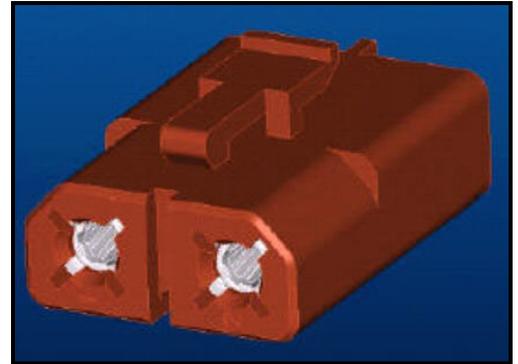


Amphe-PD™ with RADSOK® Technology

Application Note

BACKGROUND

The Data-Com industry is cost / design cycle driven. Their expectations are that, *the next generation of product will be less costly, smaller in size and provide more processing power or storage capacity than the current generation.* Consequently, component and connector companies are expected to lower component prices by as much as 10% per year – year on year. RADSOK®'s greatest advantage is that when a design engineer designs for smaller, faster, more power, and hopefully less cost, he/she must still live within the laws of physics, .i.e. Ohm's law.



PROBLEM

Specifically the drivers of smaller, faster and more power/capacity all cause more heat to be generated within the now smaller space. Since excessive heat will cause pre-mature failures in electronics a great deal of engineering time is spent reducing and controlling the sources of heat. One of the more obvious sources of heat is the power circuits which are made up primarily of busbars, wires and the connectors that terminate the wires.

The current solution to the increasing power has been to run additional parallel circuits. Each additional circuit adds two or 3 wires and 4 or 6 M/F connections. Even though the connectors themselves (Such as the AMP 'Mate & Lock') are very inexpensive, the additional circuits have several disadvantages. Each additional circuit adds heat, adds labor, adds cost, and very importantly, reduces reliability and claims additional space. The added bulk of the parallel circuits interferes with cooling air flow and may even cause the cabinet size to increase.



AIO Amphe-PD SOLUTION

AIO has developed and tooled a new line of Amphe-Com connectors now called the Amphe-PD that address the Problem issues. The new low insertion force, locking, two pole connector is UL listed at 69A and CSA listed at 55A. It is also TUV Finger Proof with a V0 fire rating. By combining parallel circuits into one, heat generation is reduced, space is saved, and very importantly, reliability is increased.

A typical Data-Com cabinet will contain connections to wires, busbars and printed circuit boards. Therefore the new Amphe-PD series was developed with all three types of pin terminations. Several different plastic receptacle mounting variations are also available.

Current Production Part Numbers:

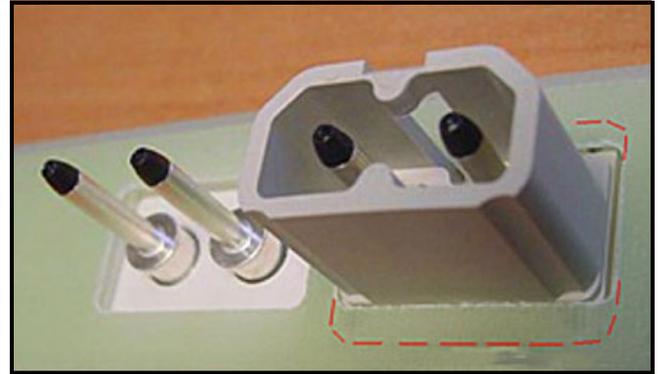
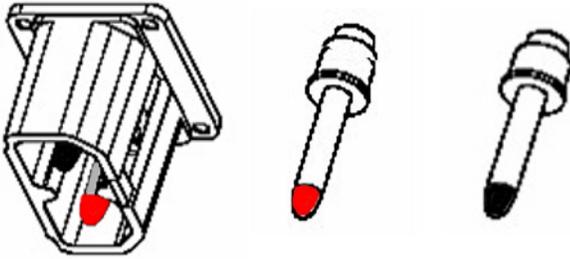
(Additional part numbers will be added as additional wire sizes or mounting configurations are tooled)

10-638975-000 Busbar Receptacle

Swage pins for .093 thick Cu layered busbar

TUV finger proof pins

Housings without bosses



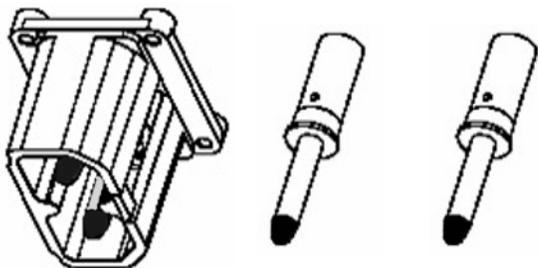
The swage geometry may be adjusted for different thickness busbars.

The housing is designed to be captured within the busbar layers.

10-638976-000 Crimp Pin Receptacle

6 AWG crimp, TUV finger proof pins

Housing with screw bosses



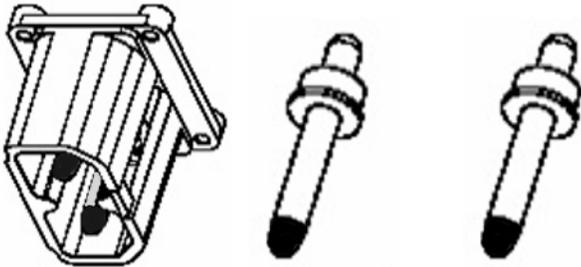
The crimp may be made with a Pico or Daniel's crimp tool

(For reference only : Daniels Crimp tool WA23 with a WA23-3 die)

10-638977-000 PCB Tail Receptacle

PCB Tail, TUV Finger Proof Pins

Housing with screw bosses



The 10-638977-000 is sold fully assembled to be soldered to a PCB.

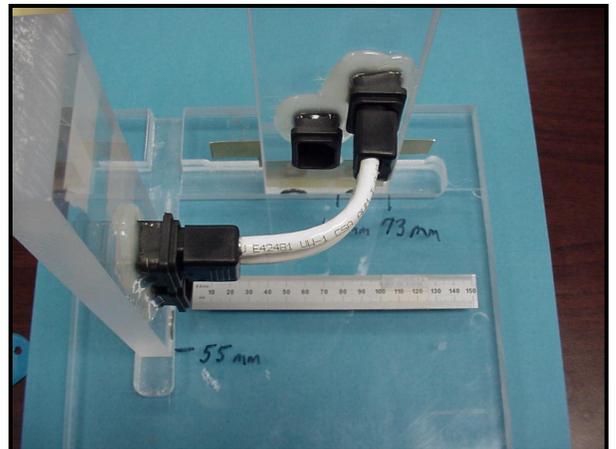
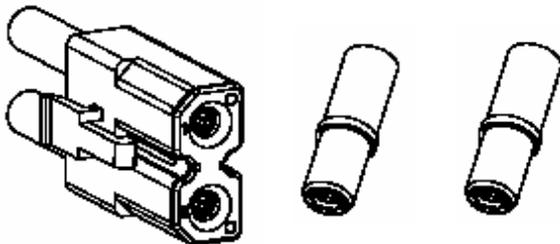


10-638974-000 3.6mm RADSOK® Plug

3.6 mm RADSOK® Plug Connector

TUV finger proof

6 AWG wire crimp wells



The Plug is designed to accept SuperFlex 6 AWG wire to keep T-Rise to a minimum and support a very tight bend radius. Smaller wire size crimp wells are available.

OEM Customers that would benefit from Amphe-PD

Any Customer that puts electronic processing, telecom, controls, data storage, broadcasting or any other electronic capability within a cabinet.

Examples:

IBM	National Oil Well	Supermicro
Lucent	APC	Daktronics
Sun	CAT	GE Wind
Dell	Invensys	Cummins
HP	3 Com	Fuji

Amphenol

RADSOK® Solutions

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