



WÜRTH

E-MOBILITY



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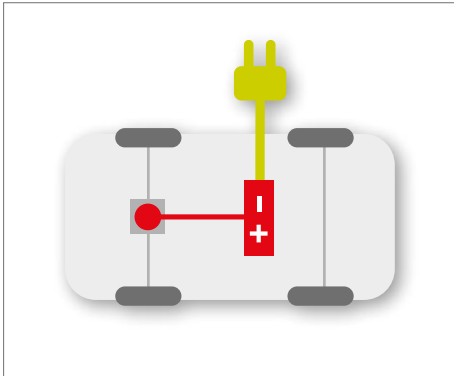
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VEHICLE TYPES

Types of electric vehicles

Since electric cars differ in terms of functionality and construction, depending on driving behavior, different models are worth considering. Pure electric cars, range extenders and the plug-in hybrids are the most conventional types. The structure and the essential differences between these electric vehicle models are shown below.

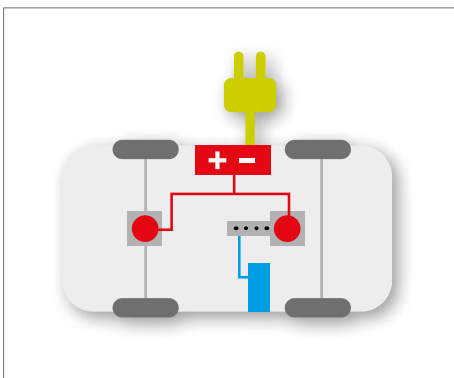
Vehicle types



The pure electric car (BEV)

Pure electric vehicles, which are also called BEVs, an abbreviation of Battery Electric Vehicle, have only an electric motor installed. The BEV obtains the energy required for the drive from an energy source directly in the vehicle, the battery.

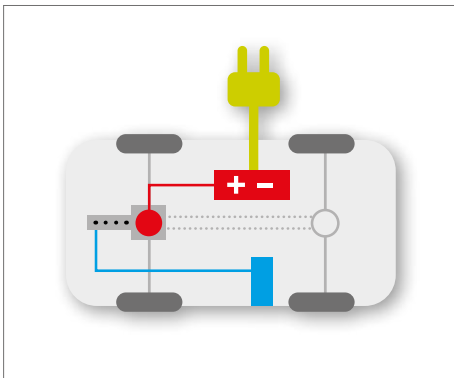
This is charged via the power grid and stores the recovered braking energy during recuperation.



Range Extender (REEV)

Range Extended Electric Vehicles (REEVs) are electric vehicles that, in addition to the battery, are also equipped with an internal combustion engine, the so-called range extender. In contrast to PHEVs, this additional motor does not drive the vehicle directly, but only supplies electricity for the battery.

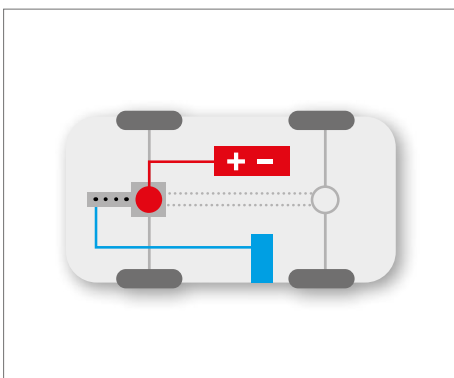
The following mechanism is used to ensure that the vehicle does not come to a halt due to an empty battery while driving: The range extender is activated automatically as soon as the battery status is low and keeps it constantly low due to the charging current while driving. REEVs are offered by some car manufacturers because battery technology is currently still expensive.



Plug-in hybrid vehicle (PHEV)

Since hybrid vehicles (HEV = Hybrid Electric Vehicle) have an electric motor and internal combustion engine installed at the same time, they combine conventional and electric drive systems.

With HEVs, the battery is charged via the internal combustion engine or the regenerated braking energy (recuperation). Plug-in hybrid electric vehicles (PHEVs) are vehicles that use a battery that can be charged directly from the electricity grid. A great advantage of hybrid vehicles is that they can cover shorter distances only using electricity and can also cover longer distances. As the battery technology is constantly being developed, an increase in the electrical portion is expected in the future.





Hybrid vehicle (HEV - Hybrid Electric Vehicle)

A hybrid is a vehicle that is equipped with an internal combustion engine and an electric motor. There are differences in construction and hybridization. In general, the electric motor supports the combustion engine especially when starting up, when the engine has poor efficiency. This means that fuel consumption can be reduced by 15-25%. The difference between a classic hybrid and a plug-in hybrid is that a full hybrid can only be operated electrically over very short distances.

 Fuel tank

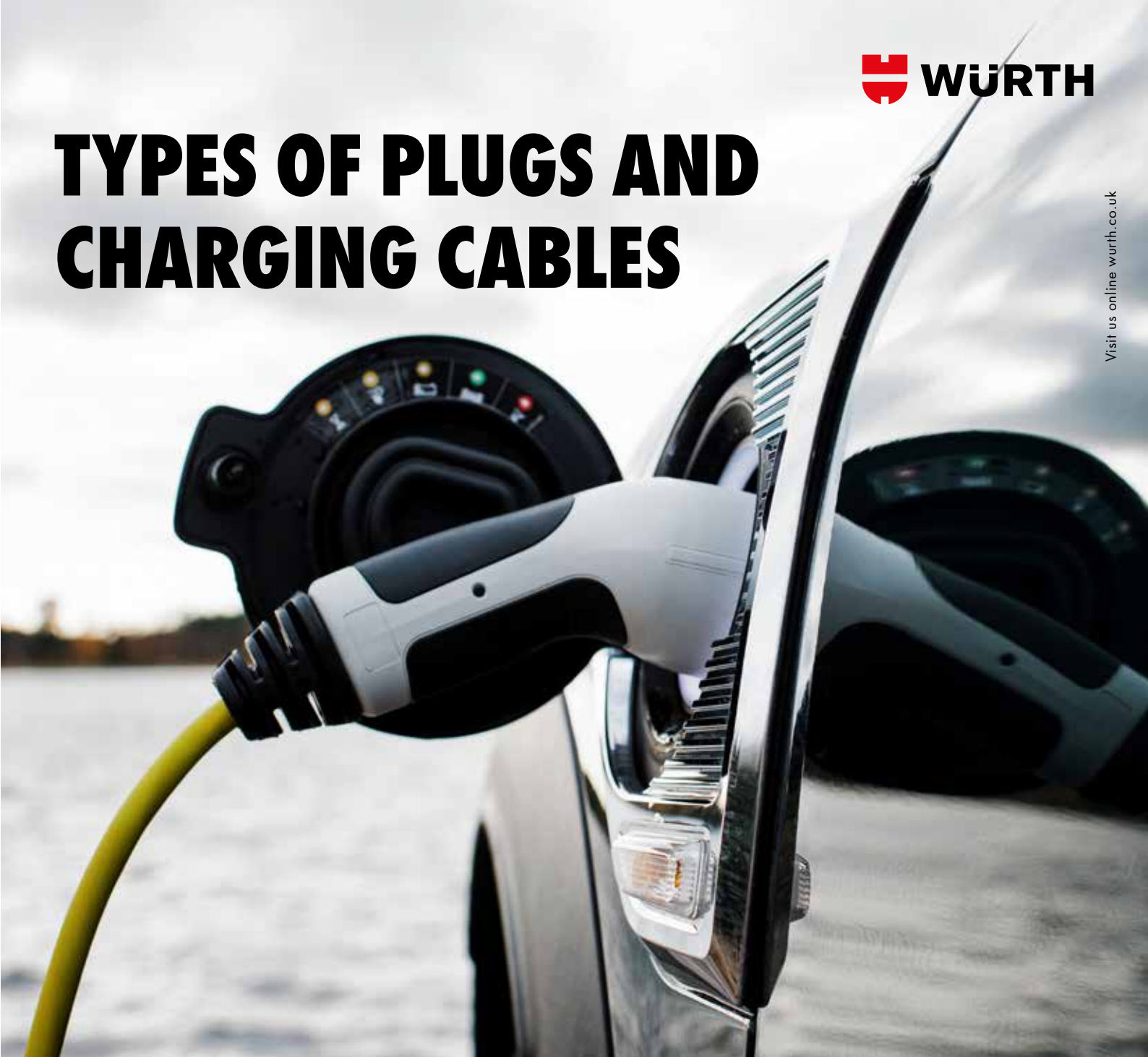
 Battery

 Combustion engine

 Electric motor / generator

Source: <https://elektromobilitaet.dew21.de/arten-von-elektroautos>

TYPES OF PLUGS AND CHARGING CABLES



Charging cables for charging electric vehicles

Mode 2 charging cable

Mode 2 charging cables, of which there are many different variants, are often supplied from the factory by the respective car manufacturer. Since these cables can be connected to an ordinary household socket, the driver of an electric vehicle is able to charge at a household socket. The in-cable control box (ICCB) is connected between the vehicle connector and the connector and acts as a communicator between the electric vehicle and the charging connector.

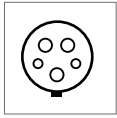
Mode 3 charging cable

A mode 3 charging cable is a connecting cable between the electric vehicle and the charging station, which enables charging capacities of up to 43 kW. Since the type 2 plug is the standard in Europe, charging stations are often equipped with a type 2 socket. This means that both type 1 and type 2 electric vehicles can be charged. So, to charge the electric car, either a Mode 3 charging cable from type 2 to type 2 (example: Renault ZOE) or a Mode 3 charging cable from type 2 to type 1 (example: Nissan Leaf) is required.

Source: https://www.mobilityhouse.com/de_de/ratgeber/elektromobilitat-ladekabelarten-und-steckertypen

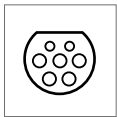
Types of connectors

Types of connectors for electric cars



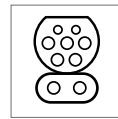
Type 1 connector

A single-phase type 1 connector enables charging powers of up to 7.4 kW (230 V, 32 A). Since this standard is primarily found in car models from Asia and is rarely used in Europe, there are hardly any charging stations where a type 1 charging cable is permanently attached.



Type 2 connector

In Europe, the widely used three-phase plug is the standard which allows charging capacities of up to 22 kW (400 V, 32 A) in private homes and up to 43 kW (400 V, 63 A) at public charging stations. Since these are usually equipped with a type 2 socket, to which each mode 3 charging cable can be connected, it is possible to charge electric vehicles with both type 1 and type 2 plugs. The so-called Mennekes connector (type 2) is attached to the charging station for all mode 3 cables.



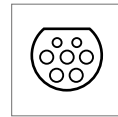
Combo plug (Combined Charging System CCS)

The combo plug (CCS) extends the type 2 plug via a quick charging function with two additional power contacts. This connector is intended to support AC and DC charging (alternating and direct current charging) with up to 170 kW, although in practice the value is more likely to be 50 kW.



CHAdeMO plug

This is a fast charging system that was developed in Japan and enables charging capacities of up to 100 kW, although most public charging stations only provide a capacity of up to 50 kW. Electric vehicles that are compatible with the CHAdeMO plug are offered by the car manufacturers BD, Otomotive, Citroën, Honda, Kia, Mazda, Mitsubishi, Nissan, Peugeot, Subaru, Tesla (with adapter) and Toyota.



Tesla Supercharger

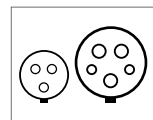
Tesla's Superchargers are a modified version of the Mennekes Type 2 plug and allow 80% charging of the Model S within 30 minutes at a charging capacity of up to 120 kW DC. While Tesla Superchargers are not yet available for other vehicle brands, charging is a free service for Tesla customers.

Plugs at home, in garages and on the go



Schuko sockets

Schuko sockets, the common household socket in most of continental Europe, are sometimes attached to public charging stations and allow all electric vehicles to be charged using a mode 2 charging cable. Although a charging power of up to 3.7 kW (230 V, 16 A) can be achieved with appropriate protection, a maximum charging power of 2.3 kW (230 V, 10 A) is recommended without checking the socket beforehand.



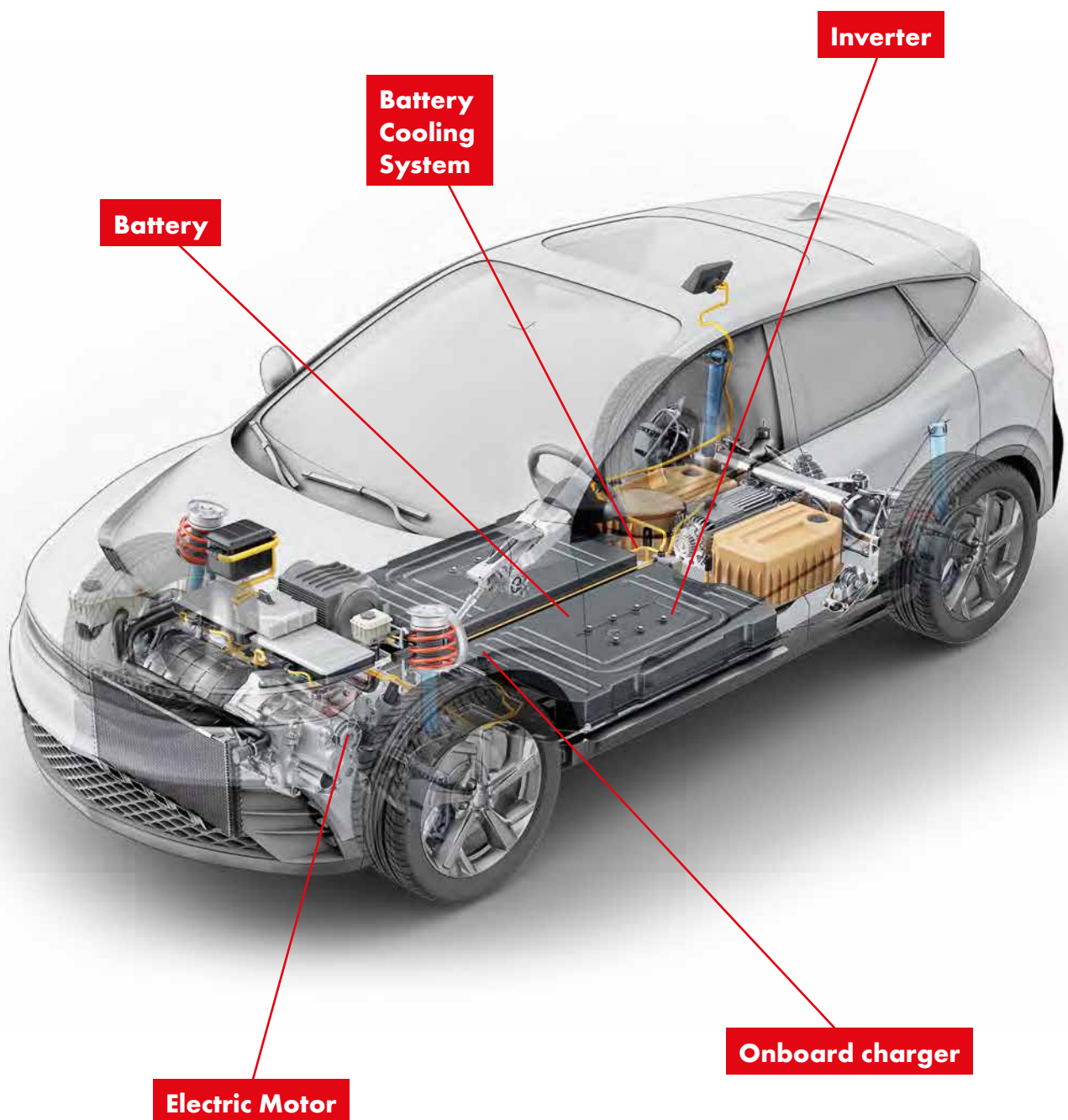
CEE plug

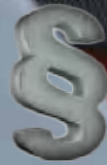
The CEE plug comes in different versions. First there is the so-called "camping" plug, which is the single-phase, blue option and allows a charging capacity of up to 3.7 kW (230 V, 16 A). There is also a three-phase, red version for industrial sockets. While the small industrial plug (CEE16) allows charging powers of up to 11 kW (400 V, 16 A), the large industrial plug (CEE32) can achieve charging capacities of up to 22 kW (400 V, 32 A).

NEW MAINTENANCE

Inverter Electric cars contain fewer wearing parts than conventional vehicles, but maintenance is still essential. The maintenance is mainly focused on the following components:

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SPACE FOR YOUR LOCAL LAWS

Manufacturer's instructions must be followed first and foremost. If these do not cover a subject, the country specific regulations apply.



SAFETY

Safety steps

It is essential to follow the procedure for disconnecting the respective manufacturer's vehicle. Rescue cards from the fire brigade can be used as an aid. The following steps describe a sample scenario and illustrate the uses of the tool and the personal protective equipment. This example does not serve as a work instruction.

Safety steps



Place the vehicle in the parking position, remove the key from the vehicle and secure the vehicle against unauthorized access.



Attach a sign to the vehicle, which signals that the vehicle is not yet disconnected, and additionally position the triangular cap on the roof.



Prepare the tool and protective equipment (safety glasses, insulated tools, cable protection and insulated gloves).



Switch off the vehicle electrical system (12 V in this example) by disconnecting the negative pole of the battery and isolating the negative cable with a cable protector.



Switch off the high-voltage system at the isolating plug or isolating switch and, if possible, secure it with a lock to prevent it from being switched back on. If it is a disconnect plug, keep it in a place that is not accessible to third parties.



Depending on the vehicle manufacturer, the vehicle must now be checked for absence of voltage. This process can be found in the relevant documentation from the vehicle manufacturer.

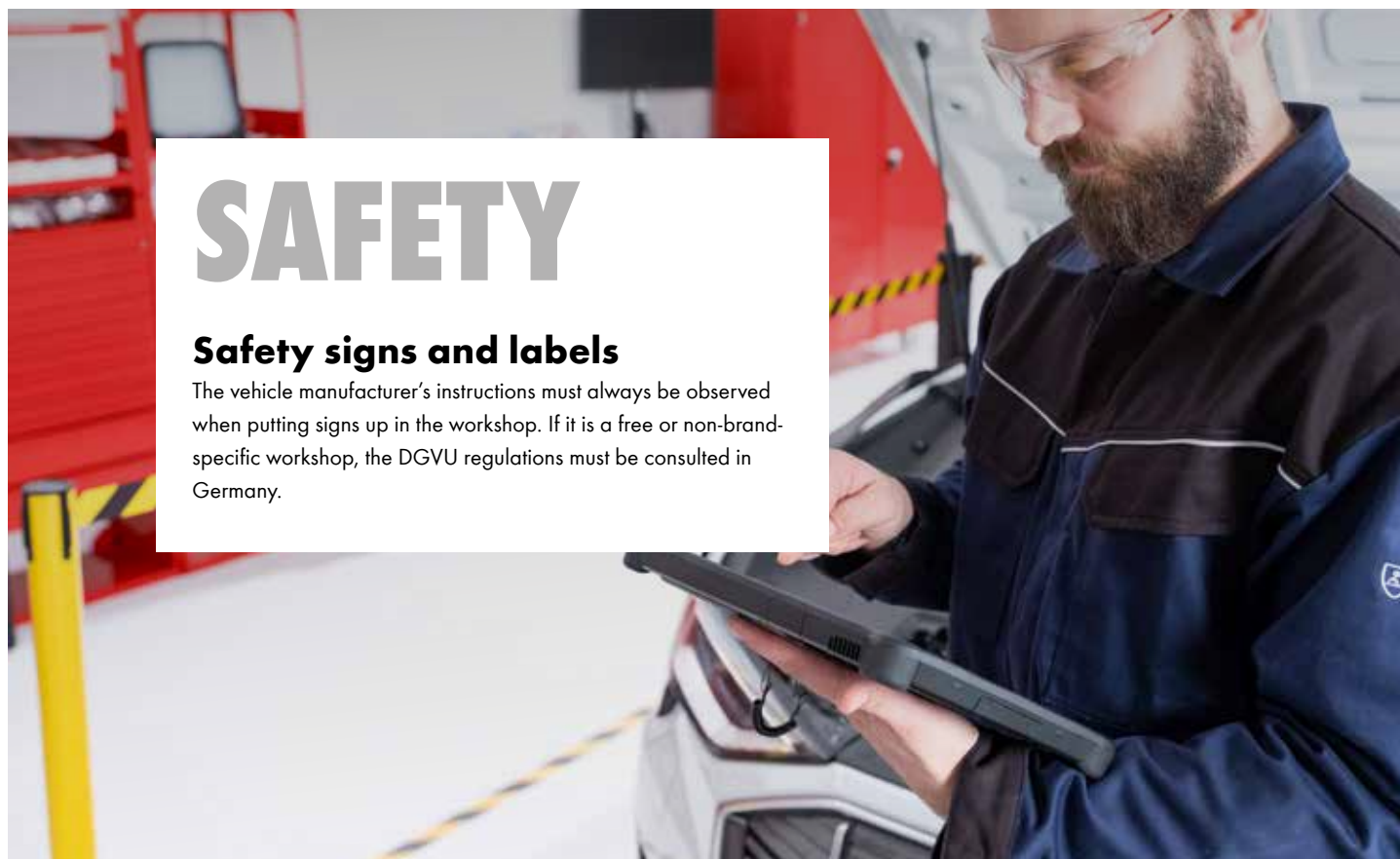


Place a sign on the vehicle that indicates that the vehicle is now disconnected.

SAFETY

Safety signs and labels

The vehicle manufacturer's instructions must always be observed when putting signs up in the workshop. If it is a free or non-brand-specific workshop, the DGVU regulations must be consulted in Germany.



Side marking Din A4

Front:

Warning high voltage symbol
Vehicle is not disconnected
Please contact the responsible mechanic

Back:

"Open switch" symbol
Vehicle is disconnected and
de-energized Name and telephone
number of the responsible mechanic



Safety signs and labels

Signal cone for vehicle roof

Signal cone which is placed on the vehicle roof to show that it is an electric vehicle.



Warning sign - dangerous electrical voltage

This sticker is suitable for affixing in the workshop, especially for marking workplaces for electric vehicles.



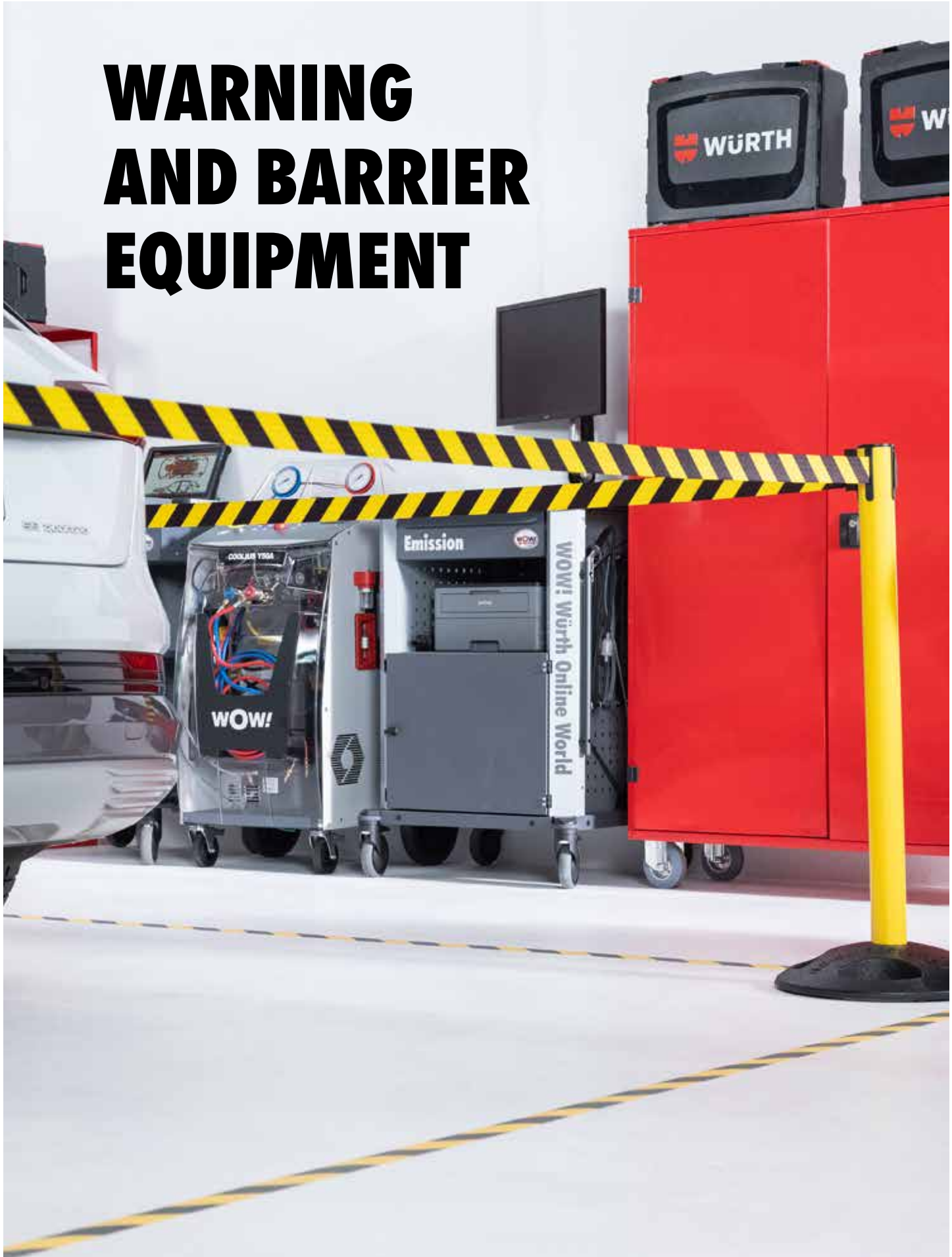
Further signage for the workshop

These signs serve as safety extensions for the workshop. Among other things, they can be used for electric vehicle charging boxes that have to be opened for maintenance purposes or retrofitted fuse boxes that have to be installed, especially for electric mobility.

With our signage system our customers are fully equipped.



WARNING AND BARRIER EQUIPMENT



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Warning and barrier equipment

Barricade post with pull-out belt

Post system for a mobile, primarily visual or symbolic barrier. The pull-out belt can be attached to another post, wall cassette or wall clip.

- Portable and flexible, space-saving storage of individual parts
- 4-way belt cassette
3 belts can be attached per post
- Automatic retractor with brake function
Safe return and storage of the barrier belt
- Bottom plate with tare weight
Flexible use and secure footing
- Post and belt colours have a signalling effect
- The barrier can be flexibly configured using wall cassette with belt and wall clip

Height	1000 mm
Base plate shape	Round



Material	Colour	Art. no.	P. Qty./unit
Metal	Yellow, Black	0957 595 002	2
Plastic	Yellow, Black	0957 595 001	2
Metal	Black	0957 595 005	1

Wall cassette with belt pull-out for barriers

Alternative to a bollard if a permanent barrier is required or space is limited.

Colour: Yellow-black

Width: 50 mm

Length: 4000 mm

Art. no. 0957 595 020

P. Qty./unit 1

Colour: Yellow-black

Width: 50 mm

Length: 8000 mm

Art. no. 0957 595 025

P. Qty./unit 1

Colour: Yellow-black

Width: 50 mm

Length: 3000 mm

Art. no. 0957 595 021

P. Qty./unit 1



Wall clip for pull-out barrier tapes

Simple placement of barrier tape end pieces in barrier post and wall cassettes with belt extraction.

Colour: Black

Art. no. 0957 595 030

P. Qty./unit 1

Colour: Black

Art. no. 0957 595 031

P. Qty./unit 1



Chain Support Post with Cap (Black/Yellow)

Plastic support posts and bases for marking out restricted areas.



Art. no.	5997 770 821
Colour	Black/Yellow
P. Qty./unit	1

Safety Post Support Base

Art. no.	5997 770 876
Colour	Black
P. Qty./unit	1



Plastic Folding Safety Barrier

Extendable plastic folding safety barrier to restrict access.

Art. no.	5997 770 862
Colour	Black/Yellow
P. Qty./unit	1



Composite link For plastic chains



Art. no.	0899 613 632
Diameter (Ø)	6 mm
Colour	Black
Material	PE - Polyethylene
Product weight (per item)	6.4 g
P. Qty./unit	10

Replacement cap For Plastic barrier post with base



Art. no.	0899 610 111
Material	ABS
Colour	Black
P. Qty./unit	4

Hook link For plastic chains



Material	PE - Polyethylene
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Diameter (Ø)	Colour	Product weight (per item)	Art. no.	P. Qty./unit
6 mm	Black	5.3 g	0899 612 632	10
6 mm	Red	4.6 g	0899 612 631	10
8 mm	Black	5.1 g	0899 612 636	10
8 mm	Red	10.3 g	0899 612 635	10

Warning and barrier equipment

Hybrid/EV Folding Safety Barrier



Art. no.	5997 770 841
P. Qty./unit	1

Folding safety barrier specifically for workshop use as a warning aid to others that maintenance is being carried out on a Hybrid/EV vehicle. Made up from 3 plastic framed panelled sections which can be folded for easy storage when not in use. Additional brackets available so 2 or more barriers can be joined together.

Plastic 6mm Chain 25m (Black/Yellow)



Art. no.	5997 770 836
P. Qty./unit	1

Plastic chain

For blocking off, securing and use as rain run-off chains

- Rustproof
- Non-magnetic
- High resistance to weathering



Length	25 m
Material	PE - Polyethylene
Min./max. temperature resistance	-70 to 100 °C

Application area

- Marking and blocking of, among other things, danger zones, construction sites, camping sites, land, car parks, entrances, trade fair walkways, garden paths, pavements, sports facilities, entrances to private land etc.
- Black and yellow chains, including for workstations to do with e-mobility

Diameter (Ø)	Colour	Number of chain links until the colour changes	Length of link (internal) (c)	External width (b)	Nominal thickness (d)	Product weight (per item)	Art. no.	P. Qty./unit
6 mm	Black-yellow	11 PCS	42 mm	20 mm	6 mm	1466 g	0899 610 613	1
6 mm	Red-white	11 PCS	42 mm	20 mm	6 mm	1417 g	0899 610 612	1
8 mm	Black-yellow	9 PCS	61 mm	25 mm	8 mm	2416 g	0899 610 813	1
8 mm	Red-white	9 PCS	61 mm	25 mm	8 mm	3000 g	0899 610 812	1

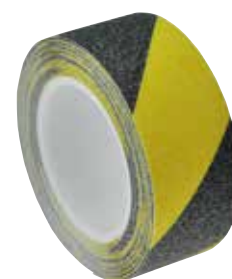


Warning adhesive tape, non-slip, standard

Slip resistance R13 according to DIN 51130

Length: 6 m
 Width: 50 mm
 Colour: Yellow-black
Art. No. 0812 44 672
 P. Qty./unit 1

Length: 6 m
 Width: 75 mm
 Colour: Yellow-black
Art. No. 0812 44 673
 P. Qty./unit 1



Warning marking adhesive tape

Quick and easy to apply and virtually no residue when removed

Length: 33 m
 Width: 50 mm
 Colour: Yellow-black
Art. No. 0812 44 660
 P. Qty./unit 1

Length: 33 m
 Width: 75 mm
 Colour: Yellow-black
Art. No. 0812 44 661
 P. Qty./unit 1

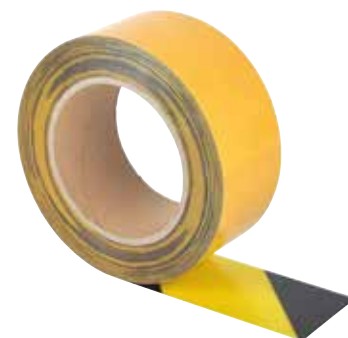


Warning marking adhesive tape Heavy Duty

Adhesive tape with thick material layer for simple, universal bonding.

Length: 10 m
 Width: 50 mm
 Colour: Yellow-black
Art. No. 0812 44 664
 P. Qty./unit 1

Length: 10 m
 Width: 75 mm
 Colour: Yellow-black
Art. No. 0812 44 665
 P. Qty./unit 1



Warning and barrier equipment

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Tetrahedral warning sign magnetic base e-mobility warning sign with "lightning arrow" and magnetic foot

- The warning pyramid for self-construction is equipped with a magnetic foot.
- The tetraedronic warning sign of the lightning arrow and the pictograms "Warning of dangerous electrical voltage" according to DIN 4844 D-W008 can be seen on all three sides.

Art. no. 0967 933 501

P.Qty./unit 1

Hybrid/EV Warning Sign 10pc

Hybrid/EV warning sign, easily hangs on the rear view mirror so it's visible from both inside and outside the vehicle to inform employees and customers of the risks concerned with high voltage vehicles. These reusable vinyl warning tags are split at the top to allow them to be both quickly attached and removed from the mirror or steering wheel.



Art. no.	5997 770 869
P. Qty./unit	1

Safety and warning sign — dangerous electrical voltage Self-adhesive

Limb length	Art. No.	P. Qty./unit
25 mm	0967 933 01	100
50 mm	0967 933 02	50
100 mm	0967 933 03	50



High Voltage/No Admittance Sign

Art. no.	5997 770 854
P. Qty./unit	1



Safety Lockout Padlock

Non conductive nylon bodied lockout padlock with 38mm shackle, for preventing accidental activation of, or access to high voltage systems on electric vehicles and mains electrical systems.

Art. no.	5997 770 878
P. Qty./unit	1



Danger High Voltage Sign

To inform employees and customers of risks concerned with high voltage vehicles.

Art. no.	5997 770 875
P. Qty./unit	1



Hybrid/EV Floor Warning Signs 2pc

EV/Hybrid warning signs height 600mm.

Art. no.	5997 770 839
P. Qty./unit	1



TEST EQUIPMENT



Test equipment

Infrared laser thermometer

For contact-free measurement of surface temperatures, with integrated laser pointer.



Suitable for temperature measurement of the batteries

Art. No.	0715 53 110
Min./max. temperature measuring range	-50 to 650 °C
Thermometer measuring cone	12:1
Nominal voltage	9 V/DC
Min./max. spectral range	8-14 µm
Reaction time	150 ms
Automatic switch-off	5 s
Rechargeable battery/battery designation	9 V block; PP3; F22
P. Qty./unit	1

Digital clip-on ampere meter AM 600 AC/DC

Digital clip-on ampere meter with extensive measuring options, effective value measurement (TRMS), auto-range function and LED measuring point illumination for professional use in trade and industry.

- The Würth AM 600, certified for safe use in CAT III 600 V environments, offers those functions that are essential to detecting malfunctions and numerous problems in electrical and electronic systems.
- Properties:
 - Suitable for measuring AC/DC current, AC/DC voltage, resistance, continuity, diodes, frequency and capacity
 - Can be used for AC/DC voltages up to 600 V and AC/DC currents up to 600 A
 - Resistance measurement up to 60 MΩ
 - Min/max key for displaying the maximum or minimum measured value or difference between the two values
 - Toggling between manual range switchover and auto-range
 - Display hold function
 - Automatic switch-off after 15 min
 - Fused inputs to protect the measuring instrument
 - LCD display for 6000 digits
 - Complies with standard EN 61010-2-032



Length x width x height: 210 x 80 x 35 mm

Art. No. 0715 53 715

P. Qty./unit 1



Two-pin voltage tester Multi-Tester Pro II LCD

Overvoltage category CAT IV (1000 V) – suitable for use in electrical installation and servicing work, and for testing hybrid and electric vehicles and photovoltaic systems

- Test equipment with maximum safety level (CAT IV 1000 V)
- No presetting, intuitive operation
Automatic testing range selection
- Voltages can also be displayed without battery
Visual and vibratory warning from 35 V AC/DC when operating with batteries
- FI/RCD test using two buttons
Intentional triggering of the FI switch facilitates push-button activation of the load so that the protective conductor can also be measured.
- Screwable 4-mm test probe adapter
 - Enhanced hold in safety socket and CEE socket
 - Suitable for narrow test openings
- Energy-saving
Automatic shut-off device

Two-pin voltage tester Multi-Tester Pro II LED

Overvoltage category CAT IV (1000 V) – suitable for use in electrical installation and servicing work, and for testing hybrid and electric vehicles and photovoltaic systems

- Test equipment with maximum safety level
- Indication of voltages also possible without battery
- FI/RCD test with two keys
- Enhanced hold in safety socket and CEE socket
- Suitable for narrow test openings

Art. No. 0715 53 165

P. Qty./unit 1

CAT IV 1000V



Art. No. 0715 53 175

P. Qty./unit 1

CAT IV 1000V



Mini digital multimeter

Small meter for measuring direct and alternating current, resistance testing, continuity testing, diode testing and contactless voltage testing.

- The test leads can be fastened to the rear of the device; this protects them from damage and prevents injury from the measuring tips
- Permanently attached test leads, data hold, diode testing, continuity testing, integrated LED pocket torch and automatic range detection
- With robust, splash-proof rubber housing and membrane keyboard

Art. No. 0715 53 370

P. Qty./unit 1



Test equipment

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Automotive multimeter mm 50/20

Modern, digital multimeter, specially developed for professional applications in garages.

- Enables measurements that are specifically required in the vehicle environment
In addition to conventional measurements, measurements can also be performed for rotation speed, closing angle and duty cycle.
- Measurements possible up to 20 amperes (caution: only up 50 volts!)
Conventional multimeters measure up to 10 amperes, which is not sufficient for modern vehicles under certain circumstances.
- Scope of delivery
 - Automotive multimeter
 - Measuring cables
 - Crocodile terminals
 - Temperature sensor
 - Calibration certificate
 - On-call bag
 - User handbook

Art. No. 0715 53 440

P. Qty./unit 1



Digital multimeter MM 600 TRMS

Modern, digital multimeter with effective value measurement (TRMS), cable break detector and LED pocket torch for professional use in trade and industry.

- The Würth MM 600, certified for safe use in CAT IV 600 V environments, offers essential functions for the detection of malfunctions and numerous problems in electrical and electronic systems.
- Properties:
 - Suitable for measuring AC/DC current, AC/DC voltage, resistance, continuity and diodes
 - Can be used for AC/DC voltage up to 600 V, and also AC/DC current up to 10 A
 - Resistance measurement up to 20 M Ω
 - Contactless voltage tester (visual and acoustic) for quick detection of cable breakage
 - Display saving (hold function)
 - Automatic shut-off after 15 min
 - Fused inputs for protecting the measuring device
 - LCD display with 2000 digits
 - Conforms to EN Standard 61010-2-033

Art. No. 0715 53 415

P. Qty./unit 1



FROM DIAGNOSTICS AND BATTERY MANAGEMENT TO THERMAL MANAGEMENT SYSTEM MAINTENANCE:

As early as 2030, about 1/3 of all vehicles will be electric cars – and the trend is rising, opening up new business Areas and services for workshops, especially in the field of battery management and air conditioning maintenance in regard to the thermal management of the electric car.

Battery cell voltages

Battery systems are particularly cost-intensive in high-voltage/electric vehicles. The performance of vehicle battery systems depends on each individual cell of the battery. This means that the individual cell voltages must be reliably evaluated by the workshop.

Battery temperature management

An electric vehicle achieves high operating efficiency by means of the optimum temperature of the electronics and the battery. This means that the battery can only function quickly and reliably if the temperature of each individual cell is correct (above 0 and below 40°C). If the temperature is not right, service life and performance will decline. These optimum conditions are ensured by the thermal management system, which must be professionally assessed by the workshop and repaired if necessary.

Thermal management system of the electric vehicles

The air conditioning system in the electric mobile is changing from a comfort system to an essential component for the electric drive and thus the operation of the vehicle. The thermal management system not only cools the vehicle interior, powertrain, battery and control units, but also it acts as a heat pump and heats all relevant systems as required. If the thermal management system fails or has defects, the vehicle may come to a standstill in a nutshell:

The air-conditioning system is becoming increasingly important to the full functionality of the vehicle. As a result, air-conditioning maintenance is evolving from a seasonal to a year-round business and service field for workshops. Offering reliable air-conditioning maintenance is therefore crucial to the success of a workshop in the electric vehicle sector.



FROM DIAGNOSTICS AND BATTERY MANAGEMENT TO THERMAL MANAGEMENT SYSTEM MAINTENANCE:

Complex systems only remain so if you don't know the right people to contact. Würth, WOW! and Akademie Würth offer flexible tools, the right working materials and further training in the area of battery and thermal management to help you become an electric vehicle expert.

Fully comprehensive electric mobility concept from WÜRTH and WOW!

In the area of electric mobility, we offer you a fully comprehensive electric mobility concept that includes everything you need to work on and with electric vehicles:

- Shut-off systems
- Safety tool
- Protective equipment
- Trainings
- Workshop equipment for diagnostics, air-conditioning
- maintenance and calibration
- Expert hotline for diagnostics, calibration and A/C service
- Accessories, consumables and spare parts supply
- Service technician in the field

Diagnosis of electric and hybrid vehicles

We help you to enter into dialog with electric vehicles, as they have long been a focus topic in the development of the WOW! DIALOOQ diagnostic systems.

High coverage of electric/hybrid vehicles for your workshop.

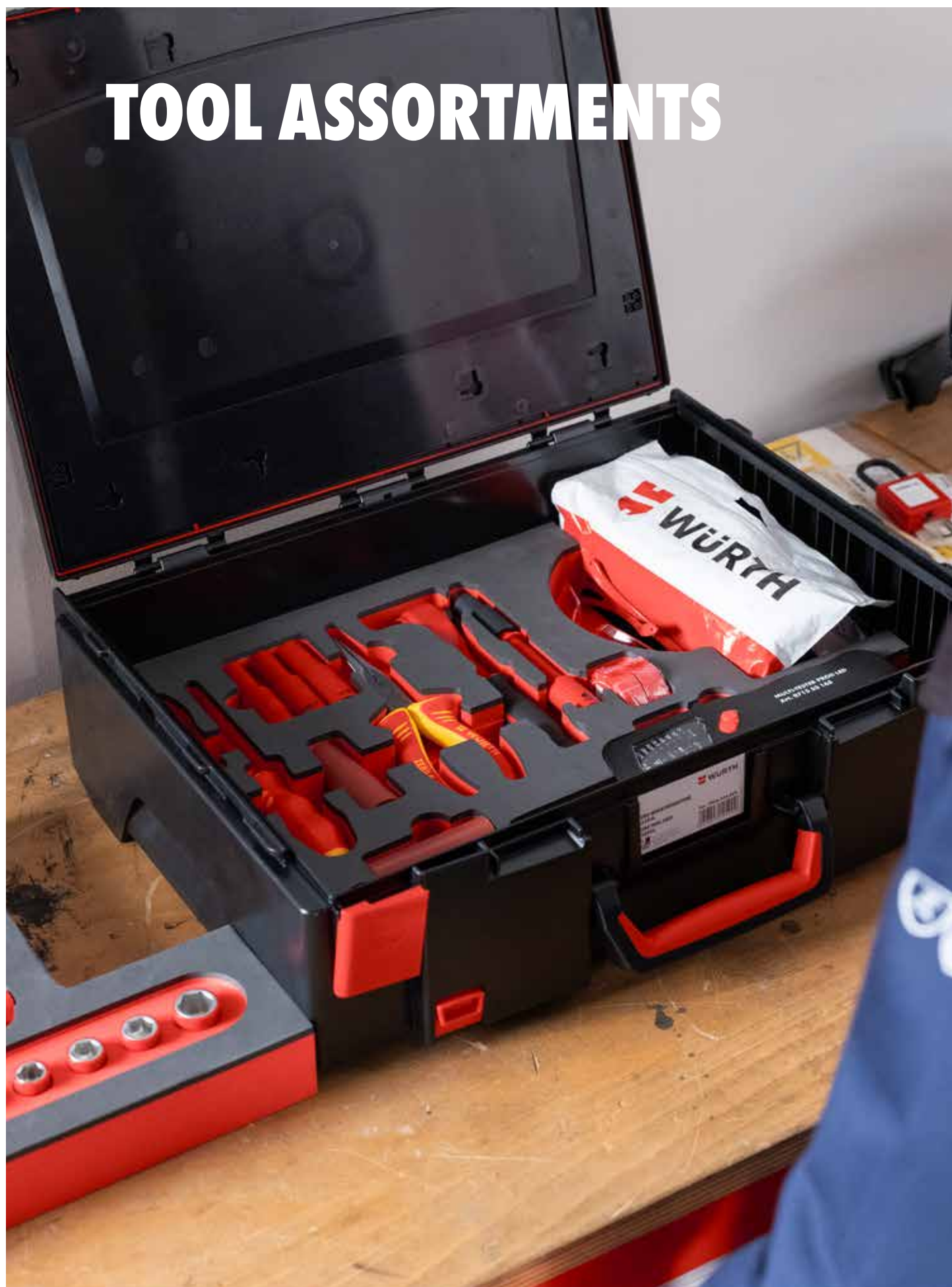
- Battery status check: This WOW! function is used to evaluate the individual cells.
- The OBFCM (On-Board Fuel Consumption Monitoring) interface used to monitor power consumption on internal combustion engine vehicles and plug-in hybrid vehicles powered by diesel, biodiesel, gasoline and ethanol (mandatory by EU Regulation 2017/11511)

Air-conditioning maintenance for electric and hybrid vehicles

With the **WOW! COOLIUS device series**, neither you nor the batteries of electric cars will break a sweat – with us, you are prepared for the future in your workshop.

- Everything is from a single source, especially in the area of thermal management:
- development, consulting, service and training
- Comprehensive offer: Fully automatic service with refrigerants R134a, R1234yf and CO2
- Fully automatic, time-saving system for all vehicle types, which is good for the workshop budget and
- protects the environment thanks to the COOLIUS low-emission concept, among other features.

TOOL ASSORTMENTS



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Tool case

32 pieces in system case 8.4.2. Especially suitable for electric and hybrid vehicles.

Contents for Art. No.	
5964 502 002	<p>2 x Electrical insulating tape 0,15 x 15 x 10 mm; 1 x Two-pin voltage tester Multi-Tester Pro II LED; 1 x Safety glasses CEPHEUS®; 1 x Voltage protective glove Gr. 10; 3 x Insulating caps 3.5 kV; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900 200 mm; 1 x VDE combination pliers DIN ISO 5746 IEC 60900 180 mm; VDE screwdriver PH recessed head: 1 x 1, 1 x 2; VDE screwdriver Flat slotted: 1 x 0,6 x 3,5, 1 x 1,0 x 5,5; 1 x VDE 3/8 inch ratchet 200 mm; 1 x VDE 3/8 inch extension 150 mm; 3/8-inch VDE socket wrench: 1 x lang 8 mm, 1 x lang 10 mm; 1 x 3/8-inch VDE socket wrench lang 12 mm; 1 x 3/8 inch VDE socket wrench Hexagon socket 4 mm; 3/8 inch VDE socket wrench Hexagon: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 17 mm; Box wrench VDE: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 17 mm;</p>

Length x width x height: 500 x 380 x 140mm

Art. No. 5964 502 002

P. Qty./unit 1



Tool case

16 pieces in system case 8.4.1. Especially suitable for electric and hybrid vehicles.

- Large selection

Tool case equipped with essential VDE tools and accessories

Contents for Art. No.	
5964 502 001	<p>1 x VDE screwdriver Flat slotted 1.0 x 5.5 mm; 1 x VDE screwdriver PH recessed head 2; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900 210 mm; 1 x VDE 3/8 inch extension 150 mm; 1 x VDE 3/8 inch ratchet 200 mm; 3/8-inch VDE socket wrench: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm; 1 x Two-pin voltage tester Multi-Tester Pro II LED; 3 x Insulating caps 3.5 kV 8-14 mm; 1 x Safety glasses CEPHEUS®; 1 x Voltage protective glove Size: 10; 2 x Electrical insulating tape 15 mm, 10 mm; 1 x System case 8.4.1</p>

Length x width x height: 500 x 380 x 87 mm

Art. No. 5964 502 001

P. Qty./unit 1



PLIERS



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Pliers

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VDE pliers assortment, IEC 60900

4 pieces

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long tool life and precision of gripping and cutting surfaces
- Ergonomic and slip-free 2-component comfort handle with wide VDE collar for secure working



Contents for Art. No.

0714 01 580	1 x VDE wire stripping pliers, IEC 60900; 1 x VDE side cutters DIN ISO 5749 IEC 60900; 1 x VDE combination pliers DIN ISO 5746 IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900
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Art. No. 0714 01 580

P. Qty./assortment 1

- Combination pliers with extra-long blade also suitable for thicker cables
- Stripping pliers with opening spring for automatic opening
- Snipe nose pliers with tips for high bending stresses
- Side cutters with slim head shape for optimal accessibility



Contents for Art. No.

0714 01 581	1 x VDE side cutters DIN ISO 5749 IEC 60900; 1 x VDE combination pliers DIN ISO 5746 IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900; 1 x VDE cable cutters with single blade
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Art. No. 0714 01 581

P. Qty./assortment 1

VDE pliers assortment, combi IEC 60900

8 pcs.

- For work on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- Pliers made from high-quality tool steel for long service life and precise gripping and cutting surfaces
- Stripping pliers with opening spring for automatic opening
- Side cutters with slim head shape for optimum accessibility
- Snipe nose pliers with tips resistant to high bending strain
- Ergonomic and slip-proof 2-component comfort handle for safe working



Contents for Art. No.

0714 01 582	VDE screwdriver Flat slotted: 1 x 0.4 x 2.5 mm, 1 x 0.8 x 4.0 mm, 1 x 1.2 x 6.5 mm; VDE screwdriver PH recessed head: 1 x PH1, 1 x PH2; 1 x VDE wire stripping pliers, IEC 60900; 1 x VDE side cutters DIN ISO 5749 IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900
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Art. No. 0714 01 582

P. Qty./assortment 1

VDE pliers assortment, IEC 60900

4 pcs.

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long service life and precision of gripping and cutting surfaces
- 1-component handle with wide VDE collar for safe working
- Combination pliers with extra-long blade also suitable for thicker cables
- Round-nose pliers for bending wire eyelets
- Snipe-nose pliers with tips for high bending stresses
- Side cutters with slim head shape for optimum accessibility



Contents for Art. No.

0715 01 92	1 x VDE combination pliers DIN ISO 5746 IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745 IEC 60900; 1 x VDE snipe nose pliers with blade DIN ISO 5745, IEC 60900; 1 x VDE side cutters, DIN ISO 5749 IEC 60900
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Art. No. 0715 01 92

P. Qty./assortment 1



Contents for Art. No.

0715 01 93	1 x VDE combination pliers DIN ISO 5746 IEC 60900; 1 x VDE snipe nose pliers with blade DIN ISO 5745, IEC 60900; 1 x VDE side cutters, DIN ISO 5749 IEC 60900; 1 x VDE cable shears, forged head
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Art. No. 0715 01 93

P. Qty./assortment 1

Pliers

VDE wire stripping pliers, IEC 60900

Precise, effortless stripping of cables and wires with plastic or rubber insulation.

- For working on live parts up to 1000 V (AC) and up to 1500 V (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long service life and precision of cutting surfaces
- Opening spring opens pliers automatically

2-COMPONENT COMFORT HANDLE



Length: 160 mm

Art. No. 0714 01 570

P. Qty./unit 1/10



- Ergonomic and non-slip 2-component comfort handle with wide VDE collar for safe working
- Adjustment screw can be fixed in place with knurled locking nut
- Surface: Entirely ground and chrome-plated
- Joint: Lap joint

1-COMPONENT HANDLE

Length: 160 mm

Art. No. 0715 01 95

P. Qty./unit 1/10



VDE Combination Pliers DIN ISO 5746, IEC 60900

For gripping, holding and cutting hard and soft wires and cables

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long tool life and precision of gripping and cutting surfaces
- Extra-long blade also suitable for thicker cables
- Single-component handle with wide VDE collar for safe working
- Inductively hardened precision blades
- Burner port for gripping round materials
- Surface entirely ground and chrome-plated
- Lap joint



VDE combination pliers DIN ISO 5746 IEC 60900

For gripping, holding and cutting hard and soft wires and cables

Art. No.	0714 01 574	0714 01 575	0714 01 576
Length (L)	160 mm	180 mm	200 mm
Length in inches (L)	6-1/4 in	7 in	8 in
Max. medium wire diameter cutting capacity	3.1 mm	3.4 mm	3.8 mm
Max. hard wire diameter cutting capacity	2 mm	2.2 mm	2.5 mm
Max. cable diameter cutting capacity in aluminium/copper	10 mm	12 mm	13 mm
P. Qty./unit	1 / 10	1 / 10	1 / 10

Art.-No.	0715 01 81	0715 01 82	0715 01 83
Length (L)	165 mm	180 mm	200 mm
Length in inches (L)	6-1/4 in	7 in	8 in
Max. medium wire diameter cutting capacity	3,1 mm	3,4 mm	3,8 mm
Max. hard wire diameter cutting capacity	2 mm	2,2 mm	2,5 mm
Max. cable diameter cutting capacity in aluminium/copper	10 mm	12 mm	13 mm
P. Qty./unit	1/10	1/10	1/10



VDE-Flachrundzange DIN ISO 5745 IEC 60900

Zum Greifen, Halten sowie Schneiden weicher und harter Drähte und Kabel

- Unter Beachtung der vorgeschriebenen Sicherheitsmaßnahmen, für Arbeiten unter Spannung bis 1.000 Volt (AC), bis 1.500 Volt (DC)
- Hochwertiger Werkzeug-Stahl gewährleistet lange Standzeit der Präzisionsspitzen und Schneidflächen
- Elastische Spitzen für hohe Beanspruchung, insbesondere bei Biegebelastung
- Ergonomischer und rutschfester 2-Komponenten-Komfortgriff mit breitem VDE-Kragen für sicheres Arbeiten
- Schneiden sind zusätzlich induktiv gehärtet
- Oberfläche ist rundum geschliffen und verchromt
- Greifflächen sind gezahnt
- Eingelegtes Gelenk



Art.-Nr.	0714 01 577	0714 01 578	0714 01 579	0714 01 596
Länge (L)	210 mm	210 mm	160 mm	160 mm
Länge Zoll (L)	8-1/4 in	8-1/4 in	6-1/2 in	6-1/2 in
Backenlänge (L3)	76 mm	72 mm	50 mm	46 mm
Backenbreite (W3)	17,5 mm	17,5 mm	16,5 mm	16,5 mm
Backendicke (T1)	9,5 mm	9,5 mm	9 mm	9 mm
Winkel der Backen		40 Grad		40 Grad
Backenspitzenbreite (W4)	4 mm	4 mm	3 mm	3 mm
Backenspitzendicke (T2)	3 mm	3 mm	2,5 mm	2,5 mm
ISO	5745	5745	5745	5749
VE/Stück	1/10	1/10	1/10	1/10

VDE-Flachrundzange mit Schneide DIN ISO 5745 IEC 60900

Zum Greifen und Halten sowie Schneiden weicher und harter Drähte und Kabel

- Unter Beachtung der vorgeschriebenen Sicherheitsmaßnahmen, für Arbeiten unter Spannung bis 1.000 Volt (AC), bis 1.500 Volt (DC)
- Hochwertiger Werkzeug-Stahl gewährleistet lange Standzeit der Präzisionsspitzen und Schneidflächen
- Elastische Spitzen für hohe Beanspruchung, insbesondere bei Biegebelastung
- 1-Komponenten-Griff mit breitem VDE-Kragen für sicheres Arbeiten
- Induktiv gehärtet Schneiden
- Oberfläche rundum geschliffen und verchromt
- Gezahnte Greifflächen
- Eingelegtes Gelenk



Länge (L)	210 mm
Länge Zoll (L)	8-1/4 in
Backenlänge (L3)	74 mm
Backenbreite (W3)	17,5 mm
Backendicke (T1)	9,5 mm
Backenspitzenbreite (W4)	3 mm
Backenspitzendicke (T2)	2,5 mm
Werkstoff	Stahl
Oberfläche	Verchromt
ISO	5745
Werkstoff Griff	Kunststoff

Art.-Nr.	0715 01 85	0715 01 86
Winkel der Backen		45 Grad
VE/Stück	1/10	1/10



Pliers

VDE round-nose pliers DIN ISO 5745 IEC 60900

For bending wire eyelets

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long service life of precision tips
- Ergonomic and non-slip 2-component comfort handle with wide VDE collar for safe working
- Surface: Entirely ground and chromium-plated
- Jaws: Round, smooth
- Joint: Lap joint

Length: 160 mm

Art. No. 0714 01 595

P. Qty./unit 1/10



VDE electrical installation pliers IEC 60900

3 tools in one set of pliers: For cutting, stripping and removing insulation from electrical cables.

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- Easy to use, no need to switch tools
- Side cutter function, cable and insulation stripping in ergonomic pulling motion

Length: 170 mm

Art. No. 0714 01 588

P. Qty./unit 1



VDE snipe nose pliers DIN ISO 5745 IEC 60900

For bending wire eyelets

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long service life of precision tips
- 1-component handle with wide VDE collar for safe working
- Surface entirely ground and chromium-plated
- Round, smooth jaws
- Lap joint

Length: 160 mm

Art. No. 0715 01 84

P. Qty./unit 1/10



VDE snipe nose pliers DIN ISO 5745, IEC 60900

For gripping and holding

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long service life of gripping jaws
- 1-component handle with wide VDE collar for safe working
- Surface entirely ground and chromium-plated
- Serrated gripping surfaces
- Lap joint

Length: 160 mm

Art. No. 0715 01 91

P. Qty./unit 1/10



VDE side cutters DIN ISO 5749 IEC 60900

For cutting hard and soft wires and cables, including in hard-to-reach places

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- Strength-saving, clean cutting thanks to milled precision cutting edge
- High-quality tool steel ensures long tool life and precision of cutting surfaces

Art. No.	0714 01 571	0714 01 572	0714 01 573
Length (L)	140 mm	160 mm	180 mm
Max. medium wire diameter cutting capacity	2.5 mm	2.8 mm	3 mm
Max. hard wire diameter cutting capacity	1.8 mm	2 mm	2.5 mm
P. Qty./unit	1/10	1/10	1/10



VDE power side cutters DIN ISO 5749, IEC 60900

For cutting piano wire, hard and soft wire

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- Strength-saving, clean cutting thanks to milled precision cutting edge
- High-quality tool steel ensures long tool life and precision of blades including under maximum stresses
- Ergonomic and slip-free 2-component comfort handle with wide VDE collar for secure working
- Blades: inductively hardened precision blades
- Surface: entirely ground and chrome-plated
- Joint: Lay-on, axis forged on

Length: 200 mm

Art. No. 0714 01 597

P. Qty./unit 1/10



VDE side cutters, DIN ISO 5749 IEC 60900

For cutting hard and soft wires and cables, including in hard-to-reach places

- For working on live parts up to 1000 V (AC) and up to 1500 V (DC), observing all prescribed safety precautions
- Strength-saving, clean cutting thanks to milled precision cutting edge
- High-quality tool steel ensures long service life and precision of cutting surfaces
- Slim head shape for optimum accessibility
- 1-component comfort handle with wide VDE collar for secure working
- Cutting edges: Inductively hardened, precision cutting edges
- Surface: Entirely ground and chrome-plated
- Joint: Lap joint

Length: 140 mm

Art. No. 0715 01 87

P. Qty./unit 1/10

Length: 160 mm

Art. No. 0715 01 88

P. Qty./unit 1/10



VDE heavy-duty side cutters, DIN ISO 5749 IEC 60900

For cutting piano wire, hard and soft wire

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- Strength-saving, clean cutting thanks to milled precision cutting edge
- High-quality tool steel ensures long service life and precision of blades, even under maximum loads
- Single-component handle with wide VDE collar for safe working
- Inductively hardened precision blades
- Surface entirely ground and chrome-plated
- Lap joint with forged-on axis

Length: 180 mm

Art. No. 0715 01 89

P. Qty./unit 1/10



Pliers

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VDE cable shears with dual blade

**For cutting copper and aluminium cable;
for precutting and recutting**

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long tool life and precision of cutting surfaces
- Special blade geometry facilitates easy and distortion-free cutting action through single or multi-stranded cable
- 2-stage operation with dual blades for optimum transmission of forces
- Ergonomic and slip-free 2-component comfort handle with wide VDE collar for safe working
- Cutting: hardened precision blades
- Surface: ground and chrome-plated
- Joint: bolted and adjustable

Length: 210 mm

Art. No. 0714 01 586

P. Qty./unit 1/10



VDE cable cutters with single blade

For cutting copper and aluminium cable

- For working on live parts up to 1000 V (AC) and up to 1500 V (DC), observing all prescribed safety precautions
- Long service life and precision of cutting surfaces
- Easy and distortion-free cutting action through single- or multi-stranded cable
- Optimal power transmission
- Ergonomic and non-slip 2-component comfort handle with wide VDE collar
- Hardened, precision cutting edges
- Surface ground and chromium-plated
- Bolted and adjustable joint

Length: 160 mm

Art. No. 0714 01 585

P. Qty./unit 1/10



VDE cable shears, forged head

IEC 60900. For multi-stranded copper and aluminium cable

- For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC), observing all prescribed safety precautions
- High-quality tool steel ensures long service life and precision of cutting surfaces
- Special blade geometry facilitates easy and distortion-free cutting action through single or multi-stranded cable
- 1-component handle with wide VDE collar for safe working
- Cutting: hardened precision blades
- Surface: ground and chromium-plated
- Joint: bolted and adjustable

Length: 170 mm

Art. No. 0715 07 55

P. Qty./unit 1/10



VDE one-hand ratchet cutters

EN 60900, IEC 900

- Handle: Insulated sleeve, Non-slip
- Blade: For multi-strand copper and aluminium cables, Works without compressing cables, Hardened, Precision-ground
- Shears can be unlocked in any cutting position
- Pivot arms: One-handed operation, optimum lever transmission
- Joint: Ratchet mechanism

Length: 280 mm

Art. No. 0715 07 56

P. Qty./unit 1



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VDE cable shears

Standard: EN 60900. IEC 900.

- Handles: Dip-insulated plastic, impact-resistant
- Cutting edge: Hardened, precision-ground -> works without compressing cables
- Pivot arms: Lever transmission -> i.e. minimal force required
- Joint: Screw joint, adjustable
- Head: Forged special steel, replaceable
- Application: Cutting, sheath stripping

Length: 580 mm

Art. No. 0715 07 53

P. Qty./unit 1



Insulated Safety Clamp 1000V

Art. No. 5997 770 866

P. Qty./unit 1



Pliers

VDE gripping pliers Made of insulated plastic

Particularly suitable for applications in electromobility

- Reduces the risk of short circuit thanks to the purely plastic design
- Comfortable working thanks to the 2-component handles with their soft and non-slip grip zone
- Robust pliers shape due to the fibreglass-reinforced plastic

Art. no.	0714 01 605
Length (L)	180 mm
Jaws length	34 mm
Jaws width	32 mm
Jaw-tips thickness	11 mm
Jaw-tips width	9 mm
Standards	EN 60900
Jaw design	Flat grooves
Product weight (per item)	120 g
Material	Plastic reinforced with glass fibre
Material of grip handle	TPE (rubber)
P. Qty./unit	1



VDE snipe nose pliers Made of insulated plastic

Particularly suitable for applications in electromobility

- Reduces the risk of short circuit thanks to the purely plastic design
- Comfortable working thanks to the 2-component handles with their soft and non-slip grip zone
- Robust pliers shape due to the fibreglass-reinforced plastic

Art. no.	0714 01 606
Length (L)	220 mm
Jaws length	75 mm
Jaws width	32 mm
Jaw-tips thickness	5 mm
Jaw-tips width	10 mm
Standards	EN 60900
Jaw design	Straight shape, Fine grooves
Product weight (per item)	130 g
Material	Plastic reinforced with glass fibre
Material of grip handle	TPE (rubber)
P. Qty./unit	1



Live-line Plastic clamp

Insulated plastic clamp for fixing tarpaulins.

Art. no.	0714 01 607
Jaws width	15 mm
Min. width of mouth	35 mm
Grip force	25 N
Width	106 mm
Length	150 mm
Product weight (per item)	60 g
P. Qty./unit	1



WHAT DOES



MEAN?

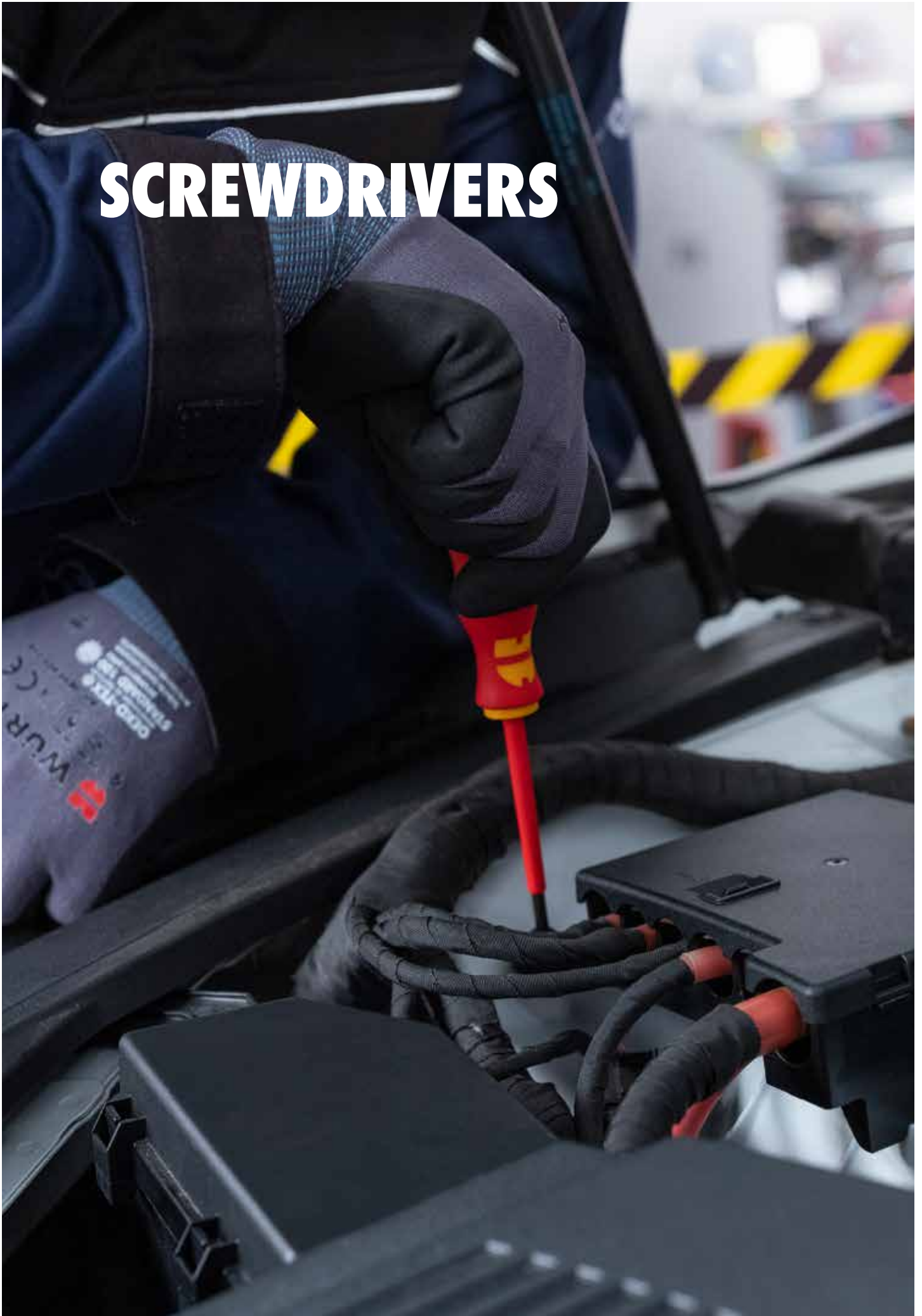
VDE tools are suitable for working on live parts up to 1000 V (AC) and up to 1500 V (DC), observing all prescribed safety precautions.

VDE is the German abbreviation for “**Association for Electrical, Electronic and Information Technologies**”, which is based in Germany and approves additionally product quality and the compliance with further high safety standards.

Once the yellow coating becomes visible, the tool is no longer usable and must be replaced.



SCREWDRIVERS



VDE precision screwdriver, flat slotted

For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC)

- Individually tested in water bath with 10 kV test voltage
- Marked with year of manufacture
- Cold impact test at -40°C (marking C)
- Blade: Circular blade insulated, burnished
- Output: DIN 5264-A, ISO 2380

Thickness of cutting edge x width of cutting edge	Blade length	Art. No.	P. Qty./unit
0.3 x 1.5 mm	40 mm	0613 486 015	1/10
0.3 x 1.8 mm	60 mm	0613 486 018	1/10
0.4 x 2 mm	60 mm	0613 486 020	1/10
0.4 x 2.5 mm	75 mm	0613 486 025	1/10
0.5 x 3 mm	75 mm	0613 486 030	1/10



VDE precision screwdriver, PH recessed head

For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC)

- Routine test in water bath with test voltage 10 kV, identification marking with the year of manufacture
- Cold impact test at -40°C (marking C)
- Blade: Circular blade, insulated, bronzed, drive: ISO 8764-PH

Art. No.	0613 487 0	0613 487 00
Tip size	PH0	PH00
Blade length	60 mm	40 mm
P. Qty./unit	1/10	1/10



VDE precision screwdriver assortment, slotted/PH

7 pieces. Consisting of five slot and two Phillips screwdrivers.

Art. No. 0613 489 4

P. Qty./assortment 1



Contents for Art. No.

0613 489 4 VDE precision screwdriver, flat slotted: **1 x** 0.3 x 1.5 mm, **1 x** 0.3 x 1.8 mm, **1 x** 0.4 x 2 mm, **1 x** 0.4 x 2.5 mm, **1 x** 0.5 x 3 mm; VDE precision screwdriver, PH recessed head: **1 x** 0, **1 x** 00

Screwdrivers

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VDE screwdriver set

14-piece set comprising a handle, a precision engineering rotating cap and 12 interchangeable blades

Contents for Art. No.

0613 900 14	1 x Handle VDE; Replacement blade VDE: 1 x Slot, 0.4 x 2.5 mm, Length: 150 mm, 1 x Slot, 0.5 x 3.0 mm, Length: 175 mm, 1 x Slot, 0.6 x 3.5 mm, Length: 175 mm, 1 x Slot, 0.8 x 4.0 mm, Length: 175 mm, 1 x Slot, 1.0 x 5.5 mm, Length: 175 mm, 1 x Slot, 1.2 x 6.5 mm, Length: 175 mm, 1 x PH1, Length: 155 mm, 1 x PH2, Length: 175 mm, 1 x PZ2, Length: 175 mm, 1 x TX10, Length: 175 mm, 1 x TX15, Length: 175 mm, 1 x TX25, Length: 175 mm
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Art. No. 0613 900 14

P. Qty./assortment 1

VDE screwdriver set slotted/PZ recessed head

5 pcs: 1 x slotted 0.4 x 2.5; 1 x slotted 0.8 x 4.0; 1 x slotted 1.2 x 6.5; 1 x PZ1; 1 x PZ2

- Blade: Burnished, insulated
- Standard: Individually tested in line with IEC 60900:2004

Contents for Art. No.

0613 963 35	VDE screwdriver Flat slotted: 1 x Slot, 0.4 x 2.5 mm, 1 x Slot, 0.8 x 4.0 mm, 1 x Slot, 1.2 x 6.5 mm; VDE screwdriver PZ recessed head: 1 x 1, 1 x 2
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Art. No. 0613 963 35

P. Qty./unit 1



VDE screwdriver set, slotted/PH recessed head

5 pieces

- Blade: bronzed, insulated
- Standard: Individually tested in accordance with IEC 60900:2004

Contents for Art. No.

0613 963 25	VDE screwdriver Flat slotted: 1 x Slot, 0.4 x 2.5 mm, 1 x Slot, 0.8 x 4.0 mm, 1 x Slot, 1.2 x 6.5 mm; VDE screwdriver PH recessed head: 1 x 1, 1 x 2
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Art. No. 0613 963 25

P. Qty./assortment 1



Replacement blade VDE

For VDE screwdrivers

Length: 155 mm

Art. No. 0613 900 01

P. Qty./unit 1/12

Length: 175 mm

Art. No. 0613 900 02

P. Qty./unit 1/12



Replacement blade VDE

For VDE screwdrivers

Length: 150 mm

Art. No. 0613 900 025

P. Qty./unit 1/12

Length: 175 mm

Art. No. 0613 900 030

P. Qty./unit 1/12

Length: 175 mm

Art. No. 0613 900 035

P. Qty./unit 1/12

Length: 175 mm

Art. No. 0613 900 040

P. Qty./unit 1/12



Handle VDE

For VDE replacement blades

Art. No. 0613 900 1

P. Qty./unit 1/12



VDE screwdriver set slotted/PH

5 pieces. Extra slim design.

- Blade burnished, reduced blade insulation diameter in critical working area
 - Effortless access to low-lying screw and spring elements
 - Prevents insulation from fraying
- Screw symbol on end of handle

Contents for Art. No.

0613 963 250	VDE screwdriver, flat slotted, ultra slim: 1 x 0.4 x 2.5 mm, 1 x 0.8 x 4 mm, 1 x 1 x 5.5 mm; VDE screwdriver, PH recessed head, extra slim: 1 x PH1, 1 x PH2
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Art. No. 0613 963 250

P. Qty./unit 1



VDE screwdriver TX set

6 pieces

- Blade: Burnished, insulated
- Tip: TX socket, Black Point
- Screw symbol and handle size on end of handle for quick identification
- Standard: IEC 60900:2012

Contents for Art. No.

0613 962 35	VDE screwdriver, TX: 1 x 8, 1 x 9, 1 x 10, 1 x 15, 1 x 20, 1 x 25, 1 x 30
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Art. No. 0613 962 35

P. Qty./assortment 1



Screwdrivers

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VDE screwdriver Flat slotted

For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC)

- Blade: Burnished, insulated
- Tip: Based on DIN ISO 2380-1-B
- Individually tested in water bath with 10 kV test voltage
- Marked with year of manufacture
- Stricter cold impact test



Thickness of cutting edge x width of cutting edge	Blade length (A)	Handle length/handle width (B / C)	Art. No.	P. Qty./unit
0.4 x 2.5 mm	80 mm	83/27 mm	0613 631 025	1
0.5 x 3 mm	100 mm	83/27 mm	0613 631 03	1
0.6 x 3.5 mm	100 mm	83/27 mm	0613 631 035	1
0.8 x 4 mm	100 mm	83/27 mm	0613 631 04	1
1 x 5.5 mm	125 mm	96/31 mm	0613 631 055	1
1.2 x 6.5 mm	150 mm	106/35 mm	0613 631 065	1
1.2 x 8 mm	175 mm	114/38 mm	0613 631 08	1
1.6 x 8 mm	200 mm	114/38 mm	0613 631 082	1
1.6 x 10 mm	200 mm	114/38 mm	0613 631 10	1



VDE screwdriver, flat slotted, ultra slim

Effortless access to deep-seated screw and spring elements.

- Insulation with reduction of blade diameter in critical working area
- Prevents fraying of insulation
- Screw symbol on end of handle
- Tip: DIN ISO 2380-1-A
- Blade: Burnished



Art. No.	0613 631 25	0613 631 35	0613 631 40	0613 631 55
Thickness of cutting edge x width of cutting edge	0.4 x 2.5 mm	0.6 x 3.5 mm	0.8 x 4 mm	1 x 5.5 mm
Blade length (A)	80 mm	100 mm	100 mm	125 mm
Handle length/handle width (B / C)	83/27 mm	83/27 mm	83/27 mm	96/31 mm
P. Qty./unit	1	1	1	1



VDE screwdriver PH recessed head

For working on live parts up to 1000 V (AC) and up to 1500 V (DC)

- Blade: burnished, insulated
- Tip: In accordance with DIN ISO 8764-1-PH
- Individually tested in water bath with 10 kV test voltage
- Marked with year of manufacture
- Stricter cold impact test



Tip size	Blade length (A)	Handle length/handle width (B / C)	Art. No.	P. Qty./unit
PH0	80 mm	83/27 mm	0613 632 0	1
PH1	80 mm	96/31 mm	0613 632 1	1
PH2	100 mm	106/35 mm	0613 632 2	1
PH3	150 mm	114/38 mm	0613 632 3	1
PH4	200 mm	114/38 mm	0613 632 4	1



VDE screwdriver for hexagon head

For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC)

- Blade: burnished, insulated
- Tip: DIN 475/2
- Standard: DIN 7445, IEC 60900:2012



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Width across flats	Handle length/handle width	Length	Art. No.	P. Qty./unit
5.5 mm	96/31 mm	221 mm	0613 636 055	1
6 mm	96/31 mm	221 mm	0613 636 06	1
7 mm	106/35 mm	231 mm	0613 636 07	1
8 mm	106/35 mm	231 mm	0613 636 08	1
9 mm	106/35 mm	231 mm	0613 636 09	1
10 mm	106/35 mm	231 mm	0613 636 10	1
12 mm	114/38 mm	239 mm	0613 636 12	1
13 mm	114/38 mm	239 mm	0613 636 13	1

VDE screwdriver, hexagon socket

For working on live parts up to 1000 V (AC) and up to 1500 V (DC)

- Blade: Burnished, insulated
- Output: DIN 7439



Tip size	Blade length	Handle length/handle width	Art. No.	P. Qty./unit
2.5 mm	80 mm	83/27 mm	0613 635 025	1
3 mm	80 mm	83/27 mm	0613 635 03	1
4 mm	80 mm	96/31 mm	0613 635 04	1
5 mm	80 mm	106/35 mm	0613 635 05	1
6 mm	100 mm	106/35 mm	0613 635 06	1
8 mm	100 mm	114/38 mm	0613 635 08	1



VDE screwdriver, PH recessed head, extra slim

Effortless access to deep-seated screw and spring elements.

- Insulation with reduction of blade diameter in critical working area
- Prevents fraying of insulation
- Screw symbol on end of handle
- Tip: DIN ISO 8764-I-PH
- Blade: Burnished



Art. No.	0613 632 10	0613 632 20
Tip size	PH1	PH2
Blade length (A)	80 mm	100 mm
Handle length/handle width (B / C)	96/31 mm	106/35 mm
P. Qty./unit	1	1

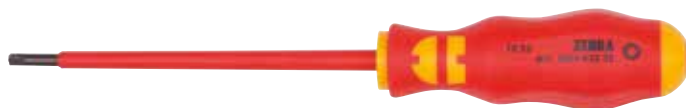


Screwdrivers

VDE screwdriver, TX

For working on live parts up to 1000 volts (AC) and up to 1500 volts (DC)

- Blade: burnished, insulated
- Output: TX socket, Black Point
- Screw symbol and handle size on end of handle for quick identification
- Standard: IEC 60900:2012



Tip size	Blade length	Handle width (Griffb.)	Handle length	Length	Art. No.	P. Qty./unit
TX8	100 mm	27 mm	83 mm	183 mm	0613 623 08	1
TX9	100 mm	27 mm	83 mmw	183 mm	0613 623 09	1
TX10	100 mm	27 mm	83 mm	183 mm	0613 623 10	1
TX15	100 mm	31 mm	96 mm	196 mm	0613 623 15	1
TX20	125 mm	31 mm	96 mm	121 mm	0613 623 20	1
TX25	125 mm	35 mm	106 mm	231 mm	0613 623 25	1
TX30	150 mm	35 mm	106 mm	256 mm	0613 623 30	1



⚡ 1000 V



VDE screwdriver PZ recessed head ultra-slim

Effortless access to deep-seated screw and spring elements.

- Insulation with reduction of blade diameter in critical working area
- Prevents fraying of insulation
- Screw symbol printed on handle end for quick identification
- Ultra-slim design



Application area

Switch cabinets and distributor boxes, circuit breakers, terminal blocks and relays.

Proof of Performance

Individually tested in accordance with IEC 60900:2004.

Tip size	Blade length (A)	Handle length/ handle width (B / C)	Art. No.	P. Qty./unit
PZ1	80 mm	96/31 mm	0613 633 10	1
PZ2	100 mm	106/35 mm	0613 633 20	1



⚡ 1000 V



VDE screwdriver PZ recessed head

For working on live parts up to 1000 V (AC) and up to 1500 V (DC)

- Blade: burnished, insulated
- Tip type: ISO 8764-PZ
- Standard: DIN 7438, IEC 60900:2012



Tip size	Blade length (A)	Handle length/ handle width (B / C)	Art. No.	P. Qty./unit
PZ0	80 mm	83/27 mm	0613 633 0	1
PZ1	80 mm	96/31 mm	0613 633 1	1
PZ2	100 mm	106/35 mm	0613 633 2	1
PZ3	150 mm	114/38 mm	0613 633 3	1



⚡ 1000 V



Insulated Star* Screwdriver

Fully insulated VDE Star* screwdriver, to IEC60900 standard, for live working.



Tip size	Art. No.	P. Qty./unit
TX10	5997 770 856	1
TX15	5997 770 857	1
TX20	5997 770 858	1
TX25	5997 770 859	1
TX30	5997 770 860	1

Insulated Screwdriver Set 7pc

Fully insulated, VDE screwdriver set in Phillips and Flat profiles, with black tips, to IEC60900 standard for live working.

Art. No. 5997 770 865

P. Qty./unit 1



Insulated Nut Driver Set 7pc

VDE Nut driver set manufactured from chrome vanadium, ideal for buried wiring harness covers.

Art. No. 5997 770 867

P. Qty./unit 1



PzDrive Insulated Screwdriver

Fully insulated VDE Pozi drive screwdriver manufactured from chrome molybdenum with a soft grip handle and featuring a slim profile blade, suitable for use on fixings with limited access. VDE certified for safe operator use on live circuits up to 1000v AC and 1500v DC. Ideal for use electricians, auto electricians or mechanics working on hybrid and electric vehicles.

size	Art. No.	P. Qty./unit
Pz1 x 100mm	5997 770 823	1
Pz2 x 100mm	5997 770 824	1
Pz3 x 150mm	5997 770 825	1



Hybrid/EV Roller Cabinet 7 Drawer with Brackets

A customised 7 drawer lockable tool cabinet, for securely storing and organising Hybrid / EV tools and safety equipment in one place. It can be set up in the workshop and moved next to the vehicle being worked on, within the restricted area, ensuring the technician has the hybrid/EV tools and PPE required easily to hand. It features customised external supports for storing safety barrier posts and bases, together with a bracket for an insulated rescue pole, freeing up valuable storage space and keeping equipment located together.

Art. No. 5997 770 807

P. Qty./unit 1

ORSY

NEW!



SYSTEM ASSORTMENT KIT



P.Qty. 1 Art.no 0988 018 644

Content below:



SYSTEM ASSORTMENT 4.4.1, PLIERS VDE
6pcs

Art. no. 0965 905 607
P.Qty./unit 1



SYSTEM ASSORTMENT 2.4.1, SOCKET WRENCH 3/8 INCH HEXAGON

6pcs
Art. no. 0965 905 428
P.Qty./unit 1



SYSTEM ASSORTMENT 4.4.1, SOCKET WRENCH 3/8 INCH

17pcs
Art. no. 0965 905 427
P.Qty./unit 1



SYSTEM ASSORTMENT 2.4.1, WRENCH 3/8 INCH TX SHORT

6pcs
Art. no. 0965 905 424
P.Qty./unit 1



SYSTEM ASSORTMENT 4.4.1, SINGLE OPEN-END WRENCH VDE
6pcs

Art. no. 0965 905 426
P.Qty./unit 1



SYSTEM WORKSHOP TROLLEY BASIC 8.8, EMPTY

Art. no. 0962 647 100
P.Qty./unit 1



SYSTEM ASSORTMENT 4.4.1, BOX-END WRENCH VDE

9pcs
Art. no. 0965 905 422
P.Qty./unit 1



SYSTEM ASSORTMENT 4.4.1, SOCKET WRENCH 1/2 INCH VDE

8pcs
Art. no. 0965 905 425
P.Qty./unit 1



SYSTEM ASSORTMENT 4.4.1, SCREWDRIVER VDE

14pcs
Art. no. 0965 905 415
P.Qty./unit 1



SYSTEM ASSORTMENT 6.4.1, SOCKET WRENCH 1/2 INCH

17pcs
Art. no. 0965 905 421
P.Qty./unit 1

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EV Battery Lifting Frame - for 4/6 Point Lifting SWL 700kg

A fully adjustable and universal EV battery lifting system, suitable for all types of underslung/skateboard style of EV batteries (max SWL: 700kg), suitable for both four and six point lifting requirements.

Art. No. 5997 770 796

P. Qty./unit 1



EV Battery Adjustable Mobile Bench SWL 800kg

Adjustable mobile bench, specifically designed to aid the removal of underslung EV batteries (max Safe Working Load: 800kg) from the vehicle and move them around the workshop for safe storage and/or repair.

Art. No. 5997 770 813

P. Qty./unit 1



Electro-Hydraulic Table Lift - 1 Tonne

A mobile 230V electro-hydraulic table lift with an adjustable, tilting, lifting platform which allows easy access under the vehicle for disassembly and removal of EV battery packs, engines and transmissions. Fitted with a wooden composite table surface with specially milled openings for easy battery fastener/EV connection or transmission access. Two models available: 1.0 and 1.4 tonne capacity.

Art. No. 5997 762 744

P. Qty./unit 1



Electro-Hydraulic Table Lift – 1.4 Tonne

A mobile 230V electro-hydraulic table lift with an adjustable, tilting, lifting platform which allows easy access under the vehicle for disassembly and removal of EV battery packs, internal combustion engines and transmissions. Fitted with a composite wooden table surface with specially milled openings for easy battery fastener/EV connection or transmission access. Two models are available: 1.0 and 1.4 tonne capacity.

Art. No. 5997 762 745

P. Qty./unit 1



**System assortment 6.4.1,
pliers VDE
6 pieces**

ORSY

Width x height x depth:

345 x 38 x 335 mm

Art. no. 0965 905 413

P. Qty./unit 1



Contents for art. no.	
0965 905 413	1 x VDE snipe nose pliers, angled; 1 x VDE electrical installation pliers IEC 60900; VDE snipe nose pliers DIN ISO 5745, IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900; 1 x VDE cable cutters with single blade; 1 x VDE cable shears with dual blade; 1 x System insert screwdriver set 6.4.1 6 pcs

**System assortment 2.4.1,
precision mechanic's
screwdrivers VDE
7 pieces**

ORSY

Width x height x depth:

115 x 38 x 335 mm

Art. no. 0965 905 414

P. Qty./unit 1



Contents for art. no.	
0965 905 414	VDE precision screwdriver, flat slotted: 1 x Slot 3 mm, 1 x Slot 2.5 mm, 1 x Slot 2 mm, 1 x Slot 1.8 mm; VDE precision screwdriver, PH recessed head: 1 x PH0, 1 x PH00, 1 x Slot 1.5 mm; 1 x System insert screwdriver set precision 2.4.1 7 pcs

**System assortment 4.4.1,
screwdriver VDE
14 pieces**

ORSY

Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 415

P. Qty./unit 1



Contents for art. no.	
0965 905 415	Replacement blade VDE: 1 x Slot 2.5 mm, 1 x Slot 3.0 mm, 1 x Slot 3.5 mm, 1 x Slot 4.0 mm, 1 x Slot 5.5 mm, 1 x Slot 6.5 mm, 1 x PH1, 1 x PH2, 1 x PZ2, 1 x TX10, 1 x TX15, 1 x TX20; 1 x Handle VDE; 1 x System insert screwdriver set VDE 14 pcs

**System assortment 4.4.1,
screwdrivers VDE TX
6 pieces**

ORSY

Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 416

P. Qty./unit 1



Contents for art. no.	
0965 905 416	VDE screwdriver, TX: 1 x TX8, 1 x TX9, 1 x TX10, 1 x TX15, 1 x TX20, 1 x TX25; 1 x System insert screwdriver set VDE TX 4.4.1 6 pcs

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System assortment 4.4.1, screwdrivers VDE hexagon head

8 pieces

Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 418

P. Qty./unit 1



Contents for art. no.

0965 905 418	VDE screwdriver for hexagon head: 1 x 5.5 mm, 1 x 6 mm, 1 x 7 mm, 1 x 8 mm, 1 x 9 mm, 1 x 10 mm, 1 x 12 mm, 1 x 13 mm; 1 x Screwdriver set VDE hexagon 4.4.1 8 pieces
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System assortment 6.4.1, socket wrench 1/2 inch

17 pieces

Width x height x depth:

346 x 38 x 335 mm

Art. no. 0965 905 421

P. Qty./unit 1



Contents for art. no.

0965 905 421	1 x VDE 1/2 inch reversible ratchet; 1 x VDE 1/2 inch extension; VDE 1/2 inch socket wrench Metric, hexagon, short: 1 x 10 mm, 1 x 11 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 15 mm, 1 x 16 mm, 1 x 17 mm, 1 x 19 mm, 1 x 21 mm; VDE 1/2 inch socket wrench Hexagon socket: 1 x 4 mm, 1 x 5 mm, 1 x 6 mm, 1 x 8 mm, 1 x 10 mm
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System assortment 8.4.1, socket wrenches 3/8 inch VDE

24 pieces

Width x height x depth:

462 x 38 x 335 mm

Art. no. 0965 905 417

P. Qty./unit 1



Contents for art. no.

0965 905 417	3 x Insulating caps 3.5 kV; 2 x Electrical insulating tape; VDE box-end wrench: 1 x 17 mm, 1 x 14 mm, 1 x 13 mm, 1 x 12 mm, 1 x 10 mm, 1 x 8 mm; 1 x VDE 3/8 inch extension; 1 x VDE 3/8 inch ratchet; 3/8 inch VDE socket wrench Metric, hexagon, long: 1 x 8 mm, 1 x 10 mm; 1 x 3/8 inch VDE socket wrench Metric, hexagon, long 12 mm; 3/8 inch VDE socket wrench Metric, hexagon, short: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 17 mm; 1 x 3/8 inch VDE socket wrench Hexagon socket 4 mm; 1 x System insert socket wrench set VDE 8.4.1 24 pcs
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System assortment 4.4.1, VDE SL/PH screwdrivers

Five pieces

Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 419

P. Qty./unit 1



Contents for art. no.

0965 905 419	VDE screwdriver, flat slotted, ultra slim : 1 x 0.4 x 2.5 mm, 1 x 0.8 x 4 mm, 1 x 1 x 5.5 mm; VDE screwdriver, PH recessed head, extra slim: 1 x PH1, 1 x PH2
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**System assortment 2.4.1,
socket wrench 3/8 inch TX short
6 pieces**

ORSY

Width x height x depth:

115 x 38 x 335 mm

Art. no. 0965 905 424

P. Qty./unit 1



Contents for art. no.	
0965 905 424	3/8 inch VDE socket wrench TX short: 1 x , 1 x , 1 x , 1 x , 1 x , 1 x

**System assortment 4.4.1,
socket wrench 1/2 inch VDE
8 pieces**

ORSY

Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 425

P. Qty./unit 1



Contents for art. no.	
0965 905 425	VDE 1/2 inch socket wrench Metric, hexagon, long: 1 x 10 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 15 mm, 1 x 17 mm, 1 x 18 mm, 1 x 19 mm

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**System assortment 4.4.1,
box-end wrench VDE
9 pieces**

ORSY

Width x height x depth:

346 x 38 x 335 mm

Art. no. 0965 905 422

P. Qty./unit 1



Contents for art. no.	
0965 905 422	VDE box-end wrench: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 15 mm, 1 x 17 mm, 1 x 18 mm, 1 x 19 mm

**System assortment 2.4.1,
socket wrench 3/8 inch TX long
6 pieces**

ORSY

Width x height x depth:

115 x 38 x 335 mm

Art. no. 0965 905 423

P. Qty./unit 1



**System assortment 4.4.1,
single open-end wrench VDE
9 pieces**



Width x height x depth:

346 x 38 x 335 mm

Art. no. 0965 905 426

P. Qty./unit 1



Contents for art. no.	
0965 905 426	VDE single open-end wrench Metric straight design: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 15 mm, 1 x 17 mm, 1 x 18 mm, 1 x 19 mm

**System assortment 4.4.1,
socket wrench 3/8 inch
17 pieces**



Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 427

P. Qty./unit 1



Contents for art. no.	
0965 905 427	1 x VDE 3/8 inch ratchet; 1 x VDE 3/8 inch extension; 3/8 inch VDE socket wrench Metric, hexagon, short: 1 x 8 mm, 1 x 10 mm, 1 x 11 mm, 1 x 12 mm, 1 x 13 mm, 1 x 14 mm, 1 x 15 mm, 1 x 16 mm, 1 x 17 mm, 1 x 19 mm; 3/8 inch VDE socket wrench Hexagon socket: 1 x 4 mm, 1 x 5 mm, 1 x 6 mm, 1 x 8 mm, 1 x 10 mm

**System assortment 2.4.1,
socket wrench 3/8 inch hexagon
6 pieces**



Width x height x depth:

115 x 38 x 335 mm

Art. no. 0965 905 428

P. Qty./unit 1



Contents for art. no.	
0965 905 428	3/8 inch VDE socket wrench Metric, hexagon, long: 1 x 8 mm, 1 x 10 mm, 1 x 12 mm; 1 x Socket wrench VDE 1/2 inch, others 13 mm; 1 x Individual Czech Republic; 1 x Socket wrench VDE 1/2 inch, others

**System assortment 4.4.1,
pliers VDE
4 pieces**



Width x height x depth:

231 x 38 x 335 mm

Art. no. 0965 905 607

P. Qty./unit 1



Contents for art. no.	
0965 905 607	1 x VDE wire stripping pliers, IEC 60900; 1 x VDE side cutters DIN ISO 5749 IEC 60900; 1 x VDE combination pliers DIN ISO 5746 IEC 60900; 1 x VDE snipe nose pliers DIN ISO 5745, IEC 60900; 1 x System insert pliers set VDE 4.4., 14 pieces

WRENCHES



Wrenches

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VDE 3/8 inch ratchet

Insulated reversible ratchet for working around live parts

- Quick release thanks to push button with safety lock
- Reversing lever for clockwise and anti-clockwise rotation

Length: 200 mm

Art. no. 0715 003 038

P. Qty./unit 1



3/8 inch VDE socket wrench

Metric, hexagon, long

Insulated socket wrench insert for working around live parts



Drive	3/8 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	80.5 mm
Sleeve depth (L3)	17 mm
Socket wrench external diameter (D1)	22.5 mm

Width across flats	Art. no.	P. Qty./unit
8 mm	0715 003 08	1
10 mm	0715 003 10	1
12 mm	0715 003 12	1

3/8 inch VDE socket wrench

Metric, hexagon, short

Insulated socket wrench insert for working around live parts



Drive	3/8 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Sleeve depth (L3)	17 mm
Socket wrench external diameter (D1)	21.9 mm

Width across flats	Art. no.	P. Qty./unit
8 mm	0715 003 108	1
10 mm	0715 003 110	1
12 mm	0715 003 112	1
13 mm	0715 003 113	1
14 mm	0715 003 114	1
17 mm	0715 003 117	1

VDE 3/8 inch extension

Insulated extension for working around live parts

- Quick-change chuck for permanent locking and fast changing of the socket wrench inserts

Length: 167 mm

Art. no. 0715 003 01

P. Qty./unit 1



VDE box-end wrench

Insulated box-end wrench for working around live parts



Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 7447

Width across flats (A)	External diameter of ring (B)	Length (L1)	Art. no.	P. Qty./unit
8 mm	19.7 mm	164 mm	0715 002 308	1
10 mm	21 mm	174 mm	0715 002 310	1
12 mm	21.5 mm	184 mm	0715 002 312	1
13 mm	23.5 mm	205 mm	0715 002 313	1
14 mm	23.5 mm	205 mm	0715 002 314	1
17 mm	26.5 mm	221 mm	0715 002 317	1

VDE 1/2 inch reversible ratchet

Insulated reversible ratchet for working around live parts

- Quick release thanks to push button with safety lock
- Reversing lever for clockwise and anti-clockwise rotation



Length: 255 mm

Art. no. 0715 005 012

P. Qty./unit 1

VDE 1/2 inch extension

Insulated extension for working around live parts

- Quick-change chuck for permanent locking and fast changing of the socket wrench inserts



Length: 140 mm

Art. no. 0715 005 01

P. Qty./unit 1

Length: 267 mm

Art. no. 0715 005 02

P. Qty./unit 1

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VDE 1/2 inch socket wrench Metric, hexagon, long

Insulated socket wrench insert for working around live parts



* 15mm size from different supplier

Drive	1/2 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	94 mm

Width across flats	Art. no.	P. Qty./unit
10 mm	5997 770 843	1
11 mm	5997 770 844	1
12 mm	5997 770 845	1
13 mm	5997 770 846	1
14 mm	5997 770 847	1
15 mm	0715 005 215	1
16 mm	5997 770 848	1
17 mm	5997 770 849	1
18 mm	5997 770 850	1
19 mm	5997 770 851	1

VDE 1/2 inch socket wrench Metric, hexagon, short

Insulated socket wrench insert for working around live parts



Drive	1/2 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	54.5 mm

Width across flats	Art. no.	P. Qty./unit
10 mm	5997 775 994	1
11 mm	5997 775 995	1
12 mm	5997 775 996	1
13 mm	5997 775 997	1
14 mm	5997 775 998	1
15 mm	5997 775 999	1
16 mm	5997 776 060	1
17 mm	5997 776 061	1
18 mm	5997 776 062	1
19 mm	5997 776 063	1

Wrenches

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3/8 inch VDE socket wrench Hexagon socket

Insulated socket wrench insert for working around live parts



Drive	3/8 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	63 mm
Blade length (L2)	16 mm
Sleeve depth (L3)	17 mm
Socket wrench external diameter (D1)	21.9 mm

Width across flats	Art. no.	P. Qty./unit
4 mm	0715 004 04	1
5 mm	0715 004 05	1
6 mm	0715 004 06	1
8 mm	0715 004 08	1
10 mm	0715 004 10	1

VDE 1/2 inch socket wrench Hexagon socket

Insulated socket wrench insert for working around live parts



Drive	1/2 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	75 mm

Width across flats	Art. no.	P. Qty./unit
4 mm	0715 005 304	1
5 mm	0715 005 305	1
6 mm	0715 005 306	1
8 mm	0715 005 308	1
10 mm	0715 005 310	1

3/8 inch VDE socket wrench TX short

Insulated socket wrench insert for working around live parts



Drive	3/8 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	60 mm
Blade length (L2)	16 mm
Sleeve depth (L3)	17 mm
Socket wrench external diameter (D1)	21.9 mm

Tip size	Art. no.	P. Qty./unit
TX10	0715 003 410	1
TX15	0715 003 415	1
TX20	0715 003 420	1
TX25	0715 003 425	1
TX27	0715 003 427	1
TX30	0715 003 430	1
TX40	0715 003 440	1

3/8 inch VDE socket wrench TX long

Insulated socket wrench insert for working around live parts



Drive	3/8 inch
Drive type	Internal square
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	122 mm
Blade length (L2)	16 mm
Sleeve depth (L3)	17 mm
Socket wrench external diameter (D1)	21.9 mm

Tip size	Art. no.	P. Qty./unit
TX10	0715 003 510	1
TX15	0715 003 515	1
TX20	0715 003 520	1
TX25	0715 003 525	1
TX27	0715 003 527	1
TX30	0715 003 530	1
TX40	0715 003 540	1

Insulated Extra Long Star* Socket 3/8"D TX15

IEC60900 approved, 1000V, for Star* (Torx®) fixings.



Torx Size	Art. no.	P. Qty./unit
TX15	5997 770 814	1
TX25	5997 770 815	1
TX30	5997 770 816	1
TX40	5997 770 817	1

VDE Insulated Torque Wrench 3/8"D

A fully insulated click type torque wrench, manufactured to IEC60900 standards for 1000vAC / 1500vDC live working, ideal for use on hybrid and electric vehicles. It features an easy to read scale, has a range of 6-30Nm, and is adjusted by a pull-out collar at the base of the handle in 0.1Nm increments.



Size	Art. no.	P. Qty./unit
5 - 25Nm	5997 603 955	1
6 - 30Nm	5997 770 827	1
10 - 60Nm	5997 770 822	1
20 - 100Nm	5997 770 820	1

Insulated Locking Extension Bar 1/2"D

A 125mm insulated 1/2"D extension bar featuring a socket locking mechanism, with a fully insulated pull-back quick release collar, designed to protect up to 1000V for use on hybrid and electric vehicles. VDE certified.



Size	Art. no.	P. Qty./unit
125mm	5997 770 818	1
250mm	5997 770 819	1

Wrenches

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VDE 3/8 inch T-handle

Insulated T-handle for working around live parts

- Quick-change chuck for permanent locking and fast changing of the socket wrench inserts



Art. no.	0715 003 03
Tip size	3/8 inch
Material of grip handle	2-component plastic
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3120 DIN 3124
Length (L1)	210 mm
Handle width (L2)	160 mm
Socket wrench external diameter (D1)	17 mm
P. Qty./unit	1

VDE 1/2 inch T-handle

Insulated T-handle for working around live parts

- Quick-change chuck for permanent locking and fast changing of the socket wrench inserts



Art. no.	0715 005 03
Tip size	1/2 inch
Material of grip handle	2-component plastic
Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 3124 DIN 3120
Length (L1)	209 mm
Handle width (L2)	160 mm
Socket wrench external diameter (D1)	20 mm
P. Qty./unit	1

VDE single open-end wrench Metric straight design

Insulated single open-end wrench for working around live parts



Surface	VDE insulated
Material	Chrome-vanadium steel
Standards	EN 60900 DIN 7446

Width across flats	External dimension of wrench head (B)	Handle diameter (C)	Length (L1)	Handle length (L2)	Art. no.	P. Qty./unit
8 mm	23 mm	16.3 mm	104 mm	65 mm	0715 002 408	1
10 mm	25 mm	17.2 mm	114 mm	72 mm	0715 002 410	1
11 mm	29.5 mm	19.9 mm	124 mm	73 mm	0715 002 411	1
12 mm	29.5 mm	19.9 mm	124 mm	75 mm	0715 002 412	1
13 mm	34 mm	23 mm	154 mm	97 mm	0715 002 413	1
14 mm	34 mm	23 mm	154 mm	97 mm	0715 002 414	1
15 mm	42 mm	25.4 mm	171 mm	110 mm	0715 002 415	1
16 mm	42 mm	25.4 mm	171 mm	110 mm	0715 002 416	1
17 mm	42 mm	25.4 mm	171 mm	110 mm	0715 002 417	1
18 mm	46.6 mm	27.3 mm	182 mm	115 mm	0715 002 418	1
19 mm	46.6 mm	27.3 mm	182 mm	115 mm	0715 002 419	1
21 mm	52 mm	29 mm	202 mm	125 mm	0715 002 421	1
22 mm	52 mm	29 mm	202 mm	125 mm	0715 002 422	1
24 mm	57 mm	32 mm	237 mm	140 mm	0715 002 424	1

Insulated Open Ended Spanner Set 7pc

Insulated open ended spanner set, for hybrid and electric vehicle servicing and maintenance, in a range of useful sizes from 8mm to 19mm, for live working up to 1000V AC/ 1500V DC. The spanners are both GS and VDE certificated and manufactured according to the IEC60900 standard for safe use in a high voltage environment. The sizes are clearly marked on the size for easy identification and are presented in a fitted carry case for safe storage.



Art. no. 5997 770 837

P. Qty./unit 1

Wrenches

Visit us online [wurth.co.uk](http://www.wurth.co.uk)

Cable End Shrouds, 3pcs

Push on shrouds for un-insulated cable ends - 1000V insulated.



Art. no. 5997 770 879

P. Qty./unit 1

Cable End Shroud with Grip Collar

Part of the Laser range of safety equipment for Hybrid vehicles.



Size	Art. no.	P. Qty./unit
15mm	5997 770 828	1
25mm	5997 770 829	1
35mm	5997 770 830	1

Terminal/Cable End Insulated Covers 10pc

Terminal/cable end insulated covers designed to slide over HV connectors and cable ends to help protect against shock.



Art. no. 5997 770 831

P. Qty./unit 1

Insulated Cable Knife

Insulated cable knife, ideal for stripping standard cables. VDE certified.



Art. no. 5997 770 880

P. Qty./unit 1

Lockout Tags, 10pcs

A 10 pack of lockout tags, providing safety warning with space for the contact details of the responsible person to be added.



Art. no. 5997 770 883

P. Qty./unit 1

Long Shackle Safety Lockout Padlock

Non conductive nylon bodied lockout padlock with long 76mm shackle, for preventing accidental activation of, or access to high voltage systems on electric vehicles and mains electrical systems.



Art. no. 5997 770 838

P. Qty./unit 1

Locking Tag Station

Lock out tags are used on electric and hybrid electric vehicles to post warnings that vehicle systems may be live. The Laser 7945 Safety Lockout Tag Station has been designed for the storage of up to 100 Lockout/Warning Tags, providing easy access when required. The pocket style storage helps in identifying the number of tags in use as well as ensuring the user can see when more tags may be required. Should be considered as part of the workshop's wider Lockout Tagout (LOTO) protocol for working with EV and HEV vehicles.

Art. no. 5997 770 881

P. Qty./unit 1

Nylon Lockout Hasp

6 holes for multiple padlocks in a flexible hasp. Allows the safe and effective lock out where electric power isolation is required by more than one operative.



Art. no. 5997 770 882

P. Qty./unit 1

Padlock Station

Padlock station for easy access and safe storage of padlocks in one place. Use to store unused safety padlocks to see at a glance what locks are in use.



Art. no. 5997 770 885

P. Qty./unit 1



Wrenches

Visit us online wirth.co.uk

Lockout Management Station

Wall mounted, lockout management station providing a safe and secure storage facility for electric and hybrid vehicle key and MSD (manual service disconnect) units to prevent accidental activation of HV systems while performing service and repair.

Art. no. 5997 770 871

P. Qty./unit 1

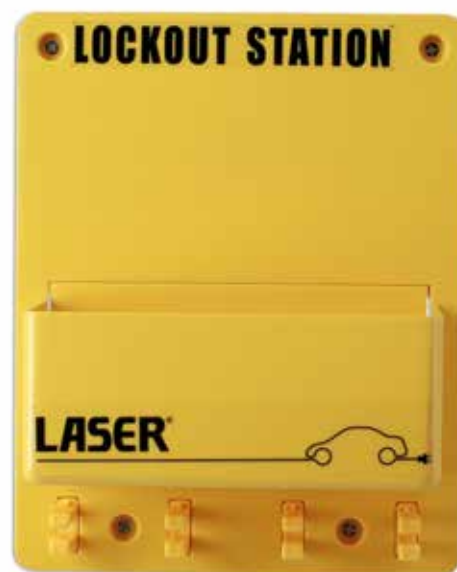


Combined Lockout Station

Compact designed, wall mounted lockout station for storing safety lockout products including padlocks, tags or hasps.

Art. no. 5997 770 874

P. Qty./unit 1



CONSUMABLES



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Consumables

Visit us online www.wurth.co.uk

Electrical insulating tape set

10 pieces Contains all relevant colours for safe insulation and labelling during electrical installation.

- VDE-tested in line with DIN EN 60454-3-1 Type 5
- Tear-proof and resistant to ageing
- Lasting material properties even with changing temperatures

Art. no. 0985 100

P. Qty./pack 10



Electrical insulating tape

Safe insulation and labelling during electrical installation

- DE-tested in line with DIN EN 60454-3-1 Type 5
 - Safe thanks to tested properties
 - Up to 40 kV/mm dielectric strength
 - Flame-retardant

Chemical basis	Acrylate, soft PVC foil
Dielectric strength	40 kV/mm

Colour	Width	Length	Art. no.	P. Qty./unit
Black	15 mm	10 m	0985 101	10
Black	30 mm	25 m	0985 101 1	5
Blue	15 mm	10 m	0985 105	10
Brown	15 mm	10 m	0985 104	10
Green	15 mm	10 m	0985 109 2	10
Grey	15 mm	10 m	0985 109 1	10
Red	15 mm	10 m	0985 103	10
White	15 mm	10 m	0985 102	10
Yellow	15 mm	10 m	0985 107	10
Yellow-green	15 mm	10 m	0985 109	10

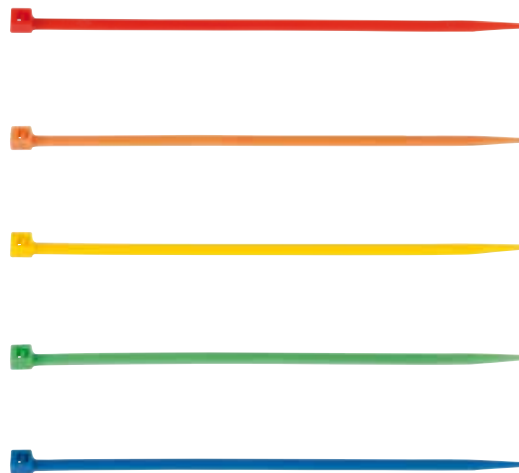


Coloured cable tie with plastic tongue closure

For quick, problem-free and reliable bundling of cables, cable harnesses, hoses etc. with colour coding

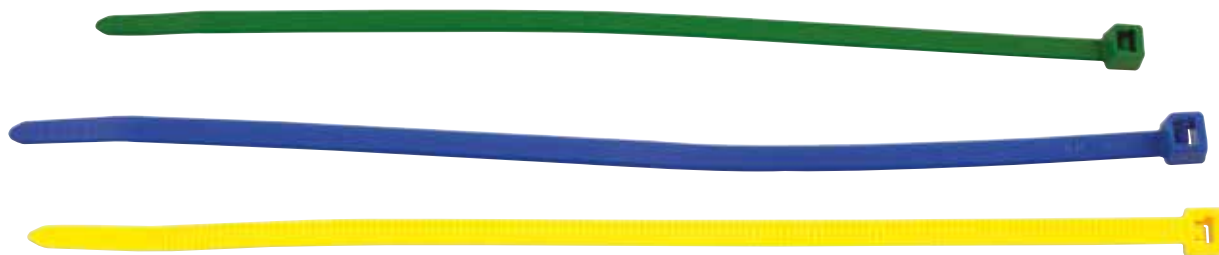
Material	PA - Polyamide
Width	3.5 mm
Length	200 mm
Min./max. bundle diameter (bundle-Ø min./max.)	3-5.5 mm
Min./max. temperature resistance	-15 to 85 °C
Silicone-free	Yes
Halogen-free	Yes

Colour	Art. no.	P. Qty./unit
Red	0502 410	100
Orange	0502 420	100
Yellow	0502 430	100
Green	0502 440	100
Blue	0502 450	100



Hellermann Cable Tie 200mm x 4.6mm 100pcs

Colour	Art. no.	P. Qty./unit
Blue	5997 770 812	100
Yellow	5997 770 808	100
Green	5997 770 810	100



Consumables

Visit us online www.wurth.co.uk

POE oil POE 100

Special POE (polyester) air-conditioning compressor oil for vehicle air-conditioning systems using R134a/R1234yf refrigerants and electric air-conditioning compressors (hybrid, start/stop, electric)

- Excellent resistance to potential electric creepage currents in high-voltage air-conditioning systems
- Highly hydrophobic
 - Not conductive
 - Electrical components are not affected
- Excellent smoothness, thereby protecting the compressor from wear

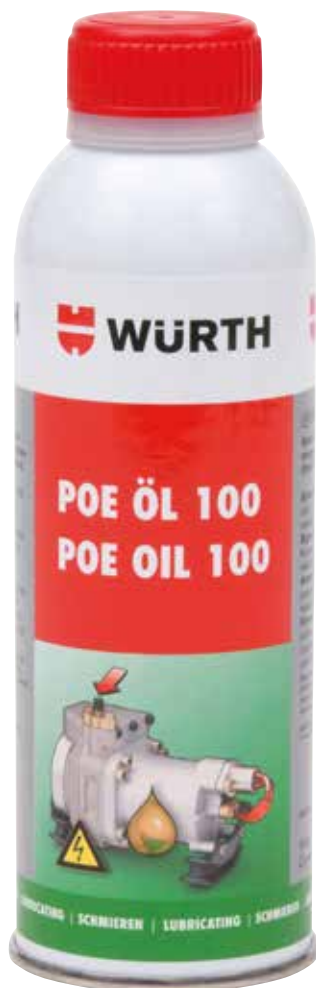
Application area

For maintaining, lubricating and cooling vehicle electric air-conditioning compressors as well as sliding and rotating parts in the R134a/R1234yf air-conditioning circuit

Contents: 210 ml

Art. no. 0892 764 045

P. Qty./unit 1/6



PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment

Visit us online wurth.co.uk

Rescue hook

Rescue hook for the retrieval of electric shock victims from a live working zone

- For nominal voltages of up to 45 kV
- Weight: 1 kg
- Length: 1.65 m
- Fiberglass/polyester resin tube with hand guard
- Hook: torque tested 30 Nm
- For rescuing persons weighing up to 150 kg
- The hook can be used to pull the victim clear of the energised area by gripping the victim's waist
- Saves lives during electrical accidents



Art. No. 0899 520 901

P.Qty./unit 1

Padlock Safety type 1

Forced locking, the key can only be removed when locked

- Non-conductive padlock with impact-resistant polyamide housing and bracket
- Only the person performing the maintenance may have the keys
- Lock can be labelled with employee name and phone number

Application area

Maintenance and repair of machines, plants



Art. no. 0688 905 010

P. Qty./unit 1

Insulating mat

Insulating mat for work on live parts in accordance with EN 61111.

- EPDM rubber mat for work on live parts
- Anti-slip surface thanks to fine ribbing
- Resistant to oil and chemicals
- Colour coded on the reverse

Application area

Suitable for use in high-voltage areas such as high-voltage and switchgear assemblies with an open design.



Design	Customized cutting
EN standard	BS EN 61111:2009
Colour	Black
Material	Rubber

Class	Length x width x thickness	Art. no.	P. Qty./unit
0 - Operating voltage < 1000 volts	100 x 1000 x 3 mm	0957 590 230	10
2 - Operating voltage < 17000 volts	100 x 1000 x 4 mm	0957 590 231	10
4 - Operating voltage < 36000 volts	100 x 1000 x 5 mm	0957 590 232	10

High Voltage Floor Matting - 1 Metre

Flame retardant oil and acid resistant insulated floor matting, 1m² size and class 2 rated for working voltages up to 17kV, tested to IEC61111 making it suitable for automotive use, including working on EV and hybrid vehicles. Durable construction with ribbed non-slip underside for excellent grip and fabric upper side. A workshop safety essential. Also available in a 10m roll.

Art. No. 5997 719 040

P.Qty./unit 1





Safety glasses CEPHEUS®

Lightweight, well-fitting safety glasses

Art. no. 0899 102 250

P. Qty./unit 1



Visit us online wurth.co.uk

Voltage protective glove

For working voltages up to 1000 V/AC

- Resistant to acid, oil, ozone and cold temperatures (category RC)
- Highly flexible and good tactile sensitivity
- Coating thickness max. 1 + 0.6 mm as per standard

Length	410 mm
Material	Natural latex
Class	0 - Operating voltage < 1000 volts
Utilisation voltage (AC voltage)	1000 V/AC
Utilisation voltage (DC voltage)	1500 V/DC

Size	Art. no.	P. Qty./unit
9	0899 400 936	1
10	0899 400 937	1
11	0899 400 938	1



Personal protective equipment

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Pneumatic Glove Tester

Designed to test electrical insulating gloves for damage and subsequent leaks.



Art. no. 5997 770 877

P. Qty./unit 1

Fully Insulating Electrical Safety Gloves

Fully insulating electrical safety gloves. Class 0 rated for 1000V working voltage.



Size	Art. no.	P. Qty./unit
Large 10	5997 770 798	1
XLarge 11	5997 770 797	1

Insulated Gloves Pack



Size	Art. no.	P. Qty./unit
Medium	5997 770 863	1
Large	5997 770 864	1

Glove Storage Bag

Individual personal storage bag.



Art. no. 5997 770 884

P. Qty./unit 1

Leather Overgloves

Leather overgloves are worn over insulating gloves to protect against mechanical hazards and electrical arcing.



Size	Art. no.	P. Qty./unit
Medium 9	5997 770 852	1
Large 10	5997 770 853	1
XLarge 11	5997 770 840	1

Transparent Insulating Shrouding 1000V

Prevents accidental contact with live terminals.



Art. no. 5997 770 834

P. Qty./unit 1

Safety glasses Cetus®

Perfect protection with a sporty, dynamic, fashionable look

Art. no. 0899 102 320

P. Qty./unit 1



Full-vision goggles Andromeda®

Two-component technology for reliable protection and maximum comfort

Art. no. 0899 102 110

P. Qty./unit 1



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Disposable nitrile glove

Liquid-proof, food-safe disposable glove

- Powder-free
- Silicone-free manufacturing process
- In practical disposable dispenser
- Tested as food-safe

Colour	Black
Material	Nitrile
Interior finish	Powder-free, Chlorinated
Standards	EN 374 EN 420
Category	III
Length	240 mm
Material thickness	0.1 mm
Tolerance, material thickness (+/-)	0.01 mm

Size	Art. no.	P. Qty./unit
M	0899 470 870	100
L	0899 470 871	100
XL	0899 470 872	100



Protective glove nitrile TIGERFLEX® Plus

Universal protective glove with excellent wearing comfort and optimal grip thanks to unique TIGERFLEX® coating

- Maximum comfort thanks to skin-friendly and soft, seamless, round-knit fabric with a snug fit
- Breathable TIGERFLEX coating made of nitrile foam and elasticated knitted cuff
- Excellent grip and good mechanical strength thanks to special TIGERFLEX coating

Gauge	15
Material of liner	Nylon
Material of coating	Nitrile foam
Standards	EN 388 EN 420
Category	II

Size	Art. no.	P. Qty./pair
7	0899 411 017	12
8	0899 411 018	12
9	0899 411 019	12
10	0899 411 020	12
11	0899 411 021	12



Personal protective equipment

Visit us online [wurth.co.uk](http://www.wurth.co.uk)

Electrician's helmet SH-E 2000-S

Comfortable electrician's hard hat with internal dial adjustment

- Helmet shell is completely closed, so suitable for use by electricians in accordance with EN 397 and EN 50365 (1000 VAC)
- Optimum, quick width adjustment with dial system
- Unobstructed upwards view thanks to short helmet peak
- 6-point textile suspension harness
- Compatible with visors and ear defenders
- Suitable for very low temperatures down to -30°C
- Protects against weld spatter (MM = molten metal)



Colour: White

Art. no. 0899 200 236

P. Qty./unit 1

Hard hat SH 2000-S Pro

Comfortable hard hat with internal dial adjustment and pre-mounted 4-point chin strap

- High-quality, four-point chin strap
- Extended downwards for neck protection
- Optimal, quick width regulation thanks to rotary wheel system
- Unobstructed upwards view thanks to short helmet peak
- Six-point fabric lining and individually regulated ventilation openings on the front and back
- Low weight
- Easy to combine with other equipment
- Tested according to EN 397 with supplementary requirements



Colour: White

Art. no. 0899 200 235

P. Qty./unit 1

Electrician's visor SLB 1 For electrician's helmet SH-E 2000-S

Visor for protection against arcing Class 1 to 4 kA



Colour: Clear, Black

Art. no. 0899 200 238

P. Qty./unit 1

Electrician's visor SLB 2 For electrician's helmet SH-E 2000-S

Visor for protection against arcing Class 2 to 7 kA



Colour: Clear, Black

Art. no. 0899 200 239

P. Qty./unit 1

Vehicle Fire Blanket 6 x 8m

Electric vehicle battery fires can produce very high temperatures if left unchecked. The fire blanket has been introduced to help reduce and control the risk of a vehicle fire spreading to other nearby structures and vehicles by starving the fire of oxygen and thereby keeping the temperatures under control.

Art. no. 5997 769 862

P. Qty./unit 1



High-vis vest

With hook-and-loop fastening

- Two 5-cm wide all-round reflective strips
- Individually packed in polythene bags

Application area

Road and rail traffic, hazard zones, construction industry, road construction and surveying



Colour: Orange

Size: XL

Art. no. 0899 078

P. Qty./unit 1



Colour: Yellow

Size: XL

Art. no. 0899 078 002

P. Qty./unit 1

Electric Shock First Aid Poster

The Electric Shock First Aid Poster explains the precautions that you should be aware of when dealing with electric shock victims.



Art. no. 5997 770 855

P. Qty./unit 1

High Voltage/No Admittance Sign (without text)



Art. no. 5997 770 809

P. Qty./unit 1

Danger High Voltage Sign (without text)



Art. no. 5997 770 832

P. Qty./unit 1

Personal protective equipment

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Multi-standard dungarees

Anti-static dungarees that can handle your day-to-day work.

- Flame retardant, anti-static, concealed zip
- Two front pockets, back pocket with flap, large thigh pocket, ruler pocket
- Reflective piping
- Adjustable straps with buckles, stretch inserts in the hip area
- Reinforced knees, double seams
- EN 1149-5, EN 13034, IEC 61482-2 class 1, EN ISO 11611 class 2, EN ISO 11612

Colour	Art. no.	P. Qty./unit
Grey, Black	M004 086...	1
Navy blue, Black	M004 087...	



EN 11612
heat protective
clothing for heat-
exposed work



EN 13034
protective clothing
against liquid
chemicals



ISO 1161
Protective clothing
for use in welding
and allied processes



EN 1149
Protective Clothing.
Electrostatic
Properties



EN 61482-2:2009
class 1 protective clothing
against the thermal hazards
due to electric arcing



tops	XS = 010, S = 000, M = 001, L = 002, XL = 003, XXL = 004, 3XL = 005, 4XL = 006
pants	24 = 401, 25 = 403, 26 = 405, 27 = 407, 28 = 409, 29 = 411, 30 = 413, 40 = 417, 42 = 419, 44 = 321, 46 = 423, 48 = 425, 50 = 427, 52 = 429, 54 = 431, 56 = 433, 58 = 435, 60 = 439, 62 = 443, 64 = 447, 66 = 451, 90 = 457, 94 = 459, 98 = 461, 102 = 463, 106 = 465, 110 = 467, 114 = 469, 118 = 471



Multinorm jacket

The functional and anti-static jacket offers maximum protection and comfort.

- Flame-retardant, anti-static, concealed zip
- 2 front pockets, 2 breast pockets
- Reflective inserts
- Adjustable cuffs
- EN 1149-5, EN 13034, IEC 61482-2 Class 1, EN ISO 11611 Class 2, EN ISO 11612

Colour	Art. no.	P. Qty./unit
Grey, Black	M004 086...	1
Navy blue, Black	M004 087...	



EN 11612 heat protective clothing for heat-exposed work



Multi-standard trousers

Anti-static trousers that offer maximum protection against heat and flame.

- Flame retardant, anti-static, concealed zip
- 2 front pockets, back pocket with flap, large thigh pocket, ruler pocket
- Reflective piping
- Reinforced knees, elasticated cuffs, double seams
- EN 1149-5, EN 13034, IEC 61482-2 class 1, EN ISO 11611 class 2, EN ISO 11612

Colour	Art. no.	P. Qty./unit
Grey, Black	M004 086...	1
Navy blue, Black	M004 087...	



Personal protective equipment

Arc Flash Jacket

A 3/4 length safety jacket with a fitted hood for protection against thermal arc hazards when working on live circuits. Designed to be worn over regular clothing, it features a hook and loop fastener down its entire length making it easy to open and close, and has an adjustable hood to fit over a face shield or helmet.

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Size	Art. no.	P. Qty./unit
Small	5997 770 872	1
Large	5997 770 873	
Extra Large	5997 770 861	



Stretch X Electric SB P E FO WRU safety shoe

Flexible and innovative safety shoes with comfortable stretch inserts. Ideal for activities that require frequent kneeling. Especially recommended for electricians thanks to an insulating sole.

- Breathable suede, fabric inserts
- Fabric inner lining, slip-on strap made from high-quality microfibre
- Fibreglass protective toe caps, fabric anti-perforation protection
- Slip-resistant insulating PU outsole SRC, comfort width 11
- DGUV 112-191, flexible thanks to CORDURA® stretch inserts, metal-free, made in the EU
- Approx. 570 g per shoe in size 42



Colour	Material of shoes upper	Safety category	Type description	Foot width	Art. no.	P. Qty./pair
Grey	Suede	SB	Stretch X	11 (comfort width safety shoes)	M414 011...	1

Size key

36	...036
37	...037
38	...038
39	...039
40	...040
41	...041
42	...042
43	...043
44	...044
45	...045
46	...046
47	...047
48	...048



Energy absorption capacity in the heel area



Oil- and petrol-resistant outer sole



Energy absorption of the protective toe caps 200 joule



Water-repellent (not watertight)



Personal protective equipment

Visit us online www.wurth.co.uk

ELEC EV Safety Work Boots

A fully compliant, full leather workshop safety boot (to ISO/EN20345), with the addition of an electrically insulated 1000V safe sole (to Class 0 : 1000V ISO/EN50321) - ideal for workshop safety when working on/ around high voltage vehicles such as Hybrid's, PHEV's, BEV's etc.



Size	Art. no.	P. Qty./unit
8	5997 770 803	1
9	5997 770 804	
10	5997 770 799	
11	5997 770 800	
12	5997 770 801	



Dunlop S5 rubber safety boots

Practical and functional rubber safety boots with impressive resistance to various chemicals.

- Robust PVC rubber boots
- Protective steel toe caps, steel anti-perforation protection
- Non-slip SRA PVC sole
- Resistant to special oils/greases, disinfectants, chemicals, comfort width 11 (wide fit)
- Shaft height 35 cm
- Approx. 1190 g per shoe in size 42



Size key	
38	... 038
39	... 039
40	... 040
41	... 041
42	... 042
43	... 043
44	... 044
45	... 045
46	... 046
47	... 047
48	... 048

Colour	Material of shoes upper	Material	Safety category	Standards	ISO	Other standard	Foot width	Shaft height	Type description	Art. no.	P. Qty./pair
Yellow	PVC	PVC - Polyvinyl chloride	S5	ISO 20345 SRA	20345	SRA	11 (comfort width safety shoes)	35 cm	Boots	M423 008...	1

CHARGING TECHNOLOGY



Visit us online wurth.co.uk

Charging equipment

3 Pin plug

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EV Charging Cable - Type 2 Female to UK 3 Pin Plug 13A Single Phase

A portable mains charger for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 2 connector. Suitable for home use, it features a 5 metre long cable with a standard domestic (UK) 3-pin plug with a maximum power output 3.7kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use.

Art. no. 5997 770 789

P. Qty./unit 1



EV Charging Cable - Type 1 Female to UK 3 Pin Plug 13A Single Phase

A portable mains charger for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 1 connector. Suitable for home use, it features a 5 metre long cable with a standard domestic (UK) 3-pin plug with a maximum power output 3.7kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use.

Art. no. 5997 770 790

P. Qty./unit 1



Charging equipment

Wall brackets & reels

Wall bracket

For mobile charging station mode 2 type 2 UNI

- Secure storage with the optional lock protects the charging station from theft
- High quality thanks to powder coating

Art. no.	9501 650 105
Width	105 mm
Height	490 mm
Depth	95 mm
Material	Sheet steel
Surface	Powder-coated
Colour	White, Orange
P. Qty./unit	1



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Wall bracket For charging cables and other lines and hoses

For the practical and safe storage of mode 3 type 2 charging cables

- The mounting material and drilling template supplied allow for quick and easy mounting of the bracket on any wall, and it can also be used for other lines or hoses
- The wall bracket prevents water and dirt from entering the plug or it being accidentally driven over
- Charging cable can be optionally secured against theft with a padlock



Length: 150 mm
Width: 110 mm
Height: 91 mm

Art. no. 0510 650 130

P. Qty./unit 1



Cable reel For electric vehicle charging cables

Automatic rewind of the charging cable

- Optimum protection of the charging cable, which increases the service life of the charging cable
- No cable clutter thanks to organised storage
- Dirt-free hands, as there is only contact with the plug when rolling up the cable



Length: 353 mm
Width: 353 mm
Height: 178 mm

Art. no. 0510 650 100

P. Qty./unit 1

Charging equipment

Type 1

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Charging cable mode 3 T2/T2

For charging electric or hybrid vehicles with type 2 interface

- No unwanted slipping due to rain, ice and greasy hands thanks to rubber grips
- Soft and flexible cable even in cold weather, lightweight and particularly ergonomic connectors, loop with hook and loop strap for bundling and suspending cable
- No scratching of the vehicle's paintwork thanks to the cover cap with adjustable retaining strap, visual signalling effect through red cable



Art. no. 0510 650 224

P. Qty./unit 1

EV Charging Cable - Type 1 Female to Type 2 Male 32A Single Phase, 5m

A 32A single phase charging cable for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 1 connector. Suitable for use with 240V home wall box chargers, but can also be used in public charge points, with a maximum power output 7.4kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use.

Size	Art. no.	P. Qty./unit
5m	5997 770 793	1
10m	5997 770 794	



EV Charging Cable - Type 2 Female to Commando Plug 32A Single Phase

A portable mains charger for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 2 connector. Suitable for outdoor use, such as at campsites, it features a 5 metre long cable with a 3 pin Commando plug with a maximum power output 7.4kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use.

Tech info	Art. no.	P. Qty./unit
Colour - Red Output - 16A Type - Three phase	5997 770 788	1
Colour - Blue Output - 32A Type - Single phase	5997 770 786	



EV Charging Cable - Type 2 Female to Type 2 Male 32A Three Phase

A 32A three phase charging cable for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 2 connector. Suitable for use with 415V public charge points, with a maximum power output 22kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use. Please note: Three phase cables can also be used on single phase charge points, but not vice-versa.

Art. no. 5997 770 795

P. Qty./unit 1



EV Charging Cable - Type 2 Female to Commando Plug (red) 32A Three Phase

A portable mains charger for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 2 connector. Suitable for use with a 32A three phase workshop power supply, with a maximum power output 22kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use.

Art. no. 5997 770 787

P. Qty./unit 1



Charging equipment

Type 2

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EV Charging Cable - Type 2

A 32A single phase charging cable for use on any BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) that uses a Type 2 connector. Suitable for use with 240V home wall box chargers, but can also be used in public charge points, with a maximum power output 7.4kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use.

Size	Art. no.	P. Qty./unit
Type 2 Female to Type 2 Male 32A Single Phase	5997 770 791	1
Type 2 Female to Type 2 Male 32A Single Phase	5997 770 792	



EV Charging Extension Cable - Type 2

A Type 2 EV charging cable, to give extra length and allow for the plug to comfortably reach the BEV (Battery Electric Vehicle) or PHEV (Plug-in Hybrid Electric Vehicle) in need of charging. Suitable for use with 415V public charge points, with a maximum power output 22kW. Supplied in a zip-up carry-case so that it can be kept safely and tidily in the vehicle when not in use. Please note: Three phase cables can also be used on single phase charge points, but not vice-versa.

Size	Art. no.	P. Qty./unit
single phase	5997 770 802	1
three phase	5997 770 806	





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