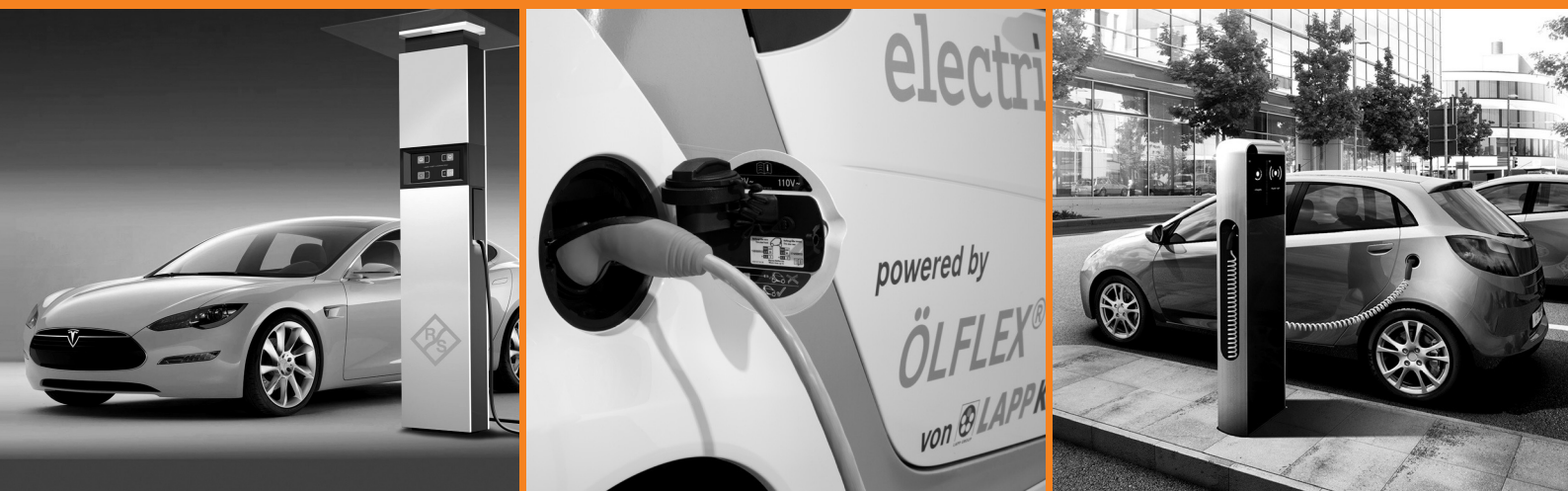


THE WORLD OF LAPP

eMobility



LAPP GROUP



Welcome

To contact your local Lapp Group representative please visit www.lappgroup.com/worldwide

Image source title: Bosch Software Innovations GmbH, ROHDE & SCHWARZ GmbH & Co. KG

Brand quality from Stuttgart



ÖLFLEX® **Power- and control cables**

The world's first brand cable is available in the most varied of versions to match maximum requirements.

Key features: Oil-resistant, flexible and available to match almost any requirement or environmental condition – also free of halogens.

Fields of application: Multipurpose. Special variants are more and more in demand in the area of renewable energies.

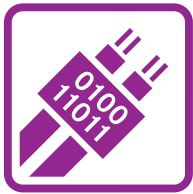


EPIC® **Industrial connectors**

The brand for strong and reliable connections.

Key features: Robust square and circular connectors. Flexible system consisting of housings, inserts, contacts and accessories – for every requirement, the tailor-made solution. Similarly, EPIC® SOLAR plugs for photovoltaics are also part of the extensive product range.

Fields of application: Mechanical and systems engineering, drive technology, Automation.



UNITRONIC® **Data communication systems**

The ideal brand for fast, trend-setting and reliable data transfer.

Key features: UNITRONIC® are not only data lines, but also bus lines, which together with active sensor/actuator modules or gateways provide a perfect system for automation.

Fields of application: Measurement, control, regulation, bus or LAN networks.

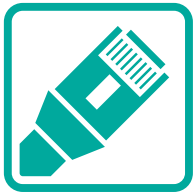


SKINTOP® **Cable glands**

The brand for multipurpose cable entries in line with the following: quickly fastened, centred and hermetically sealed.

Key features: Large clamping areas, optimum strain reliefs, the most diverse of versions such as SKINTOP® CLICK, COLD or CUBE.

Fields of application: Everywhere, where cables must be fastened reliably and quickly.



ETHERLINE® **Data communication systems for ETHERNET-Technology**

The brands for network solutions, safety systems and firewalls in the industrial networking sector.

Key features: System solutions consisting hardware, software, consulting, network design and support.

Fields of application: Factory automation, Renewable Energy, Building technology, Structured cabling.



SILVYN® **Protective cable conduit- and cable carrier systems**

The brand for all-round cable protection.

Key features: The product range includes SILVYN® cable protection hoses for perfect protection against mechanical and chemical loads, along with SILVYN® CHAIN energy supply chains for highly-dynamic applications.

Fields of application: Everywhere that cables have to be additionally protected or routed.



HITRONIC® **Optical transmission systems**

The brand for split-second, fault-free, intercept-free data transport.

Key features: The HITRONIC® product range includes fibre optic cables in the most varied of versions, along with suitable accessories such as splice boxes, wall distributors or couplings.

Fields of application: Office and industrial sector, Renewable Energy.



FLEXIMARK® **Marking systems**

The brand for permanent, clearly-arranged cable markings.

Key features: Comprehensive range – from manual labelling solutions onto digital identification. Withstands high chemical, thermal and mechanical loads.

Fields of application: All cable, single cores, control cabinets.



Welcome to the client specialist

Sometimes, more than 40,000 standard articles are just not enough. Apart from the standard assemblies in the mobility sector, Lapp Systems is a specialist within the Lapp Group for customised assemblies.

Cable and line systems

- Complete cable sets for mechanical & systems engineering, commercial-vehicle industry and lots more
- Prewired switching units for electronic and control systems
- Assembled single wires
- Ready-to-install connecting cables with special connectors
- Assembled optical fibres
- High-temperature cables with temperature-resistant special connectors

Spiral cables

- For trucks as supply and EBS/ABS coils
- As standard lines
- Made of lines specially assembled for the customer
- Spiral hoses with single wires and lines
- Special versions in cone shape

Energy supply systems

- Ready-to-install energy supply systems in plastic or metal versions. Also with hydraulic and pneumatic lines or mechanical joining technology

Special applications

- Wiring systems for robot applications
- Conductive fabric cable for energy and data systems

Extrusion

Do you require an extruded cable and connector system? With our modern machinery park, we offer the entire spectrum from conventional to hot-melt extrusion.

NEW: Spiral cable configurator: www.lappsystems.de/spiralkabel

Recharge with LAPP CHARGE

New environmentally-friendly mobility concepts, particularly emobility (hybrid and pure electric vehicles), are a megatrend. It is likely that a global mass market will develop within a few years - with completely new demands being made on vehicle wiring.

The Lapp Group can be considered a pioneer in emobility: the Lapp Group was one of the first companies to develop a complete, production-ready charging system with cables and a connection system - its LAPP CHARGE product meets all common safety standards. Its design and colour can be modified to suit a customer's requirements. Drivers of electric and plug-in hybrid cars are being won over by the charging system with its attractive and user-friendly design.

Holistic labelling system of the Lapp Group for „Lapp Charge“ charging cable systems, e. g.

Charge M3 T2P/T1C H 16A 1P 4000

Charge:	Product group
M3:	Variants: M2 = Mode2 M3 = Mode3
T2P/T1C:	Examples: Infrastructure side/vehicle side T2P = Type2 plug/T1C = Type1 connector T2P = Type2 plug/T2C = Type2 connector T3P = Type3 plug/- = plain cut (open end) TF = Type F Earthing - = plain cut
H:	Variants: H = Helix S = Straight (straight) C = Coiled (spiralised)
16A:	Variants: 16A 32A
1P	Variants: 1P = 1-phase 3P = 3-phase
4000:	Effective length (mm): Effective length between connectors or an extra 1000 mm connecting cable in only a single connector



Customised connectors for emobility

In addition to products for the charging infrastructure, Lapp also supplies high-voltage cabling for the next generation of vehicles. These high-voltage cables are used in the vehicle interior and can be customised using different connection technologies. Lapp also has its own patented connection solution for use in this sector.

Lapp is already producing special system connections for use in the hybrid power pack of the new Mercedes-Benz S 400 Blue-HYBRID. These cables and connection systems are used inside the lithium-ion batteries and meet the high demands for applications in this industry. In addition, Lapp is an engineering partner for several well-known companies currently working on new battery systems which will store electrical energy more effectively.

For more information go to www.lappsystems.de/emobility



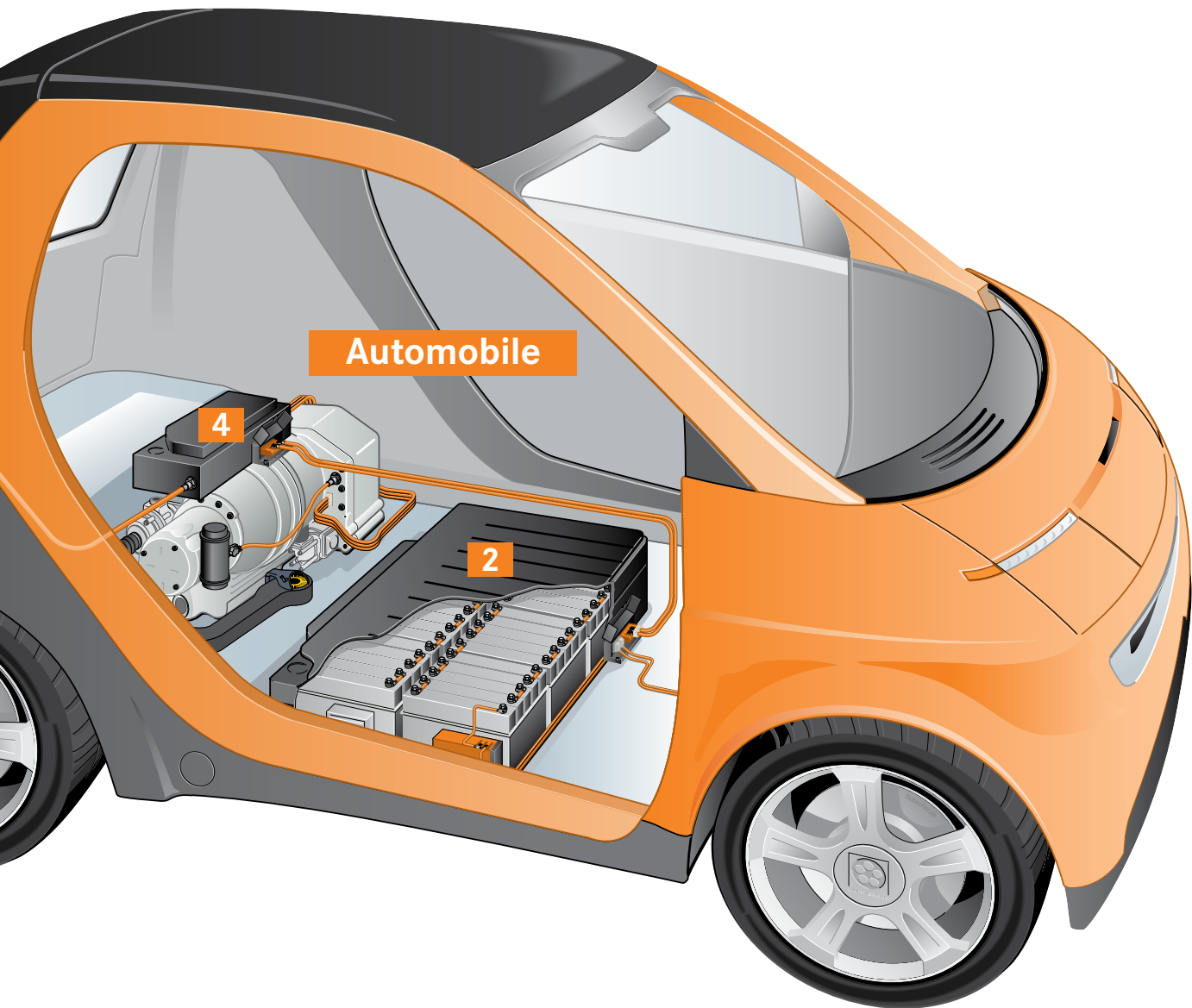
1 Charging cable and connector

- Mode 1 - 3 charging cable
- Type 1/2/3 connectors
- Special fully assembled products

2 Battery cabling

- Customer specific cables and connectors

Charging cable standard assemblies are available in the new charging cable configurator: www.lappkabel.de/emobility-cablefinder



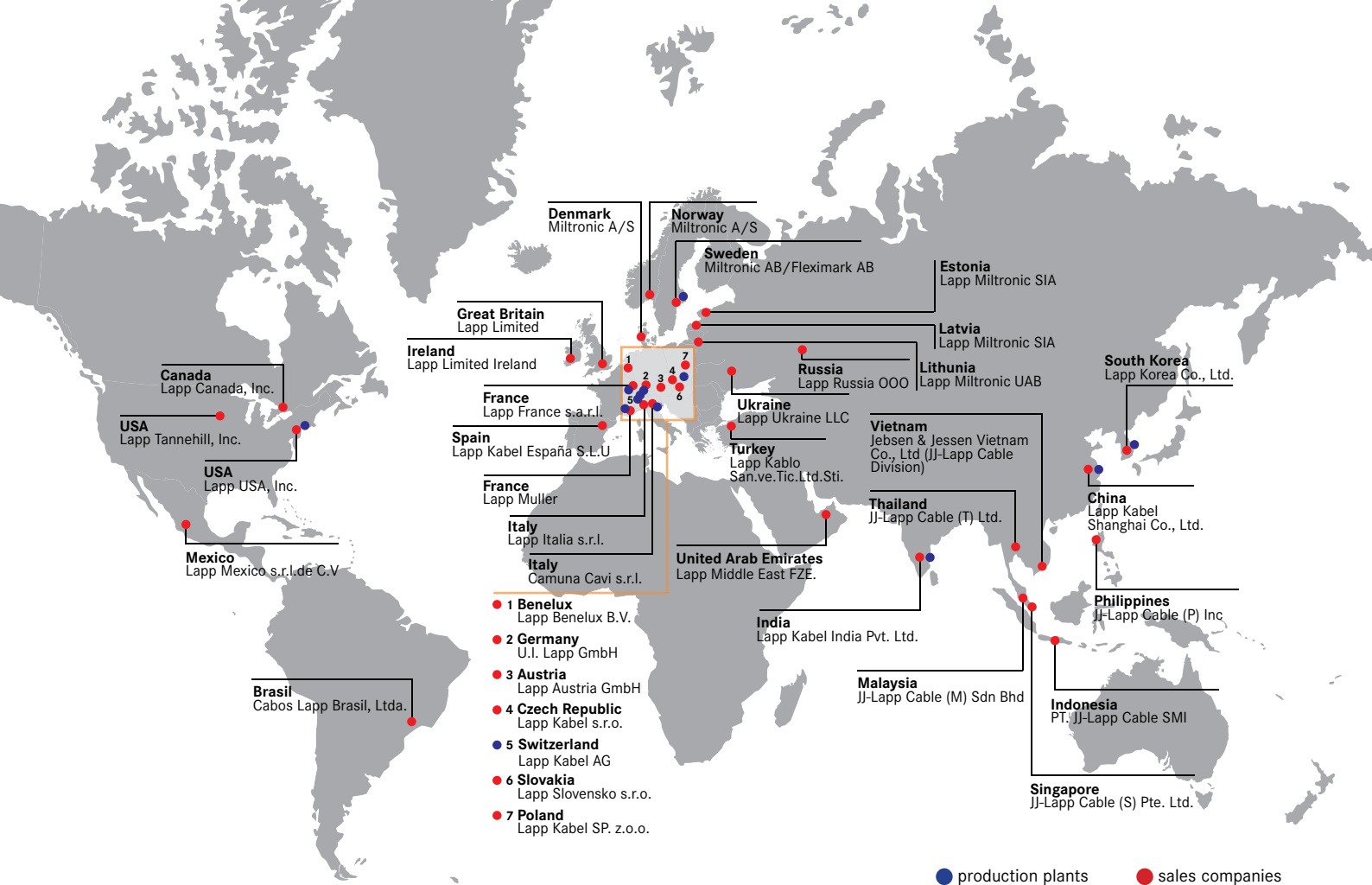
3 Charging station

- Charging socket and CP module in different configurations (on request)
- ÖLFLEX® CLASSIC Power- and control cables for diverse applications
- Control cabinet single cores
- ÖLFLEX® SPIRAL Spiralised connecting cables
- UNITRONIC® Data communication systems

- ETHERLINE® Data communication systems for ETHERNET-Technology
- SKINTOP® Cable glands
- Ground straps
- FLEXIMARK® Single core marking, Wrapping Labels, Marking systems

4 High voltage cabling

- ÖLFLEX® FD 90 CY Highly flexible, shielded single cores
- ÖLFLEX® HEAT Cable for expanded ambient temperature
- Customer specific cables and connectors



At home in Stuttgart, but known all over the world

The World of Lapp is based in Stuttgart. This is where it all started for our company, which was founded in 1959 as U.I. Lapp KG (now U.I. Lapp GmbH). From its headquarters in Stuttgart we have determinedly evolved to become a global player – with currently 15 production plants in Europe, Asia and America, 41 sales companies, more than 100 sales partners and 3,000 employees. The larger Lapp companies such as Russia, India, China, Canada and Mexico have their own warehouses. The others are promptly supplied through our high-performance logistics centres. At our Lapp Centres we are also strongly committed to enhancing the knowledge of our employees and customers. After all, knowledge is the ink with which the future is written down.

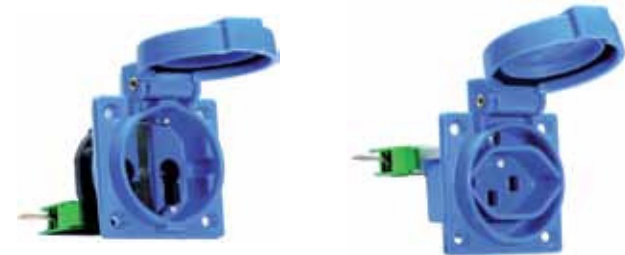
One of our most successful “products” is that of proximity to our customers. On the one hand, we practice intensive dialogue with designers and planners, manufacturers and users. This enables us to identify new requirements and trends at a much earlier stage, to quickly provide you with suitable solutions. Innovation leadership put into active practice.

On the other hand, proximity to our customers really means something to us: our presence extends all round the globe. As a reliable partner on a local basis we support our customers in exploiting markets by providing them with short delivery times and low logistics costs.

Our current addresses see www.lappgroup.com/worldwide

Connector and charging socket for emobility

Together with cooperation partner Bals Elektrotechnik, Lapp offers all components needed for the infrastructure side of emobility.



Bals Elektrotechnik GmbH & Co. KG
57399 KIRCHHUNDEM-ALBAUM
Tel.: +49 2723 771-0
Fax: +49 2723 771-177/178
E-Mail: info@bals.com
Internet: www.bals.com



Assembled cables

eMobility - Assembled charging line, 7-pin

New

CHARGE M3 —/T2C S



Info

- For charging stations

New

CHARGE M3 —/T1C S



Info

- For charging stations

Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Application range

- For charging stations, electric and plug-in hybrid vehicles

Product features

- Fine-wire, tinned-copper conductor
- Core insulation: TPE
- PUR outer sheath
- Suitable for all weather conditions

Design

CHARGE M3 —/T2C S

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 16 A: Lapp Kabel Charge 5G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 32 A: Lapp Kabel Charge 5G 6 mm² + 2 x 0.5 mm²
- Type 2 connectors are injection moulded in two-components process for optimal ergonomics

CHARGE M3 —/T1C S

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²

Technical data



Conductor stranding

Fine wire according to VDE 0295 Class 5 / IEC 60228 Class 5



Temperature range

-25°C to +80°C

Article number	Version	Effective length	Copper index kg/ 1.000 pieces	Weight (kg/1000 pieces)	PU
Cut off clean, charging cable, vehicle connector type 2 (Total length: effective length +1m straight)					
74880054	Charging: 1 phase 16A	4,000	421.0	1778	1
74880062	Charging: 3 phase 16A	4,000	667.0	1815	1
74880066	Charging: 3 phase 32A	4,000	1,529.0	2985	1
Cut off clean, charging cable, vehicle connector type 1 (Total length: effective length +1m straight)					
74880058	Charging: 1 phase 16A	4,000	421.0	1733	1

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New

CHARGE M3 T2P/— S



New

CHARGE M3 T2P/— C



Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Application range

- Electric and hybrid cars
- For charging stations, electric and plug-in hybrid vehicles

Product features

- Fine-wire, tinned-copper conductor
- Core insulation: TPE
- PUR outer sheath
- Suitable for all weather conditions

Design

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 16 A: Lapp Kabel Charge 5G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 32 A: Lapp Kabel Charge 5G 6 mm² + 2 x 0.5 mm²
- 16 A charging: every connector has a built-in 680 ohm resistor
- 32 A charging: every connector has a built-in 220 ohm resistor

Technical data

- Conductor stranding**
Fine wire according to VDE 0295 Class 5 / IEC 60228 Class 5
- Nominal voltage**
400 V
- Temperature range**
-25 °C to +80 °C

Article number	Version	Effective length	Copper index kg/1.000 pieces	Weight (kg/1000 pieces)	PU
Type 2 plug, orange cable, cut off clean (Total length: effective length +1m straight)					
74880037	Charging: 1 phase 16A	4,000	335.0	1300	1
74880041	Charging: 3 phase 16A	4,000	531.0	1600	1
74880045	Charging: 3 phase 32A	4,000	1,216.0	2500	1
Type 2 connector, spiral-cable, cut off clean (Total length: effective length +1m straight)					
74880039	Charging: 1 phase 16A	4,000	738.0	2200	1
74880043	Charging: 3 phase 16A	4,000	1,170.0	2900	1
74880047	Charging: 3 phase 32A	4,000	2,390.0	4500	1

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Assembled cables

eMobility - Assembled charging line, 7-pin

New

CHARGE M3 T2P/T2C S



Info

- For electric vehicles with type 2 vehicle inlet

New

CHARGE M3 T2P/T2C C



Info

- For electric vehicles with type 2 vehicle inlet

New

CHARGE M3 T2P/T2C H



Info

- For electric vehicles with type 2 vehicle inlet

Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Application range

- Electric and hybrid cars
- For charging stations, electric and plug-in hybrid vehicles

Product features

- Fine-wire, tinned-copper conductor
- Core insulation: TPE
- PUR outer sheath
- Suitable for all weather conditions

Design

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 16 A: Lapp Kabel Charge 5G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 32 A: Lapp Kabel Charge 5G 6 mm² + 2 x 0.5 mm²
- Type 2 connectors are injection moulded in two-components process for optimal ergonomics

Technical data



Conductor stranding

Fine wire according to VDE 0295 Class 5 / IEC 60228 Class 5



Temperature range

-25°C to +80°C

Article number	Version	Effective length	Copper index kg/1.000 pieces	Weight (kg/1000 pieces)	PU
Plug type 2, charging cable, vehicle connector type 2					
74880055	Charging: 1 phase 16A	4,000	349.0	2026	1
74880063	Charging: 3 phase 16A	4,000	554.0	2004	1
74880067	Charging: 3 phase 32A	4,000	1,529.0	3410	1
Plug type 2, Charging cable spiralsied, Vehicle connector type 2					
74880056	Charging: 1 phase 16A	4,000	8,120.0	3375	1
74880064	Charging: 3 phase 16A	4,000	1,365.0	3696	1
74880068	Charging: 3 phase 32A	4,000	2,205.0	4543	1
Plug type 2, charging cable Helix, vehicle connector type 2					
74880057	Charging: 1 phase 16A	4,000	399.0	399	1
74880065	Charging: 3 phase 16A	4,000	619.0	619	1
74880069	Charging: 3 phase 32A	4,000	1,529.0	1529	1

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New

CHARGE M3 T2P/T1C S



Info

- For electric vehicles with type 1 vehicle inlet



New

CHARGE M3 T2P/T1C C



Info

- For electric vehicles with type 1 vehicle inlet



New

CHARGE M3 T2P/T1C H



Info

- For electric vehicles with type 1 vehicle inlet



Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Application range

- Electric and hybrid cars
- For charging stations, electric and plug-in hybrid vehicles

Product features

- Fine-wire, tinned-copper conductor
- Core insulation: TPE
- PUR outer sheath
- Suitable for all weather conditions

Design

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- Cable for 1-phase charging up to 32A: Lapp Kabel Charge 3G6mm² + 1x0.5mm²
- Type 2 connectors are injection moulded in two-components process for optimal ergonomics

Technical data

- Conductor stranding**
Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5
- Temperature range**
-25 °C to +80 °C

Article number	Version	Effective length	Copper index kg/1.000 pieces	Weight (kg/1000 pieces)	PU
Plug type 2, charging cable, vehicle connector type 1					
74880059	Charging: 1 phase 16A	4,000	349.0	2026	1
74880087	Charging: 1 phase 32A	4,000	758.0	2060	1
Plug type 2, charging cable spiralised, vehicle connector type 1					
74880060	Charging: 1 phase 16A	4,000	812.0	3337	1
Plug type 2, charging cable Helix, vehicle connector type 1					
74880061	Charging: 1 phase 16A	4,000	399.0	2179	1
74880089	Charging: 1 phase 32A	4,000	554.0	2004	1

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Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges.
Photographs are not to scale and do not represent detailed images of the respective products.

Assembled cables

eMobility - Assembled charging line, 7-pin

New

CHARGE M3 T3P/T2C S



Info

- For electric vehicles with type 2 vehicle inlet

New

CHARGE M3 T3P/T2C C



Info

- For electric vehicles with type 2 vehicle inlet

New

CHARGE M3 T3P/T2C H



Info

- For electric vehicles with type 2 vehicle inlet

Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Application range

- Electric and hybrid cars
- For charging stations, electric and plug-in hybrid vehicles

Product features

- Fine-wire, tinned-copper conductor
- Core insulation: TPE
- PUR outer sheath
- Suitable for all weather conditions

Design

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 16 A: Lapp Kabel Charge 5G 2.5 mm² + 2 x 0.5 mm²
- Cable for 3-phase charging up to 32 A: Lapp Kabel Charge 5G 6 mm² + 2 x 0.5 mm²
- Type 2 connectors are injection moulded in two-components process for optimal ergonomics

Technical data



Conductor stranding

Fine wire according to VDE 0295 Class 5 / IEC 60228 Class 5



Temperature range

-25°C to +80°C

Article number	Version	Effective length	Copper index kg/1.000 pieces	Weight (kg/1000 pieces)	PU
Plug type 3, charging cable, vehicle connector type 2					
74880070	Charging: 1 phase 16A	4,000	349.0	2026	1
74880073	Charging: 3 phase 16A	4,000	554.0	2004	1
74880076	Charging: 3 phase 32A	4,000	1,529.0	3410	1
Plug type 3, charging cable spirals, vehicle connector type 2					
74880071	Charging: 1 phase 16A	4,000	812.0	3375	1
74880074	Charging: 3 phase 16A	4,000	1,463.0	3899	1
74880077	Charging: 3 phase 32A	4,000	2,205.0	4543	1
Plug type 3, charging cable Helix, vehicle connector type 2					
74880072	Charging: 1 phase 16A	4,000	399.0	2179	1
74880075	Charging: 3 phase 16A	4,000	619.0	2140	1
74880078	Charging: 3 phase 32A	4,000	1,529.0	3410	1

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New

CHARGE M3 T3P/T1C S



New

CHARGE M3 T3P/T1C C



New

CHARGE M3 T3P/T1C H



Info

- For electric vehicles with type 1 vehicle inlet



Info

- For electric vehicles with type 1 vehicle inlet



Info

- For electric vehicles with type 1 vehicle inlet

Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Application range

- Electric and hybrid cars
- For charging stations, electric and plug-in hybrid vehicles

Product features

- Fine-wire, tinned-copper conductor
- Core insulation: TPE
- PUR outer sheath
- Suitable for all weather conditions

Design

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- Cable for 1-phase charging up to 32A: Lapp Kabel Charge 3G6mm² + 1x0.5mm²

Technical data



Conductor stranding

Fine wire according to VDE 0295 Class 5/ IEC 60228 Class 5



Temperature range

-25 °C to +80 °C

Article number	Version	Effective length	Copper index kg/1.000 pieces	Weight (kg/1000 pieces)	PU
Plug type 3, charging cable, vehicle connector type 1					
74880079	Charging: 1 phase 16A	4,000	349.0	2026	1
74880082	Charging: 1 phase 32A	4,000	554.0	3410	1
Plug type 3, charging cable spiralsised, vehicle connector type 1					
74880080	Charging: 1 phase 16A	4,000	812.0	3375	1
74880083	Charging: 1 phase 32A	4,000	1,463.0	4543	1
Plug type 3, charging cable Helix, vehicle connector type 1					
74880081	Charging: 1 phase 16A	4,000	399.0	2179	1
74880084	Charging: 1 phase 32A	4,000	554.0	3410	1

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Assembled cables

eMobility - Assembled charging line, 7-pin

New

CHARGE M2 TFP/T2C S



Info

- Harnessing with In-Cable Control Box for charging mode 2

New

CHARGE M2 TFP/T1C S



Info

- Harnessing with In-Cable Control Box for charging mode 2

Benefits

- Resistant to microbes
- Resistant to oil, dust and water
- Special cable design for a long service life
- Flexible at low temperatures
- Withstands high mechanical stress, in particular abrasion and sliding demands

Product features

- Charging current from 6-16A in 5 steps
- Monitoring of protective earth conductor
- PUR outer sheath
- Suitable for all weather conditions

Design

- Cable for 1-phase charging up to 16 A: Lapp Kabel Charge 3G 2.5 mm² + 2 x 0.5 mm²
- H07BQ-F: Cable from Typ F plug up to ICCB
- Type 2 connectors are injection moulded in two-components process for optimal ergonomics
- Type F cable connectors are injection moulded

Application range

- Electric and hybrid cars
- For charging stations, electric and plug-in hybrid vehicles

Technical data



Conductor stranding

Fine wire according to VDE 0295 Class 5 / IEC 60228 Class 5



Temperature range

-25°C to +80°C

Article number	Version	Effective length	Copper index kg/1.000 pieces	Weight (kg/1000 pieces)	PU
Plug type F, charging cable with ICCB, vehicle connector type 2					
74880085	Charging: 1 phase 16A	4,000	344.0	2570	1
Plug type F, charging cable with ICCB, vehicle connector type 1					
74880086	Charging: 1 phase 16A	4,000	344.0	2570	1

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New

LAPP KABEL CHARGE 300/500V

Battery charging cable for charging electrically powered vehicles

LAPPKABEL CHARGE 300/500V 3G6+2X0,5 ROHS CE



Info

- Halogen-free
- Technically for charging modes 1 and 3 acc. to IEC 61851-1

Benefits

- Optimised for 1-phase AC battery-charging: 3 low-voltage power cores with core insulation colour-code for 3 cores including PE according to harmonisation document HD 308/VDE 0293-308
- Technically suitable for charging modes 1 and 3 (if harnessed with plug conforming to IEC 61851-1 mode 3) according to IEC 61851-1, thanks to 1 or 2 data transmission cores depending on the item

Application range

- Power and data cable for connecting the power source to the electric-powered vehicle for battery-charging (E-Mobility)
- Other technically feasible charging applications
- Diverse low-voltage applications with parallel control mode
- Outdoor applications
- In wet rooms

Product features

- Flame-retardant according to IEC 60332-1-2
- Halogen-free according to VDE 0472-815
- Outer sheath is resistant to oil in accordance with EN 60811-2-1,10/VDE 0473-811-2-1,10 and resistant to hydrolysis in accordance with EN 50396,10.3/VDE 0473-396,10.3
- Flexible at low temperatures
- Outer sheath: protection against water and dirt; abrasion, cutting, microbe-resistant

Approvals (Norm references)



- VDE CABLE REGISTRATION currently pending
- Design, manufacturing and testing are based on harmonisation document HD 22.10/VDE 0282-10

Design

- Fine-wire, flexible tinned-copper strand according to IEC 60228 (= VDE 0295), conductor class 5
- Core insulation: thermoplastic elastomer TPE-V
- Outer sheath: TMPU (PUR compound), according to harmonisation document HD 22.10 and EN 50363-10-2
- Outer sheath colour: yellow (RAL 1016); other colours are available upon request

Technical data

Core identification code
Power cores: colour-coded according to HD 308/VDE 0293-308
Signal cores: red in the case of one signal core, 1 x red + 1 x white in the case of two signal cores

Approvals
VDE CABLE REGISTRATION currently pending

Based on
VDE 0282 Part 10/HD 22.10

Conductor stranding
Fine wire according to IEC 60228/VDE 0295, class 5
tinned strands

Nominal voltage
U₀/U = 300/500 V AC
U₀/U = 450/750 V DC

Test voltage
At the core: 2 kV AC
At the finished cable: 2.5 kV AC

Protective conductor
Always with protective conductor (PE)

Temperature range
-40 °C to +90 °C

Article number	Number of cores and mm ² per conductor	Copper index (kg/km)
74880512	3 G 16 + 1 x 0,5	465,6
74880513	3 G 16 + 1 x 0,75	468,0
74880514	3 G 16 + 2 x 0,5	470,4
74880515	3 G 16 + 2 x 0,75	475,2
74880500	3 G 2,5 + 1 x 0,5	76,8
74880501	3 G 2,5 + 1 x 0,75	79,2
74880502	3 G 2,5 + 2 x 0,5	81,6
74880503	3 G 2,5 + 2 x 0,75	86,4
74880504	3 G 4 + 1 x 0,5	120,0
74880505	3 G 4 + 1 x 0,75	122,4
74880506	3 G 4 + 2 x 0,5	124,8
74880507	3 G 4 + 2 x 0,75	129,6
74880508	3 G 6 + 1 x 0,5	177,6
74880509	3 G 6 + 1 x 0,75	180,0
74880510	3 G 6 + 2 x 0,5	182,4
74880511	3 G 6 + 2 x 0,75	187,2

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges. Photographs are not to scale and do not represent detailed images of the respective products.

New

LAPP KABEL CHARGE 450/750V

Battery charging cable for charging electrically powered vehicles

LAPPKABEL CHARGE 450/750V 5G2,5+2X0,5 ROHS CE



Info

- Halogen-free
- Technically for charging modes 1 and 3 acc. to IEC 61851-1

Benefits

- Optimised for 3-phase AC battery-charging: 5 low-voltage power cores with core insulation colour-code for 5 cores including PE according to harmonisation document HD 308/VDE 0293-308
- Technically suitable for charging modes 1 and 3 (if harnessed with plug conforming to IEC 61851-1 mode 3) according to IEC 61851-1, thanks to 1 or 2 data transmission cores depending on the item

Application range

- Power and data cable for connecting the power source to the electric-powered vehicle for battery-charging (E-Mobility)
- Other technically feasible charging applications
- Diverse low-voltage applications with parallel control mode
- Outdoor applications
- In wet rooms

Product features

- Flame-retardant according to IEC 60332-1-2
- Halogen-free according to VDE 0472-815
- Outer sheath is resistant to oil in accordance with EN 60811-2-1,10/VDE 0473-811-2-1,10 and resistant to hydrolysis in accordance with EN 50396,10.3/VDE 0473-396,10.3
- Flexible at low temperatures
- Outer sheath: protection against water and dirt; abrasion, cutting, microbe-resistant

Approvals (Norm references)



- VDE CABLE REGISTRATION currently pending
- Design, manufacturing and testing are based on harmonisation document HD 22.10/VDE 0282-10

Design

- Fine-wire, flexible tinned-copper strand according to IEC 60228 (= VDE 0295), conductor class 5
- Core insulation: thermoplastic elastomer TPE-V
- Outer sheath: TPU (PUR compound), according to harmonisation document HD 22.10 and EN 50363-10-2
- Outer sheath colour: yellow (RAL 1016); other colours are available upon request

Technical data



Core identification code

Power cores: colour-coded according to HD 308/VDE 0293-308
Signal cores: red in the case of one signal core, 1 x red + 1 x white in the case of two signal cores



Approvals

VDE CABLE REGISTRATION currently pending



Based on

VDE 0282 Part 10/HD 22.10



Conductor stranding

Fine wire according to IEC 60228/VDE 0295, class 5 tinned strands



Nominal voltage

U₀/U = 450/750 V AC
U₀/U = 675/1125 V DC



Test voltage

At the core: 2.5 kV AC
At the finished cable: 3 kV AC



Protective conductor

Always with protective conductor (PE)



Temperature range

-40 °C to +90 °C

Article number	Number of cores and mm ² per conductor	Copper index (kg/km)
74880528	5 G 16 + 1 x 0,5	772,8
74880529	5 G 16 + 1 x 0,75	775,2
74880530	5 G 16 + 2 x 0,5	777,6
74880531	5 G 16 + 2 x 0,75	782,4
74880516	5 G 2,5 + 1 x 0,5	124,8
74880517	5 G 2,5 + 1 x 0,75	127,2
74880518	5 G 2,5 + 2 x 0,5	129,6
74880519	5 G 2,5 + 2 x 0,75	134,4
74880520	5 G 4 + 1 x 0,5	196,8
74880521	5 G 4 + 1 x 0,75	199,2
74880522	5 G 4 + 2 x 0,5	201,6
74880523	5 G 4 + 2 x 0,75	206,4
74880524	5 G 6 + 1 x 0,5	292,8
74880525	5 G 6 + 1 x 0,75	295,2
74880526	5 G 6 + 2 x 0,5	297,6
74880527	5 G 6 + 2 x 0,75	302,4

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request. Copper price basis: EUR 150/100kg. Refer to Appendix T17 for the definition and calculation of copper-related surcharges. Photographs are not to scale and do not represent detailed images of the respective products.

For the use of our products is valid

The conformity of our products with the relevant European directives and compliance with the provisions contained therein shall be indicated by the CE marking.

The safety of our products is closely associated with how they are used. A knowledge of and adherence to the respective international/national standards of use (e.g. DIN VDE 0100; 0298) are mandatory.

There are particular risks if installed improperly. This applies to all our products/items:

Processing is only to be done by an authorized electrician! Otherwise, there is the risk of an electric shock or a fire ignited by electric current!

Safety

Without exception our products are tested for application safety in accordance with laid down standards and our own regulations, which complement the standards. Relevant legal requirements and safety regulations are also observed. Provided due care and attention is paid, the possibility of product-specific danger to the user may thus reasonably be excluded. Where products are used carelessly or incorrectly, however, considerable

danger to persons and the environment may arise. For this reason, our cables must only be processed and/or used responsibly by trained electricians or specialists. This catalogue contains general information for the application of each product. Independent of such information, the application standards DIN VDE 0298 and DIN VDE 001 for cables will apply. Excerpts from these standards, as well as complementary selection and

application tables, design and installation guidelines, are contained in the tables in the appendix to our current Main Catalogue. Our machines and installation tools are – where necessary – designed in accordance with the machine guidelines and display the CE identification mark. It must be noted, however, that our machines and installation tools must only be used by trained specialized personnel and for the purpose for

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