

# Protoscar LAMPO<sup>3</sup>

## pure battery EV – specifications

### Unique features

#### Purpose design chassis:

- 1) For the first time a pure electric 2+2 coupé features a chassis specifically built around the electric components, unlike most EMs' EV-chassis, which are adapted from internal combustion versions. LAMPO<sup>3</sup> is the worldwide first pure electric sports car being a 2+2 seater and providing enough luggage space.
- 2) The light weight chassis carries actively cooled batteries, optimally positioned in the central tunnel to improve drive dynamics, safety and payload.
- 3) Three motors – of which two on the rear axle and one on the front axle – allow an improved dynamic behaviour of the car and an optimized torque vectoring, not only between front and rear axles, but also between the two rear wheels (the motors actively drive on different adapted RPMs for instance in curves, where the inner wheel turns slower than the outer wheel).

**Four wheel drive with active torque vectoring:** thanks to the 3 electric motors it is possible to control the torque of each rear wheel separately.

**Charging:** LAMPO<sup>3</sup> is equipped with the new BRUSA on-board charger NLG6 allowing up to 22kW of charging power. This means that LAMPO<sup>3</sup> can be charged with every kind of power actually on the market: from a standard single-phase 10 A plug, up to a three-phase 32A for charging at industrial plugs. Moreover, LAMPO<sup>3</sup> has a double interface for DC fast charging based on CHAdeMO and the new german standard.

**External charging status LED,** integrated charging cable

### Motorization

Electric vehicle (3 electric motors and Li-ion batteries),  
fixed transmission ratio (1/6.4)

### Electric motors

Type: BRUSA HSM1-10.17.12 hybrid synchronous with transaxle gearbox, powered by a BRUSA DMC534 inverter  
Quantity 3, one on front axle, two on rear axle  
Max Power kW (HP) 420 (570)  
Max shaft torque (Nm) 900 (from 0 to 4'500 rpm)  
Cooling water

### Batteries

Type: Akasol AKA System 18M

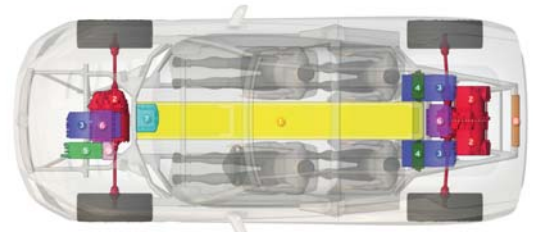
Quantity	18 Modules
Total rated energy (kWh)	42,3
Full charge (EU domestic plug) (h)	14
Total capacity 0.5C (Ah)	106
Nominal voltage (V)	400
Max. continuous discharge current (A)	400
Max. peak discharge current (A)	800
Max. charging current (A)	300
Total number of cells	216
Total battery weight (kg)	360
Cooling	water/glycol
Estimated life time @ 80% DOD (cycles/km)	>1000 / >160'000

### Battery chargers (on board)

Type: BRUSA NLG6	1
Power (kW)	22
Cooling	water

### DC/DC converter for the on board devices

Type: BRUSA BSC624-12V



LAMPO<sup>3</sup> BRUSA Components

- Li-Batteries
- DC Fast Chargers
- VCU
- E-Motors
- DC / DC (12V)
- AC-Charger
- Inverters
- FDU
- Insulation controller



### Performances and consumption

Max. speed (km/h)	approx. 220
Acceleration (sec., 0-100 km/h)	approx. 4.5
WtW emissions (g CO <sub>2</sub> )	0
Max torque on the wheels (Nm)	5'760
Range (km)	220
Energy consumption (Wh/km - ton)	99
Cost of energy (CHF/100km)	approx 2.40

Developed and manufactured by

# Protoscar

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## Vehicle Structure

Tubular steel chassis, composite material body

## Dimensions and weight

Length (mm)	4'687
Width (mm)	1'998
Height (mm)	1'307
Wheelbase (mm)	3'000
Number of seats	2 + 2
Weight (empty, kg)	1'840
Tires	245/40 R18 front, 295/35 R18 rear

## Interior equipment

Driving style settings  
Sport steering wheel  
Electric heating  
Central locking system  
Electric brake button on steering wheel  
Boost button on steering wheels

## Exterior equipment

Aerodynamic flat floor  
Targa roof  
Aerodynamic shaped back wheels cover  
LED tail lights

## Remote photovoltaic plant

Type: photovoltaic laminate by United Solar Ovonic with amorphous silicon cells

Surfaces (m <sup>2</sup> )	260
Rated power (kW)	16
Energy production per year (kWh/year)	16'800

## Price

Prototype, not for sale

