Transform Global Manufacturing and Commerce
Through Intelligent Robotics

IPLUSMOBOT

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IPLUS MOBOT

Intelligent Mobile Robotics

www.iplusmobot.com

CLOUDIA
Large-scale Intelligent Mobile
Robot Fleet Management System

CARLY
Visual Commissioning
System for Mobile Robots

OWL
Inventory Management System
for Mobile Robot System

iMCS
Digital Material-Flow
Control System

ONE-STOP SOLUTION
General-purpose Inteligent Mobile Robot

- Enhance the level of automation and intelligence
- Provide highly reliable robotics products
- Optimize operational processes and reduce overall costs
- Help clients reduce carbon emissions and complete their green transformation

EMMA K Series

EMMA K family (Easy Mobile Mate) consists of AMRs with payload from 400kg to 1,500kg. Based on IPLUSMOBOT latest hardware platform, all EMMA K AMRs are made by casting chassis, resulting in light mass, compact size and accurate navigation. EMMA-K AMRs also provide lifting device with or without rotating plate as an option.

Hybrid Navigation
Laser SLAM + Vision + IMU

Payload(kg)
400-1,500kg

Type
Lifting/Lifting with rotating plate

Lifting Stroke
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.

	EMMA 400K	EMMA 600K	EMMA 1000K	EMMA 1500K
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	Differential drive			
Hybrid navigation	Laser SLAM + Vision + IMU			
Performance parameters				
Position accuracy	±30mm			
Docking accuracy	±2mm / ±0.2° (with QR code)			
Maximum speed (no load)	1.5m/s			1.2m/s
Ground slope	≤5% (3°)			
Max. gap tolerance	≤35mm			
Max. ground elevation difference	≤10mm			
Optional carrier device				
Type	Lifting/Lifting with rotating plate			
Lifting Stroke	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

EMMA L family (Easy Mobile Mate) consists of AMRs with payload from 400kg to 2,000kg. EMMA L AMRs also provide a lifting device without rotating plate as an option. EMMA L AMRs can easily add various sensors or mechanisms inside or on the top for customized applications. Each AMR in this family has an optional CE complied type.

Hybrid Navigation
Laser SLAM + Vision + IMU

Lifting Stroke
60mm

Docking Accuracy
±2mm/±0.5°

Payload(kg)
400kg-2,000kg

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 2,000kg, which can meet the general material handling payload requirements in factory workshops.

Good Environmental Adaptability

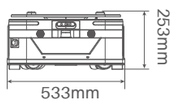
The EMMA L series products feature a proprietary chassis suspension design from IPLUSMOBOT, which allows for better ground adaptation, maintains vehicle stability, secures sufficient driving force, effectively reduces vehicle vibration, and provides good passability.

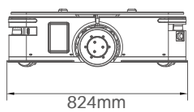
Good Application Scalability

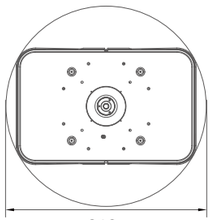
The carrying EMMA L series products offer a rich array of interfaces, including 4 DI channels, 4 DO channels, support for Modbus-RTU/Modbus-TCP communication, as well as a 48VDC power supply interface, making them suitable for carrying various types of carriers.

	EMMA 400L	EMMA 600L	EMMA 1000L	EMMA 1500L	EMMA 2000L
Length*width*height	841*540*286 mm	945*650*300mm	983*781*302.5mm	983*781*302.5mm	1,043*801*301mm
Weight	150kg	190kg	290kg	290kg	290kg
Payload	400kg	600kg	1,000kg	1,500kg	2,000kg
Rotation diameter	942mm	1,079mm	1,185mm	1,185mm	1,184mm
Driving mode	Differential drive				
Hybrid navigation	Laser SLAM + Vision + IMU				
Performance parameters					
Position accuracy	±30mm				
Docking accuracy	±2mm/±0.5° (with QR code)				
Maximum speed (no load)	1.5m/s			1.2m/s	
Ground slope	≤5% (3°)				
Max. gap tolerance	≤35mm				
Max. ground elevation difference	≤10mm				
Optional carrier device					
Type	Lifting				
Lifting Stroke	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				

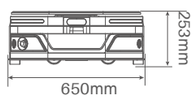
EMMA K Series

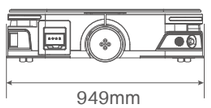


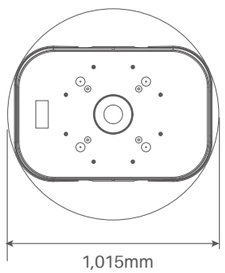




EMMA 400K







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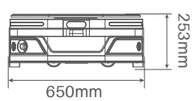
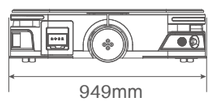
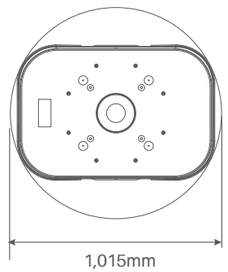
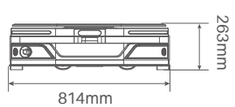
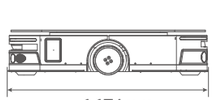


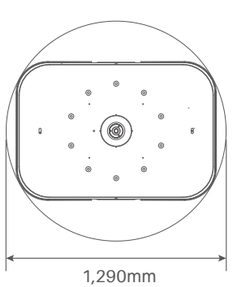




EMMA 1000K

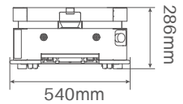


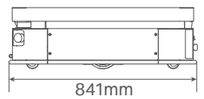


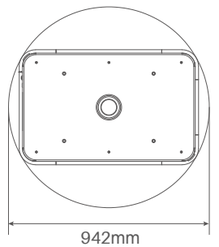


EMMA 1500K

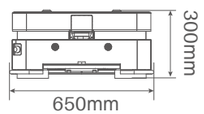
EMMA L Series

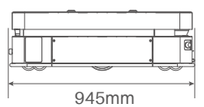


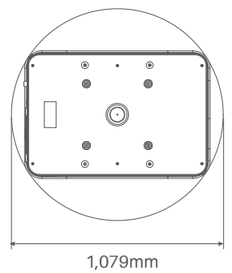




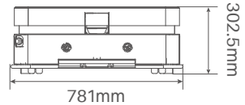
EMMA 400L

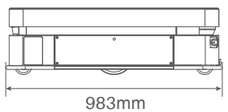


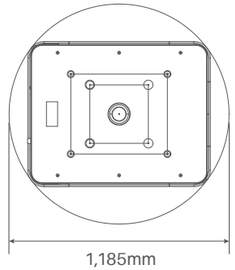




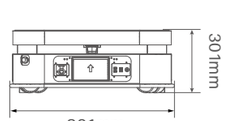
EMMA 600L

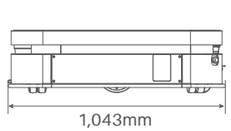


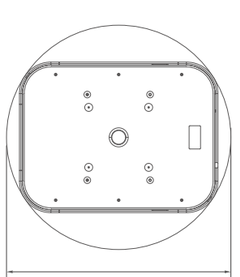




EMMA 1000L/EMMA 1500L







EMMA 2000L

EMMA T

Laser SLAM+Vision+IMU
Hybrid Navigation

≤800kg
Payload（kg）

±30mm
Position Accuracy

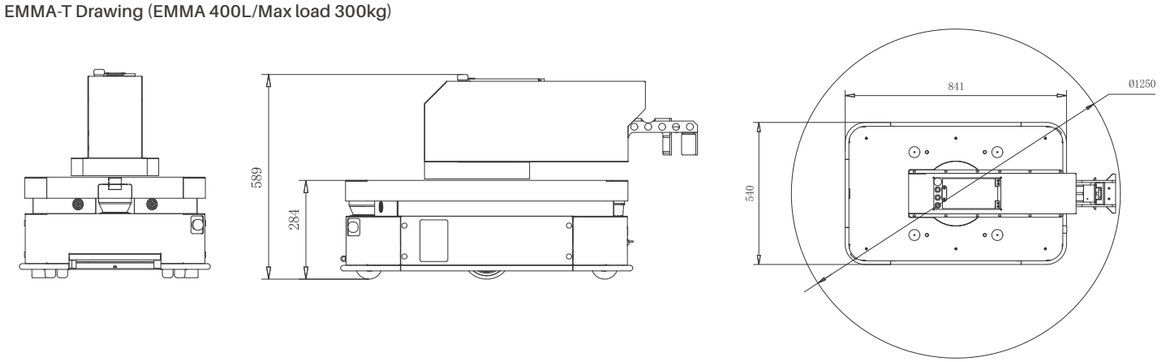
25mm
Ground Clearance

±110°
Rotation Range

>8h
Runtime

Basic Parameters	Basic platform EMMA 400L/ EMMA 600L/EMMA 1000L/ EMMA 1500L Ground clearance 25mm	**Environment**	Max. slop 5% Max. gap 35mm Temperature 0-40℃	**Battery**	Lithium-ion 48v 31.5Ah Charge time 1.5H Runtime >8H
Performance	Differential Drive Payload ≤800kg Docking accuracy ±10mm	**Safety**	2 x Lidar 3D camera 3 x E- Stops Bumper Sound and light alarm	**Tugging Device**	Rotating range ±110° Automatically docking Trolley detection

EMMA-T Drawing (EMMA 400L/Max load 300kg)



OMNI Series

OMNI 1.5T

Laser
SLAM+Vision+IMU
Hybrid Navigation

±2mm/±0.5°
Docking Accuracy

≥8
Runtime(h)

1,500
Payload(kg)

80
Lifting Stroke(mm)

360°omni-direction
Drive Mode

OMNI 2.5T

Laser
SLAM+Vision+IMU
Hybrid Navigation

±2mm/±0.5°
Docking Accuracy

≥8
Runtime(h)

2,500
Payload(kg)

100
Lifting Stroke(mm)

360°omni-direction
Drive Mode

OMNI 3.5T

Laser
SLAM+Vision+IMU
Hybrid Navigation

±2mm/±0.5°
Docking Accuracy

≥8
Runtime(h)

3,500
Payload(kg)

60
Lifting Stroke(mm)

360°omni-direction
Drive Mode

OMNI 5T

Laser
SLAM+Vision+IMU
Hybrid Navigation

100
Lifting Stroke(mm)

±2mm/±0.5°
Docking Accuracy

5,000
Payload(kg)

≥8h
Runtime(h)

360°omni-direction
Drive Mode

FOLA

Forklift AMR

Forklift AMR

FOLA adopts the world's leading multi-sensor fusion SLAM natural navigation technology, enabling autonomous navigation and real-time precise positioning in large-scale indoor and outdoor environments. By integrating various types of forklifts—such as pallet-handling, stacking, and reach truck—it facilitates automated pallet picking and unloading, autonomously completing tasks such as pallet handling, stacking, and loading/unloading. These forklifts are widely used for handling palletized materials in manufacturing environments and logistics warehouses, significantly aiding users in advancing the intelligent transformation of factory logistics.

Application Scenarios

	BN1501T	BN1501	BN2001	BN3001	DN1416	DN1516	DN2030	PN1530	QN1416	FOLA SN300	FOLA SN600
Dimensions(L*W*H)/mm	1,832*884*2,025	1,736*977*1,985	1,608*982*2,036	1,720*980*2,036	1,705*980*2,036	1,705*977*2,039	1,983*1,048*2,235	2,628*1,129*2,036	12,034*1,200*2,036	1,124*428*1,062 (standard) 1,124*428*1,840 (high version)	1,435*600*785 (standard) 1,435*600*1,760 (high version)
Weight/kg	535	420	585	600	680	720	1,150	2,700	1,890	185	240
Payload/kg	1,500	1,500	2,000	3,000	1,400	1,500	2,000	1,500	1,400	300	600
Load center distance/mm	600	600	600	600	600	600	600	500	500	/	/
Lifting height(min/max)/mm	92/180	85/200	90/205	90/205	90/1,600	90/1,600	90/3,000	45/3,000	45/1,600	90/390	135/195
Navigation	Laser SLAM + IMU									Laser SLAM + Vision + IMU	
Main driving mode	Forward driving										
Running speed(empty/full)	1.5/1.35 m/s	1.35/1.2 m/s	1.5/1.35 m/s	1.35/1.35 m/s	1.5/1.35 m/s	1.35/1.2 m/s	1.35/1.35 m/s	1.35/1.35 m/s	1.5/1.35 m/s	1.2 / 1.5m/s	1.2 / 1.5m/s
Docking accuracy	±10mm / ±1°										
Charging/Working time	≤2h/≥8h	≤2h/≥8h	≤2h/≥8h	≤2h/≥8h	≤2h/≥8h	≤2h/≥8h	≤2h/≥8h	≤2h/≥6h	≤2h/≥6h	≤1.5h/≥8h	≤1.5h/≥8h
Safety System	Laser obstacle avoidance + 3D camera(Optionanl)+ Sound and light alarm + Bumper + Emergency stop										

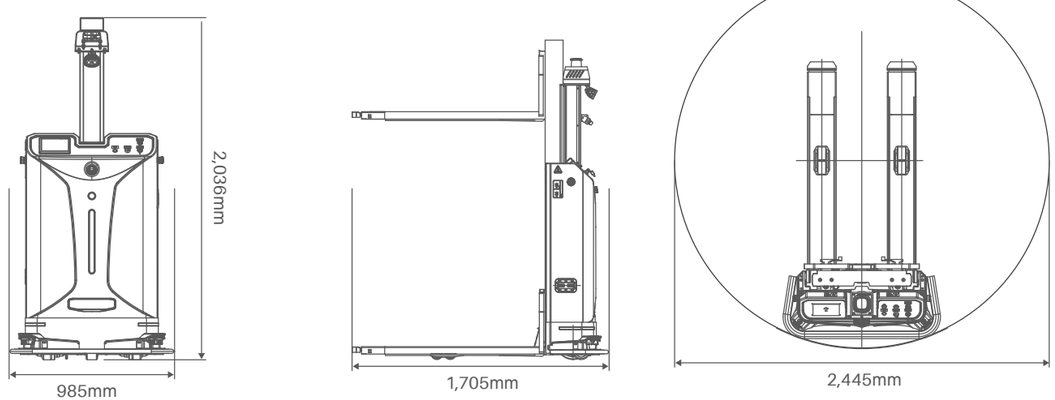
FOLA DN1416

Laser SLAM+Vision+IMU	1,400	±10mm/±1°	1,600	2,130	8
Hybrid Navigation	Payload(kg)	Docking Accuracy	Lifting Height(mm)	Aisle Width(mm)	Runtime(h)

Basic Parameters	Weight 680kg Dimensions (l*w*h) 1,705*980*2,036mm Touch screen 7”	**Battery**	Lithium-ion 24v 180Ah Runtime >8h Charge time 2h
Safety System	Laser obstacle avoidance + 3D camera(Optional) + Sound and light alarm +Bumper + Emergency stop		

Performance	Rated payload 1,400 kg Lifting height 1,600mm Load center 600mm Aisle width 2,130mm	Docking accuracy ±10mm/±1° Max. Site area>100,000m² Max. drop of the passable gap: 10mm Max. width of the passable gap: 30mm	Maximum speed (no load) 1.5m/s Maximum speed (full load) 1.35m/s Full load slope-climbing ability 3% No-load slope-climbing ability 5%

FOLA DN1416 Drawing



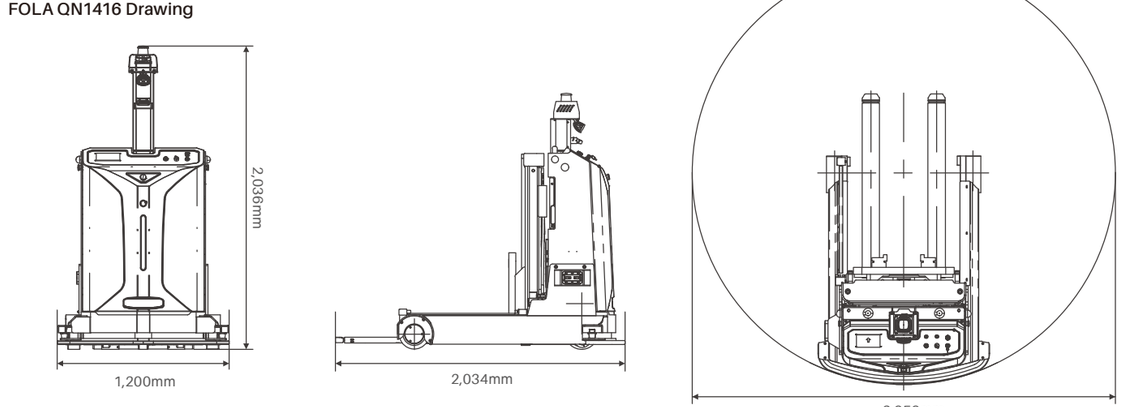
FOLA QN1416

Laser SLAM+Vision+IMU	1,400	±10mm/±1°	1,600	2,410	6
Hybrid Navigation	Payload(kg)	Docking Accuracy	Lifting Height(mm)	Aisle Width(mm)	Runtime(h)

Basic Parameters	Weight 1,890kg Dimensions (l*w*h) 2,034*1,200*2,036mm Touch screen 7”	**Battery**	Lithium-ion Runtime >6h Charge time 2h
Safety System	Laser obstacle avoidance + 3D camera(Optional) + Sound and light alarm +Bumper + Emergency stop		

Performance	Rated payload 1,400 kg Lifting 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	Maximum speed (no load) 1.5m/s Maximum speed (full load) 1.35m/s Full load max. Gradability 3% No-load max. Gradability 5%

FOLA QN1416 Drawing



FOLA SN300

Laser SLAM+Vision+IMU	300	±30mm	300	1,801	8
Hybrid Navigation	Payload(kg)	Position Accuracy	Lifting Stroke(mm)	Rotation Diameter(mm)	Runtime(h)

Basic Parameters
Weight 185kg
Dimensions (l*w*h)
1,124*428*1,062mm (standard)
1,124*428*1,840mm (high version)
Touch screen 7”

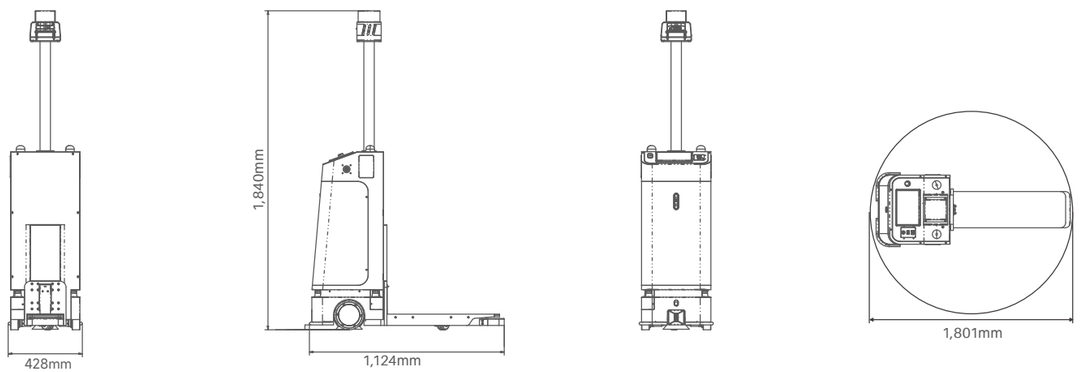
Battery
Lithium iron phosphate battery
Runtime≥8h
Charge time≤1.5h

Safety System
Laser obstacle avoidance + 3D camera+ Front bumper+Fork bumper

Performance
Rated payload 300kg
Lifting stroke 300mm
Rotation diameter 1,801mm

Position accuracy ±30mm
Maximum speed (no load) 1.5m/s
Maximum speed (full load) 1.2m/s

FOLA SN300 Drawing



FOLA SN600

Laser SLAM+Vision+IMU	1,400	±30mm	60	1,540	6
Hybrid Navigation	Payload(kg)	Position Accuracy	Lifting stroke(mm)	Rotation Diameter(mm)	Runtime(h)

Basic Parameters
Weight 240kg
Dimensions(l*w*h)
1,435*600*785mm (standard)
1,435*600*1,760mm (high version)
Touch screen 7”

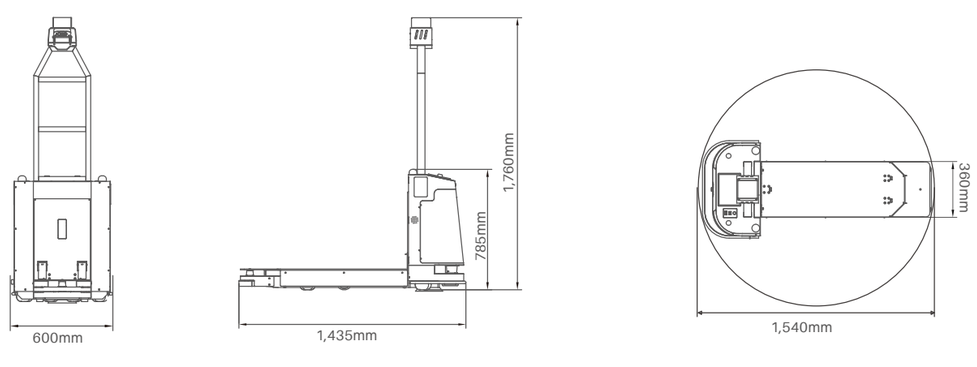
Battery
Lithium iron phosphate battery
Runtime≥8h
Charge time≤1.5h

Safety System
Laser obstacle avoidance + 3D camera+ Front bumper+Fork bumper

Performance
Rated payload 600kg
Lifting stroke 60mm
Rotation diameter 1,540mm

Position accuracy ±30mm
Maximum speed (no load) 1.5m/s
Maximum speed (full load) 1.2m/s

FOLA SN600 Drawing



Customized

NERA A12-UF

Laser SLAM+Vision+IMU
Hybrid Navigation

±1mm
Execution Precision

≥8
Runtime(H)

360°omni-direction
Drive Mode

≤0.5
Machine Vibration(g)

1,300mm
Arm Range

LDT

Laser
SLAM+Vision+IMU
Hybrid Navigation

±5mm
Docking Accuracy

2,410
Aisle Width(mm)

1,500
Payload(kg)

280mm
Lifting Stroke(mm)

<70db
Noise

FPD

Laser
SLAM+Vision+IMU
Hybrid Navigation

±2mm/0.2°
Loading and unloading
Repeatability

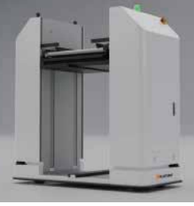
2.5/8
Charge/Runtime(H)

≥20,000
100 sets fleet daily task cycles

Class 5
Dust Free

1.5m/s
Max Speed

SMT/PCBA



2D Laser
SLAM+Vision+IMU
Hybrid Navigation

±2mm/0.5°
Docking Accuracy

≤3/≥10
Charge/Runtime(H)

100
Payload(kg)

200-1,100
Lifting Stroke(mm)

M-XL
(803/806/808/809)
Rack/trolley Size

PV

2D Laser
SLAM+Vision+IMU
Hybrid Navigation

12
Number of solar cell
cassettes per turnover

±5mm/0.2°
Loading and Unloading
Operation Accuracy

99.99%
Material Delivery Accuracy

2.5/8
Charge/Runtime(h)

0-1.5m/s
Running Speed

LUNA Series

LUNA 5T

3D Laser SLAM+GPS+IMU
Hybrid Navigation

±20mm/1°
Docking Accuracy

≥6
Runtime(H)

5T
Payload

1,000,000m²
Max. Site area

LUNA 20T

3D Laser SLAM+GPS+IMU
Hybrid Navigation

±20mm/1°
Docking Accuracy

≥6
Runtime(H)

20T
Payload

1,000,000m²
Max. Site area

LUNA 30T

3D Laser SLAM+GPS+IMU
Hybrid Navigation

±20mm/1°
Docking Accuracy

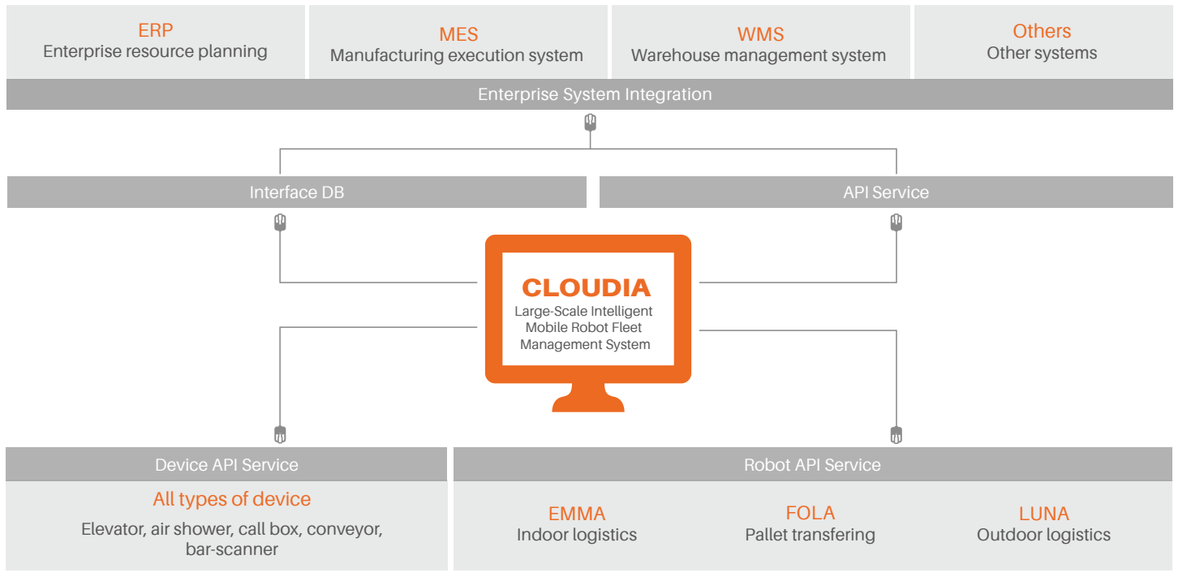
≥6
Runtime(H)

30T
Payload

1,000,000m²
Max. Site area

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.

CLOUDIA



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

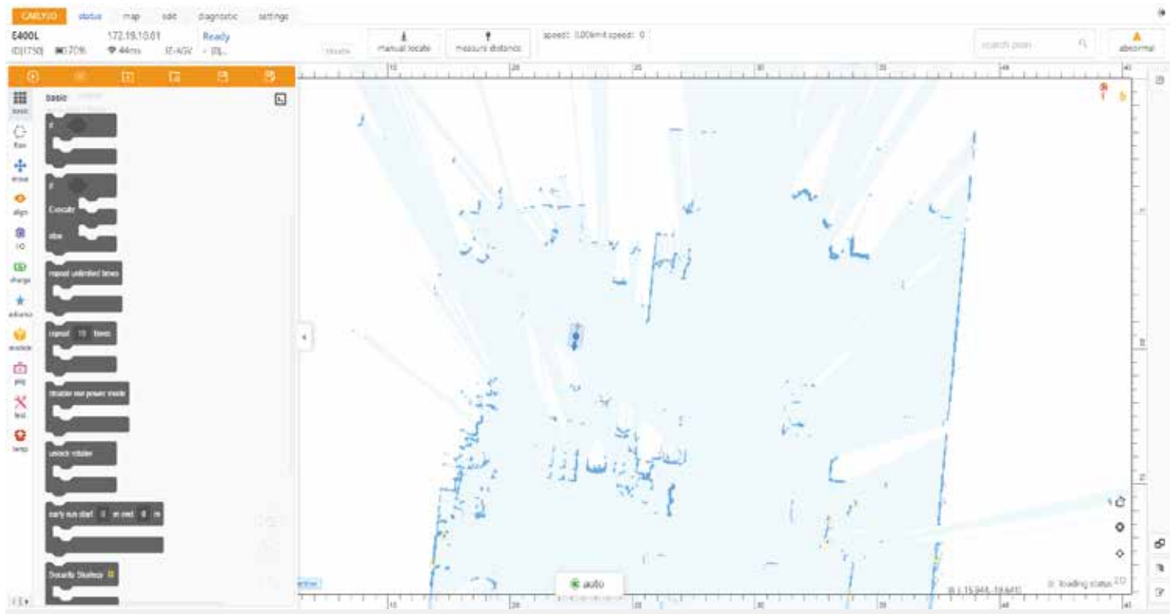
Closed loop

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

Easy to use

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

Stable and safe

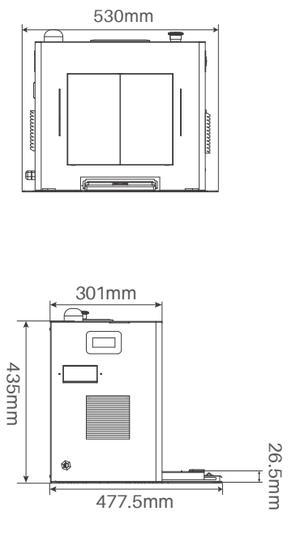
Adopt automatic plus manual multiple security strategy. Conform to CE certification standards and perfectly adapt to human-robot collaboration scenarios.

Operation data visualization

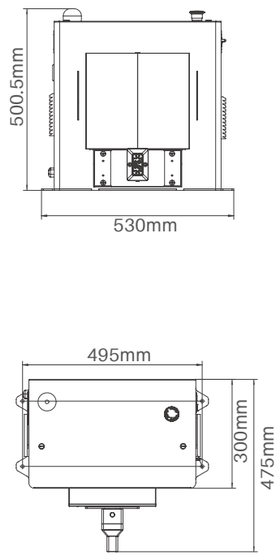
Real-time visualization of robot operation data. Support historical data visual review.

Charging Station

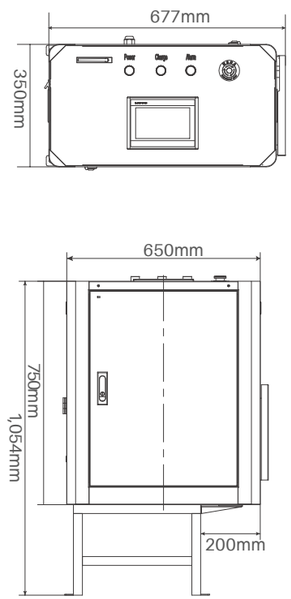
EMMA-L-Series



EMMA-K-Series



FOLA-Series



Note