IPLUS MOBOT

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Automate Your Future with Next Mobile Innovation

Intelligent Mobile Robots

Leading Logistics Innovation
for Smart Manufacturing

www.iplusmobot.com

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.

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■ 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 SALM + vision + IMU	**Optional Lift(mm)** 60mm	**Docking Accuracy** ±2mm/±0.2°
Payload(kg) 400kg-1500kg	**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.

Wide Payload Range

The EMMA-L series products have a rated load capacity covering 400kg to 1500kg, which can meet the general material handling payload requirements in factory workshops.

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.

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.

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.

	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	1000kg	1500kg
Rotation diameter	942mm	1079mm	1185mm	1185mm
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			
Battery life	≥8h			
Full charging time	≤1.5h			

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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 QN1416

Laser+vision+inertia — Hybrid Navigation

1,400 — Payload(kg)

±10mm/±1° — Docking Accuracy

1,600 — Lift Height(mm)

2,410 — Aisle Width(mm)

6 — 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> 100,000m² Max. drop of the passable gap: 10mm Max. width of the passable gap: 30mm		No-load speed 1.5m/s Full load speed 1.35m/s Full load max. Gradability 3% No-load max. Gradability 5%

FOLA QN1416 Drawing

2,236mm

1,200mm

2,077mm

2,210mm
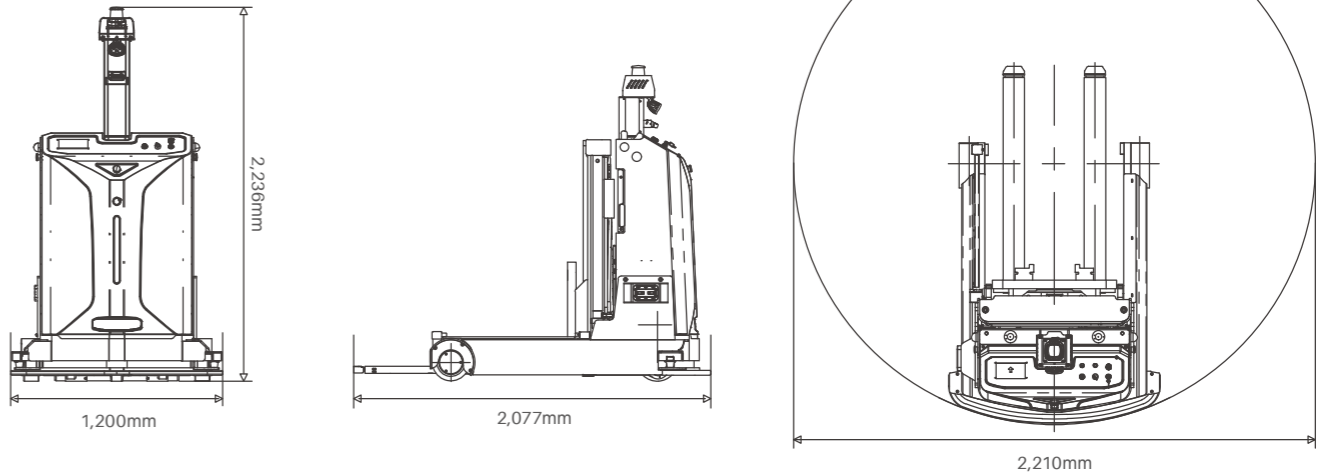
FOLA DN1416

Laser+vision+inertia	1,400	±10mm/1°	1,600	2,120	8
Hybrid Navigation	Payload(kg)	Docking Accuracy	Lift Height(mm)	Aisle Width(mm)	Runtime (H)

Basic Parameters	Weight 680kg Dimensions (l∗w∗h)1,733∗985∗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 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

2,036mm

985mm 1,733mm 2,372mm
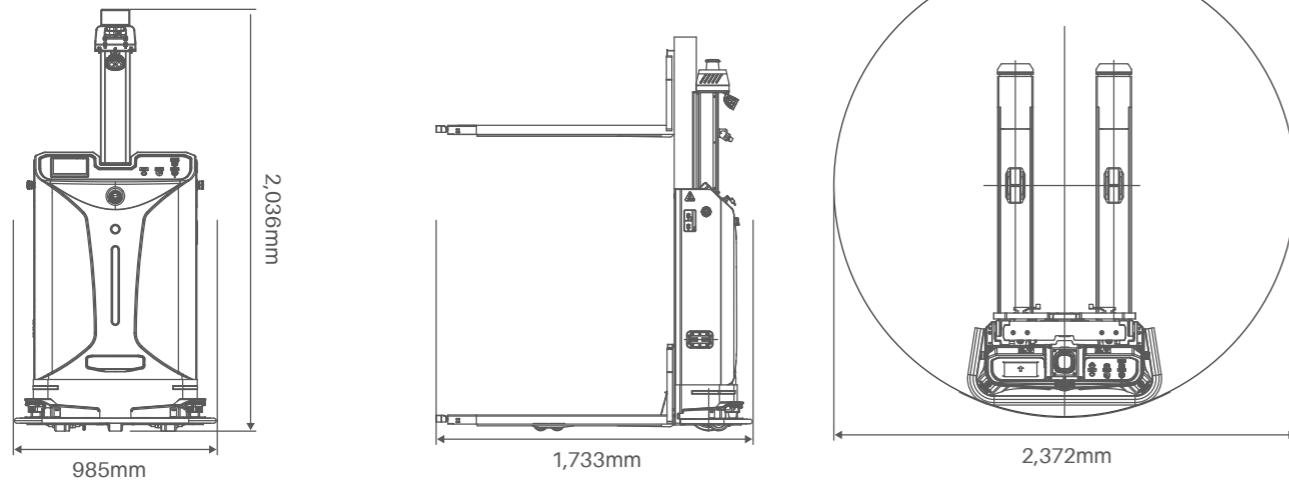
FOLA BN2001

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 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 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

2,036mm

982mm 1,652mm 2,698mm

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MORA 300

Laser+QR code +Reflector Hybrid Navigation	**12kg** Collaborative Robots Payload(kg) (Customized)	**≤0.5** Machine Vibration(g)	**≤1340mm** Rotation Radius	**±1mm** Position Accuracy	**≥8** Runtime (H)

Basic Parameters	Dimension (l∗w∗h) 1200×692×1130mm 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

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

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

Quick integration
Modular system for fast integration of various applications

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

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 Charging Station Drawing

530mm
435mm
301mm
477.5mm
26.5mm

FOLA Charging Station Drawing

677mm
350mm
650mm
750mm
1054mm
200mm
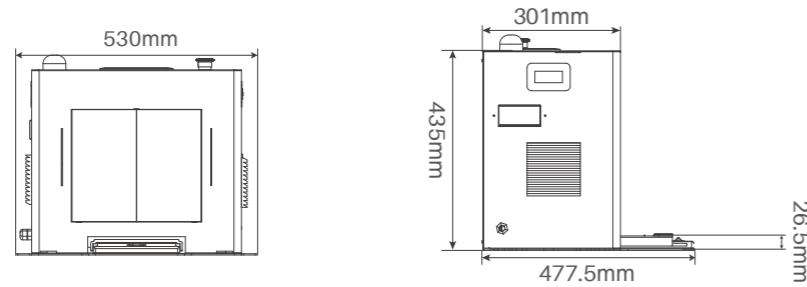
Cloudia

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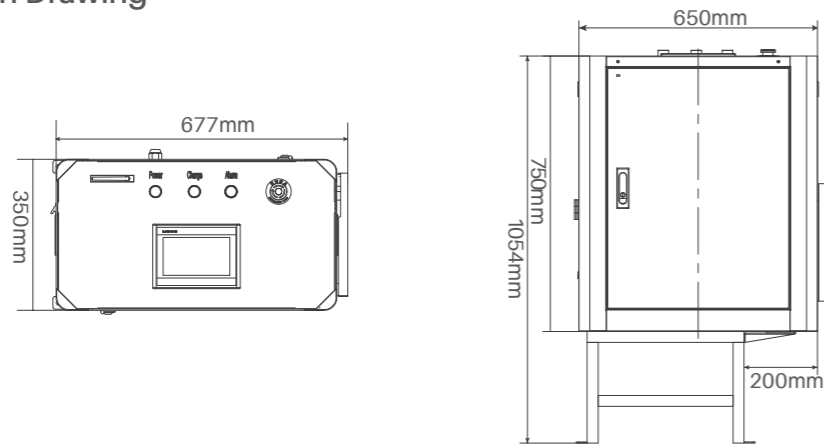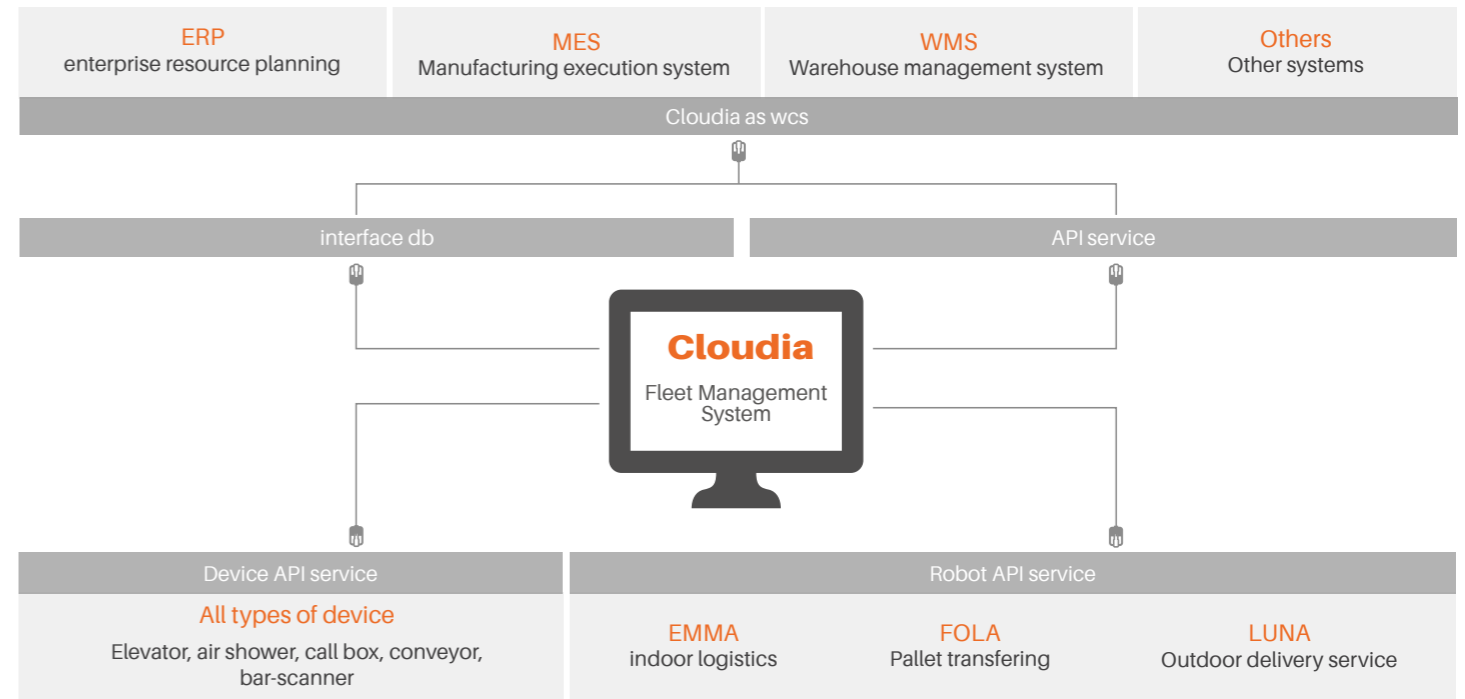 cost. Cloudia can also easily integrate with an existing Warehouse Management System(WMS), Manufacturing Execution System (MES) or Enterprise Resource Planning (ERP) for further automation so that all the tasks and movements can be organized as a whole to gain further efficiencies.

ERP	MES	WMS	Others
enterprise resource planning	Manufacturing execution system	Warehouse management system	Other systems

Cloudia as wcs

interface db	API service

Cloudia
Fleet Management System

Device API service	Robot API service		
All types of device	EMMA	FOLA	LUNA
Elevator, air shower, call box, conveyor, bar-scanner	indoor logistics	Pallet transfering	Outdoor delivery service

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
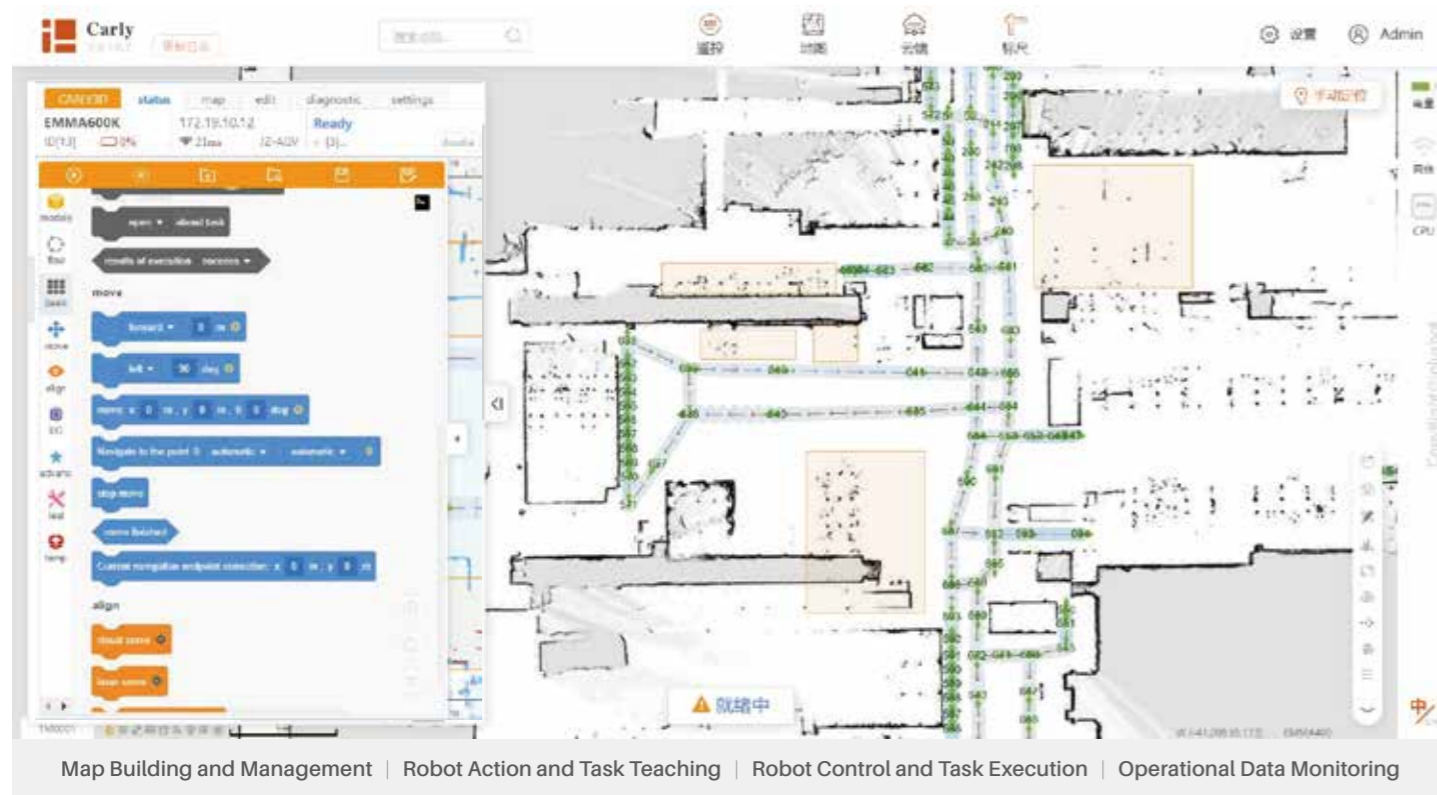
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CARLY

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.

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