

Do you need to make  
the connection?

Amphenol

*The Inter-Connection*

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# Low Cost, High Performance Cable Harness

Amphenol have developed the next generation of Armoured Vehicle cable harnesses using overmould technology.

Cable harnesses installed on armoured vehicles currently entering service specify a "field repairable" heat shrink technology system and often custom designed cable. Whilst providing significantly improved EMC and environmental performance compared to previous open wire and conduit systems these heatshrink technology harnesses are expensive to procure and maintain.

Connector backshells, heatshrink boots and screen termination devices can be expensive. The operator skill level and the time required to construct and test the harnesses result in high manufacturing labour costs.

Vehicle constructors and end users are generally satisfied with the current cable harness performance but are constantly attempting to reduce total cost.

Overmoulded connectors on cable harnesses are now commonplace in the domestic appliance and computer hardware industry. The principal of disposable harnesses is well established and the consumer is enjoying the benefits of

increased reliability and reduced cost.

Amphenol have for many years supplied low cost, high performance overmoulded cable links for M.o.D. Army equipment including Clansman.

Cost saving and performance benefits are achieved by a reduction in components as the overmould is fused directly onto the cable and connector creating an extremely rugged environmentally sealed assembly. The mould material compound can be specified to meet the environmental performance requirements of the system e.g. diesel resistant, low smoke, zero halogen, abrasion resistance. The NBC washdown performance of the mould compound exceeds that of heatshrink technology.

The moulding can be shaped to achieve straight or angled cable entry. Idents, Nato stock numbers, finger grips etc. can be featured in the overmould. The initial manufacturing process is also less labour intensive than current methods and carried out on an assembly line basis.

It is widely accepted that the complexity of future VETRONIC interconnection systems preclude the in service repair of the cable harnesses as the original build standard

of the cable is difficult to achieve after repair.

Overmoulded cable harnesses are not repairable at the cable / connector interface therefore a repair by replacement maintenance police is recommended for permanent repairs. For temporary or battle damage repairs overmoulded connectors with pigtails can be spliced into the damaged cable.

By specifying overmoulded cable harnesses future armoured vehicle constructors and end users will benefit from low initial procurement cost, high environmental protection and EMC/EMP performance, high reliability, plus low through life training and maintenance cost.



*Harsh environment over moulded cable assemblies*

## Amphenol Distribution Support

Amphenol Limited have, over the last 3 years, been developing a distribution policy to satisfy the needs of markets who require the supply of Amphenol componentry, at the lowest available cost, working through distribution channels.

Amphenol clearly recognises that its core business is the development and manufacture of connectors and interconnection systems. In the competitive environment that we live in it is imperative that the product quality is maintained to the highest levels and are offered to the customer at the lowest cost. The customer in turn will also be concerned about the true cost of acquisition. It is a costly exercise to trade with a large, amount of vendors who each supply a few products. Not only will this result in a large often over stretched procurement section, it will also vastly reduce their purchasing power.

Amphenol

are constantly looking at all indirect costs along the supply chain and actively implementing sales policies, logistic systems and procedures to endeavour to provide their customers with the lowest cost solutions.

The reality often shows that the lowest cost of acquisition for a customer is via a distributor who not only gives instant vendor reduction by offering one point of purchase for a large number of manufacturers parts but who also offer real value added services with automated systems and technologies to drive out unnecessary cost. Connector manufacturers hold inventory of their product to be offered ex stock delivery and provide kitting and other value added services which result in costly sales and warehousing infrastructures to support their operations which will need to be funded and of course be passed on to their customers in the price of their products.

Amphenol's strategic policy is to work with the majority of technology developing companies focusing heavily on the interconnection systems market to ensure Amphenol will be developing for the general market, products that will be available and relevant well into the 21st century. This strategy necessitates many cultural changes for both Amphenol and some of Amphenol's historical customers to ensure Amphenol can achieve the lowest cost of acquisition targets into the market place.

Amphenol have some 12 distributors incorporating Pan European and catalogue broad liners who offer vast inventories of active passive electro mechanical and connector products and provide hi-tech added value services to specialist distributors and stockists who tend to offer expert technical product knowledge. This breadth of distributor enables users of Amphenol connectors to purchase product from suppliers who meet their purchasing needs.

Amphenol's franchised distributors are not only geared to support a large number of

customers who require a low number of products but can also offer very competitive costs for volume application. Because of the large batch sizes they order from Amphenol, more accurate forecasting and the ever improving electronic transfer of Information via E mail/EDI etc ensures the true cost of trading with a franchised distributor becomes minimal. Not only is this reduction in cost passed on to the end customer but the distributor can also provide the customer with an unrivalled level of service.

Amphenol ensure that pricing from any franchised distributor to the customer should be very similar if not the same, and certainly no more than buying from Amphenol direct. Amphenol's Business Development Manager will ensure that the correct route to market for Amphenol is maintained and will work with customers to allow the customer to choose where the point of purchase will be made, based on the service that is required and advising where suitable stock of the product may be obtained from within the distribution network, which currently have an inventory value in excess of £4 million.