

LT Products Overview

Stable Safe Efficient Excellent



ZHENGZHOU LINGHANG ROBOT CO.,LTD

Company Profile

Zhengzhou Linghang Robot Co.,Ltd with brand name "LT" (mentioned as "LT" afterwards), was founded in year 2015, with registered capital of RMB 22 milions, listed in Zhongyuan stock exchange Market(stock code 200649), located in No.11 Building, Zhengtou technology Innovation park, Mazhai industrial development zone, Erqi district, Zhengzhou, China. LT has a professional independent research and development team and a modern intelligent production factory, is a national high-tech enterprise which integrated design, production, sales and service as a whole concept.

LT has several offices in South China, East China, Center China, Northeast China, Southwest China, and has agents and dealers in Europe, South America, Southeast Asia, the products has exported to more than 30 countries and regions.

LT has been awarded honorary titles of National high technology enterprise, Henan science and technology enterprise, Zhengzhou Specialized and special New Enterprise, the products have passed ISO9001 quality system certification, CE and SIL safety certifications. LT has gained more than 60 patents and 5 copyrights.

LT main products are robot tool quick change system, welding tool changer, energy connector, floating material removal tool and pneumatic gripper, can offer unlimited tool change solutions for robot applications, and then improve robot's product efficiency and safety. They are widely used in industrial sites such as automatic spot welding, automatic handling, assembly, deburring, palletizing ,etc.

- Company Vision: Committed to becoming the world's best robot terminal equipment provider
- Company mission: Keep the original intention of craftsmen, help Chinese intelligence manufacturing to release human labor
- Ompany spirit: Innovation, Excellence, Efficiency, Focus
- Team Concept: Treat with sincerity, do with truth











Robot Tool Changer

LT · tool changer is a flexible device which can help single industrial robot match with more end-effectors, each robot side can match with more tool sides, increase robot production lines' flexibility and utilization of robots. It's widely used in end-of-arm-tools switching, such as spot welding torches, end-effectors, grippers, press guns, deburring removal tools, visible tools, Ultrasonic welding guns ,etc.









Locking mechanism

Patent material and produce process connect with the special angle structure perfectly, make locking to be safe.

Redundancy technology

Innovated RD connection technology, make the data and signal transfer more stable.

Fluid module

Excellent fluid connection technology realize millions operation without leak.

Safety docking

Unique patented technology of tool and bracket interlocking, when tool changer operate normally, the tool changer won't open even industrial robots output order mistakenly to solenoid valve module.





Model: LTC-0005A

Recommended payload≤5KG

Locking force: 770N

◆ Allowable static moment: 13.2N·m • Allowable static torque: 18N·m

With 4 x M5 air ports, 1 available module interface

Model: LTC-0010E





- Recommended payload≤10KG
- Locking force: 1193N
- Allowable static moment: 26.5N·m ◆ Allowable static torque: 35.7N·m
- With 4 x M5 air ports, 2 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0010F

- Recommended payload≤10KG
- Locking force: 1193N
- ◆ Allowable static moment: 26.5N·m Allowable static torque: 35.7N·m
- With 6 x M5 air ports, 2 available module interfaces



Model: LTC-0020D

- Recommended payload≤20KG
- Locking force: 2514N
- Allowable static moment: 58.6N·m ◆ Allowable static torque: 80N·m
- With 12 x M5 air ports, 4 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0020E

- Recommended payload≤20KG
- Locking force: 2514N
- Allowable static moment: 58.6N·m ◆ Allowable static torque: 80N·m
- With 12 x M5 air ports, 4 available module interfaces



Model: LTC-0040A

- Recommended payload≤40KG
- Locking force: 7497N
- Allowable static moment: 216N·m ◆ Allowable static torque: 228N·m
- With 8 x PT1/8 air ports, 2 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0070A

- Recommended payload≤70KG
- Locking force: 9973N
- Allowable static moment: 328.5N·m ◆ Allowable static torque: 451N·m
- With 8 x PT1/8 air ports, 2 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0070B

- Recommended payload≤70KG
- Locking force: 9973N
- ◆ Allowable static moment: 328.5N·m Allowable static torque: 451N·m
- With 6 x PT1/8 air ports, 4 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0120C

- Recommended payload≤120KG
- Locking force: 15407N
- Allowable static moment: 842N·m ◆ Allowable static torque: 1200N·m
- With 10 x PT1/8 air ports, 2 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0120D

- Recommended payload≤120KG
- Locking force: 15407N
- Allowable static moment: 842N·m Allowable static torque: 1200N·m
- With 8 x PT1/8 air ports, 4 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0200D

- Recommended payload≤230KG
- Locking force: 31458N
- Allowable static moment: 2260N·m Allowable static torque: 2245N·m
- With 9 x PT3/8 air ports, 2 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0200E

- Recommended payload≤230KG
- Locking force: 31458N
- Allowable static moment: 2260N·m Allowable static torque: 2245N·m
- With 18 x PT1/8 air ports, 2 available module interfaces
- Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0200F

Recommended payload≤230KG

Locking force: 31458N

◆ Allowable static moment: 2260N·m Allowable static torque: 2245N·m

With 6 x PT1/8 air ports, 2 x PT3/8 air ports, 4 available module interfaces

Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0300G

Recommended payload≤300KG

Locking force: 35421N

 Allowable static moment: 2767N·m ◆ Allowable static torque: 2526N·m

• With 10 x PT3/8 air ports, 2 available module interfaces

Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-0630F

Recommended payload≤650KG

Locking force: 72930N

Allowable static moment: 5000N·m Allowable static torque: 5000N·m 4 available module interfaces

Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-1300A

Recommended payload≤1300KG

Locking force: 106263N

Allowable static moment: 6830N·m Allowable static torque: 6920N·m

6 available module interfaces

Master plate with locking/unlocking sensor and tool-in-position sensor



Model: LTC-3000A



Locking force: 130200N

Allowable static moment: 13600N·m Allowable static torque: 13000N·m

6 available module interfaces

Master plate with locking/unlocking sensor and tool-in-position sensor





Pneumatic Gripper

Pneumatic gripper is one of end-effectors which takes compressed air as power to clamp or grab workpieces, can replace human hand, used to catch workpiece with different shapes, measurements, weights and materials, to combine grabbing force and grabbing stroke perfectly and then improve the stability of production process.













LT technology high strength mechanism grippers

Trapezoidal skeleton structure, stronger resistance to deformation

Multi-tooth guide rail design provides greater clamping force

Sensitive sensing block in sensors flexible perception of fingers operation Unique self-lubrication design, longer service life with maintenance-free

More than 400 combinations of function expansion



LT Two-finger parallel mechanical gripper

Model: LT-PG2-80series



- Stroke per jaw: 4mm/8mm ◆ Closing force: 400N~1520N
- Recommended workpiece weight: 2kg~7.6kg The allowed longest fingers: 80mm~110mm
- The allowed heaviest fingers: 0.6kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, etc.

Model: LT-PG2-100series



- Stroke per jaw: 5mm/10mm Closing force: 640N~2520N
- Recommended workpiece weight: 3.2kg~12.6kg The allowed longest fingers: 100mm~145mm
- The allowed heaviest fingers: 1.1kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, etc.

Model: LT-PG2-125series



- Stroke per jaw: 6.5mm/13mm ◆ Closing force: 1050N~4120N
- Recommended workpiece weight: 5.3kg~20.6kg The allowed longest fingers: 125mm~180mm
- The allowed heaviest fingers: 2.1kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, etc.

Model: LT-PG2-160series



- Stroke per jaw: 8mm/16mm Closing force: 1610N~6060N
- Recommended workpiece weight: 8kg~30kg ◆ The allowed longest fingers: 125mm~220mm
- The allowed heaviest fingers: 3.5kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, etc.

Model: LT-PG2-200series



• Stroke per jaw: 14mm/25mm Closing force: 2680N~9140N

• Recommended workpiece weight: 13.4kg~45.7kg • The allowed longest fingers: 160mm~280mm

• The allowed heaviest fingers: 6.5kg

• Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, etc.

Model: LT-PG2-240series



• Stroke per jaw: 17mm/30mm Closing force: 3880N~8540N

• Recommended workpiece weight: 19.4kg~33kg ◆ The allowed longest fingers: 240mm~320mm

• The allowed heaviest fingers: 8.5kg

• Optional basic type, force holding type, dust-proof type, high temperature type, etc.

Model: LT-PG2-300series



 Stroke per jaw: 20mm/35mm ◆ Closing force: 5260N~11400N

• Recommended workpiece weight: 26kg~45kg ◆ The allowed longest fingers: 250mm~350mm

• The allowed heaviest fingers: 11.5kg

• Optional basic type, force holding type, dust-proof type, high temperature type, etc.

Model: LT-PG2-380series



 Stroke per jaw: 26mm/45mm ◆ Closing force: 8700N~20700N

• Recommended workpiece weight: 43.5kg~74kg ◆ The allowed longest fingers: 300mm~400mm

• The allowed heaviest fingers: 17kg

• Optional basic type, force holding type, dust-proof type, high temperature type, etc.

LT Three-point centering mechanical gripper

Model: LT-PG3-80series



- Stroke per jaw: 4mm/8mm Closing force: 990N~3780N
- Recommended workpiece weight: 4.9kg~18.9kg The allowed longest fingers: 80mm~110mm
- The allowed heaviest fingers: 0.6kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, scrap wing components, etc.

Model: LT-PG3-100series



- Stroke per jaw: 5mm/10mm Closing force: 1850N~7260N
- Recommended workpiece weight: 9.2kg~36kg The allowed longest fingers: 80mm~145mm
- The allowed heaviest fingers: 1.1kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, scrap wing components, etc.

Model: LT-PG3-125series



- Stroke per jaw: 6.5mm/13mm ◆ Closing force: 2930N~11500N
- Recommended workpiece weight: 14.6kg~57.5kg The allowed longest fingers: 100mm~180mm
- The allowed heaviest fingers: 2.1kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, scrap wing components, etc.

Model: LT-PG3-160series



- Stroke per jaw: 8mm/16mm ◆ Closing force: 5400N~20320N
- Recommended workpiece weight: 27kg~101kg The allowed longest fingers: 100mm~220mm
- The allowed heaviest fingers: 3.5kg
- Optional basic type, force holding type, strength enhance type, dust-proof type, high temperature type, scrap wing components, etc.



Model: LT-PG3-200series

• Stroke per jaw: 14mm/25mm ◆ Closing force: 7400N~17320N

Recommended workpiece weight: 37kg~63kg The allowed longest fingers: 200mm~280mm

The allowed heaviest fingers: 6.5kg

• Optional basic type, force holding type, dust-proof type, high temperature type, scrap wing components, etc.



Model: LT-PG3-240series

• Stroke per jaw: 17mm/30mm Closing force: 10700N~25500N

 Recommended workpiece weight: 53kg~91kg The allowed longest fingers: 200mm~300mm

The allowed heaviest fingers: 8.5kg

• Optional basic type, force holding type, dust-proof type, high temperature type, scrap wing components, etc.



Model: LT-PG3-300series

 Stroke per jaw: 20mm/35mm ◆ Closing force: 14400N~35600N

• Recommended workpiece weight: 72kg~123kg The allowed longest fingers: 200mm~250mm

The allowed heaviest fingers: 11.5kg

• Optional basic type, force holding type, dust-proof type, high temperature type, scrap wing components, etc.



Model: LT-PG3-380series

• Stroke per jaw: 26mm/45mm ◆ Closing force: 26250N~56200N

• Recommended workpiece weight: 131kg~224kg The allowed longest fingers: 200mm~250mm

• The allowed heaviest fingers: 13.5kg

Optional basic type, force holding type, dust-proof type, high temperature type, etc.

Floating Material Removal Tool

LT force-controlled Floating Material Removal tool is an efficient and flexible automatically deburring tool, equipped with powerful electric motor, it can quickly and automatically remove burrs, seams and edge -breaking of various materials. Applied in multi-process, suitable for components with materials such as cast iron, steel, aluminum alloy, plastic, etc. Under operation condition, the floating mechanism and the cutter can comply the irregular workpiece burrs and conduct adaptive processing, avoid the damage of the cutter and the workpiece, eliminate the error of workpiece shape and positioning.













Flexible contact, adjustable rotate speed

360 degree floating in Radial direction, floating in axial direction

Durable contact component, dust-proof, air leakage proof

Aluminum alloy shell, light weight design

Build-in steel ball to reduce friction and lengthen service life

Replaceable Variety grinding heads, meet customized deburring requirement

Radial floating tools replaceable series



Model: LT-FRC030B-3060

◆ The Max rotate speed: 60000rpm

The max torque: 9cN·m Power: 350W

Floating force: 7N~30N Axial floating distance: 7mm

Radial floating angle 360-degree, Floating angle (X, Y) ±5°

Support replaceable cutters automatically, Replaceable tool holder diameter 0.5mm~6.35mm



Model: LT-FRC030B-3030T

◆ The Max rotate speed: 30000rpm

The max torque: 18cN·m Power: 350W

Floating force: 7N~30N Axial floating distance: 7mm

Radial floating angle 360-degree, Floating angle (X, Y) ±5°

Support replaceable cutters automatically, Replaceable tool holder diameter 0.5mm~6.35mm

Radial floating tools series



Model: LT-FR020A-20-S6000

• The Max rotate speed: 60000rpm

◆ The max torque: 9cN·m

• Power: 250W

◆ Floating force: 3N~14N • Axial floating distance: 4mm

Radial floating angle 360-degree, Floating angle (X, Y) ±5°



Model: LT-FR030B-3060

◆ The Max rotate speed: 60000rpm

◆ The max torque: 9cN·m

◆ Power: 350W

Floating force: 7N~30N Axial floating distance: 5mm

Radial floating angle 360-degree, Floating angle (X, Y) ±5°



Model: LT-FR030B-3030T

◆ The Max rotate speed: 30000rpm

◆ The max torque: 18cN·m

◆ Power: 350W

◆ Floating force: 7N~30N Axial floating distance: 5mm

Radial floating angle 360-degree, Floating angle (X, Y) ±5°



Model: LT-FR040B-S4040

◆ The Max rotate speed: 20000rpm

The max torque: 60cN⋅m

• Power: 400W

Floating force: 7N~29N

• Axial floating distance: 6.5mm

Radial floating angle 360-degree, Floating angle (X, Y) ±5°



Model: LT-6000

• The Max rotate speed: 36000rpm

The max torque: 2.8N·m

Power: 6KW

Floating force: 96N~203.8N • Axial floating distance: 10mm

• Radial floating angle 360-degree, Floating angle (X, Y) ±4°



Energy connector

Energy connector can provide energy connection between the main station and the slave station, and pass through energy media such as electrical power, air, fluid, communication, etc. The fixed station with a unique flexible mechanical device, which can compensate the position errors and mechanism errors during the docking process. The main application is for automotive manufacturing, to provide electrical power, air, signals to equipment or trolley during the quick docking of trolley, equipment and molds.



Provide energy connection between master station and slave station, including power, data, I/O and other media



Medium unit modular design, collocation more flexible



With X, Y, Z directional floating performance, eliminate docking error



Optional servo motor or cylinder drive





Model: LT-F31

- Realize quick connection of energy media such as pneumatic, electric current, communication, etc
- With 2×PT3/8 self-sealed pneumatic ports
- Optional driven way: servo motor or cylinder



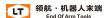


- Realize quick connection of energy media such as pneumatic, liquid, electric current, communication, etc
- Optional 1~4 channels PT1/2 pneumatic port or water port
- Optional driven way: servo motor or cylinder

Model: LT-F41



- Realize quick connection of energy media such as electric current, communication, etc
- Compact design with light weight
- Optional driven way: servo motor or cylinder



LT Energy coupling device

The Energy coupling device is a collection of multiple connection types on a single frame or housing, and can be configured according to specific specifications. It can meet the multi-function and frequent plug requirements, integrated the power, signal, data, fiber, liquid and pneumatic, etc. Suitable for applications which need combine electrical, power and pneumatic connections together.



High stability High reliability



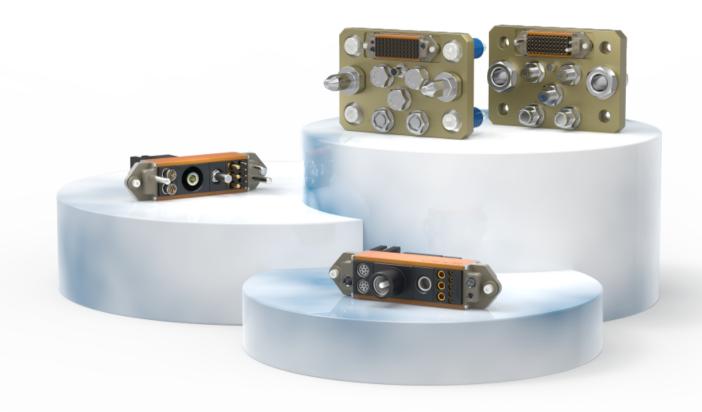
Ultra-high plug-life



Strong current carrying capacity



Strong resistance to vibration and impact





Φ1.6 Signal Module

Pullout force/N: 0.5 Mechanical parameters: Insertion force/N: 1 Mechanical life/times: ≥100000 Jack type: Springtac TM

• Electrical parameters: Maximum continuous current/A: 13

Instantaneous current/A: 25 Contact resistance (max) $/m\Omega$: 2.5

Wire specification/mm²: 1.5

 Material/Coating: Copper alloy/gold plating • Environmental protection requirements: RoHS2.0

Φ4 Power Module



• Mechanical parameters: Insertion force/N: 6 Pullout force/N: 3 Mechanical life/times: ≥100000 Jack type: Springtac TM

• Electrical parameters: Maximum continuous current/A: 25

Instantaneous current/A: 50 Contact resistance (max) $/m\Omega$: 0.8

Wire specification/mm²: 4

 Material/Coating: Copper alloy/gold plating • Environmental protection requirements: RoHS2.0

Φ8 Power Module



• Mechanical parameters: Insertion force/N: 25 Pullout force/N: 15 Mechanical life/times: ≥100000 Jack type: Springtac TM

• Electrical parameters: Maximum continuous current/A: 105

Instantaneous current/A: 210 Contact resistance (max) $/m\Omega$: 0.35

Wire specification/mm²: 35

Material/Coating: Copper alloy/gold plating Environmental protection requirements: RoHS2.0

Φ14 Power Module



• Mechanical parameters: Insertion force/N: 40 Pullout force/N: 30 Mechanical life/times: ≥100000 Jack type: Springtac TM

Electrical parameters: Maximum continuous current/A: 400

Instantaneous current/kA: 40 Contact resistance (max) $/m\Omega$: 135

Wire specification/mm²: 50/70

Material/Coating: Copper alloy/gold plating

Environmental protection requirements: RoHS2.0

1000Mbps Network Module



Mechanical property: Mechanical life: 50000 times

Vibration and shock: GB/T 21563 Class I Level B requirements

 Electrical property: Rated voltage: 500V Rated current: 4A

Voltage resistance: 650V Contact resistance: ≤8mΩ

Work temperature: -40 °C ~ 125 °C

 Network performance: 1000 Mbps Environmental protection requirements: RoHS 2.0

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Ф3 Two-core pneumatic&liquid module



- Used for coupling compressed air and coolant
- Poles number: 2 Diameter (mm) :3 • Max working pressure (bar): 15
- Support block material :POM
- (mbar) Min working pressure :14
- + -15~90 (°C) Work temperature
- Sealing material NBR Mechanical life ≥100000
- Pipe outer diameter (mm): 6

LT-FEC Frame



- Frame float (FEC frame with Φ4 ground)
- X/Y direction: ±1mm ◆ Z direction: ±0.2mm Floating Angle: ±1°
- Positioning Repeatability: ±0.1mm • Rail length (mm): 48/72/96/144

Φ4 Ground Pin



- ◆ Mechanical capacity: Insertion and extraction force/N: 4~8 Mechanical life/usage times: ≥100000
- ◆ Work Environment: Work temperature: -40°C~+125°C
- Material/Coating/Appearance:
 - Pinhole parts/terminals: Copper alloy Plated with silver
- Standard and certification:
 - Environmental requirement: RoHS 2.0

Water&Pneumatic Interface



- Diamete (mm): 8 • Max pressure (MPa): 1.6
- Conntection force without pressure (N): 150
- Repulsive cross-sectional area (cm²): 4.35
- Service life (million times): 100

Hydraulic Interface





- Hydraulic interface: LTPH08, LTPH08B, LTPH12, LTPH12B
- Diameter (mm): LTPH08, LTPH08B: 8; LTPH12, LTPH12B: 12
- Conntection force without pressure (N): LTPH08, LTPH08B: 163; LTPH12, LTPH12B: 210
- Socket/Plug repulsive cross-sectional area (cm2): LTPH08, LTPH08B: 2.14; LTPH12, LTPH12B: 4.52
- ◆ Flow (speed 5m/s) (I/min): LTPH08, LTPH08B: 16.49; LTPH12, LTPH12B: 37.31
- Insertion and extraction service life(number): ≥100000
- Max pressure (MPa): LTPH08: 16; LTPH08B: 25; LTPH12: 16; LTPH12B: 25



Industry Case



welding shop loading and unloading



Floor welding line



Fender plate welding

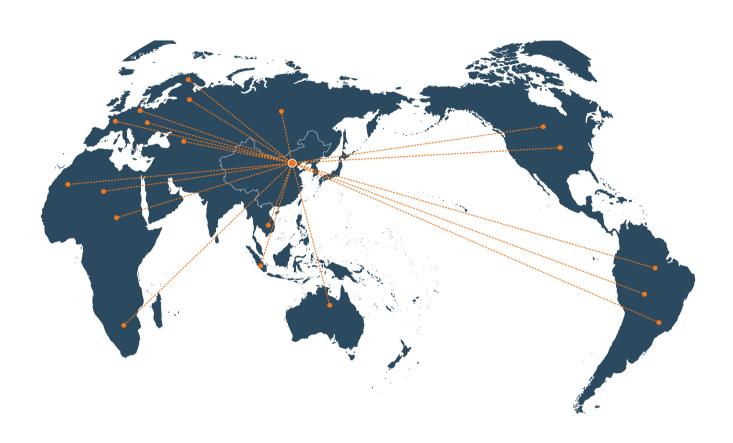


Body welding main line



TOX Application

Service Network



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