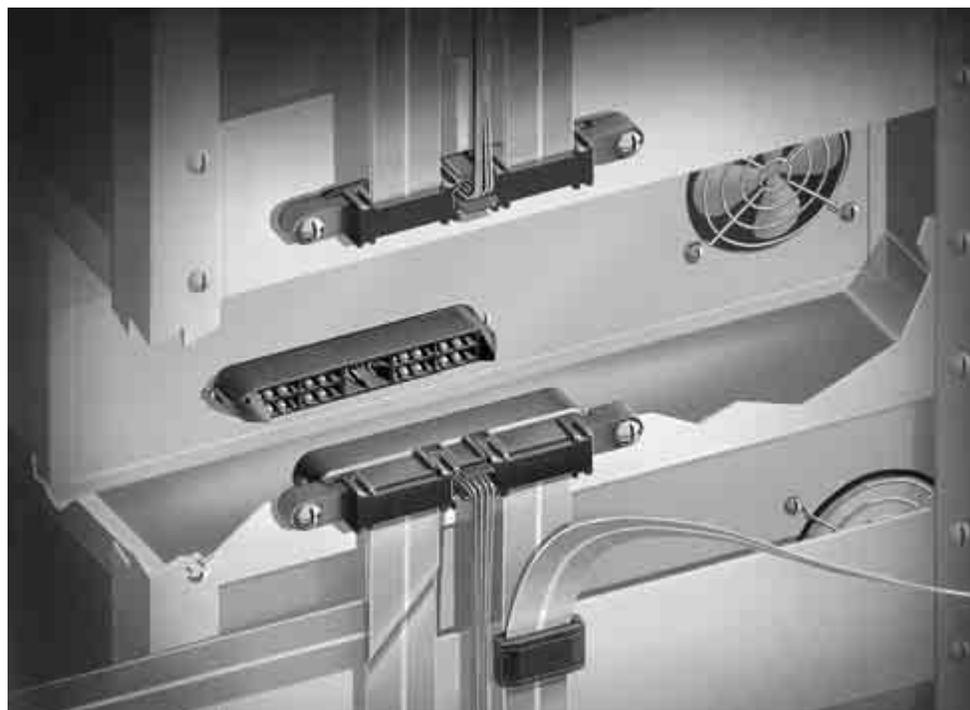


## AMPOWER Wave Crimp System

### Product Facts

- Termination of flat cable requires no stripping, does not reduce cable cross section and provides a reliable, low resistance, gas tight interface
- Separable interfaces have positive locking, polarization and contact shrouding
- Right-angle and vertical headers on 2.54 [.100] centers, accommodate standard 1.02 [.040] PCB hole diameters
- Four cable self-aligning connector can pickup 2.03 [.080] misalignment off a common axis and measures 80 amps per cable (at 30°C temperature rise) depending upon the application
- Unique tap permits branching of trunk lines to serve multiple distribution points
- Assemblies are measured at 80–110 amps (with 30°C temperature rise) depending upon mounting interface
- Recognized under the Component Program of Underwriters Laboratories Inc.,  File No. E28476, No. E13288, and No. E53799
- Certified by Canadian Standards Association,  File No. LR7189A-149



Today's intelligent systems require more sophisticated power distribution solutions than ever before. Even the conductor geometry can make a significant impact on systems performance. Flat conductors offer desirable packaging advantages:

- Improved heat dissipation resulting in higher current capacity or reduced operating temperature.
- Low inductance, high capacitance power distribution.
- Reduced noise.
- Packaging flexibility.

The AMPOWER Wave Crimp System is the first power distribution system to offer a cost effective, totally mechanical termination method for insulated flat copper cable.

Assemblies provide:

A fully shrouded and polarized separable interface with right-angle and vertical board-mount headers.

The first flat cable tap that allows branching from primary trunk lines, side tap-

ping and discrete wire tapping.

Blindmate drawer connectors feature sequential mating and signal contacts.

AMPOWER flat cable assemblies provide a unique and effective means of distributing power from source to load in today's high speed, high density systems.

### Performance Data

**Voltage Rating** — 250 V AC RMS/DC. Single conductor cable assemblies are available with a 600 V AC RMS/DC rating.

**Dielectric Withstanding Voltage** — Power Contact: 1500 VAC  
Signal Contact: 1200 VAC

**Insulation Resistance** — 5000 megohms initial  
1000 megohms final

**Temperature Range** — -55°C to +105°C

**Current Rating** — Refer to Product and/or Application Specifications.

### Typical Applications

- Mass Storage
- Switches
- Various Power Distribution Applications

### Technical Documents

#### Product Specifications

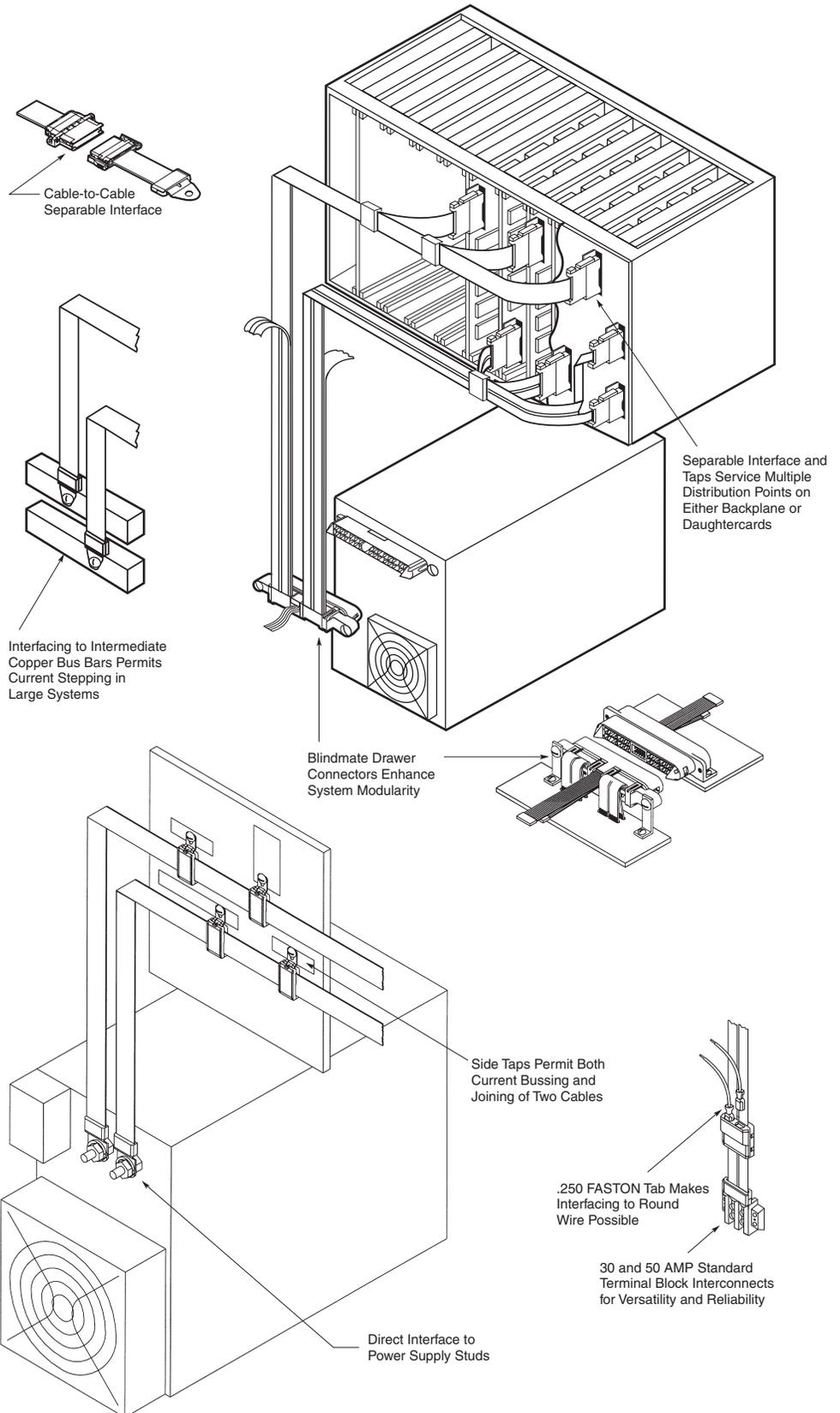
- 108-1308 Separable Interface
- 108-1313 Terminal Block & Stud Interface
- 108-1315 Cable Tap Interface
- 108-1319 Drawer Connector
- 108-1387 FASTON Wire Tap
- 108-1391 Side Tap
- 108-1323 Cable Specification
- 108-1410 ACTION PIN Header
- 108-1436 Cable-to-Cable Drawer Connector
- 108-1479 ACTION PIN Self-Aligning Connector
- 108-1403 Self-Aligning Header and Receptacle
- 108-1408 Wave Crimp System (Cable-to-Cable)

**Application Specification**  
114-49005

**AMPOWER Wave Crimp System** (Continued)

**Applications**

The variety of AMPOWER wave crimp system interfaces available from Tyco Electronics make flat copper cable a versatile and innovative systems solution to power distribution.



AMPOWER Wave Crimp System

**AMPOWER Wave Crimp System** (Continued)

**Copper Cable Options**

Copper cable used in AMPOWER wave crimp system assemblies are available in a variety of thicknesses and widths. The most common cable sizes are shown here.

Conductor Thickness	Resistance	
	Single	Dual
0.25 .010	.912	2.030
0.51 .020	.456	.996

**Note:** The D.C. resistance of a 304.80 [12.00] length of conductor, when measured at 25°C and 10 amps, shall be < this figure (in milliohms).

Circular MILS	Approx AWG	Amps
Per Conductor		

<p>Single Conductor</p>	12,566	9	80
<p>Dual Conductor</p>	5,729	13	40/40
<p>Single Conductor</p>	25,133	6	110
<p>Dual Conductor</p>	11,459	10	55/55

AMPOWER Wave Crimp System

**AMPOWER Wave Crimp System** (Continued)

**Terminal Block and Stud Interface**

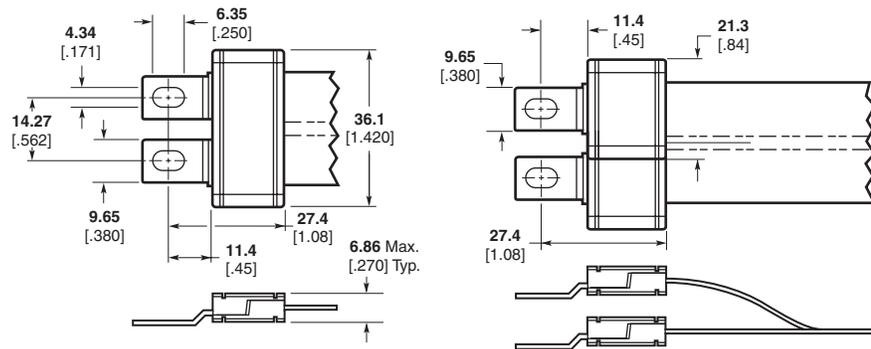
**Material and Finish**

**Housing** — UL 94V-0 rated thermoplastic, black

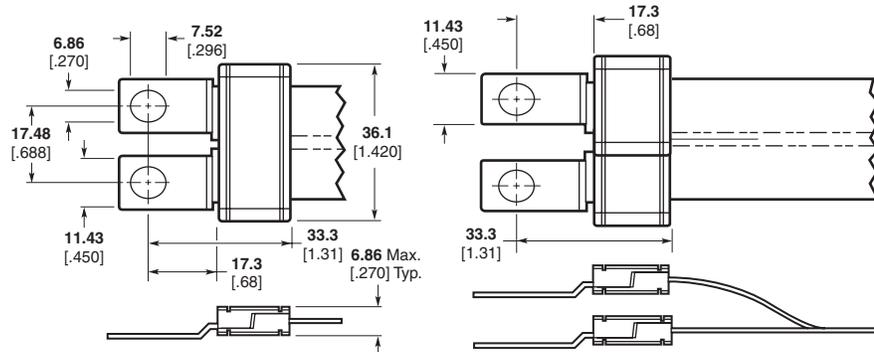
**Contacts** — Copper alloy silver on termination and mating interface.

All over nickel base plate.

**Terminal Block Interface (14.27 [.562] Centerline)**

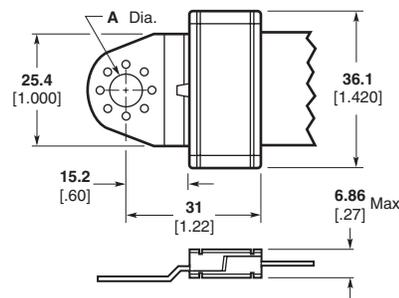


**Terminal Block Interface (17.48 [.688] Centerline)**



Centerline Spacing	Part Numbers	
	Termination Assembly	Cover
14.24 .562	—	765228-1 Full Width
—	—	765229-1 Half Width
17.48 .688	765225-1	765228-1 Full Width
—	765225-1	765229-1 Half Width

**Stud Interface**



Stud Size	Hole Size "A"	Part Numbers
		Cover (x2)
1/4"	6.76 .266	765228-1
5/16"	8.33 .328	765228-1

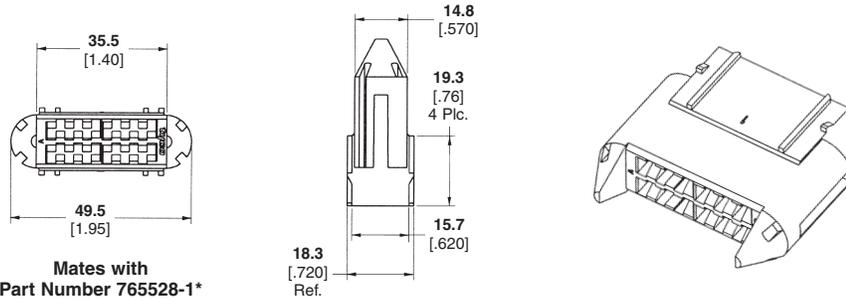
**Note:** All part numbers are RoHS compliant.

AMPOWER Wave Crimp System

**AMPOWER Wave Crimp System** (Continued)

**Cable-to-Cable Blindmate Receptacle Housing**

**Part Number 766569-1**



**Mates with Part Number 765528-1\***

\*Panel-mount (765530-1) or squeeze-to-release (765529-1) strain relief can be used on either 766569-1 or 765528-1 housing. At least one housing must have the squeeze-to-release strain relief; the panel-mount strain relief is optional on the mating housing.

**Separable Interface**

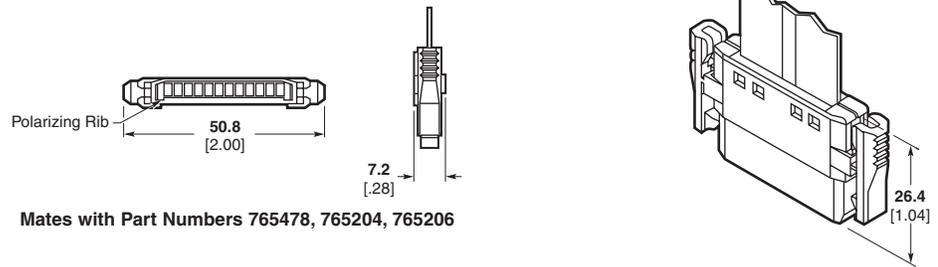
**Material and Finish**

**Housing** — UL94V-0 rated thermoplastic, black

**Contact** — Copper alloy silver on termination and mating interface.

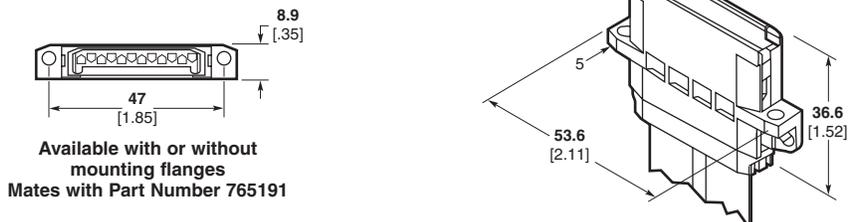
Tin-lead on header solder and ACTION PIN contact Tails. All over nickel base plate.

**Plug Part Number 765191-1**



**Mates with Part Numbers 765478, 765204, 765206**

**Cable-to-Cable Receptacle Part Number 765478-1**



**Available with or without mounting flanges**  
**Mates with Part Number 765191**

**Note:** All part numbers are RoHS compliant.

**AMPOWER Wave Crimp System (Continued)**

**Separable Interface — Headers**

**Material and Finish**

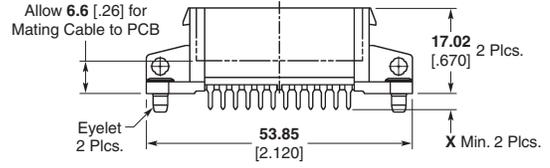
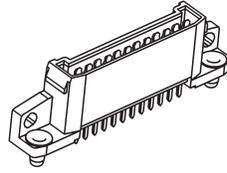
**Housing** — UL94V-0 rated thermoplastic, black

**Contact** — Copper alloy silver on termination and mating interface.

Tin-lead on header solder and ACTION PIN contact Tails.

All over nickel base plate.

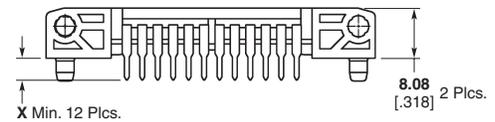
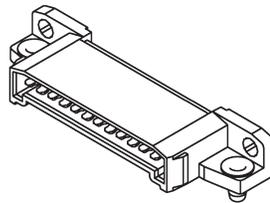
**Vertical Header**



"X"	Tail Type	Housing	Part Numbers
3.15 .124	Solder Tail	Standard Temp, Black	765206-1
5.72 .225	Solder Tail	Standard Temp, Black	765206-4
4.19 .165	Solder Tail	High Temp, Natural	765206-6
3.66 .144	ACTION PIN Tail	Standard Temp, Black	765271-1 <sup>1</sup>

<sup>1</sup>Uses insertion tool Part Number 765312-1

**Horizontal Header**



Mates with Part Number 766569-1

"X"	Tail Type	Housing	Part Numbers
4.19 .165	Solder Tail	Standard Temp, Black	765204-2
3.15 .124	Solder Tail	High Temp, Natural	765204-5
4.19 .165	Solder Tail	High Temp, Natural	765204-6

**Note:** Recommended mounting hardware, 2 #4-40 screws and nuts, or 2 eyelets Tyco Electronics Part Number 748572-2.

**Note:** All part numbers are RoHS compliant.

**AMPOWER Wave Crimp System (Continued)**

**Half Width Plug Header**

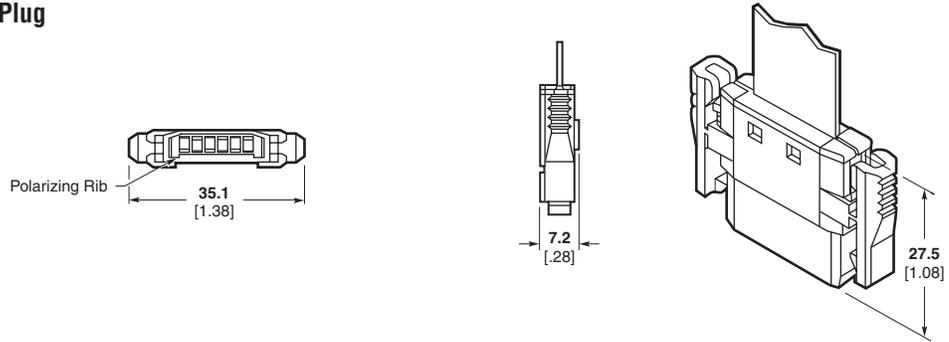
**Material and Finish**

**Housing**—UL94V-0 rated thermoplastic, black

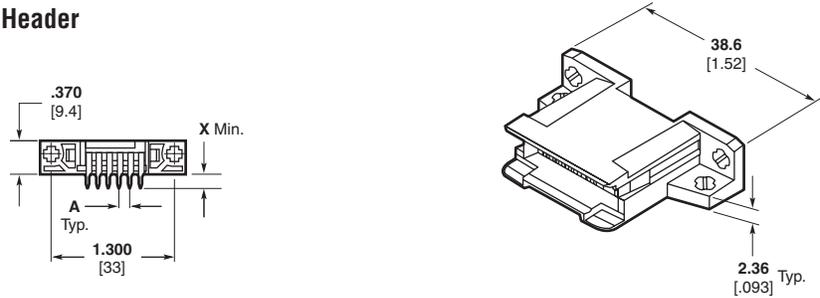
**Contact**—Copper alloy silver on termination and mating interface.

Tin-lead on header solder and ACTION PIN contact Tails.  
All over nickel base plate.

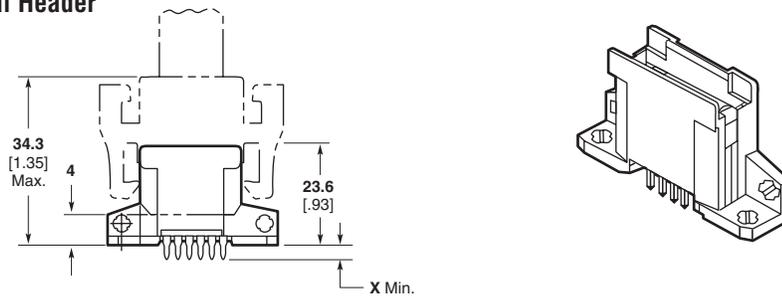
**Plug**



**Horizontal Header**



**Vertical Header**



Header Pin Pitch "A"	"X"	Header Assembly Part Numbers		
		Tail Type	Horizontal	Vertical
2.54 .100	3.15 .124	Solder Tail	765450-1	765449-1
	4.19 .165	Solder Tail	765450-2	765449-2
	5.72 .225	Solder Tail	765450-4	765449-4
	3.66 .144	ACTION PIN Tail	—	765451-1

<sup>1</sup>High temperature material.

**Notes:** Recommended mounting hardware, 2 #4-40, screws and nuts or, 2 eyelets Tyco Electronics Part Number 748572-2, customer supplied.  
Allow 5.65 [.262] for mating cable to PCB.

**Note:** All part numbers are RoHS compliant.

**AMPOWER Wave Crimp System** (Continued)

**Mid-Cable Terminations**

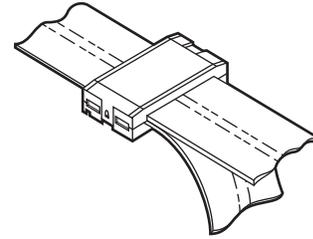
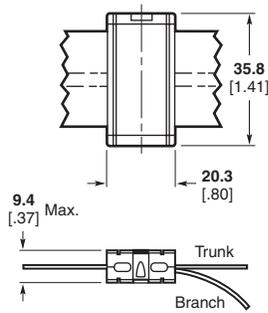
**Material and Finish**

**Housing**—UL94V-0 rated thermoplastic, black

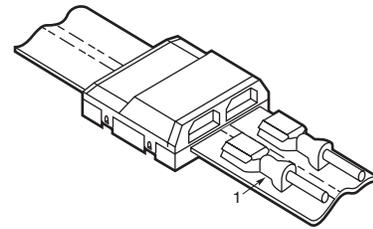
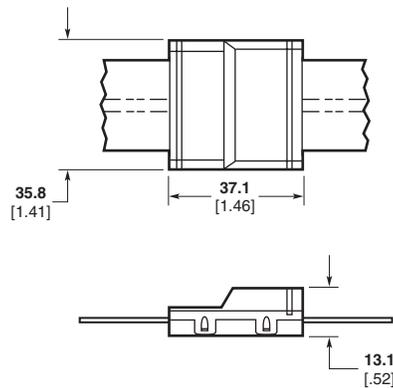
**Contact**—Silver plated copper alloy

All over nickel base plate.

**Tap**

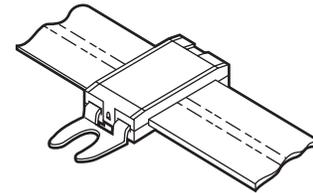
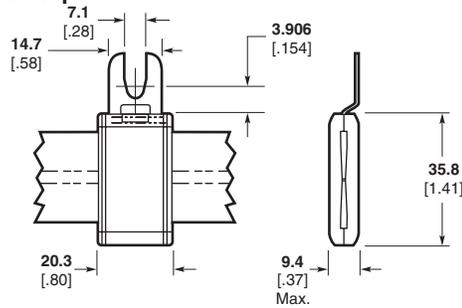


**.250 FASTON Tab Tap**

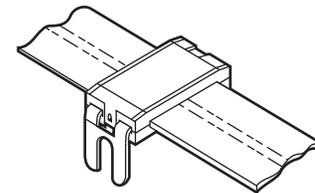
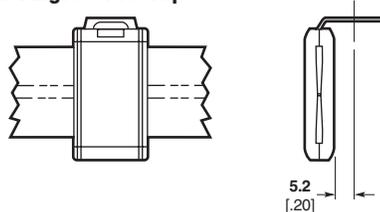


1. FASTON Receptacles not included. Use Ultra-Pod fully insulated FASTON receptacles with 18 AWG to 12 AWG wire.

**Side-Tap**



**Right-Angle Side-Tap**



Termination Type	Part Numbers		
	Termination Assembly	Housing Cover	Housing Base
Flat Cable	765277-1	765278-1	—
.250 FASTON Tab	765276-1	765295-1	765296-1
1/4" Stud	—	765278-1	—
1/4" Stud	765311-1	765278-1	—

**Note:** Connectors on this page are capable of terminating up to two 0.51 [.020] thick cables.

**Note:** All part numbers are RoHS compliant.

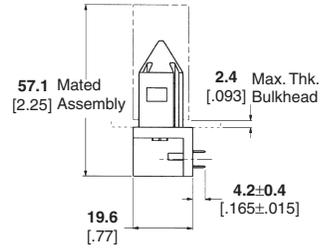
**AMPOWER Wave Crimp System** (Continued)

**Self-Aligning Headers**

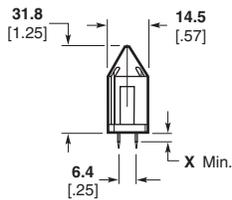
**Material and Finish**

**Housing** — UL94V-0 rated thermoplastic, black

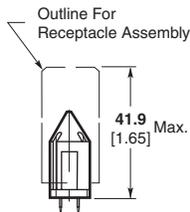
**Contact** — Copper alloy silver on mating interface  
Tin-lead on solder tails.  
ALL over nickel base plate.  
Signal contact gold plate.



Typical For All Right-Angle Headers

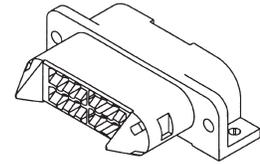
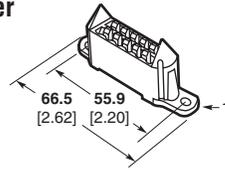


Typical For All Vertical Headers



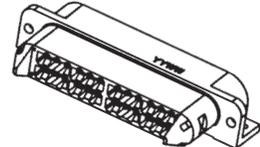
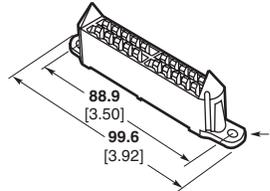
Typical For All Vertical Headers

**2 Cable Header**



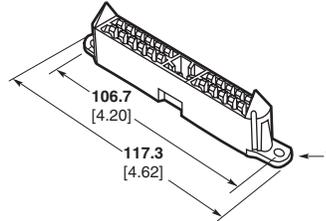
Part Number 765608-1

**4 Cable Header**

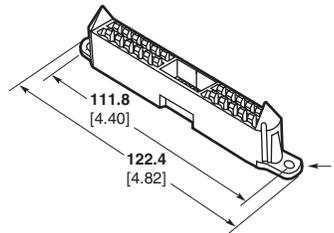


Part Number 766510-1

**4 Cable Header w/8 Signal Lines<sup>3, 4</sup>**



**4 Cable Header w/21 Signal Lines<sup>3, 4</sup>**



"X"	Tail Type	Part Numbers			
		2 Cable Header	4 Cable Header	4 Cable Header 8 Signal Lines <sup>3</sup>	4 Cable Header 21 Signal Lines <sup>3</sup>
3.10 .122	Solder Tail	765527-1	765208-1	765249-1	765265-1
3.96 .156	Solder Tail	765527-2	765208-2	765249-2	765265-2
3.66 .144	ACTION PIN Tail	765527-5	765208-5	765249-5	765265-5

<sup>1</sup>Mounting holes offset from centerline of part .76 [.030].

<sup>2</sup>High temperature material.

<sup>3</sup>Mates with MINI-TANDEM contact, Tyco Electronics Part Number 530553-x. Reference Catalog 82055.

<sup>4</sup>Signal pins not shown for clarity.

**Notes:** Tail length "x" is 4.20 (.165) for all right-angle headers.

Recommended mounting hardware, 2 #4-40, screws and nuts or, 2 eyelets Tyco Electronics Part Number 748572-2, customer supplied.

**Note:** All part numbers are RoHS compliant.

**AMPOWER Wave Crimp System (Continued)**

**Self-Aligning Receptacles (Float-Mount)**

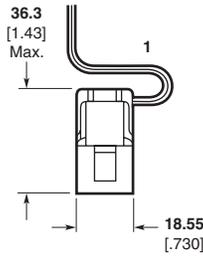
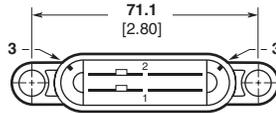
**Material and Finish**

**Housing**—UL94V-0 rated thermoplastic, black

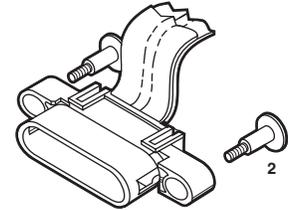
**Contact**—Copper alloy silver on termination and mating interface.

All over nickel base plate.  
Signal contact see page 213.

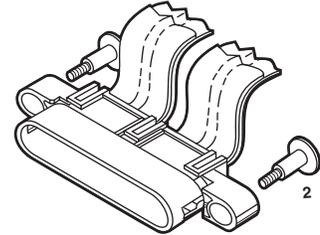
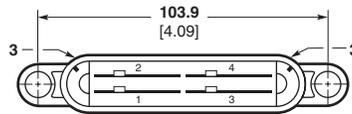
**2 Cable Receptacle**



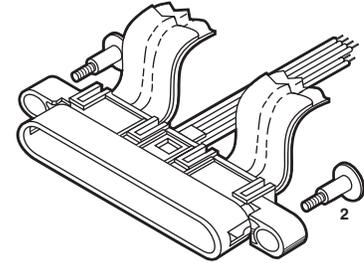
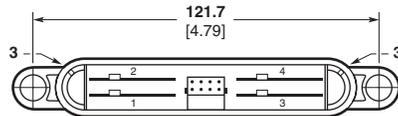
Typical For All Self-Aligning Receptacles



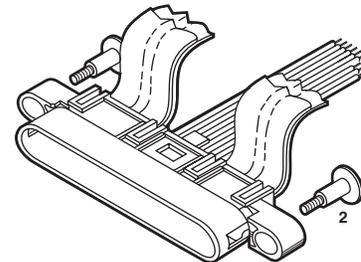
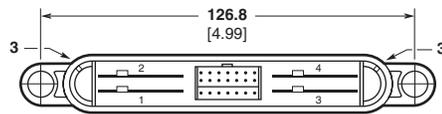
**4 Cable Receptacle**



**4 Cable Receptacle w/8 Signal Lines**



**4 Cable Receptacle w/21 Signal Lines**



	Part Numbers			
	2 Cable w/o Signal Lines	4 Cable w/o Signal Lines	4 Cable w/8 Signal Lines	4 Cable w/21 Signal Lines
Housing	765528-1	765247-1	765224-1	765261-1
Strain Relief	765530-1	765250-1	765238-1	765238-1
Ground Contacts	765209-1	765209-1	765209-1	765209-1
Power Contacts	765209-2	765209-2	765209-2	765209-2

<sup>1</sup>Service loop suggested, allows for connector float.

<sup>2</sup>Recommended mounting hardware, Tyco Electronics Part Number 208211-4, 2 required per kit and 2 #6-32 nuts (customer supplied).

<sup>3</sup>Polarizing ribs, 2 places.

**Note:** Custom signal module assemblies available with power assemblies.

**Note:** All part numbers are RoHS compliant.

**AMPOWER Wave Crimp System** (Continued)

**Self-Aligning Receptacles (Latching)**

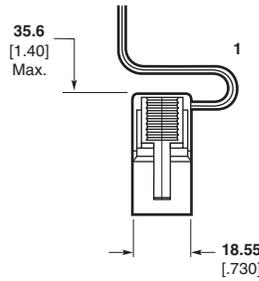
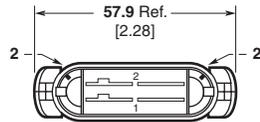
**Material and Finish**

**Housing**—UL94V-0 rated thermoplastic, black

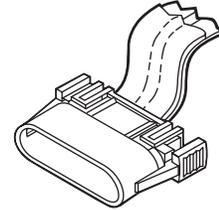
**Contact**—Copper alloy silver on termination and mating interface.

All over nickel base plate.  
Signal contact see page 213.

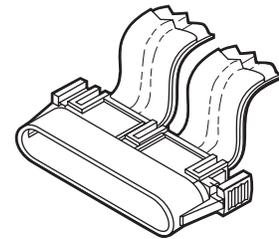
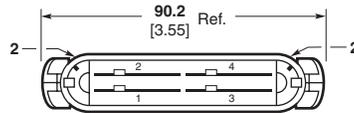
**2 Cable Receptacle**



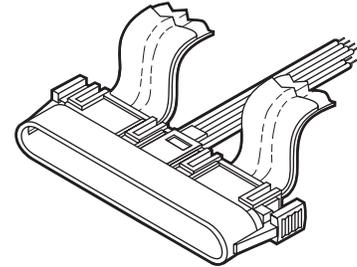
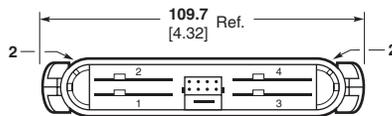
Typical For All Self-Aligning Receptacles



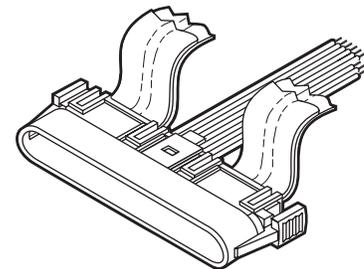
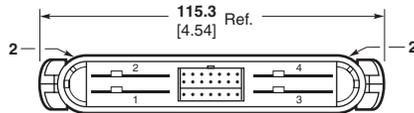
**4 Cable Receptacle**



**4 Cable Receptacle w/8 Signal Lines**



**4 Cable Receptacle w/21 Signal Lines**



	Part Numbers			
	2 Cable	4 Cable	4 Cable w/8 Signal Lines	4 Cable w/21 Signal Lines
Housing	765528-1	765247-1	765224-1	765261-1
Strain Relief	765529-1	765248-1	765251-1	765251-1
Ground Contacts	765209-1	765209-1	765209-1	765209-1
Power Contacts	765209-2	765209-2	765209-2	765209-2

<sup>1</sup>Service loop suggested, allows for connector disconnection.

<sup>2</sup>Polarizing ribs, 2 places.

**Note:** Custom signal module assemblies available with power assemblies.

**Note:** All part numbers are RoHS compliant.

**AMPOWER Wave Crimp System** (Continued)

**Cable-to-Cable Plug Connector w/8 Signal Lines**

**Material and Finish**

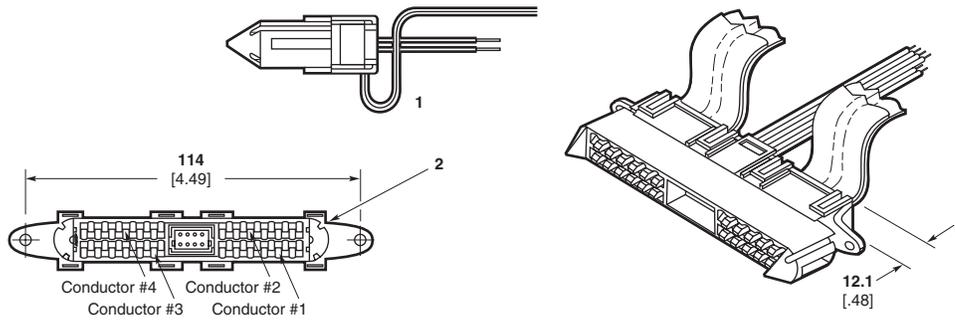
**Housing** — UL94V-0 rated thermoplastic, black

**Contact** — Copper alloy silver plated

All over nickel base plate.

**Mates with** —

Self-Aligning receptacle, with 8 signal lines.



Part Numbers	
4 Cable w/8 Signal Lines	
Housing	765241-1
Strain Relief	765242-1

1Service loop suggested, when float-mount strain relief used (not shown).

2Polarizing slots, 2 places.

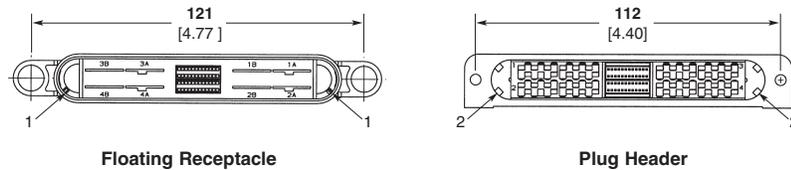
**Note:** Custom signal module assemblies available with power assemblies.

AMPOWER Wave Crimp System

**Self-Aligning Right-Angle Connector w/48 Signal Lines**

**Product Facts**

- Right-angle header for .06"-.12" PWB thickness
- 8 DC contacts
- 48 signal contacts
- 3 possible levels of sequencing
- Blindmate with .19" total mismatch alignment
- Polarization
- Mechanical PWB fasteners
- Drop-in-place custom assemblies



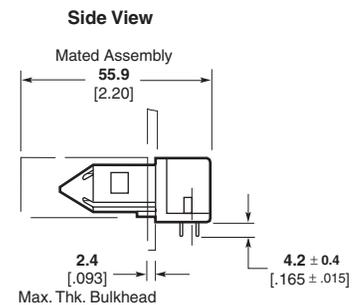
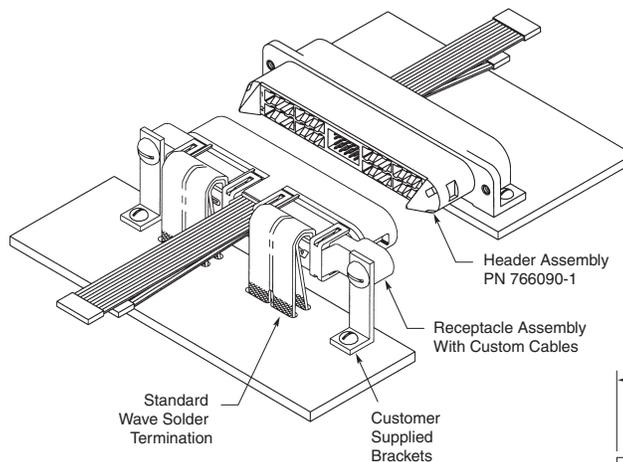
**Material and Finish**

**Housing** — UL94V-0 rated thermoplastic, black

**Contact** — Copper alloy silver on mating interface  
Tin-lead on header solder tails.

All over nickel base plate.

Signal contact gold plate.



1Polarizing rib, 2 places.  
2Polarizing slot, 2 places.

**Note:** All part numbers are RoHS compliant.

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