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## Innovative Custom Solutions:

*iCPC Connectors offer a Superior Quality Replacement to standard CPC*

iCONN Systems, LLC developed the iCPC product line through re-engineering to save our customers field assembly labor and related warranty costs.

## >Re-Engineering Case Study

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## Background

iCONN Systems was approached by a customer that currently uses the CPC (Circular Plastic Connector) system that links two components through a double ended cable assembly and a pair of panel receptacles. Creating a cable assembly with a high density connector was very labor intensive and tied up our customer's employees with higher skill levels. This added to the total cost of the finished assembly. Our customer needed a low cost, turn-key cable assembly with the robust quality and environmental protection of an over-molded cable assembly.

## Challenges

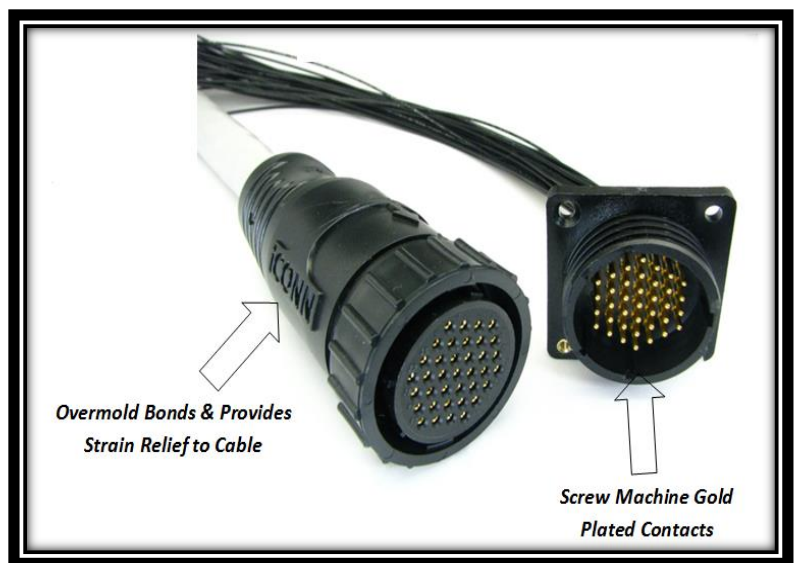
iCONN's challenges were not only to reverse engineer the CPC connector portion of the assembly, but to re-design it to facilitate the over-mold process by withstanding the heat and pressure of the over-mold material.

## Analysis of Case Data

The CPC series offered by other manufacturers is an all plastic connector that has price competitive components. Typically, the target application is a field-installable connector. A field-installable connector can be assembled to a cable or wire harness by the end user, "in the field." Connectors of this style, when used to create a cable assembly, require a sizable amount of extra components such as back-shells, grommets, screws, clamps, special assembly tools, etc. The number of required components and tools makes field installation cumbersome, labor intensive and cause for frequent quality issues.

## Solution

### iCONN System's iCPC Connector



**"High Quality, On-Time Delivery, & Continuous Improvement"**

## Solution

In order to reduce the cost and labor required, iCONN Systems proposed developing their own version of the CPC product and over-molding the assembly at our manufacturing facility, thus removing any additional labor required by the customer. The iCONN Systems Engineering team designed a version of the CPC system that uses **gold plated screw machined contacts** that lends itself to be over-molded to the cable by **resisting the heat and pressure** associated with the over-molding process. This molded cable design eliminates the need for any of the auxiliary components and the final assembly is complete, including an IP67 level of water ingress protection in the termination area of the connector. Over-molding the connector provides the

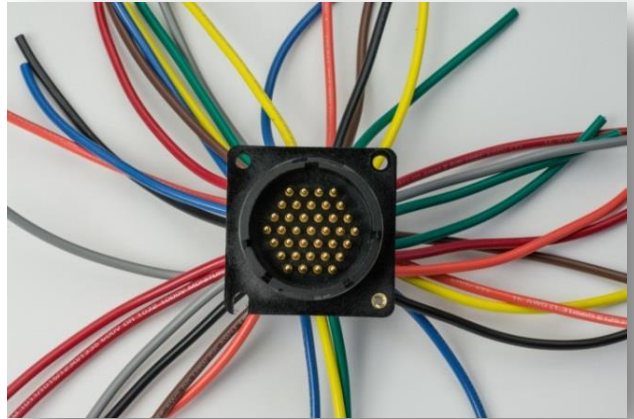
strength needed to **strain relieve the cable and individual conductors** as well. An additional benefit to over-molding is that it **eliminates the pinch point** commonly associated with mechanical strain reliefs which can be a key failure point in applications where constant flexing is a concern. Additionally we do not mold the mounting holes in the panel mount receptacle flange, but machine them per order to meet our customer's specific requirements. This provides reduced inventory, reduced lead-time and allows us to respond to custom requests like it is a standard offering.

## The Results

The final product is the iCONN Systems iCPC product line, which includes over mold plug connectors, over molded in-line receptacle connectors and panel mount receptacle connectors. Vertically integrated, iCONN designs and manufactures all components in Lombard, Illinois. The iCPC connector system is **reverse compatible / inter-mate-able with the current Amp/Tyco CPC systems** already in the field. The iCPC product line saves the customer field assembly labor and related warranty costs by providing a superior quality replacement without the need to make changes to their equipment design.

## BENEFITS OF THE iCPC CONNECTOR SERIES

- *Gold Plated Machined Contacts*
- *Resists Heat and Pressure*
- *Eliminates need for Auxiliary Components*
- *Final Assembly is Complete for customer*
- *IP67 Level of Water Ingress Protection*
- *Strain Relieved Cable 7 Conductors*
- *Eliminates Pinch Point*
- *Eliminates Field Labor*
- *Increased Durability*
- *Intermateable to AMP / Tyco CPC System*



***The iCPC series of connectors from iCONN Systems, address all environmental issues including water ingress, strain relief and in addition, the product is ready for service, just plug it in!***

## About iCONN...

Founded in 2006, iCONN Systems, LLC designs and manufactures electrical and electronic connectors, over-molded and discrete cable assemblies and value added turnkey products serving global markets for a variety of applications including those requiring environmental and EMI/RFI shielding considerations. Our management team has extensive connector/cable assembly experience, in excess of 100 years, to the benefit of our customers.

iCONN focuses on engineered solutions which provide our customers with high quality, cost effective designs for their specific applications, backed by superior customer service. iCONN's U.S. facility is located in Lombard, Illinois, a western suburb of Chicago where we provide sales, engineering support and manufacture a variety of customer product needs including prototypes, quick turn and low – high volume assemblies. Lombard is also our warehouse and distribution center which includes specific stocking programs designed around our customer's needs. We have partners in strategic global, low cost regions where high volume, labor intensive products are manufactured when necessary. Our business model has been developed around a total design concept that considers application constraints, durability, ergonomics, even audio and tactical features that provide cost effective, robust quality solutions that meet and exceed any level of pricing and service required to provide the value necessary to assure our customers success.

**For More information  
Contact iCONN Systems, LLC today!  
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