

Technological breakthrough with the connectivity solutions platform Fischer Freedom™



The Fischer Freedom™ Series launched in June 2018 offers breakthrough **plug & play technology** enabling versatile innovations in both connectivity and application design.

The overarching concept of the first connector in the Fischer Freedom™ Series, the Fischer LP360™ 7-contact signal & power connector in metal, received its first patent in February 2020 in the USA. This concept encompasses **unique innovations** in **mating** (360-degree freedom), in **locking** (non-magnetic, blind-mate quick-release) and in **materials** (IP68 membrane sealing).

In September 2019, the Fischer Freedom™ Series was extended with other connectors in different sizes and materials (plastic) and three active devices (LED, USB 2.0 adapter, Rugged Flash Drive). It has become a **technology platform** in the world of connectors and a pioneer in terms of **usability, integration capacity and versatility**.

Benefits for design engineers and integrators

Thanks to its plug & play technology and the low-profile and ergonomic design of its connectors (flat with their right-angled plug), cable assemblies and active devices, Fischer Freedom™ serves as an innovation engine for application design, in particular by:

- fulfilling Size, Weight and Power ("SWaP") requirements;
- optimizing cable management;
- facilitating wearable technologies and the integration of electronic networks.

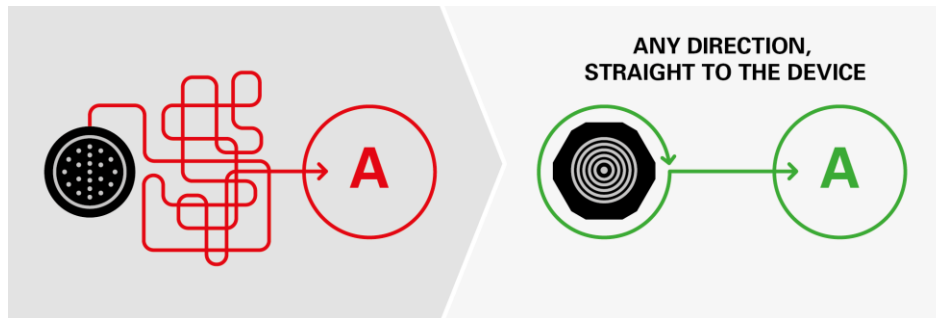
These benefits are appreciated by **designers and integrators** of electronic devices, equipment and ecosystems in sectors as diverse as defense, security, medical, instrumentation, industrial and civil engineering, robotics, wearable technologies or the Internet of Things (IoT).

The Fischer LP360's **panel plug** can be integrated directly into the housing of electronic devices or other sensors, as can the USB adapter, LED and rugged flash drive. This new feature opens up development paths for integrating innovative solutions in electronic networks where the power source and communications are centralized in data & power buses and hubs.

The **cabled receptacle** with 7 signal & power contacts is a turnkey solution that also improves the ease of use, operability and functionality of robotic systems or smart vests into which it can easily be integrated. These solutions are ideal in particular for wearable or handheld applications for the "connected human" – a key trend in connectivity – as well as for IoT applications.

Benefits for end users

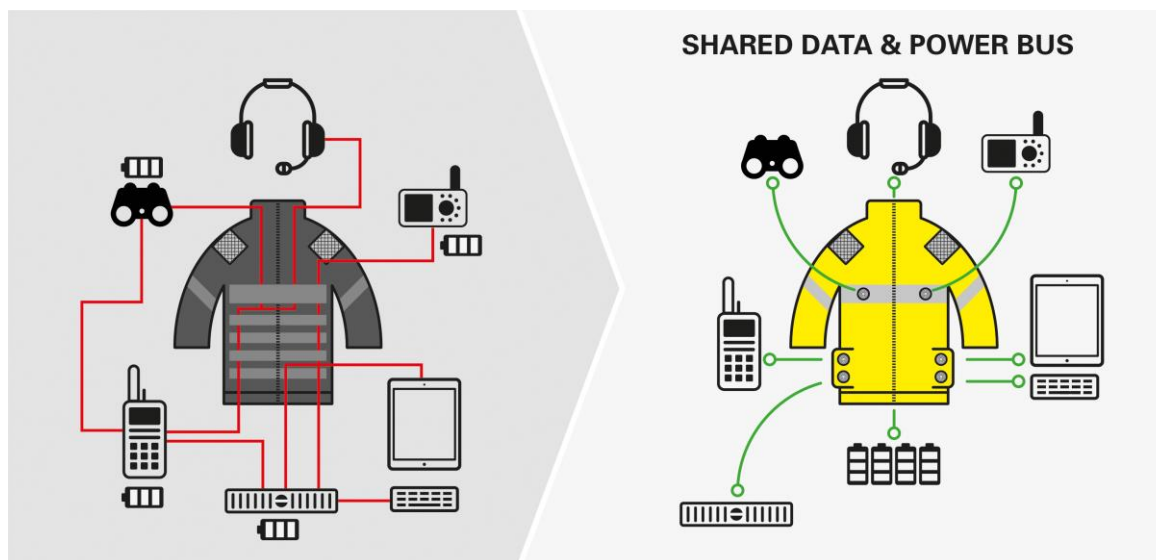
On the **user** side, the plug & use technology on which these solutions are based also brings its share of advantages. In fact, this technology combines, in a totally new way, a predefined-force locking mechanism with quick-release and blind-mate, non-magnetic sealed connection, and a 360° mating capability offering total freedom of operation (no key code). Finally, thanks to a unique membrane-sealing technique, the plug meets IP68 specifications, making the connector (plug + receptacle) easy to clean and totally waterproof, dustproof and sand-proof.



Optimized cable management

Fischer Freedom™ optimizes cable management with an extremely reliable ecosystem of connected objects. Since it does without a key code, the Fischer LP360™ connector allows 360° mating offering considerable freedom of operation. It can thus be plugged in and oriented in any direction, guaranteeing the shortest cable route to the device – **no more twists and turns**. Cables are thus shorter in the wearable equipment of dismounted soldiers, healthcare professionals, patients, civil engineers, surveyors, operators, and law enforcement and security officers.

In certain applications, it is no longer even necessary to use a cable.



Infographic above:

No more cable hassle. The worker's PPE (Personal Protective Equipment) vest or the soldier's tactical vest becomes the hub that supplies power and data to a wide variety of portable devices. The low-profile, rugged and versatile LP360™ optimizes cable management and allows multiple devices to be connected to a shared data & power bus.

New opportunities in the fields of smart clothing and IoT

The Fischer Freedom™ Series' ease of use and integration capability help make wearable devices smaller, faster and smarter – and ultimately make smart, high-performance clothing a reality. Fischer Freedom™ allows design engineers to create a smart vest that functions as a hub with multiple portable and body-worn devices connected to a shared data & power bus. Clutter is reduced and usability increased, making the equipment lighter and faster to set up. These benefits also open up new opportunities in the Internet of Things (IoT).



The Fischer Freedom™ technology platform. Top unnumbered: the plug (right) and the receptacle (left) of the Fischer LP360™ 7-contact connector in metal, launched in June 2018. NEW product LP360™ available since Sept. 2019: **Size 14** (7 signal & power contacts): with cabled receptacle (1) and panel plug (2); active devices: USB 2.0 adapter (3), LED (4), Rugged Flash Drive (5). **Size 08** (4 signal & power contacts) in plastic (high-end composite based on PEEK) with cabled plug (6) and panel receptacle (7); in metal with panel receptacle (8) and panel plug (9).



Fischer LP360™ 7-pin connector receptacle and plug: up to 3x 5A power and 4x 1A signal contacts. Contacts on the receptacles are concentric “tracks”, those on the plug are pins. Locking is performed thanks to special ogive-shaped elements positioned on the inner diameter of the plug body. (Illustration on the left: drawing from the patent)