



Amazing Reversing

Small scale autonomous articulated Vehicle



Virtual model



Real model

Amazing Reversing Specifications

The small-scale test vehicle “Amazing Reversing” is an autonomous articulated vehicle containing a truck with up to 7 trailers, intended for the research field of self-driving vehicles, advanced driver assistance systems (ADAS) and educational purposes. Specifically, this vehicle was used for verification of a feedback stabilization and path tracking of backward driving.

The vehicle is equipped with all necessary sensors (non-contact rotary encoder for measurement of joint angles and vehicle velocity, 2D light detection and ranging – LIDAR) and actuators (high response servos for individual steering of both front wheels, DC motor for vehicle movement).

The vehicle is controlled by the Raspberry Pi equipped with REXYGEN system. REXYGEN provides a kinematical model of the vehicle and pre-configured control algorithm for backward driving and also allows the user to develop his/her own control algorithms.

Quick Specification and Dimensions

Product name	Amazing Reversing T3T (truck with 3 trailers)	
Minimal sampling/control period	2 msec	
Operational time per charge	2 hours minimum	
Dimensions of T3T[†]	minimal length: 720 mm	width: 180mm
Maximal speed	0.40 m/sec	
Range of front wheel angles	left wheel: -67 °...48°	right wheel: -48°...67°

([†]) The longitudinal lengths of vehicle components can be easily varied within wide limits.