NJITSU

"Efficient, Flexible, and Collaborative Automation"

nFA-3D-P1

ADVANTAGES OF 3D Welding Vision System

· Greatly reduce the impact of workpiece in raw materials and team errors on welding quality
· For complex workpiece, it can greatly reduce the robot teaching programming workload
· Part of the scene can be drawings without teaching
· With high-speed real-time scanning, it can output 2 to 10 frames of point cloud data in 1 second.
· It has Industrial accuracy and 3d point cloud repetition accuracy can be up to 0.1mm.
· Adopt anti-splash protection device to avoid welding slag splash damage lens.
· High temperature resistance and reliable operation in work.

TECHNICAL CHARACTERISTICS

· 3D vision adopts micro-structured light technology to realize three-dimensional surface scanning of welding parts so it can output the welding track. In cooperation with robots, it can realize the functions of features extraction of complex welds, track locating, workpiece alignment and others.

APPLICABLE SCENE

· Scene: Steel structure and carriage board
· Material: carbon steel fillet weld (three-side splicing), workpiece without polishing treatment
· Trajectory type: straight trajectory(arc is not applicable)

PROCESS AND INTERFACE
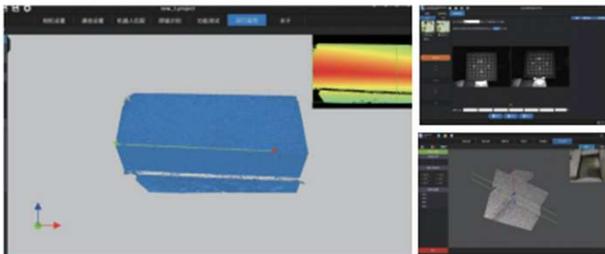
TECHNICAL PARAMETERS

3D Welding Vision System

Model	Tracer P1	Weight	750g
Theory	Binocular structured light	Data Interface	TCP/IP, support POE
Light source	Infrared laser	Overall Power Consumption	5W
Working distance	250-500mm	Operating environment	Indoor
FOV	H55°xV35°	Working Temperature	-10~70°C
Repeated Accuracy	±0.5mm	Working Humidity	20%~65%(No condensation)
Depth map resolution	960x600@max 5fps	IP	IP65
Dimension	120x92x40mm	Materials	Aluminum Alloy

Notes: The repeated accuracy means that the standard laboratory environment is obtained by the standard test method, and the specific user environment may affect the accuracy.
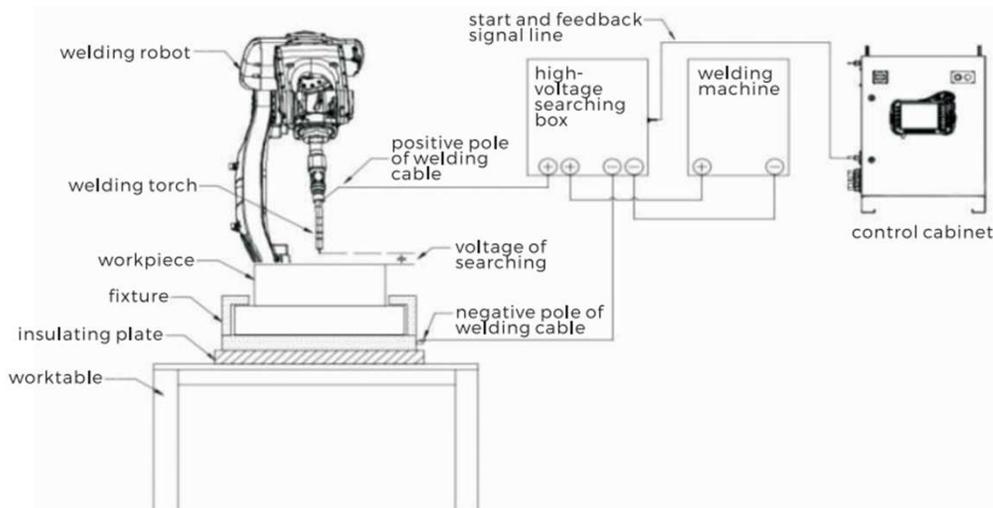
INSTALLATION INTERFACE DIAGRAM
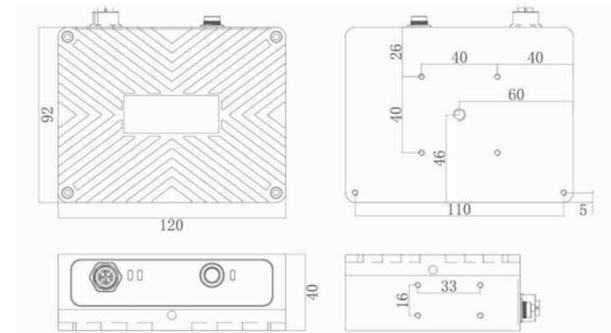
APPLICATION OF THE SCENE

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nFA-HVS-V2

GYXW-V2

THE PURPOSE

· At present, when welding robots are welding medium-thick plates, due to the workpiece blanking or inaccurate assembly, the welding points (arc starting point, intermediate point, and end point) are inaccurate, causing the deviation of the welding bead.

· This equipment cooperates with the welding robot's welding wire locating function, feedbacks the signal that the welding wire hits the workpiece, the robot automatically calculates the position deviation, corrects the position point, and enables the robot to find the actual welding point.

THE CHARACTERISTICS

· The output voltage is about 425V±5%, which can effectively penetrate oil stains, rust stains, and water stains;Fast searching speed;

· The current limit design has been made internally, which can effectively control the current that is lower than the safety current of the national standard;

· During searching, since the welding cable is disconnected from the welding machine, the voltage will not enter the welding machine, so it will not damage the welding machine.

TECHNICAL INDEX

Name	High-voltage searching box
Model	GYXW-V2
Input power	AC220V±10%, 50HZ, with reliable grounding
Output power	DC425V±5%, current<=5ma
Welding current carrying current	500A, 85% duty cycle
The resistance of the positive and negative poles of the output terminal of the welding cable	>=10KΩ
Temperature and humidity	Temperature: -20°C to +45°C; Relative humidity: no more than 75%RH at 40°C; no more than 95%RH at 20°C
Dimensions	530mmX255mmX290mm
Weight	16KG