BINARIAL®

[AMR] TROO

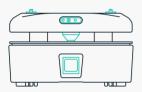## Advanced autonomous mobility for efficient logistics
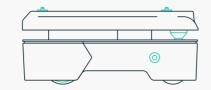
AMR Troo® Operation

Troo® can **transport loads of up to 300 kg** in industrial environments autonomously. **2D LIDAR sensors and safety motors** allow it to detect obstacles in its immediate surroundings.

It incorporates **3D LiDAR and a camera with AI models**, giving it the ability to **recognize objects to avoid collisions and dynamically adapt to its environment.**

Troo® uses **SLAM (Simultaneous Localization and Mapping)** to map its environment and locate itself accurately. With the generated map, it plans optimal routes and waits at destinations until key events occur to continue.

Its efficiency in planning and localization ensures uninterrupted deliveries without human intervention.

Applications and their usage

AUTOMOTIVE SECTOR
Automotive industries use our Troo® robots for transporting goods.

PHARMACEUTICAL INDUSTRY
Our robot ensures safe and punctual hospital transportation, with controlled access to prevent external interference.

AERONAUTICS INDUSTRY
Our technology enables external inspections of parts and aircraft during manufacturing, ensuring precise assembly

FOOD SECTOR
Moving raw materials to production lines is an ideal task for our Troo®, which is always ready and on time to meet production line demands.

Measurements and specifications

PERFORMANCE ····

Maximum load capacity	300 Kg
Maximum speed	2.0 m/s
Maximum turning speed	1,0 m/s
Maximum coupling speed	0,5 m/s
Minimum width of unidirectional aisle	800 mm
Kinematics	Differential

MOTORS ····

Current	20 A
Voltage range	50,4 V
Maximum efficiency	99 %
Nominal torque	5 Nm, with a starting torque of 19.7 Nm
Nominal speed	316 rpm and a maximum speed of 10 km/h
Output power	165 W
Emergency stop	STOP, SBC, SBT, SS1, SS2, SLS, SLP, SLT

CHASSIS ····

Dimensions	740 x 520 x 310 mm
Weight	90 kg
Obstacle Detection	360º

2D LASERS ····

Support	EtherCAT y FSoE
Protection range	5 m
Warning range	20 m
Detection angle	270º
Object detection	from Ø30 mm to Ø150 mm
Scanning frequency	30 ms
Energy consumption	7 – 20 W
Response time	30 ms

BATTERY ····

Battery capacity	33,5 Ah
Voltage range	50,4 V
Battery life	Depending on the charge
Life cycle	8 h
Charging time	1 h
Charging mode	Automatic

3D LASER ····

Detection range	100 m
FOV	70.4º x 77.2º
Accuracy	2 cm
IP	IP67

CAMERA ····

Maximum resolution	1920 x 1080
FOV	69º x 42º
Accuracy	30 fps
Depth	Stereo