



EURODUAL BI-MODE LOCOMOTIVE

The universal locomotive

The EURODUAL is a six-axle bi-mode locomotive for freight and, optionally for passenger transport, that offers two solutions in one. It features both an electric and a diesel drive and can therefore be used on both electrified and non-electrified railway lines. Locomotives may have to run without electrification in order to operate on secondary freight routes. The EURODUAL has been developed for that very purpose. They are capable of seamless operations across gaps in electrified networks using a combustion engine. The versatile bi-mode locomotives possess a high power in both drive modes and reach a maximum speed of 120 km/h. The TSI-compliant locomotives can accommodate ETCS and various country packages. The EURODUAL comes in standard and broad track gauges, several overhead voltages and country configurations. They feature a compact design, two comfortable cabs, lightweight monocoque structure, AC / AC transmission system, six motorized wheelsets as well as a state-of-the-art adhesion control system. The latest bogie technology results in lower wear and tear on the infrastructure and reduced track access costs. At the avant-garde of technology, the EURODUAL covers every need efficiently and reliably, offering rail operators numerous operational, economic and environmental benefits. It also enables the reduction of the fleet size by having a single locomotive for all operations. A homogeneous fleet means savings in driver training, spare parts and maintenance.

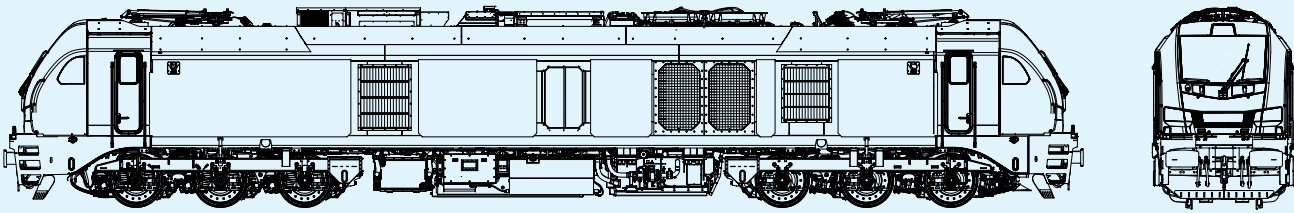
www.stadlerrail.com

Stadler Rail Group

Ernst-Stadler-Strasse 1
CH-9565 Bussnang
Phone +41 71 626 21 20
stadler.rail@stadlerrail.com

Stadler Rail Valencia S.A.

Pol. Ind. Mediterráneo. Mitjera 6
E-46550 Albuixech (Valencia)
Phone +34 96 141 50 00
stadler.valencia@stadlerrail.com



Technical features

Technology

- Applications: freight and optionally passenger transport
- Based on subsystems and components from proven models such as the EURO4000 and EUROLight families
- High-efficiency AC traction system with one inverter per axle for improved adhesion performance
- High starting and continuous tractive effort
- Latest 3-axle bogie technology: high adhesion, low track forces
- High-performance electric brake with energy recovery
- Lightweight monocoque structure made of high-strength low-alloyed steel
- Ready for ETCS equipped with various country packages
- Low-emission Stage V engine approved for 100% EN15940 compliant HVO operation

Personnel

- Two driver's cabs with HVAC and universal central desk designed according to safety and ergonomic criteria.
- High cab comfort, safety and visibility, beyond TSI requirements
- Full cab insulation

Reliability / Availability / Maintainability / Safety

- TSI compliant
- Latest generation of vehicle control system including advanced remote diagnostic system and communication
- Reliable subsystems and a high level of in-built redundancy
- Designed to minimize downtimes during maintenance activities
- Reduced operating costs and environmental footprint
- Optional equipment available: train heating supply, low speed control, blended brake, EP brake, auxiliary driving controls, toilet, hybrid coupler, remote control, PIS...
- Winterization package available

Vehicle data

Locomotive type	Bi-mode Electric/Diesel-electric
Operation area	1) DE / AT 2) NO / SE 3) FR / BE 4) TK
Track gauge	1 435 mm
Axle arrangement	Co'Co'
Electric power supply	depending on the configuration: 25 kV AC / 15 kV AC/ 3 kV DC / 1,5 kV DC
Diesel engine	CAT C175-16, Stage V
Diesel engine power	Up to 3 000 kW
Power at wheel rim	E: up to 6 150 kW E (DC) + D: up to 6 000 kW
Fuel tank	Up to 4 000 l
Urea tank	Up to 400 l
Starting tractive effort	500 kN
Continuous tractive effort	430 kN
Transmission	AC/AC
Maximum speed	120 km/h (able up to 160 km/h)
Brake system	Pneumatic brake Electric brake: regenerative / rheostatic Bail-off feature
Suspension system	Primary: coil springs Secondary: rubber metal Vertical and horizontal dampers