



Research&Development Company
PROMELECTRONICA

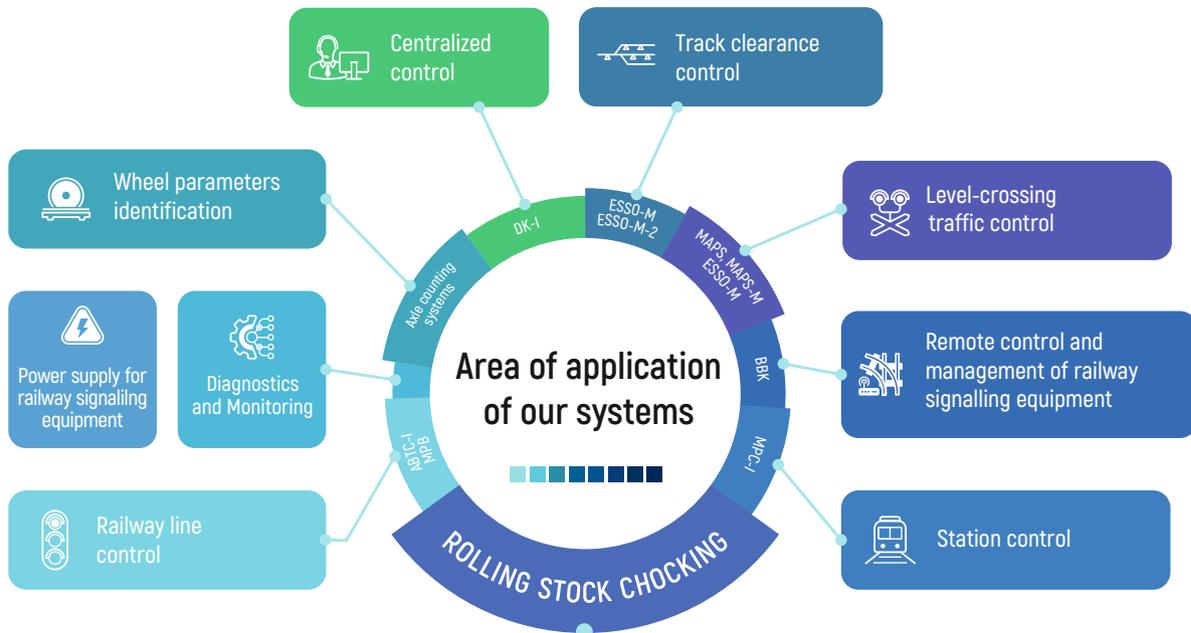


**Rolling stock
chocking**

KTS AZS Automatic Rolling Stock Chocking System



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KTS AZS Automatic Rolling Stock Chocking System

KTS AZS Chocking System is designed for automation of precise stopping and train chocking on reception and departure tracks of railway stations.

KTS AZS employs stationary heavy-duty braking chocks consisting of two modules – chocking and absorbing modules. The modules are installed on reception and departure tracks – one set for each track, except main tracks and tracks designated for non-stop passing.

A train is chocked by electromechanically driven elements of the braking chock that change their position by an operator's command providing mechanical effect on rolling stocks' wheel pairs.



**CAPABLE OF CHOCKING A TRAIN
WITH THE TOTAL MASS OF:**

up to 10 000 tonnes

ON A TRACK WITH A SLOPE UP TO 0.003

up to 5 000 tonnes

ON A TRACK WITH A SLOPE UP TO 0.006

**SUBSYSTEM FOR
PRECISE TRAIN STOPPING**

**TIME FOR
CHOCK/UNCHOCK TRAIN
USING A BRAKING CHOCK
MAX 2 MINUTES**

KTS AZS includes:

Chocking Units

- ◆ Stationary heavy-duty chocks
- ◆ Local control panel



Braking Chock



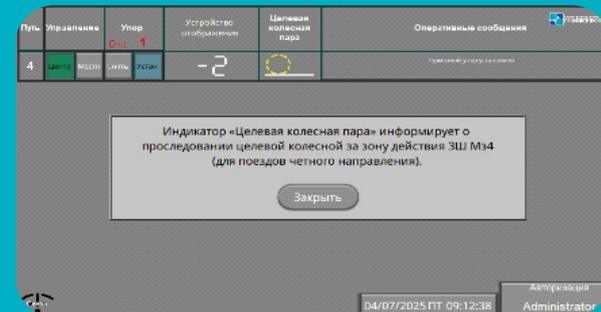
Local control panel

Chocking Units Control System

- ◆ Subsystem for precise train stopping
- ◆ Centralized control panel



Indication Unit

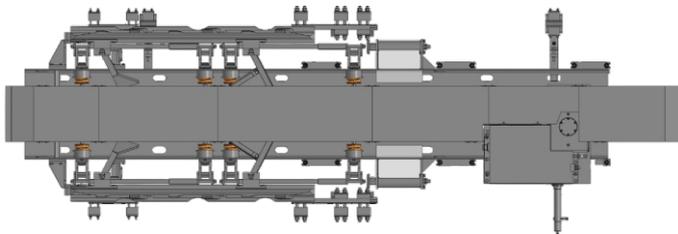


Centralized control panel

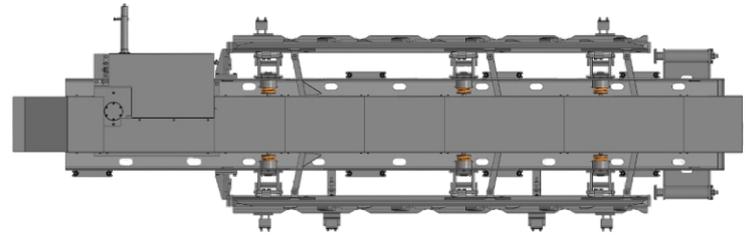
Braking chock

Two-module choke: FZ Chocking module and MP Absorption module.

Absorption module is required to avoid critical misalignment of the bogie bolster affected by the chocking module.



Chocking modules



Absorbing modules

Control modes:

External control command to braking chocks are given in:

- ◆ Central control mode by the Station Master;
- ◆ Authorized employee from the local control panel, installed in close vicinity to the braking choke.

Switching the braking choke to the local control mode is performed by the Station Master by request of the authorized employee, located at the local control panel.

A capability of simultaneous control from the Station Master panel and local control panel is completely excluded.

Precise stop

KTS AZS includes PPOP precise train stopping subsystem, which provides the driver of an incoming train all the necessary information for precise stop in a set position that ensures following chocking of the whole train.

Functioning of the precise train stopping subsystem requires obtaining the following data:

- ◆ parameters of each incoming train.
- ◆ parameters of the current position of the incoming train.

To gather the data on an incoming train the neck of the station is equipped with PSPP Train parameter detection points.

The data is transmitted to the train driver in two ways:

- ◆ Specialized trackside display devices.
- ◆ Directly to the cab via radio channel.

RELIABILITY AND SAFETY

DOES NOT REQUIRE presence of signalling specialists and installation of brake shoes

MULTIPLE CONTROL MODES: interlocked and local

FULL PREVENTION OF ACCIDENTAL MOVEMENT of the chocked train or any of its parts

COST - EFFICIENCY OF KTS AZS

Reducing time for chocking of a train

Reducing operating costs due to reduced labor costs

Eliminating locomotive downtime

Eliminating train derailment on large slopes



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