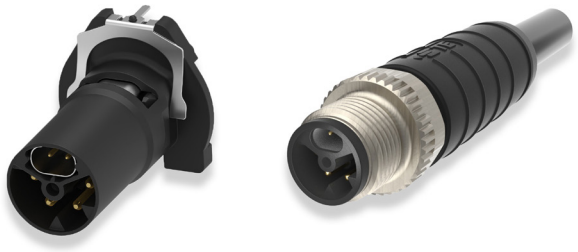
INTRODUCING

SPE M12 HYBRID CONNECTOR

- **It delivers high-speed data transfer up to 1 Gbps and power delivery up to 1 kW (2 × 8 A).**
- **Built for harsh environments, it features IP67 protection and a secure locking mechanism for reliability and safety.**



The SPE-M12 Hybrid is an industrial connector for Single Pair Ethernet (SPE) that combines data and power transmission in one interface. It supports high-speed data (up to 1 Gbps) and power delivery (up to 1kW/2 × 8 A). Designed for harsh environments, it offers robust protection (IP67), and secure locking mechanism. Fully compliant with IEC 63171-7, it ensures interoperability across devices and manufacturers. This interface supports trends as decentralization, miniaturization and digitalization in the industrial environment.

BENEFITS

- One Connector for Power & Data – Simplifies cabling and reduces clutter.
- Reliable & High-Speed – Ensures stable power delivery and fast communication.
- Industrial-Grade Safety – Built to withstand harsh conditions and protect devices.
- Flexible Installation – Multiple mating faces and locking options for diverse setups.
- Interoperable – Compatible across devices from different manufacturers.
- Space & Cost Efficiency – Cuts installation time and reduces material costs.
- Industry 4.0 Ready – Enables seamless integration from sensors to cloud systems.
- Minimized Downtime – Secure connections prevent accidental disconnections.
- Future-Proof Design – Supports modern Ethernet and evolving power needs.

FEATURES

- Hybrid Design – Combines data and power contacts in a single M12 connector
- High-Speed Data Transmission – Supports up to 1 Gbps and frequencies up to 600 MHz
- Power Delivery – Can supply up to 1kW/ 2 × 8 A.
- Robust Construction – IP67 protection for harsh industrial environments.
- Standards Compliance – Fully compatible with IEC 63171-7, ensuring interoperability.

APPLICATIONS

- Collaborative robots (cobots) and industrial robot arms Photovoltaic Inverters
- End-of-arm tooling (EOAT)
- Automated guided vehicles (AGVs) & AMRs
- Industrial Automation
- Drives and servo motors
- I/O module
- Industrial controllers (PLC) and Field Devices

ELECTRICAL

- Rated surge voltage: 1.0 kV DC
- Insulation resistance: ≥100 MΩ
- Nominal voltage UN:50V AC / 63V DC
- Nominal current IN:2A (Data contacts), for Data wires of 26AWG or smaller, the maximum current is 1A
- 8 A (Power contact)
- Contact resistance:
  - <100 mΩ (Shield contact)
  - < 5 mΩ (Power contact)
  - < 50 mΩ (Data contacts input to output)

MECHANICAL

- Insertion/withdrawal cycles: ≥100
- Insertion force: <45N
- Withdrawal force: <45N

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MATERIALS

- Flammability rating according to UL 94: V0
- Housing material: PA
- Contact material: Cu alloy
- Contact surface material: Ni/Au

STANDARDS

- IEC 63171-7

SPECIFICATION

- Product Specification: 108-94895

LEARN MORE

- SPE-M12 model detail page
- Single Pair Ethernet: The Infrastructure for IIoT product group page
- SPE-M12 Hybrid Connector part number list
- SPE-M12 Hybrid (IEC 63171-7) flyer

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