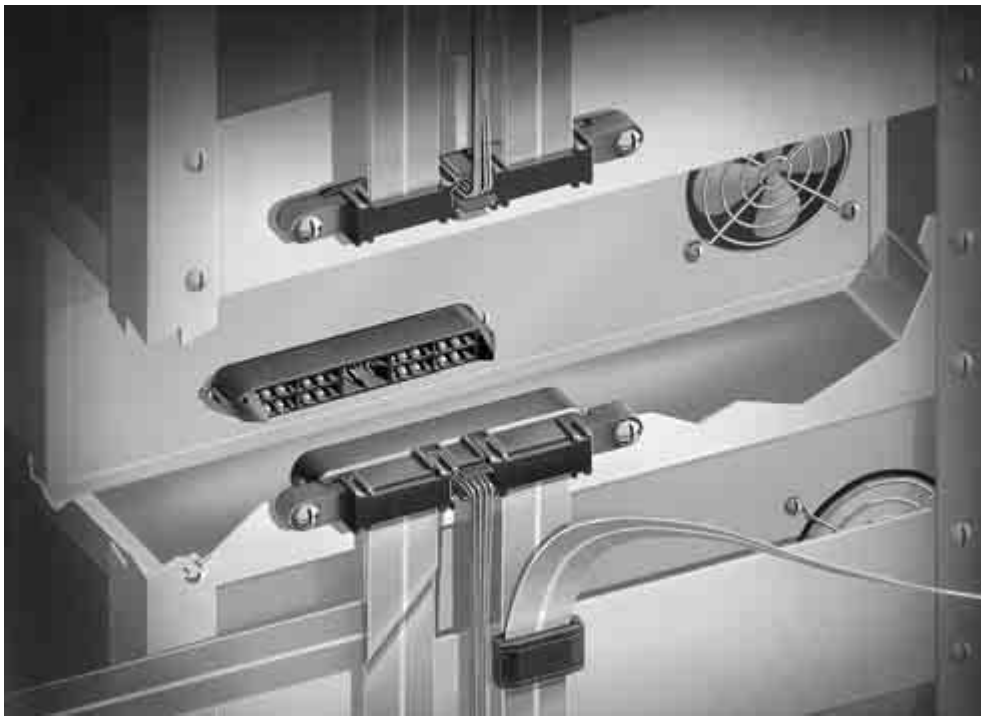
AMPOWER Wave Crimp System

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 tapping 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

Catalog 1773096
Revised 2-10

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

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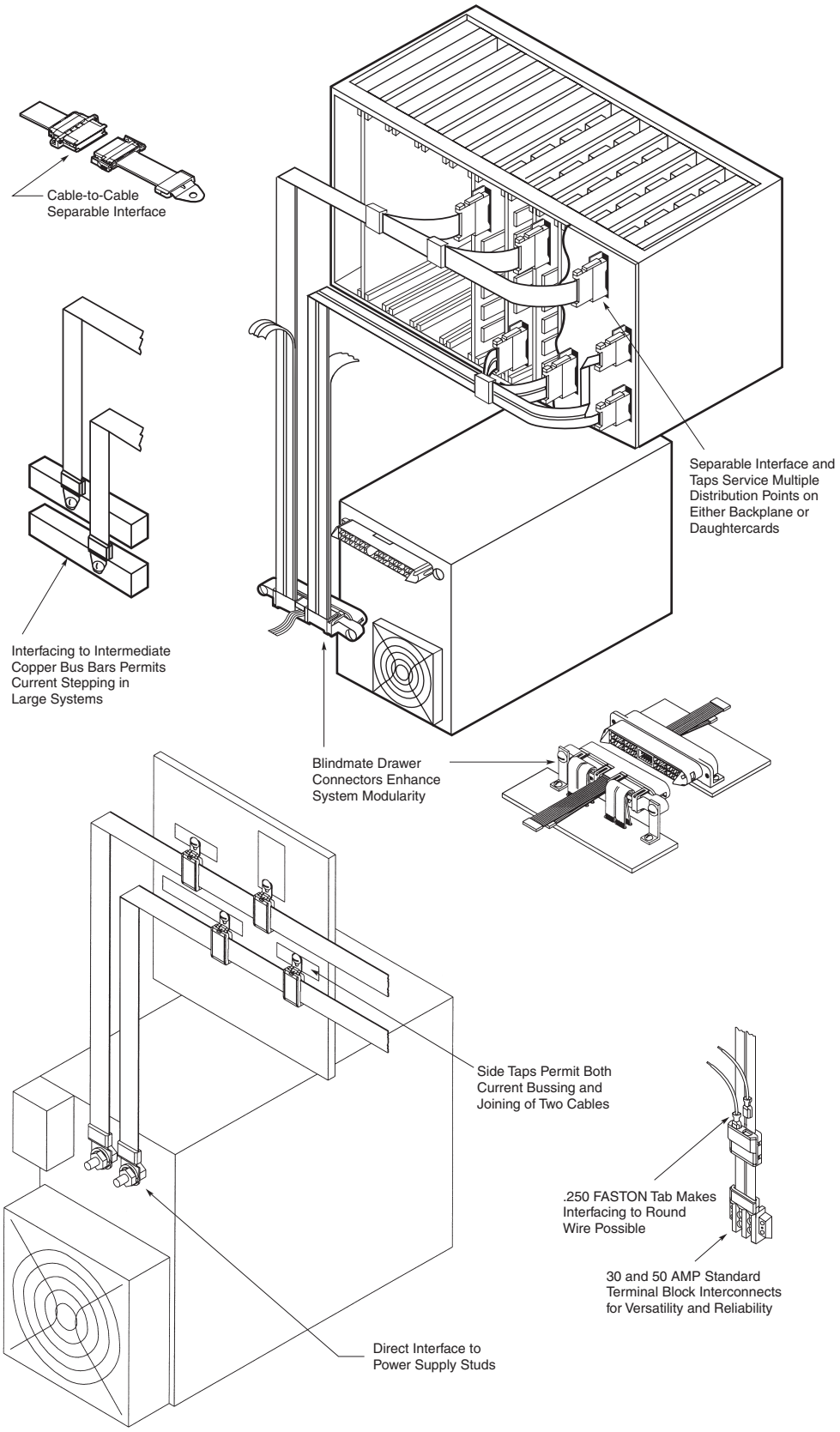
South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-(0)8002-67666

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.



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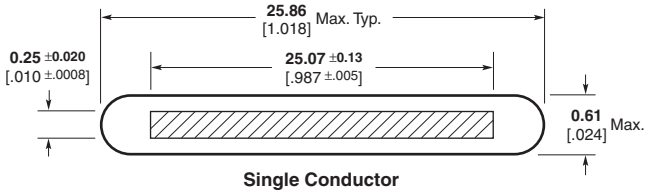
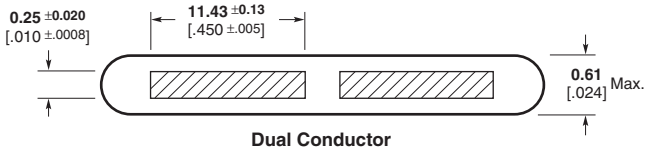
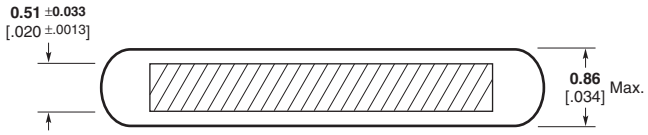
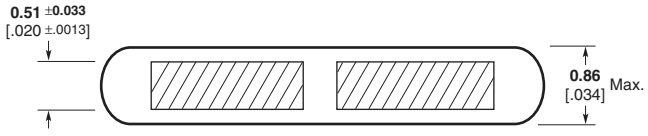
AMPOWER Wave Crimp System (Continued)

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

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AMPOWER Wave Crimp System (Continued)

Terminal Block and Stud Interface

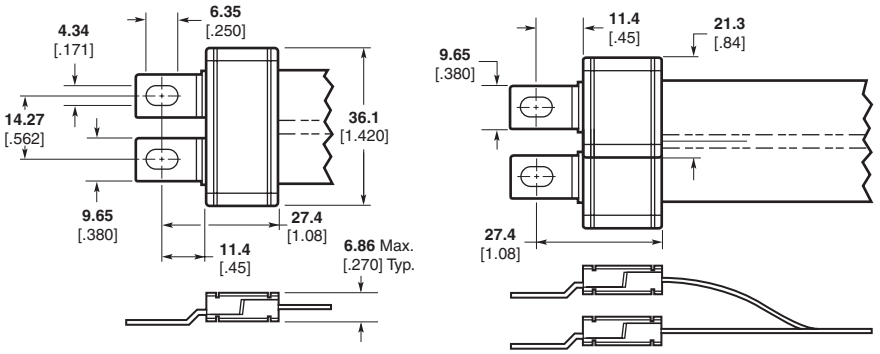
Material and Finish

Housing — UL 94V-0 rated thermoplastic, black

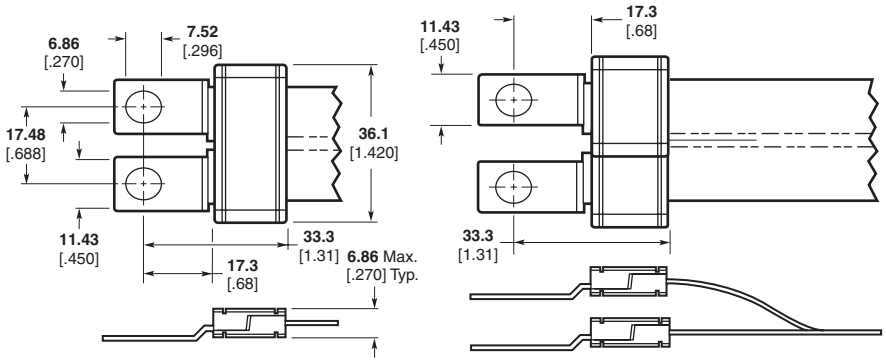
Contacts — Copper alloy silver on termination and mating interface.

All over nickel base plate.

Terminal Block Interface (14.27 [.562] Centerline)

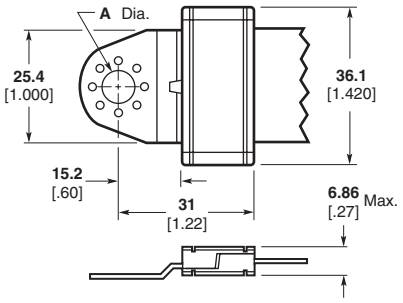


Terminal Block Interface (17.48 [.688] Centerline)



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.

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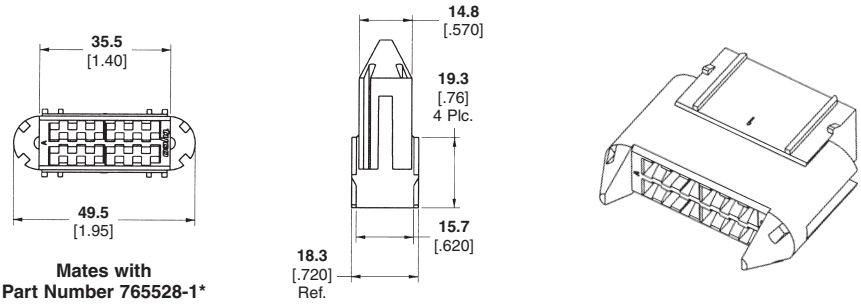
AMPOWER Wave Crimp System (Continued)

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.

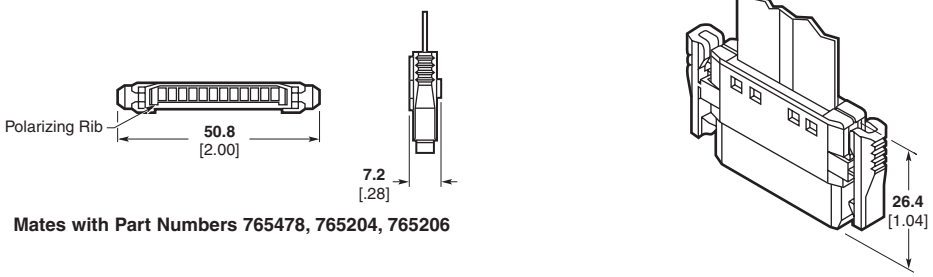
Separable Interface

Material and Finish

Housing — UL94V-0 rated thermoplastic, black

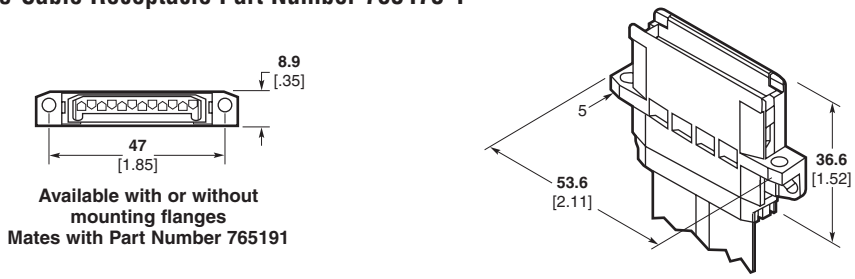
Contact — Copper alloy silver on termination and mating interface.
Tin-lead on header solder and ACTION PIN contact Tails.
All over nickel base plate.

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.

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AMPOWER Wave Crimp System (Continued)

Separable Interface — Headers

Material and Finish

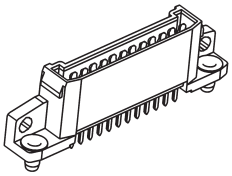
Housing — UL94V-0 rated thermoplastic, black

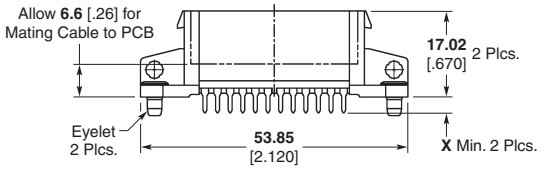
Contact — Copper alloy silver on termination and mating interface.

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

All over nickel base plate.

Vertical Header

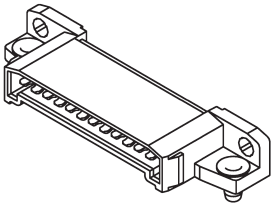


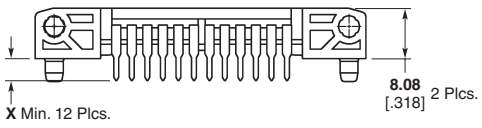


"X"	Tail Type	Housing	Part Numbers
3.15 .124	Solder Tail	Standard Temp, Black	765206-1
5.72 .225	Solder Tail	Standard Temp, Black	765206-4
4.19 .165	Solder Tail	High Temp, Natural	765206-6
3.66 .144	ACTION PIN Tail	Standard Temp, Black	765271-1[1]

[1]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.

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AMPOWER Wave Crimp System (Continued)

Half Width Plug Header

Material and Finish

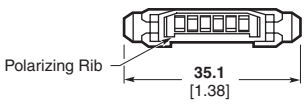
Housing — UL94V-0 rated thermoplastic, black

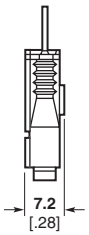
Contact — Copper alloy silver on termination and mating interface.

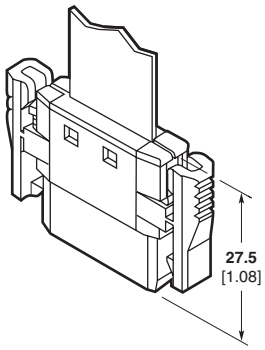
Tin-lead on header solder and ACTION PIN contact Tails.

All over nickel base plate.

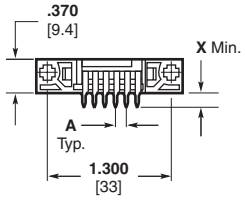
Plug

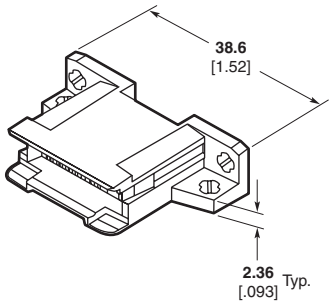




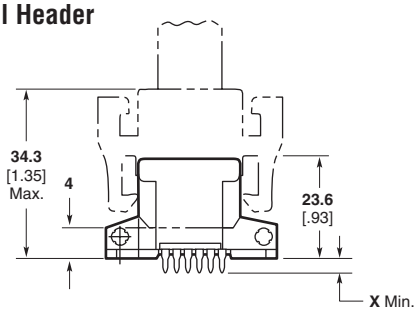


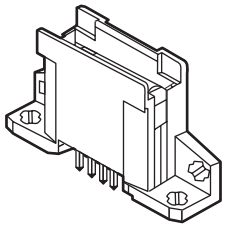
Horizontal Header





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

[1]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.

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AMPOWER Wave Crimp System (Continued)

Mid-Cable Terminations

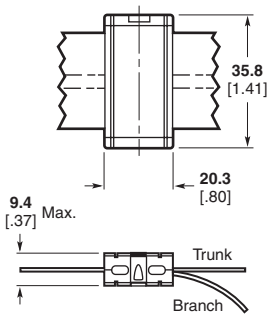
Material and Finish

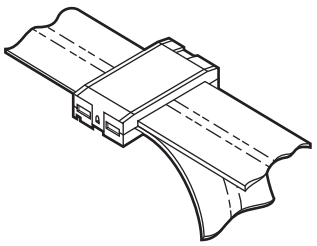
Housing — UL94V-0 rated thermoplastic, black

Contact — Silver plated copper alloy

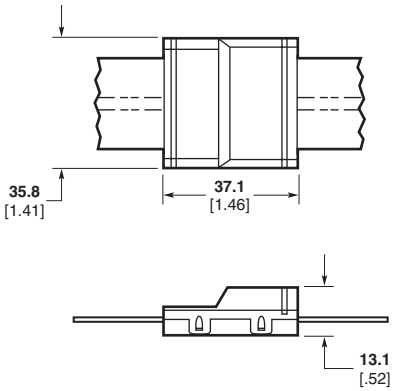
All over nickel base plate.

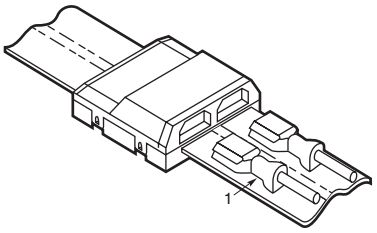
Tap





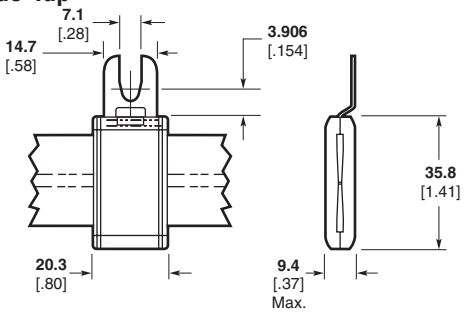
.250 FASTON Tab Tap

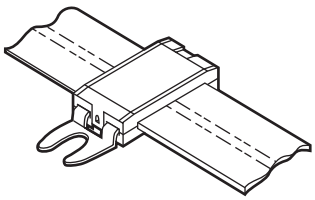




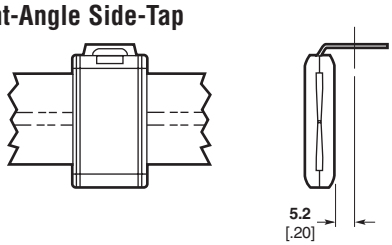
1. FASTON Receptacles not included. Use Ultra-Pod fully insulated FASTON receptacles with 18 AWG to 12 AWG wire.

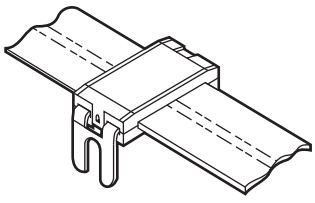
Side-Tap





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
¼" Stud	—	765278-1	—
¼" 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.

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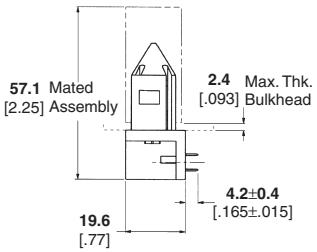
AMPOWER Wave Crimp System (Continued)

Self-Aligning Headers

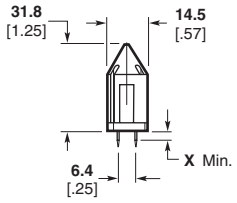
Material and Finish

Housing — UL94V-0 rated thermoplastic, black

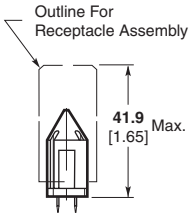
Contact — Copper alloy
silver on mating interface
Tin-lead on solder tails.
ALL over nickel base plate.
Signal contact gold plate.



Typical For All Right-Angle Headers

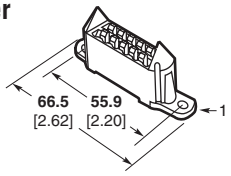


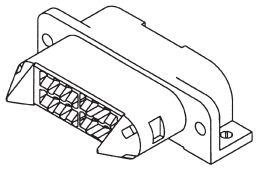
Typical For All Vertical Headers



Typical For All Vertical Headers

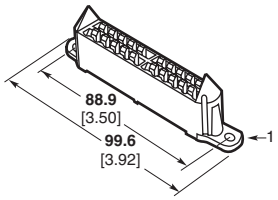
2 Cable Header

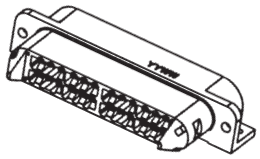




Part Number 765608-1

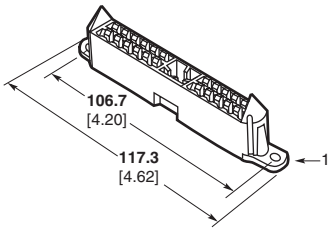
4 Cable Header



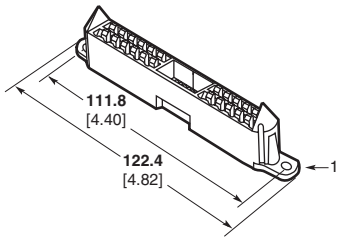


Part Number 766510-1

4 Cable Header w/8 Signal Lines[3, 4]



4 Cable Header w/21 Signal Lines[3, 4]



"X"	Tail Type	Part Numbers			
		2 Cable Header	4 Cable Header	4 Cable Header 8 Signal Lines[3]	4 Cable Header 21 Signal Lines[3]
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

[1]Mounting holes offset from centerline of part .76 [.030].
[2]High temperature material.
[3]Mates with MINI-TANDEM contact, Tyco Electronics Part Number 530553-x. Reference Catalog 82055.
[4]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.

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AMPOWER Wave Crimp System (Continued)

Self-Aligning Receptacles (Float-Mount)

Material and Finish

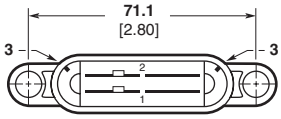
Housing — UL94V-0 rated thermoplastic, black

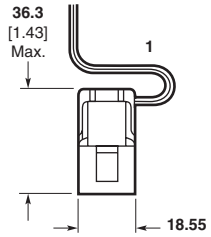
Contact — Copper alloy silver on termination and mating interface.

All over nickel base plate.

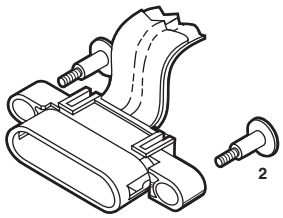
Signal contact see page 213.

2 Cable Receptacle

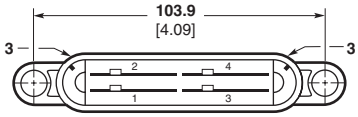


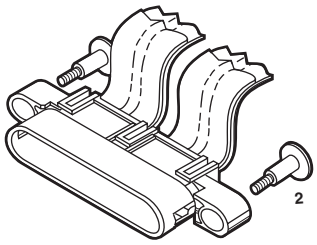


Typical For All Self-Aligning Receptacles

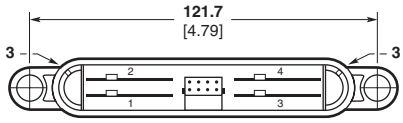


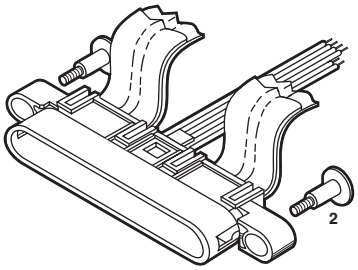
4 Cable Receptacle



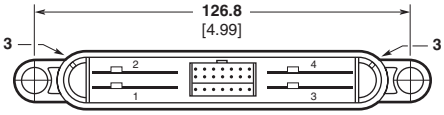


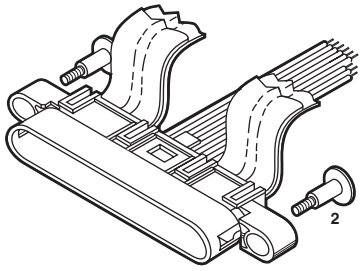
4 Cable Receptacle w/8 Signal Lines





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

[1]Service loop suggested, allows for connector float.
[2]Recommended mounting hardware, Tyco Electronics Part Number 208211-4, 2 required per kit and 2 #6-32 nuts (customer supplied).
[3]Polarizing ribs, 2 places.
Note: Custom signal module assemblies available with power assemblies.

Note: All part numbers are RoHS compliant.

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AMPOWER Wave Crimp System (Continued)

Self-Aligning Receptacles (Latching)

Material and Finish

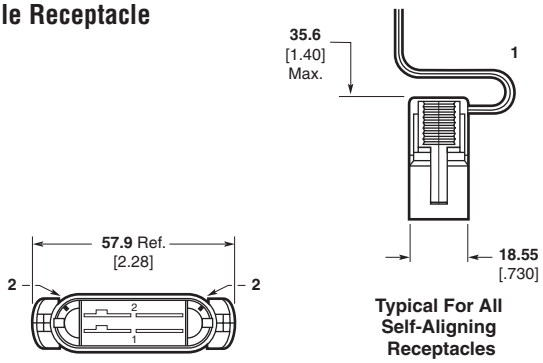
Housing — UL94V-0 rated thermoplastic, black

Contact — Copper alloy silver on termination and mating interface.

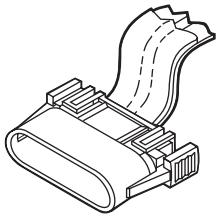
All over nickel base plate.

Signal contact see page 213.

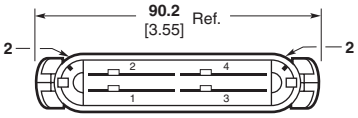
2 Cable Receptacle

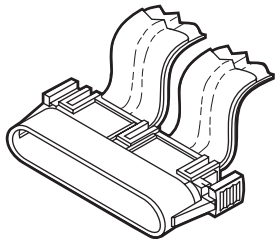


Typical For All Self-Aligning Receptacles

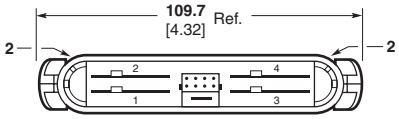


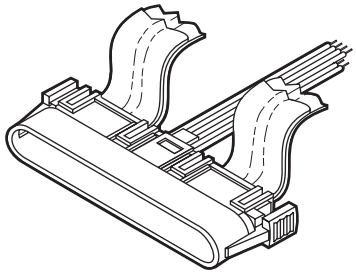
4 Cable Receptacle



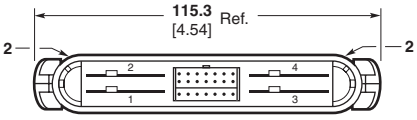


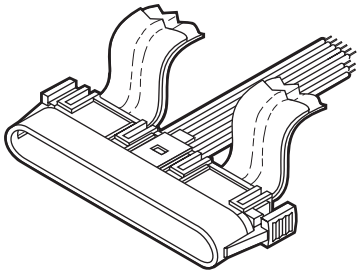
4 Cable Receptacle w/8 Signal Lines





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

[1]Service loop suggested, allows for connector disconnection.
[2]Polarizing ribs, 2 places.
Note: Custom signal module assemblies available with power assemblies.

Note: All part numbers are RoHS compliant.

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AMPOWER Wave Crimp System (Continued)

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

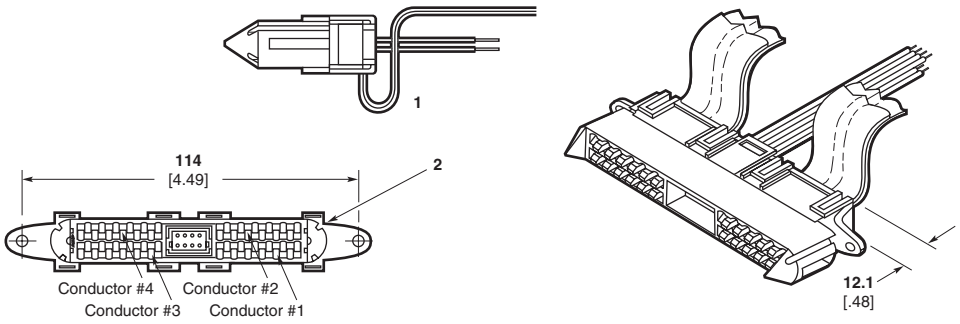
Material and Finish

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.



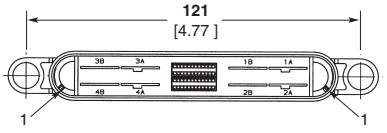
	Part Numbers 4 Cable w/8 Signal Lines
Housing	765241-1
Strain Relief	765242-1

[1]Service loop suggested, when float-mount strain relief used (not shown).
[2]Polarizing slots, 2 places.
Note: Custom signal module assemblies available with power assemblies.

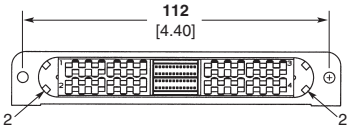
Self-Aligning Right-Angle Connector w/48 Signal Lines

Product Facts

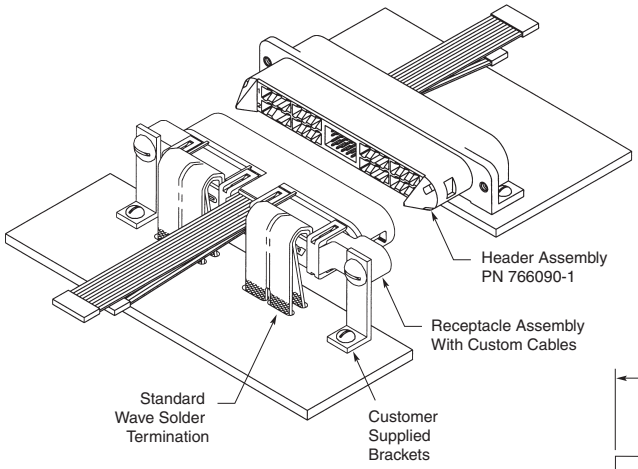
- **Right-angle header for .06"–.12" PWB thickness**
- **8 DC contacts**
- **48 signal contacts**
- **3 possible levels of sequencing**
- **Blindmate with .19" total mismate alignment**
- **Polarization**
- **Mechanical PWB fasteners**
- **Drop-in-place custom assemblies**



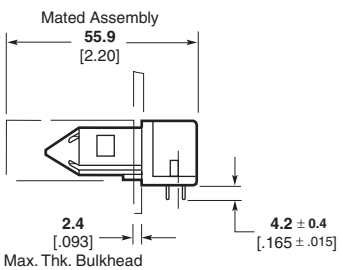
Floating Receptacle



Plug Header



Side View



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.

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

Note: All part numbers are RoHS compliant.

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