

*THE FUTURE  
IS GREEN*



**LAUNCH**  
EUROPE GMBH



# CONTENT

EV BATTERY PACK CELL  
EQUALISER

ELB300



4

EV BATTERY PACK MODUL CHARGING  
AND DISCHARGING DEVICE

ELP400



6

EV BATTERY PACK  
AIRTIGHTNESS TESTER

ELT500



8

EV CURRENT CLAMP

ES100



10

EV INSULATION RESISTANCE  
TESTER

ES200



12

INTELLIGENT DIGITAL  
POWER SUPPLY

ELA320



14

EV OSCILLOSCOPE & MULTIMETER  
PARAMETERS

EM101



16

EV DIAGNOSIS ADD-ON KIT

ADD-ON-KIT



18

BATTERY LIFT

TLT610



20

## A SOLUTION FROM LAUNCH

Electromobility has long since arrived in automotive workshops. Around 878,000 electric vehicles were newly registered in Europe in 2022. Accordingly, the demand for services is also increasing. Many workshops are now upgrading their equipment with the appropriate diagnostic tools to tap into the interesting market for electric vehicles. LAUNCH Europe GmbH offers a wide range of products for servicing electric vehicles. With our products, all work on electric vehicles can be carried out professionally in your workshop. The product range includes the EV-ADD-ON-KIT for professional vehicle diagnostics, various battery service diagnostic tools, as well as a special lift for high-voltage batteries. An overview of all products with a corresponding description can be found in this product brochure.

# EV BATTERY PACK CELL EQUALISER

This high voltage battery cell equaliser can be used to test, charge and discharge individual cells. It allows the voltage of the cells to be adjusted to the same level.



## SAFE CHARGING AND DISCHARGING



## INTELLIGENT CELL CHECK

Uniform charging or discharging of the cells

### Overcharge or overdischarge

Effectively prevents overcharging or overdischarging of any cell in the HV module.

### Safety protection function

Protection against overvoltage, undervoltage, overcurrent, short circuit and reverse polarity protection.



## OVERCHARGE AND DISCHARGE PROTECTION

Charge and discharge equalisation

Independent channel design that detects and uniformly charges or discharges the cells in the module. When charging or discharging, it ensures that no cell in the module is overcharged or overdischarged.

### Equilibrium maintenance present

The balance maintenance parameters can be set as required. This allows the balance to be quickly maintained according to the current parameters.

# ELB300

## Technical profile

Battery interface

**16 Pin, 24 Pin**

Channels

**2 x 12**

Modules

**2 modules, 12 battery strings**

Charging mode / discharging mode

**Constant current + voltage charging**

**Constant current + voltage discharge**

Communication

**USB, Wi-Fi, Bluetooth**



Voltage	AC 90 ~ 264 V, 40 ~ 60 Hz	Display	7-Zoll, LCD-Touchscreen 800 x 480 px
Charge and discharge voltage range	DC 1.8 ~ 4.2 V	Protection function	Input/output overcurrent protection, overvoltage, overtemperature protection
Accuracy of voltage detection	±0,1% FS ± 2 mV max. measuring range 5 V	No-voltage test	2200 Vdc 1min AC input housing 2200 Vdc 1min DC input housing
Charge and discharge current range	0.1 ~ 5A max.	Radiation method	Forced air cooling
Accuracy of current detection	±1% FS ±0. 05 A max. measuring range 5 A	Temperature	Working temperature -5 ~ +40 °C, Storage temperature -20 ~ +70 °C
Battery temperature detection accuracy	±2°C(-25~+85°C) charging °C (-25~+85°C)	Humidity	Relative humidity 0 ~ 90% (40 ±2 °C)
Charging and discharging performance	600 W max.	Probe damping factor	1X, 10X, 100X Probe holder required

# PROFESSIONAL CHARGER AND DISCHARGER

This high-voltage charger and discharger can be used to charge and discharge individual battery modules. By default, several battery cells are grouped by this unit. During the charging process, the individual battery cells can be monitored by the ELP 400.



## SAFE CHARGING AND DISCHARGING



## INTELLIGENT CELL TESTING



## BATTERY CAPACITY OPTIMISATION



## OVERCHARGE AND DISCHARGE PROTECTION

### Diversified setting possibilities

It allows you to set the total charge time, constant voltage time, charge capacity and charge current. This allows you to vary the charge current.

### Operating rules

Free charge and discharge rules can be set, as well as activation times, to ensure and improve battery capacity.

### Highest/lowest voltage detection

It supports the acquisition of high/low voltage, temperature and other data from a single battery string. The data is displayed on the screen in the form of a bar graph, a report and a graph that can be zoomed in/out locally for easy viewing.

### High-quality materials

High-quality original aeronautical materials, combined with modern and advanced control technology, are used to ensure smooth operation.

### Alarm conditions

Set various alarm conditions for abnormal voltage, current and temperature to allow early intervention to ensure the safety of the for early intervention and ensure the safety of the battery and the unit.

### Safety functions

The ELP400 has various protection functions such as overvoltage, undervoltage, overcurrent, short circuit, reverse polarity and overtemperature protection, overvoltage, undercurrent, output short circuit, reverse polarity and overtemperature protection, all of which contribute to the safety of the operator.

# ELP400

## Technical profile

Charging and discharging performance  
**max. 600 W**

Battery interface  
**16 Pin, 24 Pin**

Channels  
**2 x 12**

Display  
**7" LCD**

Communication  
**Wi-Fi and Bluetooth**



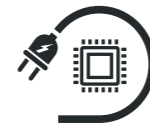
Supply voltage	AC220 V	Operating temperature	-5°C ~ 40°C
Frequency range	40 ~ 60 Hz	Data communication	CAN, RS485
Charge- and discharge voltage range	DC 2 ~ 260	Data transmission	USB data storage
Single voltage accuracy	± 0.1% FS + 5 mV (resolution: 0,001 V)	Charging mode	Constant current charging + constant voltage charging
Charging current range	Max. 100 A bei max. 4,4 Kw	Discharge mode	Constant current discharge
Discharge current range	Max. 150 A bei max. 7,2 kW	Protection function	Over and underdischarge protection, overheating
Test current range	± 1% FS + 0,2 A (resolution: 0,1 A)		

# AIRTIGHTNESS TESTER

The ELT500 is a high-precision, non-destructive air leak tester that uses primarily compressed air to leak test vehicles with a high-voltage battery. The ELT500 builds up a stable pressure in the vehicle's high-voltage battery and automatically initiates the maintenance phase when this pressure is reached. The highly sensitive pressure sensor detects any change in pressure inside the high voltage battery and displays it on the LCD screen. The ELT500 uses a differential pressure method to test for leaks.



## HIGH RELIABILITY



## INTELLIGENT OPERATING MODE



## HIGH PRECISION

### High sensitivity

The highly sensitive pressure sensor technology significantly improves test accuracy and stability.

### Double display of the pressure value

Real time display of the pressure scale and the pressure curve of the process.

### Setting the parameters

Parameters such as number of parts, volume, pressure, time of each stage and leakage limit can be preset.

### Process visualisation

The progress time of each phase of the test process can be displayed on the screen.

### Parameter management

Real time display of the pressure scale and the pressure curve of the process.

### Intelligent alarm

The unit will give an audible and visual alarm if the test is abnormal or fails.

# ELT500

## Technical profile

Electrical requirement

**AC220 V**

Sensor resolution

**1 Pa**

Communication

**RS-232 / USB**

Precision

**±5% FS**



Test pressure range	0 ~ 30 Kpa
Current	20 W max.
Air source requirement	0,1 ~ 1,0 Mpa dry compressed air
Air inlet interface / test interface	D = 6 mm Air tube
Operating temperature range	-10°C ~ 55°C
Storage temperature	20°C ~ 70°C
Relative humidity	10% ~ 90%

# CURRENT CLAMP

ES100 is a current and voltage tester for vehicles equipped with a high voltage battery. ES100 supports both DC and AC voltage testing. The current clamp has a low volume, high accuracy and good stability.



**SIMULTANEOUS MEASUREMENT OF CURRENT AND VOLTAGE POSSIBLE**



**DISPLAY OF CURRENT AND VOLTAGE CURVES**



**HIGH MEASURING ACCURACY**

## Acquisition of current and voltage

Simultaneous current and voltage detection. Voltage detection is added to the current detection function.

## High measurement accuracy

Supports up to 1,000 Hz sampling rate, high measurement accuracy and mechanical zero setting button.

## Intuitive display

Can be combined with the X-431 EURO TAB III diagnostic unit. Intuitive display of measured current and voltage waveforms and accurate detection of waveform changes.

## Automated

The appropriate range is automatically selected depending on the magnitude of the measured current to avoid error.

## LED light

## Simple and Safe

Non-contact DC testing - as soon as a current flows, it is detected and measured at the same time.

# ES100

## Technical profile

### Function

**AC- and DC- measurement**

### Battery

**9 V-Dry battery**

### Test mode

**Contactless measurement**

### Resolution

**1 mA AC/DC**

### Precision

**±3% FS**



Pliers size	φ 16 mm × 18 mm	Zero	Set ZERO button to zero
Entry range	0 ~ 200 A AC/DC	Frequency response	DC ~ 50 kHz
Precision	±3% FS (23°C ± 5°C, under 75%)	Wire position	The detected wire is in the centre of the pliers
Output range	10 mV/A (0 ~ 20 A), 100 mV/A (0 ~ 200 A)	Switching voltage	Circuit testing for 600V and less
Power range	max. 1V	Working current	500 mA
Current input	Single-phase AC90 - 264 V		
Phase error	≤3°(AC 50 Hz / 60 Hz; 23°C±2°C)		

# INSULATION RESISTANCE METER

Equipped with powerful measurement and data processing software, the ES200 insulation tester can fully measure insulation resistance, voltage and other parameters of hybrid vehicles. Its stable performance and simple operation make it suitable for on-site measurement and maintenance of vehicles with a high-voltage battery and power supply lines. This is particularly important after repair work on vehicles with high-voltage technology, as manufacturers' specifications require a final insulation test.



## MEASURES INSULATION RESISTANCE



## HIGH DC VOLTAGE

### Measures insulation resistance

Insulation resistance refers to the leakage current of the insulation material between the live part and the exposed non-live metal part (housing).

### High DC voltage

Depending on the product, different values of DC high voltage are applied, e.g. 500V, 1000V, 2500V etc. and a minimum safe insulation resistance value is specified. If the measured resistance is below this value, there is a risk of electric shock.



## ELECTRIC SHOCK PROTECTION

### Safety

Electric vehicle batteries have high voltage characteristics. The use of an insulation tester for measurement can effectively increase the safety of maintenance personnel.

### Wide measuring range

For different output voltages, resistance measurement ranges from 10 MOhm to 1000 MOhm.

# ES200

## Technical profile

Battery  
**3.150 mAh**

Voltage Type  
**DC, AC**

Resolution  
**1 V**

Display  
**5" LCD**

Measurement Accuracy  
**±3%**



Test voltage	500 V	1.000 V	2.500 V	5.000 V
Measuring range	10.0 MΩ ~ 20 GΩ	10.0 MΩ ~ 40 GΩ	10.0 MΩ ~ 100 GΩ	10.0 MΩ ~ 1.000 GΩ
Open circuit voltage	DC 500 V (0 ~ 20%)	DC 1.000 V (0 ~ 20%)	DC 2.500 V (0 ~ 20%)	DC 5.000 V (0 ~ 20%)
Measuring accuracy	0.0 ~ 99.9 MΩ: ±(3%+5) 100 MΩ ~ 9.99 GΩ: ±(5%+5) 10.0 GΩ ~ 20.0 GΩ: ±(10%+5)	0.0 ~ 99.9 MΩ: ±(3%+5) 100 MΩ ~ 9.99 GΩ: ±(5%+5) 10.0 GΩ ~ 40.0 GΩ: ±(10%+5)	0.0 ~ 99.9 MΩ: ±(3%+5) 100 MΩ ~ 9.99 GΩ: ±(5%+5) 10.0 GΩ ~ 100 GΩ: ±(10%+5)	0.0 ~ 99.9 MΩ: ±(3%+5) 100 MΩ ~ 9.99 GΩ: ±(5%+5) 10.0 GΩ ~ 99.9 GΩ: ±(10%+5)
Short-circuit current	<3.0 mA			

# INTELLIGENT DIGITAL POWER SUPPLY

The ELA320 is an intelligent, digital power supply for the maintenance of vehicles equipped with a high-voltage battery. It can be used for the maintenance and testing of high and low voltage components such as A/C electric compressor, DC/DC module, PCT heater, electronic fan, power steering pump.



## INDEPENDENT PROTECTION MECHANISM



## WIRELESS CONTROL

### High-voltage and low-voltage circuits

The high and low voltage circuits are separately fused and can be operated separately. Circuits can be managed, maintained and monitored separately.

### Independent protection mechanism

For the input circuit, the high voltage output circuit and the low voltage output circuit. The system detects faults such as undervoltage, overvoltage, overcurrent, short circuit and initiates the appropriate protective measures. In addition, an audible alarm is triggered in the event of a fault.



## IN CONJUNCTION WITH X-431 EURO TAB III

### Wireless control of synchronised operation

Wireless control of synchronised operation via Bluetooth with the X-431 EURO TAB III. When the unit is connected, the current power supply mode, high/low voltage output conditions, setting parameters and other data are synchronised in real time.

# ELA320

## Technical profile

Precision

**Output voltage**

**Output current**

Display

**8 Segment LED Display**

Communication

**Bluetooth (BLE4.2)**



Supply voltage	AC 110 ~ 240 V@16A, 50/60 Hz	<b>Safety test insulation resistance:</b> AC input enclosure DC output housing AC input-DC output	DC1000 V, ≥ 10 MΩ (ambient temperature) DC1000 V, ≥ 10 MΩ (ambient temperature) DC1000 V, ≥ 10 MΩ (ambient temperature)
<b>Output parameters:</b> High-voltage voltage High voltage current Low voltage voltage Low voltage current	DC 250 ~ 750 V 0 ~ 5 ~ A DC 12, 24 V 1 A	<b>Dielectric strength test:</b> AC input enclosure DC output enclosure AAC input-DC output	AC2000 V, 50 Hz, ≤ 10 mA, 60S AC2000 V, 50 Hz, ≤ 10 mA, 60S AC2000 V, 50 Hz, ≤ 10 mA, 60S
<b>Control panel:</b> High voltage  Low voltage	Voltage regulation, current regulation, switchover button DC 12V& 24V, output voltage switchable, output push-button switch	Dimension	315 x 192 x 186 mm
Working temperature	-10 ~ 65 °C	Weight	4.85 kg
Working environment humidity	5 ~ 95% relative humidity		
Storage temperature	-40 ~ 70 °C		



# 2-CHANNEL OSCILLOSCOPE AND MULTIMETER

The EM101 is a new product from Launch Europe. It combines the functions of an oscilloscope and a multimeter as a 2-in-1 solution. It is suitable for measuring current, voltage and resistance on vehicles with a high voltage battery. In combination with the X-431 EURO TAB III it supports both wireless and wired communication and is easy to use. It is the first choice for workshops and their employees!



**COMBINATION OF 2-CHANNEL OSCILLOSCOPE AND MULTIMETER**



**COMPATIBLE WITH X-431 EURO TAB III**



**WIRELESS COMMUNICATION POSSIBLE**

## Versatile use

Combination of 2-channel oscilloscope and multimeter.

## Non-slip protection

Non-slip silicone cover for added product protection.

## Communication

The EM101 can be used in wireless mode or it can be used in wired mode with the LAUNCH X-431 EURO TAB III.

## Scope of delivery

Sets of needles, multimeter pins, alligator clips, test leads for the oscilloscope channels, etc. are included in the scope of delivery.

## Can be combined with X-431 EURO TAB III diagnostic units

The X-431 EURO TAB III diagnostic unit has three display modes that can be freely selected.

# EM101

## Technical profile

Battery

**3.100 mAh**

Channels

**2 analog channels**

Trigger type

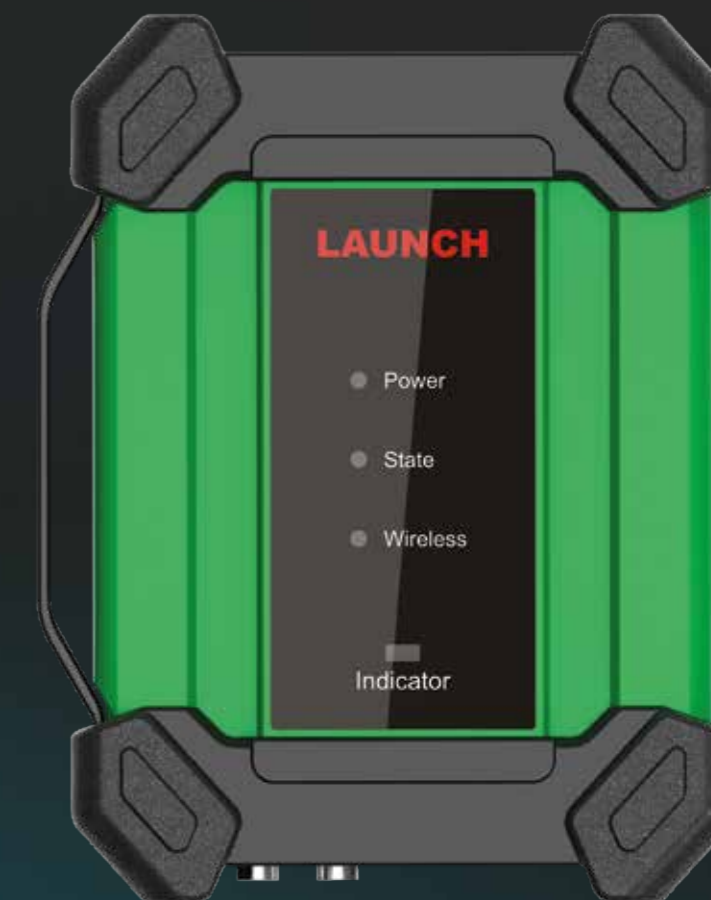
**Edge trigger, pulse width trigger**

Max. real-time sampling rate

**50 MHz / s**

Scanning mode

**Normal, peak detection, average**



Voltage AC, DC	Automatic range Test area: $\pm 600$ V	Storage	1 m
Current AC, DC	Test area: $\pm 10$ A, Test range: $\pm 10$ A	Input coupling	Direct current, alternating current, earthed
Resistance	Automatic range Test area: 0 ~ 6 M $\Omega$	Input resistance	1 M $\Omega$ $\pm$ 2%, parallel with 15 pF $\pm$ 5 pF
On and off	Alarm $\leq 30$ $\Omega$	Vertical sensitivity	2 mV / div ~ 5V / div 8 bits
Diode	0.5 V — 2.0 V	Vertical resolution	8 bits
Time base range	1 us/div ~ 10 s/div, Step by Step 1 ~ 2 ~ 5 mal	Max. Input voltage	40 V Peak value (DC + AC)
Automatic measurement	Peak value, average max., min., upper / lower	Probe damping factor	1X, 10X, 100X Probe holder required

# DIAGNOSTICS ADD-ON KIT

The scope of delivery includes 25 adapter cables for connection to the high voltage battery and jumper cables, with which a vehicle coverage of over 95% is provided.



**SUPPORTS VARIOUS BATTERY DIAGNOSTIC METHODS**



**IMPROVES REPAIR EFFICIENCY**



**QUICKLY READS BATTERY PACK INFORMATION**



**DIAGNOSTIC REPORT VIA E-MAIL**

## Battery diagnostic methods

Supports different battery diagnostic methods: Adapter cable diagnostics, OBD port diagnostics and jumper cable diagnostics.

## Streaming battery data

Streaming battery data helps pinpoint problems and improve repair efficiency.

## Battery pack information

Quickly reads battery pack information such as the number of battery pack modules. SOC, SOH, temperature, individual cell voltage and temperature of each module.

## Diagnostic report

The battery pack diagnostic report can be printed and emailed.

# ADD-ON KIT

## Battery pack cover

CATL, GUOXUAN, CALB, AISHUN, E-POW, BYD, SVOLT, RN TECH, COLIGHT, ETC.

## Electric vehicle coverage

VW, BMW, BYD, CHERY NEW ENERGY, MERCEDES, NIO, LEAP MOTORS, AUDI, BAIC NEW ENERGY, SEAT, SKODA, GM, FORD, FCA, NEZHA NEW ENERGY, ROEWE NEW ENERGY, LIXIANG, XIAOPENG MOTORS, TESLA, etc.



Battery Pack Special Joint	TL-100R		TL-101R		TL-102R	
	TL-104Y		TL-105R		TL-106R	
	TL-107R		TL-108Y		TL-109Y	
	TL-110B		TL-112B		TL-113Y	
	TL-114Y		TL-126R		TL-130R	

Battery Jumper Adapter	Jumper Cable (Jump-8)		Matching Adapter 1 (8 pcs)		Matching Adapter 2 (8 pcs)	
	Matching Adapter 3 (8 pcs)		Matching Adapter 6 (8 pcs)		Matching Adapter 7 (8 pcs)	
	Matching Adapter 8 (8 pcs)					
Accessories	Switching Power Supply (12 V 5 A)		Extension Cable		Packing List	
	Activation Csrđ					

# HV-BATTERY LIFT

The TLT610 lift is suitable for mounting and dismounting high voltage batteries, classic combustion engines, gearboxes, drive axles, fuel tanks, chassis components, etc. up to a total weight of 1,000 kg.



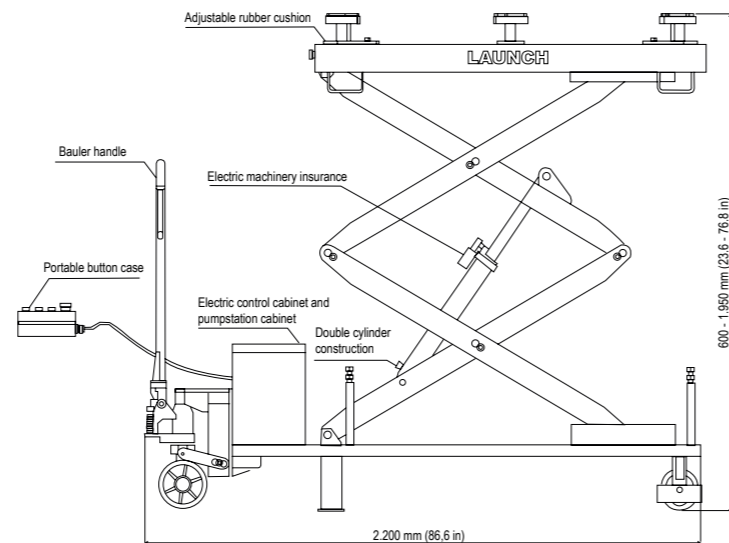
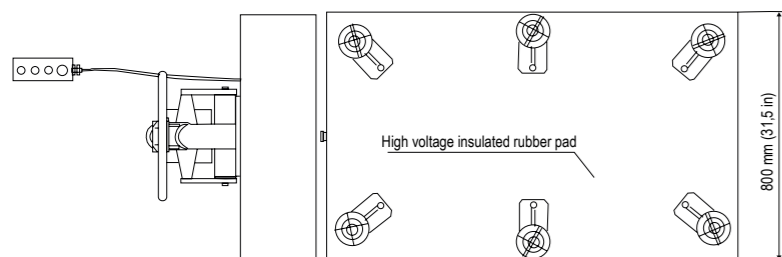
**EASY ASSEMBLY /  
DISASSEMBLY**



**LOWERING LOCK**



**MOBILITY**



# TLT610

## Technical profile

Load capacity  
**1.000 kg**

Lifting height  
**590 mm - 1.900 mm**

Length x width  
**2.200 x 800 mm**

Max. height  
**1.900 mm**



Lifting capacity	1.000 kg	Working temperature	5 °C ~ +40 °C
Min. lifting height	590 mm	Relative humidity	Temperature +30 °C relative humidity 80%
Max. lifting height	1.900 mm	Temperature during transport / storage	-25 °C ~ +40 °C
Lifting time	≥30 s — ≤90 s		
Lowering time	≥30 s — ≤30 s		
Working tension	12 V		
Total length	2.200 mm		
Total width	800 mm		
Side stroke of the table	40 mm		

# SCHEDULE OF WORKSHOP VISITS FOR

# ELECTRIC VEHICLES



**ELA320 Power Supply**  
To control components as part of a functional test using an adjustable voltage.

**TLT610 Battery Lift**  
For HV battery installation and removal.

**ES200 Insulation Tester**  
To check the high voltage battery for short circuits, the insulation resistance can be measured.

**ELT500 Airtightness Tester**  
To determine if the HV battery is leaking, a leak test must be carried out after work has been completed on the HV battery.

**ELB300 Cell Equaliser**  
Displays the different voltages of each high voltage module and allows you to equalise the voltages if necessary.

**ELP400 Charging and Discharging Unit**  
Can charge or discharge the entire HV battery. Discharging is responsible for working without voltage or disposing of the HV battery.

**Add-On Kit**  
Contains a range of connection adapters for European and Asian HV battery manufacturers.



**LAUNCH Europe GmbH**

Heinrich-Hertz-Str. 10, 50170 Kerpen

Tel.: +49 2273 9875-0, Fax: +49 2273 9875-33

[www.launch-europe.de](http://www.launch-europe.de)