

February 2025

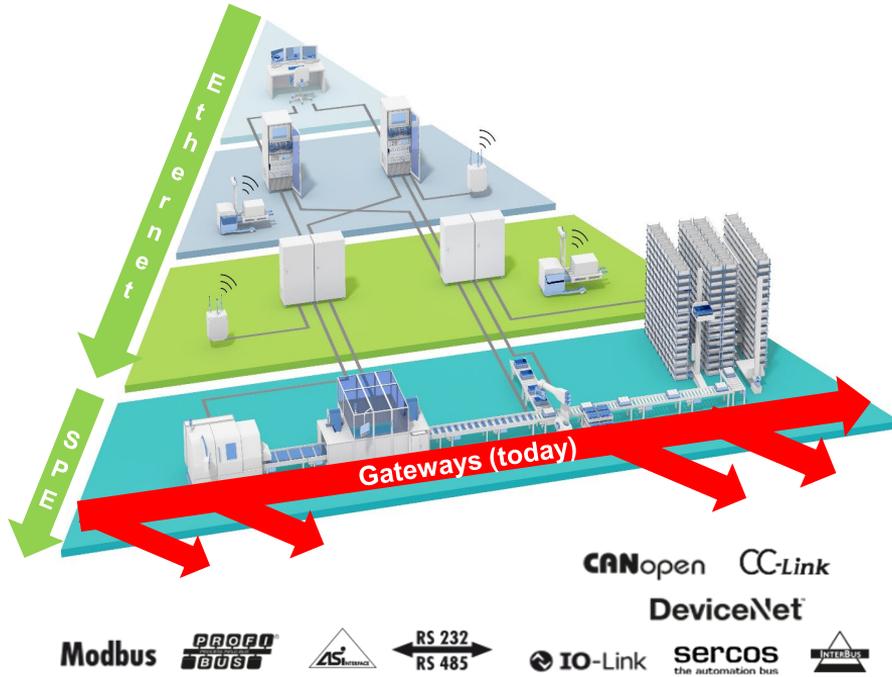
Introduction: **New industrial portfolio**

Industrial Ethernet and SPE solutions

Industrial IT/OT solutions



Increasing digitalisation due to Industry 4.0 and the Industrial Internet of Things (IIoT)

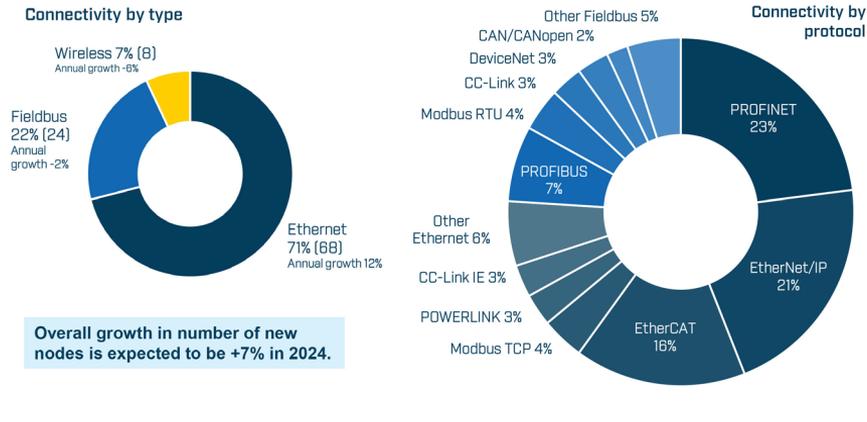


SPE (Single-Pair Ethernet) for seamless connectivity up to the field level:

SPE enables end-to-end, intelligent interconnection for Industrial Internet of Things (IIoT) and Industry 4.0 applications – scalable, deterministic and fully compatible so that all components can communicate seamlessly.

- **Consistent:** uniform, Ethernet-based communication from the sensor to the cloud
- **Future-proof:** key technology for IIoT and Industry 4.0
- **Simple:** less cabling thanks to the use of a single pair of wires
- **Flexible:** ranges of up to 1000 m and speeds of up to 1 GBit/s enable versatile applications

Industrial Ethernet: the future of industrial connectivity



In recent years, Industrial **Ethernet** (IE) has largely replaced fieldbus technology. This trend will continue.

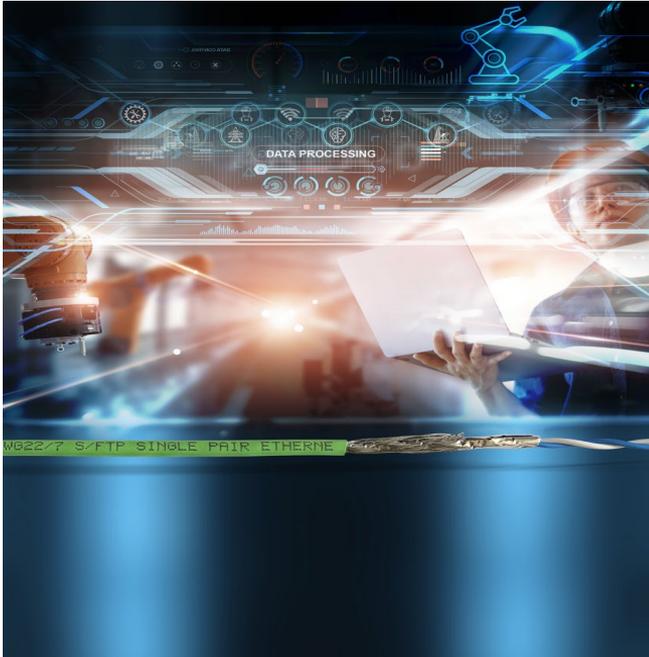
IE is primarily used for data communication in industrial manufacturing and offers a seamless **real-time network infrastructure**.

The areas of application range from the field level via the control level to the company management level – **all without additional gateways**.

Source: HMS Networks, Market Shares – Fieldbus, Industrial Ethernet and Wireless, 2024

HMS Networks estimate of the number of newly installed nodes within factory automation in 2024 – a consolidated view based on several market studies and statistics.

SPE as a new Ethernet standard



SPE: Ethernet for a new medium

Single-Pair Ethernet (SPE) is based on a copper twisted pair and complements existing Ethernet technologies (IEEE 802.3) such as 2-/4-pair copper, fibre optic and wireless. It provides TCP/IP functionality and expands networking possibilities.

Supplement, not a replacement:

- **Fast Ethernet:** 100 Mbps, requires 2 pairs
- **Gigabit Ethernet:** 1–10 Gbps, requires 4 pairs
- **SPE:** 10 Mbps to 1 Gbps, requires 1 pair

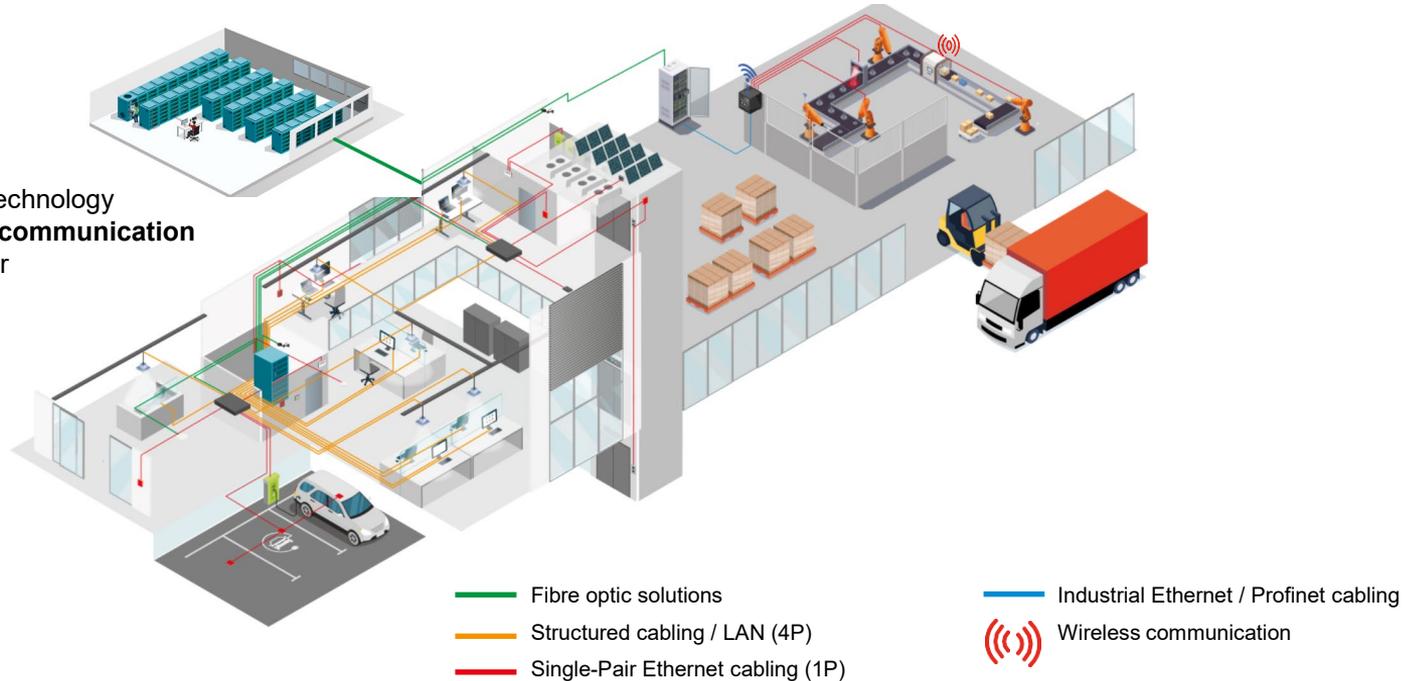
SPE optimises Ethernet communication for leaner, more efficient applications.

End-to-end solutions from sensor to cloud

Ethernet in a conventional building

Ethernet in factory automation

SPE as a key technology for **consistent communication** up to the sensor



Consistent data communication up to the sensor

Data centre solutions and services (IT infrastructure)

Data communication in the control cabinet

Structured building cabling

Industrial Ethernet cabling solutions

SPE cabling solutions

Industrial harnessing

Datwyler Services:



Health Check

Passive DC infrastructure



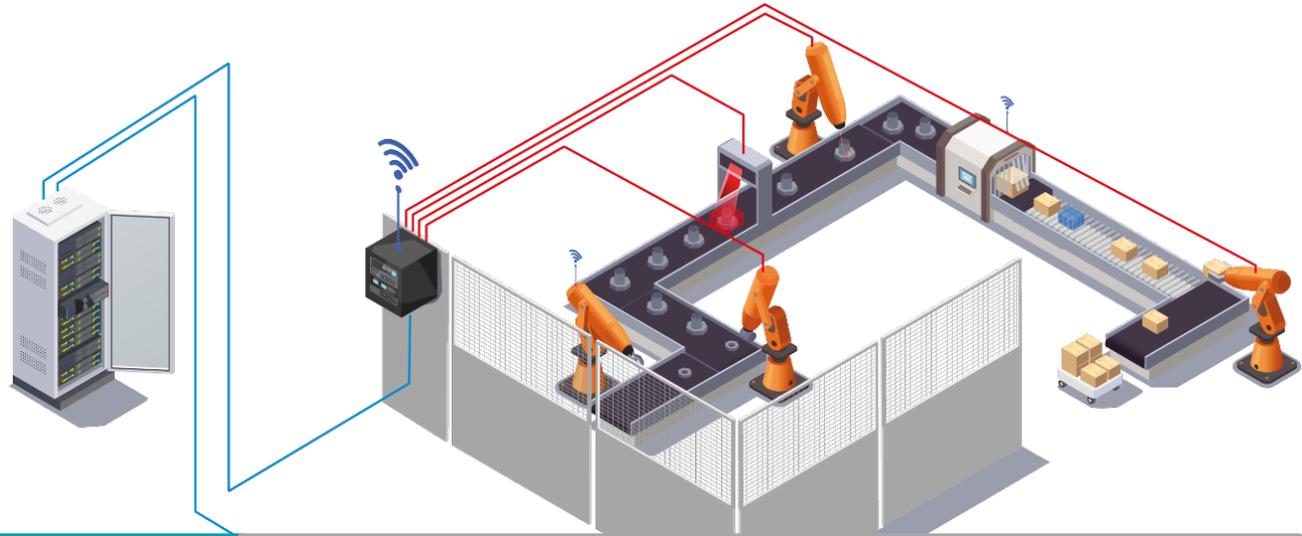
Security Check

IT and OT infrastructure



Professional Services

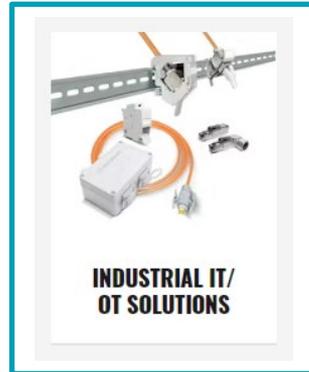
from design to maintenance



IT infrastructure

OT infrastructure

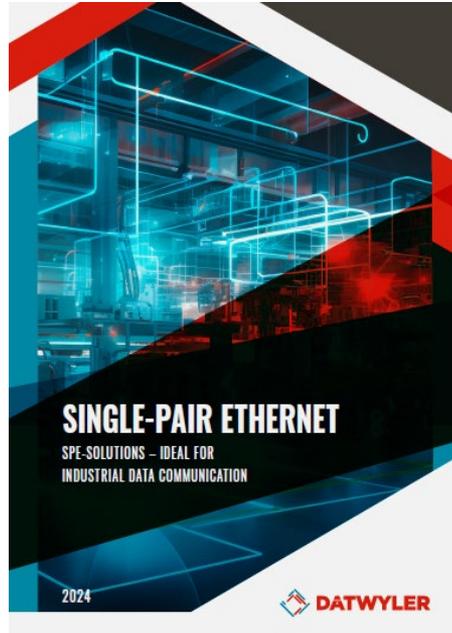
Industrial IT/OT solutions – new in the standard portfolio



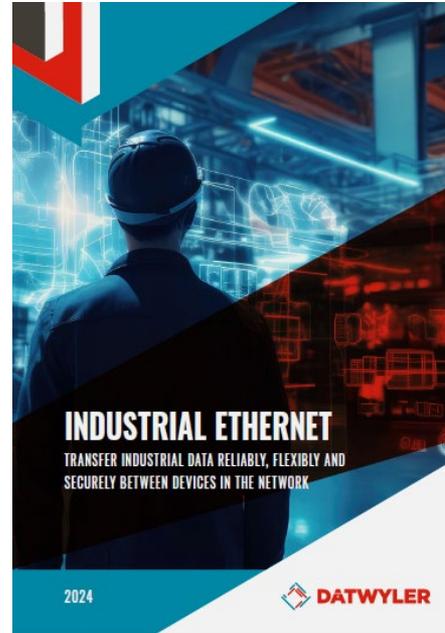
[Link to website](#)

Current brochures: everything at a glance

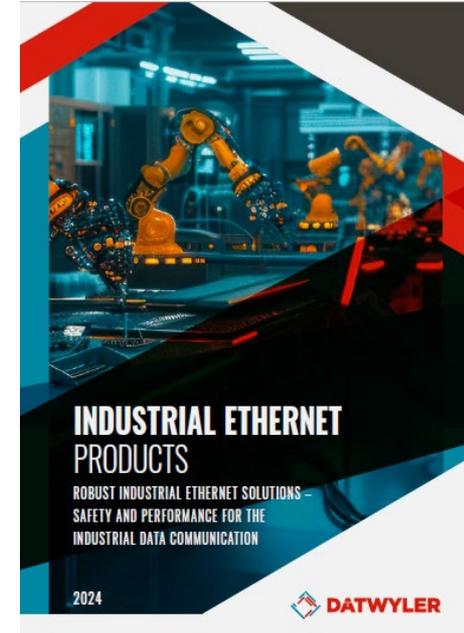
[Single-Pair Ethernet](#)



[Industrial Ethernet](#)

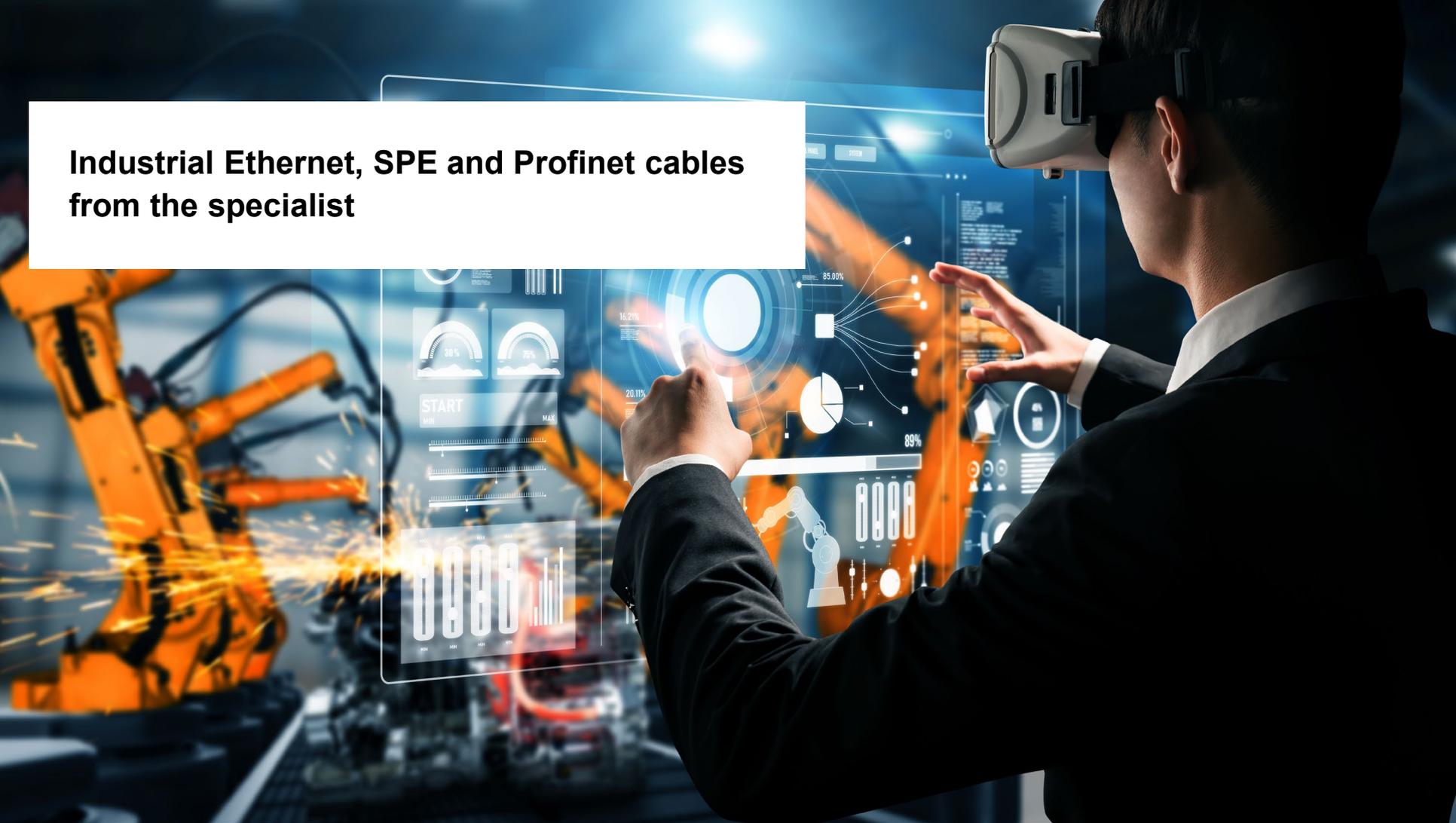


[IE Product Guide](#)



Available in English and German language

Industrial Ethernet, SPE and Profinet cables from the specialist



Single Pair Ethernet
System Alliance
Technology for the Future



Smart Production Solutions, Innovationen & Automatisierung https://youtu.be/_qbg1JV27EQ

Our range of industrial data cables

Available cable types:

- Cat.5e, Cat.6_A, Cat.7, SPE
- Classifications: UL AWM, UL Listed (including CM/CMG)
- Versions: 1 pair (SPE), 2 pairs (Quad) or 4 pairs
- On request according to Profinet standard
- Suitable for fixed, flexible and permanently flexible (high-flex) applications (e.g. in drag chains and robots)
- Outer jacket materials: PVC, PUR, LS0H or according to specific requirements



Large selection of data cables

An overview of the available cable types is included in the respective [product guide >](#)

Standard IEC 61156	Category/Class	Cable type	Cores	Dimensions n x n x AWG	Application (type) ¹⁾	Flexibility	UL Approval	PoDL IEC 602.3	CPR	Flame propagation	Zero halogen	Outdoor	Sheath material	Shielding	Max. bandwidth	Max. length	Typical application	Unique feature	Availability	Compatible connectors	Article number			
Single-pair Ethernet (SPE) Cables IEC 61156	IEC 61156-11	Single-pair installation cable with transmission properties up to 600 MHz (fixed installation)	1 pair	1 x 2 x AWG22/1	A	fixed	✗	✓	✓	✓	✓	✗	LSZH FRNC	S/FTP	1000 Mbit/s	40 m	Horizontal wiring building	High flame retardance	available	IEC 63171	19143100DK			
					B	flexible															not provided			
					C	drag chain																not provided		
					R	torsion																not provided		
	IEC 61156-12	Single-pair connection/patch cable with transmission properties up to 600 MHz (flexible)	1 pair	1 x 2 x AWG22/7	B	flexible	UL 444 CMG	✓	✓	✓	✓	✓	✗	LSZH FRNC	S/FTP	1000 Mbit/s	40 m	Industrial communication machinery cabling	Space saving	available	IEC 63171	19471300EK		
							UL AWM 758	✓	✓	✓	✓	✓	✗	TPU	S/FTP	1000 Mbit/s	40 m	Industrial communication machinery cabling	Space saving	available	IEC 63171	19468300EK		
							UL AWM 758	✓	✓	✓	✓	✓	✗	TPU	S/FTP	1000 Mbit/s	40 m	Industrial communication machinery cabling	Space saving	available	IEC 63171	19468400EK		
					C	drag chain	UL AWM 758	✓	✓	✓	✓	✓	✗	TPU	S/FTP	1000 Mbit/s	40 m	Industrial communication machinery cabling	Highly flexible design	in development	IEC 63171	-		
					R	torsion	UL AWM 758	✓	✓	✓	✓	✓	✗	TPU	S/FTP	1000 Mbit/s	40 m	Industrial communication machinery cabling	Highly flexible design	in development	IEC 63171	-		
	IEC 61156-13	Single-pair installation cable with transmission properties up to 20 MHz (fixed installation)	1 pair	1 x 2 x AWG22/1	A	fixed	✗	✓	✓	✓	✓	✓	✗	LSZH FRNC	S/FTP	10 Mbit/s	1000 m	Horizontal wiring building	High flame retardance	available	IEC 63171	19143100DK		
							✗	✓	✓	✓	✓	✓	✗	LSZH FRNC	S/FTP	10 Mbit/s	1000 m	Horizontal wiring building	Long distance reach	on request	IEC 63171	-		
					B	flexible															not provided			
					C	drag chain																not provided		
	IEC 61156-14	Single-pair connection/patch cable with transmission properties up to 20 MHz (flexible)	1 pair	1 x 2 x AWG22/7	B	flexible	✗	✓	✓	✓	✓	✓	✗	LSZH FRNC	S/FTP	10 Mbit/s	1000 m	Horizontal wiring building	High flame retardance	available	IEC 63171	19463000DK		
							UL 444 CMG	✓	✓	✓	✓	✓	✗	LSZH FRNC	S/FTP	10 Mbit/s	1000 m	Industrial communication machinery cabling	Space saving	available	IEC 63171	19471300EK		
							UL AWM 758	✓	✓	✓	✓	✓	✗	TPU	S/FTP	10 Mbit/s	1000 m	Industrial communication machinery cabling	Space saving	available	IEC 63171	19468300EK		
UL AWM 758							✓	✓	✓	✓	✓	✗	TPU	S/FTP	10 Mbit/s	1000 m	Industrial communication machinery cabling	Space saving	available	IEC 63171	19468400EK			



What makes Datwyler data cables so unique?

- **Cable production in Switzerland – “Swiss Engineering” at Datwyler**
- Datwyler is a leading manufacturer of Ethernet-based cable technologies producing **more than 120,000 km of Ethernet cables annually**. We offer solutions for products from Cat.5/5e to Cat.6_A and Cat.7, including Single-Pair Ethernet cables (SPE). Our products are characterised by proven quality and are tested in our own furnace.
- Our **production is also UL and CSA certified**, which ensures that the products can be used worldwide.
- **Global presence:** We offer tailor-made solutions for various markets worldwide > [Company](#)
- **Experience:** over 100 years of expertise in cable technology > [Corporate Video](#)
- **Certified Quality:** compliance with international standards such as ISO 9001 and ISO 14001 > [Certificates](#)
- **Sustainability:** We focus on environmentally friendly materials and manufacturing processes > [Sustainability](#)

**Discover the future of industrial networking –
contact our expert!**



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