

Tram Train Avanto, Paris

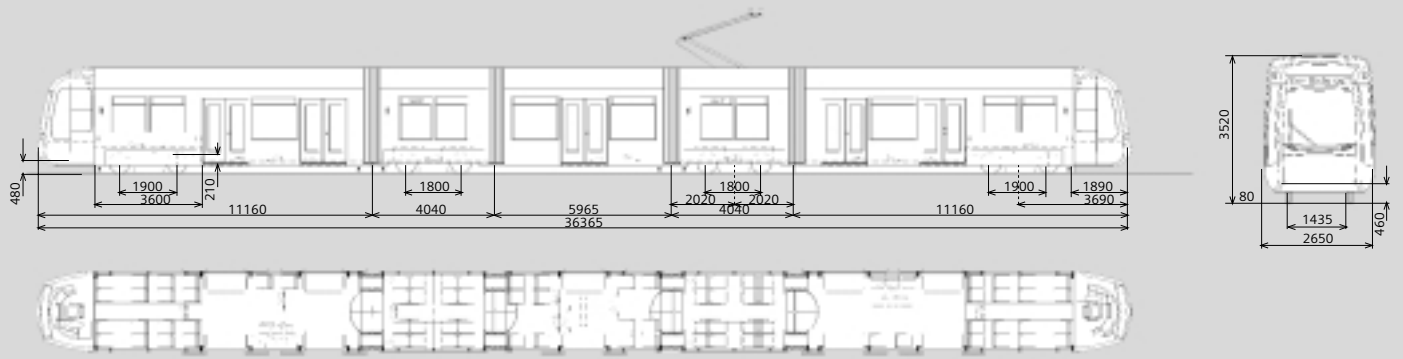
for SNCF (Société nationale des chemins de fer français), Paris

Five-section articulated low-floor light rail vehicle for bi-directional operation

Track adhesion	52 %
Wheel arrangement	Bo' 2' 2' Bo'
Track gauge	1 435 mm
Vehicle length over coupler	36 965 mm
Vehicle width	2 650 mm
Vehicle height above TOR	3 520 mm (pantograph lowered)
Vehicle empty weight	59,7 t
Vehicle weight when full (at 6 Pers./m ²)	81,7 t
Maximum axle load	11,5 t
Capacity (at 4 Pers./m ²)	242 including 80 seats / 6 folding seats
Maximum speed	100 kph
Line voltage	DC 750 V, AC 25 kV / 50 Hz
Traction motors (constant performance at revolutions)	4 x 200 kW at 2 500 min ⁻¹ (IEC 349-2)
Wheel diameter (new/worn)	powered bogie: 660 mm / 610 mm unpowered bogie: 660 mm / 620 mm
Minimum curve radius	20 m
Minimum vertical radius	> 250 m
Traction-motor converter	2 IGBT PWM inverter
On-board power supply	DC 24 V, 3AC 460 V / 60 Hz
Low-floor component	80 %
High-floor section above TOR	381 mm low floor section, 655 mm above the powered bogies at the vehicle's endings
Low-floor section above TOR (entrance area)	356 mm
Delivery	2004 – 2005

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efficient rail solutions



While undertaking a modernization program of a railway line between the two urban quarters of Aulnay-sous-Bois and Bondy in the Eastern periphery of Paris, the SNCF chose the Avanto®. This contract is a future-oriented reference for two-system light rail networks in the European market.

The 35 commissioned vehicles for Paris have a modern design which combines the best in innovative technology, comfort and speed as well as integrating smoothly into the urban environment.

The railcar body is a lightweight construction with curved side walls and exterior cladding with pultrusion profiles.

There are 5 double-leaf swing-plug sliding doors, on each side of the vehicle, with a gap bridge for main-line train platforms. The first door on the right side of the vehicle is equipped with a mechanical folding ramp as boarding aid for passengers in wheelchairs.

The vehicles are equipped with four asynchronous motors and two air-cooled drive power converters for operating voltages of 750 Volt DC (public transit) and 25 kV (regional transit). The car control unit is based on SIBAS® technology.

Two Avanto cars can be coupled together in passenger service; up to 4 cars can be coupled for shunting operations.

The Avanto is fully air-conditioned, it will also receive video monitoring units for the vehicles interior and exterior.

The Passenger Information System also announces the progress of the train's course dynamically. It is an open system.

For main-line routes, the vehicles are also furnished with a train radio tele-communications system and a railway supervision system.



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Siemens AG
Transportation Systems
Light Rail
Postfach 32 40
91050 Erlangen
Germany

Internet: www.siemens.com/ts
www.siemens-avanto.com

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