



Desiro UK DMU Class 185

Customer demand over the last years shows the trend towards faster regional travel with more comfort for the passengers.

Desiro UK DMU Class 185 has been designed based on the idea to shorten travelling time but also at the same time to satisfy demand of high passenger comfort. Our vision is to set new standards in comfort combined with the maximum level of safety.

The train has been developed on request of a UK operator in order to cover the regional traffic demands of the UK market. The original three-car train design allows also two-, four-, five-, six-car vehicle consists.

The 70 m long three-car unit is drawn by a high powered diesel engine.

The interior of the train is well equipped with air conditioning, modern passenger information systems, on train monitoring recorder and space for handicapped passengers.

Technical Data

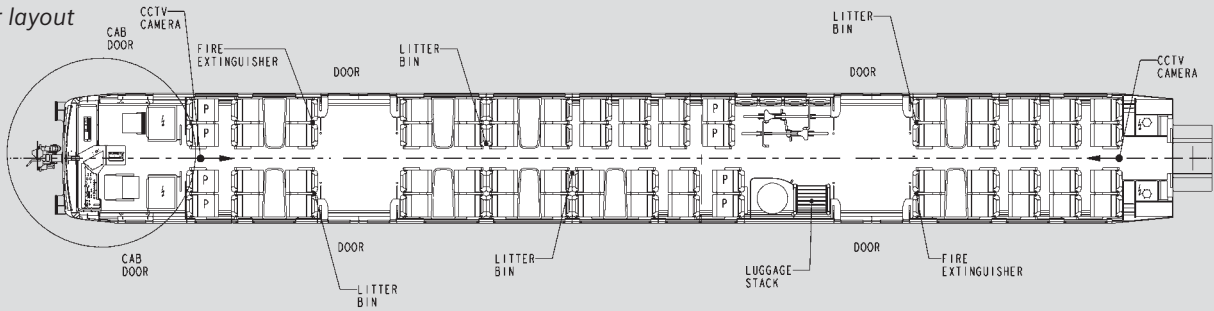
Track gauge	1435 mm
Number of cars per unit	2 to 6 cars; basic version 3-car unit
Car length	23.763 m
Unit length	71.276 m
Number of seats	154 standard class and 15 premium class
Max. operational speed	160 km/h
Power supply	1 Diesel motor (560 kW) in each car
Floor height	1247 mm
Roof height	max 3710 mm
Unladen weight	approx. 168.5 t
Maximum axle load	18.5 t
Design mileage per year	350 000 km
Expected lifetime	35 years

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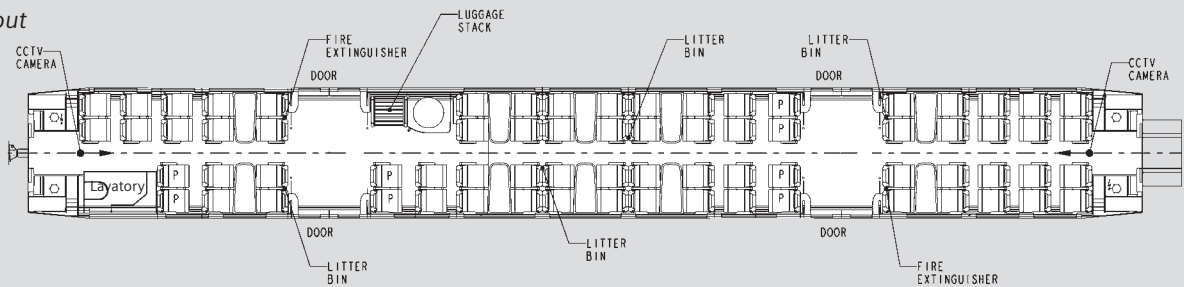
efficient rail solutions



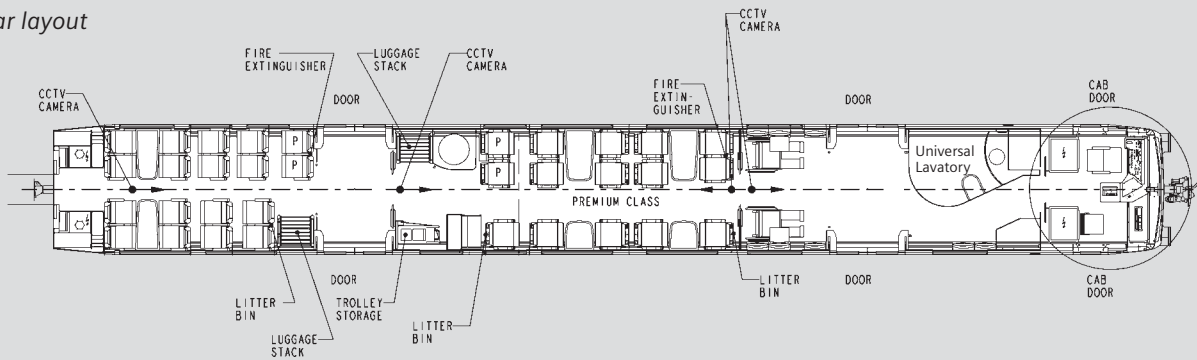
DMOSB car layout



MOSL car layout



DMOCLW car layout



DMOSB Driving Motor Open Standard Bicycle
 MOSL Motor Open Standard Lavatory

DMOCLW Driving Motor Open Combined Lavatory Wheelchair
 P Priority Seat

Train configuration of the Desiro UK DMU Class 185

Vehicle concept

The main target of the train design is to shorten travelling time and guarantee a high level of comfort on the train. In order to achieve this goal the vehicle is equipped with a powerful diesel engine (560 kW per car) which can meet even the most difficult line requirements and a maximum speed of 160 km/h. Furthermore a great amount of features indicate the high standard of comfort. Three different sizes of windows along the length of the vehicle allow virtually all passengers to have a view

of the scenery. Each of the three-car units has 169 seats (including 15 first class seats) and space for two wheelchairs. There are also 12 tip-up seats available. Power sockets for laptops are provided through-out the train.

The vehicles allow the passengers a comfortable boarding due to their optimal floor height of 1247 mm. The luggage rack modules are designed to offer the easy and safe storage along the whole train.



Interior design standard class

Drive System

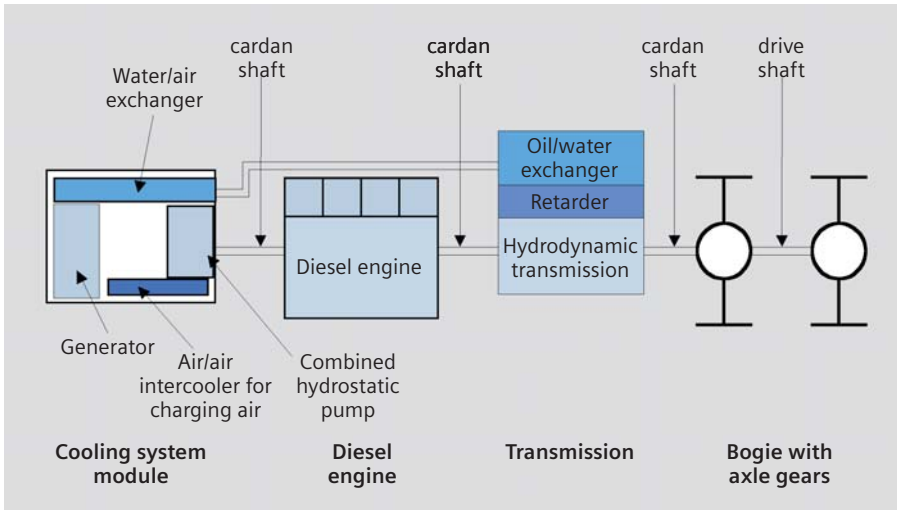
Each car is fitted with one 560 kW diesel engine for traction and electrical power supply. The drive system is arranged under-floor between the bogies and essentially comprising (per car):

- a power module including diesel engine,
- a hydrodynamic transmission including retarder and heat exchanger for brake energy,
- a cooling system module,
- a tank module,
- an exhaust system (located under-floor partially),
- cardan shafts and two axle drives

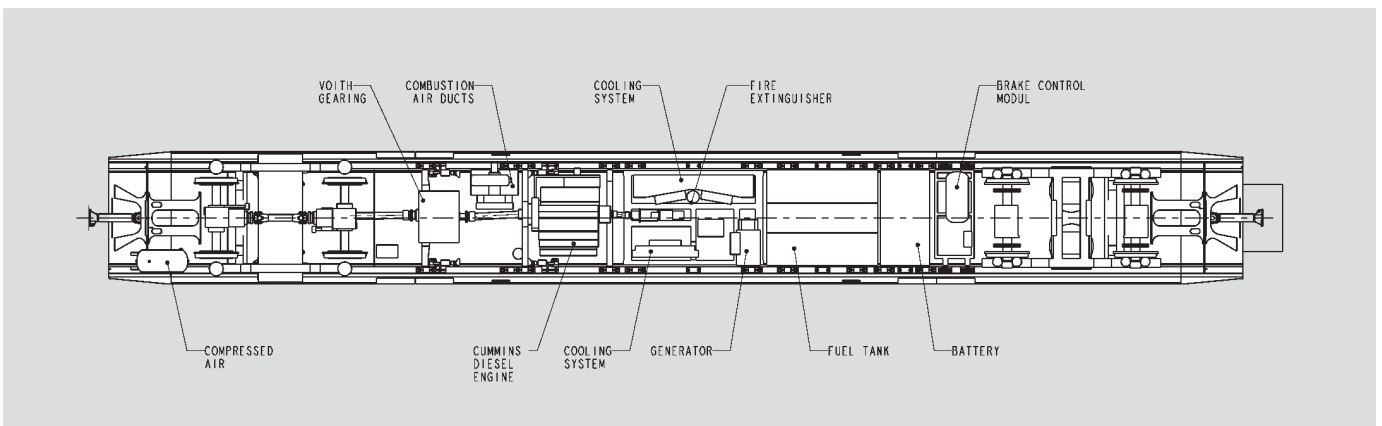
Each of the main components, such as the diesel engine, transmission, and cooling unit is installed in frames which are resiliently mounted to the car. Additionally to provision of traction energy the drive system supplies the energy necessary for the on-board electrical system.

The following systems are powered via hydrostatic power transmissions:

- on-board generator constant speed
- blower fans of cooling unit variable speed.



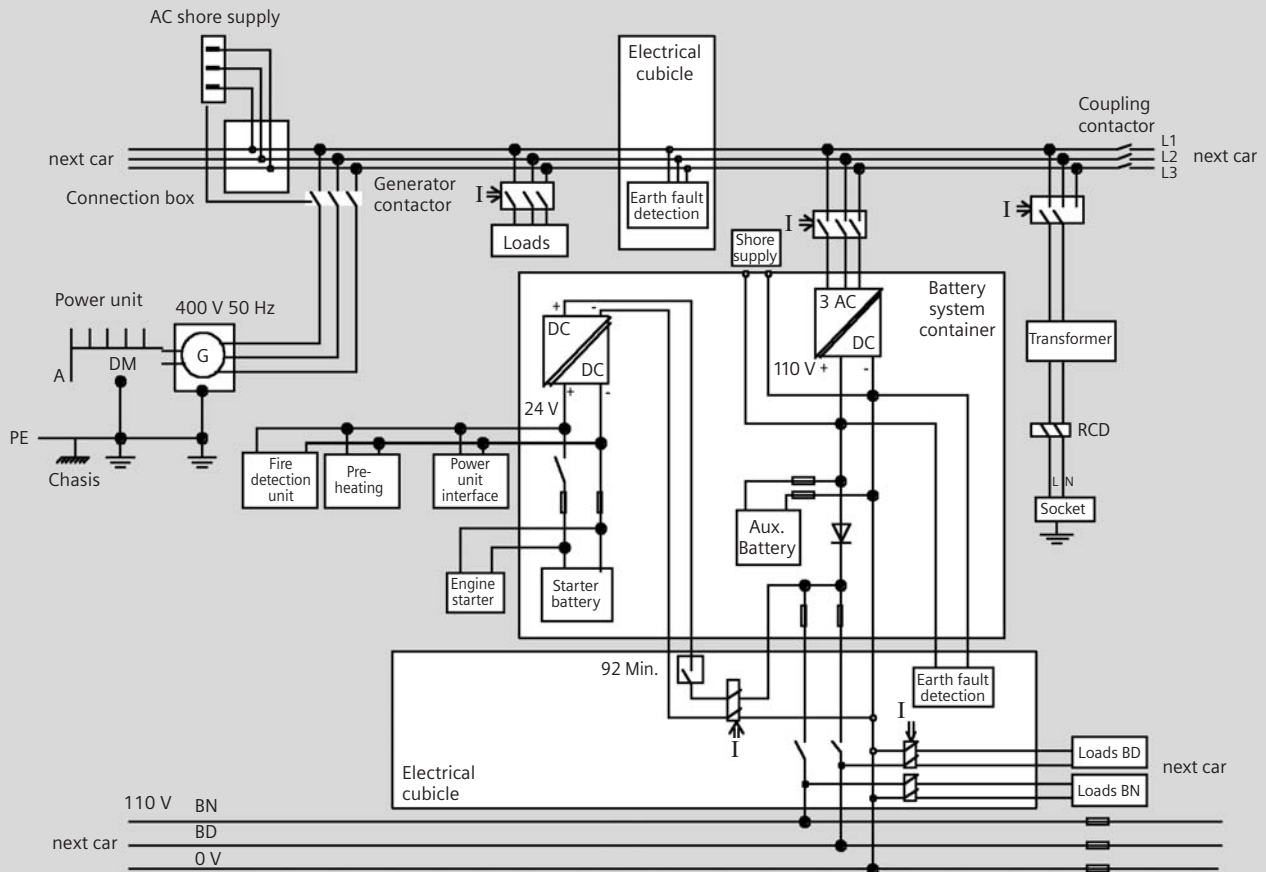
Overview of the Desiro UK DMU Class 185 Drive System



Desiro UK DMU Class 185 under-floor layout

The energy required to start up the diesel engines is provided by starter batteries with one DC 24 V battery module assigned to each diesel engine.

The fuel system with tank and piping is located in the under-floor area.



Overview of the On-board electrical power supply for a single car

On-board electricity supply system

The hydrostatic powered generator supplies following voltages:

- 3 AC 400 V, 50 Hz
- 1 AC 230 V, 50 Hz transformed from the 3 AC 400 V power supply;
- DC 110 V auxiliary and
- DC 24 V battery circuit;

Earth fault detection for 110 V is available once per unit.

Monitoring and Safety

The trains contain a large amount of monitoring and safety features. The security closed circuit television enables an optimal monitoring of the train interior through color CCTV cameras.

The safety of the vehicle is also ensured by the train protection warning system, the drivers safety device, the drivers reminder appliance, the on-train monitoring recorder and the ERTMS (European Rail Traffic Management System).



Reg. No. 58893

Siemens AG
 Transportation Systems
 Trains
 P.O. Box 32 40
 91050 Erlangen
 Germany

trains@siemens.com
 www.siemens.com/transportation/
 trains

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.