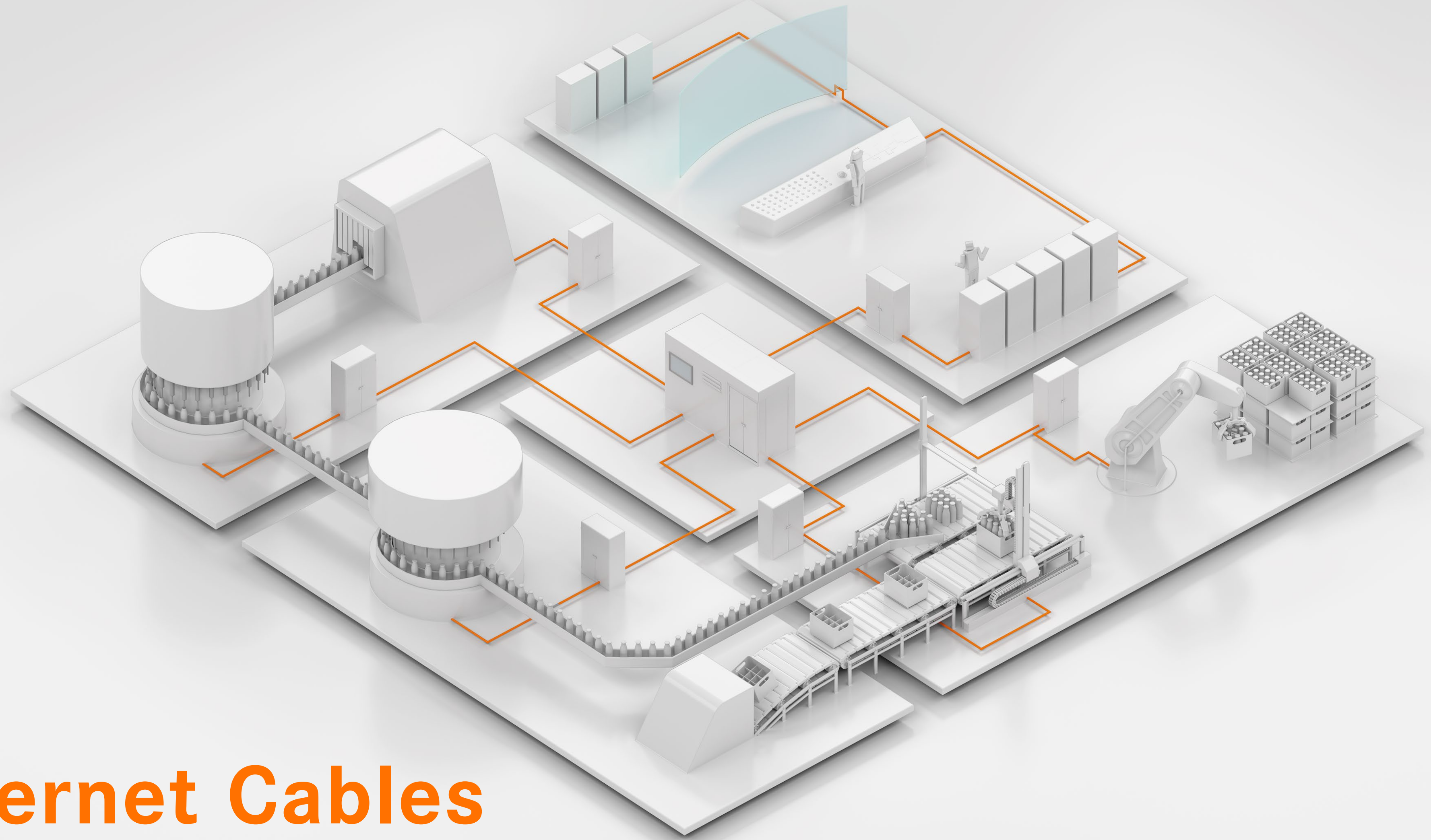




Industrial Ethernet Cables

Smart Connection Solution for Industrial Communication.

Industrial Ethernet cables from LAPP

Protocol-independent IE (industrial ethernet) cables manufactured by LAPP for reliable data communication in harsh industrial conditions.

Industrial Communication at LAPP

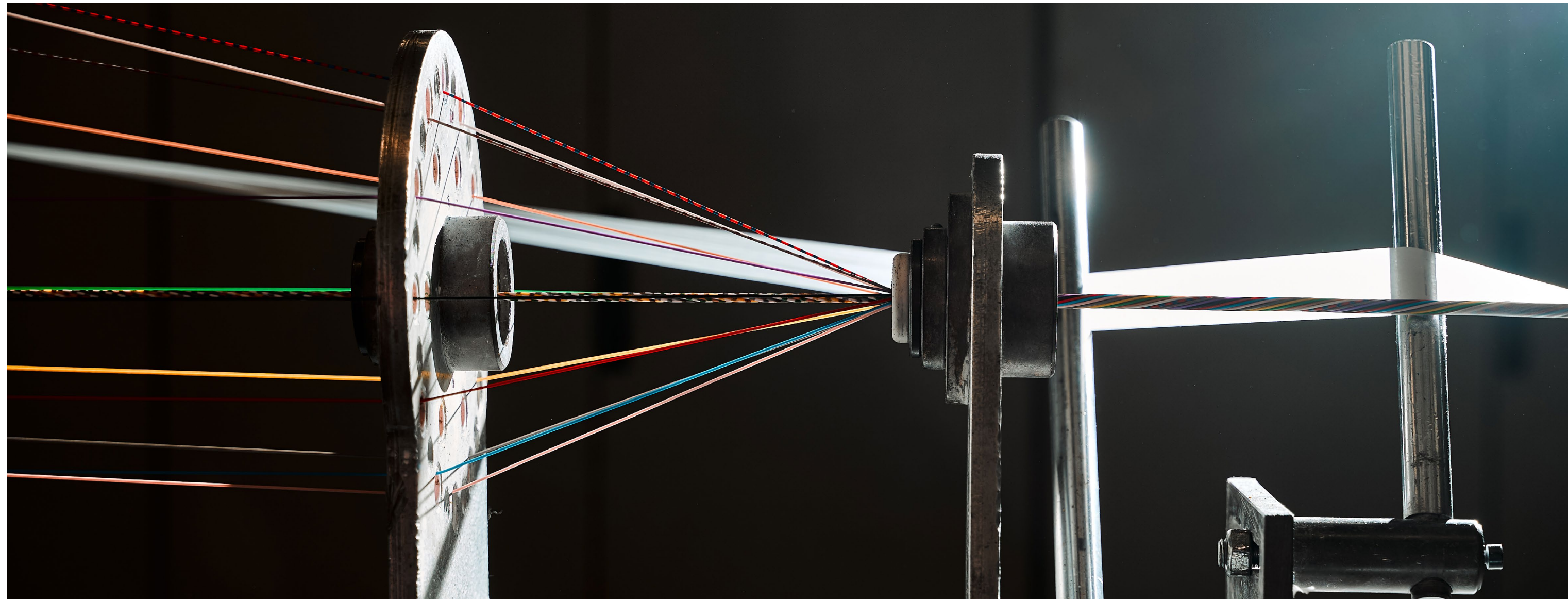
In the dynamic landscape of Industrial Communication, the demand for reliable data transmission in challenging environments is paramount.

LAPP, presents a cutting-edge solution with its protocol-independent Industrial Ethernet (IE) cables. Meticulously crafted to thrive in harsh industrial conditions, these cables ensure steadfast and secure data communication. Join us on a journey through the realm of LAPP's Industrial Ethernet cables, where innovation meets reliability, setting new standards for connectivity in the industrial sector.

CEAM

CEAM Cavi Speciali Srl is an Italian company founded in 1971 by Giovanni Magon. Soon, CEAM became an innovative cable manufacturer with a focus on the production of coaxial, audio, and video cables. In the following years, the company transformed from a local family business into a global player in the field of data transmission cables.

In 2016, CEAM joined the LAPP group. The German company LAPP, a leading manufacturer of control cables, strengthened CEAM's position in the global market. With an experienced engineering team and its own testing facility, CEAM stays abreast of the latest trends and requirements in Industrial Communication.



Your benefits at a glance:

- Industrial Ethernet cables for:
 - Cat.5, Cat.5e, Cat.6, Cat.6a, Cat.7
 - applications: fixed, flexible, cable chain, torsion & robotics
 - industries: machine building, automotive, food & beverage, intralogistics, automation, public transportation etc.
 - harsh conditions: chemical/mechanical resistance, high/low temperature, indoor/outdoor, EMI
 - Fast Connect installation
- Protocol independent: PROFINET, EtherNet/IP, EtherCAT, CC-Link IE etc.
- PROFINET compliant products
- One cable supplier for industrial cabling
- Standard products on stock
- Global availability at over 100 locations
- Own engineering, production and testing centers
- On request: customized labeling, cable desing
- IE cables made of various materials: PVC, PUR, TPE, HF, FRNC etc.
- UL approvals: AWM, CMX, CM, CMG, PLTC

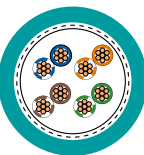
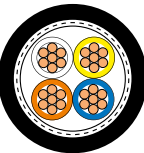
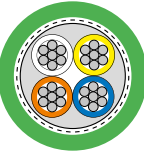
Cat. 5e

For fixed installation



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
2	2170280	ETHERLINE® H Cat.5e		•	24/1AWG	AWM	Halogen Free		3, 4, 6, 7
	2170281	ETHERLINE® P Cat.5e		•	24/1AWG	AWM	Polyurethane		3, 4, 6, 7
	2170891	ETHERLINE® PN Cat.5e Y	Type A	•	24/1AWG	CMX	PVC		1, 4, 5, 7
	2170893	ETHERLINE® Y FC Cat.5	Type A	•	24/1AWG	CMG/PLTC	PVC	•	1, 4, 5, 7
4	2170296	ETHERLINE® H Cat.5e		•	24/1AWG		Halogen Free		3, 4, 8
	2170297	ETHERLINE® P Cat.5e		•	24/1AWG	AWM	Polyurethane		3, 4, 8
	2170298	ETHERLINE® H-H Cat.5e		•	24/1AWG		Halogen Free		3, 4, 8
	2170905	ETHERLINE® FIRE Cat.5e PH120		•	23/1AWG		Halogen Free		3, 4, 8

For flexible installation



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
2	2170283	ETHERLINE® H FLEX Cat.5e		•	26/7AWG		Halogen Free		3, 4, 6, 7
	2170284	ETHERLINE® P FLEX Cat.5e		•	26/7AWG	AWM	Polyurethane		3, 4, 6, 7
	2170890	ETHERLINE® PN Cat.5e FRNC FLEX FC	Type B	•	22/7AWG	CMG/PLTC	Halogen Free	•	1, 4, 5, 7
	2170886	ETHERLINE® PN Cat.5 Y FLEX FC	Type B	•	22/7AWG	CMG/PLTC	PVC	•	1, 4, 5, 7
	2170451	ETHERLINE® ROBUST PN Cat.5	Type B	•	22/7AWG		TPE		1, 4, 5, 7
	2170887	ETHERLINE® Cat.5 FRNC HYBRID	Type B	•	22/7AWG + 4x1,5mm²	AWM	PUR		
4	2170299	ETHERLINE® H FLEX Cat.5e		•	26/7AWG		Halogen Free		3, 4, 8
	2170300	ETHERLINE® P Flex Cat.5e		•	26/7AWG	AWM	Polyurethane		3, 4, 8
	2170486	ETHERLINE® Y Flex Cat.5e		•	26/7AWG	CMG	PVC		3, 4, 8

For cable chains



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
2	2170289	ETHERLINE® FD P Cat.5e		•	26/19AWG	AWM	Polyurethane		3
	2170433	ETHERLINE® P EC FD Cat.5e		•	26/19AWG	CMX	Polyurethane		
	2170894	ETHERLINE® FD P FC Cat.5	Type C	•	22/7AWG	CMX	Polyurethane	•	1, 4, 5, 7
4	2170489	ETHERLINE® FD P Cat.5e		•	26/19AWG	AWM	Polyurethane		3
	CE217489	ETHERLINE® FD P BK Cat.5		•	26/19AWG	AWM	Polyurethane		3

For robots



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
2	2170941	ETHERLINE® ROBOT PN FC Cat.5e	Type R	•	22/19AWG	AWM	Polyurethane	•	1

Explanatory notes

PROFINET

Type A = for fixed installation, not moving

Type B = for flexible application, occasionally moving

Type C = for continuous flexing and special applications

Type R = for robotic application

Conductor

Design of the conductor represented by 2 number:

1st number = conductor cross section AWG

2nd number = number of wires

e.g. 26/7AWG = 26 AWG (0,14 mm2) / 7 wires

UL/CSA

UL recognized:

AWM Appliance Wiring Material = the most common UL class, commonly used as a part of UL listed appliance / machine, but not suitable for field installation in US

UL listed

e.g. CMX / CMG / PLTC

CMG = suitable for field installation

CMX = not recommended for field installation due to limited fire testing

PLTC = power limited Tray cable, suitable for field installation and use in cable trays

Cat. 6



For fixed installation

Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
4	2170913	ETHERLINE® FIRE Cat.6 PH120		•	22/1AWG		Halogen Free		

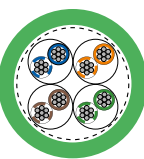
Cat. 6a



For fixed installation

Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
4	2170464	ETHERLINE® Cat.6A Y	Type A	•	22/1AWG		PVC		2, 4, 8
	2170465	ETHERLINE® Cat.6A P	Type A	•	22/1AWG		Polyurethane		2, 4, 8
	2170466	ETHERLINE® Cat.6A H	Type A	•	22/1AWG		Halogen Free		2, 4, 8
	2170583	ETHERLINE® PN Cat.6 A Y FC	Type A	•	23/1AWG	CMX	PVC	•	3, 4, 8
	2170584	ETHERLINE® PN Cat.6A FRNC FC	Type A	•	23/1AWG	CMX	Halogen Free	•	3, 4, 8
	2170585	ETHERLINE® PN Cat.6A P FC	Type A	•	23/1AWG	CMX	Polyurethane	•	3, 4, 8

For flexible installation



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
4	2170588	ETHERLINE® Cat.6A Y FLEX FC		•	26/7AWG	AWM	PVC	•	3, 4, 8
	2170589	ETHERLINE® Cat.6A FRNC FLEX FC		•	26/7AWG	AWM	Halogen Free	•	3, 4, 8
	2170586	ETHERLINE® PN Cat.6A Y FLEX FC	Type B	•	23/7AWG	CMX	PVC	•	2, 4, 8
	2170587	ETHERLINE® PN Cat.6A FRNC FLEX FC	Type B	•	23/7AWG	CMX	Halogen Free	•	2, 4, 8

For cable chains



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
4	2170592	ETHERLINE® Cat.6A P FD FC		•	26/19AWG	CMX	Polyurethane	•	3
	2170593	ETHERLINE® Cat.6A Y FD FC		•	26/19AWG	CMX	PVC	•	3
	2170590	ETHERLINE® PN Cat.6A P FD FC	Type C	•	24/7AWG	CMX	Polyurethane	•	2, 4, 8
	2170591	ETHERLINE® PN Cat.6A Y FD FC	Type C	•	24/7AWG	CMX	PVC	•	2, 4, 8

Explanatory notes

Material of outer sheath

PVC = the most common material, good chemical and mechanical resistance

Polyurethane = increased chemical resistance, highest mechanical resistance, suitable for outdoor use

TPE = Thermoplastic Elastomer, special compound used for ROBUST series, increased chemical resistance, recommended for applications in F&B, increased mechanical resistance, suitable for outdoor use

Flame Retardant TPE = same as TPE, with increased flame retardancy

Halogen Free = common chemical and mechanical resistance, doesn't produce poisonous gases in case of fire, recommended where human and animal life as well as valuable property are exposed to high risk of fire hazards

Fast Connect

Designed for quick assembly of the cable and connector

Matching Connector

The numbers indicate matching connectors at page 6, first column

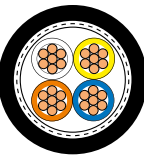
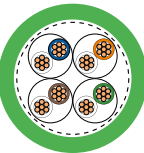
Cat. 7

For fixed installation



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
4	2170474	ETHERLINE® Cat.7 Y	Type A	•	22/1AWG		PVC		2, 4, 8
	2170475	ETHERLINE® Cat.7 P	Type A	•	22/1AWG		Polyurethane		2, 4, 8
	2170476	ETHERLINE® Cat.7 H	Type A	•	22/1AWG		Halogen Free		2, 4, 8
	2170605	ETHERLINE® PN Cat.7 Y A	Type A	•	23/1AWG	CMG	PVC		2, 4, 8
	2170606	ETHERLINE® PN Cat.7 FRNC A	Type A	•	23/1AWG	AWM	Halogen Free		2, 4, 8
	2170607	ETHERLINE® PN Cat.7 P A	Type A	•	23/1AWG	AWM	Polyurethane		2, 4, 8

For flexible installation



Pairs	Article		PROFINET	Ethernet/IP EtherCAT	Conductor	UL/CSA	Material of outer sheath	Fast Connect	Matching Connectors
4	2170934	ETHERLINE® Cat.7 FLEX		•	26/7AWG	AWM	PUR		3, 4, 8
	2170608	ETHERLINE® PN Cat.7 Y FLEX A	Type B	•	23/7AWG	CMG	PVC		2, 4, 8
	2170609	ETHERLINE® PN Cat.7 FRNC FLEX A	Type B	•	23/7AWG	CM	Halogen Free		2, 4, 8
	2170452	ETHERLINE® ROBUST PN Cat.7		•	23/7AWG		TPE		2, 4, 8
	2170453	ETHERLINE® ROBUST Cat.7 FLEX		•	26/7AWG		TPE		2, 3, 4, 8
	2170455	ETHERLINE® ROBUST PN FR Cat.7		•	23/7AWG		Flame Retardant TPE		2, 4, 8
	2170456	ETHERLINE® ROBUST FR Cat.7 FLEX		•	26/7AWG		Flame Retardant TPE		2, 3, 4, 8



Looking for more:

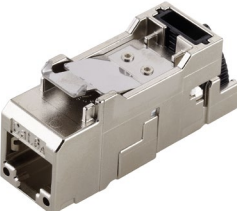
We made this simplified selector for quick IE cable selection. If you search for more, please visit our online selector where you can filter more products with more criteria.

Connectors

RJ45 Plug

RJ45 Plug		Straight latched	Straight cable gland	Angled cable gland
1	PROFINET colour-coding (2-pairs)	21700605	21700651	21700638
2	colour-coded acc. to EIA/TIA 568A	21700600	21700652	21700636
	colour-coded acc. to EIA/TIA 568B	21700601	21700653	21700637
3	colour-coded acc. to EIA/TIA 568A for small core diameters	21700615	21700654	21700639
	colour-coded acc. to EIA/TIA 568B for small core diameters	21700616	21700655	21700640
				

RJ45 Socket

RJ45 Socket		
4	colour-coded acc. to EIA/TIA 568A	21700611
	colour-coded acc. to EIA/TIA 568B	21700612
		

M12 D-coded

M12 D-coded		Plug Straight	Socket Straight
5	colour coding acc. to PROFINET	21700647	
6	colour coding acc. to TIA 568	21700648	
7	colour coding acc. to TIA 568		22261016
			

M12 X-coded

M12 X-coded		Plug Straight	Socket Straight	Socket, straight Wall mounting
8	M 12 X-coded plug, straight	21700602	21700621	21700622
				

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Find our terms and conditions at
www.lapp.com/en/de/e/000010

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