



Spanish Manufacturer of electric vehicles

# TECHNICAL FILE

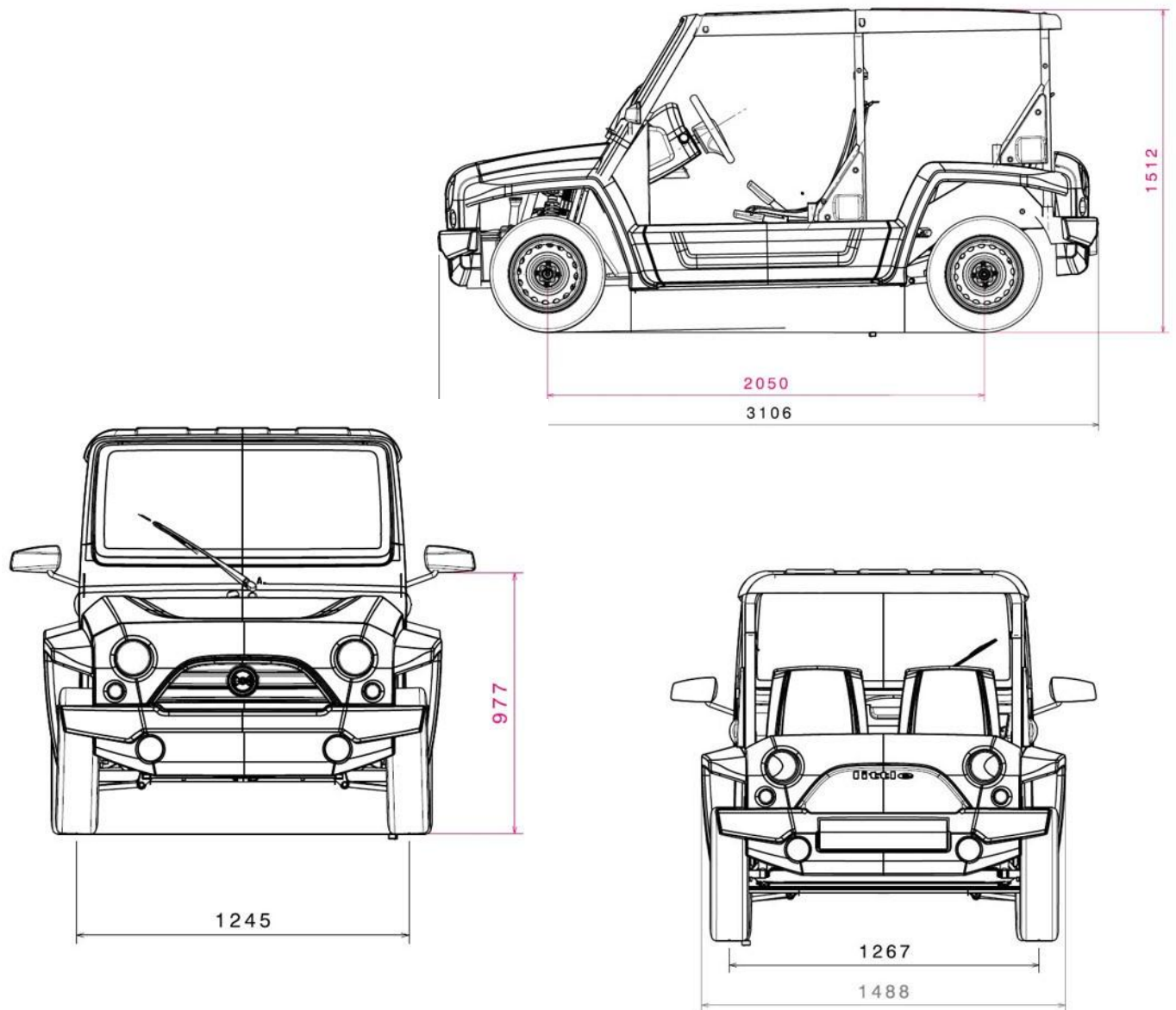
**Little 4**  
2 and 4 seats

**Technical  
Specifications  
Rates  
Components Information**

# APPROVAL & DIMENSIONS

Our vehicles have been approved for using on the road following the European standards of light / heavy quadricycles (directive 2002/24/EC as amended by Directive 2006/120/CE, Ref 97/24/CE)

| APPROVAL                | LITTLE 4 2 seats          | LITTLE 4 4 seats  |
|-------------------------|---------------------------|-------------------|
| Type of Approval        | Quadricycle light / heavy | Heavy Quadricycle |
| Nº of Seats             | 2                         | 4                 |
| Potencia Administrativa |                           |                   |



# TECHNICAL SPECIFICATIONS

| ELECTRIC TECHNOLOGY | LITTLE 4 2 & 4 seats  |
|---------------------|---|
|                     | 48 V  |
|                     | Easy Maintenance: No need to have an authorization to intervene in electric vehicle       |
| CHASSIS             |   |
| Type                | Steel Trellis   |
| Protection          | Epoxy Paint   |
| BODYWORK            |   |
| Type                | Composites Materials  |
| BRAKES & SUSPENSION |   |
| Front Brake         | Unventilated Discs  |
| Back Brake          | Unventilated Discs / Mechanic Hand Brake  |
| Front Suspension    | Independent Wheels<br>Type pseudo McPherson<br>Combined Coil Springs / Telescopic Dampers |
| Back Suspension     | Inclined Arm<br>Coil Springs / Telescopic Dampers   |
| TRANSMISSION        |   |
| Type                | Automatic gearbox and differential  |
| Location            | Front end   |
| Reduction Ratio     | 1 : 9.91  |
| DIRECTION           |   |
| Type                | Unassisted Zipper   |

| WHEELS   |               |
|----------|---------------|
| Type     | 135 - 80 / 13 |
| Tires    | 13 inches     |
| Pressure | 1.7 bar       |

| MASSES                                   | Little4 2 seats  | Little4 4 seats |
|--|------------------|-----------------|
| Unladen Mass (battery included, no team) | 350kg            | 366kg           |
| Battery Masses (Base)                    | 304 kg (4*76 kg) |                 |
| Mass Ongoing                             | 630 kg           | 646 kg          |
| Mass Max. Technically Permissible        | 905 kg           | 921 kg          |
| Mass Useful load                         | 200 kg – 400 kg  |                 |

| PERFORMANCE               |                                 |
|---------------------------|---------------------------------|
| Max. Speed                | 45 km/h (Autolimited) - 60 Km/h |
| Autonomy                  | <100km                          |
| Acceleration 0 to 40 km/h | 9 s                             |

(1) Following Road Test Cycle

The range depends on operating conditions (speed, load, uneven...) and of ambient temperature.

# INFORMATION COMPONENTS

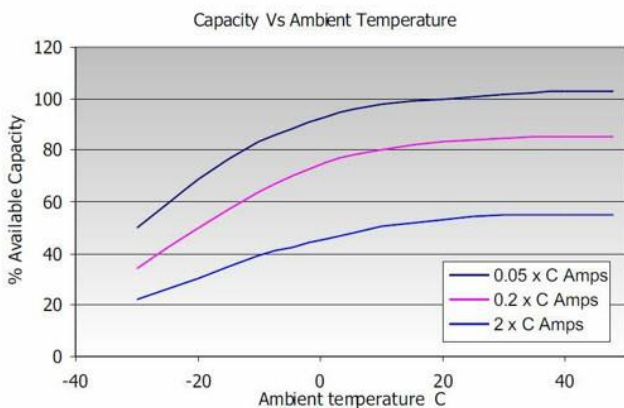
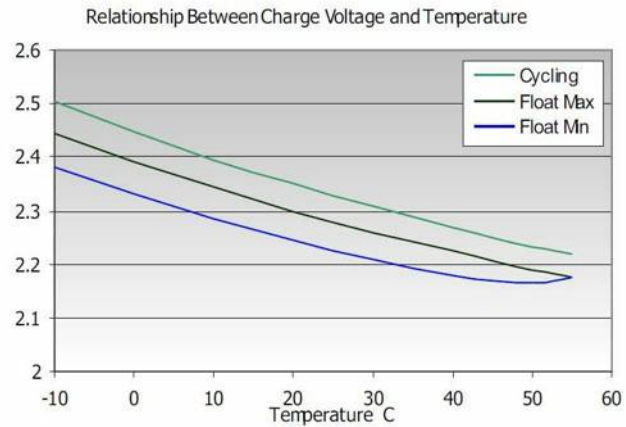
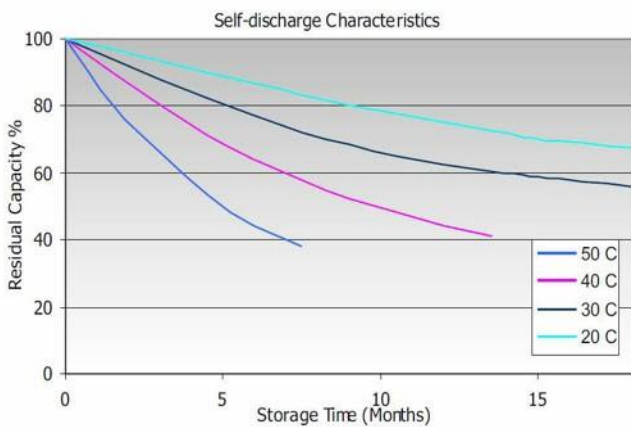
## BATTERIES

We have selected Gel / Lead Batteries that meet industrial requirements.

- ✓ Without maintenance (no needs control, no needs addition of acid)
- ✓ Without gas emission
- ✓ Without risk of spillage of acid

| General Characteristics      | Base  |
|------------------------------|---|
| <b>Type</b>                  | <b>GEL/Lead<br/>Without Maintenance</b>                               |
|                              | <b>230 A/h</b>  |
| <b>Tension</b>               | <b>12 v</b>   |
| <b>Operating temperature</b> | <b>(-20°C) a (+50 °C)</b>   |
| <b>Charging time</b>         | <b>7 h</b>  |
| <b>Charging tension</b>      | <b>2.27 – 2.30 VPC @ 20°C (floating)<br/>2.4 VPC @ 20°C (Cycling)</b> |
| <b>Box</b>                   | <b>ABS</b>  |
| <b>Units by Vehicle</b>      | <b>4</b>  |
| <b>Unit Weight</b>           | <b>74.5 kg</b>  |
| <b>Unit Dimensions</b>       | <b>521*210*205 (mm)</b>   |

Gráfico by Gel/Lead batteries



# INFORMATION COMPONENTS

## Energy Regulator

Made by a world renowned builder, this controller responds to the most demanding industry standards.

Depending on customer needs, LITTLE can modify the scheduling parameters (speed limit, brake assist)



| GENERAL CHARACTERISTICS        |  |
|--------------------------------|--|
|                                | Power Components of Positive Security<br>Redundant Protection Circuits<br>Protection against polarity reverse<br>Output Drivers Short-Circuit protected<br>Thermal Protection, Automatic cut alert and motor protection<br>Waterproof case |
| <b>Current Limiter Arms</b>    | 350 A ( 2 min)   |
| <b>Power rms</b>               | 19.7 kVA   |
| <b>Conformity to Standards</b> | EN 50081-1-2<br>EN 61000-6-2<br>EN 12895<br>EN 1175<br>IP 65   |

## Converter



| GENERAL FEATURES                       |   |
|--|---|
| Nominal Power                          | 200                                       |
| Maximum Power                          | 250                                       |
| Frequency                              | 60  |
| Flow Limit of Output @ 12V             | 3   |
| Nominal Flow of Output (1 hour)        | 12.5                                      |
| Regulation of output voltage           | + -                                       |
| Residual Peak / Output Voltage         | <   |
| Input Voltage Limit                    | 65% of rated voltage                      |
| Short-Circuit Protection               | S   |
| Protection against polarity inversions | S   |
| Performance                            | >85                                       |
| Protection against transient voltages  | + - 500 V @ 500                           |
| Dielectric Insulation                  | 1000V @ 60 Hz sine wave for 1 min         |
| Thermal Protection                     | Thermo-stop operation contact +90 ° c     |
| Operating Temperature                  | -30 º à +                                 |
| Protection Index                       | IP65 ( Terminals IP20)                    |
| Vibration and Shocks                   | SAE J1378 mars                            |
| Electromagnetic compatibility          | EN 50081-1 for emission EN 50082-2 immune |

# INFORMATION COMPONENTS

## CHARGER

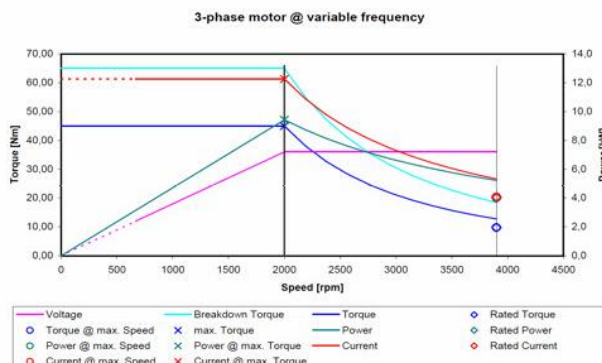
The charger has been specifically designed and studied for our vehicles and batteries.

| GENERAL FEATURES                 |  |
|----------------------------------|--|
| Type                             | HF (High Frequency)  |
| Battery type considered          | Gel / Lead Traction Battery  |
| N° of elements                   | 24 of 2V   |
| Capacity                         | 160 A min. à 300Ah Max.<br>Automatic adjustment of the load curve                                  |
| Nominal Input Voltage            | 230 V +10 / -15%   |
| Frequency Network                | 50/60 Hz +/- 1%  |
| Irruption                        | Limité par CTN   |
| Output Power Max.                | 1440 W +/- 3%  |
| Output Flow Max.                 | 30 A +/- 2%  |
| Output Flow Max.                 | 48V  |
| Tolerance to the voltage level U | 1%   |
| Protection Index                 | IP20   |
| TERMS OF USE                     |  |
| Storage Temperature              | -10°C a + 50°C   |
| Operating Temperature            | 0°C a +40°C  |
| Relative Humidity                | 90%  |
| STANDARDS                        |  |
| Safety                           | EN1 175-1<br>EN60 335-1 et EN60 335-2-29<br>EN60 950   |
| Electromagnetic compatibility    | EN 50081-2 emissions / EN 50082-2  |
| e                                | Protection against reverse polarity for 2 automotive type fuses 25A fuse<br>protection for 1 field |

## ENGINE

German Engine Manufacturing, designed to withstand the most stringent conditions in the work environment Industrial. Its technology «brushless» does not require any maintenance.

| GENERAL FEATURES | Little 4 2 and 4  |
|------------------|---|
| Type             | Electric Motor Drive - Asynchronous<br>Winding: Iso - KI F, separate excitation |
| Power            | 4 kw @ 3900   |
| Location         | Back  |
| Voltage service  | 3x28  |
| Par Max.         | 45 nm @ 2000  |
| Frequency        | 135   |
| Protection       | IP2   |





**Spanish Manufacturer of electric vehicles**



**Production  
plant  
approved**



**LITTLE ELECTRIC CAR  
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Seal Distributor / Dealer