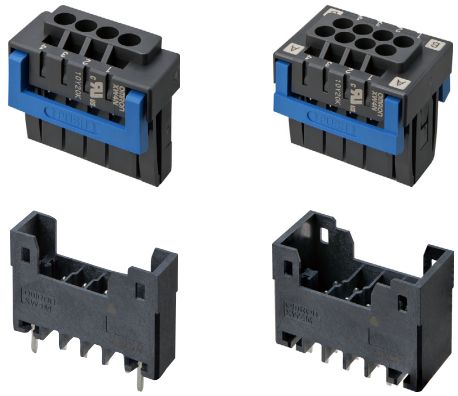
# XW4M/XW4N

## 3.5mm-Pitch Push-In Terminal Block PCB Connectors

## 3.5mm-pitch push-in terminal block PCB connectors to greatly improve the efficiency of connector inserting & removing and cable wiring.

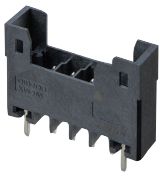
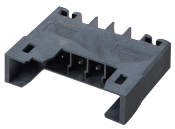
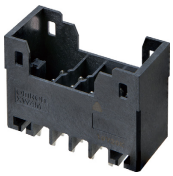
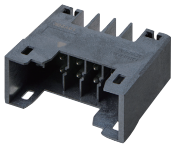
- Easy insertion & removal and high contact reliability are achieved with the unique connector engagement structure. It contributes to enhanced efficiency of inspection, assembly and maintenance.
- Compatible with through-hole-reflow, good for reflow mounting.
- Standard pin-number printed on the top surface of the socket, no extra spaces needed for pin identification such as on the surface of the PCB.
- Wiring efficiency is improved with the "hands-free" mechanism that keeps screwdriver inserted.
- Options available with a coding key for preventing erroneous insertion.
- See the "Standards certification / conformity list" for information on conformity to certification standards.



**RoHS Compliant**

Refer to "Precautions" on page 11 to 13.

## List

| Model | Single-Row Type, Straight Terminals | Single-Row Type, Right-Angle Terminals | Double-Row Type, Straight Terminals | Double-Row Type, Right-Angle Terminals |
|---|---|---|---|---|
| | XW4M-□□D1-V1D□ | XW4M-□□D1-H1D□ | XW4M-□□D2-V1D□ | XW4M-□□D2-H1D□ |
| Plug |  |  |  |  |

| Model | Single-Row Type | Double-Row Type |
|---|---|---|
| | XW4N-□□D1-□ | XW4N-□□D2-□ |
| Socket |  |  |

## Part Number Structure

**3.5mm-pitch Push-in Terminal Block PCB Connectors**

**Plug: XW4M-□□D□-□□D□**
(1) (2) (3) (4)

**Socket: XW4N-□□D□-□**
(1) (2) (4)

| (1) | (2) | (3) | (4) |
|---|---|---|---|
| Number of Contacts | 1: Single-Row<br>2: Double-Row | V1: Straight Terminals<br>H1: Right-Angle Terminals | S: Tin Plating<br>A: Gold Plating |

## Ratings

| | | | |
|---|---|---|---|
| Applicable wire ranges *1 | Cross section of solid wire | 0.2 $mm^2$ to 1.5 $mm^2$ | |
| | Cross section of stranded wire | 0.2 $mm^2$ to 1.5 $mm^2$ | |
| | Cross section of stranded wire with ferrule with plastic sleeve | 0.2 $mm^2$ to 0.75 $mm^2$ | |
| | Cross section of stranded wire with ferrule without plastic sleeve | 0.2 $mm^2$ to 1.5 $mm^2$ | |
| Stripping length of solid and stranded wires | | 9.5 mm MIN | |
| IEC rated voltage (III/3) | | 160 V | |
| IEC rated current | | 8 A | |
| Usage group (UG) | | B | D |
| UL rated voltage | | 300 V (Only XW4N-□□D□-□, XW4M-□□D1-□□D□) | 300 V |
| | | 150 V (Only XW4M-□□D2-□□D□) | |
| UL rated current | | 8 A | |
| Withstand voltage | | 1,600 VAC 1 min (leakage current: 1 mA max.) | |
| Applicable tool | | XW4Z-00B *2 | |

*1. Refer to page 12 for details of applicable wire ranges and recommended ferrule terminals.
*2. Refer to page 13 for details of recommended tools.

## Characteristics

| | |
|---|---|
| Ambient temperature range | -40 to 100°C (with no condensation or icing) |
| Ambient humidity range | 5 to 85%RH |
| Ambient storage temperature | -40 to 70°C (with no condensation or icing) |
| Ambient storage humidity | 5 to 70%RH |
| Connectors mating temperature range | -5 to 40°C (with no condensation or icing) |
| Connectors mating humidity range | 5 to 70%RH |
| Insertion durability | 100 times |

## Materials and Finishes

### Plug: XW4M

| Item \ Model | Tin Plating XW4M-□□D□-□□DS | Gold Plating XW4M-□□D□-□□DA |
|---|---|---|
| Housing Plug | LCP (UL94 V-0) | |
| Plug contact | Copper alloy<br>Terminal part: Tin plating<br>Mating section: Tin plating | Copper alloy<br>Terminal part: Tin plating<br>Mating section: Gold plating |
| Fastening pins* | Copper alloy/Tin plating | |

*Fastening pins are for 10 contacts max. only

### Socket: XW4N

| Item \ Model | Tin Plating XW4N-□□D□-S | Gold Plating XW4N-□□D□-A |
|---|---|---|
| Housing cover | PA (UL94 V-0) | |
| Housing Socket | PA (UL94 V-0) | |
| Lever | PBT (UL94 V-0) | |
| Socket contact | Copper alloy<br>Wiring section: Tin plating<br>Mating section: Tin plating | Copper alloy<br>Wiring section: Tin plating<br>Mating section: Gold plating |
| Spring | Stainless steel | Stainless steel |

### Coding key: XW4Z-C001

| Item \ Model | XW4Z-C001 |
|---|---|
| Coding key | PBT (UL94 V-0) |

## Standards

| | |
|---|---|
| Compliant standard | UL1059 |
| | CSA (C22.2No.158) |
| | IEC 60947-7-4 |

# XW4M

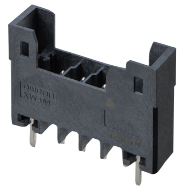
## Dimensions

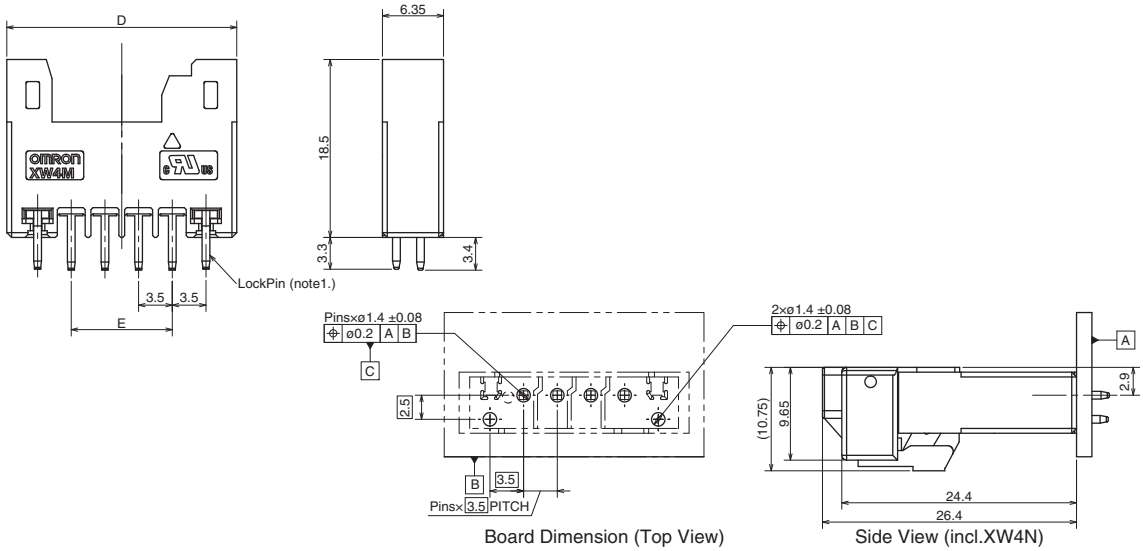
CAD Data Please visit our CAD Data website, which is noted on the last page.

(Unit: mm)

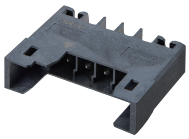
### XW4M-□□D1-V1D□ (straight terminals)

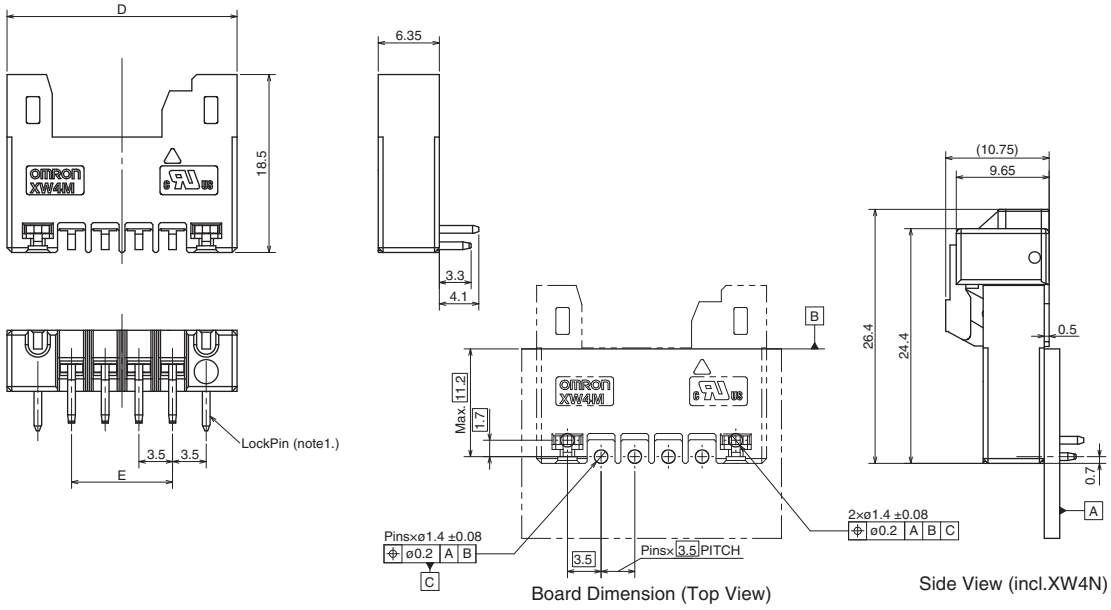
CAD Data






### XW4M-□□D1-H1D□ (right-angle terminals)






### Dimensions

| Number of contacts | Model (straight) | Model (right-angle) | D | E | Lock pins | Number of contacts | Model (straight) | Model (right-angle) | D | E | Lock pins |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | XW4M-02D1-V1D□ | XW4M-02D1-H1D□ | 16.9 | 3.5 | w/ | 11 | XW4M-11D1-V1D□ | XW4M-11D1-H1D□ | 48.4 | 35.0 | w/o |
| 3 | XW4M-03D1-V1D□ | XW4M-03D1-H1D□ | 20.4 | 7.0 | w/ | 12 | XW4M-12D1-V1D□ | XW4M-12D1-H1D□ | 51.9 | 38.5 | w/o |
| 4 | XW4M-04D1-V1D□ | XW4M-04D1-H1D□ | 23.9 | 10.5 | w/ | 13 | XW4M-13D1-V1D□ | XW4M-13D1-H1D□ | 55.4 | 42.0 | w/o |
| 5 | XW4M-05D1-V1D□ | XW4M-05D1-H1D□ | 27.4 | 14.0 | w/ | 14 | XW4M-14D1-V1D□ | XW4M-14D1-H1D□ | 58.9 | 45.5 | w/o |
| 6 | XW4M-06D1-V1D□ | XW4M-06D1-H1D□ | 30.9 | 17.5 | w/ | 15 | XW4M-15D1-V1D□ | XW4M-15D1-H1D□ | 62.4 | 49.0 | w/o |
| 7 | XW4M-07D1-V1D□ | XW4M-07D1-H1D□ | 34.4 | 21.0 | w/ | 16 | XW4M-16D1-V1D□ | XW4M-16D1-H1D□ | 65.9 | 52.5 | w/o |
| 8 | XW4M-08D1-V1D□ | XW4M-08D1-H1D□ | 37.9 | 24.5 | w/ | 17 | XW4M-17D1-V1D□ | XW4M-17D1-H1D□ | 69.4 | 56.0 | w/o |
| 9 | XW4M-09D1-V1D□ | XW4M-09D1-H1D□ | 41.4 | 28.0 | w/ | 18 | XW4M-18D1-V1D□ | XW4M-18D1-H1D□ | 72.9 | 59.5 | w/o |
| 10 | XW4M-10D1-V1D□ | XW4M-10D1-H1D□ | 44.9 | 31.5 | w/ | 20 | XW4M-20D1-V1D□ | XW4M-20D1-H1D□ | 79.9 | 66.5 | w/o |

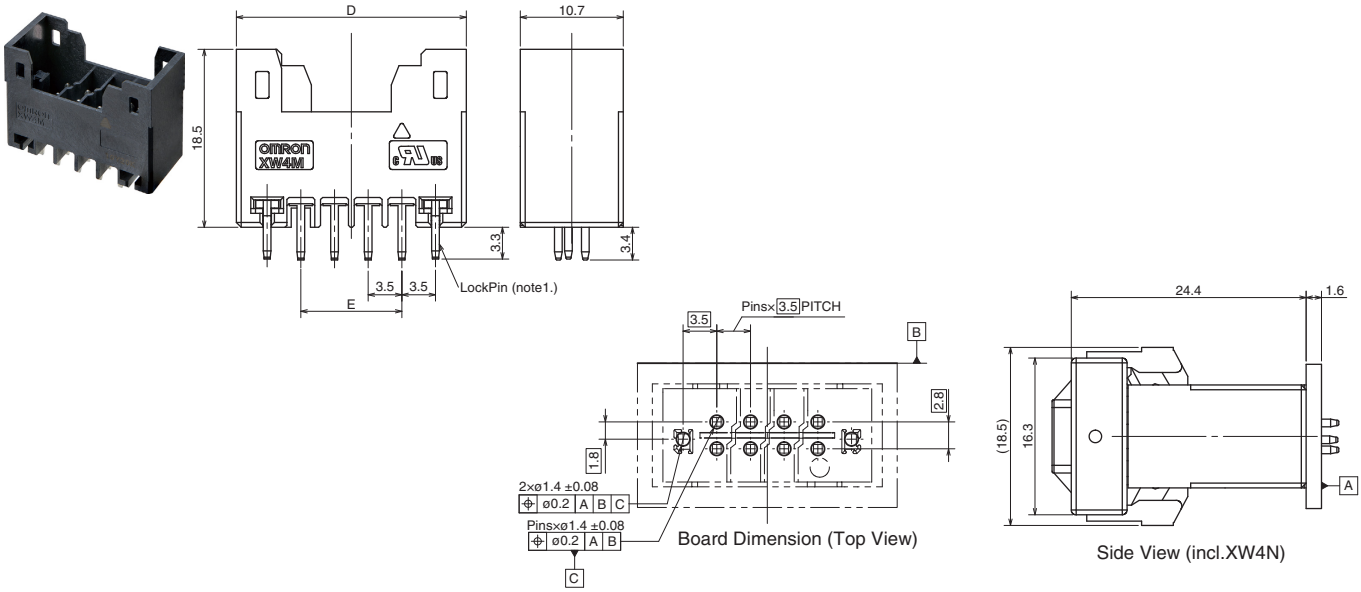
## Dimensions

CAD Data Please visit our CAD Data website, which is noted on the last page.

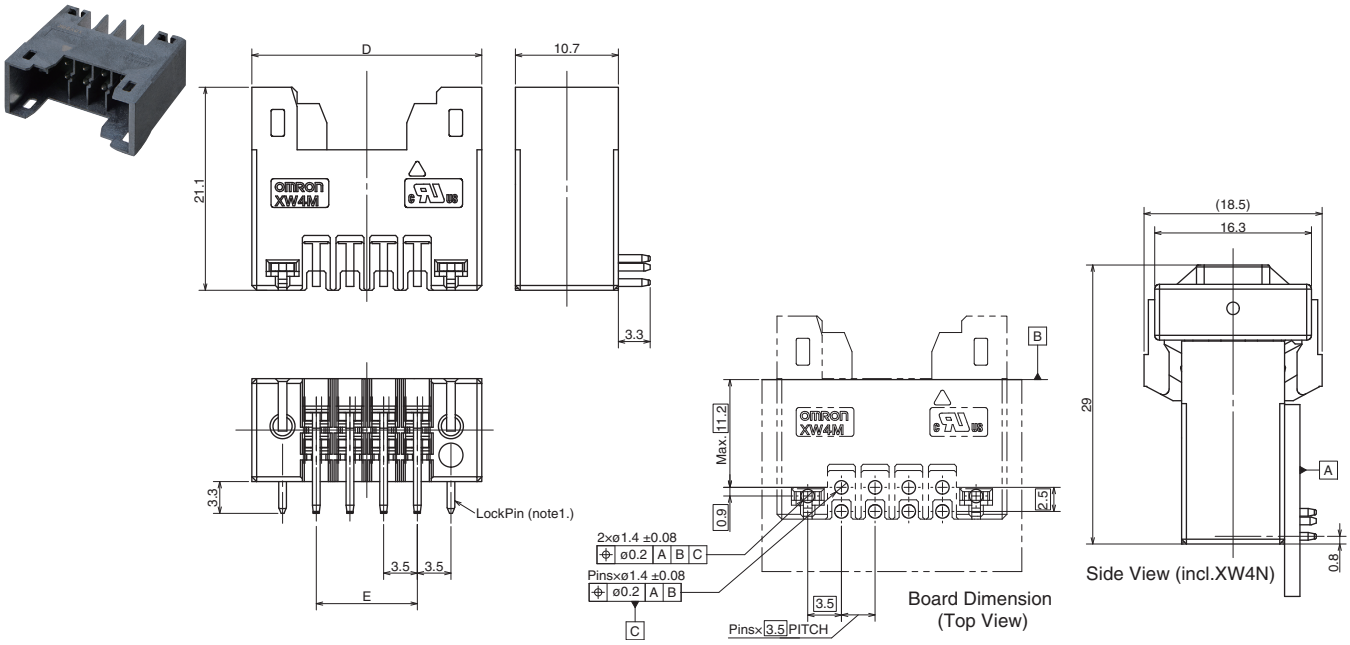
(Unit: mm)

### XW4M-□□D2-V1D□ (straight terminals)

CAD Data




### XW4M-□□D2-H1D□ (right-angle terminals)

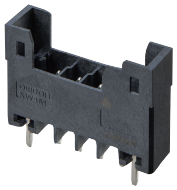



### Dimensions

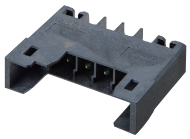
| Number of contacts | Model (straight) | Model (right-angle) | D | E | Lock pins | Number of contacts | Model (straight) | Model (right-angle) | D | E | Lock pins |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | XW4M-04D2-V1D□ | XW4M-04D2-H1D□ | 16.9 | 3.5 | w/ | 22 | XW4M-22D2-V1D□ | XW4M-22D2-H1D□ | 48.4 | 35.0 | w/o |
| 6 | XW4M-06D2-V1D□ | XW4M-06D2-H1D□ | 20.4 | 7.0 | w/ | 24 | XW4M-24D2-V1D□ | XW4M-24D2-H1D□ | 51.9 | 38.5 | w/o |
| 8 | XW4M-08D2-V1D□ | XW4M-08D2-H1D□ | 23.9 | 10.5 | w/ | 26 | XW4M-26D2-V1D□ | XW4M-26D2-H1D□ | 55.4 | 42.0 | w/o |
| 10 | XW4M-10D2-V1D□ | XW4M-10D2-H1D□ | 27.4 | 14.0 | w/ | 28 | XW4M-28D2-V1D□ | XW4M-28D2-H1D□ | 58.9 | 45.5 | w/o |
| 12 | XW4M-12D2-V1D□ | XW4M-12D2-H1D□ | 30.9 | 17.5 | w/o | 30 | XW4M-30D2-V1D□ | XW4M-30D2-H1D□ | 62.4 | 49.0 | w/o |
| 14 | XW4M-14D2-V1D□ | XW4M-14D2-H1D□ | 34.4 | 21.0 | w/o | 32 | XW4M-32D2-V1D□ | XW4M-32D2-H1D□ | 65.9 | 52.5 | w/o |
| 16 | XW4M-16D2-V1D□ | XW4M-16D2-H1D□ | 37.9 | 24.5 | w/o | 34 | XW4M-34D2-V1D□ | XW4M-34D2-H1D□ | 69.4 | 56.0 | w/o |
| 18 | XW4M-18D2-V1D□ | XW4M-18D2-H1D□ | 41.4 | 28.0 | w/o | 36 | XW4M-36D2-V1D□ | XW4M-36D2-H1D□ | 72.9 | 59.5 | w/o |
| 20 | XW4M-20D2-V1D□ | XW4M-20D2-H1D□ | 44.9 | 31.5 | w/o | 40 | XW4M-40D2-V1D□ | XW4M-40D2-H1D□ | 79.9 | 66.5 | w/o |

## Ordering Information

Plug, Single-Row, Straight Terminals

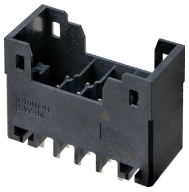


Plug, Single-Row, Right-Angle Terminals

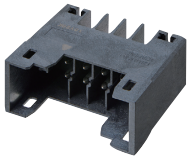


| Number of contacts | Plug, Single-Row, Straight | | Plug, Single-Row, Right-Angle | | Minimum Packaging Quantity (pcs) |
|---|---|---|---|---|---|
| | Tin Plating | Gold plating | Tin Plating | Gold plating | |
| 2 | XW4M-02D1-V1DS | XW4M-02D1-V1DA | XW4M-02D1-H1DS | XW4M-02D1-H1DA | 85 |
| 3 | XW4M-03D1-V1DS | - | XW4M-03D1-H1DS | - | 70 |
| 4 | XW4M-04D1-V1DS | XW4M-04D1-V1DA | XW4M-04D1-H1DS | XW4M-04D1-H1DA | 60 |
| 5 | XW4M-05D1-V1DS | - | XW4M-05D1-H1DS | - | 50 |
| 6 | XW4M-06D1-V1DS | XW4M-06D1-V1DA | XW4M-06D1-H1DS | XW4M-06D1-H1DA | 45 |
| 7 | XW4M-07D1-V1DS | - | XW4M-07D1-H1DS | - | 40 |
| 8 | XW4M-08D1-V1DS | XW4M-08D1-V1DA | XW4M-08D1-H1DS | XW4M-08D1-H1DA | 35 |
| 9 | XW4M-09D1-V1DS | - | XW4M-09D1-H1DS | - | 35 |
| 10 | XW4M-10D1-V1DS | XW4M-10D1-V1DA | XW4M-10D1-H1DS | XW4M-10D1-H1DA | 30 |
| 11 | XW4M-11D1-V1DS | - | XW4M-11D1-H1DS | - | 30 |
| 12 | XW4M-12D1-V1DS | XW4M-12D1-V1DA | XW4M-12D1-H1DS | XW4M-12D1-H1DA | 25 |
| 13 | XW4M-13D1-V1DS | - | XW4M-13D1-H1DS | - | 25 |
| 14 | XW4M-14D1-V1DS | XW4M-14D1-V1DA | XW4M-14D1-H1DS | XW4M-14D1-H1DA | 20 |
| 15 | XW4M-15D1-V1DS | - | XW4M-15D1-H1DS | - | 20 |
| 16 | XW4M-16D1-V1DS | XW4M-16D1-V1DA | XW4M-16D1-H1DS | XW4M-16D1-H1DA | 20 |
| 17 | XW4M-17D1-V1DS | - | XW4M-17D1-H1DS | - | 20 |
| 18 | XW4M-18D1-V1DS | XW4M-18D1-V1DA | XW4M-18D1-H1DS | XW4M-18D1-H1DA | 20 |
| 20 | XW4M-20D1-V1DS | XW4M-20D1-V1DA | XW4M-20D1-H1DS | XW4M-20D1-H1DA | 15 |

Plug, Double-Row, Straight Terminals



Plug, Double-Row, Right-Angle Terminals



| Number of contacts | Plug, Double-Row, Straight | | Plug, Double-Row, Right-Angle | | Minimum Packaging Quantity (pcs) |
|---|---|---|---|---|---|
| | Tin Plating | Gold Plating | Tin Plating | Gold Plating | |
| 4 | XW4M-04D2-V1DS | XW4M-04D2-V1DA | XW4M-04D2-H1DS | XW4M-04D2-H1DA | 85 |
| 6 | XW4M-06D2-V1DS | - | XW4M-06D2-H1DS | - | 70 |
| 8 | XW4M-08D2-V1DS | XW4M-08D2-V1DA | XW4M-08D2-H1DS | XW4M-08D2-H1DA | 60 |
| 10 | XW4M-10D2-V1DS | - | XW4M-10D2-H1DS | - | 50 |
| 12 | XW4M-12D2-V1DS | XW4M-12D2-V1DA | XW4M-12D2-H1DS | XW4M-12D2-H1DA | 45 |
| 14 | XW4M-14D2-V1DS | - | XW4M-14D2-H1DS | - | 40 |
| 16 | XW4M-16D2-V1DS | XW4M-16D2-V1DA | XW4M-16D2-H1DS | XW4M-16D2-H1DA | 35 |
| 18 | XW4M-18D2-V1DS | - | XW4M-18D2-H1DS | - | 35 |
| 20 | XW4M-20D2-V1DS | XW4M-20D2-V1DA | XW4M-20D2-H1DS | XW4M-20D2-H1DA | 30 |
| 22 | XW4M-22D2-V1DS | XW4M-22D2-V1DA | XW4M-22D2-H1DS | XW4M-22D2-H1DA | 30 |
| 24 | XW4M-24D2-V1DS | XW4M-24D2-V1DA | XW4M-24D2-H1DS | XW4M-24D2-H1DA | 25 |
| 26 | XW4M-26D2-V1DS | - | XW4M-26D2-H1DS | - | 25 |
| 28 | XW4M-28D2-V1DS | - | XW4M-28D2-H1DS | - | 20 |
| 30 | XW4M-30D2-V1DS | XW4M-30D2-V1DA | XW4M-30D2-H1DS | XW4M-30D2-H1DA | 20 |
| 32 | XW4M-32D2-V1DS | XW4M-32D2-V1DA | XW4M-32D2-H1DS | XW4M-32D2-H1DA | 20 |
| 34 | XW4M-34D2-V1DS | XW4M-34D2-V1DA | XW4M-34D2-H1DS | XW4M-34D2-H1DA | 20 |
| 36 | XW4M-36D2-V1DS | XW4M-36D2-V1DA | XW4M-36D2-H1DS | XW4M-36D2-H1DA | 20 |
| 40 | XW4M-40D2-V1DS | XW4M-40D2-V1DA | XW4M-40D2-H1DS | XW4M-40D2-H1DA | 15 |

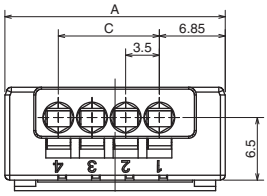
## Dimensions

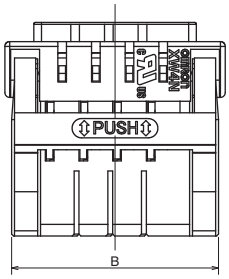
CAD Data Please visit our CAD Data website, which is noted on the last page.

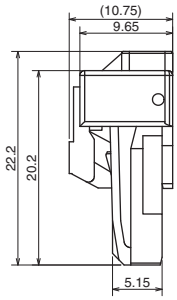
(Unit: mm)

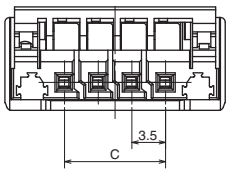
**XW4N-□□D1-□**

CAD Data




### Dimensions

| Number of contacts | Model | A | B | C |
|---|---|---|---|---|
| 2 | XW4N-02D1-□ | 15.9 | 14.5 | 3.5 |
| 3 | XW4N-03D1-□ | 19.4 | 18 | 7 |
| 4 | XW4N-04D1-□ | 22.9 | 21.5 | 10.5 |
| 5 | XW4N-05D1-□ | 26.4 | 25 | 14 |
| 6 | XW4N-06D1-□ | 29.9 | 28.5 | 17.5 |
| 7 | XW4N-07D1-□ | 33.4 | 32 | 21 |
| 8 | XW4N-08D1-□ | 36.9 | 35.5 | 24.5 |
| 9 | XW4N-09D1-□ | 40.4 | 39 | 28 |
| 10 | XW4N-10D1-□ | 43.9 | 42.5 | 31.5 |
| 11 | XW4N-11D1-□ | 47.4 | 46 | 35 |
| 12 | XW4N-12D1-□ | 50.9 | 49.5 | 38.5 |
| 13 | XW4N-13D1-□ | 54.4 | 53 | 42 |
| 14 | XW4N-14D1-□ | 57.9 | 56.5 | 45.5 |
| 15 | XW4N-15D1-□ | 61.4 | 60 | 49 |
| 16 | XW4N-16D1-□ | 64.9 | 63.5 | 52.5 |
| 17 | XW4N-17D1-□ | 68.4 | 67 | 56 |
| 18 | XW4N-18D1-□ | 71.9 | 70.5 | 59.5 |
| 20 | XW4N-20D1-□ | 78.9 | 77.5 | 66.5 |

# XW4N

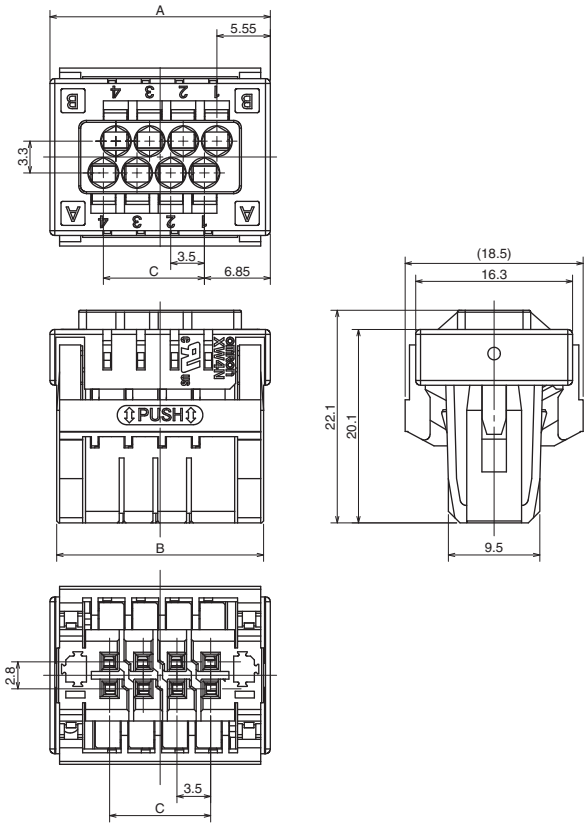
## Dimensions

CAD Data Please visit our CAD Data website, which is noted on the last page.

(Unit: mm)

### XW4N-□□D2-□

CAD Data




### Dimensions

| Number of contacts | Model | A | B | C |
|---|---|---|---|---|
| 4 | XW4N-04D2-□ | 15.9 | 14.5 | 3.5 |
| 6 | XW4N-06D2-□ | 19.4 | 18 | 7 |
| 8 | XW4N-08D2-□ | 22.9 | 21.5 | 10.5 |
| 10 | XW4N-10D2-□ | 26.4 | 25 | 14 |
| 12 | XW4N-12D2-□ | 29.9 | 28.5 | 17.5 |
| 14 | XW4N-14D2-□ | 33.4 | 32 | 21 |
| 16 | XW4N-16D2-□ | 36.9 | 35.5 | 24.5 |
| 18 | XW4N-18D2-□ | 40.4 | 39 | 28 |
| 20 | XW4N-20D2-□ | 43.9 | 42.5 | 31.5 |
| 22 | XW4N-22D2-□ | 47.4 | 46 | 35 |
| 24 | XW4N-24D2-□ | 50.9 | 49.5 | 38.5 |
| 26 | XW4N-26D2-□ | 54.4 | 53 | 42 |
| 28 | XW4N-28D2-□ | 57.9 | 56.5 | 45.5 |
| 30 | XW4N-30D2-□ | 61.4 | 60 | 49 |
| 32 | XW4N-32D2-□ | 64.9 | 63.5 | 52.5 |
| 34 | XW4N-34D2-□ | 68.4 | 67 | 56 |
| 36 | XW4N-36D2-□ | 71.9 | 70.5 | 59.5 |
| 40 | XW4N-40D2-□ | 78.9 | 77.5 | 66.5 |

## Ordering Information

Socket, Single-Row

| Number of contacts | Tin Plating | Gold Plating | Minimum Packaging Quantity (pcs) |
|---|---|---|---|
| 2 | XW4N-02D1-S | XW4N-02D1-A | 190 |
| 3 | XW4N-03D1-S | - | 160 |
| 4 | XW4N-04D1-S | XW4N-04D1-A | 130 |
| 5 | XW4N-05D1-S | - | 110 |
| 6 | XW4N-06D1-S | XW4N-06D1-A | 100 |
| 7 | XW4N-07D1-S | - | 90 |
| 8 | XW4N-08D1-S | XW4N-08D1-A | 80 |
| 9 | XW4N-09D1-S | - | 70 |
| 10 | XW4N-10D1-S | XW4N-10D1-A | 70 |
| 11 | XW4N-11D1-S | - | 60 |
| 12 | XW4N-12D1-S | XW4N-12D1-A | 60 |
| 13 | XW4N-13D1-S | - | 50 |
| 14 | XW4N-14D1-S | XW4N-14D1-A | 50 |
| 15 | XW4N-15D1-S | - | 50 |
| 16 | XW4N-16D1-S | XW4N-16D1-A | 40 |
| 17 | XW4N-17D1-S | - | 40 |
| 18 | XW4N-18D1-S | XW4N-18D1-A | 40 |
| 20 | XW4N-20D1-S | XW4N-20D1-A | 30 |

Socket, Double-Row

| Number of contacts | Tin Plating | Gold Plating | Minimum Packaging Quantity (pcs) |
|---|---|---|---|
| 4 | XW4N-04D2-S | XW4N-04D2-A | 133 |
| 6 | XW4N-06D2-S | - | 105 |
| 8 | XW4N-08D2-S | XW4N-08D2-A | 91 |
| 10 | XW4N-10D2-S | - | 77 |
| 12 | XW4N-12D2-S | XW4N-12D2-A | 70 |
| 14 | XW4N-14D2-S | - | 63 |
| 16 | XW4N-16D2-S | XW4N-16D2-A | 56 |
| 18 | XW4N-18D2-S | - | 49 |
| 20 | XW4N-20D2-S | XW4N-20D2-A | 42 |
| 22 | XW4N-22D2-S | XW4N-22D2-A | 42 |
| 24 | XW4N-24D2-S | XW4N-24D2-A | 35 |
| 26 | XW4N-26D2-S | - | 35 |
| 28 | XW4N-28D2-S | - | 35 |
| 30 | XW4N-30D2-S | XW4N-30D2-A | 28 |
| 32 | XW4N-32D2-S | XW4N-32D2-A | 28 |
| 34 | XW4N-34D2-S | XW4N-34D2-A | 28 |
| 36 | XW4N-36D2-S | XW4N-36D2-A | 28 |
| 40 | XW4N-40D2-S | XW4N-40D2-A | 21 |

## Accessories

### ● Screwdriver

| Appearance | Model | Description of Application |
|---|---|---|
|  | **XW4Z-00B** | Screwdriver for XW4N only. |

### ● Coding key

| Appearance | Model | Description of Application |
|---|---|---|
|  | **XW4Z-C001** | A coding key that prevents erroneous insertion. |

**Coding procedure**

Use the following procedure to do the coding.

(1) Snap off the coding key from the rectangular protection holder. (fig. 1)

(2) Align the OMRON logo on the coding key with insertion hole as fig.2 and insert the coding key straight into insertion hole of the connector until the end.

(3) Tilt the holding part and snap off the tip of coding key. (fig.3)

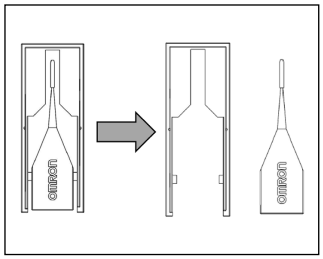


fig.1

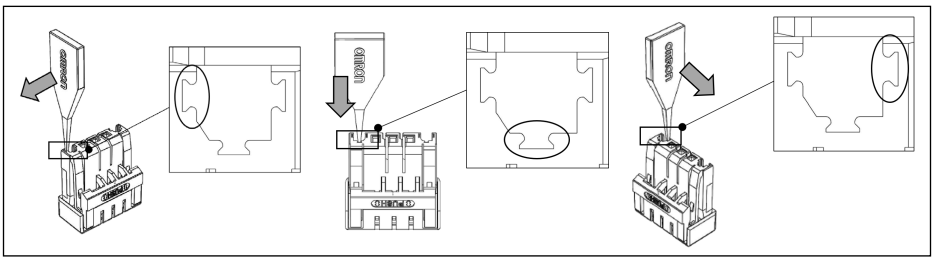


fig.2

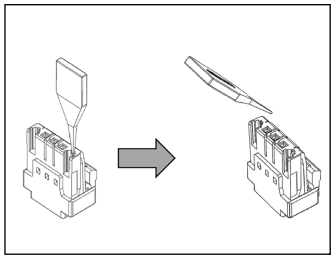


fig.3

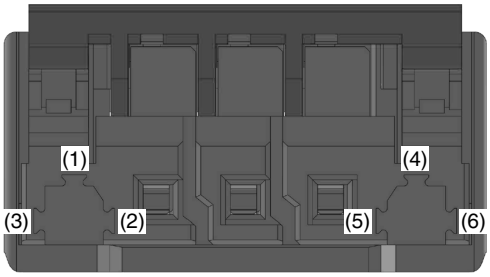
* If the coding position is wrong or the coding key falls during the process, please extract the coding key with tweezers and retry the coding.

## Accessories

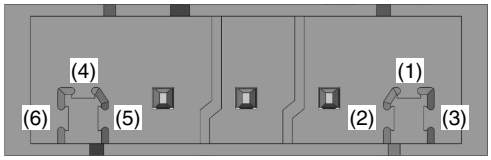
### Coding pattern

| Connector | XW4N | | | | | | XW4M | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Insertion spot/ Coding pattern | (1) | (2) | (3) | (4) | (5) | (6) | (1) | (2) | (3) | (4) | (5) | (6) |
| 1 | ❍ | ❍ | ❍ | | | | | | | ❍ | ❍ | ❍ |
| 2 | ❍ | ❍ | | ❍ | | | | | ❍ | | ❍ | ❍ |
| 3 | ❍ | ❍ | | | ❍ | | | | ❍ | ❍ | | ❍ |
| 4 | ❍ | ❍ | | | | ❍ | | | ❍ | ❍ | ❍ | |
| 5 | ❍ | | ❍ | ❍ | | | | ❍ | | | ❍ | ❍ |
| 6 | ❍ | | ❍ | | ❍ | | | ❍ | | ❍ | | ❍ |
| 7 | ❍ | | ❍ | | | ❍ | | ❍ | | ❍ | ❍ | |
| 8 | ❍ | | | ❍ | ❍ | | | ❍ | ❍ | | | ❍ |
| 9 | ❍ | | | ❍ | | ❍ | | ❍ | ❍ | | ❍ | |
| 10 | ❍ | | | | ❍ | ❍ | | ❍ | ❍ | ❍ | | |
| 11 | | ❍ | ❍ | ❍ | | | ❍ | | | | ❍ | ❍ |
| 12 | | ❍ | ❍ | | ❍ | | ❍ | | | ❍ | | ❍ |
| 13 | | ❍ | ❍ | | | ❍ | ❍ | | | ❍ | ❍ | |
| 14 | | ❍ | | ❍ | ❍ | | ❍ | | ❍ | | | ❍ |
| 15 | | ❍ | | ❍ | | ❍ | ❍ | | ❍ | | ❍ | |
| 16 | | ❍ | | | ❍ | ❍ | ❍ | | ❍ | ❍ | | |
| 17 | | | ❍ | ❍ | ❍ | | ❍ | ❍ | | | | ❍ |
| 18 | | | ❍ | ❍ | | ❍ | ❍ | ❍ | | | ❍ | |
| 19 | | | ❍ | | ❍ | ❍ | ❍ | ❍ | | ❍ | | |
| 20 | | | | ❍ | ❍ | ❍ | ❍ | ❍ | ❍ | | | |

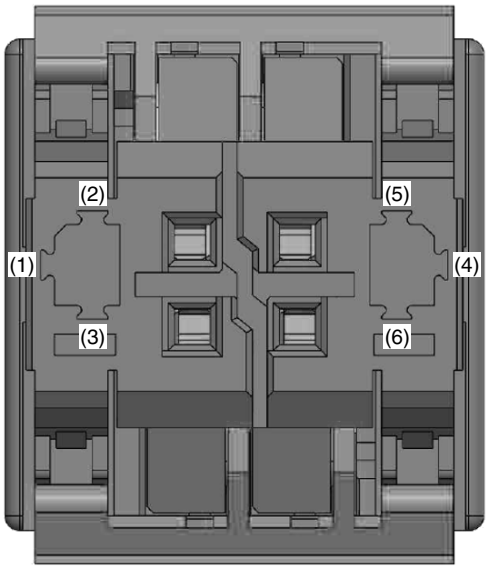
**XW4N (Socket, Single-Row Type)**



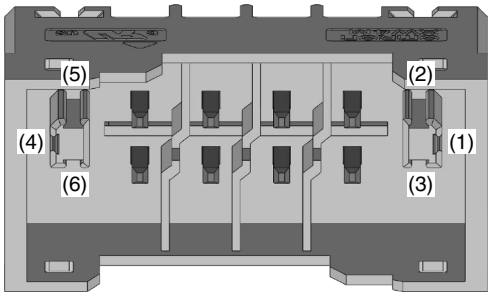

**XW4M (Plug, Single-Row Type)**




**XW4N (Socket, Double-Row Type)**




**XW4M (Plug, Double-Row Type)**



## Precautions

**Definition of Warning and Caution**

| | |
|---|---|
| **Precautions for Safe Use** | Indicates the items to be implemented or avoided to ensure a safe use of the product. |
| **Precautions for Correct Use** | Indicates the items to be implemented or avoided to prevent failure to operate and malfunctions, and to prevent adversely affecting the performance and function of the product. |

### Precautions for Safe Use

- Observe the ratings, specifications and storage conditions.
- Do not drop the product. Doing so may result in the product's failure to fully demonstrate its functions.
- Do not damage the cores when stripping.
- Do not use in areas subject to high temperatures, high humidity, or toxic gases such as sulfuric gas ($H_2S$, $SO_2$), ammonia gas ($NH_3$), nitric gas ($HNO_3$), or chlorine gas ($Cl_2$). Otherwise, it can cause corrosive damage to the contacts and result in malfunction.
- Do not use the product in oil or water, or in an environment always subjected to splashes of water or oil. Doing so can cause malfunction due to ingression of water or oil.
- Do not use or store the product in the following environment.
  - Places subject to intense temperature change
  - Places subject to high humidity, condensation
  - Places subject to intense vibration
  - Places subject to direct sunlight
  - Places subject to sea breeze
- Do not perform wiring to the release hole.
- Do not tilt or twist the flat-blade screwdriver while it is still inserted into the release hole. Doing so may result in damage to the terminal block.
- Make sure not to drop the flat-blade screwdriver inserted into the release hole.
- Do not forcibly bend or stretch the wire. Doing so may result in wire breakage. In addition, do not apply excessive force to the connector. Doing so will result in poor contact due to damage or deformation.
- Do not insert more than one wire into one terminal (insertion) hole.
- To prevent wiring materials from smoking or ignition, confirm wire ratings.
- Do not touch the product with wet hands.

● **Coding Key**

- Do not drop the coding key or touch the tip of key. The tip of key may be damaged.
- When snapping off the tip of the key, do not collide the holding part with the connector. The connector may be damaged.
- When doing the coding, please check the coding pattern carefully. If the coding pattern is wrong it can prevent correct mating of the connectors.
- The coding key is exclusively for the XW4M/XW4N. Do not use it for other connectors.

### Precautions for Correct Use

- When wiring, please see that no stress will be applied to the product and wires. Secure the wires so that they will not vibrate with the equipment, etc. at set state.
- Do not perform wiring with power turned on.

● **Connecting Wires with Ferrules and Solid Wires**

Insert the solid wire or ferrule straight into the terminal block until the end strikes the terminal block. If a wire is difficult to connect because it is too thin, use a flat-blade screwdriver in the same way as when connecting stranded wire.

● **Connecting Stranded Wires**

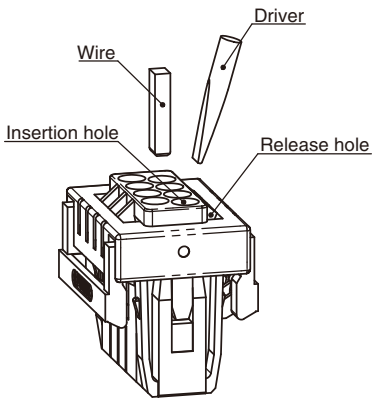
Use the following procedure to connect the wires to the terminal block.

(1) Hold a flat-blade screwdriver at an angle and insert it into the release hole. The angle should be between 10° and 15°. If the flat-blade screwdriver is inserted correctly, you will feel the spring in the release hole.
(2) With the flat-blade screwdriver still inserted into the release hole, insert the wire straight into the terminal block until the end strikes the terminal block. At that time, insert the wire at stranded state so that the elements will not be scattered.
(3) Remove the flat-blade screwdriver from the release hole.

● **Removing Wires**

Use the following procedure to remove wires from the terminal block. The same method is used to remove stranded wires, solid wires, and ferrules.

(1) Hold a flat-blade screwdriver at an angle and insert it into the release hole.
(2) With the flat-blade screwdriver still inserted into the release hole, remove the wire from the insertion hole.
(3) Remove the flat-blade screwdriver from the release hole.



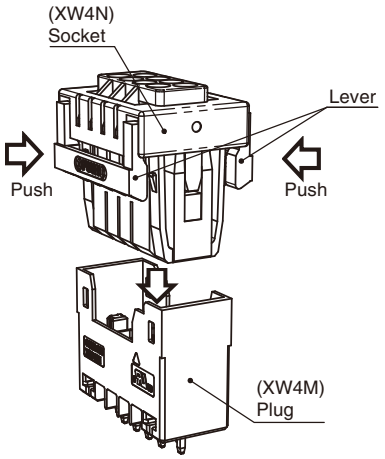
## Precautions

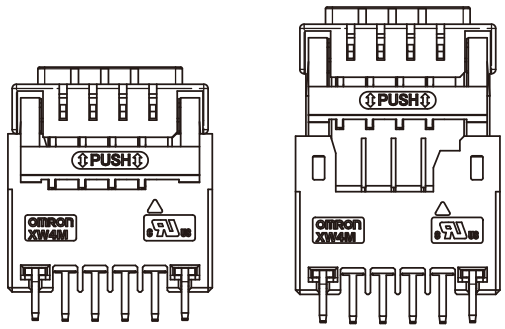
### Precautions for Correct Use

- PA is used in XW4N housing materials, and the insertion & removal force and the insertion feeling will change depending on the water absorption state.
  Excessive water absorption may result in slight interference with mating components during insertion, but it will not affect the performance and functionality of the product.

● **Inserting and Removing Connectors**

- Inserting Connectors
  Insert the connector straight into the plug while pushing the central part of the socket lever. In case of reversed insertion, the connector cannot be inserted to the end.
- Removing Connectors
  Pull off the socket straight from the plug while pushing the central part of the socket lever. Do not pull off by twisting, otherwise damage may result.




OK

Reversed insertion state (NG)

● **Coding Key**

- Please insert the coding key in the right direction until the end of the coding key has been reached.
- Do not use the products in locations subject to high temperature or humidity.
- Do not insert the connector with strong force if mating of the connector is prevented. The connector or coding key may be damaged.

● **Storage**

Pay attention to the following during extended storage.

(1) Do not store in locations subject to dust or high humidity.

(2) Do not store in locations close to sources of gases such ammonia or sulfide gas.

● **Applicable wire ranges**

| Wire Type | Ratings | Conductor Length |
|---|---|---|
| Solid wire | AWG24 to 16<br>Cross section:<br>0.2 to 1.5mm$^2$ | 9.5mm MIN |
| Stranded wire | AWG24 to 16<br>Cross section:<br>0.2 to 1.5mm$^2$ | 9.5mm MIN |
| Ferrule terminal<br>With plastic sleeve | Cross section:<br>0.25mm$^2$<br>0.34mm$^2$<br>0.5mm$^2$<br>0.75mm$^2$ | 8mm<br>8 to 10mm<br>8 to 10mm<br>10mm |
| Ferrule terminal<br>Without plastic sleeve | Cross section:<br>0.25mm$^2$<br>0.34mm$^2$<br>0.5mm$^2$<br>0.75mm$^2$<br>1.0mm$^2$<br>1.5mm$^2$ | 7mm<br>7mm<br>8 to 10mm<br>8 to 10mm<br>8 to 10mm<br>10mm |

● **Recommended Ferrule Terminals**

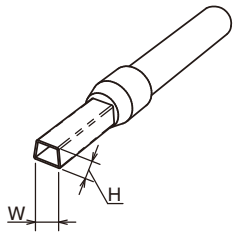
- With plastic sleeve

| | | Manufacturer | | |
|---|---|---|---|---|
| | | Phoenix Contact | Weidmuller | Wago |
| Cross section | 0.25mm$^2$ | AI 0.25-8 | H0.25/12 | FE-0.25-8N-YE |
| | 0.34mm$^2$ | AI 0.34-8<br>AI 0.34-10 | H0.35/12 | FE-0.3-8N-TQ |
| | 0.5mm$^2$ | AI 0.5-8<br>AI 0.5-10 | H0.5/14D | FE-0.5-8N-WH |
| | | | H0.5/16D | FE-0.5-10N-WH |
| | 0.75mm$^2$ | AI 0.75-10 | H0.75/16D | FE-0.75-10N-GY |
| Crimping tool | | CRIMPFOX 6 | PZ 6 ROTO | Vario crimp4*1 |

- Without plastic sleeve

| | | Manufacturer | | |
|---|---|---|---|---|
| | | Phoenix Contact | Weidmuller | Wago |
| Cross section | 0.25mm$^2$ | A 0.25-7 | | |
| | 0.34mm$^2$ | A 0.34-7 | | |
| | 0.5mm$^2$ | A 0.5-8<br>A 0.5-10 | H0.5/14 | |
| | 0.75mm$^2$ | A 0.75-8<br>A 0.75-10 | H0.75/10 | |
| | 1.0mm$^2$ | A 1-8<br>A 1-10 | H1.0/10 | FE-1.0-10 |
| | 1.5mm$^2$ | A 1.5-10 | H1.5/10 | |
| Crimping tool | | CRIMPFOX 6 | PZ 6 ROTO | Vario crimp4*1 |

*1. The crimping tool can only be used for 0.25 to 1.0mm$^2$ ferrule terminals.
*2. The crimping height (H) of ferrule terminals is 1.5mm or less.
In addition, the width (H) of ferrule terminals is 2.5mm or less.
However, it is limited to crimping shapes obtained using applicable crimping tools.



## Precautions

● **Recommended Flat-Blade Screwdrivers**

Use a flat-blade screwdriver to connect and remove wires.
Use the following flat-blade screwdrivers.
The following table shows manufacturers and models as of December 2020.

| Model | Manufacturer |
|---|---|
| ESD 0.40 × 2.5 | WERA |
| SZS 0.4 × 2.5 | PHOENIX CONTACT |
| SZF 0-0.4 × 2.5* | |
| 0.4 × 2.5 × 75 302 | WIHA |
| AEF.2.5 × 75 | FACOM |
| 210-719 | WAGO |
| SDI 0.4 × 2.5 × 75 | WEIDMULLER |
| 9900 (-2.5-75) | VESSEL |

* SZF 0-0.4×2.5 (Phoenix Contact)
can be arranged from OMRON's special model (XW4Z-00B).

● **Recommended Reflow Conditions**

Peak temperature: 250°C
220°C or above 45 to 90 seconds
Preheating: 150°C to 180°C
60 to 120 seconds

The solderability is not guaranteed, as above conditions may change depending on type and amount of solder, and type of flux.

Please check each region's Terms & Conditions by region website.


## OMRON Corporation
**Electronic and Mechanical Components Company**

### Regional Contact

**Americas**
https://www.components.omron.com/

**Asia-Pacific**
https://ecb.omron.com.sg/

**Korea**
https://www.omron-ecb.co.kr/

**Europe**
http://components.omron.eu/

**China**
https://www.ecb.omron.com.cn/

**Japan**
https://www.omron.co.jp/ecb/





**Cat. No. G148-E1-04**
1221(1220)