Rail Kit Installation
TMLPMOUNT51 – TMLPMOUNT52
Doc. Rev. 1.0
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Revision History

<table>
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<tr>
<td>1.0</td>
<td>Initial issue</td>
<td>2018-04-20</td>
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Symbols

The following symbols may be used in this manual

⚠️ **DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠️ **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠️ **CAUTION** indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠️ **NOTICE** indicates a property damage message.

Electric Shock!
This symbol and title warn of hazards due to electrical shocks (> 60 V) when touching products or parts of them. Failure to observe the precautions indicated and/or prescribed by the law may endanger life/health and/or result in damage to material. Please also refer to the “High-Voltage Safety Instructions” portion below in this section.

ESD-Sensitive Device!
This symbol and title inform that the electronic boards and their components are sensitive to static electricity. Care must therefore be taken during all handling operations and inspections of this product in order to ensure product integrity at all times.

🔥 **HOT Surface**!
Do NOT touch! Allow to cool before servicing.

ℹ️ This symbol indicates general information about the product and the user manual.
This symbol also indicates detailed information about the specific product configuration.

💡 This symbol precedes helpful hints and tips for daily use.
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1/ Product Description

ESD-Sensitive Device!
Carrier Grade Servers and Modular Server platforms are sensitive to electrostatic discharge (ESD). Users must take the appropriate precautions when handling ESD-sensitive devices.

This manual describes how to build and install rail kits. The process steps are as follows:

1.1. Rail Kit Selection

- The TMLPMOUNT51 and TMLPMOUNT52 rack mount kits can be installed in:
  - 4-post racks
  - 2-post racks with equipment mounting posts from 3- to 5-inches deep
  - 1U and 2U racks

- The following equipment is compatible with the rack kits:
  - CG2200
  - CG2300
  - MS1300

Figure 1: Rail kit selection
1.2. Rail Kits and Extender Kits

Figure 2: TMLPMOUNT51

Figure 3: TMLPMOUNT52
Table 1: Rail kit parts list

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
<th>Description</th>
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<th>TMLPMOUNTS2</th>
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<td>1</td>
<td>LEFT INNER RAIL</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>RIGHT INNER RAIL</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>MOUNTING EAR</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>OUTER RAIL</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>19” EIA L-BRACKET</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>23” EIA L-BRACKET</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>23” ETSI L-BRACKET</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>2-POST MOUNTING BRACKET</td>
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<td>10</td>
<td>12</td>
<td>8-32 X 1/4 SEMS SCREW</td>
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<td>√</td>
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<tr>
<td>11</td>
<td>16</td>
<td>10-32 X 1/2 SEMS SCREW</td>
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<tr>
<td>12</td>
<td>14</td>
<td>8-32 KEPS NUT</td>
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<tr>
<td>13</td>
<td>4</td>
<td>1U EIA BARNUT</td>
<td>√</td>
<td>√</td>
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<tr>
<td>14</td>
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<td>15</td>
<td>4</td>
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<tr>
<td>17</td>
<td>12</td>
<td>M4x0.7 SCREWS FOR MS1300</td>
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<td>√</td>
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Figure 4: 1059-8187 extender kit

Table 2: Extender kit parts list

<table>
<thead>
<tr>
<th>Item</th>
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<tr>
<td>18</td>
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<td>24&quot; to 34&quot; EIA L-BRACKET FOR 19&quot; RACK</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>4</td>
<td>RETAINER BRACKET</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>24&quot; to 34&quot; EIA L-BRACKET FOR 23&quot; RACK</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>21</td>
<td>2</td>
<td>24&quot; to 34&quot; ETSI L-BRACKET FOR 23&quot; RACK</td>
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<td>√</td>
</tr>
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</table>
2/ Installation Instructions

The instructions refer to item numbers. They are the numbers of the items in Figure 2 and Figure 3, which are described in Table 1 and Table 2.

A 2U chassis is shown in the illustrations. However, these instructions also apply to a 1U chassis.

2.1. Install Inner Rails and Mounting Ears to Equipment

When attaching the inner rails of a rail kit to an MS1300 platform, use the 5 mm pan head M4x0.7 screws (item 17) instead of the 1/4" 8-32 SECS screws (item 10) provided with the rack mount kits. Using screws of a different length, type or thread may cause damage to mounting threads and/or internal chassis components.

1. Attach the left inner rail (item 1) and the right inner rail (item 2) to the chassis using 3 screws (item 10 or item 17 for MS1300) per inner rail.

2. Attach the 2 mounting ears (item 3) to the chassis using 2 screws (item 10 or item 17 for MS1300) per mounting ear.

Figure 6: Inner rail assembly

Mounting ears (item 3) can be flipped to position the equipment further forward in the rack.
2.2. Build the Outer Rail Assembly

For a 4-post installation for racks under 24″ deep, go to section 2.2.1.
For a 4-post installation for racks 24″ to 31⅞″ deep, go to section 2.2.2.
For a 4-post installation for racks 30¼″ to 34½″ deep, go to section 2.2.3.
For a 2-post installation, go to section 2.2.4.

2.2.1. Four-Post Installation – Racks Under 24-Inches Deep

1. Insert 2 L-brackets (item 5 for 19″ EIA, item 6 for 23″ EIA or item 7 for 23″ ETSI) on the threaded studs of an outer rail (item 4) as shown in Figure 7.
2. Loosely screw on 2 nuts (item 12) per L-bracket.
3. Adjust the L-brackets to the required length and tighten the nuts.
4. Perform the steps again to build a total of 2 outer rail assemblies.

Figure 7: L-bracket assembly (4 posts under 24-inches deep)

2.2.2. Four-Post Installation – Racks from 24- to 31⅞-Inches Deep

1. Insert 1 L-bracket (item 5 for 19″ EIA, item 6 for 23″ EIA or item 7 for 23″ ETSI) and 1 extender L-bracket (item 18 for 19″ EIA, item 20 for 23″ EIA or item 21 for 23″ ETSI) on the threaded studs of an outer rail (item 4) as shown in Figure 8.
2. Insert 2 retainer brackets (item 19) on the threaded studs as shown in Figure 8.
3. Loosely screw on 2 nuts (item 12) per L-bracket.
4. Adjust the L-brackets to the required length and tighten the nuts.
5. Perform the steps again to build a total of 2 outer rail assemblies.

Figure 8: L-bracket assembly using an extender kit (4-post racks 24″ to 31⅞″ deep)
2.2.3. Four-Post Installation – Racks 30¼- to 34⅞-Inches Deep
1. Insert 1 L-bracket (item 5 for 19” EIA, item 6 for 23” EIA or item 7 for 23” ETSI) and 1 extender L-bracket (item 18 for 19” EIA, item 20 for 23” EIA or item 21 for 23” ETSI) on the threaded studs of an outer rail (item 4) as shown in Figure 9.
2. Insert 2 retainer brackets (item 19) on the threaded studs as shown in Figure 9.
3. Loosely screw on 2 nuts (item 12) per L-bracket.
4. Adjust the L-brackets to the required length and tighten the nuts.
5. Perform the steps again to build a total of 2 outer rail assemblies.

Figure 9: L-bracket assembly using an extender kit (4-post racks 30¼” to 34⅞” deep)

2.2.4. Two-Post Installation
1. Insert 2 L-brackets (item 5 for 19” EIA, item 6 for 23” EIA or item 7 for 23” ETSI) on the threaded studs of an outer rail (item 4) as shown in Figure 10.
2. Insert a 2-post mounting bracket (item 8) on the threaded studs as shown in Figure 10.
3. Loosely screw on a total of 5 nuts (item 12) for both L-brackets.
4. Adjust the L-brackets to the required length and tighten the nuts.
5. Perform the steps again to build a total of 2 outer rail assemblies.

Figure 10: L-bracket assembly (2 posts)
2.3. Attach the Outer Rail Assemblies to the Rack Posts

If installing in a 4-post rack with EIA Wide hole spacing, the EIA Wide Adapter (item 9) must be installed on top of the front L-brackets using 2 screws (item 11) per L-bracket as shown in the figure.

1. Attach the outer rail assemblies built at step 2.2 to the rack using 8 or 12 screws (item 11). If the rack is designed to use cage nuts, no bar nuts will be required. If the rack has round holes, bar nuts (item 13 for EIA and item 14 for ETSI) should be used. Make sure the hole pattern of the bar nut matches the hole pattern of the L-bracket.

If the rack is not designed for cage nuts and multiple 1U systems must be installed immediately one on top of the other, 2U bar nuts (item 15 for EIA and item 16 for ETSI) should be used for convenience purposes.

Figure 11: Outer rail assembly installation in a 4-post rack

NOTE: USE BAR NUTS WHEN THERE ARE NO CAGE NUTS
NOTE: EIA L-BRACKETS ARE ILLUSTRATED
2.4. Slide the Equipment into the Rack

1. Slide the equipment into the rack, making sure the inner rails slide into the outer rails. Support the weight of the system until the lock clicks into the outer rails.

   To take the equipment out, slide it forward until you can access the locks. Depress the locks on both sides and continue to pull out the equipment, while fully supporting the system weight.

2.5. Secure the Equipment to the Rack

- For a 4-post rack, go to section 2.5.1.
- For a 2-post rack, go to section 2.5.2.
2.5.1. Secure the Equipment to a 4-Post Rack

1. Fasten each mounting ear (item 3) to a front L-bracket using a total of 2 screws (item 11) as shown in Figure 14.

Figure 14: Securing the equipment to a 4-post rack (EIA standard)

2.5.2. Secure the Equipment to a 2-Post Rack

1. Fasten each mounting ear (item 3) to a 2-post mounting bracket (item 8) using a total of 2 screws (item 11) as shown in Figure 16.

Figure 16: Securing the equipment to a 2-post rack
For your notes
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With a significant percentage of employees in research and development, Kontron creates many of the standards that drive the world’s embedded computing platforms; bringing to life numerous technologies and applications that touch millions of lives. The result is an accelerated time-to-market, reduced total-cost-of-ownership, product longevity and the best possible overall application with leading-edge, highest reliability embedded technology.

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