



Echo & Ray

# Echo

The Echo series is a range of compact mobile chassis designed to be highly expandable, maneuverable and cost-effective.

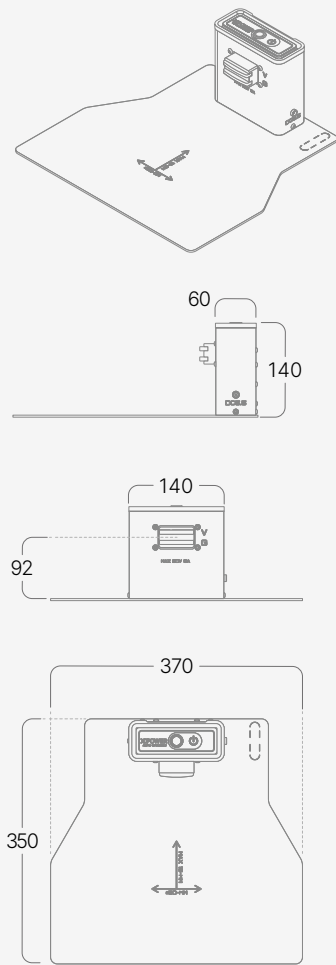


The standard model comes with four-wheel drive for indoor applications, shallow grass, gravel roads, asphalt, slopes and can even overcome small speed bumps.

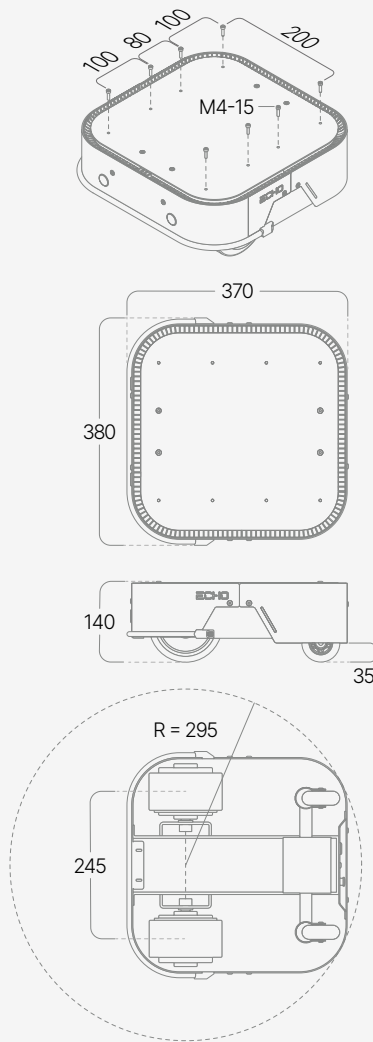
Echo Ed has a reduced carrying capacity and is suitable for research and teaching. The Plus model is a six-wheeled chassis with automatic charging, making it suitable for commercial use.



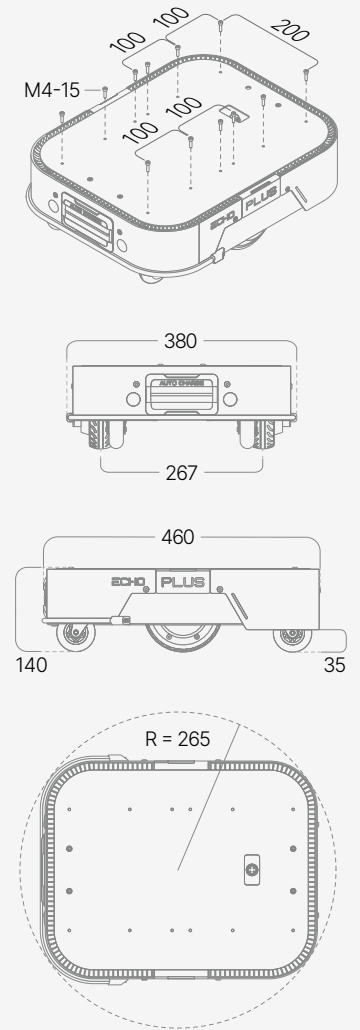
### Auto Charger



### Echo & Echo Ed



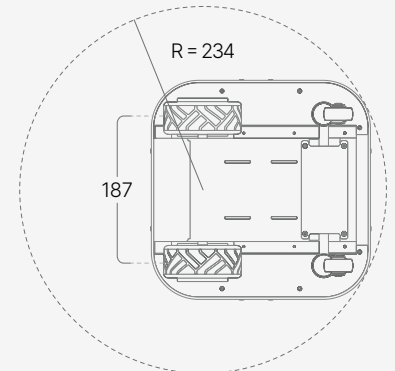
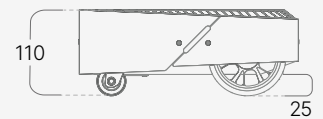
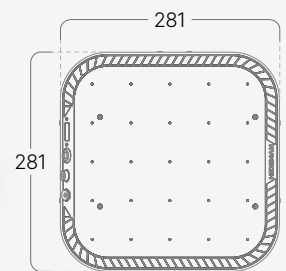
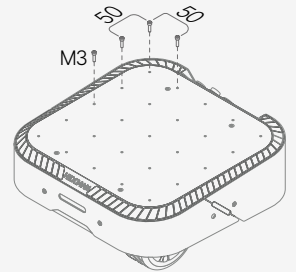
### Echo Plus



Model	Echo	Echo Ed	Echo Plus
Dimensions L x W x H	370 × 380 × 140 mm	370 × 380 × 140 mm	460 × 380 × 140 mm
Turning radius	295 mm	295 mm	265 mm
Ground clearance	35 mm	35 mm	35 mm
Weight	14 kg	13 kg	16 kg
Payload	80 kg	30 kg	50 kg
Speed	1.5 m/s	2 m/s	2 m/s
Max slope	10°	5°	5°
Max obstacle height (unloaded)	10 mm	10 mm	10 mm
Steering	2 differential wheels, 2 following wheels	2 differential wheels, 2 following wheels	2 differential wheels, 4 following wheels
Runtime [1]	8 – 10 h	3 – 5 h	8 – 10 h
Motors	2 × 150 W	2 × 100 W	2 × 100 W
Encoder	4096	4096	4096
Batteries	24 V / 10 Ah	24 V / 5 Ah	24 V / 10 Ah
Time to charge	5 h	3 h	5 h
Interface	CAN	CAN	CAN
Ingress protection	IP22	IP22	IP22
Operating temperature	0 °C to 40 °C	0 °C to 40 °C	0 °C to 40 °C

# Ray

The Ray series is designed for advanced research and development of indoor service and transport robots. It is small enough to fit into complex environments and can be easily equipped with lidar, camera, GPS, 4G or 5G, a robotic arm and other modules.



Dimensions L x W x H 281 × 281 × 110 mm

Turning radius 234 mm

Ground clearance 25 mm

Weight 4.5 kg

Payload 5 kg

Speed 0.5 m/s

Max slope 10°

Max obstacle height (unloaded) 10 mm

Steering 2 differential wheels,  
2 following wheels

Runtime [1] 3 – 5 h

Motors 2 × 11 W

Encoder 990

Batteries 24 V / 5 Ah

Time to charge 3 h

Interface CAN

Ingress protection IP22

Operating temperature 0 °C to 40 °C

[1] The runtime is strongly influenced by the working conditions.  
Errors and technical modification subject to change.

## Contact us

[office@general-laser.at](mailto:office@general-laser.at)

[general-laser.at](http://general-laser.at)