AirBorn introduces a Micro-D, multi-gigabit, high-speed connector designed to meet the performance requirements of MIL-DTL-83513, where applicable. This rugged connector system is designed to handle LVDS serial bus signals like Ethernet, serial rapid IO, etc. This versatile product has a range from one to ten high-speed modules and up to fifty signal contacts making it ideal for most high-reliability applications.
MMHS – Cable I/O (Male)

MMHS cable connectors are used in cable applications where both signal and quadrax modules are desired. These connectors come with a variety of wiring and hardware options and all cable connectors are available in custom lengths.

Sample Part Number Format: MMHS-02L4-11D-018-5000

SERIES
- Cable I/O (Male)

HIGH-SPEED MODULES
- 01 – 1 Module
- 02 – 2 Modules
- 03 – 3 Modules
- 04 – 4 Modules
- 05 – 5 Modules (max. sig. 40)
- 06 – 6 Modules (max. sig. 30)
- 07 – 7 Modules (max. sig. 20)
- 08 – 8 Modules (max. sig. 10)
- 09 – 9 Modules (max. sig. 10)
- 0A – 10 Modules (no signals)

BODY STYLE
- 1 – Plug

WIRE TYPE & GAUGE, QUADRAX
- XXX – Wire length in inches (minimum 3")
- X – See Wire Codes on page 14

WIRE LENGTH
- XXX – Wire length in inches (minimum 3")
- Example: 018 = 18"

BODY PLATING (LCP INSULATORS)
- 5 – Gold-plated aluminum shell

SIGNAL CONTACTS
- L0 – Left-side key – 0 signal contacts
- L1 – Left-side key – 10 signal contacts
- L2 – Left-side key – 20 signal contacts
- L3 – Left-side key – 30 signal contacts
- L4 – Left-side key – 40 signal contacts
- L5 – Left-side key – 50 signal contacts
- R0 – Right-side key – 0 signal contacts
- R1 – Right-side key – 10 signal contacts
- R2 – Right-side key – 20 signal contacts
- R3 – Right-side key – 30 signal contacts
- R4 – Right-side key – 40 signal contacts
- R5 – Right-side key – 50 signal contacts

WIRE TYPE & GAUGE, SIGNALS
- 0 – No signal contacts
- X – See Wire Codes on page 14

WIRING DATA
- Mating and Unmating Force:
- Contact Separating Force:
- Contact Engaging Force:
- Durability:
- Insulation Resistance:
- Maximum Working Voltage:
- Operating Temperature:
- Contact Rating:

MATERIALS and FINISHES
- Socket Contact: Brass
- Pin Contacts: BeCu alloy strip
- Contact Finish: Gold plate, 50 µ" minimum
- Shells: Aluminum alloy 6061-T6
- Shell Finishes: Electroless nickel, electroplated cadmium, or gold-plated
- Molded Insulators: Glass-filled liquid crystal polymer (LCP)
- Embedment: Frey Eng. Co. compound CF3003-80 & L-II-49
- Hardware: Corrosion-resistant steel
- Interfacial Seal Gaskets: Fluorosilicone

PERFORMANCE
- Contact Rating: 3 amperes maximum
- Operating Temperature: -55° C to 125° C
- Maximum Working Voltage: 600V, RMS, 60Hz
- Insulation Resistance: 5,000 megohms minimum @ 500 VDC
- Durability: 500 connector mating cycles
- Contact Engaging Force: 6.0 ounces maximum/contact
- Contact Separating Force: 0.5 ounces minimum/contact
- Mating and Unmating Force: 10 ounces maximum/contact

Please consult the AirBorne website for the latest revision of this document prior to beginning any design work.

Contact Customer Service
512-863-5585
www.airborn.com

Images and diagrams omitted for brevity.
**MMHS – Cable I/O (Female)**

MMHS cable connectors are used in cable applications where both signal and quadrax modules are desired. These connectors come with a variety of wiring and hardware options and all cable connectors are available in custom lengths.

**Sample Part Number Format:** MMHS-01R1-410-006-1810

**High-Reliability Contact**

MIL-DTL-83513

**NOTES**

1. All high-speed receptacles have fluoropolymer interfacial seals.
2. Option not RoHS-compliant.
3. Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
4. Captivated hardware is factory-installed and non-removable.
5. Refer to “Hardware Keying Options” on page 15.

**MATERIALS and FINISHES**

Socket Contact: ............... Brass
Pin Contacts: ............... BeCu alloy strip
Contact Finish: ............... Gold plate, 50 µ" minimum
Shells: ............... Aluminum alloy 6061-T6
Shell Finishes: ............... Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators: ............... Glass-filled liquid crystal polymer (LCP)
Embedment: ............... Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware: ............... Corrosion-resistant steel
Interfacial Seal Gaskets: ............... Fluorosilicone

**PERFORMANCE**

Contact Rating: ............... 3 amperes maximum
Operating Temperature: ............... -55° C to 125° C
Maximum Working Voltage: ............... 600V, RMS, 60Hz
Insulation Resistance: ............... 5,000 megohms minimum @ 500 VDC
Durability: ............... 500 connector mating cycles
Contact Engaging Force: ............... 6.0 ounces maximum/contact
Contact Separating Force: ............... 0.5 ounces minimum/contact
Mating and Unmating Force: ............... 10 ounces maximum/contact

**REFERENCES**

- Refer to “Hardware Keying Options” on page 15.
- Option not RoHS-compliant.
- Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- Captivated hardware is factory-installed and non-removable.
- Refer to “Hardware Keying Options” on page 15.

**NOTES**

1. All high-speed receptacles have fluoropolymer interfacial seals.
2. Option not RoHS-compliant.
3. Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
4. Captivated hardware is factory-installed and non-removable.
5. Refer to “Hardware Keying Options” on page 15.

**MATERIALS and FINISHES**

Socket Contact: ............... Brass
Pin Contacts: ............... BeCu alloy strip
Contact Finish: ............... Gold plate, 50 µ" minimum
Shells: ............... Aluminum alloy 6061-T6
Shell Finishes: ............... Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators: ............... Glass-filled liquid crystal polymer (LCP)
Embedment: ............... Frey Eng. Co. compound CF3003-80 & L-II-49
Hardware: ............... Corrosion-resistant steel
Interfacial Seal Gaskets: ............... Fluorosilicone

**PERFORMANCE**

Contact Rating: ............... 3 amperes maximum
Operating Temperature: ............... -55° C to 125° C
Maximum Working Voltage: ............... 600V, RMS, 60Hz
Insulation Resistance: ............... 5,000 megohms minimum @ 500 VDC
Durability: ............... 500 connector mating cycles
Contact Engaging Force: ............... 6.0 ounces maximum/contact
Contact Separating Force: ............... 0.5 ounces minimum/contact
Mating and Unmating Force: ............... 10 ounces maximum/contact

**REFERENCES**

- Refer to “Hardware Keying Options” on page 15.
- Option not RoHS-compliant.
- Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- Captivated hardware is factory-installed and non-removable.
- Refer to “Hardware Keying Options” on page 15.
MJHS – Jumper Cable

MJHS rugged metal cable assemblies are used in jumper applications where both signal and quadrax modules are desired. These connectors come with a variety of wiring and hardware options and all cable connectors are available in custom lengths.

Sample Part Number Format: MJHS-04R1-33D-022-5N41

NOTES
1. All high-speed receptacles have fluoropolymer interfacial seals.
   ☑ Option not RoHS-compliant.

   * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
   ** Captivated hardware is factory-installed and non-removable.
   *** Refer to "Hardware Keying Options" on page 15.

MATERIALS and FINISHES

<table>
<thead>
<tr>
<th>Socket Contact:</th>
<th>Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin Contacts:</td>
<td>BeCu alloy strip</td>
</tr>
<tr>
<td>Contact Finish:</td>
<td>Gold plate, 50 μm minimum</td>
</tr>
<tr>
<td>Shells:</td>
<td>Aluminum alloy 6061-T6</td>
</tr>
<tr>
<td>Molded Insulators:</td>
<td>Glass-filled liquid crystal polymer (LCP)</td>
</tr>
<tr>
<td>Embedment:</td>
<td>Frey Eng. Co. compound CF3003-80 &amp; Ll-l-49</td>
</tr>
<tr>
<td>Hardware:</td>
<td>Corrosion-resistant steel</td>
</tr>
<tr>
<td>Interfacial Seal Gaskets:</td>
<td>Fluorosilicone</td>
</tr>
</tbody>
</table>

PERFORMANCE

<table>
<thead>
<tr>
<th>Contact Rating:</th>
<th>3 amperes maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature:</td>
<td>-55° C to 125° C</td>
</tr>
<tr>
<td>Maximum Working Voltage:</td>
<td>600V, RMS, 60Hz</td>
</tr>
<tr>
<td>Insulation Resistance:</td>
<td>5,000 megohms minimum @ 500 VDC</td>
</tr>
<tr>
<td>Durability:</td>
<td>500 connector mating cycles</td>
</tr>
<tr>
<td>Contact Engaging Force:</td>
<td>6.0 ounces maximum/contact</td>
</tr>
<tr>
<td>Contact Separating Force:</td>
<td>0.5 ounces minimum/contact</td>
</tr>
<tr>
<td>Mating and Unmating Force:</td>
<td>10 ounces maximum/contact</td>
</tr>
</tbody>
</table>

www.airborn.com
(512) 863-5585
MJHS-PBN-1F
MKHS – Right Angle Surface Board-Mount (Male)

MKHS are rugged metal connectors used in applications where a right angle orientation and a surface board-mount termination style are desired.

Sample Part Number Format: MKHS-06L3-100-175-3J45

NOTES

✉️ Option not RoHS-compliant.
* Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
** Captivated hardware is factory-installed and non-removable.
*** Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

Socket Contact: ......................................................... Brass
Pin Contacts: .......................................................... BeCu alloy strip
Contact Finish: ...................................................... Gold plate, 50 µ" minimum
Shells: ..................................................................... Aluminum alloy 6061-T6
Shell Finishes: ......................................................... Electroless nickel, electrodeposited cadmium, or gold-plated
Molded Insulators: ................................................ Glass-filled liquid crystal polymer (LCP)
Embedment: ............................................................. Frey Eng. Co. compound CF3003-80 & LI-12-49
Hardware: ................................................................ Hardware-resistant steel
Interfacial Seal Gaskets: .......................................... Fluorosilicone

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE

Contact Rating: ....................................................... 3 amperes maximum
Operating Temperature: .......................................... -55° C to 125° C
Maximum Working Voltage: .................................... 600V, RMS, 60Hz
Insulation Resistance: .............................................. 5,000 megohms minimum @ 500 VDC
Durability: ............................................................... 500 connector mating cycles
Contact Engaging Force: .......................................... 5.0 ounces maximum/contact
Contact Separating Force: ....................................... 0.5 ounces minimum/contact
Mating and Unmating Force: ................................. 10 ounces maximum/contact

www.airborn.com
(512) 863-5585
MKHS – Right Angle Surface Board-Mount (Female)

MKHS are rugged metal connectors used in applications where a right angle orientation and a surface board-mount termination style are desired.

**NOTES**
1. All high-speed receptacles have fluoropolymer interfacial seals.
   - Option not RoHS-compliant.
   * Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
   ** Captivated hardware is factory-installed and non-removable.
   *** Refer to Hardware Keying Options on page 15.

**MATERIALS and FINISHES**

- **Socket Contact:** Brass
- **Pin Contacts:** BeCu alloy strip
- **Contact Finish:** Gold plate, 50 µ" minimum
- **Shells:** Aluminum alloy 6061-T6
- **Shell Finishes:** Electroless nickel, electrodeposited cadmium, or gold-plated
- **Molded Insulators:** Glass-filled liquid crystal polymer (LCP)
- **Embedment:** Frey Eng. Co. compound CF3003-80 & L-II-49
- **Hardware:** Corrosion-resistant steel
- **Interfacial Seal Gaskets:** Frey Eng. Co. compound CF3003-80 & L-II-49
- **Fingers (preferred):** 7 – 50 µ" Gold contact, SnPb alloy termination
  7 – 50 µ" Gold contact, SAC305-plated termination

**PERFORMANCE**

- **Contact Rating:** 3 amperes maximum
- **Operating Temperature:** -55° C to 125° C
- **Maximum Working Voltage:** 600V RMS, 60KHz
- **Insulation Resistance:** 5,000 megarohms minimum @ 500 VDC
- **Durability:** 500 connector mating cycles
- **Contact Engaging Force:** 0.6 ounces maximum/contact
- **Contact Separating Force:** 0.5 ounces maximum/contact
- **Mating and Unmating Force:** 10 ounces maximum/contact

**DIMENSIONS**

- **Body Style:** 200 – Female
- **Termination Plating:** 5 – 50 µ" Gold contact, SnPb alloy termination
  7 – 50 µ" Gold contact, SAC305-plated termination
- **Contact Termination:** 27 – Socket, horizontal surface-mount (SMT)
- **Body Plating (LCP Insulators):**
  2 – Electroless nickel-plated aluminum shell
  3 – Electrodeposited cadmium-plated aluminum shell
  6 – Gold-plated aluminum shell

**HIGH-POWER PERFORMANCE**

- **Current:** 0.8 A, 1.2 A
- **Voltage:** 600V RMS, 60KHz
- **Insulation Resistance:** 5,000 megarohms minimum @ 500 VDC
- **Durability:** 500 connector mating cycles
- **Contact Engaging Force:** 0.6 ounces maximum/contact
- **Contact Separating Force:** 0.5 ounces maximum/contact
- **Mating and Unmating Force:** 10 ounces maximum/contact

**PRODUCT INFORMATION**

- **Website:** www.airborn.com
- **Contact:** 512-863-5585

Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.
MLHS – Vertical Surface Board-Mount w/Fixed Hardware (Male)

MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have fixed hardware.

**Mechanical model & drawing for PCB layout information available on AirBorn.com**

**Captivated hardware is factory-installed and non-removable**

**Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.**

**Captivated hardware is factory-installed and non-removable.**

**Refer to Hardware Keying Options on page 15.**

Mechanical model & drawing for PCB layout information available on AirBorn.com.

---

**NOTES**

- Option not RoHS-compliant.
- Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- Captivated hardware is factory-installed and non-removable.
- Refer to Hardware Keying Options on page 15.

---

**SIGNAL CONTACTS**

- L0 – Left-side key – No signal contacts
- L1 – Left-side key – 10 signal contacts
- L2 – Left-side key – 20 signal contacts
- L3 – Left-side key – 30 signal contacts
- L4 – Left-side key – 40 signal contacts
- L5 – Left-side key – 50 signal contacts
- R0 – Right-side key – No signal contacts
- R1 – Right-side key – 10 signal contacts
- R2 – Right-side key – 20 signal contacts
- R3 – Right-side key – 30 signal contacts
- R4 – Right-side key – 40 signal contacts
- R5 – Right-side key – 50 signal contacts

---

**MATERIALS and FINISHES**

- Brass
- Aluminum alloy 6061-T6
- BeCu alloy strip
- Electroless nickel-plated, electrodeposited cadmium, or gold-plated
- Electroless nickel, electrodeposited cadmium, or gold-plated
- Glass-filled liquid crystal polymer (LCP)
- Socket Contact:
- Shell Finishes:
- Hardware:
- Interfacial Seal Gaskets:
- Frey Eng. Co. compound CF3003-80 & L-II-49

---

**PERFORMANCE**

- Contact Rating:
- Operating Temperature:
- Maximum Working Voltage:
- Insulation Resistance:
- Durability:
- Contact Engaging Force:
- Contact Separating Force:
- Mating and Unmating Force:

---

**www.airborn.com (512) 863-5585**

MLHSM-PNB-1F
MLHS – Vertical Surface Board-Mount w/Fixed Hardware (Female)

MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have captivated fixed hardware.

Sample Part Number Format: MLHS-03R2-400-B77-3620

**NOTES**
- Option not RoHS-compliant.
- All high-speed receptacles have fluoropolymer interfacial seals.
  - Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
  - Captivated hardware is factory-installed and non-removable.
  - Refer to Hardware Keying Options on page 15.

**MATERIALS and FINISHES**
- Socket Contact: Brass
- Pin Contacts: BeCu alloy strip
- Contact Finish: Gold plate, 50 µm minimum
- Shells: Aluminum alloy 6061-T6
- Shell Finishes: Electroless nickel, electrodeposited cadmium, or Gold-plated
- Molded Insulators: Glass-filled liquid crystal polymer (LCP)
- Embedment: Frey Eng. Co. compound CF3003-80 & L-II-49
- Hardware: Corrosion-resistant steel
- Interfacial Seal Gaskets: Fluorosilicone

**PERFORMANCE**
- Contact Rating: 3 amperes maximum
- Operating Temperature: -55°C to 125°C
- Maximum Working Voltage: 600V, RMS, 60Hz
- Insulation Resistance: 5,000 megohms minimum @ 500 VDC
- Durability: 500 connector mating cycles
- Contact Engaging Force: 6.0 ounces maximum/contact
- Contact Separating Force: 0.5 ounces maximum/contact
- Mating and Unmating Force: 10 ounces maximum/contact

** SIGNAL INTEGRITY PERFORMANCE (Connectors Only)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diff. Impedance, filtered to 70 ps (20-80%)</td>
<td>100 ohm +/- 10</td>
</tr>
<tr>
<td>2. Diff. Insertion Loss</td>
<td>4.0 GHz @ -3 dB</td>
</tr>
<tr>
<td>3. Diff. Return Loss</td>
<td>1.8 GHz @ -20 dB</td>
</tr>
<tr>
<td>4. Intra-Pair</td>
<td>15 ps</td>
</tr>
</tbody>
</table>
MLHS – Vertical Surface Board-Mount w/Turning Hardware (Male)

MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have captive turning hardware.

- Brass
- Aluminum alloy 6061-T6
- Glass-filled liquid crystal polymer (LCP)
- BeCu alloy strip
- Corrosion-resistant steel

NOTES
- Option not RoHS-compliant.
- Left or right polarization is determined by looking at the male interface with the LONG SIDE downward. The key is the angled side of the interface.
- Captivated hardware is factory-installed and non-removable.
- Refer to Hardware Keying Options on page 15.

Mechanical model & drawing for PCB layout information available on AirBorn.com.

MATERIALS and FINISHES

NOTE: AirBorn can manufacture special configurations to your exact specifications.

PERFORMANCE
- Contact Rating: 3 amperes maximum
- Operating Temperature: -65°C to 125°C
- Maximum Working Voltage: 600V, RMS, 60Hz
- Insulation Resistance: 5,000 megohms minimum @ 500 VDC
- Durability: 500 connector mating cycles
- Contact Engaging Force: 6.0 ounces maximum/contact
- Contact Separating Force: 0.5 ounces minimum/contact
- Mating and Unmating Force: 10 ounces maximum/contact

SIGNAL INTEGRITY PERFORMANCE (Connectors Only)
- 1 Diff. Impedance, filtered to 70 ps (20-80%): 100 ohm +/- 10
- 2 Diff. Insertion Loss: 4.0 GHz @ -3 dB
- 3 Diff. Return Loss: 1.8 GHz @ -20 dB
- 4 Intra-Pair: 15 ps
MLHS – Vertical Surface Board-Mount w/Turning Hardware (Female)

MLHS are rugged metal connectors used in applications where a vertical orientation and a surface board-mount termination style are desired. These connectors have turning hardware.

**Captivated hardware is factory-installed and non-removable.**

Left or right polarization is determined by looking at the male interface with the LONG side downward. The key is the angled side of the interface.

- All high-speed receptacles have fluoropolymer interfacial seals.
- Captivated hardware is factory-installed and non-removable.
- Refer to Hardware Keying Options on page 15.

**NOTE:** Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.

---

**SIGNAL INTEGRITY PERFORMANCE (Connectors Only)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diff. Impedance, filtered to 70 ps (20-80%)</td>
<td>100 ohm +/- 10</td>
</tr>
<tr>
<td>2. Diff. Insertion Loss</td>
<td>4.0 GHz @ -3 dB</td>
</tr>
<tr>
<td>3. Diff. Return Loss</td>
<td>1.8 GHz @ -20 dB</td>
</tr>
<tr>
<td>4. Intra-Pair</td>
<td>15 ps</td>
</tr>
</tbody>
</table>

**MATERIALS and FINISHES**

- **Socket Contact:** Brass
- **Pin Contacts:** BeCu alloy strip
- **Contact Finish:** Gold plate, 50 µm minimum
- **Shells:** Aluminum alloy 6061-T6
- **Shell Finishes:** Glass-filled liquid crystal polymer (LCP)
- **Embedment:** Frey Eng. Co. compound CF3003-80 & Li-I-49
- **Hardware:** Corrosion-resistant steel
- **Interfacial Seal Gaskets:** Fluorosilicone

**PERFORMANCE**

- **Contact Rating:** 3 amperes maximum
- **Operating Temperature:** -55°C to 125°C
- **Maximum Working Voltage:** 600V, RMS, 60Hz
- **Insulation Resistance:** 5,000 megohms minimum @ 500 VDC
- **Durability:** 500 connector mating cycles
- **Contact Engaging Force:** 0 ounces maximum/contact
- **Contact Separating Force:** 0.5 ounces minimum/contact
- **Mating and Unmating Force:** 10 ounces maximum/contact
QUADRAX CABLE CONSTRUCTION

Conductors: Silver-plated copper alloy
Insulation: FEP
Cable: Planetary twist with filler in core
Binder: PTFE tape
Outer Shield: Braided silver-plated copper (95% min. coverage)
Jacket: White FEP
Differential Pairs: Pair 1 - blue (position M1), orange (position M3)
Pair 2 - green (position M2), red (position M4)
Differential Impedance: 100 Ω ±10 Ω; 110 Ω ±6 Ω
Delay Skew within Pair: 5.0 ps/ft max.

QUADRAX WIRE CODES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100 Ω 24 AWG</td>
</tr>
<tr>
<td>2</td>
<td>100 Ω 26 AWG</td>
</tr>
<tr>
<td>3</td>
<td>100 Ω 28 AWG</td>
</tr>
<tr>
<td>4</td>
<td>100 Ω 30 AWG</td>
</tr>
<tr>
<td>5</td>
<td>110 Ω 24 AWG</td>
</tr>
<tr>
<td>6</td>
<td>110 Ω 26 AWG</td>
</tr>
<tr>
<td>7</td>
<td>110 Ω 28 AWG</td>
</tr>
<tr>
<td>8</td>
<td>110 Ω 30 AWG</td>
</tr>
</tbody>
</table>

NOTES

1. Additional high-speed cable types are available as standard options (i.e., drain wire, TwinAx, shielded pairs, shielded pair quad, twisted pair quad, etc.). Contact AirBorn for construction specifications of alternate cable.
2. Additional wire types are available as standard options (i.e., twisted pair, shielded, braid, etc.).
### SIGNAL WIRE CODES

<table>
<thead>
<tr>
<th>A</th>
<th>SAE AS22759/11-24</th>
<th>Ten repeating colors per M83513</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>SAE AS22759/11-24</td>
<td>Non-repeating colors per MIL-STD-681</td>
</tr>
<tr>
<td>C</td>
<td>SAE AS22759/11-24</td>
<td>White</td>
</tr>
<tr>
<td>D</td>
<td>SAE AS22759/11-26</td>
<td>Ten repeating colors per M83513</td>
</tr>
<tr>
<td>E</td>
<td>SAE AS22759/11-26</td>
<td>Non-repeating colors per MIL-STD-681</td>
</tr>
<tr>
<td>F</td>
<td>SAE AS22759/11-26</td>
<td>White</td>
</tr>
<tr>
<td>G</td>
<td>SAE AS22759/11-28</td>
<td>Ten repeating colors per M83513</td>
</tr>
<tr>
<td>H</td>
<td>SAE AS22759/11-28</td>
<td>White</td>
</tr>
<tr>
<td>J</td>
<td>SAE AS22759/33-24*</td>
<td>Ten repeating colors per M83513</td>
</tr>
<tr>
<td>K</td>
<td>SAE AS22759/33-24*</td>
<td>White</td>
</tr>
<tr>
<td>L</td>
<td>SAE AS22759/33-26*</td>
<td>Ten repeating colors per M83513</td>
</tr>
<tr>
<td>M</td>
<td>SAE AS22759/33-26*</td>
<td>White</td>
</tr>
<tr>
<td>N</td>
<td>SAE AS22759/33-28*</td>
<td>Ten repeating colors per M83513</td>
</tr>
<tr>
<td>P</td>
<td>SAE AS22759/33-28*</td>
<td>White</td>
</tr>
<tr>
<td>Q</td>
<td>SAE AS22759/33-30*</td>
<td>Ten repeating colors per M83513</td>
</tr>
<tr>
<td>R</td>
<td>SAE AS2275933-30*</td>
<td>White</td>
</tr>
<tr>
<td>S</td>
<td>NEMA HP3-EXBEB</td>
<td>24 AWG non-repeating colors per MIL-STD-681</td>
</tr>
<tr>
<td>T</td>
<td>NEMA HP3-EXBEB</td>
<td>24 AWG white</td>
</tr>
<tr>
<td>U</td>
<td>NEMA HP3-EXBDB</td>
<td>26 AWG non-repeating colors per MIL-STD-681</td>
</tr>
<tr>
<td>V</td>
<td>NEMA HP3-EXBDB</td>
<td>26 AWG white</td>
</tr>
<tr>
<td>W</td>
<td>NEMA HP3-EXBCB</td>
<td>28 AWG non-repeating colors per MIL-STD-681</td>
</tr>
<tr>
<td>X</td>
<td>NEMA HP3-EXBCB</td>
<td>28 AWG white</td>
</tr>
<tr>
<td>Y</td>
<td>NEMA HP3-EXBBB</td>
<td>30 AWG non-repeating colors per M83513</td>
</tr>
<tr>
<td>Z</td>
<td>NEMA HP3-EXBBB</td>
<td>30 AWG white</td>
</tr>
</tbody>
</table>

### NOTES

* Corrosion has been experienced on connectors that are pre-wired with M22759/33 and stored in sealed environments. Exercise caution in packaging and storing when using this wire.

* Option is not RoHS-compliant
Select the appropriate two-digit number above and include as the last two digits of the hardware code in the part number. (Keying is factory-installed and non-removable.)

Example: MMHS-03L2-12D-197-2J11
MKHS-03R2-200-275-2N11

**Hardware Keying Options**

<table>
<thead>
<tr>
<th>Number</th>
<th>Front View</th>
<th>Back View</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td><img src="image1.png" alt="Image1" /></td>
<td><img src="image2.png" alt="Image2" /></td>
</tr>
<tr>
<td>12</td>
<td><img src="image3.png" alt="Image3" /></td>
<td><img src="image4.png" alt="Image4" /></td>
</tr>
<tr>
<td>13</td>
<td><img src="image5.png" alt="Image5" /></td>
<td><img src="image6.png" alt="Image6" /></td>
</tr>
<tr>
<td>14</td>
<td><img src="image7.png" alt="Image7" /></td>
<td><img src="image8.png" alt="Image8" /></td>
</tr>
<tr>
<td>15</td>
<td><img src="image9.png" alt="Image9" /></td>
<td><img src="image10.png" alt="Image10" /></td>
</tr>
<tr>
<td>16</td>
<td><img src="image11.png" alt="Image11" /></td>
<td><img src="image12.png" alt="Image12" /></td>
</tr>
<tr>
<td>21</td>
<td><img src="image13.png" alt="Image13" /></td>
<td><img src="image14.png" alt="Image14" /></td>
</tr>
<tr>
<td>22</td>
<td><img src="image15.png" alt="Image15" /></td>
<td><img src="image16.png" alt="Image16" /></td>
</tr>
<tr>
<td>23</td>
<td><img src="image17.png" alt="Image17" /></td>
<td><img src="image18.png" alt="Image18" /></td>
</tr>
<tr>
<td>24</td>
<td><img src="image19.png" alt="Image19" /></td>
<td><img src="image20.png" alt="Image20" /></td>
</tr>
<tr>
<td>25</td>
<td><img src="image21.png" alt="Image21" /></td>
<td><img src="image22.png" alt="Image22" /></td>
</tr>
<tr>
<td>26</td>
<td><img src="image23.png" alt="Image23" /></td>
<td><img src="image24.png" alt="Image24" /></td>
</tr>
<tr>
<td>31</td>
<td><img src="image25.png" alt="Image25" /></td>
<td><img src="image26.png" alt="Image26" /></td>
</tr>
<tr>
<td>32</td>
<td><img src="image27.png" alt="Image27" /></td>
<td><img src="image28.png" alt="Image28" /></td>
</tr>
<tr>
<td>33</td>
<td><img src="image29.png" alt="Image29" /></td>
<td><img src="image30.png" alt="Image30" /></td>
</tr>
<tr>
<td>34</td>
<td><img src="image31.png" alt="Image31" /></td>
<td><img src="image32.png" alt="Image32" /></td>
</tr>
<tr>
<td>35</td>
<td><img src="image33.png" alt="Image33" /></td>
<td><img src="image34.png" alt="Image34" /></td>
</tr>
<tr>
<td>36</td>
<td><img src="image35.png" alt="Image35" /></td>
<td><img src="image36.png" alt="Image36" /></td>
</tr>
<tr>
<td>41</td>
<td><img src="image37.png" alt="Image37" /></td>
<td><img src="image38.png" alt="Image38" /></td>
</tr>
<tr>
<td>42</td>
<td><img src="image39.png" alt="Image39" /></td>
<td><img src="image40.png" alt="Image40" /></td>
</tr>
<tr>
<td>43</td>
<td><img src="image41.png" alt="Image41" /></td>
<td><img src="image42.png" alt="Image42" /></td>
</tr>
<tr>
<td>44</td>
<td><img src="image43.png" alt="Image43" /></td>
<td><img src="image44.png" alt="Image44" /></td>
</tr>
<tr>
<td>45</td>
<td><img src="image45.png" alt="Image45" /></td>
<td><img src="image46.png" alt="Image46" /></td>
</tr>
<tr>
<td>46</td>
<td><img src="image47.png" alt="Image47" /></td>
<td><img src="image48.png" alt="Image48" /></td>
</tr>
<tr>
<td>51</td>
<td><img src="image49.png" alt="Image49" /></td>
<td><img src="image50.png" alt="Image50" /></td>
</tr>
<tr>
<td>52</td>
<td><img src="image51.png" alt="Image51" /></td>
<td><img src="image52.png" alt="Image52" /></td>
</tr>
<tr>
<td>53</td>
<td><img src="image53.png" alt="Image53" /></td>
<td><img src="image54.png" alt="Image54" /></td>
</tr>
<tr>
<td>54</td>
<td><img src="image55.png" alt="Image55" /></td>
<td><img src="image56.png" alt="Image56" /></td>
</tr>
<tr>
<td>55</td>
<td><img src="image57.png" alt="Image57" /></td>
<td><img src="image58.png" alt="Image58" /></td>
</tr>
<tr>
<td>56</td>
<td><img src="image59.png" alt="Image59" /></td>
<td><img src="image60.png" alt="Image60" /></td>
</tr>
<tr>
<td>61</td>
<td><img src="image61.png" alt="Image61" /></td>
<td><img src="image62.png" alt="Image62" /></td>
</tr>
<tr>
<td>62</td>
<td><img src="image63.png" alt="Image63" /></td>
<td><img src="image64.png" alt="Image64" /></td>
</tr>
<tr>
<td>63</td>
<td><img src="image65.png" alt="Image65" /></td>
<td><img src="image66.png" alt="Image66" /></td>
</tr>
<tr>
<td>64</td>
<td><img src="image67.png" alt="Image67" /></td>
<td><img src="image68.png" alt="Image68" /></td>
</tr>
<tr>
<td>65</td>
<td><img src="image69.png" alt="Image69" /></td>
<td><img src="image70.png" alt="Image70" /></td>
</tr>
<tr>
<td>66</td>
<td><img src="image71.png" alt="Image71" /></td>
<td><img src="image71.png" alt="Image72" /></td>
</tr>
</tbody>
</table>

**Keying Details**

- **Keying Jackpost = N**
- **Keying Jackscrew = J**

**Please consult the AirBorn website for the latest revision of this document prior to beginning any design work.**