



ELECTRIC LOW-FLOOR MULTIPLE UNIT FLIRT

Koleje Mazowieckie, Poland

In January 2018, Koleje Mazowieckie and Stadler Polska published a framework agreement for the delivery of 71 FLIRT electric multiple units to operate in the Mazovian Region. The agreement includes fleet maintenance for 15 years. The order is the largest contract awarded for the purchase of rail vehicles in the history of the Polish railway. Manufactured at the Siedlce plant, trains will be delivered in six stages, based on individual implementation agreements and will gradually replace the old Koleje Mazowieckie rolling stock. Travelling in the region will become safer and more comfortable, and the new trains will make rail travel more attractive. The new fleet will be equipped with ETCS level 2 devices, air-conditioning, visual and audio information systems, wireless internet access, as well as internal and external monitoring. Fitted with on-board toilets, the trains will feature steps to help people with limited mobility get on and off, and there will be dedicated areas for pushchairs and bicycles. To ensure passenger safety, trains will have defibrillators and an intercom system, enabling travellers to contact the train driver, in case of an emergency. The use of aluminium light-eight structures will guarantee low electric energy consumption.

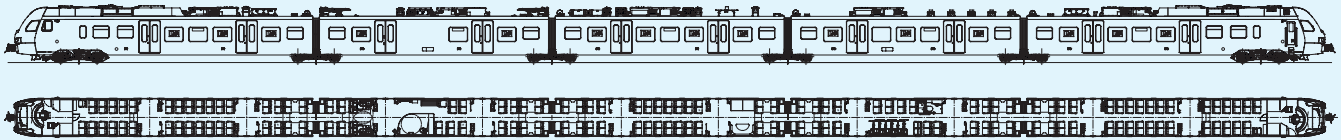
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Technical features

Technology

- Aluminium light-weight car body
- Multiple traction up to three vehicles
- Asynchronous traction motors
- Sprung pneumatic motor and trailer bogies
- Modern vehicle control system

Comfort

- Air conditioned passenger compartments designed in accordance with TSI PRM
- Seats with foldable intermediate armrests, tables, net magazine pockets and 230 V sockets.
- Induction loop for people with impaired hearing
- Modern passenger information system, monitoring, wifi
- Universal (TSI-PRM) and standard toilet

Personnel

- Ergonomically designed driver's cab, equipped with devices to cool or heat food
- Ergonomic work-station for the conductor with a monitoring screen including a function enabling him or her to broadcast announcements

Reliability/Availability/Maintainability/Safety

- ETCS L2 Baseline 3.4.0 "Guardia" system
- Redundant drive systems with liquid-cooled IGBT converters
- Vehicle compliant with TSI Loc&Pas, CCS, CR TSI NOI, TSI SRT, TSI PRM
- Ergonomic diagnostic system of the vehicle for remote reading in order to ensure proper maintenance

Vehicle data

Customer	Koleje Mazowieckie
Operated networks	Mazowieckie Province
Gauge	1435 mm
Supply voltage	3 kV DC
Axle arrangement	Bo'2'2'2'2'Bo'
Number of vehicles	61
Seats 2. class	269
Tip-up seats	10
Standing spaces (4 Pax./m²)	321
Floor height	780 mm
Low-floor	780 mm
High-floor	1270 mm
Entrance width	1300 mm
Length	98,2 m
Vehicle width	2820 mm
Vehicle height	4280 mm
Bogie wheelbase	2700 mm
Motor bogie	2700 mm
Trailer bogie	2700 mm
Driving wheel diameter, new	870 mm
Carrying wheel diameter, new	760 mm
Continuous power at wheel	2000 kW
Max. power at wheel	3000 kW
Starting acceleration, gross	>1,0 m/s ²
Maximum speed	160 km/h