

ZALPHA series

A U T O N O M O U S M O B I L E R O B O T



Autonomous Mobile Robot (AMR) is a mobile robot that is able to understand and move around the environment without needing an operator to oversee them directly. This is made possible via sophisticated sensors on the robots that enable the AMR to understand, analyze and interpret their environment to function as an autonomous transportation.

The most basic and popular use of AMR is to transport materials. These machines can transport orders throughout a facility all day long effectively. In fact, they are excellent for maintaining workflow as well as freeing up human workers for more high value tasks.

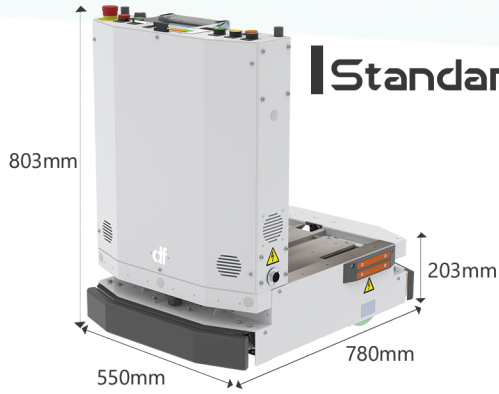
If you're looking for a medium payload and flexible AMR, Zalpha series AMR will be your right choice. It comes with 2 navigation options which are Laser-Based Natural Navigation (TS) or Magnetic Strip Guidance (MG) for different environment and application needs. It is a modular design and comes with 3 options of size allowing flexibility in various application designs for various industries.



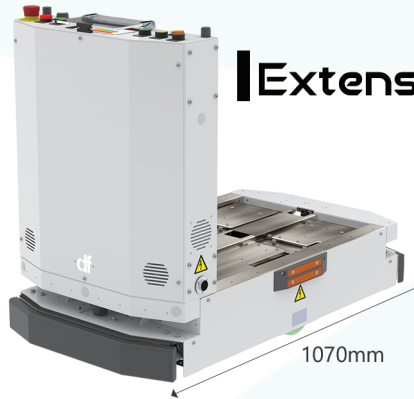
Flexible . Smart . Durable

AMR BASE

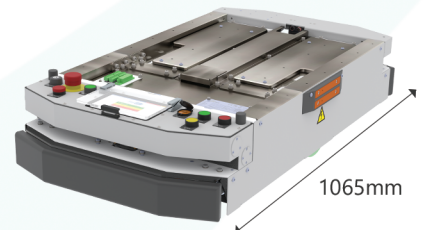
Standard



Extension



Lowbed



CHARGING METHOD



ZALPHA-CH01
Standard Charger
24V, 12.5A, 1:3*



ZALPHA-CH03
Fast Charger
24V, 27.5A, 1:5*



ZALPHA-CH02
Battery swap



FEATURES

1 | Modular
Zalpha is built with modular parts making it easy for servicing and maintenance.



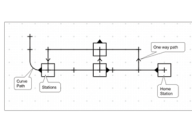
2 | Safety
Equipped with redundant safety features such as laser sensor, bumper, emergency button, etc.




3 | Differential Driven
Zero turning radius.



4 | NavWiz Map
Allows user to draw and plan topological map for Zalpha.



5 | NavWiz Task
Zalpha programming software using simple flowchart system.




6 | Auto Charging
Automatically charges itself to ensure 24-hour continuous operation.




7 | Bi-Directional
Able to move both forward and reverse.



8 | Sixteen I/O
Additional 8 inputs and 8 outputs to meet user's applications.



9 | Internet of Thing
Zalpha is IoT-enabled to meet industry 4.0 requirements.



PAYLOAD HANDLER



Hooking



Cabinet



Towing



Conveyor



Robotic Arm



Lifter

Specification

General

Product Model	Zalpha - Δ - \square - 03
Navigation Method Δ	[MG]: Magnetic Strip Guidance [TS]: Laser-Based Natural Feature Navigation
Base Dimension (WxLxH) \square	[S]Standard: W: 550mm x L: 780mm x H: 803mm [E]Extended: W: 550mm x L: 1070mm x H: 803mm [L]Low Bed: W: 550mm x L: 1065mm x H: 203mm

Performance

Payload	300 kg
Maximum Speed	1 m/s (3.6km/h)
Drive Method	2-Wheel Differential Drive
Travelling Direction	Forward, Reverse, 90°/180° turn
Turning Radius	Zero (0)
Stopping Accuracy	MG: $\pm 10\text{mm} \pm 2^\circ$ TS: $\pm 100\text{mm} \pm 2^\circ$
Traversable Gap & Step	5mm
Maximum Gradeability	3% (1.72°)
System	Standalone / Fleet Management System (FMS)

Power

Running Time (90% to 10%)	12 hours
Charging Time (10% to 90%)	4 hours
Charging Method	Automatic & Manual Charging available
Battery	LiFePo4 Battery, 25.6V, 65Ah

Feature and Interface

Safety Feature	5m Adjustable Range Laser Sensor (MG) / LiDAR (TS) Bumper Switch x2 Emergency Switch x1 External Safety Input/Output
Safety Indicators	Color LED lighting, Music playback & Alarm
Onboard Interface	7 inch Capacitive Touchscreen
WiFi Frequency	802.11 ac/a/b/g/n, 2.4GHz / 5GHz Dual-Band WiFi
Operating System	NavWiz
Customisable I/O	8 Input and 8 Output, NPN
Payload Handler	Not Included
Application Programming Interface (API)	REST, Modbus, Webhooks
Certification	CE, FCC

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