Automate Your Future with Next Mobile Innovation

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IPLUS MOBOT

Intelligent Mobile Robots

Leading Logistics Innovation
for Smart Manufacturing

www.iplusmobot.com

Product Features

- End-to-end Autonomous Material Transporting
- High-speed Human-following
- Dynamic Transportation in Human-vehicle-mixed Environment
- Customization Ability
- Hybrid Navigation Technology

A Further Step Towards Smart Manufacturing

Innovation in Factory Logistics with Mobile Robot

IPLUSMOBOT is one of the global leading companies in the autonomous mobile robot field, ranking the first of China industrial logistics natural navigation AMR market occupancy. IPLUSMOBOT was founded in 2016, the headquarter is in Hangzhou and its subcompanies have been established in Japan and Shenzhen(China). It provides logistics automation, digital and intelligentized products to manufacturing industry, helps enterprises increase the configuration and operation efficiency, as well as circulation resources. So far, IPLUSMOBOT has served over 1000 customers from various industries such as Semiconductor, FPD, Electronics, Lithium Battery, Photovoltaic, Automobile, Aviation, House Appliance, Pharmaceutical, Energy, Food etc.

EMMA-K-Series

Indoor General-Purpose Autonomous Mobile Robot Platform

The EMMA-K series (Easy Mobile Mate) covers autonomous navigation robots in the 400 to 1500 kg range, based on laser SLAM and integrating multiple different positioning and navigation methods. We employ industry-leading fleet management systems and programming tools to provide customers with an all-in-one intelligent manufacturing solution.

Navigate Mode
Laser SLAM + vision + IMU

Payload(kg)
400-1,500kg

Standard Carrier
Lift/Rotating Lift

Optional Lift(mm)
60mm

Docking Accuracy
±2mm/±0.2°

Runtime /Charge Time
8h/1.5h

Product Highlights

Flexible Intelligence

Based on the control and navigation solutions provided by IPLUSMOBOT, the EMMA-K series offers positioning and navigation that primarily utilize laser SLAM, complemented by IMU, QR codes, reflector boards, and among other methods. With positioning precision reaching up to ±2mm, it meets the flexibility and accuracy requirements of various industrial logistics scenarios.

Safety and Efficiency

The series employs multiple safety sensors to ensure safety: a front safety laser, 360° anti-collision edge, optional 3D cameras to detect low-lying obstacles, and rear laser to ensure safety and improve efficiency in bidirectional operations.

Easy Maintenance and Excellent Scalability

The internal modular design allows for quicker battery replacement, significantly improving the vehicle's maintainability and flexibility and reducing maintenance costs. An abundance of interface configurations facilitates users to quickly integrate new applications, lower deployment costs, and enhance operational efficiency.

A Rich of Functional Choices

Various body configurations are available, including lift-type and rotating-lift-type vehicles. Support for WIFI and 5G communication options is offered, providing the most cost-effective configurations for a variety of usage scenarios.

User-Friendly Human-Machine Interaction

Designed with a touch screen interface that is intuitive and easy to use, featuring real-time visualization of mapping and graphical programming that are straightforward to understand and operate. This reduces the complexity of application debugging, enhances the user experience, and allows for quick mastery and convenient operation.

	EMMA400K	EMMA600K	EMMA1000K	EMMA1500K
Length*width*height	824*533*253mm	949*650*253mm	949*650*253mm	1,174*814*263mm
Weight	130kg	180kg	190kg	280kg
Payload	400kg	600kg	1,000kg	1,500kg
Rotation diameter	916mm	1,015mm	1,015mm	1,290mm
Driving mode	Two-wheel differential drive			
Navigation mode	Laser SLAM + Vision + IMU			
Performance parameters				
Positioning accuracy	±10mm / ±1°			
Docking accuracy	±2mm / ±0.2° (environmental labeling assistance required)			
Maximum speed (no load)	1.5m/s			1.2m/s
Ground slope	≤5% (3°)			
Max. gap tolerance	≤35mm			
Max. ground elevation difference	≤10mm			
Carrier support				
Standard carrier	Lifting/rotary lifting			
Lifting height	60mm			
Sensor configuration				
Standard laser sensor	Front & Rear laser			
Standard camera configuration	Dual cameras (top + bottom)			
Optional accessories	3D camera			
Charge & battery				
Battery type	Lithium iron phosphate battery			
Run time per full charge	≥8h			
Full charging time	≤1.5h			

EMMA-L-Series

Indoor General-Purpose Autonomous Mobile Robot Platform

The EMMA-L series (Easy Mobile Mate) covers autonomous navigation robots in the 400 to 1500 kg range. Based on laser SLAM, it integrates various positioning and navigation methods and can be equipped with different types of carriers to meet application demands. We utilize industry-leading fleet management systems and programming tools to offer customers a comprehensive one-stop solution for intelligent manufacturing.

Navigate Mode
Laser SLAM + vision + IMU

Optional Lift(mm)
60mm

Docking Accuracy
±2mm/±0.2°

Payload(kg)
400kg-1,500kg

Charge Time
≤1.5h

Runtime
≥8h

Product Highlights

Flexible Intelligence

Based on the control and navigation solutions provided by IPLUSMOBOT, the EMMA-L series offers positioning and navigation that primarily utilize laser SLAM, complemented by IMU, QR codes, reflector boards, and among other methods. With positioning precision reaching up to ±2mm, it meets the flexibility and accuracy requirements of various industrial logistics scenarios.

Safety and Efficiency

The series employs multiple safety sensors to ensure safety: a front safety laser, 360° anti-collision edge, optional 3D cameras to detect low-lying obstacles, and rear laser to ensure safety and improve efficiency in bidirectional operations.

Wide Payload Range

The EMMA-L series products have a rated load capacity covering 400kg to 1,500kg, which can meet the general material handling payload requirements in factory workshops.

Good Environmental Adaptability

The EMMA-L series products feature a proprietary chassis suspension design from IPLUSMOBOT, which allows for better ground adaptation, maintains vehicle stability, secures sufficient driving force, effectively reduces vehicle vibration, and provides good passability.

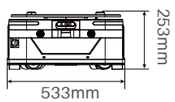
Good Application Scalability

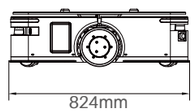
The carrying EMMA-L products offer a rich array of interfaces, including 4 DI channels, 4 DO channels, support for Modbus-RTU/Modbus-TCP communication, as well as a 48VDC power supply interface, making them suitable for carrying various types of carriers.

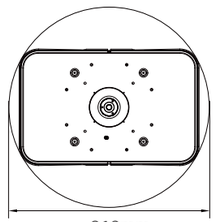



	EMMA400L	EMMA600L	EMMA1000L	EMMA1500L
Length*width*height	841*540*276/284mm	945*650*300mm	983*781*300mm	983*781*300mm
Weight	135kg/150kg	190kg	290kg	290kg
Payload	400kg	600kg	1,000kg	1,500kg
Rotation diameter	942mm	1,079mm	1,185mm	1,185mm
Driving mode	Two-wheel differential drive			
Navigation mode	Laser SLAM + Vision + IMU			
Performance parameters				
Positioning accuracy	±10mm / ±1°			
Docking accuracy	±2mm / ±0.2° (environmental labeling assistance required)			
Maximum speed (no load)	1.5m/s			1.2m/s
Ground slope	≤5% (3°)			
Max. gap tolerance	≤35mm			
Max. ground elevation difference	≤10mm			
Carrier support				
Standard carrier	Lifting/rotary lifting			
Lifting height	75mm	60mm		
Sensor configuration				
Standard laser sensor	Front & Rear laser			
Standard camera configuration	Dual cameras (top + bottom)			
Optional accessories	3D camera			
Charge & battery				
Battery type	Lithium iron phosphate battery			
Run time per full charge	≥8h			
Full charging time	≤1.5h			

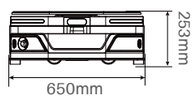
EMMA-K-Series

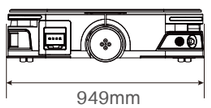


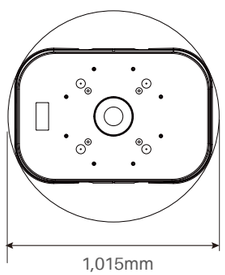




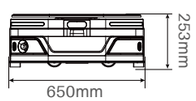
EMMA400K-Series

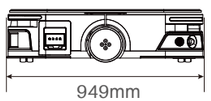


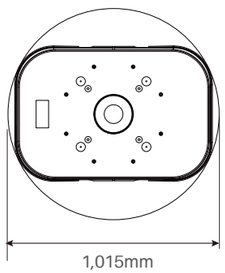




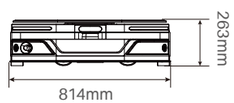
EMMA600K-Series

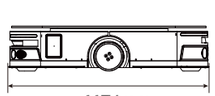


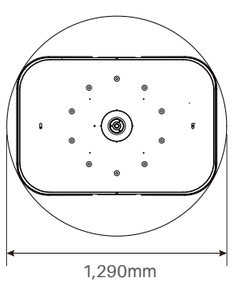




EMMA1000K-Series

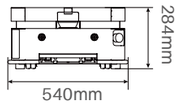


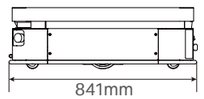


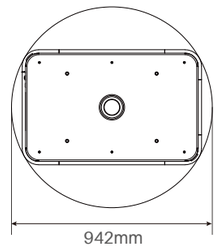


EMMA1500K-Series

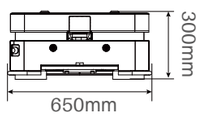
EMMA-L-Series

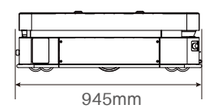


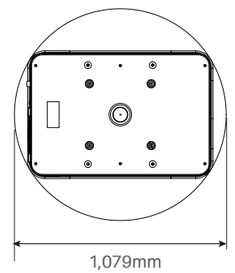




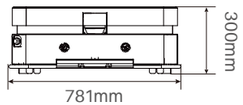
EMMA400L-Series

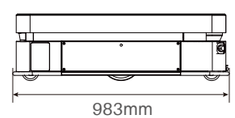


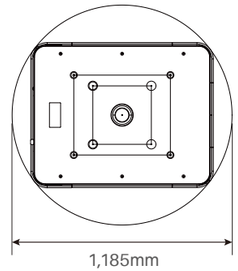




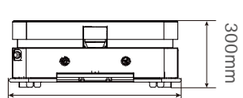
EMMA600L-Series

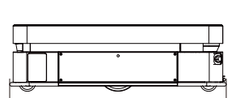


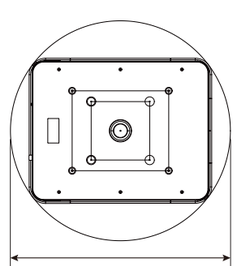




EMMA1000L-Series







EMMA1500L-Series

OMNI

Laser+vision+inertia
Hybrid Navigation

≥1,000
Payload(kg)
(Customized)

±2mm/0.2°
Docking Accuracy

Chassis+carrier
Operating type

360°omni-direction
Drive mode

8
Runtime (H)

Basic Parameters	Customized dimension Omnidirectional	Sensor	Laser * 2 Bottom camera Top camera	Battery	Lithium-ion （Customized） Runtime 8h
Performance	Payload(Customized) Docking accuracy ±2mm/0.2°		Position accuracy ±10mm/1°		Laser fov 360°
Safety System	Laser obstacle avoidance Sound and light alarm		3D camera(Optional) Bumper		Emergency stop

FOLA DN1416

Laser+vision+inertia
Hybrid Navigation

1,400
Payload(kg)

±10mm/1°
Docking Accuracy

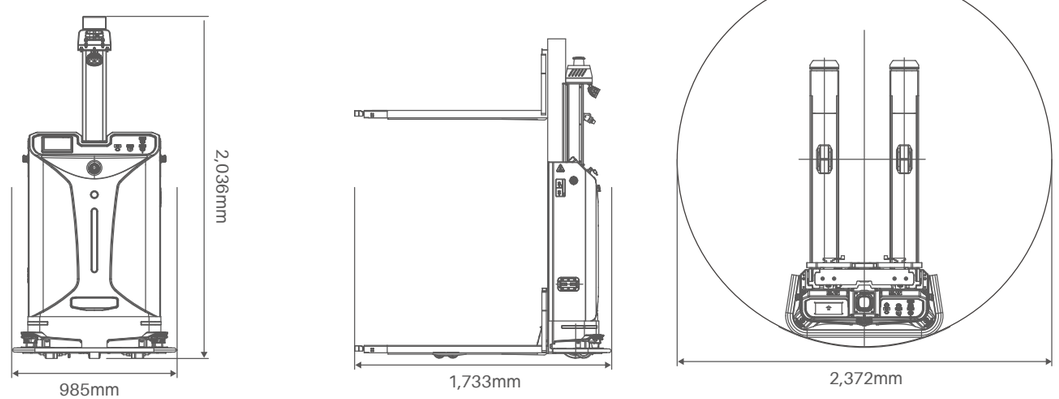
1,600
Lift Height(mm)

2,120
Aisle Width(mm)

8
Runtime (H)

Basic Parameters	Weight 680kg Dimensions (l*w*h)1,733*985*2,036mm Touch screen 7”	Battery	Lithium-ion 24v 180Ah Runtime >8h Charge time 2h	Safety System	Laser obstacle avoidance + sound & light alarm + safety edge + deep visual obstacle + emergency stop
Performance	Rated payload 1,400 kg Lift height 1,600mm Load center 600mm Aisle width 2,120mm		Docking accuracy ±10mm/1° Max. Site area>100,000m² Max. drop of the passable gap: 10mm Max. width of the passable gap: 30mm		No-load speed 1.5m/s Full load speed1.35m/s Full load slope-climbing ability 3% No-load slope-climbing ability 5%

FOLA DN1416 Drawing



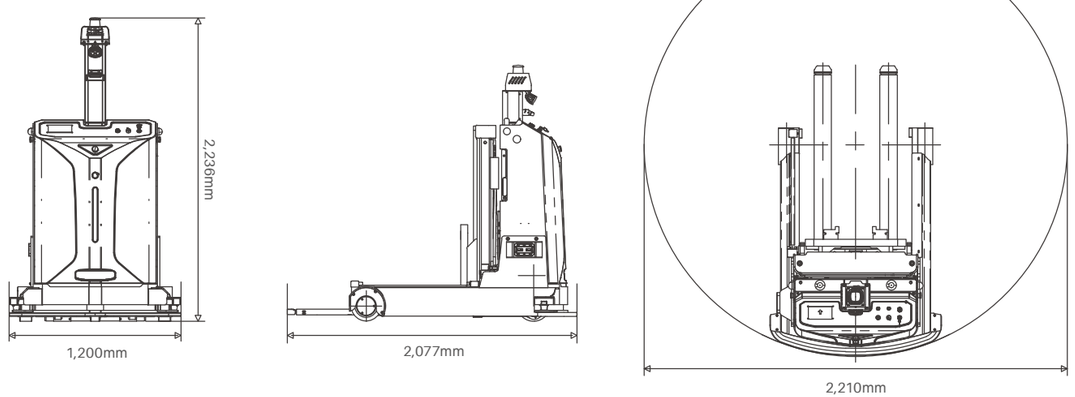
FOLA QN1416

Laser+vision+inertia	1,400	±10mm/±1°	1,600	2,410	6
Hybrid Navigation	Payload(kg)	Docking Accuracy	Lift Height(mm)	Aisle Width(mm)	Runtime (H)

Basic Parameters	Weight 1,890kg Dimension (l*w*h) 2,077*1,200*2,236mm Touch screen 7”	**Battery**	Lithium-ion Runtime >6h Charge time 2h	**Safety System**	Laser obstacle avoidance + sound & light alarm + safety edge + deep visual obstacle + emergency stop

Performance	Rated payload 1,400 kg Lift height 1,600mm Load center 500mm Aisle width 2,410mm	Docking accuracy ±10mm/±1° Max. Site area> 100,000m^2 Max. drop of the passable gap: 10mm Max. width of the passable gap: 30mm	No-load speed 1.5m/s Full load speed 1.35m/s Full load max. Gradability 3% No-load max. Gradability 5%

FOLA QN1416 Drawing



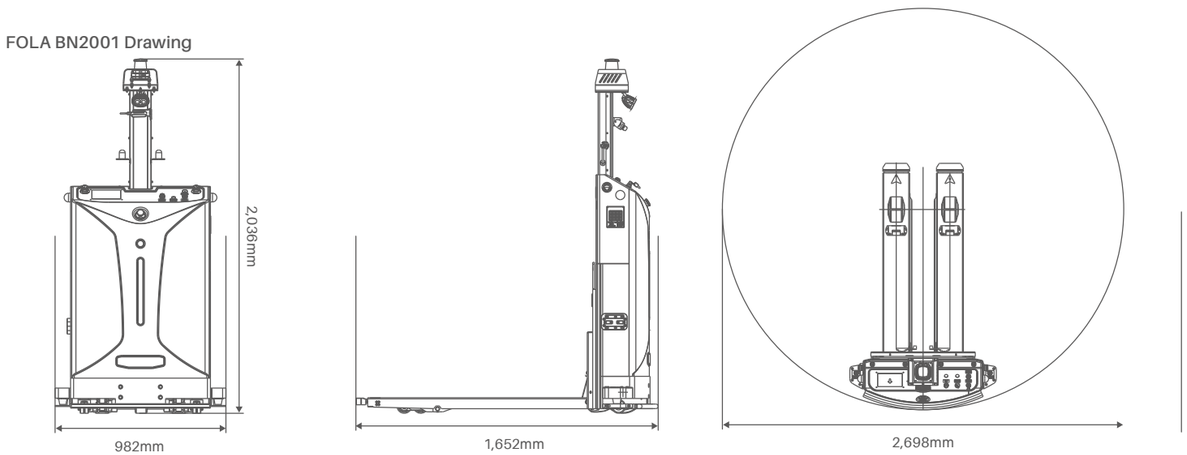
FOLA BN2001

Laser+vision+inertia	2,000	±10mm/1°	120	2,100	8
Hybrid Navigation	Payload(kg)	Docking Accuracy	Lift Height(mm)	Aisle Width(mm)	Runtime(H)

Basic Parameters	Weight 585kg Dimensions (l*w*h)1,652*982*2,036mm Touch screen 7”	**Battery**	Lithium-ion Runtime>8h Charge time 2h	**Safety System**	Laser obstacle avoidance + sound & light alarm + safety edge + deep visual obstacle + emergency stop

Performance	Rated payload 2,000 kg Lift height 120mm Load center 600mm Aisle width 2,100mm	Docking accuracy ±10mm/1° Max. Site area> 100,000m2 Max. drop of the passable gap: 10mm Max. width of the passable gap: 30mm	No-load speed 1.5m/s Full load speed 1.3m/s Full load max. Gradability3% No-load max. Gradability 5%

FOLA BN2001 Drawing



MORA 300

Laser+QR code +Reflector
Hybrid Navigation

12kg
Collaborative Robots Payload(kg) (Customized)

≤0.5
Machine Vibration(g)

≤1,340mm
Rotation Radius

±1mm
Position Accuracy

≥8
Runtime (H)

Basic Parameters	Dimension (l*w*h) 1,200×692×1,130mm Bidirectional weight 260kg	Battery	Lithium-ion 48v 70Ah Charge time 2h Runtime ≥8h
Safety System	Standard dual lasers; front/rear 3D cameras; bumper; lasers for vertical protection; single-point laser (optional); hole detection; sound and light alarm.		
Performance	Manipulator rated load 12kg（Customized） Machine vibration ≤0.5g Repeat position accuracy ±1mm		Noise ≤75db Ground flatness 10mm/m² Max. slope 5% Max. width of the passable gap: 35mm Max. drop of the passable gap: 10mm
Communication	IEEE 802.11 a/g/b/n/ac/ax 2.4/5GHz,5G optional		

Accurate
Built-in vision system
Repeat position accuracy of ±1mm

Interconnection
Seamless connection of robot fleets with WMS and MES; digital interconnection of multiple software, devices, and facilities

Safe
Dual laser obstacle avoidance, 360° anti-collision mechanism, no need for guardrail, stop in case of external force

User friendly
Visual programming/scratch programming, access from phone and tablet, ease of use

Quick integration
Modular system for fast integration of various applications

Flexible
Smart autonomous navigation, laser detection distance of 30m, quick stop and obstacle avoidance, adaptation to mixed human-machine operations

Customized

2D Laser+vision+inertia
Hybrid Navigation

±5mm/1°
Repeatability

3/≥6
Charge/Runtime(H)

1,000
Payload(kg)

500-2,020
Optional Lift(mm)

360°
Omni directional
Bottom

Laser+vision+inertia
Hybrid Navigation

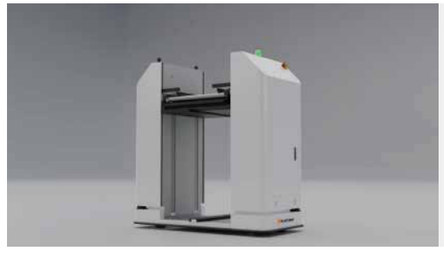
±2mm/0.2°
Loading and unloading Repeatability

2.5/8
Charge/Runtime(H)

≥20,000
100 sets fleet daily task cycles

Class 5
Dust free

1.5m/s
Max speed



2D Laser+vision+inertia
Hybrid Navigation

±2mm/0.5°
Docking accuracy

≤3/≥10
Charge/Runtime(H)

100
Payload(kg)

200-1,100
Optional Lift(mm)

M-XL
Rack/trolley size

3D Laser+GNSS+vision+inertia
Hybrid Navigation

1.5cm horizontally
1.5cm vertically
Dedicated docking accuracy

2.5cm horizontally
2.5cm vertically
Parking accuracy

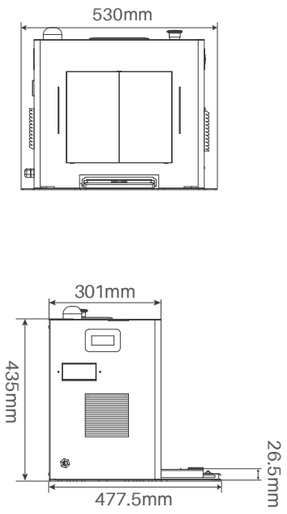
1,000,000m²
Max. Site area

10km/h
speed

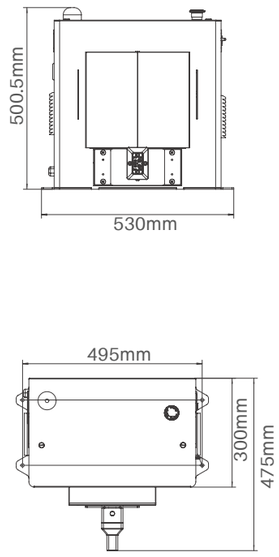
100
Payload(T)

Charging Station

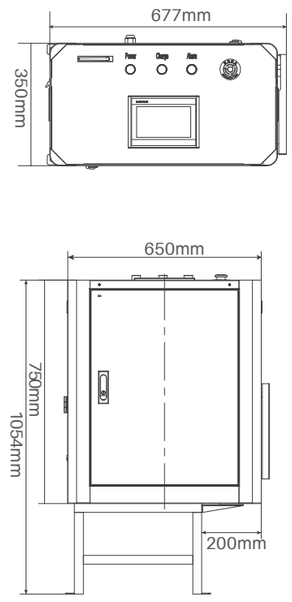
EMMA_L-Series



EMMA-K-Series

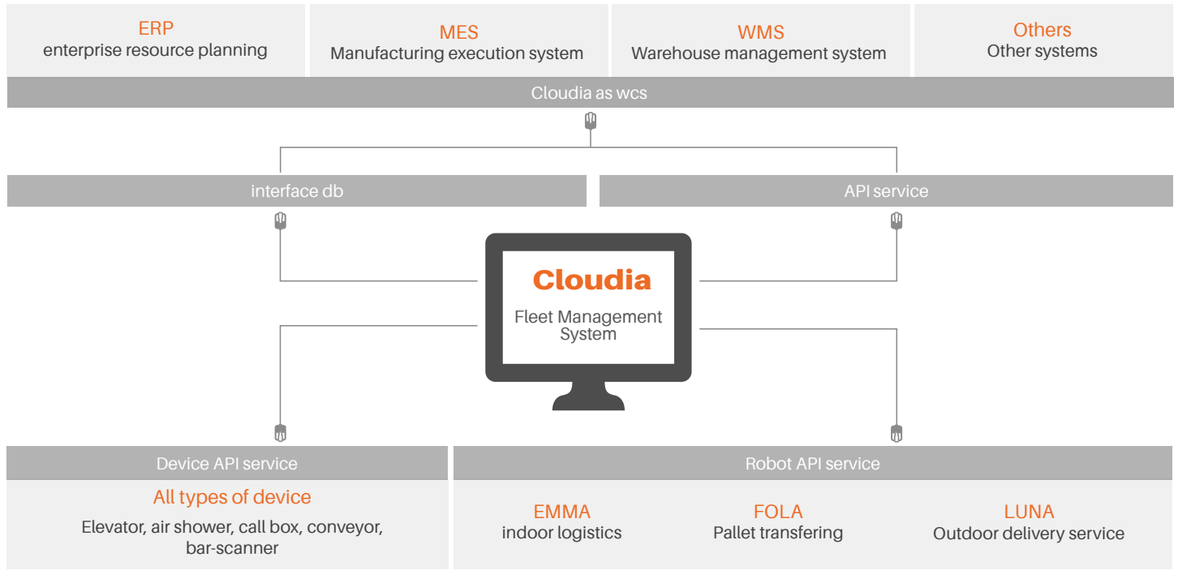


FOLA-Series



Cloudia

The powerful and elegant fleet control software Cloudia will help multiple robots work in a more efficient and collaborative way. With the advanced scheduling and planning algorithms, the system will assign different tasks to the right destination at the right time, minimize the idle time for each equipment of the warehouse/factory and save the overall logistics cost. Cloudia can also easily integrate with an existing Warehouse Management System(WMS), Manufacturing Execution System (MES) or Enterprise Resource Planning (ERP) for further automation so that all the tasks and movements can be organized as a whole to gain further efficiencies.



Main Functions

Real-time status visualization

Multiple-AMR transportation tracking and real-time status display, real-time task status display,real-time display of external devices, real-time display of system status and statistical reports

Smart management of operation and maintenance

Convenient multiple maps management, smart and reliable traffic control, efficient material delivery, remote anomaly alert, software permission management

Logistics management digitization

Whole-logistics-process digitization, high transportation efficiency, efficient material delivery, remote anomaly alert, software permission management

Product Advantages

High-performance

The algorithm of task scheduling and traffic control is powerful, and the dispatch task of large-scale fleet of thousands of units can be easily accomplished.

Real-time

Real-time display of task status and real-time summary of data

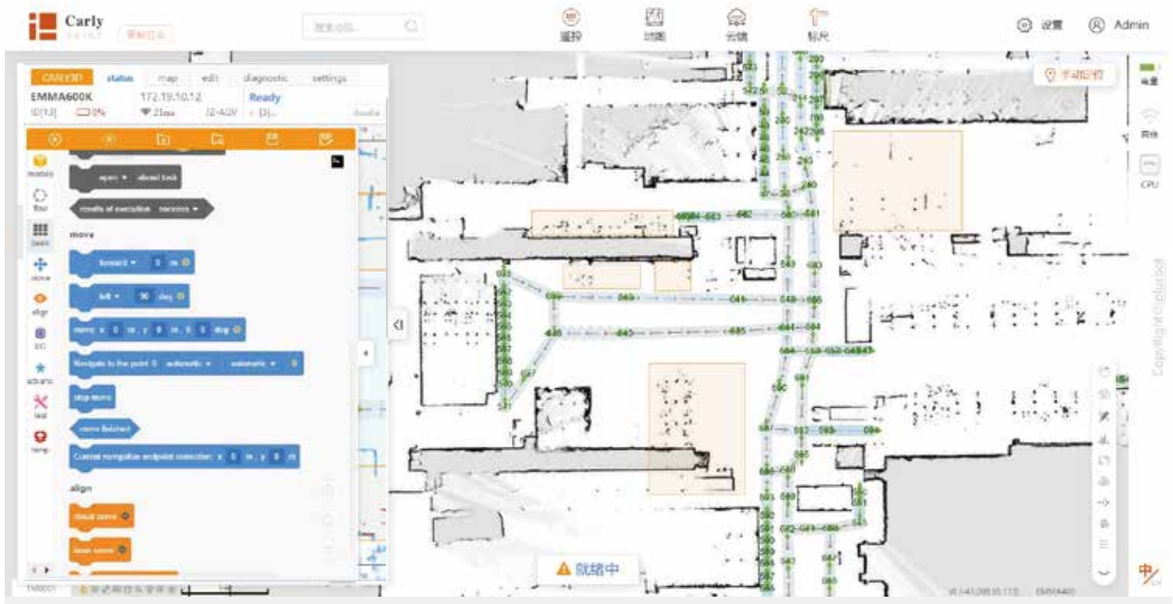
Closed loop

Seamless integration with WMS/MES/ERP system

CARLY

CARLY (Customizable Action and Robot business Logic for deployment) is a robot control and operation teaching software launched by IPLUSMOBOT. Users can enter the robot IP in the browser to access directly and check the current status of the specified robot in real time. CARLY supports various integrated stand-alone operations such as instant control, map building management, line editing, action programming and debugging, history replay, and encyclopedia teaching. In addition to the operating interface, carly also includes a sophisticated backend system to ensure the robot runs intelligently and securely at all times.

Main Functions



Map Building and Management | Robot Action and Task Teaching | Robot Control and Task Execution | Operational Data Monitoring

Product Features

Intelligent Algorithm

Built-in state-of-the-art laser SLAM + vision + IMU fusion positioning algorithm

Stable and safe

Adopt automatic plus manual multiple security strategy. Conform to CE certification standards and perfectly adapt to human-robot collaboration scenarios.

Easy to use

100% graphical interface operation, intuitive and easy to use, with modular programming to teach the robot

Operation data visualization

Real-time visualization of robot operation data. Support historical data visual review.

NOTE