



Telemetry Balkan doo Beograd

O2D R5

Robot Technical Characteristics

Prepared By: Sergei Loshchilov

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Beograd, Serbia
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Version History

Version	Date	Authors	Description
0.1.0	2026-05-05	Sergei Loshchilov	Document Created. Added Mechanical and Electrical Characteristics
0.2.0	2026-05-20	Sergei Loshchilov	Overview and Conclusion added

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Overview

The O2D R5 is a compact autonomous robotic platform developed by Telemetry Balkan doo Beograd for research, education, indoor automation, and robotics application development. The platform combines a lightweight yet durable mechanical construction with integrated compute, sensing, and drive systems, allowing users to rapidly prototype and deploy intelligent robotic solutions.

The robot features an all-wheel-drive wheeled layout, compact dimensions, and extended autonomous operating time, making it suitable for operation in laboratories, offices, educational facilities, and other indoor environments. The modular design of the platform enables integration of additional sensors, AI modules, cameras, manipulators, and custom payloads depending on the application requirements.

O2D R5 is designed to support modern robotics software stacks, including AI-assisted navigation, computer vision, autonomous movement, and remote operation scenarios. The platform can be used for experimentation, software development, demonstration systems, research projects, and lightweight indoor delivery or inspection tasks.

Mechanical Characteristics

Parameter	Value	Comment
Length	248 mm	
Width	200 mm	
Height	120 mm	
Weight	2400 g	
Body Material	PET-G	
Propulsion Type	wheeled	
Layout	All-Wheel Drive	
Wheel Diameter	65 mm	
Max Linear Speed	0.5 m/s	
Max Angular Speed	4.5 rad/s	

Electrical Characteristics

Parameter	Value	Comment
ACB Voltage Max	14.8 V	
Motor Voltage	12 V	
Compute module and peripherals voltage	5 V	
Max Current	2.5 A	
ACB Capacity	6000 mAh	
Charging Current	5 A	
Battery Life	6 h	

Conclusion

The O2D R5 robotic platform provides a compact, energy-efficient, and flexible solution for robotics research and development. Its combination of autonomous operation capability, modular architecture, and integrated compute infrastructure allows users to build and evaluate a wide range of robotic applications with minimal setup effort.

With its lightweight construction, all-wheel-drive mobility system, and support for modern AI and robotics software technologies, the O2D R5 serves as a versatile foundation for educational, experimental, and commercial prototyping purposes. The platform is intended to simplify robotics development while providing sufficient flexibility for future hardware and software expansion.