

Smaller, lighter, smarter solutions for mission-critical connectivity

Fischer Connectors provides a versatile, modular technology platform and customisable solutions that spur innovation in connectivity – optimising SWaP (Size, Weight and Power) and cable management for any defence application in any environment

Known for their reliability, precision and ultra-resistance, Fischer Connectors’ versatile connectivity solutions – comprising certified electrical and optical connectors, cable assemblies and active devices – have been co-created with customers using a ‘connectivity-by-design’ approach. This opens up unlimited scope for innovation in device and application design, adding sustainable and durable value throughout supply chains. The solutions are designed to facilitate integration into diverse ecosystems and subsystems for dismounted soldiers as well as for ground, aerospace and marine applications. Above all, they keep people, systems and data safe worldwide.

Tested to MIL-SPEC and IEC standards, Fischer Connectors’ products are ideally suited for military devices, equipment and electronic ecosystems in terms of SWaP requirements (Size, Weight and Power), cable management optimisation and integrated wearable technology for the Dismounted Soldier Modernisation Programme, compatible with the Generic Soldier Architecture (GSA). Ergonomically designed for durability and stealth, they are rugged, lightweight and compact, sealed (up to IP68, even unmated) or hermetic, and resistant to extreme temperatures, dust and sand. EMI shielded connectors ensure reliable data transmission. Moreover, these solutions offer the soldiers of tomorrow maximum usability. Since they feature quick blind mating and are easy to handle (even with gloves), they allow quick set up and easy configuration for multiple missions.

The **Fischer Core Series**, Fischer Connectors’ versatile original product line, comes in any size, any configuration and for any application.



Fischer Connectors’ five product lines in a nutshell (from left to right): Fischer Core Series – any size, any configuration, any application; Fischer UltiMate™ Series – rugged, compact, lightweight; Fischer MiniMax™ Series – high-density miniaturisation, high-speed data transfer, reliability; Fischer FiberOptic Series – robust, optical performance, easy cleaning; Fischer Freedom™ Series – easy mating, easy cleaning, easy integration.

The **durable Fischer UltiMate™ Series** is best for tough applications when SWaP is crucial. Rugged, compact and lightweight, these solutions withstand severe environmental, industrial and chemical conditions – including operating temperatures from -55°C to 135°C, and extreme shock, vibration and corrosion. With IP68/69 sealing even unmated, 360° EMC shielding and extremely robust mechanical keying, they last over 10,000 mating cycles.

Tested for high-speed protocols such as USB 3.0, HDMI and Ethernet 10 Gb/s with AWG24 contacts, the **high-density Fischer MiniMax™ Series** is a unique miniature signal and power solution that is ideal when density, signal & power and size matter. Replacing multiple connectors with a single connector saves space and weight, giving designers more flexibility. It is available as a standalone connector or as a complete pre-cabled solution.

The multiple award-winning, breakthrough, **plug & use Fischer Freedom™ Series**, launched in 2018, serves



The Fischer Freedom™ Series was extended into a technology platform in September 2019 to enable further versatile innovations in both connectivity and application design.

- ▶ as a versatile technology platform and innovation enabler, setting new standards in usability, integration capability and versatility. It includes the low-profile Fischer LP360™ connectors (in metal and high-end, durable plastic), cable assemblies and active devices (LED, USB adapter, rugged flash drive). There are four or seven signal and power contacts, up to 24AWG, USB 2.0 and Ethernet. Soldiers gain increased operational agility from optimised cable management – thanks to 360° mating freedom (no key code) and any direction cable plugging and routing. The plug can

also be integrated directly into the device's housing enabling cable-free solutions.

The **robust Fischer FiberOptic Series** provides faultless optical performance in any conditions, combined with easy use, cleaning and maintenance. UPC and APC polishing reduces insertion and return losses. IP68 sealing ensures device protection, and the removable sleeve holder makes cleaning end faces easy. The connectors come pre-cabled with one, two or four optical channels, or in a hybrid version (two fibre channels and two electrical contacts).



Safe storage of sensitive data in harsh environments.

The **secure Fischer Rugged Flash Drive** is an extremely tough memory stick for the safe storage and transportation of sensitive data in harsh environments. It combines high-speed USB 2.0 and USB 3.0 flash memory, with a capacity from 4 GB to 256 GB. Fischer Connectors' unique circular connector interface, combined with a durable encapsulation technique, guarantees data safety in case of loss or theft.

Wearable ecosystems for tomorrow's soldier

wearin'

Wearin' provides smart, modular, wearable solutions to maximise soldiers' operational and decision-making abilities.

The Fischer Connectors Group has created Wearin' to respond to the global wearability trend by designing integrated wearable connectivity solutions to enhance the mobility, performance and safety of soldiers in the field.

Today's dismantled soldier typically carries more than 35 kilograms of gear. Reducing the weight of equipment without compromising safety and performance in combat is a key concern for soldier modernisation programs worldwide. Achieving a desired 20–25% reduction in weight requires rethinking the design and tactical interconnectivity of many types of soldier-worn electronic and communication systems. The goal is to optimise SWaP (Size, Weight and Power) to dramatically enhance soldiers' operational and decision-making abilities.

Wearin's ergonomically designed wired vests combine

breakthrough wearable technology for all essential communications with lighter, smaller electronic devices. The concept is simple. An integral distributed data & power BUS eliminates the need for multiple batteries for each individual device and the external wires or break-out cables that currently weigh soldiers down and limit their movements. These solutions offer three main benefits: optimised power management (through the single central power source); enhanced usability (through optimised cable management); ultimate convenience (the integrated data and power BUS has been designed for easy cleaning and replacement, as well as for technological upgrades when more advanced components become available).

Built around the Fischer Freedom™ Series, Wearin's sleek, human-centred, ready-to-use solutions optimise SWaP, enhancing soldiers' agility, mobility and effectiveness.



Modular, evolutionary and customisable, they can be tailored to meet any specific needs or requirements in terms of functionality, choice of gear, and types of device to be integrated.

These new state-of-the-art solutions are truly smart; the smart wearables enable intelligence communication within platoons, enhancing situational awareness, and

powering the Internet of Battlefield Things (IoBT); the smart, networked approach by which Wearin' acts as a catalyst – breaking product silos and weaving together the know-how and technology of specialized partners at different stages in product development – results in the co-creation of desired innovative solutions. ■

SWaP

Improving Size, Weight and Power with Integrated Wearables

