



蓝濂激光
— LanLyn laser —

Laser Welding Robot Product Manual



Efficient Welding · Much Safer



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LN-CBR5 Main Feature

Highest Safety · All-around Protection

All joints are equipped with high-precision torque sensors, achieving ultra-sensitive force detection to fully avoid accidental contact and injury, ensuring safe operation.

- 5x increased collision sensitivity
- >21 TÜV safety certifications
- Independent RSC design, dual-channel monitoring
- Magnetic brake for reliable safety
- Human-machine collaboration for top efficiency
- Complies with international safety standards



Light and Agile · Stylish and Friendly

Innovative design for maximum lightness and agility. Friendly user experience breaks robot stereotypes.

- Rounded curves convey liveliness
- Fresh colors are pleasing
- Simple design shows elegance



Simple and Easy · Zero Learning Curve

Achieve ultimate ease of use and deployment, allowing even those with no prior experience to quickly complete installation and setup.

- 1N Ultra-light drag-and-drop programming, easily handle complex paths.
- Graphical interface, master in 1 hour with no prior experience.
- Simple buttons to complete complex welding processes.

Stable and Reliable · Trustworthy Partner

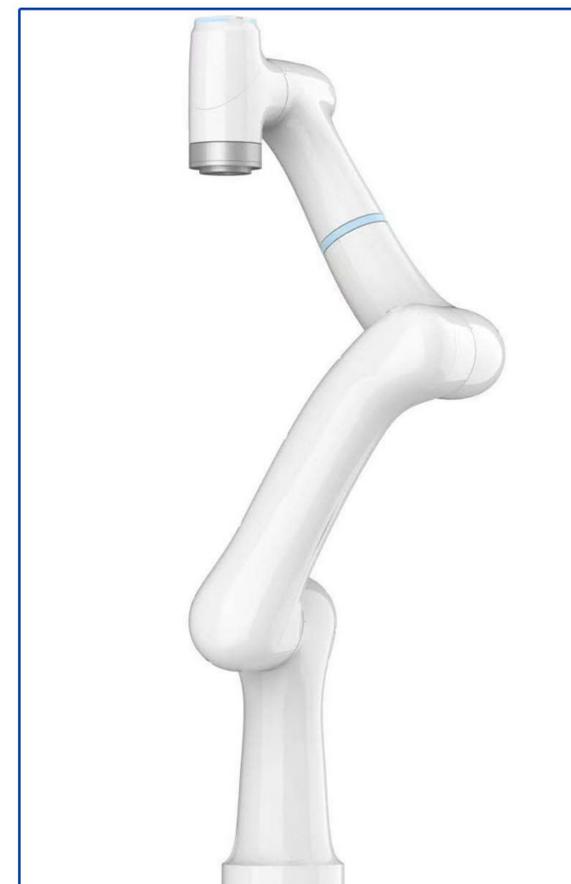
Leading 80,000 hours average uptime, worry-free and cost-effective, the most reliable partner.

- Over 100 design validation tests, 120 hours and 20+ factory tests
- Reliable supply chain with quality control from every component
- Advanced algorithms extend motor reducer life by 30%
- 2000+ dynamic parameters model to prevent "small engine big load"



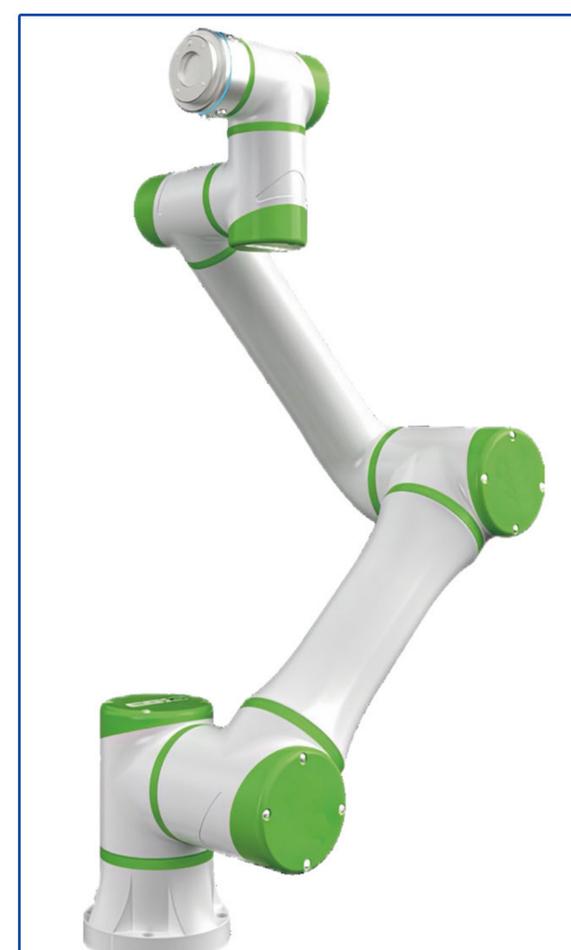


Model	LN-CBR5
Payload	5kg
Working radius	919mm
Weight	About 16.5kg
Number of axis	6
MTBF	>80000h
Power supply	48VDC
Programming	Drag teaching, graphical interface
Power consumption	225w
Safety	More than 21 adjustable safety features including collision detection, virtual wall, collaboration mode, etc.
Repeatability	±0.03 mm
Maximum speed of the tool end	<2.0m/s



Configuration List

Name	Quantity	Brand
Robot	1	LanLyn
Cabinet	1	LanLyn
Cooler	1	Hanli
Electrical system	1	Schneider
Welding system	1	LanLyn
Laser source	1	Raycus
Welding gun	1	LanLyn
Wire feeder	1	LanLyn
Maintenance tools (protective glasses) instruction manual	1	LanLyn
Quality certificate	1	LanLyn/SGS



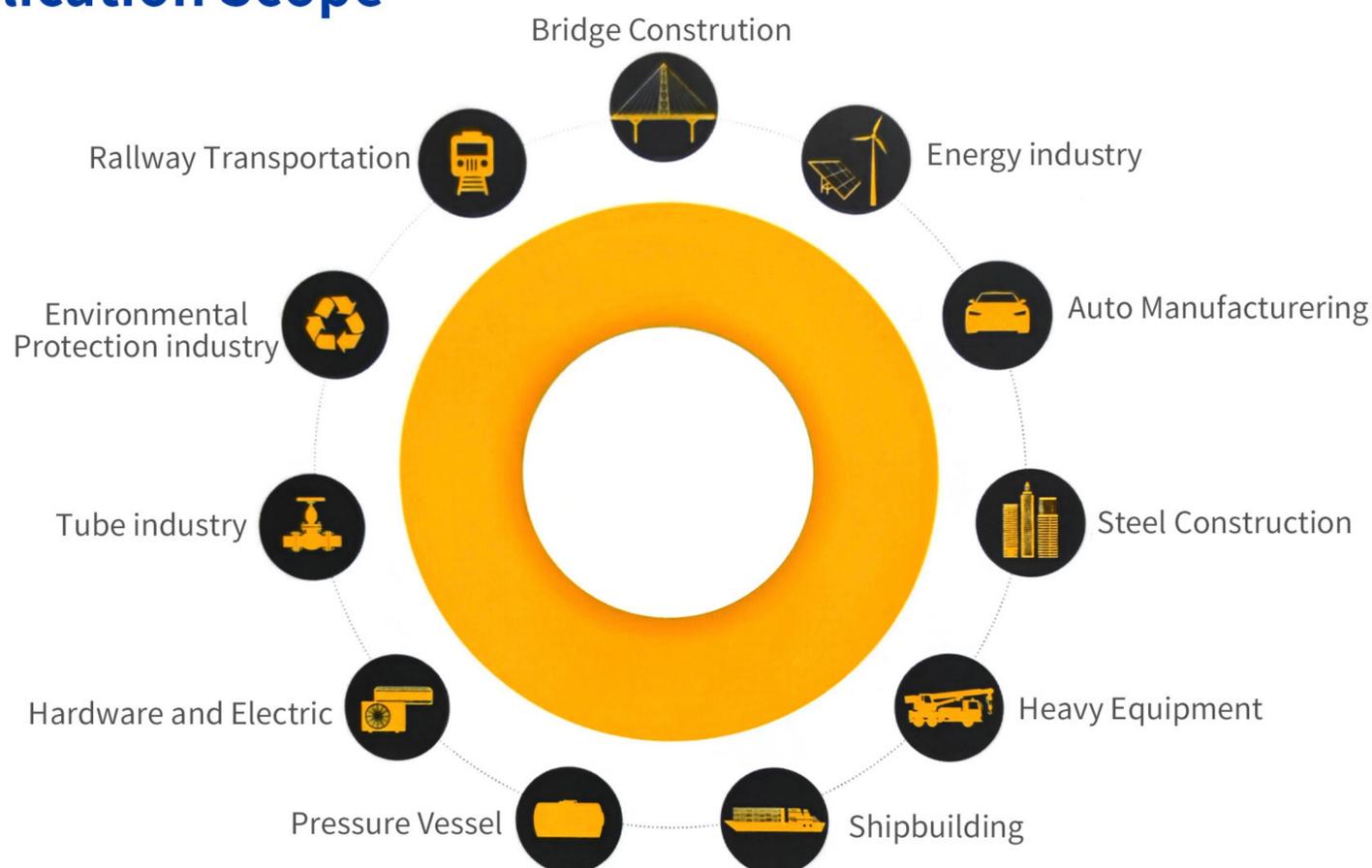
Lanlyn Robot Series

Laser Welding Robot

- The advanced laser welding process of Lanlyn Laser is combined with FANUC high-precision robots, and the welding efficiency reaches the world high level.
- FANUC industrial robot is currently the world's leading brand of high-precision robots.
- Adoption of a highly rigid arm and advanced servo technology improves acceleration performance and shortens movement time, thus realizing high efficiency.



Application Scope



Technical Parameter

Specification

LN-R-1800

Number of control axes	6
Reachable radius	1853mm
Maximum movement speed of the wrist	4000 mm/s
Maximum load on wrist	25 kg
J3 Maximum arm load	12 kg
Drive type	AC servo motor drive
Repeat Positioning Accuracy	±0.02 mm
Robot weight	210 kg
Laser power	1500/2000/3000w

Installation conditions

Ambient temperature	0~45°C
Ambient humidity	Normally below 75% RH (no condensation)
Movement acceleration	Below 4.9 m/s ² (0.5G)

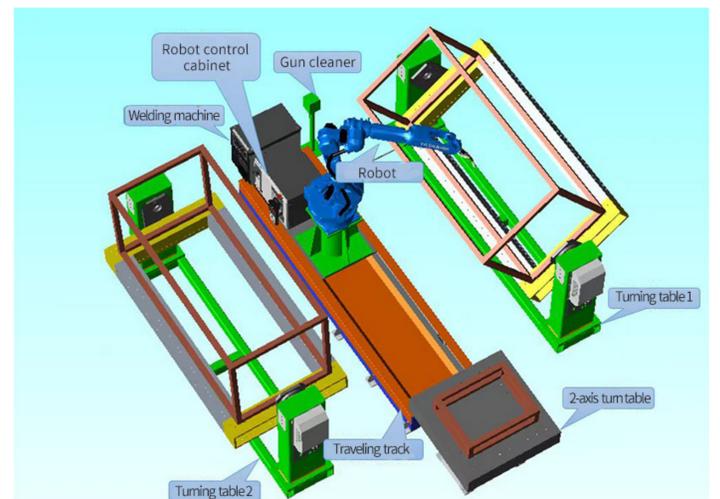
Lanlyn Robot Series

Arc Welding Robot



- Starting point positioning**
 Contact-type positioning (SEACH): With the welding machine as the medium, the robot uses the welding machine signal to apply a positive voltage to the positive pole of the welding gun. When the welding wire contacts the workpiece (negative pole of the welding machine), the positive pole voltage of the gun is lowered, thereby judging that the welding wire contacts the workpiece, and the robot immediately records the point. When the next workpiece changes position, the same contact method is used to record the offset position. The robot calculates the error between the two points through instructions and compensates to the working path.
- Wobble welding function**
 Z-shaped wobble arc: When performing Z-shaped wobble arc, the robot's motion trajectory is shaped like the letter "Z". The wobble direction is perpendicular to the forward direction, and the wobble plane is perpendicular to the tool coordinate system axis B.
- Multi-layer multi-pass**
 Repeatedly stack welding of the same weld or the same path to meet the requirements of weld height and overall welding strength. The multi-layer multi-pass function only needs to teach the basic path once, and then design the number of stacking times and stacking rules of the welding path through instructions. It greatly reduces the time required for programming and reduces the difficulty of programming. Multi-layer multi-pass is suitable for occasions where welding needs to be performed in a stacking manner. It is also suitable for other sports occasions that require similar trajectories, such as gluing, spraying and other fields.

External Axis Coordination



Technical Parameter

Specification

LN-R-1400/1700/2000

Controller axes	6
Maximum carrying capacity /Operating area(mm)	1400/1700/2000
Repeat Positioning Accuracy	±0.08
Laser power	350/500

Power supply

Rated supply voltage	single-phase 200-230 V 50/60 Hz
Supply voltage tolerance range	-15%~+10%
Power frequency variation range	±5%
Control cabinet	A1 or A2 model
Weight	273kg
Load from robot to control cabinet	3m
Installation conditions	On the ground

LanLyn Robot Series

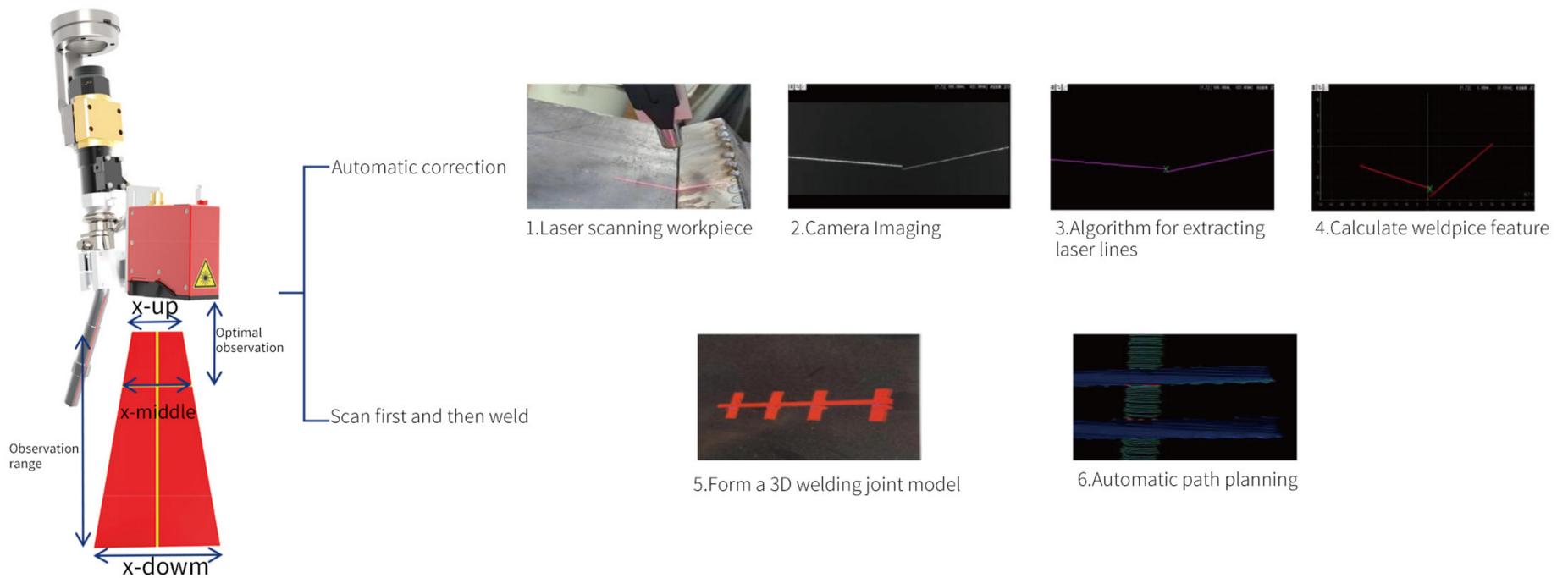
Visual Tracking



- Adopting the advanced laser welding process of Lanlyn laser with domestic robot, the welding efficiency is highly efficient and the welding process is stable.
- The laser weld tracking sensor uses infrared laser to illuminate the weld surface to form a laser light band, which is received and imaged by a highdefinition camera. Through algorithmic processing, the three-dimensional features of the weld are converted into structured information, including the coordinates of the weld head, misalignment, and gap. This information is transmitted to the robot controller, which provides the robot with the necessary trajectory and process parameters to guide the robot to weld or correct workpiece deviations in real time and achieve a perfect weld. Compared with other solutions, laser seam tracking has the advantages of non-contact, high precision, high speed and good adaptability.



Visual



Technical Parameter

Specification

FV-240-TD

Volume	91*73*41mm
Optimal observation distance	210mm
Depth of field	200-300mm
Vertical resolution	0.1 ~ 0.16mm
Minimum recognizable height	0.8mm
Field of view width	47 ~ 103mm
Horizontal resolution	0.03 ~ 0.04mm
Recognizable minimum width	0.5mm
Detection frequency	Standard 30hz