

# Power-over-Fiber

## No mystery, but sophisticated technology



**Power-over-Fiber (PoF)** is a technology that transmits power through optical fiber cables using light, as opposed to traditional electrical power transmission which uses copper wires or other conductive materials to carry electricity.

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### Behind the workflow

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- **Power source:** An electrical power supply powers a laser diode, which converts electricity into light of specified wavelength.
- **Transmission:** The light travels through an fiber optic cable, which is made of glass.
- **Conversion:** At the far end, a photovoltaic converter turns the light back into electrical energy.
- **Usage:** This electrical energy powers remote devices, sensors, or electronics.

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### Benefits of Power-over-Fiber

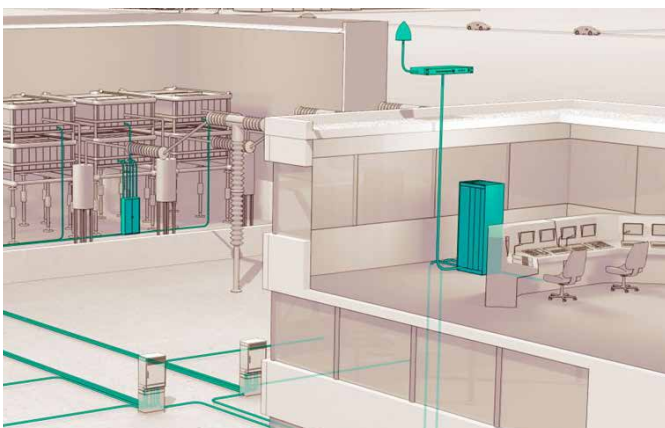
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- **Electrical isolation:** Optical fibers are non-conductive, so they provide galvanic isolation, which is great for safety and preventing interference.
- **No electromagnetic interference (EMI):** Fiber optic cables don't emit or pick up EMI, ideal for sensitive electronics or high-EMI environments.
- **Lightweight and thin cables:** Fiber optics are lighter and smaller than power cables.
- **Long distance transmission:** Light can travel long distances with minimal loss compared to electrical cables.

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### One solution for a wide range of applications

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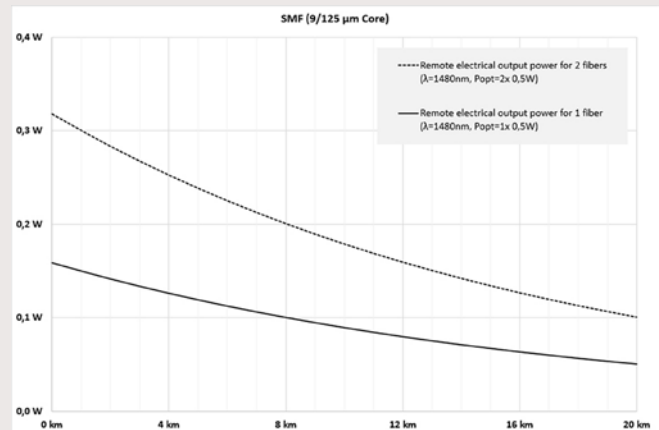


- Powering sensors in high-voltage areas or long distant locations.
- Providing energy to electronic equipment in extra high voltage zones or in further places where electrical cables aren't safe or practical.
- Military and aerospace systems requiring electromagnetic isolation.
- Underwater or medical applications

## Technology overview

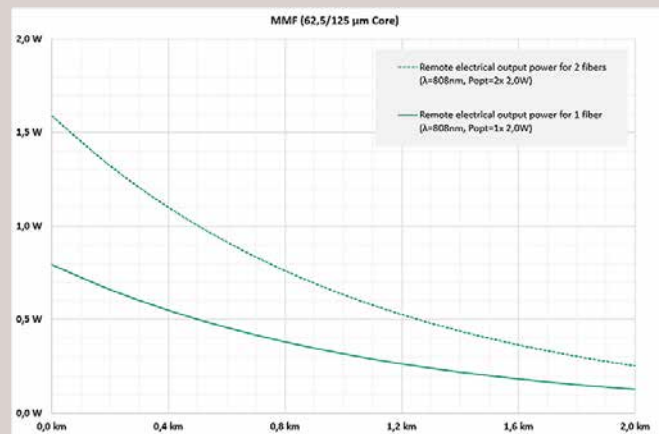
### Singlemode based Technology

- PoF via 9/125  $\mu\text{m}$  fiber
- Fiber attenuation: 0.3 dB/km
- 1480 nm pump laser technology with 0.5 W optical output power



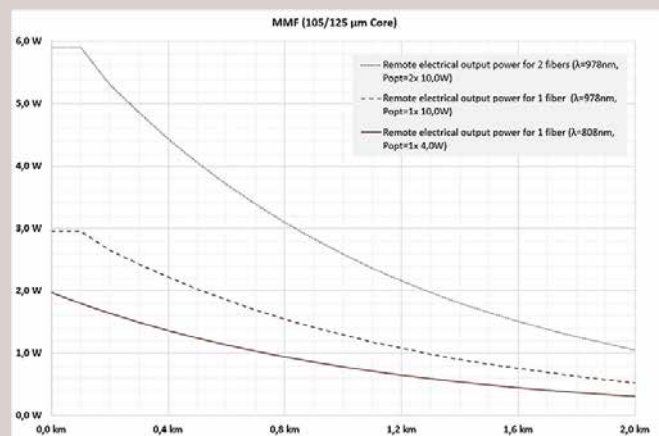
### Multimode based Technology

- PoF via 62.5/125  $\mu\text{m}$  fiber
- Fiber attenuation: 4 dB/km
- 808 nm pump laser technology with 2 W optical output power



### Multimode based Technology

- PoF via 105/125  $\mu\text{m}$  fiber
- Fiber attenuation: 4 dB/km
- 808/978 nm pump laser technology with 4/10 W optical output power



Individually adaptable to customer requirements

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