



Single Pair Ethernet & Ethernet Advanced Physical Layer

Solutions for the future from a single source

Single Pair Ethernet (SPE)

Single Pair Ethernet is regarded as an important future technology for digitisation in the production environment and is an integral part of the promise of Industry 4.0 without it. LAPP has recognised the potential of SPE and has been involved with this technology at an early stage. In the coming years, SPE will replace today's fieldbus systems at the sensor-actuator level. LAPP already has a complete cable portfolio for use in industrial machines and systems.

Advantages:

- Replacement of fieldbuses with future-proof Single Pair Ethernet systems
- Standardisation of technology in IP-based networks, from the sensor to the ERP or into the cloud for the benefit of smart factories
- Material- and cost-saving as well as weight- and space-saving
- Significantly faster, simpler installation on site as well as reduced error rate
- Power over Data Line (PoDL) Supply of end devices with up to 50W via the data line
- Open cabling standard with compatible cabling components is suitable for universal use throughout the automation industry

Advanced Physical Layer (APL)

Ethernet Advanced Physical Layer is the gamechanger for networking at the field level - especially for the process industry. The technology extends the physical layer of Ethernet with important properties: it enables two-way communication over distances of up to 1000 metres at up to 10 Mbps. In addition, it supplies the connected power to the connected devices and offers intrinsic safety for hazardous areas. This makes it particularly interesting for the process industry and companies with potentially explosive installations.

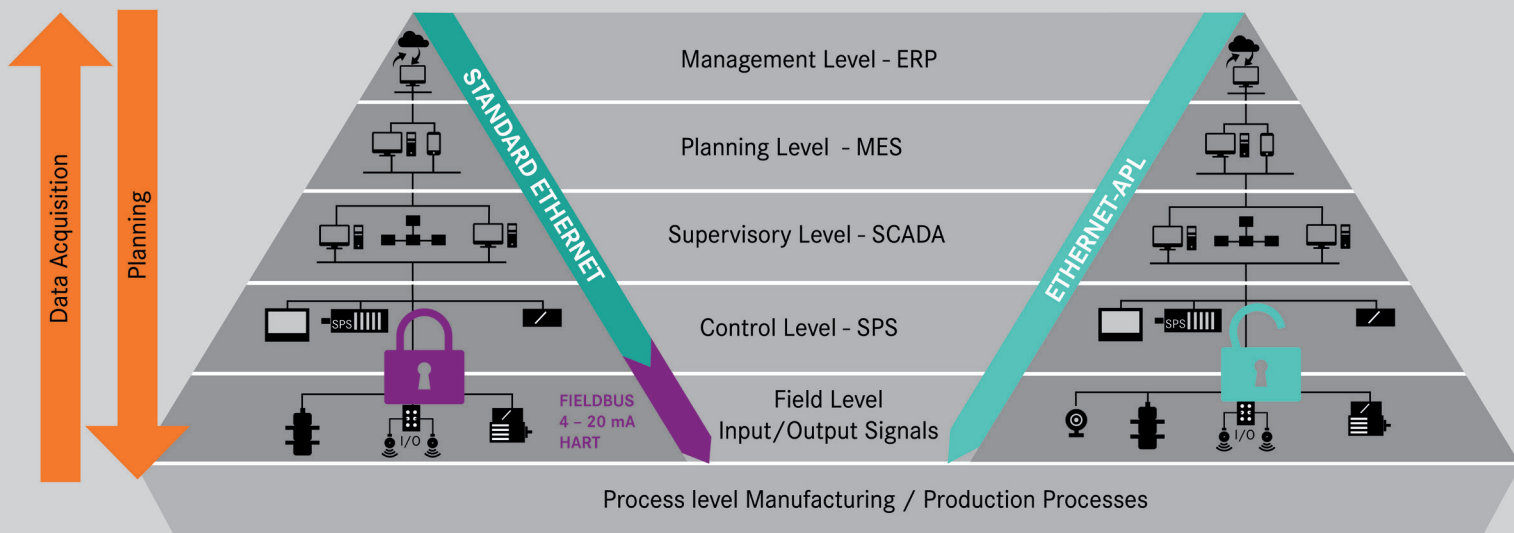
Advantages:



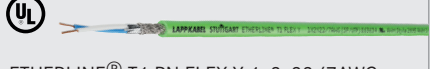






- Remote access and fast device configuration
- High data transmission speed and bandwidth
- Data and power transmission in parallel over the line
- Suitable for hazardous areas
- Simple integration into the process control system
- Modularity and expandability of systems is ensured
- Interoperability
- Future-proof technology: based on IEEE standard
- User support during development and installation
- Simplified installation and commissioning
- Increased reliability and availability
- Distance: Data transmission distances of up to 1000 metres
- Open cabling standard with compatible cabling components is suitable for universal use throughout the automation industry



Learn more about Single Pair Ethernet & Ethernet Advanced Physical Layer:
www.lapp.com/en/de/e/000211





| | Product | Outer jacket | Insert | Data rate | Length max. | Diameter |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|-----------------------|---------------------------|----------|
| Cables |  ETHERLINE® T1 FD P 1x2x26/19AWG | PUR | Drag chain | Up to 100 Mbit/s | 15 m | 4,6 mm |
| |  ETHERLINE® T1 PN FLEX T Y 1x2x22/7AWG | PVC | Flexible | 10 Mbit/s - 1 Gbit/s | 40 m | 5,8 mm |
| |  ETHERLINE® T1 PN FLEX Y 1x2x22/7AWG | PVC | Flexible | 10 Mbit/s - 1 Gbit/s | 40 m | 5,5 mm |
| |  ETHERLINE® T1 FLEX Y 1x2x26/7AWG | PVC | Flexible | 100 Mbit/s - 1 Gbit/s | 15 m | 4,6 mm |
| Patchcords |  EPIC® DATA SPE-6 PC M-M CT001 | PVC | Flexible | 100 Mbit/s - 1 Gbit/s | Various lengths available | 5,8 mm |
| SPE APL cables for hazardous environments |  ETHERLINE® T1L FC Y 1x2x18/1AWG | PVC | Fixed | Up to 10 Mbit/s | Max. 1000 m | 8,0 mm |
| |  ETHERLINE® T1 L FLEX FC Y 1x2x18/7AWG | PVC | Flexible | Up to 10 Mbit/s | Max. 1000 m | 8,0 mm |
| EPIC® DATA SPE connectors |  EPIC® DATA SPE-6 FA M CS1 Pin version crimp Field-attachable | | | | | |
| |  EPIC® DATA SPE-6 PCB F PCB socket version | | | | | |

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