Overview
This Product Specification defines the general use and performance parameters for Amphenol’s MDB (86X) series of Rugged D-sub connectors.

Availability: 9 position standard density pin and socket connectors available, 26 position high density pin and socket connectors available. Termination options include vertical PCB tails and solder cups suitable for up to 20 AWG for the 9 position connectors or 22 AWG for the 26 position.

Usage
The connector system is designed to provide a standard D-sub interface for enclosures exposed to harsh environments. Protection is provided for IP67 applications per IEC 60529 specification. Protection is provided for the ingress of water when immersed to a 1.0m depth for a period of 30 minutes and the ingress of dust less than 75 microns under 2 kPa vacuum pressure. A sturdy die cast shell provides excellent strength and durability in the most demanding applications while a high temperature resistant plastic housing captures high quality gold plated screw machined copper alloy contacts.

Applications
Intended for use in applications such as:
- Outdoor equipment
- Portable devices
- Automation equipment
- Industrial and agricultural equipment
Connector Electrical Characteristics
Maximum current: 5A per contact for Std density, 3A per contact for higher density.
Temperature rise:  Meets the UL requirement of 30° C ΔT
Maximum voltage: 200V DC or 125V AC per contact
Contact resistance: 20 mΩ max
Insulation Resistance: 5 GΩ at 200V DC for 60 seconds
DWV: 1500V minimum DC for 60 seconds

Connector Mechanical Characteristics
9 or 26 position D-sub interface
Durability: 500 mating cycles

Material Requirements
MDB connectors are RoHS compliant.
Unless otherwise specified, the materials for each component shall be:

- Contacts
  - Base material – Copper alloy
  - Plating
    - Goldplating over 50 µ” (1.27 µm) min Nickel as defined on product drawings.
- Housings: Black color, glass-reinforced, lead-free solder reflow process compatible thermoplastic, UL94V-0 rated
- Shell: Die cast Zinc alloy
  - Plating – 50 µ” (1.27 µm) min Nickel
- Gasket: Silicone rubber

Operating temperature -40° to +105° C
Storage temperature -40° to +105° C

Process Characteristics
Connectors are RoHS compliant and can resist lead free wave soldering processes.

Available Documents
Drawing Numbers:

- P-MDB-A26PE-860  MDB Rugged D-Sub Connector, 26 Size High Density Pin, Vert PCB Tail, Boardlock
- P-MDB-A26SE-861  MDB Rugged D-Sub Connector, 26 Size High Density Skt, Vert PCB Tail, Boardlock
- P-MDB-E09PM-860  MDB Rugged D-Sub Connector, 9 Size Pin, Solder Cup Termination
- P-MDB-E09SM-860  MDB Rugged D-Sub Connector, 9 Size Socket, Solder Cup Termination
- P-MDB-E09PE-860  MDB Rugged D-Sub Connector, 9 Size Pin, Vert PCB Tail, Boardlock
- P-MDB-E09SE-860  MDB Rugged D-Sub Connector, 9 Size Socket, Vert PCB Tail, Boardlock
## Product Numbering System

<table>
<thead>
<tr>
<th>MDB</th>
<th>Rugged D-Sub, Generation 1</th>
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<tbody>
<tr>
<td>XXX</td>
<td>Shell Size &amp; Number of Contacts</td>
</tr>
<tr>
<td>X</td>
<td>Gender Type – Pin or Socket</td>
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<tr>
<td>X</td>
<td>Termination Style – Right Angle or Vertical</td>
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<tr>
<td>XXX</td>
<td>Options Code</td>
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### AVAILABLE STANDARD PART NUMBERS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>MDB-E09SA-700</td>
<td>9 size standard density, socket, right angle tails, all plastic shell, rear mount with jack sockets installed</td>
</tr>
<tr>
<td>MDB-E09PE-760</td>
<td>9 size standard density, pin, vertical PCB tails, high profile die cast shell, front mount with jacket sockets &amp; dust cover</td>
</tr>
<tr>
<td>MDB-E09PE-765</td>
<td>9 size standard density, pin, vertical PCB tails, high profile die cast shell, front mount</td>
</tr>
<tr>
<td>MDB-E09SE-760</td>
<td>9 size standard density, socket, vertical PCB tails, high profile die cast shell, front mount with jack sockets &amp; dust cover</td>
</tr>
<tr>
<td>MDB-E09SE-765</td>
<td>9 size standard density, socket, vertical PCB tails, high profile die cast shell, front mount</td>
</tr>
<tr>
<td>MDB-E09SE-860</td>
<td>9 size standard density, socket, vertical PCB tails, high profile die cast shell, rear mount</td>
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<tr>
<td>MDB-B25SE-765</td>
<td>25 size standard density, socket, vertical PCB tails, high profile die cast shell, front mount</td>
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<td>MDB-E15PE-766</td>
<td>15 size, high density, pin, vertical PCB tails, high profile die cast</td>
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<tr>
<td>MDB-E09PE-860</td>
<td>9 size standard density, pin, vertical PCB tails, low profile die cast shell, rear mount</td>
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<tr>
<td>MDB-E09SE-860</td>
<td>9 size standard density, socket, vertical PCB tails, low profile die cast shell, rear mount</td>
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<tr>
<td>MDB-A26PE-860</td>
<td>26 size high density, pin, vertical PCB tails, low profile die cast shell, rear mount</td>
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