



ELECTRIC MULTIPLE UNIT, 1.5 KV1000 MM GAUGE

SSIF, Piemont Italy

In 2022, Stadler and SSIF (Piemont, Italy) signed a framework agreement for the supply of up to 16 meter-gauge motorized cars, to be combined in different configurations of 2, 3 and 4 -car EMUs, designed in compliance with the latest safety and environmental standards.

Each car has a motor and a trailer bogie. The low-floor portion in the end-cars enables people to get on and off easily, particularly those with reduced mobility.

Each car is equipped with a motor and a trailer bogie, with very low axle load. The distributed electric propulsion ensures excellent adhesion and optimum tractive effort in all weather conditions. To allow a safe cross-border operation between Italy and Switzerland, the EMUs are equipped with the ZBMS automatic train protection. All the main components are easily accessible for routine maintenance.

Each end-car features low-floor vestibules to allow an easy access on board of all passengers including those with reduced mobility. Dedicated sliding steps allow as well a comfortable boarding from 250mm height platforms. One end-car is equipped with a universal PRM toilet. The train also features areas for passengers with bikes and wheelchairs. Comfortable seats, wide panoramic windows, LED lighting, 220V and USB plugs at each seat, a modern WiFi and an integrated passenger information system, complete the feature set-up to make the passenger travel pleasant and enjoyable.

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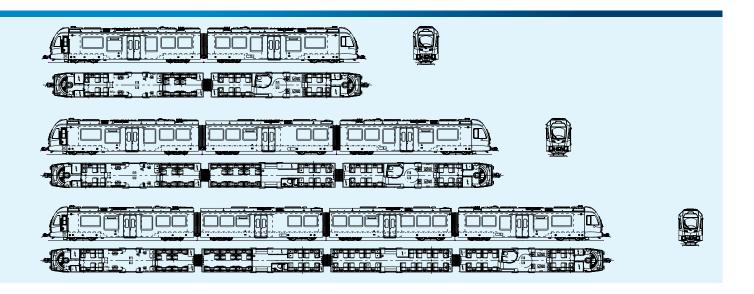
Stadler Rail Group

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Technical features

Technology

- Electric units with modern, functional, bright interiors and lightweight aluminum alloy carbodies
- Embedded multiple-unit control
- ZBMS automatic train protection for cross-border operation between Italy and Switzerland

Comfort

- Large vestibules either side with low-floors provide easy access for passengers with reduced mobility and older travellers
- 1 PRM Toilet in the low floor section
- Independent HVAC systems in passenger carriages and driver cabs
- Air suspension for bogies to ensure maximum running quality and optimum comfort for passengers
- Efficient energy-saving LED lighting
- Passenger information system and CCTV
- Connection to on board Wifi network
- 220V and USB power outlets at seats

Personnel

 Ergonomically designed, functional driver's cab complies with new EN 15227 crash standards and has independent access doors for the train drivers

Reliability/Availability/Maintainability/Safety

- Each vehicle has its own propulsion system, which brings higher performances and reliability
- Air-cooled electronic converter and high efficiency asynchronous traction motors
- Traction unit according to EN 45545 and UNI 11565 for fire detection and firefighting

Vehicle data

Rail operator	SSIF, Piemont Italy
Operated line	Domodossola – Locarno
Gauge	1000 mm
Drive system	Electric 1.5 kV DC
Axle arrangement	Bo' 2' + 2' Bo'
_	Bo' 2' + 2' Bo' + 2' Bo'
	Bo' 2' + 2' Bo' + Bo' 2' + 2' Bo'
Number of vehicles	16 cars (Frame contract)
	6 cars (First order)
Delivery	2026
Total seats	65 (2-cars), 111 (3-cars), 144 (4-cars)
Flip-up seats	6
Standing capacity (5 pers./m²)	122 (2-cars), 159 (3-cars), 196 (4-cars)
Floor height	
Low-floor at entrance	450 mm
High-floor	970 mm
Door width	1200 mm
Length over buffers	34 460 mm (2 cars)
	48 930 mm (3 cars)
	63 400 mm (4 cars)
Vehicle width	2650 mm
Vehicle height	3898 mm
Bogie wheelbase	
Motor bogie	1900 mm
Trailer bogie	1700 mm
Wheel diameter (motor bogie)	730 mm (new)
Wheel diameter (trailer bogie)	750 mm (new)
Max. power to wheels	8 x 175 kW (4-cars)
Tractive effort at start-up	160 kN (4-cars)
Acceleration at start-up	1.1 m/s2
Design speed	110 km/h
Operational speed	60 km/h