

35 FOUR-CAR G1 METRO TRAINS

Metro **Nuremberg**

In November 2015 Nuremberg's mass transit operator VAG (Verkehrs-Aktiengesellschaft Nürnberg) awarded an order to Siemens AG to supply 21 G1-type metro trains. This rolling stock will replace the 42 DT1-type two-car trainsets. The order was subsequently extended by 14 trains.

The four-car G1 metro trains started passenger service on line U1 in August 2020.

The focus in procuring the new fleet was on passenger comfort and an optimized passenger flow. The vehicle design was elaborated in close collaboration with VAG and the design agency ergon3design. The bright and friendly design of the entire interior area, with its generous multifunction areas, creates a subjective sense of safety and guarantees a pleasant ride.

Innovative light signals to show door status, wider doors and an end-to-end passenger area improve passenger flow. For the drivers, too, attention was paid to ensuring a high level of workplace comfort: the driver's cabin is set up to enable the driver to operate the train either standing or sitting.

The rolling stock is designed for manual operation. For a future expansion to fully automated operation, spaces and interfaces for the necessary AGT systems have already been considered in the vehicle design and the driver's cabs can be dismantled.

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- Generous multifunction areas and comprehensive passenger information ensure a high level of passenger comfort.
- Temperature in the passenger area is controlled by one compact air-conditioning unit per car. Separate air-conditioning systems are provided for both drivers' cabs.
- Ergonomic driver's workplace for seated or standing use.
- Improved orientation while boarding or alighting the vehicles: from inside above the door, and from outside on the door leaves, LED strips indicate whether the door is opening, closing or is not operational.
- Automatic sliding steps on all doors increase safety for all passengers, improve passenger flow and enable barrier-free access for all passengers.
- Storage heating systems ensure energy-saving heating for the passenger area.
- Low-maintenance interior and exterior LED lighting ensures reduced energy consumption.
- Electrodynamic braking down close to standstill ensures wear-free service braking.
- The rolling stock complies with the new stringent fire prevention regulations as per DIN EN 45545 and is equipped with a fire alarm system.

Technical data

Train configuration	Mc-M-M-Mc
Wheel arrangement	Bo'Bo'+Bo'Bo'+Bo'Bo'+Bo'Bo'
Car body material	Aluminum, welded
Track gauge	1,435 mm
Length over couplers	75,885 mm
Width of car	2,900 mm
Floor height above top of rail	1,050 mm
Maximum axle load	12.8 t
Train capacity (4 passengers/m^2)	604, including 128 sitting
Passenger doors per car	2 x 3 sliding-plug doors
Door width	1,400 mm
Maximum operating speed	80 km/h
Power supply	750 V DC / third rail

- Train control is assured by an MVB bus based on the proven Sibas 32® system.
- A separete Ethernet is installed for diagnostic data of the train control system, for video data and for passenger information. During train operation, diagnostic data is transmitted to the workshop, and video images are transmitted to the operation control centre via WiFi.
- For service and maintenance work in the depot, a four-car train can be rapidly separated into two half trains via an automatic coupler.

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