



# CLASS 99 BI-MODE LOCOMOTIVE

Beacon Rail and GB Railfreight (GBRf),  
United Kingdom

In April 2022, Stadler, Beacon Rail and GB Railfreight signed an agreement for the supply of thirty Class 99 bi-mode locomotives including spare parts.

Adapted to the British gauge and specifications, the advanced Co'Co' locomotives will significantly reduce carbon emissions for rail freight transport combining electric and diesel operating modes. They represent a new generation of locomotives that offer rail operators many economic and environmental benefits providing further momentum to facilitate modal shift from road to rail.

Able to reach speeds of up to 120 km/h, the versatile and high-performance Class 99 locomotives can run on 25 kV AC electrified lines with a power of 6,170 kW at wheel. In addition, they feature a high-power low-emission Stage-V engine allowing them to operate on non-electrified lines. The Class 99 locomotives boast an outstanding tractive effort of up to 500 kN, high hauling capability and performance. They also offer optimal visibility and an excellent working environment for the drivers, including ergonomic desks.

## Stadler Rail Group

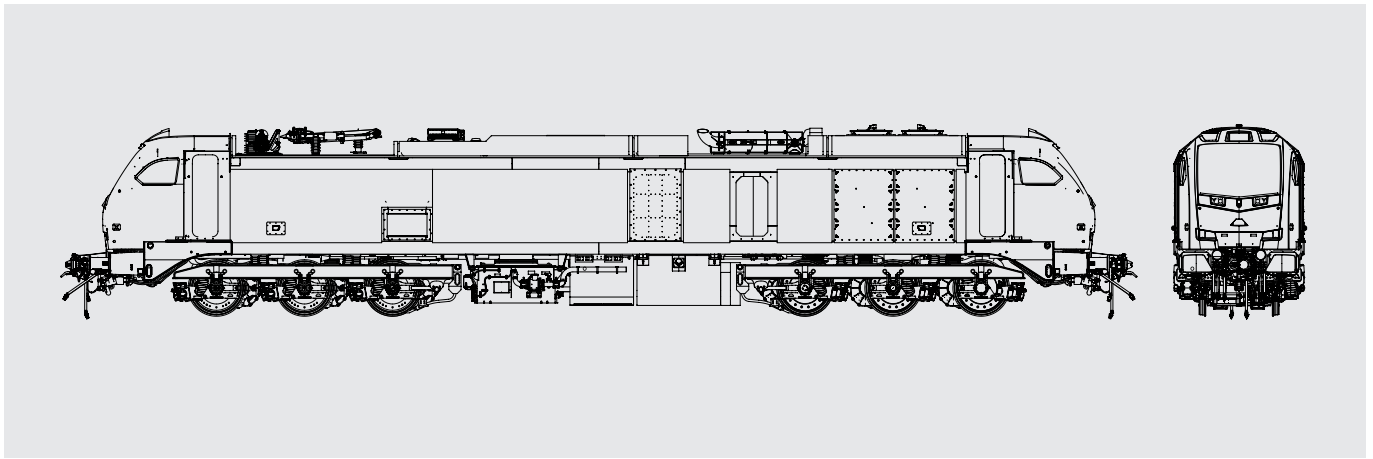
Ernst-Stadler-Strasse 1  
CH-9565 Bussnang  
+41 71 626 21 20  
stadler.rail@stadlerrail.com

## Stadler Rail Valencia S.A.U.

Pol. Ind. Mediterráneo. Mitjera 6  
E-46550 Albuixech (Valencia)  
+34 96 1415000  
stadler.valencia@stadlerrail.com

stadlerrail.com

**STADLER**



## Technical features

### Technology

- Based on Stadler’s EURODUAL locomotive
- Application: Rail freight (optionally rail passenger services)
- Efficient AC traction system with IGBT, one inverter per axle
- 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
- Equipped AWS/TPWS system and ready for ETCS system

### Comfort / Personnel

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

### Reliability/Availability/Maintainability/Safety

- EC 26/2004 Stage V compliant
- Reduced operating costs and environmental footprint
- Reliable subsystems and a high level of in-built redundancy
- Designed to minimise downtimes during maintenance tasks
- Latest generation of vehicle control system including advanced remote diagnostic system
- Equipped with front view, pantograph and shunting cameras
- LED lighting

## Vehicle data

<b>Customer</b>	Beacon Rail and GBRf
<b>Region</b>	UK
<b>Number of locomotives</b>	30
<b>Commissioning</b>	2025
<b>Locomotive type</b>	Dual-mode: Electric/Diesel-electric
<b>Track gauge</b>	1,435 mm
<b>Axle arrangement</b>	Co’Co’
<b>Electric energy supply</b>	25 kV AC
<b>Diesel engine</b>	Cummins QSK50, Stage V
<b>Diesel engine power</b>	1,790 kW
<b>Electric power at wheel rim</b>	6,170 kW
<b>Transmission</b>	AC/AC
<b>Fuel tank</b>	3,000 l
<b>Urea tank</b>	300 l
<b>Starting tractive effort</b>	500 kN
<b>Continuous tractive effort</b>	430 kN
<b>Maximum speed</b>	120 km/h
<b>Brake system</b>	Pneumatic: two distributors, blending function Electric: regenerative / rheostatic
<b>Suspension</b>	Primary: coil springs Secondary: rubber metal vertical and horizontal dampers