SG</td><td>9</td></tr></table> <div>Shield</div> <div>25-pin D-Sub Plug</div> <div>Host end</div> <table><tr><td>Connector hood FG</td><td></td></tr><tr><td>1</td><td>FG</td></tr><tr><td>2</td><td>SD</td></tr><tr><td>3</td><td>RD</td></tr><tr><td>4</td><td>RS</td></tr><tr><td>5</td><td>CS</td></tr><tr><td>7</td><td>SG</td></tr><tr><td>6</td><td>DR</td></tr><tr><td>20</td><td>ER</td></tr></table>                                                              | Connector hood FG               |                 | ---          | 1 | SD | 2 | RD | 3 | RS | 4 | CS | 5 | SG | 9 | Connector hood FG |   | 1                 | FG | 2                 | SD | 3 | RD | 4 | RS | 5 | CS | 7 | SG | 6 | DR | 20 | ER | 2 m<br>5 m | XW2Z-200S*<br>XW2Z-500S* |            |                          |            |                          |                                                               |
| Connector hood FG                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| ---                                                                                                                                                                                                                                                                                    | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SD                                                                                                                                                                                                                                                                                     | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| RD                                                                                                                                                                                                                                                                                     | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| RS                                                                                                                                                                                                                                                                                     | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| CS                                                                                                                                                                                                                                                                                     | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| SG                                                                                                                                                                                                                                                                                     | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| Connector hood FG                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 1                                                                                                                                                                                                                                                                                      | FG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 2                                                                                                                                                                                                                                                                                      | SD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 3                                                                                                                                                                                                                                                                                      | RD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 4                                                                                                                                                                                                                                                                                      | RS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 5                                                                                                                                                                                                                                                                                      | CS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 7                                                                                                                                                                                                                                                                                      | SG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 6                                                                                                                                                                                                                                                                                      | DR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |
| 20                                                                                                                                                                                                                                                                                     | ER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                 |              |   |    |   |    |   |    |   |    |   |    |   |                   |   |                   |    |                   |    |   |    |   |    |   |    |   |    |   |    |    |    |            |                          |            |                          |            |                          |                                                               |

| SYSMAC PLC end                                                                                                                                                                                                                                                                                                                                     | XW2Z Host Link Cable (PLC-compatible RS-232C cable)                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Cable length L<br>(See note 1.) | Model number                   | Host device end                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                    | Wiring configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                 |                                |                                                                                                                                      |
| C20-LK201-V1<br>C500-LK203<br>C500-LK201-V1<br>C120-LK201-V1<br>C200H-LK201<br>CV500-LK201<br>(Port 1, full-duplex mode)                                                                                                                                                                                                                           | <div>25-pin D-Sub Plug<div>PLC end<div>Connector hood FG<div>FG1</div><div>SD2</div><div>RD3</div><div>RS4</div><div>CS5</div><div>DR6</div><div>SG7</div><div>---8</div><div>ER20</div></div></div><div>Shield</div><div>9-pin D-Sub Socket<div>Host end<div>Connector hood FG<div>1---</div><div>2RD</div><div>3SD</div><div>4ER</div><div>5SG</div><div>6DR</div><div>7RS</div><div>8CS</div><div>9---</div></div></div></div></div>                                             |  | 2 m<br>5 m                      | XW2Z-200P-V*<br>XW2Z-500P-V*   | Personal Computer                                                                                                                    |
| C200HS-CPU31/33/21/23<br>CQM1-CPU21/41/42/43/44<br>CV500/CV1000/CV2000, CVM1<br>CV500-LK201<br>(Port 2)<br>C200HE-CPU42<br>C200HG-CPU43/63<br>C200HX-CPU44/64<br>C200HW-COM02/04/05/06<br>CPM1-CIF01                                                                                                                                               | <div>9-pin D-Sub Plug<div>PLC end<div>Connector hood FG<div>---1</div><div>SD2</div><div>RD3</div><div>RS4</div><div>CS5</div><div>---6</div><div>---7</div><div>---8</div><div>SG9</div></div></div><div>Shield</div><div>9-pin D-Sub Socket<div>Host end<div>Connector hood FG<div>1---</div><div>2RD</div><div>3SD</div><div>4ER</div><div>5SG</div><div>6DR</div><div>7RS</div><div>8CS</div><div>9---</div></div></div></div></div>                                            |  | 2 m<br>5 m                      | XW2Z-200S-V<br>XW2Z-500S-V*    |                                                                                                                                      |
| CS1H-CPU□□-V1<br>CS1G-CPU□□-V1<br>CJ1G-CPU□□<br>CJ1H-CPU□□<br>CJ1M-CPU□□                                                                                                                                                                                                                                                                           | <div>9-pin D-Sub Plug<div>PLC end<div>Connector hood FG<div>FG1</div><div>SD2</div><div>RD3</div><div>RS4</div><div>CS5</div><div>---6</div><div>DR7</div><div>ER8</div><div>SG9</div></div></div><div>Shield</div><div>9-pin D-Sub Socket<div>Host end<div>Connector hood FG<div>1---</div><div>2RD</div><div>3SD</div><div>4ER</div><div>5SG</div><div>6DR</div><div>7RS</div><div>8CS</div><div>9---</div></div></div></div><div>ESD-preventive connectors are used.</div></div> |  | 2 m<br>5 m                      | XW2Z-200S-CV*<br>XW2Z-500S-CV* |                                                                                                                                      |
| CQM1-CPU21/41/42/43/44<br>(Units with RS-232C port)<br>C200HS-CPU31/33/21/23<br>CV500-CPU01, CV1000-CPU01,<br>CV2000-CPU01<br>CVM1-CPU01/11<br>CV500-LK201<br>(Communications port 2)<br>C200HE-CPU42<br>C200HG-CPU43/63<br>C200HX-CPU44/64<br>C200HW-COM02/04/05/06<br>CPM1-CIF01<br>CPM2A-CPU□□<br>CQM1H-CPU21/51/61<br>CS1□-CPU□□<br>CJ1□-CPU□□ | <div>9-pin D-Sub Plug<div>PLC end<div>Connector hood FG<div>---1</div><div>SD2</div><div>RD3</div><div>RS4</div><div>CS5</div><div>SG9</div></div></div><div>Shield</div><div>9-pin D-Sub Plug<div>Host end<div>Connector hood FG<div>1---</div><div>2SD</div><div>3RD</div><div>4RS</div><div>5CS</div><div>9SG</div></div></div></div></div>                                                                                                                                      |  | 2 m<br>5 m                      | XW2Z-200T<br>XW2Z-500T         | Programmable Terminal:<br>NT20S, NT600S,<br>NT620S, NT620C,<br>NT30, or NT30C<br>NT31, or NT31C,<br>NT631, or NT 631 C,<br>NS-series |

**Note: 1.** The cable length does not include the connectors, as shown in the following diagram.



\* This is a non-standard model and requires a special order. Contact your OMRON representative for details on availability.