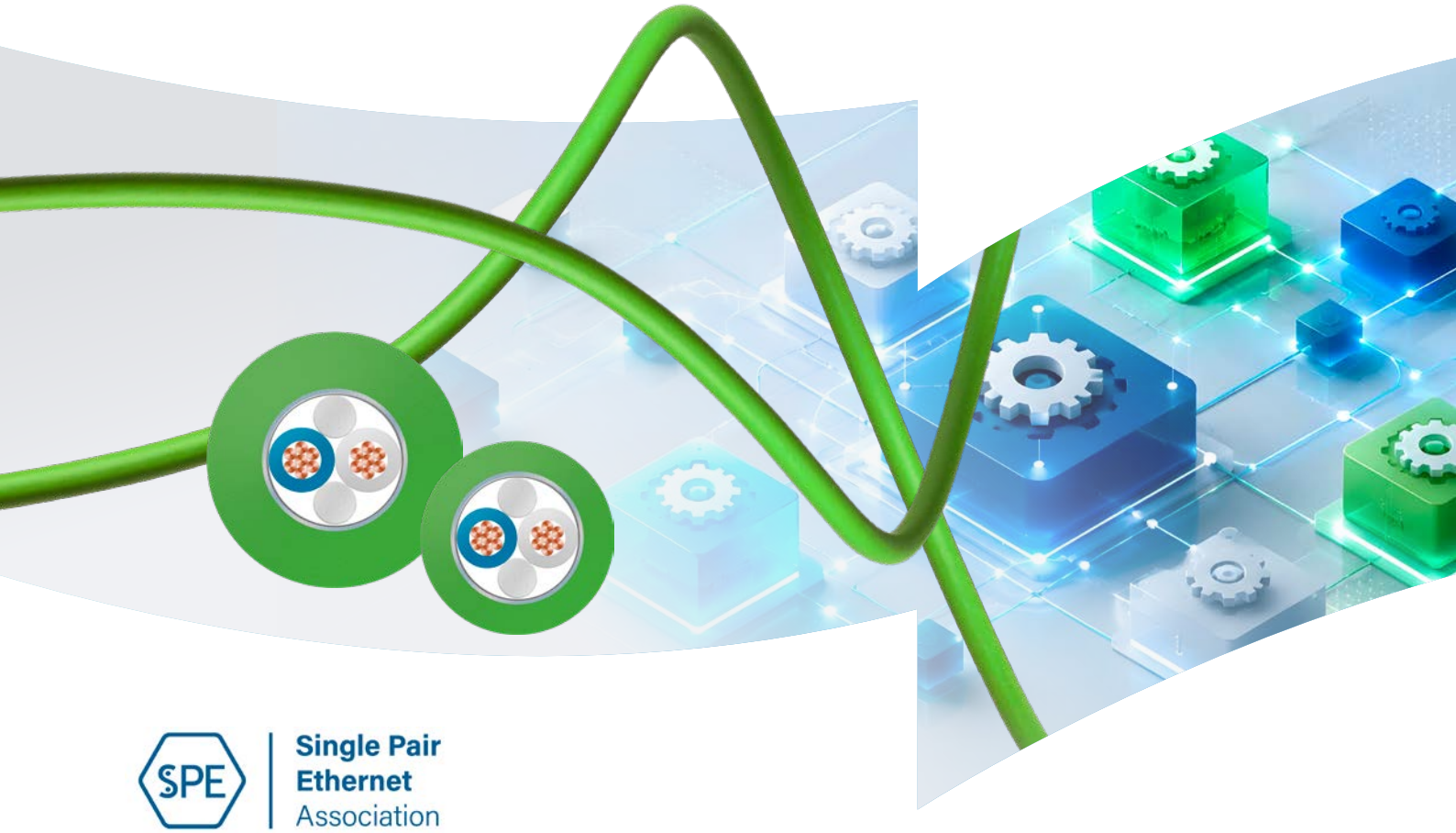
BizLink Where Possibilities Connect™

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Single Pair Ethernet Association

FieldLink® SPE Cables (Single Pair Ethernet) for Future-Proof, Industrial Real-Time Communication (TSN)

The 5 Key Benefits at a Glance 〉

Space and weight savings 〉
- Reduction from 4 or 8 wires down to just 2 wires.
- Up to 60% space savings and significant weight reduction for compact installation spaces and dynamic drag chains.

Continuous, seamless IP Connectivity 〉
- Eliminates the need for expensive and complex gateway or media converter solutions.
- Direct, transparent communication from the field level to OT and IT systems.

SPoE / PoDL (Single Pair over Ethernet / Power over Data Line) 〉
- Simultaneous data and power delivery with up to 52 W over a single twisted pair.
- Drastically reduced cabling and installation effort.

Exceptional range & maximum bandwidths 〉
- Up to 1,000 m transmission range at 10 Mbit/s.
- High-speed connections up to 15 m at 1 Gbit/s up to 2.5 / 5 / 10 Gbit/s for cutting-edge industrial applications.

Simple & flexible installation 〉
- Optimized bending radii for drag chains, torsion, and robotics applications.
- Fast, error-free assembly.

A single pair for peak performance 〉

Seamless IP connectivity from sensor to cloud – compact, ultra-dynamic, and ready for multi-Gigabit.

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FieldLink® **SPE Cables** (Single Pair Ethernet)

The Right Cross Section for Every Application 〉

Selecting the right AWG size determines range, flexibility, and power delivery (SPoE/PoDL) in industrial applications:



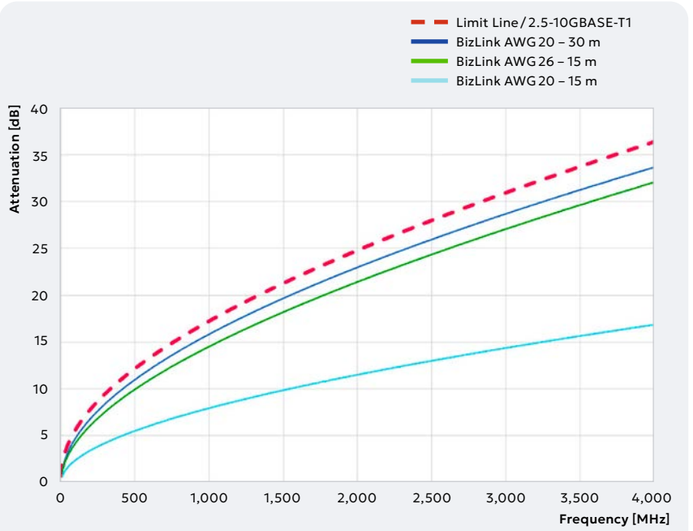
Selecting the Optimal Wire Gauge (AWG) for Industrial and TSN Applications

Conductor cross-section (AWG)	Characteristic & focus	Typical applications & range
AWG 26	Maximum flexibility, thin stranded conductor, space-saving. Physically higher resistance, but ideal for tight installation spaces.	Dynamic short distances, wiring within the work area (up to 15 m).
AWG 22	Rugged, industry-standard design with an optimal balance of flexibility, shock absorption, and SPoE/PoDL power delivery.	PROFINET Standard via SPE for Industrial Applications.
AWG 20	Low attenuation with significant signal headroom for high frequencies (MultiGigBASE-T1).	Multi-Gigabit applications up to 30 m at high frequencies.
AWG 18	Minimal signal attenuation thanks to thicker solid-core conductors, maximizing the attenuation budget.	Extensive Industrial Facilities & Process Automation up to 1,000 m (10BASE-T1L).

The Future of SPE 〉

Even without a dedicated IEC cable standard yet in place for MultiGigBASE-T1, our future-proof SPE cables are ready for data rates up to 10 Gbit/s right now.

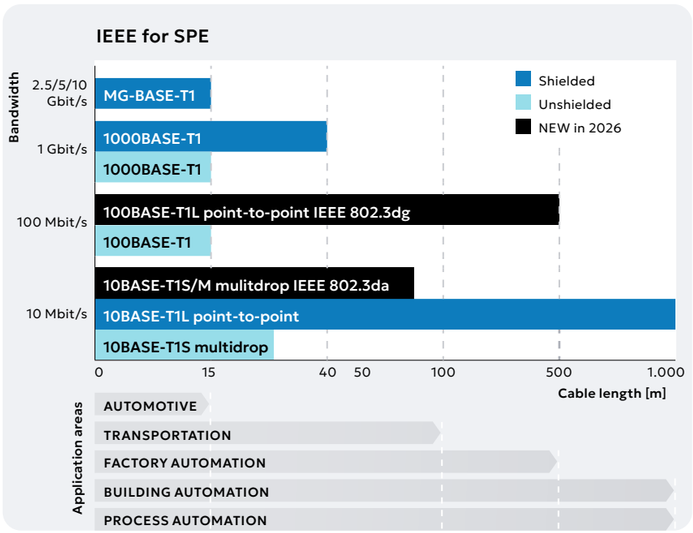
By performing significantly better than the strict IEEE attenuation limits and offering extensive signal margins, they ensure maximum transmission security for next-generation industrial applications.



The graphic illustrates an example of the attenuation margin of AWG 20 & 26 over 15 m for 2.5–10GBASE-T1 / MultiGigBASE-T1 (1,000 – 4,000 MHz)

Even with a cable length of 30 m and AWG 20, there is a residual attenuation margin*

*The example attenuation values apply exclusively to the cable. Other components of the overall system between the transmitter and receiver are not taken into account

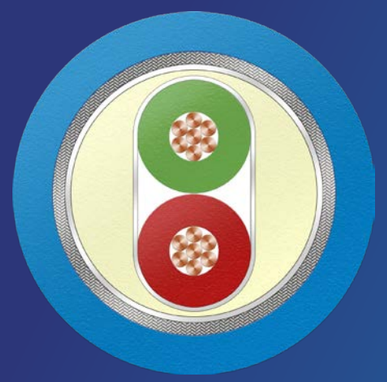


The Foundation for Time-Sensitive Networking (TSN) 〉

Interference-free data transmission 〉
Excellent EMC shielding and signal integrity for minimal bit error rates in harsh industrial environments.

Lossless communication 〉
Strict compliance with attenuation limits and temperature-stable propagation delays prevent packet loss.

Guaranteed determinism 〉
Supports precise TSN scheduling and hardware time stamping in accordance with IEEE 802.1 (e.g., IEEE 802.1AS) for latency-critical control applications.



Universal Data cable
L45467-J20-C375

Our BizLink All-Rounder 〉

The **universal data cable L45467-J20-C375** perfectly bridges the gap between established automation technology and forward-looking Single Pair Ethernet (SPE).
A true all-rounder, it integrates seamlessly into proven legacy fieldbus systems such as PROFIBUS PA, as well as into modern APL networks. At the same time, the cable ensures maximum investment protection across all SPE requirement classes defined in the IEC 61156-11 to -14 series 〉

The cable effortlessly supports the full spectrum of future-oriented data transmission – from 10BASE-T1 up to Gigabit-speed 2.5GBASE-T1 over a single twisted pair.

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Real-Time (TSN) SPE Cables

Overview

Standard IEEE...	Frequency [MHz]	Protocol	Data rate	Reach up to ≤ [m]	AWG	Jacket	IEC norm 61156-...	Laying type	Order No.
802.3cg	0.1–20	10BASE-T1L	10 Mbit/s	1000	18	PUR	13 T1-A	horizontal floor wiring	L45467-J20-C28
802.3cg	0.1–20	10BASE-T1S	10 Mbit/s	25	22	PUR	13 T1-A		L45467-J117-C68
802.3cg	0.1–20	10BASE-T1L	10 Mbit/s	1000	18	PVC	14 T1-A	work area wiring	L45467-J20-C375
802.3cg	0.1–20	10BASE-T1S	10 Mbit/s	25	22	PUR	14 T1-A		L45467-J117-C18
802.3bw	0.3–66	100BASE-T1	100 Mbit/s	15	22	PUR	11	horizontal floor wiring	L45467-J117-C68
802.3bw	0.3–66	100BASE-T1	100 Mbit/s	15	26	PUR	11		L45467-J114-C98
802.3bw	0.3–66	100BASE-T1	100 Mbit/s	15	22	PUR	12	work area wiring	L45467-J117-C18
802.3bw	0.3–66	100BASE-T1	100 Mbit/s	15	26	PUR	12		L45467-J114-C58
802.3bp	1–600	1000BASE-T1	1 Gbit/s	40	22	PUR	11 T1-B	horizontal floor wiring	L45467-J117-C68
802.3bp	1–600	1000BASE-T1	1 Gbit/s	15	26	PUR	11 T1-B		L45467-J114-C98
802.3bp	1–600	1000BASE-T1	1 Gbit/s	40	22	PUR	12 T1-B	work area wiring	L45467-J117-C18
802.3bp	1–600	1000BASE-T1	1 Gbit/s	15	26	PUR	12 T1-B		L45467-J114-C58
802.3ch	1–1000	2.5GBASE-T1	2.5 Gbit/s	15	20	PUR	11 T1-C	horizontal floor wiring	L45467-J119-C18
802.3ch	1–1000	2.5GBASE-T1	2.5 Gbit/s	15	22	PUR	11 T1-C		L45467-J117-C68
802.3ch	1–1000	2.5GBASE-T1	2.5 Gbit/s	15	26	PUR	11 T1-C		L45467-J114-C98
802.3ch	1–1000	2.5GBASE-T1	2.5 Gbit/s	15	20	PUR	12 T1-C	work area wiring	L45467-J119-C18
802.3ch	1–1000	2.5GBASE-T1	2.5 Gbit/s	15	22	PUR	12 T1-C		L45467-J117-C38
802.3ch	1–1000	2.5GBASE-T1	2.5 Gbit/s	15	26	PUR	12 T1-C		L45467-J114-C58
802.3ch	1–2000	5GBASE-T1	5 Gbit/s	15	20	PUR	*	*	L45467-J119-C18
802.3ch	1–2000	5GBASE-T1	5 Gbit/s	15	22	PUR	*	*	L45467-J117-C68
802.3ch	1–2000	5GBASE-T1	5 Gbit/s	15	26	PUR	*	*	L45467-J114-C58
802.3ch	1–4000	10GBASE-T1	10 Gbit/s	15	20	PUR	*	*	L45467-J119-C18
802.3ch	1–4000	10GBASE-T1	10 Gbit/s	15	26	PUR	*	*	L45467-J114-C58

Other designs (insulation, outer jacket, AWG, hybrid) available upon request.

* not defined