

## Product Catalog

### ● Forklift UGV



Laser Lidar navigation



HMI



Driving Unite



Laser Lidar for safety



High performance PC



Electro-Hydraulic control unite



Battery Unite



Charge contact

## Intelligent Logistics Solution

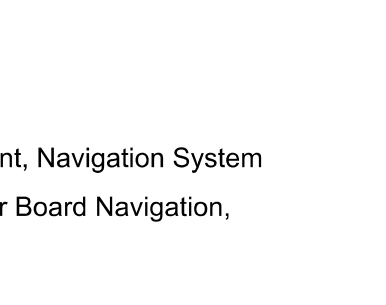
AGV handling system is based on multi-sensor fusion technology:SLAM environment natural navigation;precise control positioning technology;dynamic path planning and other core technologies;system self-inspection and diagnosis technology; multi-machine collaborative operation; efficient traffic control...

Software and hardware developed by ourself, can provide optimization solutions in different production processes and Vehicle tracking ,monitoring, Which achieve intelligent unmanned operation.

The system includes three core modules: Vehicle, software system and project engineering interface. The system can be connected with the enterprise material management system of MES/WMS/ERP



- Management System: Warehouse/Material Management System, Automatic Storage of Goods Information, Digital Management, Intelligent Handling System for Tracking and Query at Any Time
- AGV: Forklift Truck, Laser Navigation and Collaborative Robot
- Field Interface Matching: SLAM environment natural navigation, button box, I/O signal docking module and automatic charging pile
- Navigation system: self-developed laser navigation system, compatible with SLAM environment natural navigation and reflector ;
- Controller: Self-developed mobile robot controller, on-board navigation system and control system;
- Vehicle Software: Real-time Display of Robot Data Information
- Fleet management System: Dynamic Route Planning, Traffic Control and Digital Information Control, Realizing Multi-machine Cooperative Operation with High Efficiency

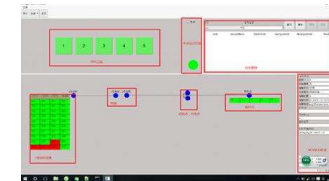


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## Software Tool

Modular embedded software tools, easy to use, accelerate the implementation cycle of the entire project

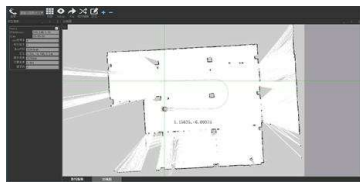
1. Vehicle software, displaying AGV body data
2. Route Point and Route Acquisition Editing Software
3. Building Environmental Map Software
4. Call System Software
5. Other testing tools



## Easy operation

This set of AGV system is simple to operate, easy to learn and use. It is convenient for customers to change their use scenarios and route, and the project is implemented quickly.

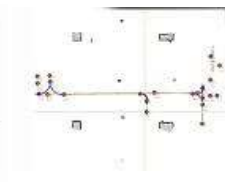
1. Place forklift AGV in Site
2. Driving forklift truck in manual mode once in use scenario, the system automatically builds maps.
3. Collect work sites and route points on constructed maps
4. Editing the driving route of laser forklift truck on the constructed map
5. Switching automatic mode and driving automatically



1Building



2 Select



3.Edit Map

**Intelligent forking = 3D visual recognition + dynamic path**



**Intelligent fork-taking function can be selected. Through the combination of 3D vision recognition and dynamic path, the fork-taking path can be automatically planned according to the location of pallet cargo, which can reduce the requirement of manual placement of pallet cargo and truly realize the intellectualization and humanization**

#### **Vision Sense Recognition of Tray Hole Profile**

1. Installing 3D vision sensor on the car body, image processing, and calculating the position and orientation angle of the tray hole contour by the algorithm.
2. The 3-D vision sensor can also be used as visual obstacle avoidance and omnidirectional obstacle recognition

#### **Dynamic Planning of Driving Route**

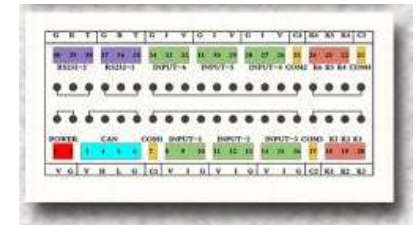
1. Combining fixed route with dynamic route when forking
2. When the position of pallet is not offset, forklift AGV travels along a fixed route with high efficiency; when the position is offset, forklift AGV dynamically plans the traveling route to fork according to the position and direction angle of pallet hole identified.

## I/O Module-Distributed Layout

The system of AGV adopts distributed layout, the central collects a large number of data, and realizes multi-machine cooperation, path planning and traffic control through artificial intelligence. The data from AGV and I/O signal module.

As data transfer center in the system, O module has abundant external interfaces to meet the signal interaction requirements.

Script configuration and LCD display, Easy operation which greatly shortens the implementation cycle of AGV project. Any abnormal node will not affect the operation of the whole system and ensure the stability of the system.



## Dispatching System Module

Dispatching system collects data information of all nodes through wireless network, including AGV, call button, MES/WMS system, production line sensor, etc. According to the summary information of the production management system, task assignment is automatically realized.

- Detection of AGV power, alarm or automatic charging at low lever
- Based on AGV vehicle management, traffic status and transportation instructions, efficient transportation flow optimization is realized. Multi-AGV Cooperative Operation, Optimum Traffic Scheduling of Transportation Control, Route Planning to Realize Optimal Route Driving
- Real-time collection of handling task information, flexible and efficient transshipment
- assignment: According to warehouse planning, handling, orderly placement, warehouse entry and exit can be realized automatically.
- Data visualization monitoring, monitoring and displaying information of the whole system (AGV body status information, driving route, task information, warehouse cargo information)



## Product Catalog ● Forklift AGV

### AE series

Lift weight: 1000~3000 KG  
Lift Height: 6m  
Speed: 5.4KM/H  
Turning radius: 1490



### AP series

Lift weight: 1000~3000 KG  
Lift Height: 200  
Speed: 5.4KM/H  
Turning radius: 1490



### AS series

Lift weight: 1000~3000 KG  
Lift Height: 6m  
Speed: 5.4KM/H  
Turning radius: 1490



### AR series

Lift weight: 1000~3000KG  
Lift Height: 6m  
Speed: 5.4KM/H  
Turning radius: 1490



### AT series

Towing material weight:  
1000~15000 KG  
Speed: 5.4KM/H  
Turning radius: 980



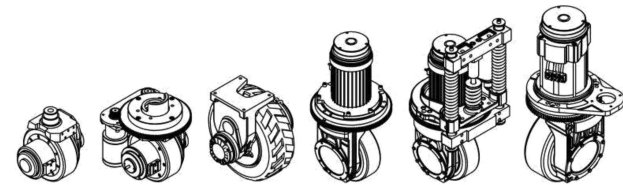
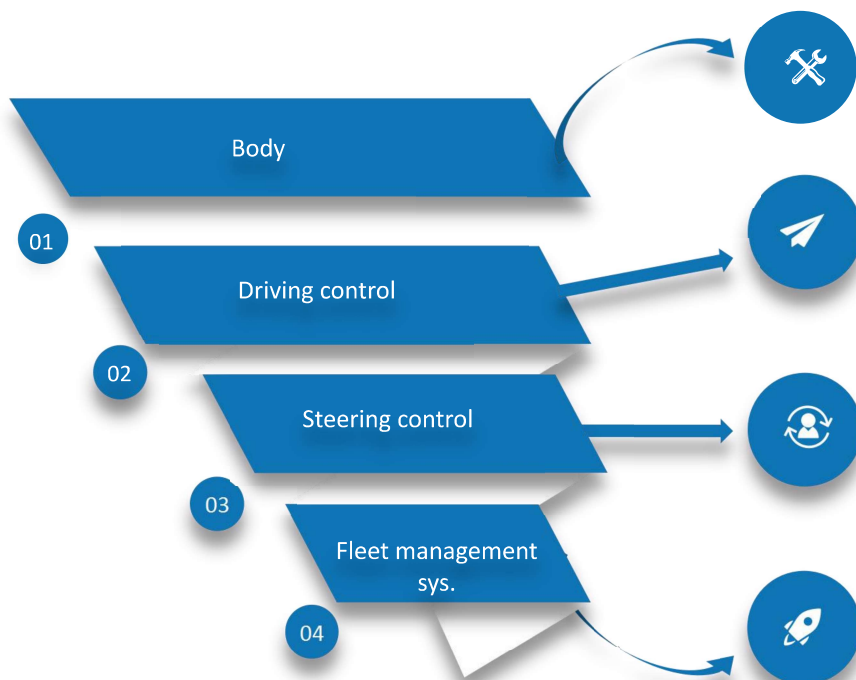
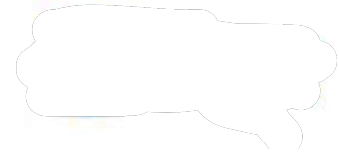
### Smarter

Lift weight: 1000 KG  
Lift Height: 200~1000  
Speed: 5.4KM/H  
Turning radius: 980





## Module Technology





## Product Catalog

- Forklift AGV Modular Design



AGV Driving Body



Lift Frame



## Advantage

