



JUNION Robot Manuals

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公司介绍 Company Profile

JUNION Intelligent Technology Co., Ltd. is a high technology enterprise focusing on the R & D, production, sales and service of industrial and commercial intelligent robots. Meanwhile JUNION also focus on development in the field of vehicle automatic driving, security inspection, lidar and other fields. It is committed to providing our cusotmers with safe, efficient and energy-saving robot system solutions and turnkey projects in industrial automation and other fields.

Our keen focus on technology innovation, domain expertise, and integrity and corporate responsibility fuels our success.

Our Vision: To be the leading company in the global field of intelligent sensing and intelligent mobile robots.

Technical advantages

Advanced technology

- * With independent intellectual property rights (IIPR)
- * Advanced lidar technology and drive control technology
- * Core algorithm of autonomous navigation
- * Optimized charging system, speech recognition (ASR)
- * High performance and reliability

Advanced technology

- * Perfectly replace human labor.
- * Best combination between equipment and equipment, people and equipment
- * Help customers greatly reduce costs and improve production safety and efficiency



Successful System integration

- * Industry expert team helps customers analyze pain points
- * Customized solutions according to customer application scenarios
- * Successful experience of system integration
- * Shorten the time of ROI

Open & High compatibility

- * Remote monitoring based on 5G and other communication protocols
- * Task presetting, Data tracking by PDA, mobile phone and other terminals
- * Seamless integrated with MES, WMS, big data platform and other systems



RMS — Robot Management System

RMS is responsible for the task allocation, scheduling and operation maintenance of all robots. Equipment location and working status of each controlled robot can be read from the system interface, and those idle robots can be called to assign tasks automatically or manually. According to the actual needs of users, the robot fault alarm, complex road traffic control, remote upgrade and maintenance of robot system can be added.

RMS uses a variety of scheduling algorithms to achieve the optimal task allocation, multi-robot path planning and robot traffic management, so that the robot cluster can work together in coordination and play the maximum efficiency.

RMS is also responsible for monitoring the running status of robots. According to the history and current status of each robot, it can decide whether to carry out specific project maintenance or not. In combination with the operation status of charging station and the current task execution, it reasonably arranges the robots in need to charge independently and supplement energy, and records, analyzes and summarizes the alarm information of all robots. Inform the operation and maintenance personnel in time and give corresponding inspection and suggestions to ensure the reliability of the whole system operation.

The system has a friendly interface, open menu management, easy to set parameters; according to the actual situation of the scene, it is easy to change the simulation screen to make the display more vivid.

After a long time of operation and continuous optimization, the performance is more stable and reliable. On the basis of summing up the practical application experience of robots for many years, a multifunctional practical software is developed by making full use of computer technology, high-frequency wireless communication technology, high-speed database analysis and processing technology and robot digital control technology, combined with the actual needs of customers on site.

Robot features



SLAM Technology



Simple and rapid deployment
Easy get start
Easy installation



Modular Design
Easy commissioning



Autonomous charging
Autonomous tasks assignment
No manual intervention required



5G/Wifi Communication
High Real-time



Remote status monitoring & Control



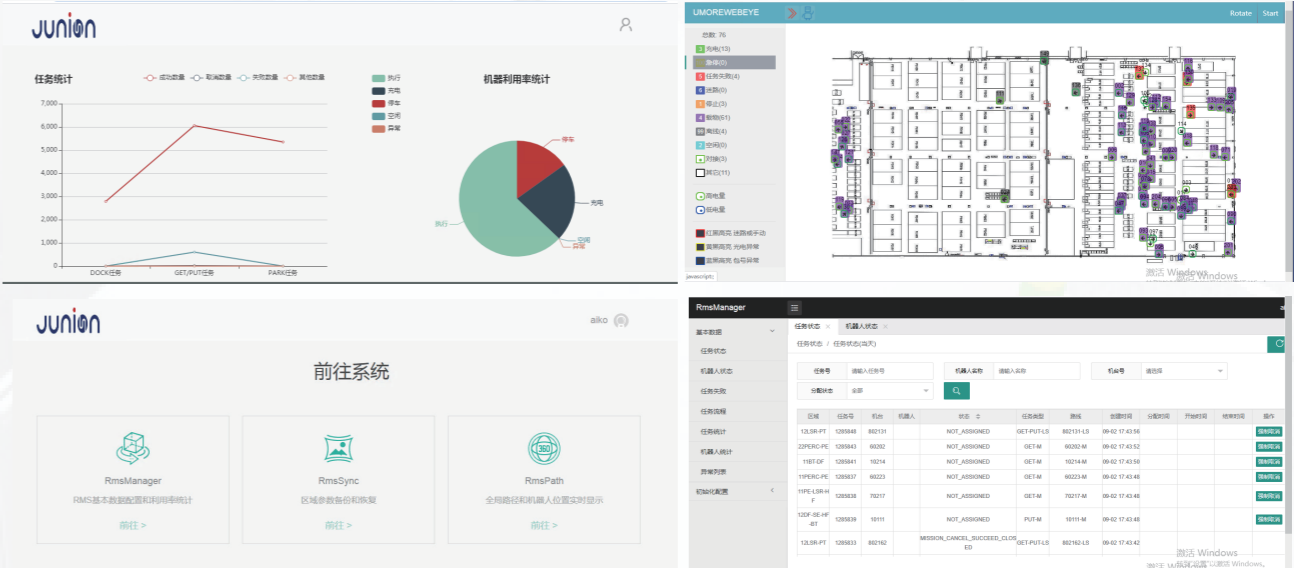
Automatic elevator control
Automatic rolling shutter door control



Laser & ultrasonic anti-collision
Multiple security guarantees a system

Robot management System Features

- 1、Traffic control function can avoid "collision" in the crossing and turning of multiple robots when running.
One thousand areas could be controlled at the same time.
- 2、Real time display robot position information.
- 3、Online remote control function, real-time change robot parameters
- 4、Real time display robot function status information
- 5、Interface with external software, external interface can provide information about robot location, status, route, fault, etc.



Powerful Small Size Platform

Bot90



- Parts Transportation/Production Line flexibility
- Automatic Warehouse handling with high efficiency
- Multi-industry application and assistance
- System integrated with Collaborative Robot

Product briefing

Speically design for limited size workshop and customized mobile robot for convey and delivery. Rated Load 90kg can meet 90% application of material transportation. Small size design can provide max production area and easier handling.

Features

Bot90 Data	
Dimension	710*510*280mm
Steering Diameter	875mm
Weight	68kg
Rated Payload	90kg
Battery capacity	24V,50Ah
Running time	12h(Rated payload)
Charging time	2.5h
Max Speed	1.5m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

AMR				
	Bot90	Bot150A	Bot150S	Bot200
Cobot & Lidar				
	Bot500	Carry	CarryMini	
	JM5	Hawk30	Lynx04/Lynx05	jDriver
Applicaton				
	JLD16	JLD20	Two Layer roller platform	PV AMR
	Single Layer roller platform	Hybrid Robot	Single Layer roller with Auto rising-lowering platform	Lift Platform

Best Seller

Bot150A



- Multi-point material handling
- Transfer of standard containers in factory
- Long distance transmission of photovoltaic "flower basket"
- Automatic transportation of materials with collaborative Robot

Product Briefing

The most mature products with years of upgrading, have been stable, suitable for various factory / workshop environment, can cooperate with the collaborative robot. The robot can be equipped with different modules such as lifting module, traction module and transmission module to meet the needs of different customers.

Features

Bot150A Data	
Dimension	890*660*304mm
Steering Diameter	1100mm
Weight	80kg
Rated Payload	150kg
Battery capacity	24V,86Ah
Running time	15h(Rated payload)
Charging time	3.5h
Max Speed	1.2m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

Thousand of sets in operation

Bot150S



- Multi-point material handling
- Transfer of standard containers in factory
- Long distance transmission of photovoltaic "flower basket"
- Automatic transportation of materials with collaborative Robot

Product Briefing

Customized large-scale platform design for new energy industry to meet the needs of material transportation in mass production. Currently, there are nearly 1000 sets in the market with super high transportation efficiency and low failure rate.

Features

Bot150S Data	
Dimension	1182*705*264mm
Steering Diameter	1377mm
Weight	86kg
Rated Payload	200kg
Battery capacity	24V,110Ah
Running time	20h(Rated payload)
Charging time	3.5h
Max Speed	1m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

Ultra-low Platform

Bot200



- Multi point material handling
- Automatic transfer of material in different processes
- Medium cargo transportation / self handling
- Warehouse medium weight load long distance transportation
- Support for high precision transfer docking
- Rotation at zero radius

Product Briefing

Specially design for SMT double-layer loading and unloading machine, which is equipped with lifting roller / transmission belt as standard. It can be connected with transmission belt with the minimum height of 270mm, which is suitable for magazine transferring.

Features

Bot200 Data	
Dimension	723*590*160mm
Steering Diameter	934mm(Rotation)
Weight	50kg
Rated Payload	100kg
Battery capacity	24V,57.6Ah
Running time	10h(Rated payload)
Charging time	2h
Max Speed	1.2m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

Heavy load platform

Bot500



- Multi point material handling
- Automatic transfer of material in different processes
- Medium cargo transportation / self handling
- Warehouse medium weight load long distance transportation
- Support for high precision transfer docking
- Rotation at zero radius

Product Briefing

Specially design platform for heavy duty load, Rated payload 500kg, equipped with lifting structure which is suitable for heavy load such as pallet / trolley transfer of logistics industry.

Features

Bot500 Data	
Dimension	960*646*250mm
Steering Diameter	1160mm(Rotation)
Weight	210kg
Rated Payload	500kg
Battery capacity	48V,26Ah
Running time	5h(Rated payload)
Charging time	2.5h
Max Speed	1m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

Service Platform

Carry



- Small Dimension
- Zero Rotation radius
- Small Footprint
- 90kg Payload

Product briefing

Lift modular and cabinet modular Integrated options with 90kg payload

Features

Carry Data	
Dimension	φ610*H287mm
Steering Diameter	610mm
Weight	48kg
Rated Payload	90kg
Battery capacity	40Ah
Running time	8h(Rated Payload)
Charging time	2.5h
Max Speed	1.2m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

Service Mini Platform

CarryMini



- Small Dimension
- Zero Rotation radius
- Small Footprint
- 50kg Payload
- Commercial application

Product briefing

Lift modular and cabinet modular Integrated options with 90kg payload

Fetures

CarryMini Data	
Dimension	φ480*H300mm
Steering Diameter	480mm
Weight	42kg
Rated Payload	50kg
Battery capacity	30Ah
Running time	8h(Rated Payload)
Charging time	2h
Max Speed	1.2m/s
Repeat positioning	±20mm/±2°(Position/Angle Error)
Accurate positioning	±5mm/±1°(Position/Angle Error)
Climbing angle	5°

Laser guided autonomous mobile pallet stacker

JLD16

LaseJLD16 series is designed based on Linde L14/L16 Forklift, equipped with first class Laser guided navigation system and reliable safety sensorcontrol system. Best practice in workshop, warehouse and distribution.

JLD16 Series control system can work independently or work with MES system. Automatic exchange information seamlessly with Auto-gate and conveyers.



Product Features

Robot parameters	
Rated Payload	1400/1600kg
Load center distance	600mm
Weight	1350kg(±10%)
Lift Height	1924mm (Standard) , 4224mm (Max.)
Folk Width	560/680mm
Turning radius	1891mm
Dimension	2316mm(l)*953mm(w)*2158mm (h)
Folk dimension	55mm(s)×180mm(e)×1150(l)
Speed (empty/full load)	0-1.5m/s
Navigation	Laser Navigation
Driving direction	Forward and backward
Repeat positioning	±10mm
Climbing angle	≤4%
Brake mode	Electromagnet electromagnet
Battery Voltage / Rated capacity	24V/270Ah
Battery type	Lead-acid battery
Safety sensor	laser scanner & fork sensor

Laser guided autonomous mobile pallet stacker

JLD20

LaseJLD20 series is designed based on Linde L14/L16 Forklift, equipped with first class Laser guided navigation system and reliable safety sensorcontrol system. Best practice in workshop, warehouse and distribution.

JLD20 Series control system can work independently or work with MES system. Automatic exchange information seamlessly with Auto-gate and conveyers.

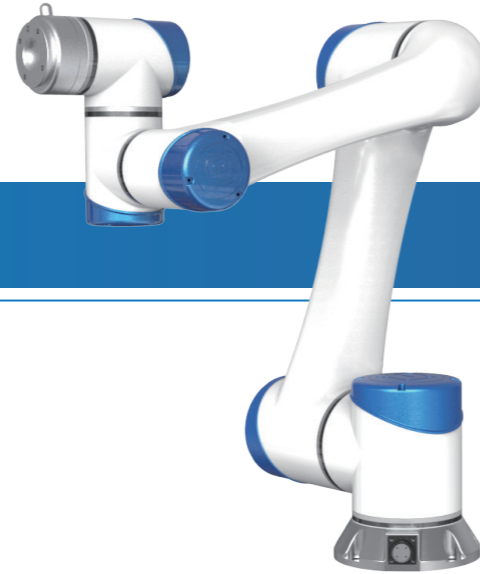


Product Features

Robot parameters	
Rated Payload	2000kg
Load center distance	600mm
Weight	1050kg(±10%)
Lift Height	125mm
Folk Width	560/680mm
Turning radius	1770mm
Dimension	2000mm(l)*845mm(w)*2150mm (h)
Folk dimension	55mm(s)×180mm(e)×1150(l)
Speed (empty/full load)	0.02-1.5m/s
Navigation	Laser Navigation
Driving direction	Forward and backward
Repeat positioning	±10mm
Climbing angle	≤4%
Brake mode	Electromagnet electromagnet
Battery Voltage / Rated capacity	24V/345Ah
Battery type	Lead-acid battery
Safety sensor	laser scanner & fork sensor

Collaborative Robot

JM5



- Human machine integration & Smart
- Easy learning & programming
- Flexible deployment & Fast installation
- Intelligent & efficient & Safety

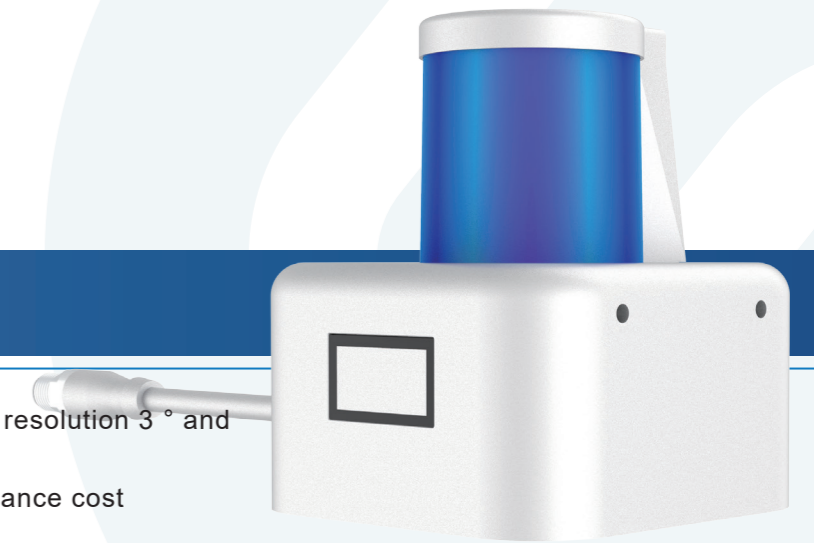
Product Features

JM5 has always been committed to maintaining a leading position in the competition. With a payload of 5 kg and 892 mm the working radius, in the size and load between the perfect combination, JM5 collaborative robot can be used in automotive parts, 3C electronics, and photovoltaic, Energy, food, medicine, logistics and other industries to achieve assembly, loading and unloading, screw locking, welding, grinding, painting, gluing, etc.

JM5 Data			
Payload	5kg	Reach	892mm
Degree	+/-360°	Weight	19.5kg
Repeat positioning	+/-0.03mm	Footprint	diameter 150mm
Degree of freedom	6	Control box size (WxHxD)	465*300*190mm
Communication port	Ethernet	IP Class	IP54
HM communication	teaching system & collision detection	Material	Aluminum alloy nylon rubber ABS
Working Temperature	0-50 °C	Power supply	100-240VAC, 50-60Hz
I/O port	Controlbox		Tools side
	DI	16	2
	DO	16	2
	AI	2	2
I/O Power supply	Controlbox side 24V/5A, Tools side 12V/24V/1A		
	Speed	Max speed of Joint 1.8m/s Max Speed of the end: 1-3Joint180°/s、 4-6Joint180°/s	
Programming	Graphical interface, touch screen and terminal key auxiliary programming		
Power, Consumption	Typical with moderate operating settings 300W		
Cable	6m (robot to control box) & 5m (touch screen to control box)		

LIDAR sensors

Hawk30



- The scanning range 270 ° and Angular resolution 3 ° and 0.15 ° respectively
- Separate shield design reduces maintenance cost
- Fully compatible with SICK TIM510
- Maximum detection range: 4 meters and 30 meters

Product Features

Lidar sensor can be used to detect fast moving objects or fixed objects. Mobile devices to detect the surrounding environment, Detection speed and accuracy of "Eagle eyes" series Lidar sensor can meet most of the requirement of customers in different application industry.

Hawk Data			
Light source	905mm	Working Range	0.33°
Laser class	Class I (IEC 60825-1:2014, EN 60825-1:2014)		
Aperture angle	270°	Scanning frequency	15Hz/25Hz
测距能力	>30m@15%Reflectors		
Mechanics/electronics			
Connection type	1×12-pin M12 male connector (0.3m) cable		
Supply voltage	9VDC ~ 28VDC	Power consumption	<4W
Housing color	Silver gray	Enclosure rating	IP65
Dimensions (L x W x H)	100*100*117	Weight	≈620 g
performance		Interface	
Scanning accuracy	±4cm	Serial	UDP
Scanning frequency	72KHz	Data transmission	Fast Ethernet
Data	Angle / Distance/strength	LED	Display fault code
Ambient data			
Ambient operating temperature	-10°C ~ +70°C	Anti	80,000 lx
Vibration resistance	GB/T 2423.10	EMC	Industrial environment (EN 61000-6-3:2007)

Lidar Series Lynx



Lynx Lidar includes Lynx04 with measure function and Lynx05 with Protection function. Best seller in AGV/AMR safety protection
Lynx04 fully complicable with SICK TIM510, Support customized output data ; Lynx05 area control integrated with I/O output, Complicable with SICK TIM320. Protection range 4m, with ±4cm accuracy

Features

Lynx Data			
Light source	905mm	Working Range	4m @15% Reflectors
Laser class	Class I (IEC 60825-1:2014,EN 60825-1:2014)		
Aperture angle	270°	Scanning frequency	15Hz
Mechanics/electronics			
Connection type	1×12-pin M12 male connector (0.9m) cable		
Supply voltage	9VDC ~ 28VDC	Power consumption	<3W
Housing color	Silver gray	Enclosure rating	IP20/IP65
Dimensions (L x W x H)	58*63*78	Weight	≈290 g
Ambient data			
Ambient operating temperature	-10°C ~ +70°C	Anti	15,000 lx
Vibration resistance	GB/T 2423.10	EMC	Industrial environment (EN 61000-6-3:2007)
Lynx04		Lynx05	
Scanning accuracy	±4cm	Scanning Area Shape	Independent Area
Scanning frequency	36KHz	Interface	Micro-USB
Data	Angle , Distance	Area group	16 (each group include 3 areas)
Interface	RS-232	DI	4 input with PNP & NPN ompatible;
Data transmission	115200	DO	3 output with 1 Status output (PNP & NPN ompatible)
LED	2 LEDs (ON)	Protection Range	2m @ 10% Reflectors
Angle resolution	3°	Angle resolution	1°

CHALLENGES

- Short production cycle & small batch request
- Increasing demand for differentiation
- High quality and traceability
- High labor cost & difficult in recruitment

With the increasing demand of enterprises for flexible production, JUNION mobile robot helps customers realize unmanned material handling, production automation, data traceability, transparent management, and complete the last 100 meters of intelligent manufacturing.

PRODUCT & SOLUTION



SOLUTION ADVANTAGES

- Flexible production to reduce downtime
- Intelligent Human & Machine collaboration, reduce the error rate and risk
- Ensure accuracy with digitalization of the whole process
- Reduce labor cost by improving competitiveness