

Innovation and Performance in Interconnect Technology for the Military

David Magni, Product Manager at Fischer Connectors SA, discusses the importance of interconnect solutions evolution in the future of military operations worldwide

Q: What is new at Fischer Connectors?

A: As Future Soldier programs around the world focus on the development of technologies that reduce the soldier's fighting load and power requirements, and improving the soldier's protection, Fischer Connectors continues to develop innovative products to meet these demands. Fischer not only designs and manufactures rugged, high-quality "push-pull" connectors and cable assembly solutions that suit market needs but also offers high quality service, guaranteeing competitive standard and custom solutions.

Fischer's commitment to market-driven leadership and new innovative products is inspiring. The new Fischer UltiMate™ Original Series is one such product that perfectly matches the needs of defence and security applications. It's a rugged, compact and lightweight connector designed to withstand severe operating, environmental and chemical conditions.

Q: What is Fischer Connectors' background in meeting military requirements?

A: Whether it is the U.S. Military's Future Force Warrior Programme, the UK Ministry of Defence's Future Infantry Soldier Technology (FIST) Programme or France's FELIN equipment, Fischer is a long-standing partner with the world's military and its defence suppliers and contractors. This partnership has created a vast range of interconnection products which are relied upon daily to provide consistent trustworthy service in the most demanding and critical situations.

Q: What are you doing to make life easier for the soldier?

A: Remembering the time when I was in the armed forces, our equipment was always subjected to harsh operational conditions. Fast and in-depth cleaning of our equipment was required for most missions. If a high performance connector such as the Fischer UltiMate™ Original Series had been available, it would have spared a lot of maintenance time and avoided accidentally damage to the equipment. Soldiers rely heavily on the functionality of their equipment each day in life threatening situations and the assurance that their weapon or other piece of equipment will stay connected in the most demanding environments. Fischer fills this need with reliable, durable and easy handling products.

Q: What are the key features and benefits that make the difference for the Fischer UltiMate™ Original Series?

A: Our connector is extremely robust, small and easy to handle even with gloves making it perfect for connected devices operated in the field and with restricted space and weight requirements. With its excellent sealing IP68/69K even unmated (tested at 120m submersion for 24 hours) this interconnect solution is ideal for underwater applications. The connector is also NBCR ready and can undergo easy in depth cleaning. Fischer UltiMate™ Original Series was designed to answer the specific security needs of the soldiers: locking push pull & emergency release, blind mating, anti-reflective and conductive body coating in black chrome. Additionally it can withstand

operating temperatures from -55°C to 135°C and even more with special fluorosilicone O-rings.

Q: What are the cable assembly options for this product?

A: The Fischer UltiMate™ Original Series was specially designed for easy assembly. We offer a complete customer package – connector, cable and overmolding – perfectly adapted for harsh environments. Our rugged overmolding, available in straight and right angle, is designed for severe conditions. We also provide a cable termination kit for easy and quick prototyping. The customers benefit from the efficiency gained from a reduced supplier base, reduced lead-time and having one supplier for technical and quality issues. The result is high quality and competitive pricing for our customers.



Fischer UltiMate™ Original Series: plugs range overview

Q: What is new about the Fischer UltiMate™ Original Series since its launch at Eurosatory in June 2010?

A: The line has been expanded to include new body styles and sizes to keep pace with customer demand for plugs, receptacles, cable and panel-mounted requests. It is now available in a wide range of body styles, sizes and configurations including multipole contacts from 2 to 42 pins. Rugged, IP 68 soft caps have been developed for improved field protection, and tested on connectors at 120m submersion for 24 hours (12 bars). Visual coding has also been added in addition to the mechanical coding.

Performance testing has been conducted for salt fog at 500 hours of exposure for mechanical and electronic performance, as well as for shock and vibration, in excess of the published results provided in the technical specification to further satisfy our engineering standards.



Fischer UltiMate™ Original Series: receptacles range overview

Q: How would you describe Fischer connectors compared to MIL 38999 connectors?

A: Our connectors are perfectly in line with the miniaturization trend observed in soldier systems. Their compact design offers high contact density and requires limited space. Reduced weight is an additional advantage of our connectors. They are also easy and fast to handle with push-pull locking systems compared to bulky screwing and bayonet locking systems. Additionally our connectors are tested in similar ways to MIL standards

and meet IEC standards that can easily be compared to MIL-Specs. As a result, former MIL 38999 customers have switched to Fischer's push-pull connectors solution in particular for use in portable electronics such as soldier communication systems, optronic and unmanned equipment.

Q: What differentiates Fischer Connectors' services from other connector manufacturers?

A: Excellent technical and sales support, fast quotes, first article response, engineering consulting services, and implantable 3D CAD models adds to our customer's satisfaction and loyalty to Fischer products. Fischer also provides a worldwide network delivering anywhere in the world and within three to six weeks for standard plugs and receptacles, and offers short lead times for cable assemblies. We develop close partnerships through innovation and reactivity to our customer's needs. One such partnership is with Ashbury International Group which sought Fischer for the development of their Vectronix VECTOR 21, a military ground target location application. "Throughout the course of designing and creating systems for the Future Soldier Programs, Fischer Connectors has been a key innovation partner," says Gary Vance, Manager, Rapid Product Development Center – Engineering Services for Ashbury International Group Inc.

Q: What insight can you provide into future developments for Defence & Security applications?

A: The primary challenge for any supplier is to strongly understand the needs and requirements of defence and security applications. In our pursuit to improve a soldier's safety and situation awareness, our products are designed to resist vibration, clean easier, and perform well in harsh environments.

Looking ahead, we have developed a new safe data storage product. The Fischer Rugged Flash Drive strongly understands the need for safe transport and storage of sensitive data in harsh environments. This new product is an extremely tough USB flash drive within a rugged aluminium casing designed to provide full protection against extreme environmental conditions. Its unique flexible design offers a high level of data safety.



Fischer Rugged Flash Drive: rugged solution for safe data storage in harsh environments

Q: Why visit the booth at Le Bourget – France June 20-26 and DSEI – UK September 13-16, 2011?

A: In our exhibitions, we will be displaying high quality, cost-effective, turnkey solutions – connectors, cable assemblies and overmolding – all from one supplier. Attendees who seek innovative products at these shows should visit Fischer. Our products open doors for our customers. ■