



ELECTRIC DOUBLE-DECK MULTIPLE UNITS FOR EGYPT

Desiro HC Egypt

Siemens Mobility will deliver 94 Desiro high-capacity lightweight four-car regional train sets equipped with the latest European Train Control System (ETCS) Level 2 technology for the Egypt High Speed Project.

The combination of single-deck power cars and double-deck trailer cars yields higher passenger capacities, while strategically arranging the major components on the roof of the end cars facilitates maintenance and also help create more usable space inside the cars.

By making full use of the vehicle gauge profile, more head and shoulder room is provided for passengers in the upper deck. Generous entry areas with wide access doors also enable rapid and safe boarding and exiting.

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Interior design

Egypt's HC Desiro train is designed with passenger comfort and accessibility in mind. Each middle car is a double-decker with two staircases, ensuring easy movement throughout the train.

For convenience, there are four toilets, including two spaces dedicated for wheelchair users, and a trolley station for refreshments. Safety and information are paramount, with 24 CCTV cameras and 33 passenger information screens of various types distributed inside the train.

The exterior is equipped with 16 loudspeakers, while the interior boasts 85 loudspeakers and 17 passenger intercoms for clear communication. Accessibility is further enhanced with 16 doors, two on each side of every train car. The train's length is an impressive 105 meters, and it can reach a maximum operating speed of 160 km/h.

Each pair of seats having access to a 230 V AC power socket and USB. Comfort is not compromised, as each seat comes with a built-in foldable table and seat pocket net whereas facing seats feature larger tables for added convenience.

Lower deck



Upper deck



Safety features include a fire alarm system for early detection and a public address system for general announcements, ensuring a secure and pleasant journey for all passengers.

The train has a total capacity to accommodate 849 persons, making it an excellent choice for mass transit while ensuring individual space and comfort.

Traction

The traction system is developed for the Egypt network with its 25 kV, 50 Hz catenary system. In normal operation the unit reaches a maximum operating speed of 160 km/h.

Train Control Monitoring System

The central control unit (CCU) is the key element of the electronic control level and manages the train control. Superior-level control, regulation and monitoring functions are performed and coordinated directly.

In the scope of the project, the Siemens railway automation system SIBAS PN based on PROFINET is used. PROFINET is based on Fast Ethernet with 100 Mbit/s, full duplex and switching properties. It is manufacturer-independent and can be seen as a standard in the railway industry.



Vehicle details

- High-quality, timelessly elegant atmosphere in the interior fittings
- Barrier-free access in the end cars for passengers with wheelchairs or strollers
- LED lighting throughout the vehicle
- Powerful air-conditioning, energy-optimized control based on passenger load
- Air-suspended motor and trailer bogies from the SF 100 and SF 500 families
- Large number of displays for passenger information
- High-resolution CCTV cameras
- Ethernet-based Train Control and Train Operator Networks
- Future-proof implementation in accordance with European standards, including TSI-compliance and train protection ETCS level 2
- Upgraded to Egypt specific conditions like higher ambient temperature as well as sand and dust

Technical data

Wheel arrangement	Bo'Bo'+2'2'+2'2'+Bo'Bo' (4-car unit)
Track gauge	1,435 mm
Maximum speed	160 km/h
Maximum power at wheel rim	4,800 kW
Starting acceleration	up to 1.1 m/s ²
Catenary voltage input	25 kV / 50 Hz
Passenger capacity	389 seats
Access height	800 mm end car / 730 mm middle car
Car body width / height	2,820 mm / 4,640 mm
Car body length	26,226 mm end car / 25,200 mm middle car
Vehicle weight	260 t under normal payload
Operating temperature	Upgraded to Egypt condition up to 50 °C

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