



IDEAL CROSS BETWEEN TRAM AND BUS.  
**THE ELECTROLINER**

**NEOPLAN**  
VIP CLASS

MAKE WAY FOR MOBILITY.



Trolleys combine the best of tram and bus. This attractive system for local public transport is not only particularly environmental friendly and energy-saving but is also characterised by a favourable purchase price – a worthwhile investment in the future of mobility. The vehicle is driven by secondary energy from electric power. This means it can make use of the full diversity of power generation – be it current or future primary energy sources. Interesting alternatives such as water power, geothermal energy and wind power are also possible. A trolley

bus system will hence remain up to date for decades. Trolleys offer maximum flexibility, manoeuvrability, robustness, simplicity of design, safety and comfort. They realise high transport capacities and correspond to the latest requirements made of technology, economy and design. Trolleys from Neoplan are available in two ranges. Thanks to diverse vehicle sizes between 12 and 18.75 m in length, they are ideally suited to the requirements of local public transport.



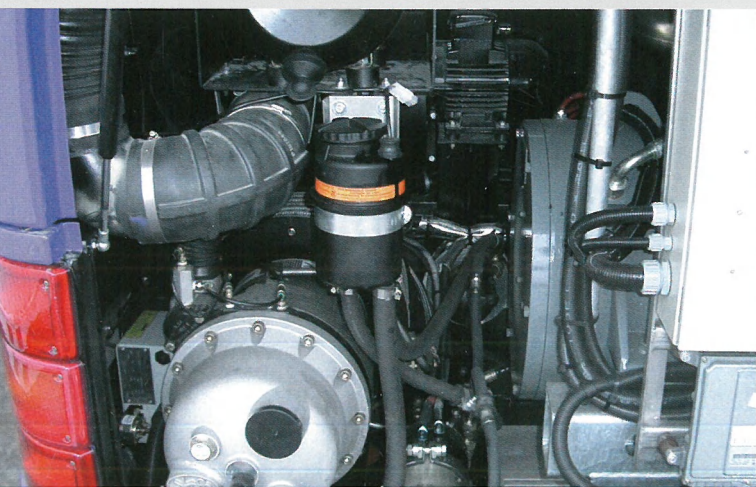
## NEXT STOP: TOP-OF-THE-RANGE TECHNOLOGY.

Trolleys from Neoplan offer 100% top-of-the-range technology made in Germany. The energy supply comes from a two-pole overhead cable and is protected by three insulation levels and insulation monitors. The emphasis is very much on safety. The vehicle has disc brakes, for example, on all axles and separate PTOs for the pneumatic system, the steering hydraulics with two supply pumps and a selection of heating systems adapted to trolley operations. In addition, the recovery system makes for an efficient use of energy by means of recuperation. The powerful one or multi-axle drive guarantees fluent, jolt-free driving and is ideally suited to complex topographies – winding routes, downhill and slopes present absolutely no problem. Modular possibilities for extension such as an additional generator set or a battery for extra network-independent journeys round off this impressive concept.

→ Welcome to the mobile future: Our vehicles are functional, efficient, practical, manoeuvrable, robust – and aesthetically attractive.



→ Comfort and safety for the driver: Everything has been thought of in the cockpit too.



→ The finest technology: State-of-the-art components make for maximum power, economy and environmental compatibility.



Gaia Trafikk



NEOPTIMAN



6335

EL 10899

## A SYSTEM WHICH PAYS FOR ITSELF.

The extremely reliable trolleys from Neoplan not only characterise the modern cityscape but also offer the operator a series of tangible benefits. Cost-efficient both to buy and commission, they represent a flexible and value-for-money alternative to the tram: Rails need not be laid and separate lanes are not required. As electrically-powered vehicles,

they protect the environment, making you independent of fossil fuels – exhaust emissions are not an issue. Our vehicles guarantee low operating costs with maximum benefit. They thus take the pressure off private transport and raise the level of safety on the roads.







## TOP QUALITY TO SERVE EVERYONE.

Our trolleys make a significant contribution to the quality of life. Their electric drive is characterised by maximum ride comfort, minimum noise and exhaust-gas emissions. The highly effective electric brakes, for example, allow sustained recovery of energy which is then fed back into the overhead cables, from whence it is available to other trolley buses on the same route. Electric braking via the drive motor too is possible down to very low speeds. This takes the pressure off not only the mechanical brake but also the brake wear and hence keeps even particle emissions by brake pad abrasion low. Smooth driving-off, rubber tyres and easy-to-apply brakes also make the trolley extremely quiet – a blessing for passengers and residents alike.

→ Electroliners from NEOPLAN offer unlimited comfort.



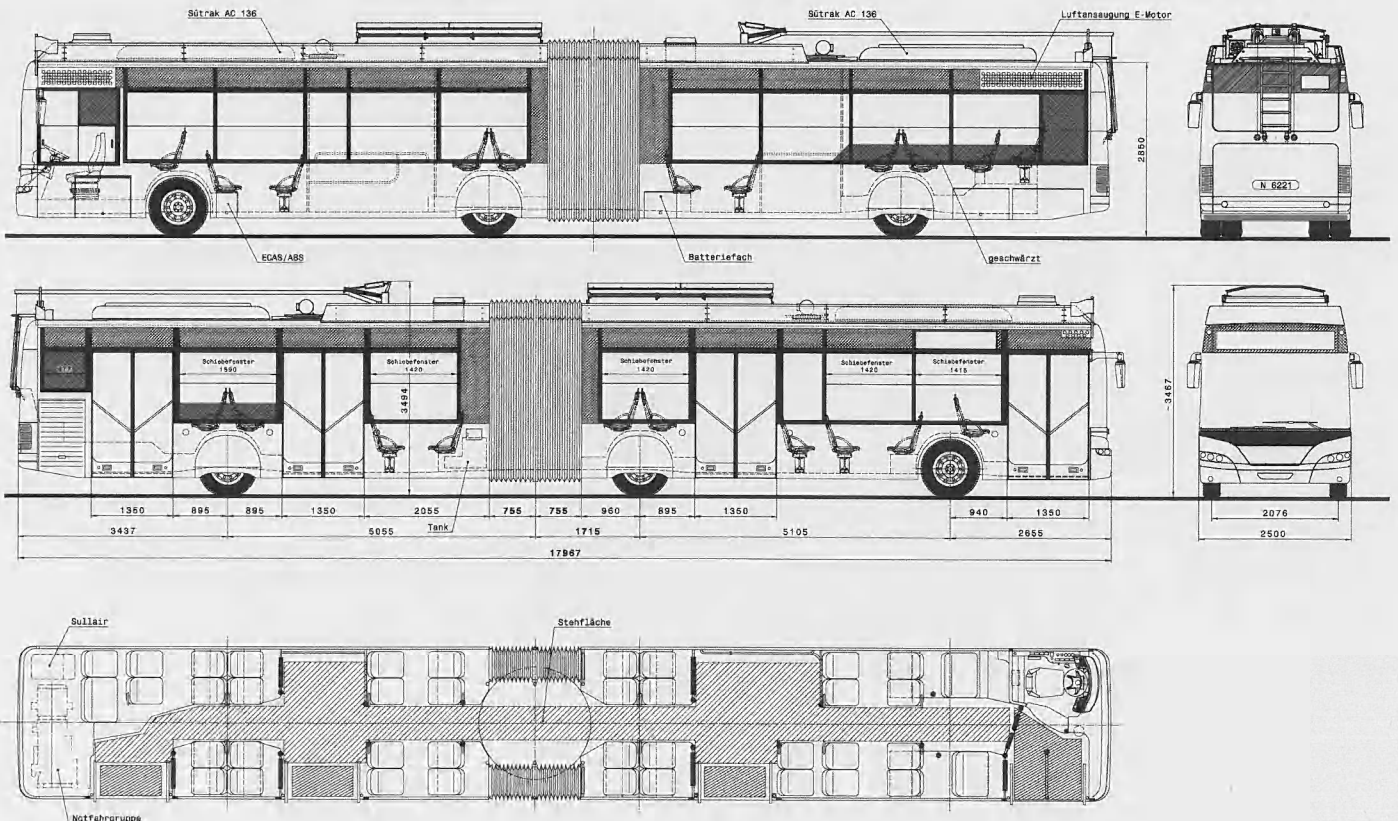
→ The electric power makes the vehicle particularly quiet.



# VEHICLE DATA TAKING ATHENS AS AN EXAMPLE

|  | <b>Solobus N 6216</b> | <b>Articulated bus N 6221</b> |
|--|-----------------------|-------------------------------|
| <b>Length</b>  | 11,947 mm             | 17,947 mm                     |
| <b>Width</b>   | 2,500 mm              | 2,500 mm                      |
| <b>Height (overall)</b>                                  | 3,685 mm              | 3,685 mm                      |
| <b>Wheelbase</b>   | 5,875 mm              | 5,105 + 1,715 + 5,055 mm      |
| <b>Overhang front / rear</b>                             | 2,660 mm/3,412 mm     | 2,660 mm/3,412 mm             |
| <b>Standing height (except above from via rear axle)</b> | 2,446 mm              | 2,446 mm                      |
| <b>Clearance circle</b>                                  | 22,130 mm             | 24,010 mm                     |
| <b>Permiss. gross weight</b>                             | 19,000 kg             | 27,500 kg                     |

Performance data are individually coordinated with the traction equipment from our partners.



## WE HAVE THE REFERENCES. YOU HAVE THE CHOICE.

As a consequence of the merger of our bus activities with MAN in 2001, Neoplan has become the brand for high-quality, long-life and technically advanced bus systems. This includes – amongst others – the concentration of the joint expertise in the area of electric buses in the Pilsting plant. In this area we are particularly concentrating on the development and realisation of new passenger transport concepts. Our joint experience with electrically driven buses spans over 50 years. Trolleys with a central motor in low-floor design for Austria, Germany, Italy and France have been developed and built at the MAN subsidiary Gräf & Stift in Vienna since 1992 – and recently also as chassis in cooperation with body companies such as Autodromo in Italy and Hess in Switzerland. Intensive work on electrically-driven buses, alongside numerous projects with diesel-electric buses, hybrid, battery and even fuel-cell buses, finally led Neoplan to the new generation of trolley, the Electroliner. Our classic line with wheel hub motors, the reluctance motor or other single-wheel drives has, for instance, been used in the cities of Basel and Lausanne. Additionally, in 2004 we successfully processed a major order for Athens comprising solo buses with central motor. The equally successful introduction of the current Electroliner range 2003/2004 with a further order for 90 solo buses and 50 articulated buses for Athens represents the role Neoplan played in the successful staging of the Olympic Games. The Electroliner articulated buses, which were delivered to Bergen at the same time, have proved themselves capable of performing just as well in an environment which is completely different to that in Athens.



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VIP CLASS