

Kazakhstan Temir Zholy “KZ4AT” PRIMA M4 Multi-purpose Locomotives

Kazakhstan Temir Zholy selected a PRIMA M4 multi-purpose locomotive to enable seamless passenger operations. With their leading-edge technology, PRIMA locomotives meet the highest functionality and safety standards. The KZ4AT is capable to operate in extreme climatic conditions. Its reliability and availability are proven in service.



KEY BENEFITS

Enhanced reliability and availability - The long intervals between maintenance activities provide to Kazakhstan Temir Zholy the best possible availability, reliability and optimised costs.

Operation in all conditions - The PRIMA M4 locomotive KZ4AT is designed to operate in extreme weather conditions from -50°C to +50°C, delivering the best possible service reliability.

Continuous improvement – Being part of the PRIMA range, the KZ4AT Locomotive takes advantage of the return of experience from more than 2.400 Locomotives sold all over the world.

Country..... Kazakhstan

Context..... In 2010 Kazakhstan Temir Zholy decided to purchase 95 passenger locomotives for operations up to 200 km/h under 25 kV. Being Kazakhstan a very challenging country due to its climatic conditions, technical requirements were very demanding.

The KZ4AT AC is a PRIMA M4 multi-purpose locomotive developed on the basis of the Kazakhstan Temir Zholy technical requirements and in compliance with GOST standards and specifications.

Solution..... The locomotive has a cutting edge traction system based on Alstom technology.

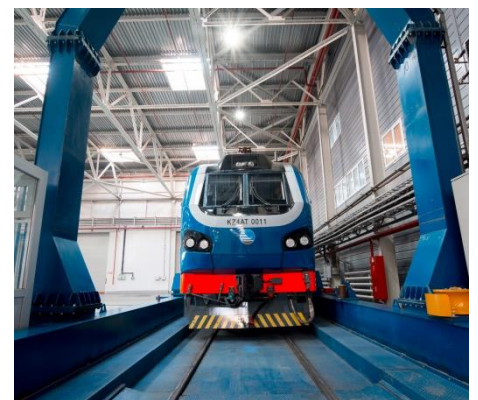
The KZ4AT is designed to operate in temperatures from -50 °C to +50 °C. It requires minimum maintenance and provides thanks to its modular design, a high reliability level and low lifecycle cost,.

The specific design of KZ4AT provides speed of up to 200 km/h with longer runs between maintenance and repair, reduced power consumption as well as reduced locomotive maintenance costs and enhanced fleet management efficiency.

Serial production of the locomotive is done by the locomotive assembling plant in Astana while the 20 first locomotives were produced in Belfort before transferring the technology.

KEY FEATURES

Architecture	Bo'Bo'
Class of service	Passenger
Gauge	1.520 mm
Overall dimensions	According to GOST 9238-83 1-T
Weight	86 t
Temperature range	-50°C to +50°C
Power at continuous rating	4,8 MW
Overhead system	25 kV AC, 50 Hz
Maximum speed	200 km/h
Tractive effort at starting	264 kN



COMPETITIVE ADVANTAGES

Ergonomics and comfort - The KZ4AT locomotive is dedicated to long-distance passenger operations. Driver comfort over long distances is granted thanks to its large cabin equipped with many optional such as climate control system, heated seat and footrest, meals cooking and storing facilities as well as a toilet. The cabin complies with all current health and safety regulations and ensure maximum comfort.

Modular design - Being part of the Alstom PRIMA range, the KZ4AT locomotive benefits from a joint development and always start-of-the-art solutions. The modular approach also allows maintenance cycles and spare parts stocks to be optimised.

Innovative solutions - The KZ4AT is equipped with several innovative solutions, such as:

- Asynchronous traction drive with per-wheel traction control
- Traction converter based on insulated gate bipolar transistors
- Microprocessor-based system for operation control, diagnostic and traffic safety
- Automatic train operation system using satellite navigation facilities
- Regenerative braking



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