Next stop: LAPP

Connection solutions for railway technology

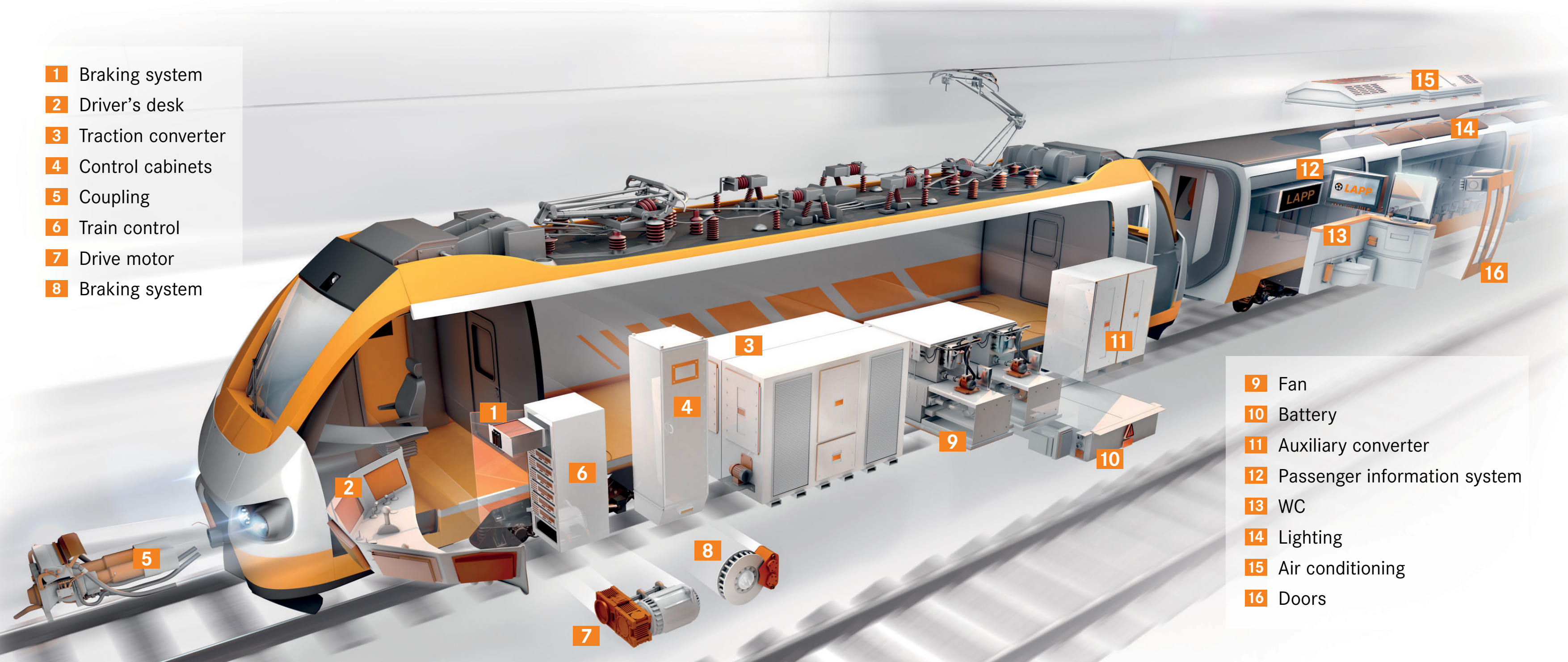More products, faster selection, everything at a glance

LAPP

Fast track:
Discover our railway products in the new product overview –
so that you can get to your destination faster.

Millions of people around the world travel by train each day. Increasing urbanisation in many major cities means that mobility needs to be rethought and the demand for public transport is growing. Passenger numbers on rail services are on the rise – and with them, so are the expectations for the accessibility, punctuality, safety and reliability of rail transport. The cables that are used play a major part in determining whether these expectations are met. **That is why LAPP supplies you with tested and certified system solutions for railway technology from a single source – now with even greater variety.** We draw on our decades of experience to support you with advice and provide you with exactly the solution you need.

OUR PRODUCT SOLUTIONS FOR RAIL TRANSPORT

1 Braking system
2 Driver's desk
3 Traction converter
4 Control cabinets
5 Coupling
6 Train control
7 Drive motor
8 Braking system

9 Fan
10 Battery
11 Auxiliary converter
12 Passenger information system
13 WC
14 Lighting
15 Air conditioning
16 Doors

RELIABLY TO THE DESTINATION

Connection solutions for rail transport need to meet specific requirements – you can always depend on quality with LAPP:

- Our cables have electron beam or chemical cross-linking and so offer **maximum resistance** to chemical and mechanical stress, UV light and high temperatures.

- When it comes to passenger transport, safety is the top priority. Most of our products are fire proof at the **hazard level HL3 according to DIN EN 45545-2** to ensure that people and goods are safe.

- Our production site in South Korea guarantees you **process reliability with IRIS ISO/TS 22163:2017 certification**.

- We monitor the quality of all our products in our **in-house testing laboratories**.
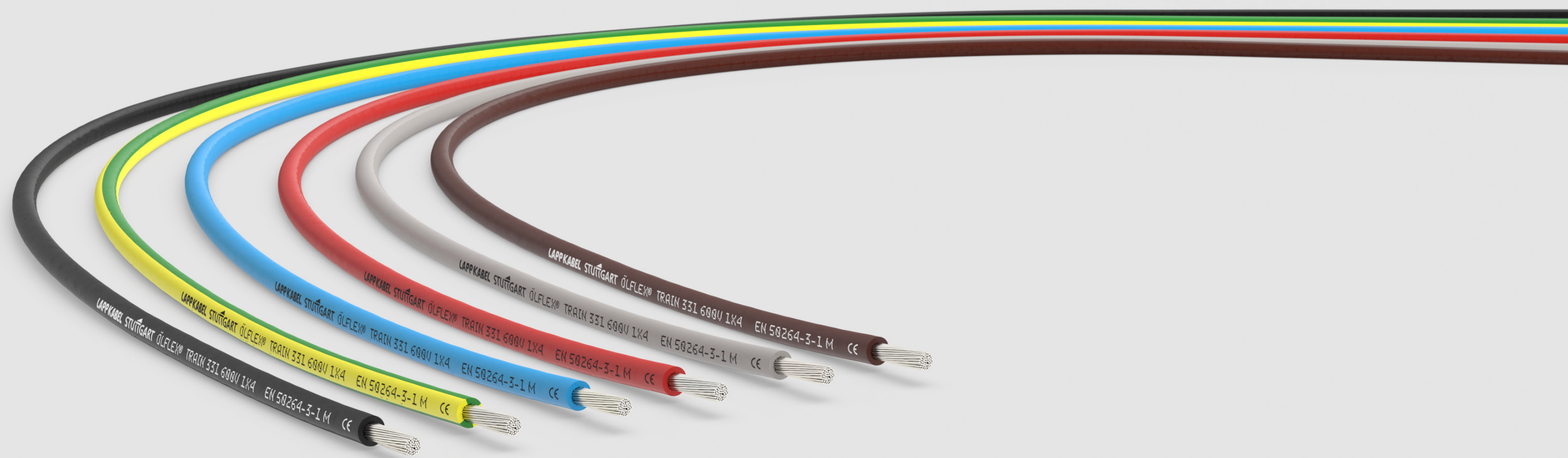
NEW ON BOARD

Our product range includes more than 2,160 items for railway technology, with more added each year to offer you a comprehensive portfolio.

One new addition is our **ÖLFLEX® TRAIN 331 600V**, the universal single-core cable for rolling stock in accordance with **EN 50264-3-1,** which is now also available in the dimensions 0.5 and 0.75 mm² and in many more colours (BN, GN, YE, WH, GY, OG, VT). The halogen-free cable has high-quality electron beam crosslinked insulation and of course meets the highest classification **HL3** in accordance with **DIN EN 45545-2**. Another new feature is the resistance to high temper-atures of up to **145°C**. This makes the **ÖLFLEX® TRAIN 331 600V** the ideal replacement for GKW and similar types.

ON THE RIGHT TRACK

Our **new overview** now helps you to **find the right product faster and more easily**. Here you have all our LAPP products for railway technology at a glance. You can go from the table straight to the relevant product pages of our online catalogue, where you will find information about our available product portfolio, recommended accessories, data sheets and the stock availability and will be able to place an order directly in our online shop.

Found what you are looking for? You will benefit from our **high stock availability** in Europe and **state-of-the-art logistics** – for rapid delivery with no minimum order value and in custom lengths and quantities.

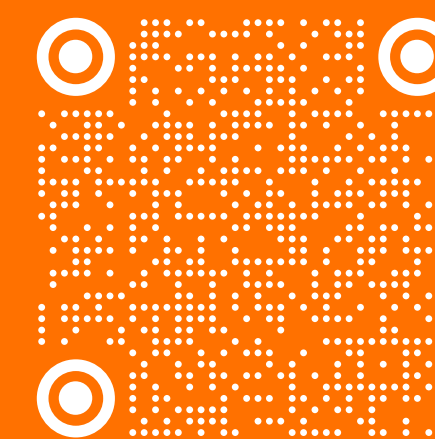## CONTACT

For tailored advice, please contact your local LAPP railway technology expert:

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GET ON BOARD!

https://lappitalia.lappgroup.com/societa/i-mercati-di-riferimento/ferroviario.html

POWER AND CONTROL CABLES

Standard	Type	Nominal voltage U_0/U (EN50306 not applied) [V]	Shielding	Twisted-Pair	Conductor stranding	Number of cores from – to	Conductor cross-section from – to [mm²]	Hazard level (HL) EN45545-2	Temperature range from – to [°C]	Product name
EN 50306-2		300/500 (600/1000)			19/37 wires	1	0.5 – 2.5	1 – 3	-50 – +125	ÖLFLEX® TRAIN 301 TW
EN 50306-4	1P	300/500 (600/1000)			19/37 wires	2 – 48	0.5 – 2.5	1 – 3	-50 – +125	ÖLFLEX® TRAIN 310 TW-P
	3P		•			2 – 48				ÖLFLEX® TRAIN 315 C TW-P
	5P		•	•		2x2 – 7x2				ÖLFLEX® TRAIN 317 C TW-P
	1E					4 – 37				ÖLFLEX® TRAIN 320 TW-E
	3E		•			2 – 8				ÖLFLEX® TRAIN 325 C TW-E
	5E		•	•		2x2 – 7x2				ÖLFLEX® TRAIN 327 C TW-E
EN 50264-3-1	M	600/1000			5	1	0.5 – 300	1 – 3	-50 – +120 (145 for 3,000 h)	ÖLFLEX® TRAIN 331 600V
		1800/3000					1.5 – 300		-50 – +120	ÖLFLEX® TRAIN 361 1,8kV
	MM						1.5 – 300			ÖLFLEX® TRAIN 371 1,8kV
		3600/6000					2.5 – 300			ÖLFLEX® TRAIN 381 3,6kV
EN 50264-3-2	MM	600/1000			5	2 – 40	0.5 – 50	1 – 3	-50 – +120	ÖLFLEX® TRAIN 340 600V
	MMS		•				0.5 – 50			ÖLFLEX® TRAIN 345 C 600V
	MM	300/500					1 – 2.5			ÖLFLEX® TRAIN 350 300V
	MMS		•				1 – 2.5			ÖLFLEX® TRAIN 355 C 300V
EN 50382	F	1800/3000			5	1	1.5 – 240	1 – 3	-40 – +150	ÖLFLEX® TRAIN HT 150 F 1,8 kV
	FF						2.5 – 240			ÖLFLEX® TRAIN HT 150 FF 1,8 kV
	F	3600/6000					1.5 – 240			ÖLFLEX® TRAIN HT 150 F 3,6 kV
	FF						2.5 – 240			ÖLFLEX® TRAIN HT 150 FF 3,6 kV
	FX				6		50 – 185			ÖLFLEX® TRAIN HT 150 FX 3,6 kV
4GKW	M	1800/3000			5	1	1.5 – 300	1 – 3	-40 – +125	ÖLFLEX® TRAIN 4GKW
-	-	300/500			6	3 – 73	0.5 – 35	1 – 3	-40 – +80	ÖLFLEX® CLASSIC 110 H SF
			•		6	2 – 25	0.5 – 10			ÖLFLEX® CLASSIC 115 CH SF
			•	•		2x2 – 12x2	0.75 – 1.5			ÖLFLEX® CLASSIC 115 CH SF (TP)

DATA COMMUNICATION SYSTEMS

Product type	MVB	WTB	Ethernet Cat.5e	Ethernet Cat.6$_A$	Ethernet Cat.7	Outer diameter [mm]	Number of cores and mm² per conductor	Temperature range from – to [°C]	Characteristic impendance [Ω]	Hazard level (HL) EN45545-2	Product name
Bus-Cables	•					7.6	1 x 2 x 0.5	-45 – +90	120	1 – 3	UNITRONIC® TRAIN
	•					7.6	1 x 2 x 0.5 + 0.5				
	•					8.3	2 x 2 x 0.5				
	•					8.1	2 x 2 x 0.5 + 4 x 0.25				
		•				8.4	1 x 2 x 0.75				
Ethernet-Cables			•			6.5	1 x 4 x AWG22 / 7	-45 – +90	100	1 – 3	ETHERLINE® TRAIN
			•			7.6	1 x 4 x 0.5 / 7				
						7.7	4 x 2 x AWG24 / 7				
				•		8.4					
					•	8.4					

CABLE GLANDS

Product type	Plastic black	Plastic light grey	Nickle plated brass	EMC design (360° brass brush)	EMC design (contact spring)	Bend protection + strain relief	For connector cut-outs size 24	Size from – to	Clamping range from – to [mm]	Number of cables	Hazard level (HL) EN45545-2	Brass lead-free on request	Product name
Cable gland	•							M12 – M63	4.0 – 45.0	1	1 – 3		SKINTOP® ST-HF-M
		•							3.5 – 45.0				SKINTOP® MS-HF-M
			•		•			M12 – M50	3.5 – 35.0			•	SKINTOP® MS-HF-M SC
				•				M25 – M63	9.0 – 45.0				SKINTOP® MS-HF-M BRUSH
			•			•		M16 – M32	4.5 – 21.0				SKINTOP® MS-HF-M GRIP
Mutli cable bushing system with gel technology	•						•		2.0 – 20.0	11 – 30	2*		SKINTOP® MULTI
								M40 – M63	1.0 – 6.0	12 – 30			SKINTOP® MULTI-M

* On request

PROTECTIVE CABLE CONDUIT SYSTEMS

Product type	PA 6	PA 12	Standard version	Heavy duty version	Divisible version	Black	Grey	Nominal size from – to	Plastic thread from – to	Metal thread from – to	Angled – °	Increased chemical resistance	Hazard level (HL) EN45545-2	Integrated SKINTOP® cable gland	Easy assembly	Mounting holes	Product name
Corrugated conduit	•		•				•	7 – 125				•	1 – 3				FIPLOCK® PA6
				•		•		17 – 48									FIPLOCK® PA6
					•			7 – 45									FIPSPLIT® PA6
		•	•				•	7 – 170									FIPLOCK® PA12
				•		•		7 – 48									FIPLOCK® PA12
					•			7 – 100									FIPSPLIT® PA12
Conduit fitting	•							7 – 48	M12 – M63			•	1 – 3				FIPLOCK® ONE M
											90°						FIPLOCK® ONE 90° M
							•	10 – 48		M12 – M63							FIPLOCK® ONE Metal M
									M16 – M63								FIPLOCK® ONE ST-M
								10 – 29	M16 – M32					•	•		FIPLOCK® ONE CLICK-M
						•		10 – 48		M12 – M50							FIPLOCK® ONE MS-M
								7 – 48	PG7 – PG48								FIPLOCK® ONE PG
								12 – 48		PG9 – PG48							FIPLOCK® ONE Metall PG
							•	10 – 48	NPT3/8“ – NPT2“								FIPLOCK® ONE NPT
								10 – 29	NPT3/8“ – NPT1“					•			FIPLOCK® ONE ST-NPT
								10 – 48		NPT1/4“ – NPT2“							FIPLOCK® ONE MS-NPT
T-divider	•					•	•	10 – 48				•	1 – 3				FIPLOCK® ONE-T
T-adapter								10 – 48								•	FIPLOCK® ONE-TA
Y-divider								7 – 48									FIPLOCK® ONE-Y
Reducer								7 – 48									FIPLOCK® ONE-R
Coupler								12 – 48									FIPLOCK® ONE-C
								12 – 48								•	FIPLOCK® ONE-CS
Coupler for smooth pipes								12 – 48									FIPLOCK® ONE-CT
Metal conduit with PUR jacket				•				5/16“ – 1 1/2“				•	1 – 2				SILVYN® HFX-V0
								12 – 50					1 – 3				SILVYN® ZHLS
Metal conduit with polyolefin jacket					•			1/4“ – 2“				•	1 – 2				SILVYN® FCE-V0
								12 – 50					1 – 3				SILVYN® FCE-LFH
Fireproof cable protection conduit								6 – 102					1 – 3				SILVYN® HIPROJACKET

CABLE MARKING PRODUCTS

Product type	Properties	Dimensions [mm]	Length / max. characters	Customer-specific labeled	Mounting		Colour				Additional colours on request	Product name
					Cable tie	Screw hole	Natural	Yellow	White	Black		
Customized embossed stainless steel marking system	Single-lined	Height: 9.9	15	•	•	•	•					FLEXIMARK® Stainless steel FCC
			30									
	Double-lined	Height: 13.9	25									
			50									
Manual embossing machine	Aluminium / stainless steel embossing machine	Height: 12			•	•	•					M1011 Manual embossing machine
Stainless steel cable marking plain	Material: AISI-316	Height: 11	75 – 110 mm		•	•	•					SP Metal print
Pre-cutted chrink tube marker	Shrink ratio: 2:1	Diameter: 1.2 – 50.8	12 – 50 mm					•			•	FLEXIMARK® Organized shrink tube
				•								FLEXIMARK® Organized shrink tube FCC
Customized printed shrink hoses	Cut or perforated shrink ratio: 2:1	Diameter: 1.6 – 19.1	17							•	•	FLEXIMARK® Shrink mark FCC
Thin walled shrink tube	EN45545-2 HL 1-3, LUL1-085 A3, Boeing BSS7239 shrink ratio: 2:1	Diameter: 0.6 – 25.4						•	•	•	•	Shrink tube PROTECT-HF RW
Self-adhesive Safety signs	Warning, prohibition and mandatory signs acc. to EN ISO 7010	Side lenght / Diameter: 25 / 50 / 100										FLEXIMARK® Safety signs

EPIC® RECTANGULAR CONNECTORS

Product type	Connection type				Number of contacts	Wire cross-section [mm²]	Rated voltage [V]			Rated current [A]			Hazard level(HL) EN45545-2	Product name
	Crimp	Push-In	Cage clamp	Screw			IEC	UL/USR	CSA/CNR	IEC	UL/USR	CSA/CNR		
Inserts standard				•	3 – 48	0.5 – 2.5	400	600	600	23	10	10	1 – 3	EPIC® H-A
	•	•		•	6 – 48	0.14 – 4.0	500	600	600	16	16	16		EPIC® H-BE
				•	6 – 12	0.5 – 6.0	500	600	600	35	35	35		EPIC® H-BS
				•	3+2 – 6+2	0.5 – 2.5	630	600	600	16	16	16		EPIC® H-BVE
Inserts modular	•	•	•	•	1 – 36	0.09 – 95.0	up to 1000			up to 250				EPIC® MH MODULAR

Product Overview

ACCESSORIES

Product type	Properties	Dimensions	Product name
Thin walled shrink tube	Colours: black, yellow, white EN45545-2 HL 1-3, LUL1-085 A3, Boeing BSS7239 shrink ratio: 2:1	Diameter: 0.6 – 25.4 mm	Shrink tube PROTECT-HF RW
Cable tie with steel nose	Material: PA6.6, Colour: natural EN45545-2 HL 1-3, NFF 16-101: I3F1	92.0 x 2,4 – 340.0 x 7.0 mm	TY-RAP® Railway
Stainless steel cable tie	Material: AISI 316 corrosion and chemical resistant	4.6 x 100 – 7.9 x 1010 mm	LS steel cable ties
Tube cable lugs with inspection hole	For fine and multi-wire copper conductors (class 2 and 5)	0.75 – 10 mm²	Tube cable lugs KR
	For multi-wire copper conductors (class 2)	10 – 1,000 mm²	Tube cable lugs KRT
	For fine wire copper conductors (class 2, 5 and 6)	16 – 800 mm²	Tube cable lugs KRF
Tube cable lug with insepction hole and narrow flange	With narrow flange for fine wire sopper conductors class 2, 5 and 6, especially for mounting through cable glands	50 – 240 mm²	Tube cable lugs KRFS
EMC shield clamp	Mounting directly on 35mm DIN rails	Clamping range: 3 – 18 mm	Shield clamp EMC-Guard
EMC copper braid	Tinned-copper	Diameter 1 – 50 mm	Copper braid
Copper flat ground straps	Strands made of tinned-copper wires, welded ends or assembled with pressed contact sleeves	Cross-section: 6 / 10 / 16 / 25 mm² Length: 200 / 300 / 500 mm	Flat Ground Straps