



# ELECTRIC DOUBLE-DECKER MULTIPLE UNIT KISS

BeNEX GmbH/Netinera Deutschland GmbH

For operation on network routes of the Berlin/Brandenburg city rail, BeNEX GmbH and Netinera Deutschland GmbH jointly purchased 16 KISS double-decker multiple units in December 2009. Ostdeutsche Eisenbahn GmbH (ODEG) started operation in December 2009. The 4-car double-decker multiple units have 428 seats, 24 of which are in first class. There are generous multifunctional zones for the transport of bicycles. The KISS range of vehicles is based on a vehicle concept for regional services. The vehicles have a consistent modular structure. The drive areas are concentrated above the motor bogies.

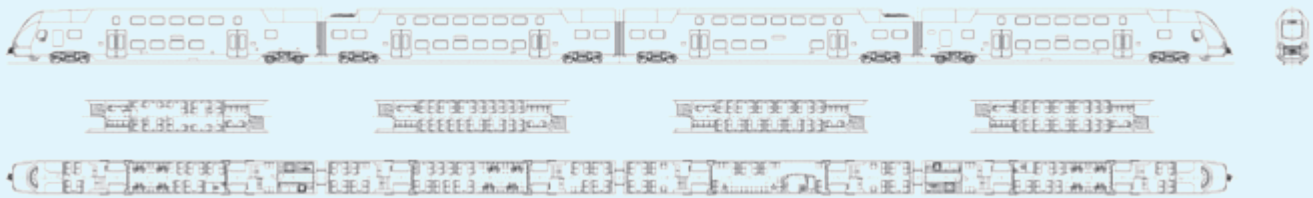
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## Technical features

### Technology

- Car bodies in fully welded integral aluminium design.
- Optimised access height for 550 platforms
- Motor bogies and trailer bogies with pneumatic suspension
- Multiple unit capability

### Comfort

- Bright, air-conditioned passenger compartment with individual design
- LED lighting of passenger compartment
- Generously dimensioned entrance areas for optimum passenger flow.
- Eight entrance doors per side
- Three vacuum toilet systems
- All toilets comply with TSI PRM for people with reduced mobility; one toilet features a changing table
- Seating areas with enhanced seat pitch
- Sliding steps on all doors

### Personnel

- Ergonomically designed driver's cab

### Reliability / Availability / Maintainability / Safety

- Compliance with the requirements of DIN EN 15227 (crash standard)
- Compliance with the requirements of TSI PRM and TSI Noise
- Compliance with fire protection level 3 in accordance with DIN 5510-1 and operating category 2 in accordance with CEN/TS 42545-1
- Interior video surveillance

## Vehicle data

<b>Customer</b>	BeNEX GmbH/ Netinera Deutschland GmbH
<b>Lines serviced</b>	Berlin/Brandenburg city rail network: Wismar–Wittenberge–Berlin Hbf–Cottbus Stendal–Rathenow–Berlin Hbf–Jüterbog
<b>Number of vehicles</b>	16
<b>Commissioning</b>	2012
<b>Gauge</b>	1435 mm
<b>Length over coupling</b>	105220 mm
<b>Vehicle width</b>	2800 mm
<b>Vehicle height</b>	4630 mm
<b>Floor height</b>	
Lower deck	440 mm (from top of rail)
Upper deck	2515 mm (from top of rail)
<b>Entrance width</b>	1300 mm (span)
<b>Access height</b>	580 mm
<b>Seats</b>	428
First class	24
Second class	404 (of which 80 tip-up seats)
<b>Axle arrangement</b>	2'Bo' + 2'2' + 2'2' + Bo'2'
<b>Bogie wheelbase</b>	2500 mm
<b>Driving wheel diameter</b>	920 mm (new)
<b>Starting tractive effort</b>	200 kN
<b>Maximum speed</b>	160 km/h
<b>Max. acceleration</b>	0.63 m/s <sup>2</sup> up to 80 km/h
<b>Supply voltage</b>	15 kV, 16 2/3 Hz
<b>Continuous output at wheel</b>	2000 kW
<b>Max. output at wheel</b>	3000 kW