

DATASHEET - Ecart 2



DIMENSIONS and WEIGHT

Vehicle size
L = 1.660 mm
W = 600 mm
H = 350 mm

Equipment
Lift platform
Plane size L = 1.120 mm
W = 575 mm
Stroke 100 mm

Vehicle weight w/o batteries
260 kg

PAYLOAD and REQUIREMENTS

Nominal payload 100% deliveries	500 kg
Maximum payload 30% deliveries	700 kg
Payload max size	L = 1.200 mm
	W = 990 mm
	H = 1.500 mm
Center of gravity footprint	L = 740 mm
	W = 512 mm
Center of gravity height	H = 800 mm
Min load frame clearance	W = 720 mm
	H = 360 mm

PERFORMANCE

Kinematics and Drive	Diamond, bidirectional
Speed	0,1 m/s min
	1,4 m/s max
X, Y accuracy	+/- 10 mm
θ accuracy	+/- 1°
Localization rate	5 Hz
Minimum bending radius	0 m; the vehicle turns on its vertical axis
Slope	5% (2,9°)
Slope min bending radius	15 m
Step	±5 mm
Gap	15 mm
Motor wheel power	1x700 W
Braking torque	1x8 Nm

MATERIALS

Wheels coating	Polyurethane grip
Chassis material	AISI 304
Shell material	Carbon + Kevlar®

BATTERY

Battery	LiFePO4 24V 120 Ah	LeadGel 24V 140 Ah	PureLead 24V 120 Ah
Depth of discharge	70%	30%	40%
Autonomy	10 h	5 h	7 h
Recharging time	3 h	8 h	6 h
Battery weight	38 kg	85 kg	86 kg
Battery cycle life	2.000 cycles	500 cycles	1.200 cycles

COMMUNICATION

Communication	WI-FI - WLAN 802.11a/b/g/n - 2,4/5 GHz
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SAFETY

Safety devices	Nr. 2 Sick S300 laser scanners Sensitive board (front/rear) N.2 E-stop buttons Safety control central unit Sick Flexi
Performance Level	c
Safety field shape	360°

NAVIGATION

Navigation	Odometric closed loop via laser scanner (natural navigation)
Mapping	Auto acquisition by Mobile Robot

ENVIRONMENT

Temperature	from +5 to 35 °C
Working relative humidity	from 30% to 80% (absence of condensation)
IP degree	13

REGULATIONS

Regulations	<ul style="list-style-type: none"> • 2006/42/EC Machinery Directive
	<ul style="list-style-type: none"> • 2014/35/EU Low Voltage Directive
	<ul style="list-style-type: none"> • 2014/30/EU Electromagnetic Compatibility Directive
	<ul style="list-style-type: none"> • ISO 3691-4: 2020 Safety of driverless industrial trucks

ACCESSORIES

3D cameras, each with masking in the direction of travel, permit to detect objects above the scanner level (e.g., beds, stretchers). These prevent collisions with obstacles in the path of travel, especially in narrow spaces, and enable collaboration with people in the vicinity of the mobile robot.

Transponder reader (RFID) which reads the transport centre identity. The proposed system will provide for the management of missions by reading a transponder placed in the base of the trolley basement, with an on board RFID reader on each vehicle.