

# HARTING One Pager

## T1 Industrial

### For Single Pair Ethernet



## Market Background

Single Pair Ethernet (SPE) is the new infrastructure solution for IIoT in the industry. It enables devices in almost all applications to be connected simply and cost-efficient via standard Ethernet.

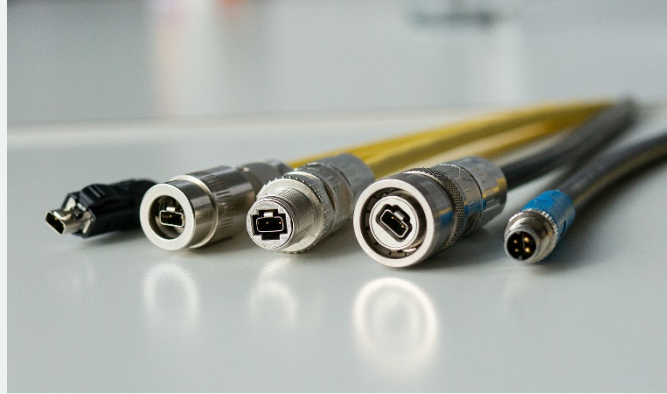
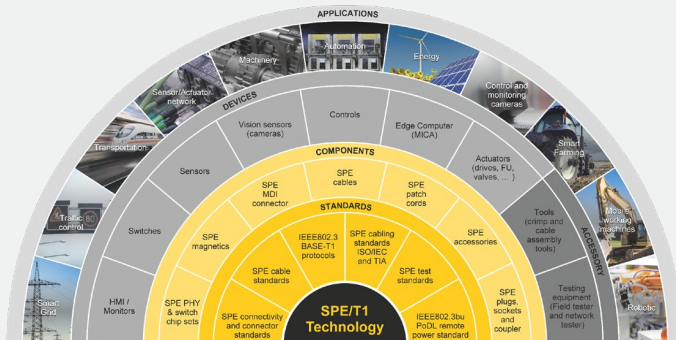
Today, sensors and actuators in the field level are usually connected via proprietary fieldbuses or analog systems. With SPE, there is now the possibility of connecting these devices with Ethernet over a single twisted pair cable.

What does Multi Pair Ethernet (MPE) look like today?

- Fast Ethernet up to 100 Mbit/s over two twisted pairs
- MultiGig Ethernet up to 1 Gbit/s over four twisted pairs

HARTING's focus is on the target markets of **Automation, Machinery & Robotics**.

Since a completely new infrastructure is required for SPE, HARTING has developed the ECO system shown below. This shows which components are necessary for the new technology in order to make it usable and also shows what possible application fields can look like.

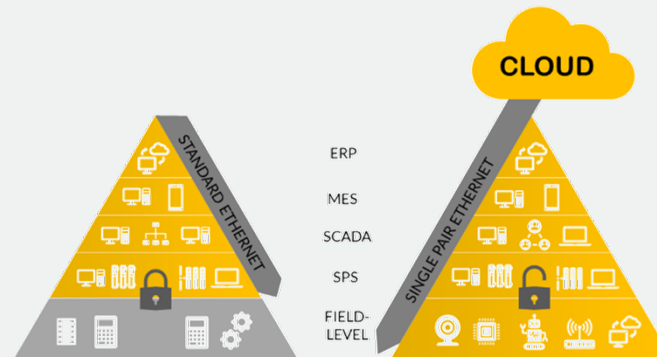


## Solution Overview

HARTING's T1 Industrial acc. to IEC 63171-6 is the chosen mating face for SPE for the industry and its applications by the international standardization committees ISO/IEC, TIA and IEEE. It is especially recommended and designed for the use in M2I2C2E2 and M3I3C3E3 environments.

The product series is based on a modular system in which the data insert fits into the various housings of the HARTING product portfolio. This allows all applications from IP20 to IP65/67.

SPE is not intended to replace the solutions currently available on the market such as RJ45 or ix Industrial, but to extend them. The approach of SPE is to bring Ethernet to places where Ethernet is not used today. If you look at the automation pyramid you have a gap at the edge. Here is SPE the infrastructure solution.



With Power over Data Line (PoDL), devices can be supplied with up to 50 W via the same single twisted pair.



## Key Features and Advantages of the SPE technology



### Enabler for IIOT

Barrier-free communication from the sensor to the cloud



### Open TCP/IP communication protocol

No proprietary solution and dependency on manufacturer hardware or software



### Up to 1 Gbit/s for Automation Networks



### PoDL – Power over Data Line

PoDL for remote power supply of sensors and actuators up to 50 W



### Higher Efficiency

Cost efficient through higher packing density, faster installation, higher flexibility and weight saving



### Real-time communication with TSN

Low latency for time critical applications