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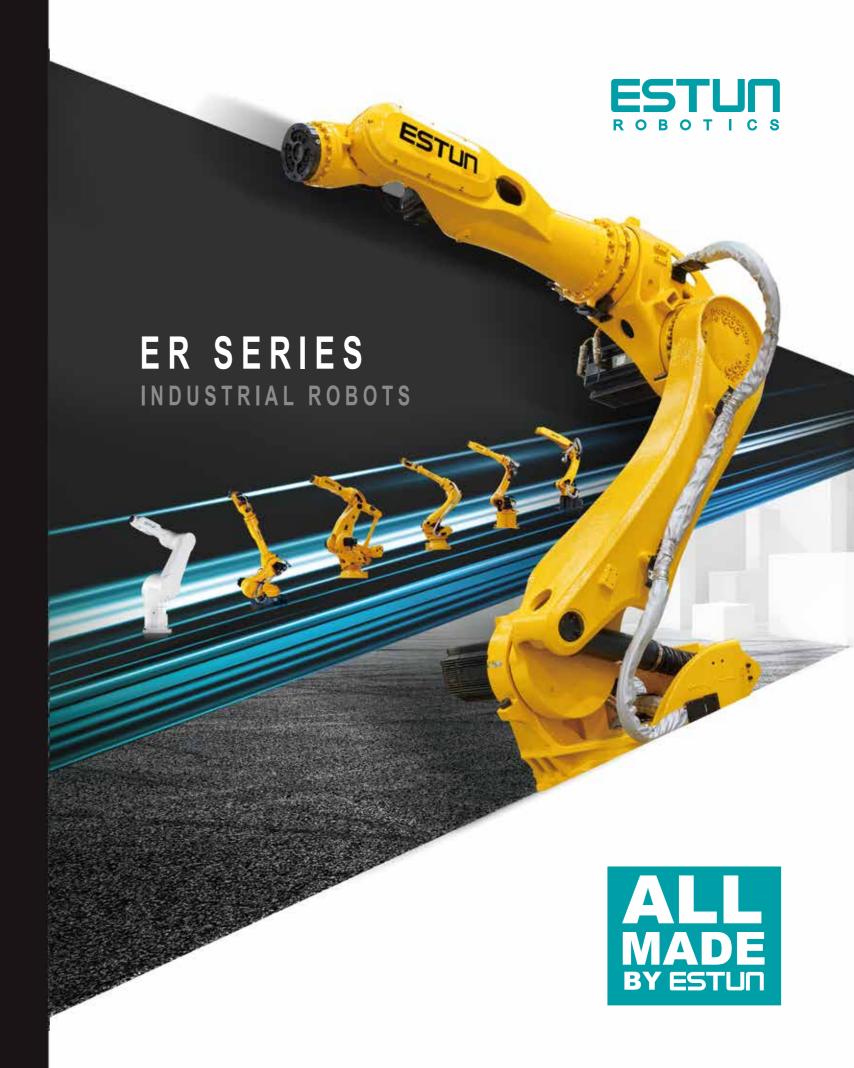
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ESTUN

ER SERIESINDUSTRIAL ROBOTS

ER系列工业机器人

Nanjing ESTUN Automation Co., Ltd., as a leading product & service provider of core components of high-end smart equipment, industrial robots and intelligent manufacturing systems, is one of major public robotic companies in China because of its self-developed core technologies and components. By building high-end R&D and management team which has International perspective, ESTUN has the competitive ability to synchronously develop with world robotic industry.

As one of minority who has unique advantages of self-developed core technologies and components in China, ESTUN has been taking mass production of industrial robots which have self-developed technologies as its major goal. ESTUN has been sustaining great responsibilities of national robotic industry development under a once-in-a-hundred-years opportunity of new industrial revolution and robotic industry. ESTUN is aiming to become respected Chinese image in the international robotic industry and dedicating to become a powerful force of the Chinese Dream of manufacturing powerhouse.

Now, ESTUN's products cover full production lines from core components to system integration projects. The company can provide whole series industrial robots which include 6-axis general purpose robots, 4-axis palletizing robots, SCARA robots and DELTA robots. ESTUN's standard industrial robots cover 4kg to 450kg payload range and different applications which include welding, handling & palletizing, loading & unloading, metal surface finishing, painting and assembly. You are welcome to consult, visit, and cooperate at any time, for all series robots including customized ones.







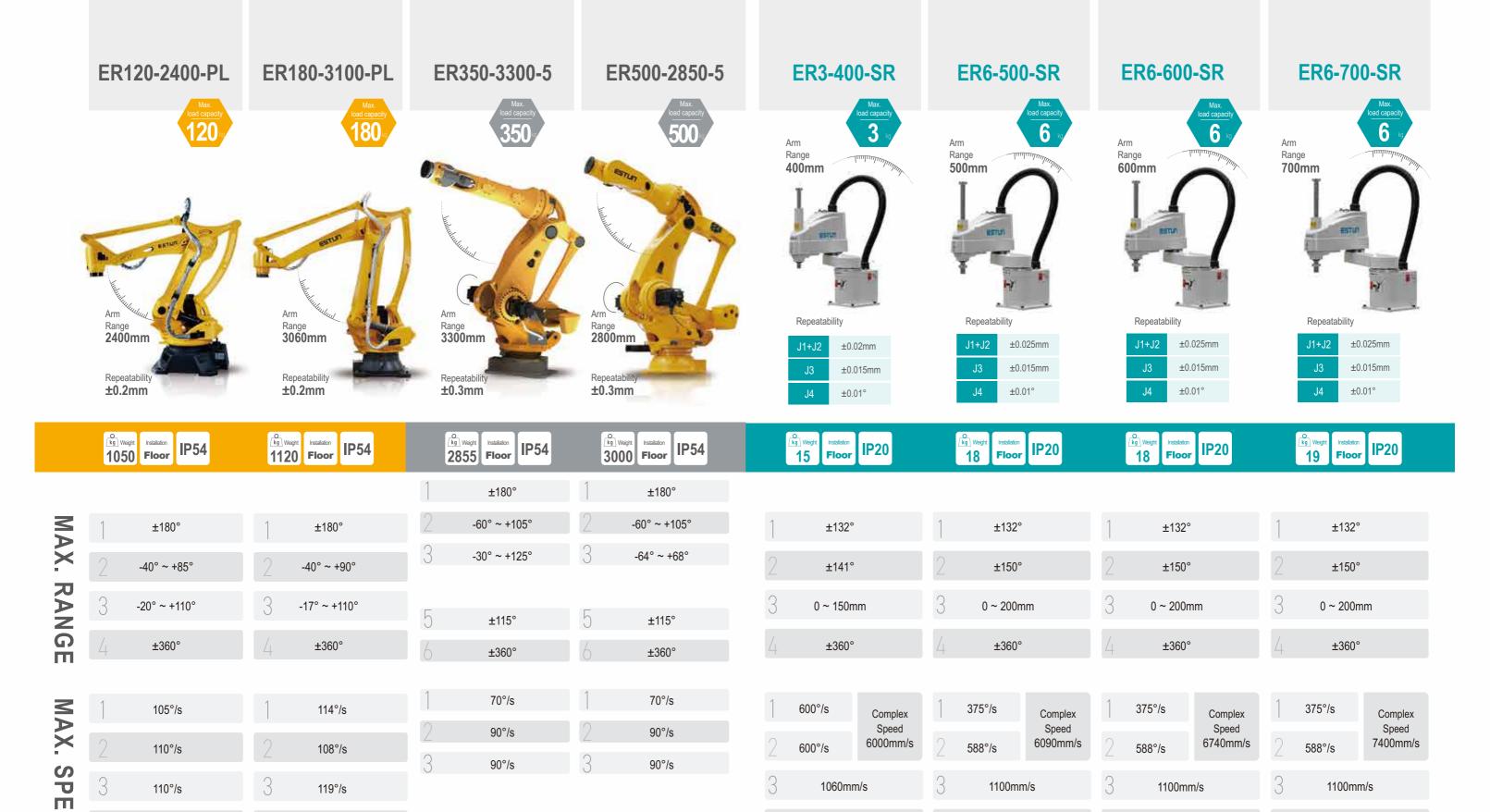
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ER100-3550-DW ER80-2565-BD ER130-2865-BD ER100-3000 ER170-2650 ER220-2650 ER350-3300 ER500-2800 Arm Range **2650mm** Arm Range **2650mm** Arm Range 2565mm Arm Range 2865mm Range 3000mm Repeatability **±0.2mm** Repeatability Repeatability Repeatability Repeatability ±0.2mm ±0.2mm ±0.2mm ±0.2mm Arm Range **2800mm** Arm Range **3550mm** Range 3300mm Repeatability ±0.2mm Repeatability ±0.3mm Repeatability ±0.3mm

	1600 Installation Shelf IP54		1053 Installation IP54		1092 Instalation Floor		1120 Installation Floor			2855 Installation Floor		3000 rstallation Floor		740 Installation Floor		950 Installation Floor	
MAX. RANGE	1	±180°	1	±180°		±180°	1	±180°	1	±180°	1	±180°	1	±180°		±180°	
	2	-30° ~ +160°	2	-60° ~ +80°	2	-60° ~ +80°	2	-60° ~ +80°	2	-60° ~ +105°	2	-60° ~ +105°	2	-67° ~ +150°	2	-70° ~ +90°	
	3	-195° ~ +80°	3	-95° ~ +80°	3	-95° ~ +80°	3	-95° ~ +80°	3	-30° ~ +125°	3	-64° ~ +68°	3	-190° ~ +66°	3	-200° ~ +68°	
	4	±170°	4	±180°	4	±180°	4	±180°	4	±180°	4	±180°	4	±170°	4	±200°	
	5	±120°	5	±125°	5	±125°	5	±125°	5	±115°	5	±115°	5	±130°	5	±125°	
	6	±360°	6	±360°	6	±360°	6	±360°	6	±360°	6	±360°	6	±360°	6	±360°	
MAX. SPEED	1	85°/s	1	114°/s	1	114°/s	1	110°/s	1	70°/s	1	70°/s	1	110°/s	1	112°/s	
	2	70°/s	2	108°/s	2	105°/s	2	72°/s	2	90°/s	2	90°/s	2	105°/s	2	106°/s	
	3	89°/s	3	119°/s	3	119°/s	3	95°/s	3	90°/s	3	90°/s	3	130°/s	3	106°/s	
	4	120°/s	4	120°/s	4	120°/s	4	110°/s	4	100°/s	4	100°/s	4	215°/s	4	180°/s	
	5	120°/s	5	130°/s	5	120°/s	5	110°/s	5	80°/s	5	80°/s	5	160°/s	5	175°/s	
	6	200°/s	6	210°/s	6	160°/s	6	151°/s	6	140°/s	6	140°/s	6	205°/s	6	188°/s	



2500°/s

1920°/s

290°/s

270°/s

80°/s

140°/s

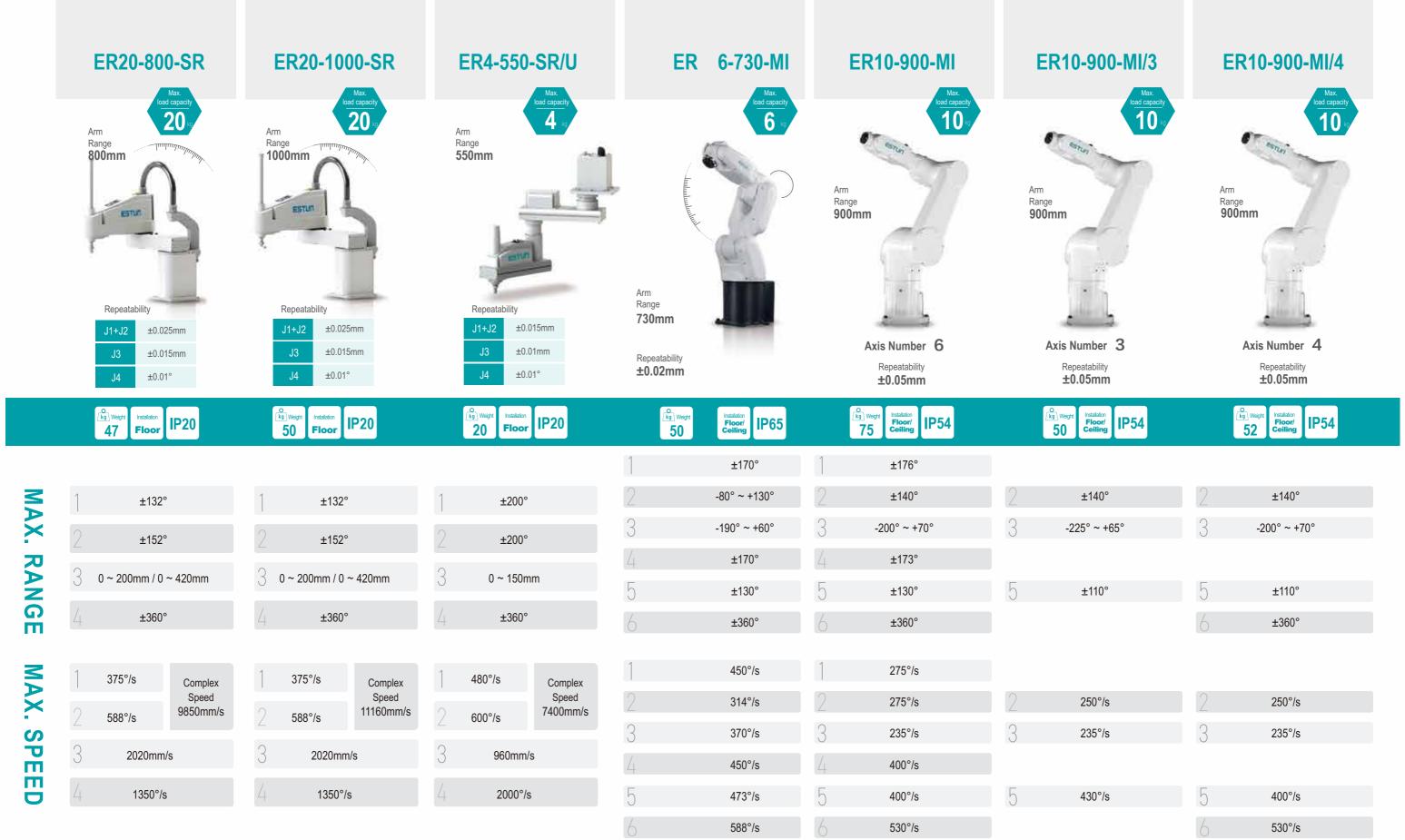
80°/s

140°/s

ED

1920°/s

1920°/s





WELDING

CO2/MIG/MAG Gas Metal Arc Welding Workstation

ESTUN hollow wrist robots reduce interference of cables. High performance welding gun, ESTUN welding power source and ESTUN Mate welding software package can make an ideal integrated welding workstation. ESTUN arc welding stations have characteristics of super spatter-free, good weld bead appearance, and low heat input to base material. They can support sophisticated welding functions such as pre weld data setting, pendulum welding, intermittent welding, etc. ESTUN robotic arc welding stations can be widely used in steel furniture, automobile parts, electric bike, motorcycles, fitness equipment, medical equipment, elevators, agricultural machinery, aluminum film plate and other industries.





TIG Argon Arc Welding Workstation

The workstation combines ESTUN robots with domestic leading pulse TIG welding power sources, and achieve fast data exchange between welder and controller based on self-developed ESTUN Mate arc welding software package, The workstation meets welding needs for sheet and yttrium with self-fused no spark argon gas arc welding function and multi-shape impulse filler-metal argon gas arc welding function.

Spot Welding

ESTUN spot welding robot is equipped with ESTUN high speed servo motor to realize fast, agile and precise control. High load capacity of ESTUN spot welding robots cover a variety of spot welding holders.

With IPC, it is possible to control the system via Ethernet in real time, and carry out large-scale pipelining with single or multiple robots. ESTUN Spot welding can be applied to automobile and parts welding line.

SOLAR INDUSTRY

ESTUN has worked deeply in photovoltaic in industry for years. Its specialized robots for photovoltaic are widely used in every leading companies of photovoltaic industry. Equipped with ESTUN vision system, ESTUN photovoltaic robots extremely suitable for high-precision battery composition, plate inserting & stepping, glass handing, solidifying, corner packing, and packing. ESTUN photovoltaic robots are utmost cost-effective solution for this









PALLETIZING AND HANDLING

METAL SURFACE FINISHING

Palletizing

ESTUN provides high-speed, high-load capability and long reach intelligent palletizing robots. The standard smart palletizing software packages can generate palletizing instructions automatically. When equipped with different grippers, ESTUN palletizing robots are very suitable for palletizing solutions of bags, boxes, bottles, buckets etc. They make palletizing job more flexible and





Handling

ESTUN Robots can cover 3kg to 500kg load capability. They can satisfy the requirements of automatic material transportation. Material handling can be much easier with conveyor tracking and collision detection function of ESTUN



ESTUN robots can be used in grinding, polishing and deburring applications of automobile parts, electrics, bathroom

Using off-line programming software to program trajectory of complicated curved surface can extremely shorten teaching time, improve application exploitability of robots, and ensure quality stability of workpieces.

3C ELECTRONICS & SEMI CONDUCTOR





Desktop



SCARA



ESTUN SCARA robots are totally capable.







All ESTUN SCARA robots are designed according to ESTUN serialization and modularization concept. Because whole series of SCARA products have been equipped with multifunctional Ethernet interface and convenient 9 point calibration vision system, the efficiency of devices integration and applications has been greatly improved. ESTUN SCARA robots are perfect solution for different applications which require fast, repeated, coherent point to point movement, such as, loading & unloading, placing, pallets sorting and components insrting etc. ESTUN SCARA robots are also perfectly suitable for conveyors loading & unloading which require high speed and precision tracking movements. When vision system integration is required in above applications,

ESTUN Desktop robots are accurate, fast, and extremely suitable for applications of electrics industry, such as assembly, handling, soldering, screwing etc., and applications of automotive industry, such as fast handling, processing, etc. ESTUN Desktop robots are also very popular in education with its optional functions such as teach with hand guidance, electronic skin, safety mode and so on.

BENDING

With more than 20 years' experience in automation and sheet metal industry, ESTUN is expert of sheet metal processing and bending technology, and has abundant R&D experience in bending CNC system. ESTUN ER80 and ER130 series of robots, with several patents, is the first 6-axis bending robots in the world ever. ESTUN has also developed outstanding robotic bending software Smart Robot Bending, which has provided perfect solution for all critical points of robotic bending such as synchronous bending following, long programing & teaching time and soon. It has user-friendly interface, is very easy to operate, and is being widely recognized by the market.









OTHER FIELDS CONTROL SYSTEM

Press Automation

In the system, ESTUN Robots which are equipped with grippers normally works with unstacking machine, magnetic tension distributor, deaning & basting devices, and 7th axis. The system can increase manufacturing efficiency and product quality through its integrated automatic functions like unstacking & feeding, picking & placing between machines, and palletizing.

Machining



Single or multi-station machining manufacturing can easily be set up with one or several ESTUN Robots which are equipped with grippers, loading & unloading platform and conveyor. ESTUN robots are very suitable for automatic loading & unloading processes of machining centers, injection molding machines, pipe bending machines and die casting machines, when any employer is seeking lower labor costs and higher product quality

Forging



ESTUN Robots can be used in extreme environment such as high temperature, high humidity, dust, etc. when they are equipped with protective coatings, automatic mold discharging device and specialized grippers. They can liberate operators from rugged environment. At the same time, they can help employers increase productivity and quality, reduce costs, and increase automation level of forging manufacturing.

Others

Being widely used in sealing, drilling in woodworking, ceramics handling, slaughtering, painting, and other different areas, ESTUN Robots are helping industries increase automatic level, manufacturing efficiency and product quality with customized software, user friendly interface and accurate, reliable performance.









Teach Pendant



- Ergonomically optimized, designed for comfort and lightweight.
- User-friendly design, multi-language interface.
- Customized screen sizes.
- Dual safety switches, ensure operating safety.
- Integrated USB port, direct program input/output.

Control Cabinet



- EtherCAT (extensible for I/O), CANOpen, Modbus TCP communication is supported;
- Expansible 3 coupled axes and 16 single axes.
- Integrated engineering & electrical customized solutions can be provided according to customers' demands.

ESTUN ROLLINGS A 1 = 1

Control Cabinet For SCARA Robot



- Brand new cabinet which is smaller and more compact;
- EtherCAT (extensible for I/O), CANopen, Modbus TCP communication is supported;
- Integrated engineering & electrical customized solutions can be provided according to customers' demands.

AUXILIARY EQUIPMENT APPLICATION SOFTWARE

Estun Classic Series Digital Welding Power Source



EC350L

- Special short-circuit transition control.
- Super low spatter function, suitable for 0.8-3mm sheet.
- Suitable for carbon steel, stainless steel and galvanized sheet.

EC350/500

- Excellent performance of MAG carbon steel welding.
- Fine control of droplet transition.
- Fusion depth control function.



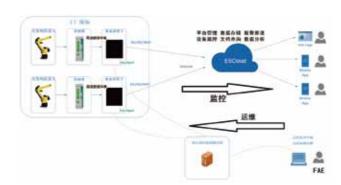
EC500(water-cooling)

 Ideally suitable for industries such as steel structures, heavy industries and pressure vessels which require high performance carbon steel welding.

EC350P/350P(water-cooling)/500P(water-cooling)

- Spatter-free welding through one pulse, one droplet control technology.
- Fish scale welding through enhanced double-pulse function realizes.
- Suitable for carbon steel, stainless steel, aluminum and its alloy.

Estun Cloud



ESTUN Cloud connects Estun robots to a cloud platform through wireless remote connection modules.

Robot operation conditions and information of alarms & faults can be monitored in real time by a smart phone APP. Remotely downloading & modifying of robot programs, and faults diagnoses can be executed through a sample PC based program. ESTUN Cloud can help our partners shorten faults eliminating time, lower communication costs, and increase service quality, discover business opportunities through Big Data analysis. By supporting general communication protocols, ESTUN Cloud can support not only robots but also more other automatic equipment, and combine automation technology with information technology. Through ESTUN Cloud, our partners can have supportive technology platform for their Industry 4.0 vision.

Estun Positioner



Positioner















ESP-1D ESP-1H Single-axis

Single-axis Head & Tail Bracket Positioner

ESP-2U U-type Two-axis Positioner

ESP-2L/L Two-axis Positioner

Three-axis Vertical **Rotation Positoner**

ESP-3W/W

Three-axis Horizontal **Rotation Positioner**

ESP-3C/C

High Speed

Speed up to 138°/s, Increase product efficiency.

High Accuracy

Repeatability up to ±0.1mm with its RV reducer.

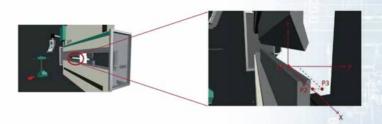
Lightweight Design

high rigidity, excellent acceleration.

High durability

Simple driving system, great conductivity and well-designed cabling.

Bending Software PACK



Smart Robot Bending software package supports IO and Ethernet communication with bending machines. One single cable is needed to set up communication instead of complicated wiring. Obtaining parameters such as bending machine signals, mold parameters and bending speed, and other parameters; directly calling bending machine instructions from teach pendant; and controlling bending machine to start bending procedures is all achievable through this simple connection. Locations of the robot and the bending machine are not restricted. Customers can flexibly set up machines and robots in limited space. Also there is no need to re-calibrate the bending machine after mold replacing. The built-in basic palletizing function for bending application makes operation easier. The high-precision displacement sensors enable automatic feeding function which can tremendously shorten teaching time and ensure high precision bending.

APPLICATION SOFTWARE

Arc Welding Software PACK

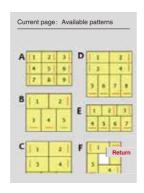
ESTUN MATE arc welding software pack has perfectly combined welding robot with welding power source. CANopen, RS485, and I/O communication is supported. Through these communications, there is massive data real-time interactive between welding robot and welding power source. In addition to basic welding functions, ESTUN MATE also provides a variety of advanced functions, such as registration code activation, graphically monitoring of current, voltage and wire feeding speed, wire stuck detection, wire stuck auto release, robot and power source locking, sequence welding, intermittent welding, pendulum welding, and so on. Laser vision locating and tracking function provides fine location and real-time tracking of welding seam, greatly simplifies the teaching and tools' complexity, helps users to achieve higher efficiency and qualified rate. Welding parameters can be set and displayed on the welding interface of teach pendant. ESTUN MATE meets different welding needs by various specialized welding instructions.





Palletizing Software PACK

ESTUN Panther has adopted graphic interface, which means all palletizing operations, including configuration and stacking/unstacking, can be realized simply and efficiently through the interface. Built in common stacking shapes make stacking much easier and faster. Meanwhile, ESTUN Panther also supports complicated and customized shapes of stacking. By using built-in palletizing program templates, users can teach the stacking featured points on the interface instead of writing robot programs. After configuration is completed, users can directly start palletizing process through interface and easily monitor system states, such as target location of current work piece, serial number of currently placed work piece and whether there is a signal of fed workpieces or pallet, etc.



Spot Welding Software PACK

Through equipping servo spot welding torch with ESTUN servo drives and motors, ESTUN SPOT can accurately control welding pressure, ensure welding performance, control regrinding and replacement of electrode cap. It can also provide precise position control of spot-welding gun through grinding compensation function. 128 welding specifications can be selected by users for several types and thicknesses of welding materials. The conditions of spot welding equipment, including welding controller, electrode holder, grinder, etc., are overall monitored to ensure operation safety. The software can match with multiple welding controllers because of its high redundancy. ESTUN SPOT does not only support I/O but also PROFIBUS, Modbus TCP and CANopen to fulfill customer sites' specific requirements (customization). Several types of ESTUN robots can be selected according to various specifications of electrode holders. ESTUN's self-developed remote monitoring system can be chosen as option. Remote faults diagnoses and eliminating function can be realized through this system.



Off-line Programming Software

Users can design movement path of robots with space curve in the 3D environment provided by off-line programming software. The software can transfer designed path into programs of robots. It is normally used in application when teaching programming is very difficult, such as glaze spraying, grinding and sealing, etc.







Simulation Software

The software offers a 3D simulation environment where robot system as well as peripheral equipment can be added rapidly. In addition, I/O interaction and motion settings of the peripheral equipment can be achieved in the environment.

It is very convenient for users to simulate the application scene to observe the ultimate operation effects visually, verify the feasibility and optimize the solution rapidly, which will improve the robot efficiency.

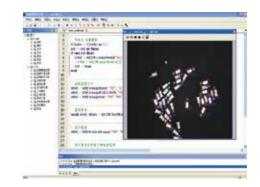






Vision Software Package

Equipped with intellectualized HMI, the software has various visual function modules such as material identification, locating and sorting, QR code/bar code identification, conveyor belt tracking, etc. Supporting multiple communication protocols like TPC/IP, I/O and serial port, massive data interaction among robots, PLC and peripheral equipment can be achieved quickly, which facilitates the operation.



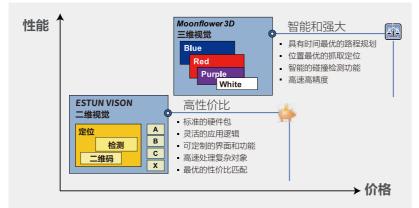
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VISION PRODUCT SERIES

3D Product Line And Application

Robot Random Crawl

- 4 product lines
- Seamless connection with robots





White

Suitable for locating and grabbing large workpiece



Purple

Suitable for grabbing rotary parts and symmetrical workpiece



Blue

High-accuracy, suitable for grabbing complex workpiece



Red

Suitable for locating and grabbing sheet metal workpiece

2D Product Line And Application

Locating, Inspection and Decoding

- 4 standard function modules
- Support customization
- Intelligent manufacturing





Serial A: locating/ Sorting

Application: locating of cylinder screwthread, plug-in, sealing, mobile phone motor and screen, and stacking/unstacking.
Industry: automotive, electronics, PCB





Serial B: Inspection

Application: Inspection of tablet defect, food package, dead pixel inspection and dimension measurement. Industry: automotive, electronics. pharmacy, packing and metal processing







Application: decoding automotive tire and QR code of home appliances. Industry: automotive, electronics



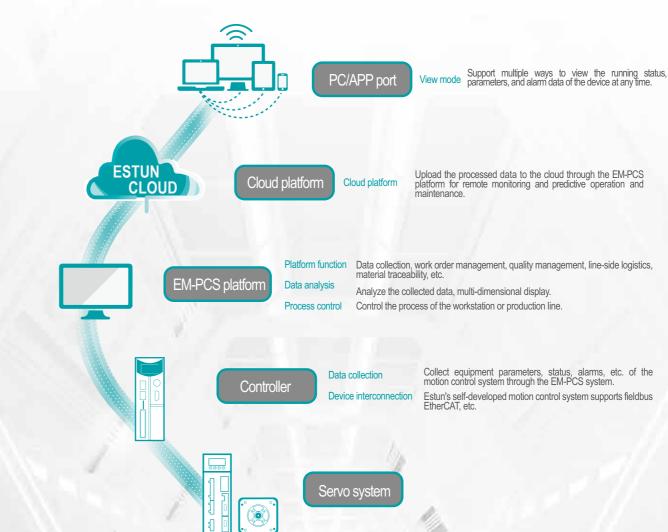
Serial X: Customization

Application: customized according to special requirement Industry: unlimited

We Also Provide Motion Control And Servo Systems

Focus on the motion control system, through the "development, production, maintenance" as one of the one-stop services, to gather a real competitive advantage, combined with Trio's motion control technology, the automated core component product line has completed a strategic transformation from AC servo systems to motion control solutions, The business model is realizing a full-scale sublimation from a single-axis-single-unit, to help build the optimal solution for the production site.

- AC servo system
- Universal motion control solution
- Intelligent control unit motion control solution
- Robot-specific servo and control system solutions
- Metal forming machine tool numerical control system solution





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