Product Facts

- Plug and Play capability
- Hot pluggable, permits attaching or detaching peripherals without power down or reboot
- Single 4-position connector, polarized for proper orientation
- Complete family of boardmount receptacles, including right-angle, thru-hole, thru-hole type B, side-by-side, and stacked
- Cable mount overmold plug kits for both standard and type B applications
- Consolidates serial parallel, keyboard, mouse and game ports
- Compatible with asynchronous and isochronous data transfer methods

The Tyco Electronics Connector System will accommodate the two differentially driven data wires that provide bi-directional, simultaneous signals for full speed 12Mbps or for low speed 1.5Mbps used in Universal Series Bus (USB) Systems. The Tyco Electronics USB System is a complete interconnection technology for I/O devices, including: keyboards, mice, game port, serial port devices, digital audio, printers, scanners, modems, joy sticks, and other telecommunication devices. Designed for outside-of-box, user friendly applications, the Tyco Electronics system consists of a single 4-position boardmount receptacle and mating cable mount overmolded plug. Boardmount receptacles are available in standard, Type B, stacked and side-by-side configurations, adding to the system’s versatility to meet all USB applications.

Table of Contents

Standard USB
  Series A Receptacle Assemblies .................. 2-10
  Series B Receptacle Assemblies ............. 11-12
  Cable Assemblies .................. 13
Mini USB
  Connectors .................. 14-16
  Plugs .................. 17
  Cable Assembly ............. 18
RJ45 Over USB ............. 19
MAG45 Modular Jacks with Integrated Magnetics ................. 20
USB/IEEE Combo ............. 21
Right-Angle, Thru-Hole

Part Number
202303-1
Loose Piece

Performance Data

USB Connector System
Voltage Rating — 30VAC (rms)
Current Rating — Signal application only, 1 amp per contact
Temperature Rating — –55 to 85˚C (unless limited by cable or overmold)
Termination Resistance — 30mΩ, max.
Insulation Resistance — 1,000 MΩ, min.
Dielectric Withstanding Voltage — 750VAC
Capacitance — 2pF max.
Durability — 1,500 cycles
Mating Force — 35N per contact, max.
Unmating Force — 10N per contact, max.
Universal Series Bus
Speed — 12 Mb/s
Max. No. of Peripherals — 63
Max. Distance — 5m max.
Data Transfer — Asynchronous

Right-Angle, Thru-Hole, Flag

Part Number
292336-1
Loose Piece

Solder Tail Length — 2.29 [.090]
Recommended PCB Thickness — 1.57 [.062]

Product Specification

108-1586
**Connector System for Universal Serial Bus (USB)**

**Series A Receptacle Assemblies (Continued)**

### Panel Mount Right Angle

**SMT Type**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>5353929-1</td>
<td>Emboss Tape Mounted, ea. 350</td>
<td>Tape Width: 44.00 [1.732]</td>
</tr>
</tbody>
</table>

**Part Number**

| 353583-1    | Tray Pack, ea. 55                  |

**Product Specification**

| 108-5563    | |

---

**Recommended PCB Layout (Component Side)**

**Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.**

- **Shell Contact Moving Area**
  - Shell Contact: 7.80 [0.307]
  - Housing: 7.00 [0.276]
  - Panel Cutout: 2.50 [0.098]
  - Panel Mount Right Angle: 1.20 [0.047]

- **Contact**
  - Moving Area: 5.50 [0.217]
  - Contact: 4.10 [0.161]
  - Contact: 6.20 [0.244]
  - Contact: 1.00 [0.039]
  - Contact: 1.00 [0.039]

- **Housing**
  - PC Board Side: 20.00 [0.787]
  - Panel Cutout: 7.00 [0.276]

- **Panel Cutout**
  - PC Board Side: 13.50 ± 0.05 [0.531 ± 0.004]
  - Panel Cutout: 7.00 ± 0.05 [0.276 ± 0.004]
  - Panel Cutout: 13.30 [0.524]

- **Tape (Part Number 353929-1 only)**
  - Tape Width: 44.00 [1.732]

---

Downloaded from Arrow.com.
Panel Mount Right Angle
SMT Type, Reverse Mating

Part Number
1734038
Embass Tape Mounted, ea. 350
Tape Width — 44.00 [1.732]

Part Number
353576-1
Tray Pack, ea. 55

Product Specification
108-5563

Connector System for Universal Serial Bus (USB)
Series A Receptacle Assemblies (Continued)

Recommended PCB Layout
(Component Side)
Right Angle Stacked, Thru-Hole

Part Number
5787617-1
Loose Piece

Solder Tail Length — 2.84 [.112]
Recommended PCB Thickness — 1.57 [.062]

Material and Finish
Housing — Thermoplastic, UL94V-0
Shell — Copper alloy, plated bright tin
Contacts — Copper alloy, plated 0.076µm min. gold over 0.76µm min. palladium-nickel on the mating end, 3.8µm min. tin lead on solder tails all over 1.27µm min. nickel underplating or 0.076µm min. Gold on the mating end, 3.8µm min. tin lead on solder tails all over 1.27µm min. nickel underplating.
Connector System for Universal Serial Bus (USB)

Series A Receptacle Assemblies (Continued)

Right-Angle, Triple Stack Thru-Hole with Panel Grounds

Part Number
1-1734181-2

Material and Finish
Housing — Thermoplastic, UL94V-0, white
Contact — Phosphor bronze, plated gold on contact area and tin on solder-tails, nickel underplated
Front Shell — Brass, nickel plated, copper underplated
Back Shell — SPCC, nickel plated, copper underplated

Product Specification
108-57113

Dimensions are in millimeters Dimensions are shown for USA: 1-800-522-6752 South America: 55-11-3611-1514

Issued 03-06 and inches unless otherwise reference purposes only. Canada: 1-905-470-4425 Mexico: 01-800-733-8926

www.tycoelectronics.com are standard equivalents. to change.

C. America: 52-55-5-729-0425 UK: 44-141-810-8967

Downloaded from Arrow.com.
**Series A Receptacle Assemblies** (Continued)

Right Angle, Quad Stack, Thru-Hole with Panel Grounds

**Part Number**
1-1734383-2

**Material and Finish**

**Housing (1)** — Thermoplastic with 30% G/F, UL94V-0, color black

**Housing (2)** — High temperature thermoplastic with 30% G/F, UL94V-0, color black

**Contact** — Phosphor bronze, gold plated in contact area, tin on solder tails, nickel underplated overall

**Front Shield** — Brass, tin plated on entire, nickel underplated overall

**Rear Shield** — Brass, nickel plated

**Ground Finger** — Brass, tin plated on entire, nickel underplated overall

**Recommended PCB Thickness** — 1.60 [0.063]

**Product Specification**
108-57391

---

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.
Series A Receptacle Assemblies (Continued)

Vertical, Thru-Hole

Part Number
1734366-1

Product Specification
108-57547

Connector System for Universal Serial Bus (USB)

Recommended PCB Layout

Dimensions are in millimeters

Part Number
1734366-1

Product Specification
108-57547

Connector System for Universal Serial Bus (USB)

Recommended PCB Layout

Dimensions are in millimeters
Series A Plug Assemblies

Edge Mount, SMT

Part Number
1734089-1

Material and Finish
Housing — High temperature thermoplastic, UL94V-0, black or white
Contact — Brass, plated gold on contact area and tin-lead on soldertails, nickel underplated
Shield — Steel, nickel plated, copper underplated

Product Specification
108-57304

<table>
<thead>
<tr>
<th>Dim. A</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.85</td>
<td>1470697-1</td>
</tr>
<tr>
<td>.230</td>
<td>1470697-2</td>
</tr>
<tr>
<td>1.00</td>
<td>1-1470697-1</td>
</tr>
<tr>
<td>1.00</td>
<td>1-1470697-2</td>
</tr>
<tr>
<td>5.05</td>
<td>2-1470697-1</td>
</tr>
<tr>
<td>.199</td>
<td>7-1470697-2</td>
</tr>
</tbody>
</table>

Edge Mount, SMT

Part Number
1734028-1

Material and Finish
Housing — Thermoplastic, UL94V-0, black or natural
Contact — Brass, plated gold on contact area and tin-lead on soldertails, nickel underplated
Shield — Steel, nickel plated, copper underplated

Product Specification
108-57306

<table>
<thead>
<tr>
<th>Dim. B</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.10</td>
<td>1734028-1</td>
</tr>
<tr>
<td>.043</td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>1734028-2</td>
</tr>
<tr>
<td>.059</td>
<td></td>
</tr>
<tr>
<td>1.10</td>
<td>1734028-3</td>
</tr>
<tr>
<td>.043</td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>1734028-4</td>
</tr>
<tr>
<td>.059</td>
<td></td>
</tr>
</tbody>
</table>

Catalog 7-1773442-0
Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.
Dimensions are shown for reference purposes only. Specifications subject to change.
USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425
South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 01-44-844-8013
UK: 44-141-810-8967

www.tycoelectronics.com
Connector System for Universal Serial Bus (USB)

Series A Plug Assemblies (Continued)

Cable Plug

Kit includes Housing with contacts cover, front and back shells

Part Number
1734372-1

Product Specification
108-57547

Dimensions are in millimeters
Dimensions are shown for USA: 1-800-522-6752 South America: 1-905-470-4425 Mexico: 01-800-733-8926 Japan: 81-44-844-8013

Series A Plug Assemblies (Continued)

Cable Plug

Kit includes Housing with contacts cover, front and back shells

Part Number
1734372-1

Product Specification
108-57547

Dimensions are in millimeters
Dimensions are shown for USA: 1-800-522-6752 South America: 1-905-470-4425 Mexico: 01-800-733-8926 Japan: 81-44-844-8013
Connector System for Universal Serial Bus (USB)

Series B Receptacle Assemblies

Right Angle, Thru-Hole

Part Number
292304-1

Loose Piece

Material and Finish
Housing — Thermoplastic, UL94V-0
Shell — Copper alloy, plated bright tin
Contacts — Copper alloy, plated 0.076µm min. gold over 0.76µm min. palladium-nickel on the mating end, 3.8µm min. tin lead on solder tails all over 1.27µm min. nickel underplating or 0.076µm min. gold on the mating end, 3.8µm min. tin lead on solder tails all over 1.27µm min. nickel underplating.

Recommended PCB Thickness — 1.57 [.062]

Product Specification
108-1586

Vertical Thru-Hole

Part Number
5787834-1

Loose Piece

Material and Finish
Housing — Thermoplastic, UL94V-0
Shell — Copper Alloy, plated bright Tin
Contacts — Copper Alloy, plated 0.076µm min. Gold over 0.76µm min. palladium-nickel on the mating end, 3.8µm min. Tin lead on solder tails all over 1.27µm min. nickel underplating or 0.076µm min. Gold on the mating end, 3.8µm min. Tin lead on solder tails all over 1.27µm min. nickel underplating.

Recommended PCB Thickness — 1.57 [.062]

Product Specification
108-1586

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.
Connector System for Universal Serial Bus (USB)

Series B Receptacle Assemblies (Continued)

**Right-Angle, SMT**

**Part Number**
1734346

**Material and Finish**

- **Housing** — High temperature thermoplastic, UL94V-0, black
- **Contact** — Phosphor bronze, plated gold on contact area and tin-copper on solder tails, nickel underplated
- **Front Shell** — Phosphor bronze, nickel plated
- **Back Shell** — Stainless steel, nickel plated

**Product Specification**
108-57538

**Cable Plug**

**Part Numbers**
796007-3
796006-4

**Plug Housing & Contact Assembly (Loose Piece)**

**Material and Finish**

- **Housing** — Thermoplastic, UL94V-0
- **Shell** — Copper alloy, plated bright tin
- **Contacts** — Copper alloy, plated 0.076µm min. gold over 0.76µm min. palladium-nickel on the mating end, 3.8µm min. tin lead on solder tails all over 1.27µm min. nickel underplating or 0.076µm min. gold on the mating end, 3.8µm min. tin lead on solder tails all over 1.27µm min. nickel underplating.

**Product Specification**
108-1586

---

**Series B Plug Assemblies**

**Backshell Legs**

- **5.00 [0.197]**
  - 2 Plcs.

**PC Board**

- **16.00 [0.630]**
  - 2 Plcs.

**Recommended PCB Layout**

- **6.04 [0.238]**
  - 2 Plcs.

**Pin 1**

- **13.84 [0.545]**
  - 2 Plcs.

**Pin 2**

- **10.62 ± 0.25 [0.418 ± 0.010]**
  - 2 Plcs.

**Pin 3**

- **7.78 [0.306]**
  - 2 Plcs.

**Pin 4**

- **4.65 [0.183]**
  - 2 Plcs.

**PCB Edge**

- **6.04 [0.238]**

**PC Board**

- **3.40 [0.134]**

**PCB Hole**

- **1.26 ± 0.02 [0.03]**

**PCB Mounting Hole**

- **0.70 ± 0.01 [0.028]**

**PCB Mounting Hole**

- **5.00 [0.197]**
  - 2 Plcs.

---

**Dimensions are shown for USA: 1-800-522-6752 South America: 1-800-733-8926 Japan: 81-44-844-8013**

---

Downloaded from Arrow.com.
Connector System for Universal Serial Bus (USB)

USB Cable Plug Cable Assemblies

Product Facts
- Support latest technology for personal computer Plug and Play peripheral connectivity
- Uses Serial Bus technology to connect USB equipped personal computer to keyboards, mice, printers, video camera, etc
- Requires personal computer equipped with an “A” receptacle, Universal Serial Port
- Larger wire sizes are required for longer lengths to meet USB specifications for maximum current load and milivolt drop

Standard Universal Serial Bus (USB) Cable Assemblies

<table>
<thead>
<tr>
<th>Cable Construction</th>
<th>Length* m [ft]</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG28 (0.08mm²), Shielded</td>
<td>500 [1,640]</td>
<td>1487594-1</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG26 (0.15mm²), Shielded</td>
<td>250 [820]</td>
<td>1487594-2</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG24 (0.20mm²), Shielded</td>
<td>162 [531]</td>
<td>1487594-3</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG22 (0.40mm²), Shielded</td>
<td>310 [1,017]</td>
<td>1487594-4</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG20 (0.60mm²), Shielded</td>
<td>4.0 [13]</td>
<td>974329-1</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG20 (0.60mm²), Shielded</td>
<td>5.0 [16]</td>
<td>974329-2</td>
</tr>
</tbody>
</table>

Blunt End-Cut Assemblies for connecting to devices, such as keyboard, mice, etc.

<table>
<thead>
<tr>
<th>Cable Construction</th>
<th>Length* m [ft]</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG28 (0.08mm²), Shielded</td>
<td>0.83 [2.7]</td>
<td>974538-1</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG26 (0.15mm²), Shielded</td>
<td>1.0 [3.3]</td>
<td>974539-1</td>
</tr>
<tr>
<td>2/AWG28 (0.08mm²), 2/AWG24 (0.20mm²), Shielded</td>
<td>2.0 [6.6]</td>
<td>974540-1</td>
</tr>
</tbody>
</table>

*Indicates preferred lengths.
Connector System for Universal Serial Bus (USB)

Mini USB Connector and Cable Assemblies Input/Output

Product Facts

- Designed to meet the USB 2.0 specifications
- Single 5-Position (one ID pin) receptacle connector polarized for proper orientation
- Used in next generation high density computer peripherals, PDA’s, palm tops and cell phones
- Designed for 480MB/s transfer rate

Mini USB Types

- High density design, allows for all the benefits of USB in a smaller package than traditional USB connectors
- Mini-A receptacle is keyed to allow a device to act as the host. It has four solder hold downs, which provide stability in mating and unmating by preventing stress on SMT connector leads
- Mini-B receptacle is keyed to allow device to act as a peripheral
- Mini-AB receptacle is keyed for devices that can act as a host or peripheral

Applications

- Supports latest technology for personal computer Plug and Play peripheral connectivity
- Uses serial bus technology to connect USB personal computers to PDA’s, cell phones, video cameras, scanners, printers, keyboard and mouse

Part Matrix

<table>
<thead>
<tr>
<th>Product</th>
<th>Series</th>
<th>Part Number</th>
<th>RoHS Compliant</th>
<th>Packaging</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header</td>
<td>Mini-A</td>
<td>440478-1</td>
<td>1734327-1</td>
<td>Tray</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>440478-2</td>
<td>1734327-2</td>
<td>T/R</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Mini-B</td>
<td>440247-1</td>
<td>1734035-1</td>
<td>Tray</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>440247-2</td>
<td>1734035-2</td>
<td>T/R</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Mini-AB</td>
<td>440479-1</td>
<td>1734328-1</td>
<td>Tray</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>440479-2</td>
<td>1734328-2</td>
<td>T/R</td>
<td>15</td>
</tr>
<tr>
<td>Plug</td>
<td>Mini-A</td>
<td>440315</td>
<td>—</td>
<td>Loose Piece</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Mini-B</td>
<td>—</td>
<td>1734205-1</td>
<td>Loose Piece</td>
<td>17</td>
</tr>
</tbody>
</table>
Mini USB Receptacle Assemblies (Continued)

Part Number 1734327
Mini-A

Part Number 440479
Mini-AB

Performance Data
Electrical
Dielectric Withstanding Voltage — 100 VAC
Current Rating — 1.5A @ 250VAC min.
Insulation Resistance — 100 megohms min.
Contact Resistance — 50 miliohms max.
Contact Capacitance — 2pf max per contact
Safety Certification — Recognized under the Component Program of Underwriters Laboratories, Inc.
File No. E81956

Mechanical
Durability — 5,000 cycles
Mating Force — 3.57 kg. max.
Unmating Force — .31 kg. min.
Recommended PCB Board Thickness — 1.57 [.062] and 0.80 [.031]

Materials
Housing — High temperature, thermoplastic glass filled; UL-94-V-0 rated; color black
Shell — Copper alloy
Contacts — 76 microns Au mating end, tin or tin/lead on solder tails as needed

Dimensions are shown for reference purposes only. Specifications subject to change.

Recommended PCB Layout (Mounting Side)
for Part Numbers 440478 and 440479
Thickness 1.57 [.062]
Mini USB Receptacle Assemblies (Continued)

Right Angle, SMT
Mini-B
Part Numbers: 440247
RoHS Compliant: 1734035

Product Specification
108-57062

Connector System for Universal Serial Bus (USB)

Recommended PCB Layout
(Mounting Side)
Thickness 1.57 [.062]
Mini USB Plug Assemblies

Cable Plug
Mini USB Type A

Part Number: 440315-1
Lower Shell: 440315-2
Upper Shell: 440315-3, &
1-440315-3

Product Specification 108-57062

Cable Plug
Mini USB Type B

Part Number 1734205-1
Lower Shell and Upper Shell

Product Specification 108-57062

For Part Number 440180-1

For Part Number 1-440180-1
We currently offer a number of customer specials, but still only one standard cable assembly.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Dim. L (Cable Length)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1487586-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.500 m</td>
</tr>
<tr>
<td>1487586-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.250 m</td>
</tr>
<tr>
<td>1487586-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.162 m</td>
</tr>
<tr>
<td>1487586-4</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.310 m</td>
</tr>
<tr>
<td>1487587-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.000 m</td>
</tr>
<tr>
<td>1487587-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.300 m</td>
</tr>
<tr>
<td>1487587-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.630 m</td>
</tr>
<tr>
<td>1487588-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>2.000 m</td>
</tr>
<tr>
<td>1487588-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.500 m</td>
</tr>
<tr>
<td>1487588-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.829 m</td>
</tr>
<tr>
<td>1487589-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>3.000 m</td>
</tr>
<tr>
<td>1487589-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>2.500 m</td>
</tr>
<tr>
<td>1487589-3</td>
<td>Standard USB-A to NC Assembly</td>
<td>0.830 m</td>
</tr>
<tr>
<td>1487590-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>4.000 m</td>
</tr>
<tr>
<td>1487590-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>5.000 m</td>
</tr>
<tr>
<td>1487591</td>
<td>Standard USB-A to NC Assembly</td>
<td>0.780 – 0.830 m</td>
</tr>
<tr>
<td>1487592</td>
<td>Standard USB-A to NC Assembly</td>
<td>0.950 – 1.000 m</td>
</tr>
<tr>
<td>1487593-1</td>
<td>Standard USB-A to NC Assembly</td>
<td>2.000 m</td>
</tr>
<tr>
<td>1487593-2</td>
<td>Standard USB-A to NC Assembly</td>
<td>1.500 m</td>
</tr>
<tr>
<td>1487594-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.500 m</td>
</tr>
<tr>
<td>1487594-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.250 m</td>
</tr>
<tr>
<td>1487594-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.162 m</td>
</tr>
<tr>
<td>1487594-4</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.310 m</td>
</tr>
<tr>
<td>1487595-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.000 m</td>
</tr>
<tr>
<td>1487595-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.300 m</td>
</tr>
<tr>
<td>1487595-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>0.830 m</td>
</tr>
<tr>
<td>1487596-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>2.000 m</td>
</tr>
<tr>
<td>1487596-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.500 m</td>
</tr>
<tr>
<td>1487596-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.829 m</td>
</tr>
<tr>
<td>1487596-4</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.000 m</td>
</tr>
<tr>
<td>1487597-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>3.000 m</td>
</tr>
<tr>
<td>1487597-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>2.500 m</td>
</tr>
<tr>
<td>1487597-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>3.500 m</td>
</tr>
<tr>
<td>1487598-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>4.000 m</td>
</tr>
<tr>
<td>1487599</td>
<td>Standard USB-A to NC Assembly</td>
<td>0.780 – 0.830 m</td>
</tr>
<tr>
<td>1487600</td>
<td>Standard USB-A to NC Assembly</td>
<td>0.950 – 1.000 m</td>
</tr>
<tr>
<td>1487601-1</td>
<td>Standard USB-A to NC Assembly</td>
<td>2.000 m</td>
</tr>
<tr>
<td>1487601-2</td>
<td>Standard USB-A to NC Assembly</td>
<td>1.500 m</td>
</tr>
<tr>
<td>1496476-1</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.000 m</td>
</tr>
<tr>
<td>1496476-2</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>1.500 m</td>
</tr>
<tr>
<td>1496476-3</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>2.000 m</td>
</tr>
<tr>
<td>1496476-4</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>3.000 m</td>
</tr>
<tr>
<td>1496476-5</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>5.000 m</td>
</tr>
<tr>
<td>1496476-6</td>
<td>Standard USB-A to Mini-B Assembly</td>
<td>12&quot;</td>
</tr>
</tbody>
</table>

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-5-729-0425
South America: 55-11-3611-1514
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-141-810-8967

Downloaded from Arrow.com.
Connector System for Universal Serial Bus (USB)

RJ45 Over USB Series A

Stacked, Thru-Hole

Product Facts
- Meets or exceeds FCC Part 68 rules and regulations; REA PE-76; and UL 1863, Communication Circuit Accessories
- Meets 1000 volt dielectric requirement Contact to Contact
- 20 dB shielding effectiveness from 30 MHz to 400 MHz
- Selectively gold plated contacts for lower cost
- All jacks are UL 94V-0 flame retardant polyester, standard color black, unless specified otherwise
- Listed by Underwriters Laboratories Inc., File No. E81955
- Certified by Canadian Standards Association, File No. LR 7189A
- Produced under a Quality Management System Certified to ISO 9001

A copy of the certificate is available upon request

Specifications

Electrical
- Current Rating — 1.5 amp max. @ 25°C, derated to 0.2 amp max. @ 70°C ambient
- Voltage Rating — 150 volts AC max.
- Dielectric Withstanding Voltage — 1000 VAC, RMS, 60 Hz, 1 min. Contact to Contact

Mechanical
- PC Board Retention — will not dislodge from pc board when subjected to 1 lb. [4.4N] pull before soldering and 10 lb. [44N] pull after soldering
- Durability — 750 mating cycles

Material and Finish
- Housing — Through-hole: Polyester (wave solder compatible), UL 94V-0 rated; Surface Mount: Polyphenylene Sulfide, or High Temp Nylon, UL 94V-0 rated
- RJ45/2USB Contact — 0.36 [0.014] thk. Phosphor bronze; plated 0.00127 [0.000050] gold in contact area and 0.00381 [0.000150] tin-lead on solder tails, over 0.00127 [0.000050] nickel underplate
- RJ45/1USB Contact — Gold flash plating on contact area and 0.00254 [0.000100] tin on solder tails, over 0.00127 [0.000050] nickel underplate

Notes:
- Consult Tyco Electronics Customer Drawing for additional Part Numbers.

<table>
<thead>
<tr>
<th>No. of Ports</th>
<th>Part Number</th>
<th>Positions/Contacts</th>
<th>LEDs</th>
<th>Shielded</th>
<th>Performance</th>
<th>Panel Stops</th>
<th>Inverted</th>
<th>Ground Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ45/1USB</td>
<td>1775855-1</td>
<td>8/8</td>
<td>Without</td>
<td>Yes</td>
<td>Cat 3</td>
<td>Without</td>
<td>No</td>
<td>PCB</td>
</tr>
<tr>
<td>RJ45/2USB</td>
<td>1116151-2</td>
<td>8/8</td>
<td>With</td>
<td>Yes</td>
<td>Cat 3</td>
<td>Without</td>
<td>No</td>
<td>PCB</td>
</tr>
<tr>
<td>RJ45/2USB</td>
<td>1116151-3</td>
<td>8/8</td>
<td>Without</td>
<td>Yes</td>
<td>Cat 3</td>
<td>Without</td>
<td>No</td>
<td>PCB</td>
</tr>
<tr>
<td>RJ45/2USB</td>
<td>1116640-2</td>
<td>8/8</td>
<td>With</td>
<td>Yes</td>
<td>Cat 3</td>
<td>Without</td>
<td>No</td>
<td>PCB</td>
</tr>
</tbody>
</table>

Note: Consult Tyco Electronics Customer Drawing for additional Part Numbers.

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.
MAG45 Modular Jacks with Integrated Magnetics Over Stacked USB Series A

### Connector System for Universal Serial Bus (USB)

**Stacked, Thru-Hole**
**USB/RJ45**
(10/100 Base-T or Gigabit)

### Product Facts
- USB/RJ45 with integrated magnetics
- 10/100 or Gigabit applications
- Stacked USB type A included
- UL Recognized
- Available with LEDs
- IEEE 802.3 & ANSI X3.263 Compliant
- USB 2.0 Compliant
- Numerous circuit options available
- Supports all appropriate and available PHY Chips and applications
- For assistance in part selection, please refer to the Tyco Electronics E-Catalog
- Your Tyco Electronics Sales Representative or one of the Product Information Centers listed below are also available to assist

**USB/RJ45**

<table>
<thead>
<tr>
<th>&gt; 10/100 Base-T</th>
<th>&gt; 10/100 PoE</th>
<th>Gigabit</th>
<th>Gigabit PoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>No</td>
<td>✓</td>
<td>No</td>
</tr>
</tbody>
</table>

*Multiple LED colors with and without resistors available.

**Dimensions**
- **Ref. Connector**
  - Ø 2.31 ± 0.08 ± 0.003 [in. ± .003]
  - 10 Pcs.
- **Ref. Front Edge PCB**
  - Ø 1.57 ± 0.08 ± 0.003 [in. ± .003]
  - 4 Pcs.
- **Ref. PCB Footprint**
  - Ø 0.97 ± 0.08 ± 0.003 [in. ± .003]
  - 8 Pcs.
- **Connector Envelope**
  - Ø 10.15 ± 0.08 ± 0.003 [in. ± .003]
  - 15 Pcs.
- **Connector Envelope**
  - Ø 0.89 ± 0.08 ± 0.003 [in. ± .003]
  - 15 Pcs.

**PCB Footprint**

**USB/RJ45***

<table>
<thead>
<tr>
<th>&gt; 10/100 Base-T</th>
<th>&gt; 10/100 PoE</th>
<th>Gigabit</th>
<th>Gigabit PoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>No</td>
<td>✓</td>
<td>No</td>
</tr>
</tbody>
</table>

*Multiple LED colors with and without resistors available.

**Part Numbers**

<table>
<thead>
<tr>
<th>10/100</th>
<th>10/100 RoHS Compliant</th>
<th>Gigabit</th>
<th>Gigabit RoHS Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1620004-1</td>
<td>6620004-1</td>
<td>1368162-1</td>
<td>6368162-1</td>
</tr>
<tr>
<td>1620002-1</td>
<td>6620002-1</td>
<td>1368472-1</td>
<td>6368472-1</td>
</tr>
<tr>
<td>1368532-1</td>
<td>6368532-1</td>
<td>1620009-1</td>
<td>6620009-1</td>
</tr>
</tbody>
</table>
Connector System for Universal Serial Bus (USB)

IEEE Over Stacked USB Series A

Stacked, DIP Type

Part Number
1775813

Material and Finish

Housing/Cover/Frame — High temperature thermoplastic, UL94V-0, color black

Contacts —
Shield — Brass with 100µ" min. nickel plating overall, tin hot dipped on solder area
USB Contact — Phosphor bronze with gold flash plating on contact area, 150µ" bright tin plating on solder tail area, 50µ" min. nickel underplating overall;
USB Shell — Phosphor bronze with 120µ" min. bright tin plating overall, 50µ" min. nickel underplating overall;
USB Clip — Stainless steel;
IEEE1394 Shell — Phosphor bronze with 100µ" min. nickel plating overall;
IEEE1394 Contact — Phosphor bronze with 15µ" min. gold plating on contact area, 150µ" min. bright tin plating on solder tail area, 50µ" min. nickel underplating overall.

Recommended PCB Thickness — 1.57 [.062]

Disclaimer

While Tyco Electronics Corporation and its affiliates referenced herein ("Tyco Electronics") have made every reasonable effort to ensure the accuracy of the information in this catalog, Tyco Electronics does not guarantee that it is error-free, nor does Tyco Electronics make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current.

Tyco Electronics reserves the right to make any adjustments to the information contained herein at any time without notice. Tyco Electronics expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. Tyco Electronics' only obligations are those in the Tyco Electronics Standard Terms and Conditions of Sale, and in no case will Tyco Electronics be responsible for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products. Users should independently evaluate the suitability of, and test each product for, their application.
### Americas

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Buenos Aires</td>
<td>+54-11-4733-2000</td>
<td>+54-11-4733-2211</td>
</tr>
<tr>
<td>Brasil</td>
<td>São Paulo</td>
<td>+55-11-3611-1311</td>
<td>+55-11-3611-0997</td>
</tr>
<tr>
<td>Canada</td>
<td>Toronto</td>
<td>+905-477-6222</td>
<td>+905-474-5520</td>
</tr>
<tr>
<td>Mexico</td>
<td>Mexico City</td>
<td>+52-5-381-0600</td>
<td>+52-5-381-8545</td>
</tr>
<tr>
<td>United States</td>
<td>Harrisburg, PA</td>
<td>+717-986-7575</td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>Bogota</td>
<td>+57-1-231-8996</td>
<td>+57-1-690-0206</td>
</tr>
</tbody>
</table>

### Asia/Pacific

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Sydney</td>
<td>+61-2-9554-2000</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Bangalore</td>
<td>+91-80-285-8000</td>
<td>+91-80-285-8020</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Jakarta</td>
<td>+65-6482-0311</td>
<td>+65-6482-1012</td>
</tr>
<tr>
<td>Japan</td>
<td>Tokyo</td>
<td>+81-44-844-8111</td>
<td>+81-44-842-2307</td>
</tr>
<tr>
<td>Raychem</td>
<td>Neunkirchen</td>
<td>+49-2247-305-07</td>
<td>+49-2247-305-122</td>
</tr>
<tr>
<td>Korea</td>
<td>Seoul</td>
<td>+82-2-3415-4500</td>
<td>+82-2-3486-3810</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Kuala Lumpur</td>
<td>+60-3-78053055</td>
<td>+60-3-78053066</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Auckland</td>
<td>+64-9-634-4580</td>
<td>+64-9-634-4586</td>
</tr>
<tr>
<td>Philippines</td>
<td>Makati City</td>
<td>+632-648-0171</td>
<td>+632-667-9861</td>
</tr>
<tr>
<td>People’s Republic of China</td>
<td></td>
<td>+852-2735-1628</td>
<td>+852-2735-0243</td>
</tr>
<tr>
<td>Singapore</td>
<td>Singapore</td>
<td>+65-6482-1012</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Bangkok</td>
<td>+66-2-955-0500</td>
<td>+66-2-955-0505</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Ho Chi Minh City</td>
<td>+84-8-930-5546</td>
<td>+84-8-930-3443</td>
</tr>
</tbody>
</table>

### Europe/Middle East/Africa

<table>
<thead>
<tr>
<th>Country</th>
<th>City</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Vienna</td>
<td>+43-1-90 580-0</td>
<td>+43-1-90 580-1333</td>
</tr>
<tr>
<td>Belgium</td>
<td>Kessel-Lo</td>
<td>+32-16-35-23-00</td>
<td>+32-16-35-23-52</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Sofia</td>
<td>+359-2-971-2152</td>
<td>+359-2-971-2153</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Kurim</td>
<td>+420-5-41-162-111</td>
<td>+420-5-41-162-223</td>
</tr>
<tr>
<td>Denmark</td>
<td>Glosup</td>
<td>+45-43-480-452</td>
<td>+45-43-441-417</td>
</tr>
<tr>
<td>Egypt</td>
<td>Cairo</td>
<td>+20-2-417-76-47</td>
<td>+20-2-419-23-94</td>
</tr>
<tr>
<td>Finland</td>
<td>Helsinki</td>
<td>+358-9-12-34-20</td>
<td>+358-9-12-34-250</td>
</tr>
<tr>
<td>France</td>
<td>Cergy-Pontoise</td>
<td>+33-1-3420-8888</td>
<td>+33-1-3420-8900</td>
</tr>
<tr>
<td>Germany</td>
<td>Spayr</td>
<td>+49-6220-30-00</td>
<td>+49-6220-32-2243</td>
</tr>
<tr>
<td>Germany</td>
<td>HTS Division</td>
<td>+49-2247-305-10</td>
<td>+49-2247-305-122</td>
</tr>
<tr>
<td>Great Britain</td>
<td>Stanmore Middlesex</td>
<td>+44-8700-360-208</td>
<td>+44-1793-572-109</td>
</tr>
<tr>
<td>Greece</td>
<td>Athens</td>
<td>+30-1-9370-3621</td>
<td>+30-1-9370-397</td>
</tr>
<tr>
<td>Hungary</td>
<td>Budapest</td>
<td>+36-1-289-1000</td>
<td>+36-1-289-1010</td>
</tr>
<tr>
<td>Ireland</td>
<td>Dublin</td>
<td>+353-1-820-3000</td>
<td>+353-1-820-970</td>
</tr>
<tr>
<td>Israel</td>
<td>Yokneem</td>
<td>+972-4-959-0506</td>
<td>+972-4-959-0066</td>
</tr>
<tr>
<td>Italy</td>
<td>Collegno (Torino)</td>
<td>+39-011-4012-111</td>
<td>+39-011-4031-116</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Vilnius</td>
<td>+370-5-2131-402</td>
<td>+370-5-2131-403</td>
</tr>
<tr>
<td>Norway</td>
<td>Nestru</td>
<td>+47-66-77-896</td>
<td>+47-66-77-8856</td>
</tr>
<tr>
<td>Poland</td>
<td>Warsaw</td>
<td>+48-22-45-76-700</td>
<td>+48-22-45-76-720</td>
</tr>
<tr>
<td>Romania</td>
<td>Bucharest</td>
<td>+40-21-311-3479-3966</td>
<td>+40-21-312-0274</td>
</tr>
<tr>
<td>Russia</td>
<td>Moscow</td>
<td>+7-095-926-5008</td>
<td>+7-095-926-5005</td>
</tr>
<tr>
<td>Russia</td>
<td>St. Petersburg</td>
<td>+7-812-718-8192</td>
<td>+7-812-718-8193</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Ljubljana</td>
<td>+386-1561-2370</td>
<td>+386-1561-3240</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Steinach</td>
<td>+41-71-447-0447</td>
<td>+41-71-447-0444</td>
</tr>
<tr>
<td>Turkey</td>
<td>Istanbul</td>
<td>+90-212-281-8181/2/3</td>
<td>+90-212-281-8184</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Kiev</td>
<td>+380-044-206-2265</td>
<td>+380-044-206-2265</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>England</td>
<td>+44-77-1561-2370</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>Port Elizabeth</td>
<td>+2741-503-4500</td>
<td>+2741-581-0440</td>
</tr>
<tr>
<td>Spain</td>
<td>Barcelona</td>
<td>+34-93-291-0330</td>
<td>+34-93-201-7879</td>
</tr>
<tr>
<td>South Africa</td>
<td>Port Elizabeth</td>
<td>+2741-503-4500</td>
<td>+2741-581-0440</td>
</tr>
<tr>
<td>Brazil</td>
<td>Sao Paulo</td>
<td>+55-11-4733-2200</td>
<td>+55-11-4733-2211</td>
</tr>
<tr>
<td>Colombia</td>
<td>Bogota</td>
<td>+57-1-231-8996</td>
<td>+57-1-690-0206</td>
</tr>
</tbody>
</table>

### Need more information?

Call Technical Support at the numbers listed below.

Technical Support is staffed with specialists well versed in Tyco Electronics products. They can provide you with:

- **Technical support**
- **Catalogs**
- **Technical Documents**
- **Product Samples**
- **Authorized Distributor Locations**

United States: +717-986-7575
Canada: +905-477-6222
United Kingdom: +44-1793-528171
Japan: +81-44-844-8111
Argentina: +54-11-4733-2200
Brazil: +55-11-3611-1311

For Latin/South American Countries not shown:

Phone: +54-11-4733-2200
Fax: +54-11-4733-2211