D-sub Connector Assembly Hood with ESD Protection

XM2S-E

Connector Hood with ESD Protection Simplifies Circuit Design

- Non-conductive surface protects against ESD (static electricity).
- Internal grounding provides EMI protection.
- Screwdrivers eliminated by overmold jackscrews.

RoHS Compliant

Structural Diagram (Assembled)

Performance, Materials, and Finishes

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient operating temperature</td>
<td>−25 to 85°C (with no condensation or icing)</td>
</tr>
<tr>
<td>Cover</td>
<td>ABS (UL94 V-0)/black</td>
</tr>
<tr>
<td>Grounding plate</td>
<td>Phosphor bronze/nickel plating</td>
</tr>
<tr>
<td>Jackscrew</td>
<td>ABS (UL94 V-0)/black</td>
</tr>
</tbody>
</table>

Dimensions

<table>
<thead>
<tr>
<th>XM2S-0911-E</th>
<th>D-sub Connector Assembly Hood with ESD Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. applicable cable diameter: 9 dia.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimension (unit: mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
</tr>
<tr>
<td>13</td>
</tr>
<tr>
<td>11</td>
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<tr>
<td>40.8</td>
</tr>
<tr>
<td>18.2</td>
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<tr>
<td>24.99</td>
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<tr>
<td>32.2</td>
</tr>
</tbody>
</table>
■ Ordering Information

<table>
<thead>
<tr>
<th>Type</th>
<th>Appearance</th>
<th>No. of contacts</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-sub Connector Assembly Hood with ESD protection</td>
<td><img src="image.png" alt="Image" /></td>
<td>9</td>
<td>XM2S-0911-E</td>
</tr>
</tbody>
</table>

■ Precautions

Correct Use

- Use a torque of 0.25 N·m to secure the cable clamp to the Hood.
- When you tighten the jack screws, hold the hood and make sure that the Connector is connected straight. If the screws are tightened when the Connector is not connected completely, the Connector may be damaged.
- Always use your fingers to tighten the jack screws. If you use pliers or any other tool to tighten the jack screws, the screws may be damaged.
Accessories (Sold Separately)

Dust Covers For XM3B/D/F Sockets
With retaining ring
XM2T-0901 (9 contacts)
XM2T-1501 (15 contacts)
XM2T-2501 (25 contacts)
XM2T-3701 (37 contacts)

Dust Covers For XM3B/D/F Sockets
Without retaining ring
XM2T-0901-0 (9 contacts)
XM2T-1501-0 (15 contacts)
XM2T-2501-0 (25 contacts)
XM2T-3701-0 (37 contacts)

Dust Cover holding ring
0.9 dia.

Dimensions

<table>
<thead>
<tr>
<th>No. of contacts</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>9</td>
<td>17.7</td>
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<tr>
<td>15</td>
<td>26.1</td>
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<tr>
<td>25</td>
<td>39.8</td>
</tr>
<tr>
<td>37</td>
<td>56.2</td>
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</tbody>
</table>

Ratings and Specifications

<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>−25 to 85°C (with no condensation or icing)</th>
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</thead>
<tbody>
<tr>
<td>Material</td>
<td>PA</td>
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</tbody>
</table>

Model

XM2T-0901
XM2T-1501
XM2T-2501
XM2T-3701

Dimensions

<table>
<thead>
<tr>
<th>No. of contacts</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>9</td>
<td>17.7</td>
</tr>
<tr>
<td>15</td>
<td>26.1</td>
</tr>
<tr>
<td>25</td>
<td>39.8</td>
</tr>
<tr>
<td>37</td>
<td>56.2</td>
</tr>
</tbody>
</table>

Model

XM2T-0901-0
XM2T-1501-0
XM2T-2701-0
XM2T-3701-0

D-sub Connectors XM2/XM3
**Anchor 1 (Rectangular)**
XM2Z-0001
(M2.6 × 0.45 metric screws)
XM2Z-0002
(M3.0 × 0.5 metric screws)
XM2Z-0003
(#4-40 UNC inch screws)

**Anchor 2 (Hexagonal)**
XM2Z-0011
(M2.6 × 0.45 metric screws)
XM2Z-0012
(M3.0 × 0.5 metric screws)
XM2Z-0013
(#4-40 UNC inch screws)

**Anchor 3 (Hexagonal)**
XM2Z-0021
(M2.6 × 0.45 metric screws)
XM2Z-0022
(M3.0 × 0.5 metric screws)
XM2Z-0023
(#4-40 UNC inch screws)

**Materials and Finish**
Zinc die-cast/nickel plated
Iron/nickel plated

**Part A**
Female screw (Mates with lock screw and mounting screw)
M2.6 × 0.45
M3 × 0.5
#4-40 UNC

**Model**
<table>
<thead>
<tr>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>XM2Z-0001</td>
</tr>
<tr>
<td>XM2Z-0002</td>
</tr>
<tr>
<td>XM2Z-0003</td>
</tr>
</tbody>
</table>

**Model**
XM2Z-0011
XM2Z-0012
XM2Z-0013

**Model**
XM2Z-0021
XM2Z-0022
XM2Z-0023

**Note:** Anchor 3 is used for panel mounting Connectors. Applicable panel thickness is 0.6 to 1.3 mm.

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**Note:**
1. 2 anchors are necessary per connector.
2. Attachment to the XM3K/L is not possible.

**Note:** If you use a Dust Cover with a holding ring, secure the holding ring at part A.
Accessories (Sold Separately)

Grounding Fixtures for XM3B
Tap Hole Grounding Fixtures
XM2Z-0061
(With fixed-side tap holes)

Lock Pin Grounding Fixtures (for XM3B)
XM2Z-0062
(With fixed-side tap holes)
XM2Z-0064
(With fixed-side through holes)

Material and Finish
Steel/nickel plated
Copper alloy/nickel plated

Applicable through-hole diameter: 3.2 dia.

Fixed side tap hole
(M3 × 0.5) or through hole
(4.0 dia.)

Fixed side tap hole
(M3 × 0.5) or through hole
(3.5 dia.)

Anchors and Grounding Fixtures

Anchor 2 and 3

Anchor 2 or 3
Connector
Grounding Fixture
(With fixed-side tap holes)

Model
XM2Z-0061
XM2Z-0062
XM2Z-0064

Anchors and Grounding Fixtures

Anchor 1

Anchor 1
Connector
Grounding Fixture
(With fixed-side tap holes)

Note: Use Grounding Fixtures
XM2Z-0061 or XM2Z-0062.

Note: 1. Use a 6-mm screw that mates with the male screw on Anchor 1.
2. Use Grounding Fixtures XM2Z-0064.

Without Anchor

Commercial screws (M3)
Connector
Commercial hexagonal nut (M3)

Note: Always use a screw without an Anchor. A Grounding Fixture (fixed-side tap) can be used in place of the hexagonal nut.

Note: 1. Anchor 2 and the following Grounding Fixtures are available: XM3B-22-11 and XM3B-22-112.
   Contact your OMRON representative for other anchor and grounding fixture specifications.

2. 2 anchors are necessary per connector.
Combination Examples

Relaying Example

Anchor 1

Hood

Plug

Sockets

Anchor

Panel-mounting Sockets

Panel Dimensions

Applicable anchors

Anchor 2

Anchor 1

Anchor 3 or M3 screws

Not secured to the panel

Secured to the panel

<table>
<thead>
<tr>
<th>No. of contacts</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>31.0</td>
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<tr>
<td>15</td>
<td>39.4</td>
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<tr>
<td>25</td>
<td>53.3</td>
</tr>
<tr>
<td>37</td>
<td>69.6</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of contacts</th>
<th>A (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>34.1</td>
</tr>
<tr>
<td>15</td>
<td>42.4</td>
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<tr>
<td>25</td>
<td>56.1</td>
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<tr>
<td>37</td>
<td>72.6</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of contacts</th>
<th>A (mm)</th>
<th>B (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>24.99</td>
<td>20.5</td>
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<tr>
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<td>47.04</td>
<td>42.5</td>
</tr>
<tr>
<td>37</td>
<td>63.50</td>
<td>59.1</td>
</tr>
</tbody>
</table>

Note: 1. Two Anchors are required per Connector.
2. Applicable panel thickness is 1.3 mm max.
## Combination of hexagonal anchors for each connector (in post installation)

<table>
<thead>
<tr>
<th>Type</th>
<th>Model</th>
<th>Without panel insertion</th>
<th>With panel insertion</th>
<th>Commercially available nut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dip L type socket</td>
<td>XM3B-22</td>
<td>XM2Z-001</td>
<td>XM2Z-002</td>
<td>Necessary</td>
</tr>
<tr>
<td></td>
<td>XM3B-22-501</td>
<td></td>
<td></td>
<td>Not necessary</td>
</tr>
<tr>
<td></td>
<td>XM3B-22-502</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dip L type plug</td>
<td>XM3C-22</td>
<td>XM2Z-001</td>
<td>XM2Z-002</td>
<td>Necessary</td>
</tr>
<tr>
<td></td>
<td>XM3C-22-501</td>
<td></td>
<td></td>
<td>Not necessary</td>
</tr>
<tr>
<td></td>
<td>XM3C-22-502</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dip straight socket</td>
<td>XM3F-20</td>
<td>XM2Z-001</td>
<td>XM2Z-002</td>
<td>Necessary</td>
</tr>
</tbody>
</table>
Precautions

Correct Use

Grounding
To ground, create copper foil around the Connector Attachment hole on the board, assemble the Connector and Grounding Fixtures, and dip in solder as shown below.

Tap Hole Grounding Fixtures
Insert the Connector into the PCB, tighten the screws, and then dip-solder the Connector terminals to the board.

Lock Pin Grounding Fixtures
Insert the connector into the PCB and then simultaneously dip-solder the Connector terminals and lock pin to the board.

Attaching the Dust Cover
• To attach the cord to the Connector, use Anchor 1 and secure it as shown below.

To attach the cord to a panel, drill an M3 hole in the panel and secure the cord to it with an M3 screw. If the cord is not required, cut it off. Use commercially available M3 screw.

Tightening Clamp Screws
Use the following torques when tightening cable clamp to hoods.

Terminal Screw Tightening Torque (N·m)

<table>
<thead>
<tr>
<th>No. of contacts</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td>15</td>
<td>35</td>
</tr>
<tr>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>37</td>
<td>45</td>
</tr>
</tbody>
</table>

Mating
Do not connect the Connectors in the wrong direction, otherwise it may be damaged.

Shielded Cable Preparation
Refer to the following diagram when soldering shielded cable to the Connector when using a Hood.

1. Fold the unravelled braided shield back over the cable bushing.
2. Wrap tape around the folded shield.

Shield Effects
• When connecting the braided cable shield to a Connector Hood, use the cable clamp to clamp all the braids at once through the shielded tape.
• Mate the lock screw washer and spring washer outside the Connector when assembling the Hood.
• Keep the shell flange of the Connector as far away from the metal panel as possible to maximize the shield effect with a Connector mounted to the panel.
• The ground wire for the Connector will fall into the shell (external metal covering) with Solder-cup Terminals, so connect the ground wire to the panel or to ground on the board.

XM3A/XM3D Connector Insertion and Removal
• Grasp the Connector or the Hood Cover when inserting and removing the Connector. Never try to remove the Connector by pulling the cable.

Soldering
Automated Soldering Conditions (Jet Flow) (XM3B, XM3C, and XM3F)
1. Soldering temperature: 250 ±5°C
2. Continuous soldering time: Within 5±1 s
Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.

Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.