

Y-SPE Single Pair Ethernet - the future starts now

Yamaichi Electronics offers Y-SPE, a new series of connectors for Industrial Single Pair Ethernet (SPE) according to IEC 63171.

The new series initially includes both IP20 sockets and M12 sockets with IP67 protection for PCB mounting in accordance with IEC standards 63171-2 and -6.

Single pair Ethernet offers the possibility of efficient data transmission from the sensor to the cloud. The increasing need and ability of machines, devices and also components in the production environment to communicate poses challenges to the previous Ethernet. Especially for systems with cable distances >100 m, there were only few possibilities in terms of Ethernet.

Due to the large range and the uniform communication level, single pair Ethernet is therefore generally considered the key in the transition to IIoT and Industry 4.0.

Transmission takes place via only two and no longer via four or eight contacts. Due to this fact, it is possible to build smaller connectors than the previous RJ45. The same applies to the cables. Instead of two or four pairs, only one pair is needed. This saves space, raw materials, weight and money.

To additionally ensure the supply of power, SPE offers the possibility of using Power over Data Line (PoDL) - similar to Power over Ethernet (PoE). However, the limit here is approx. 60 W. Only the two existing stranded wires are necessary for use.

For components that require more energy, hybrid connectors have been entered as a draft standard, for example in 63171-7 for M12. Yamaichi also offers first prototypes for this if required.

If a customer-specific design is preferred instead of a standard-compliant design, the customer can of course also be supported in the realisation.

Yamaichi's connectors offer the possibility to be part of SPE from the beginning and to benefit from the advantages. There is a free choice from the standardised systems.

The advantages:

- Future-oriented technology in preparation for Industry 4.0
- Both mating faces available (IEC 63171-2 / -6)
- Space and weight saving
- 90° and 180° sockets in IP20 and IP67 (IEC 63171-6)
- 90° socket (IEC 63171-2)
- Customised solutions possible

About Yamaichi Electronics

Yamaichi Electronics is a market leader for Test & Burn-In sockets, connectors and connection systems. Their reliability and functional dependability are essential for the success of the overall project. Yamaichi Electronics is established on the world market as a manufacturer of high-quality, reliable components for demanding applications in various markets and applications: semiconductor, industrial automation, automotive, data networking, measurement & testing, medical, mobile computing, embedded computing, and others.

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