



Electric low-floor multiple unit FLIRT for Eesti Liinirongid AS (Elron), Estonia

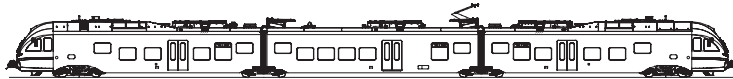
The Estonian railway operator Elron has ordered 18 electrical trains of the type FLIRT (12 three-car and 6 four-car trains) for the urban and suburban traffic of Tallinn. These new trains will replace the existing electrical trains whose life time expires within the next years. The electrical trains for Elron are based on the FLIRT trains Sm5 for VR in Helsinki, which were developed especially for the harsh Finnish winter conditions and the broad gauge of 1520 mm. The electrical traction system reflects the experience made for other 3kV applications in Poland and Italy. The new trains are characterized by optimised thermal insulation, large low floor areas, fulfilment of the latest requirement of crashworthiness according to EN15227 as well as an attractive interior and exterior design.

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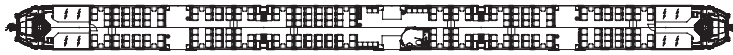
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FLIRT EMU 4-car



FLIRT EMU 3-car



Technical features

- Bright, passenger-friendly interior with customized design
- Excellent visibility through the whole passenger area
- Low-floor section > 70%
- Passenger information system
- Spacious multipurpose area in entrance section
- wide doors on each side for fast entry and exit of passengers
- Air-conditioned passenger and driver compartments
- Vacuum toilet system, also suitable for people with reduced mobility
- Ergonomically designed driver's desk
- Glass fiber reinforced plastic front cabin
- Automatic coupler
- Welded car body structure with extruded aluminum profiles
- Air-suspended bogies
- Redundant traction chain with water-cooled IGBT power converters
- Vehicle control system with train bus, vehicle bus and diagnostic computer
- Video surveillance
- Wi-Fi Internet access
- Multiple-traction up to two trains mixed EMU and DMU



Vehicle data

FLIRT 4-car

FLIRT 3-car

Customer	Eesti Liinirongid AS (Elron)	
Gauge	1520 mm	1520 mm
Catenary voltage	3kV DC	3kV DC
Axle arrangement	Bo' 2'2'2' Bo'	Bo' 2'2' Bo'
Number of trains	6	12
Service start-up	06/2013	07/2013
Seating capacity	274	196
Standing capacity (4 Pers./m ²)	223	162
Floor height		
Low floor	580 mm	580 mm
High floor	1170 mm	1170 mm
Door width	1300 mm	1300 mm
Longitudinal strength	1500 kN	1500 kN
Overall length	75 040 mm	57 750 mm
Vehicle width	3500 mm	3500 mm
Vehicle height	4500 mm	4500 mm
Tare weight	139 t	116 t
Bogie wheelbase		
Motor bogie	2700 mm	2700 mm
Trailer bogie	2750 mm	2750 mm
Wheel diameter (new)		
Motor bogie	870 mm	870 mm
Trailer bogie	800 mm	800 mm
Continuous power at wheel	2000 kW	2000 kW
Maximum power at wheel	2600 kW	2600 kW
Starting tractive effort	200 kN	200 kN
Max. acceleration	1.2 m/s ²	1.2 m/s ²
Service speed	160 km/h	160 km/h