



UPT Connector

BACKGROUND

Producing a metal based, Mil-Spec, connector can be complex and cost prohibitive for many modern industrial applications. The 26482 Series I (PT Series) product line has been around for over fifty years and is used in, not only, military markets but has seen a lot of cross-over to industrial markets. Two of the most common insert arrangement patterns within industrial markets have been the 24-32 and 24-48. With this in mind Amphenol Industrial developed a new connector based on the 26482 Series I with an initial focus on these two arrangements. Known as the UPT Series, this is an expansion of the PT product line, using a plastic body and backshell. Widely used in industrial diagnostics, automobile, telecommunications, medical and military markets.

PROBLEM

When manufacturing Amphenol's PT series, the shell material calls for an aluminum alloy and is produced by machining or die-casting. This results in a higher cost, machined contacts are also the norm which is more expensive than a stamped and formed equivalent. The assembly of the connector requires the insert to be pressed into the shell. In doing so a lot of force must be used, along with the assistance of lubricating oil, all of which takes more time and adds to the cost of production.

SOLUTION

Amphenol Industrial's UPT Series was designed to produce the most cost sensitive, rugged connector possible. Starting with a shell / backshell material of Thermoplastic PA66 to eliminate any need for metals or machining. Next was the issue of a machined contact which has been addressed with a stamped and formed alternative using phosphor bronze, C5191. To bring everything together a clip retention type insert was created to eliminate the lubrication and press fitting of the insert assembly into the shell. This insert assembly also features a three tine system to retain the contacts which can easily be inserted by hand and released by an extraction tool making repair work a breeze. All of these features drive out cost and still leave a connector that can survive and thrive in harsh environments.

