



Articulated Electric Bus with In Motion Charging (IMC)
Esslingen, Germany

Vossloh Kiepe – Future meets Experience

Project characteristics

- Articulated electric bus with In Motion Charging (IMC)
- e-bus for intensive passengers transportation
- Charges the batteries during passenger transportation
- No stand still time due to waiting for battery recharging
- Wireless line extensions of trolley bus network
- 4-wheel-drive for stable driving characteristics
- e-bus with unlimited range and full heating & air conditioning
- Lithium-Titanate traction batteries for up to 10 km wireless operation

The public transport company in Esslingen, the "Städtischer Verkehrsbetrieb Esslingen" (SVE), ordered 4 Trolleybuses equipped with powerful traction batteries for wireless line operation. SVE will operate that e-bus with In Motion Charging (IMC) on routes with over 50% wireless sections in hilly topology.

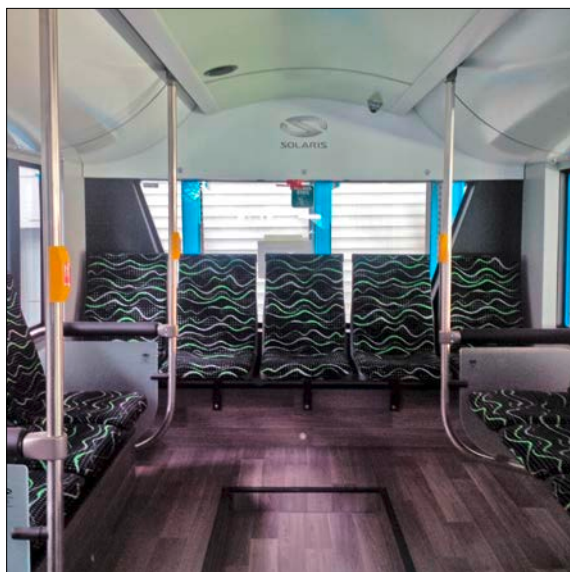
The combination of proven trolley bus technology and high tech batteries has many advantages. The overhead wires provides sufficient energy for the traction, battery charging, heating, air conditioning and infotainment, besides it is an universal interface for electrical buses and not tying up to an unique provider of a charging station.

The IMC concept allows to charge the batteries during passengers transportation, thus without standing and waiting. This allows intensive traffic during the whole day with zero emissions.

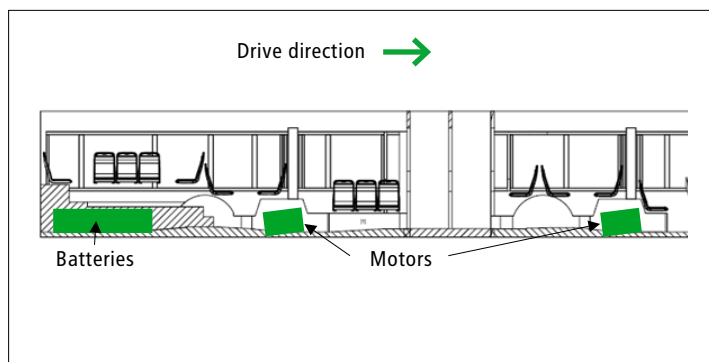
The implementation of a four wheel drive provides powerful acceleration even on steep inclines. Furthermore the recuperation by the two motors achieves a higher energy recovery compared with a single drive. This four wheels drive gives additional driving stability and lowers maintenance costs, since the torque is distributed over two axles and cardan shafts resulting in lower wear of the tires.

Starting 1983 SVE has continuously acquired their trolley buses powered by Vossloh Kiepe.

Vossloh Kiepe provides the complete electrical traction equipment, the on-board power supply system, the traction batteries and the automatic current collector system.



„VIP“ lounge in the rear, placed above traction batteries



The batteries are located under the seats in the rear of the bus

Technical data

Design / model	Articulated low floor trolley bus Trollino 18.75 MetroStyle (Solaris / Vossloh Kiepe)
Vehicle size	18.75 m length x 2.55 m width x 3.5 m height
Passenger capacity	110 (44 seats)
Vehicle weight	20.48 t empty; 28 t full; 7.52 t load
Electric motor	2 x 160 kW asynchronous motors at the 2 nd and 3 rd axle (4 wheel drive)
Electric motor control	Forced air cooled IGBT inverter
Energy storage	Lithium-Titanate LTO with 37 kWh usable energy / max. power 240 kW
Charging concept	In Motion Charging (IMC) 150 kW; standing limited to 50 kW
Current collector system	Automatic lowering and rising supported by funnels installed on the overhead line
On-board power supply	Approx. 10 kW 24 V DC / 35 kW 400 V AC
Heating / Air condition	40 kW / 25 kW

Subject to change without notice.

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