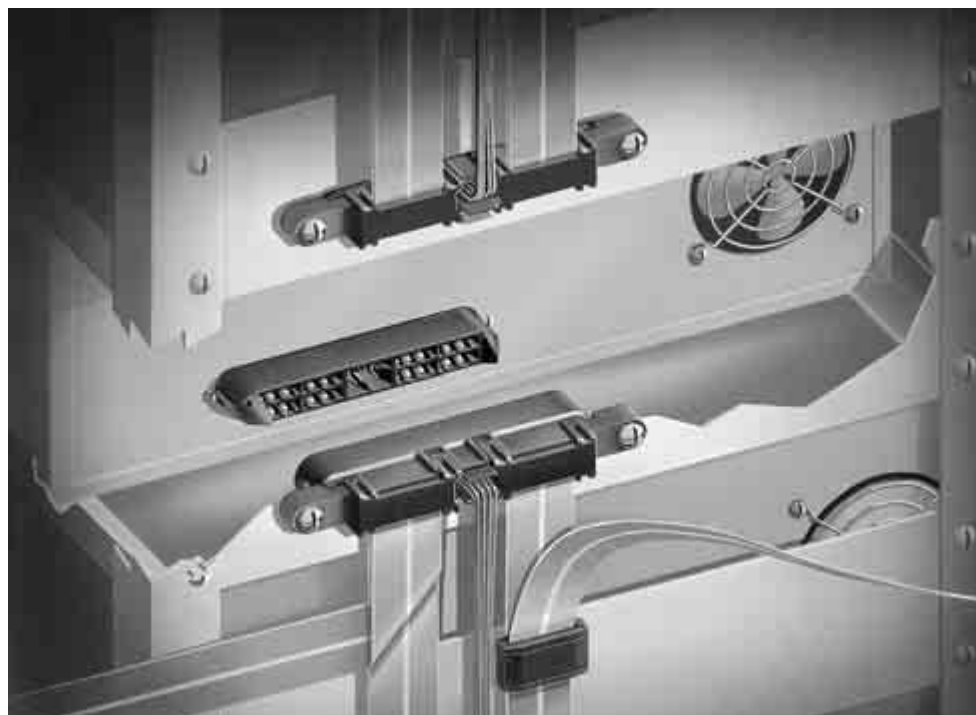


AMPOWER Wave Crimp System

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)

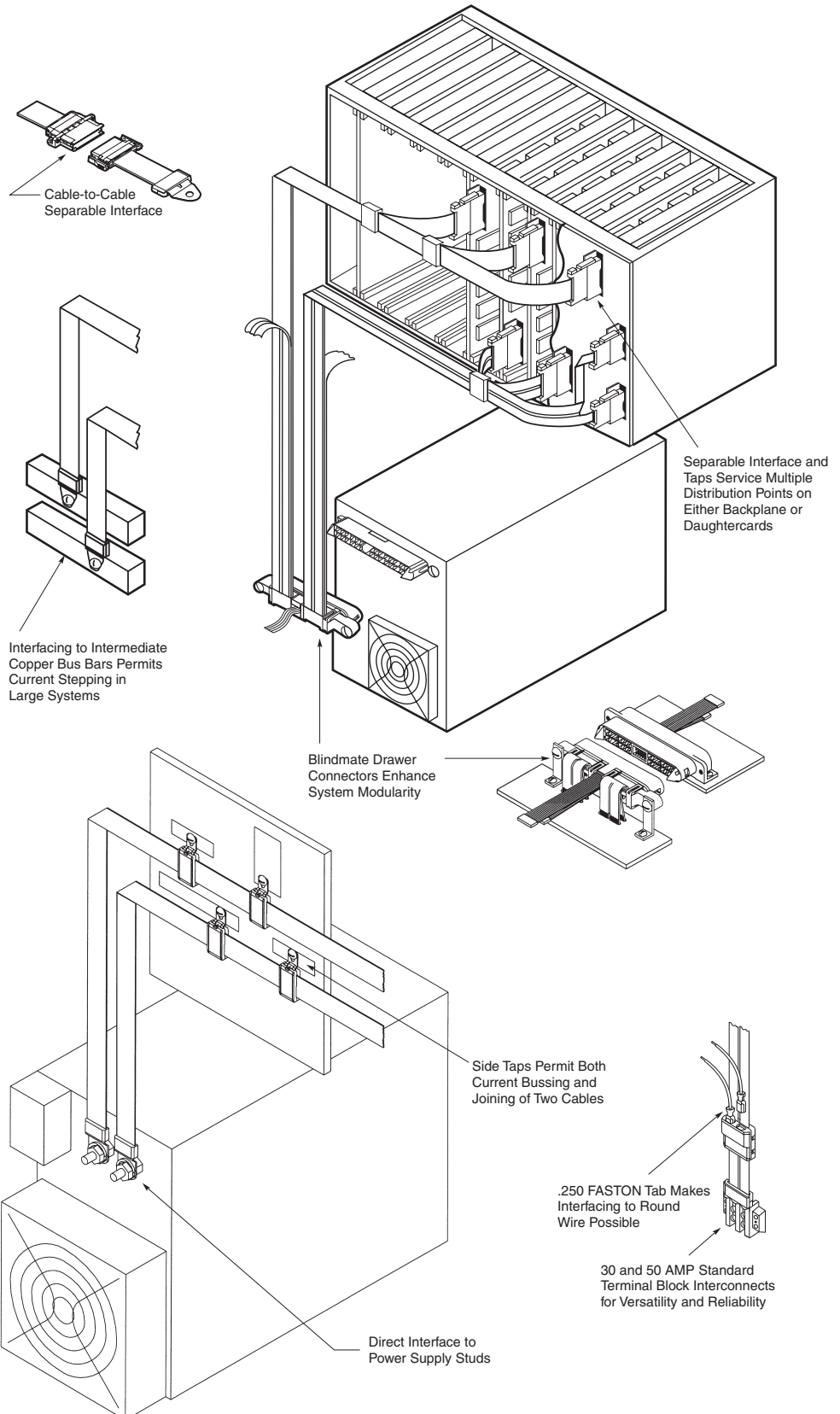
Application Specification

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 (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		
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

AMPOWER Wave Crimp System (Continued)

Terminal Block and Stud Interface

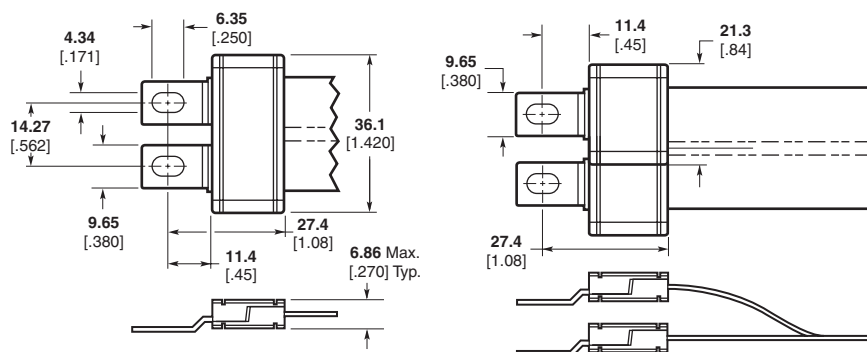
Material and Finish

Housing — UL 94V-0 rated thermoplastic, black

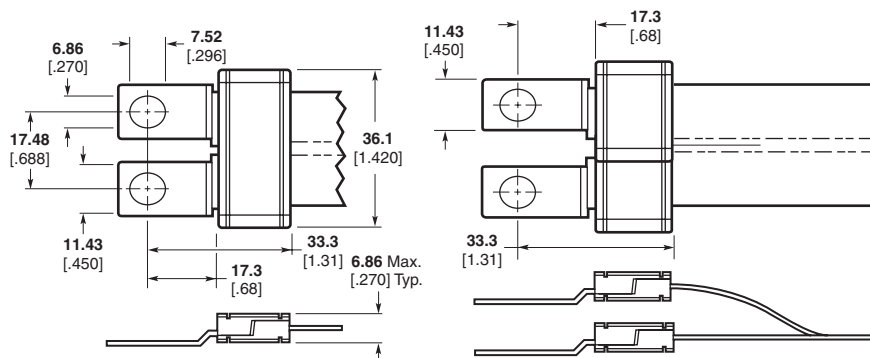
Contacts — Copper alloy silver on termination and mating interface.

All over nickel base plate.

Terminal Block Interface (14.27 [.562] Centerline)

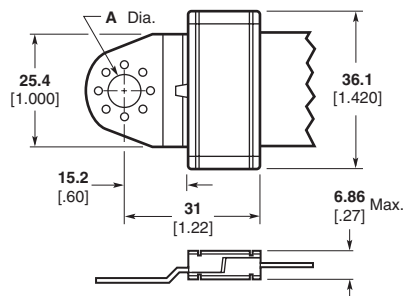


Terminal Block Interface (17.48 [.688] Centerline)



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



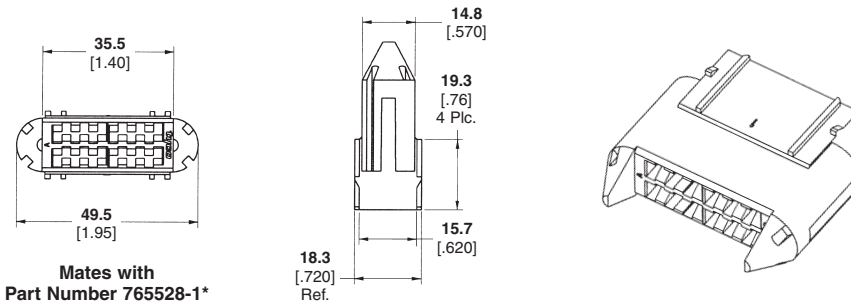
Stud Size	Hole Size "A"	Part Numbers
		Cover (x2)
1/4"	6.76 .266	765228-1
5/16"	8.33 .328	765228-1

Note: All part numbers are RoHS compliant.

AMPOWER Wave Crimp System (Continued)

Cable-to-Cable Blindmate Receptacle Housing

Part Number 766569-1



*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

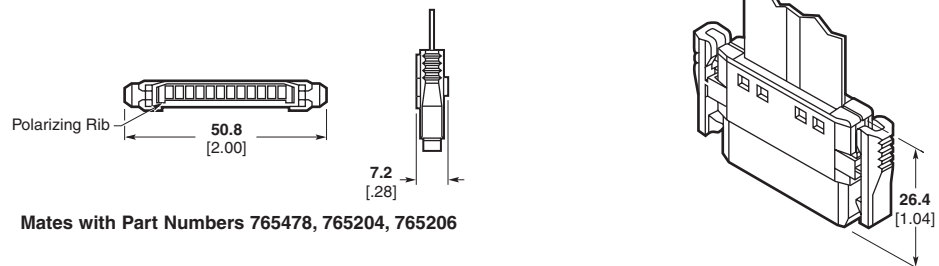
Material and Finish

Housing — UL94V-0 rated thermoplastic, black

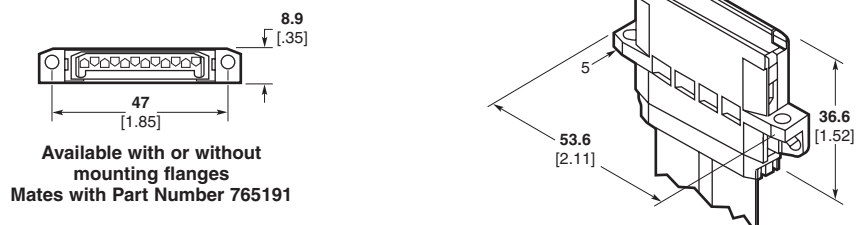
Contact — Copper alloy silver on termination and mating interface.

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

Plug Part Number 765191-1



Cable-to-Cable Receptacle Part Number 765478-1



Note: All part numbers are RoHS compliant.

AMPOWER Wave Crimp System (Continued)

Separable Interface — Headers

Material and Finish

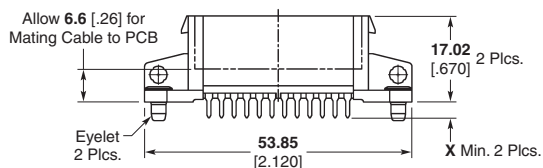
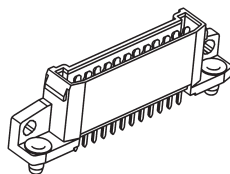
Housing — UL94V-0 rated thermoplastic, black

Contact — Copper alloy silver on termination and mating interface.

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

All over nickel base plate.

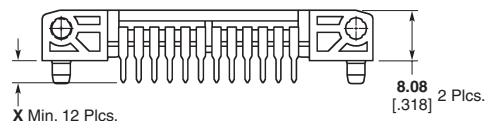
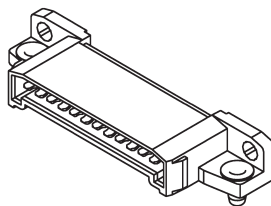
Vertical Header



"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 ¹

¹Uses 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

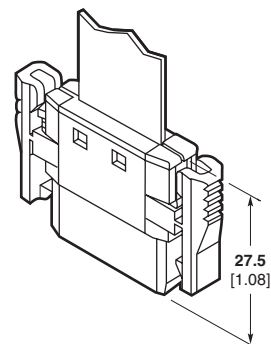
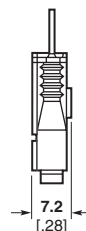
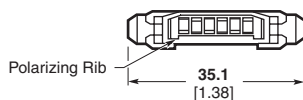
Housing—UL94V-0 rated thermoplastic, black

Contact—Copper alloy silver on termination and mating interface.

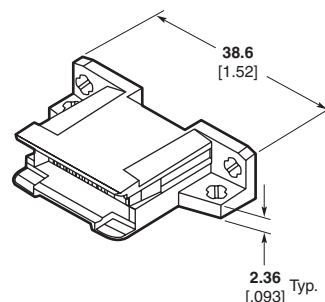
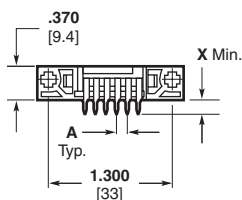
Tin-lead on header solder and ACTION PIN contact Tails.

All over nickel base plate.

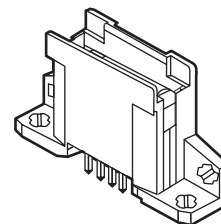
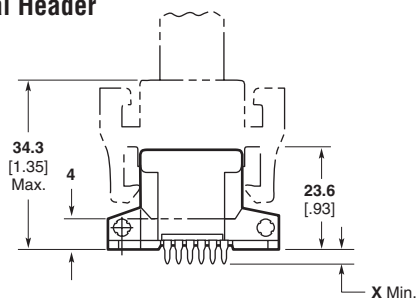
Plug



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

¹High 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

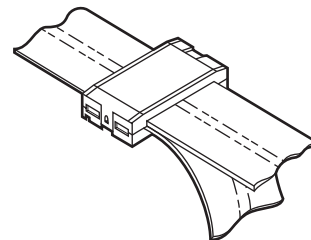
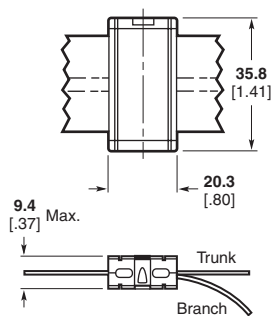
Material and Finish

Housing—UL94V-0 rated thermoplastic, black

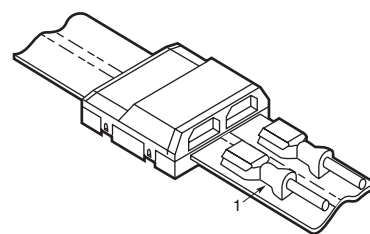
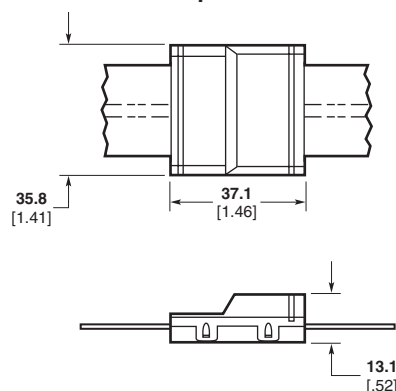
Contact—Silver plated copper alloy

All over nickel base plate.

Tap

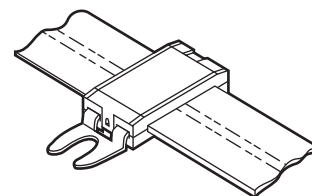
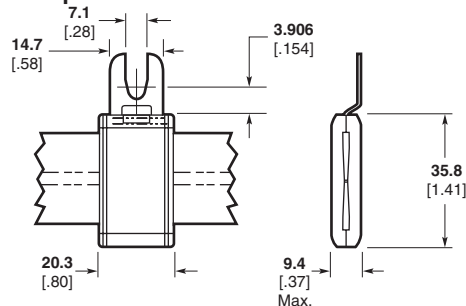


.250 FASTON Tab Tap

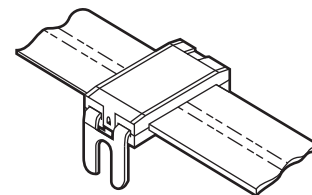
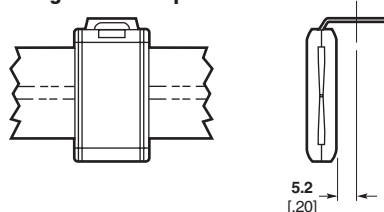


1. FASTON Receptacles not included.
Use Ultra-Pod fully insulated FASTON receptacles with 18 AWG to 12 AWG wire.

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

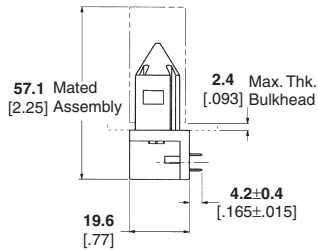
Housing — UL94V-0 rated thermoplastic, black

Contact — Copper alloy silver on mating interface

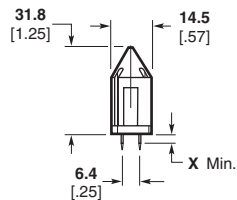
Tin-lead on solder tails.

ALL over nickel base plate.

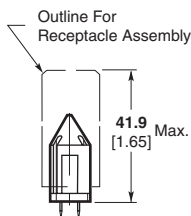
Signal contact gold plate.



Typical For All Right-Angle Headers

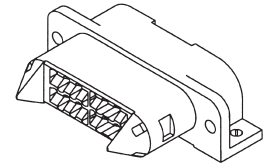
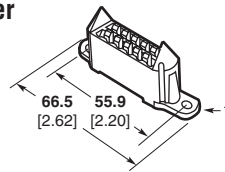


Typical For All Vertical Headers



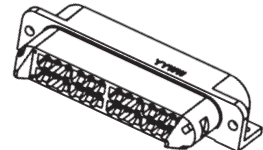
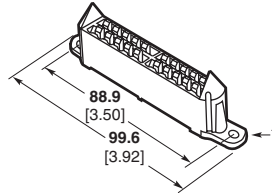
Typical For All Vertical Headers

2 Cable Header



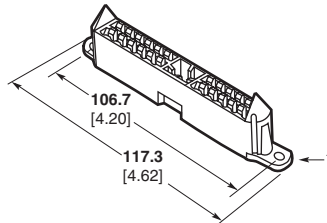
Part Number 765608-1

4 Cable Header

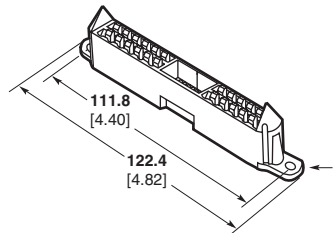


Part Number 766510-1

4 Cable Header w/8 Signal Lines^{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

¹Mounting holes offset from centerline of part .76 [.030].

²High temperature material.

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

⁴Signal 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)

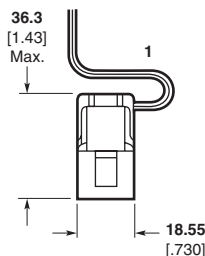
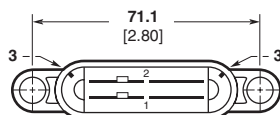
Material and Finish

Housing—UL94V-0 rated thermoplastic, black

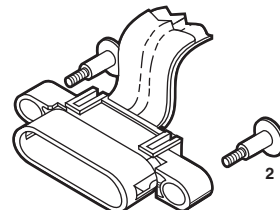
Contact—Copper alloy silver on termination and mating interface.

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

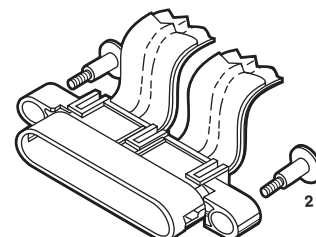
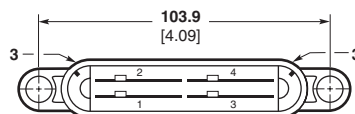
2 Cable Receptacle



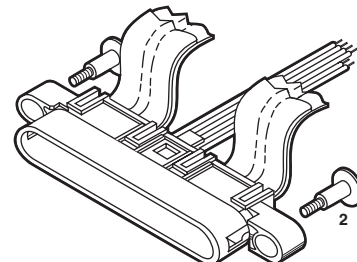
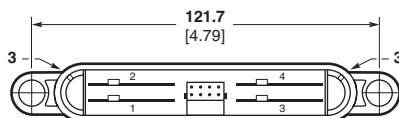
Typical For All
Self-Aligning
Receptacles



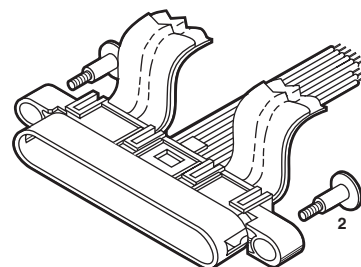
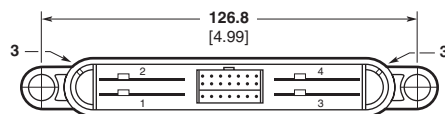
4 Cable Receptacle



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

¹Service loop suggested, allows for connector float.

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

³Polarizing 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

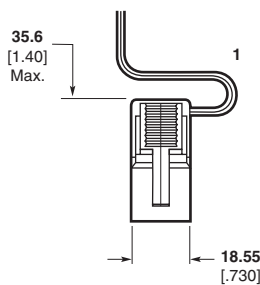
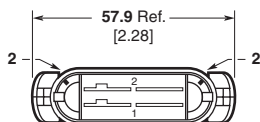
Housing—UL94V-0 rated thermoplastic, black

Contact—Copper alloy silver on termination and mating interface.

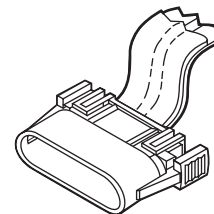
All over nickel base plate.

Signal contact see page 213.

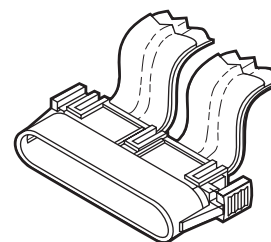
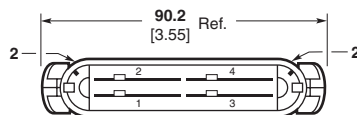
2 Cable Receptacle



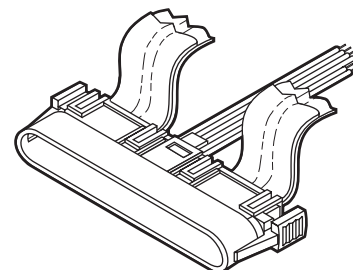
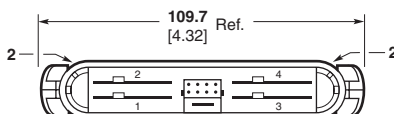
Typical For All Self-Aligning Receptacles



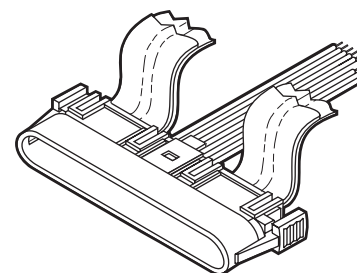
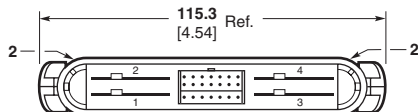
4 Cable Receptacle



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

¹Service loop suggested, allows for connector disconnection.

²Polarizing 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

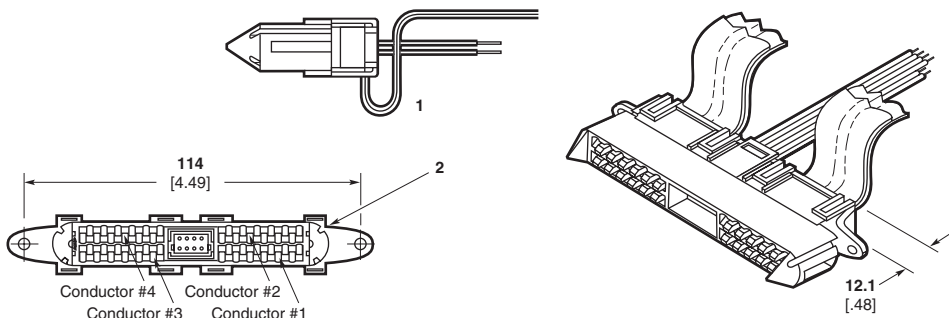
Housing—UL94V-0 rated thermoplastic, black

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).

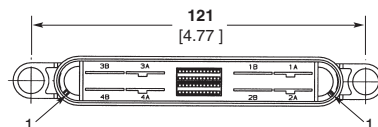
²Polarizing slots, 2 places.

Note: Custom signal module assemblies available with power assemblies.

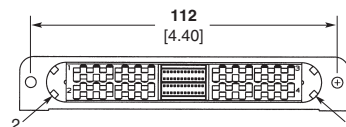
Self-Aligning Right-Angle Connector w/48 Signal Lines

Product Facts

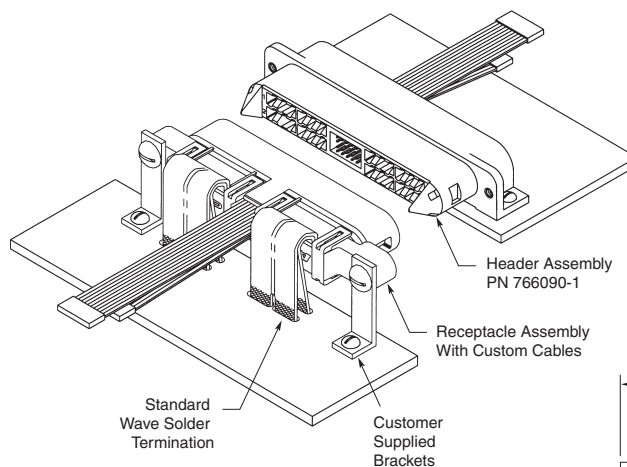
- Right-angle header for .06"-.12" PWB thickness
- 8 DC contacts
- 48 signal contacts
- 3 possible levels of sequencing
- Blindmate with .19" total mismatch alignment
- Polarization
- Mechanical PWB fasteners
- Drop-in-place custom assemblies



Floating Receptacle



Plug Header



Material and Finish

Housing—UL94V-0 rated thermoplastic, black

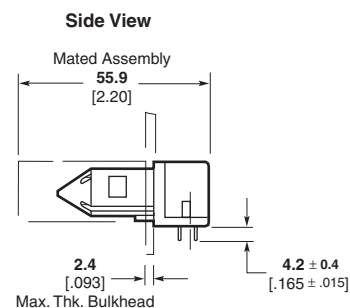
Contact—Copper alloy silver on mating interface

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.