

INTELLIGENT WELDING COBOT SYSTEM



Product Form

Basic Model

Product Positioning	Easy to get started, the first choice for cost performance
Application Scenarios	Multi-variety, small-batch welding; manual replacement and rapid automation
Key Features	Fast hand-guiding/button box; basic process library; high system integration



Cobot



Trolley



AMIG-500PSR Plus



Wireless Tablet

■ Intelligent Welding Controller



High-performance welding controller integrates computing, control and communication capabilities, serving as a stable and reliable core computing platform for intelligent welding systems. It supports core functions such as point cloud processing, weld seam recognition and welding trajectory planning, meeting the real-time control and collaboration requirements in complex welding scenarios.

Core Capabilities

Supports access and processing of point cloud data through laser sensors/3D cameras

Supports trajectory and posture planning for multi-layer and multi-pass welding

Enables real-time control of welding parameters and task scheduling

Supports communication between multiple cobots, welding machines and external equipment

Industrial-grade design for stable and reliable operation in complex on-site environments

Intelligent Welding Controller	
Case Color	Metallic Gray
Case Material	High-quality Full Aluminum Alloy
RAM	32GB
Front Panel I/O Ports	2 × COM Ports, 1 × SIM Card Slot, 4 × USB 3.2, 1 × Power Button
Rear Panel I/O Ports	1 × DC Port, 3 × HDMI Ports, 3 × RJ45 Ethernet Ports, 1 × 2-in-1 Audio Jack
Network Interface	3 × Intel i226-V 2.5G Ethernet
Storage Interface	1 × M.2 2280, 1 × 2.5-inch HDD
Input Voltage	DC 12V Input
Other Functions	Power on to Boot, Scheduled Power-on, Wake-on-LAN, PXE Boot, Watchdog (0-255 levels), TPM 2.0 Security Encryption
Ambient Temperature	0°C ~ +40°C (Commercial HDD), -20°C ~ +50°C (Industrial SSD), with surface air flow
Operating Humidity	5% ~ 95% Non-condensing
Safety Certifications	CE, CCC, FCC Class A, RoHS
Product Dimensions	170×140×58 mm
Net Weight	1.1 kg
Application Fields	Industrial Control, Industrial Automation, Robotics, IoT Gateway, Edge Computing, Machine Vision, AGV/AMR, etc.

Wireless Tablet



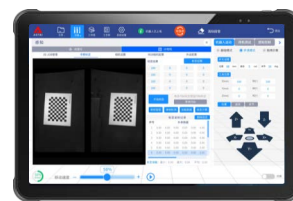
Login Interface



Operation Interface



Expert Process Library



3D Camera Interface



Wireless Mobile Operation

Wireless connection with tablet, without being restricted by fixed control stations; supports short-distance teaching and long-distance monitoring, ensuring flexible operation.



Real-time Status Display

Real-time display of cobot position, welding parameters and task progress; instant prompts for critical status and abnormalities to improve operational safety.



Unified Integrated Interface for Multiple Devices

Integrates status of cobots, welding machines, sensors (line laser / 3D camera), and other equipment. Provides a unified UI and interaction mode for different devices, avoiding frequent switching between multiple terminals.



User-Friendly Interaction Design

The operation logic is designed in line with welders' usage habits, featuring clear workflows and fewer steps. Novices can quickly complete teaching and task configuration without complicated training.



Visual Teaching and Interaction

Weld seam path, workpiece posture and coordinate system are intuitively visible. Teaching can be completed via drag-and-drop, point selection, path preview and other interactive methods.

Physical Parameters

Overall Dimensions	263.5 mm × 175.0 mm × 13.5 mm (Basic version, depending on configuration)
Overall Weight	802 g (Basic version, depending on configuration)
Display	10.95-inch IPS screen, 1920 × 1200 resolution
Touch Screen	Touch Screen: Corning Glass, supports multi-touch, operable with gloves or wet hands
Battery Capacity	10000 mAh detachable main battery, 27W fast charging, with fuel gauge

Operating Environment

Ambient Temperature	-20°C-50°C
Storage Temperature	-40°C-70°C
Ambient Humidity	5%RH ~ 95%RH (non-condensing)
Drop Specification	Passes MIL-STD-810H drop test from 1.2 meters
Ingress Protection	IP67, meets IEC sealing standards
Electrostatic Discharge	±15KV air discharge, ±8KV contact discharge

■ Cobot



— Technical Specification —

C5	
Degrees of Freedom	6 axes
Reach (mm)	886.5
Payload (kg)	5
Weight (kg)	24
Lifetime (h)	30000
Collaboration	Collaborative operation according to ISO 10218-1 :2001
Repeatability (mm)	+/- 0.1
Linear Velocity (m /s)	2.8
Power Consumption (W)	200
Materials	Aluminum
Ambient Humidity	25%-90%
Ambient Temperature (°C)	0-50
IP Classification	IP54
Programming	Teach pendant with user interface
Communication	CAN bus
Motor Type	DC 48V
Installation Orientation	Any angle

■ Button Box



Fine Control

Joystick-based fine control with high/low speed switching modes, meeting the requirements of precise positioning and rapid adjustment.



Digital Display Interface

Equipped with a digital display for intuitive presentation and quick setting of welding process parameters, improving on-site commissioning efficiency.



Support Complex Operation Methods

Realizes fast acquisition and teaching of key welding points through combined button presses and long presses.

■ Matching Welding Power



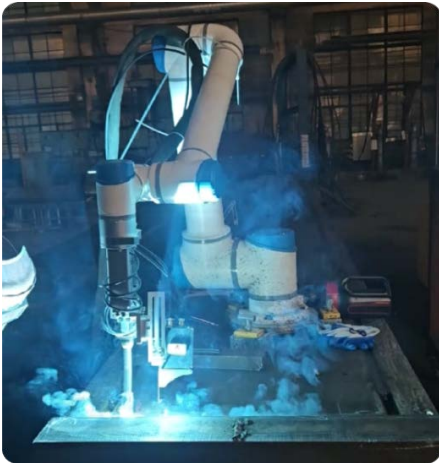
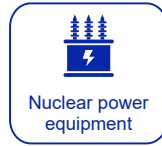
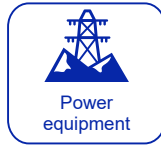
AMIG-500PSR Plus

Integrates multiple advanced welding process modules, including pulse, double pulse, fast pulse, deep penetration, soft spatter, constant voltage and other welding processes. Custom welding process modules can also be developed according to specific customer requirements.

— Technical Specification —

AMIG-500PSR Plus	
Rated Input Voltage/Frequency	3-phase, AC380V±10%,50/60Hz
Rated Input Capacity (kVA)	25
Rated Input Current (A)	38
Welding Current Range (A)	30~500
Welding Voltage Range (V)	15.5~39
OCV(V)	76
Duty Cycle (%)	100
Welding Wire Diameter (mm)	0.8, 1.0, 1.2, 1.4, 1.6
Gas Flow Rate (L/min)	15~20
Dimensions (mm)	660x320x560
Weight (kg/lb)	55/110.2
Insulation Class	H
Ingress Protection	IP23

Field case



■ Typical Applications

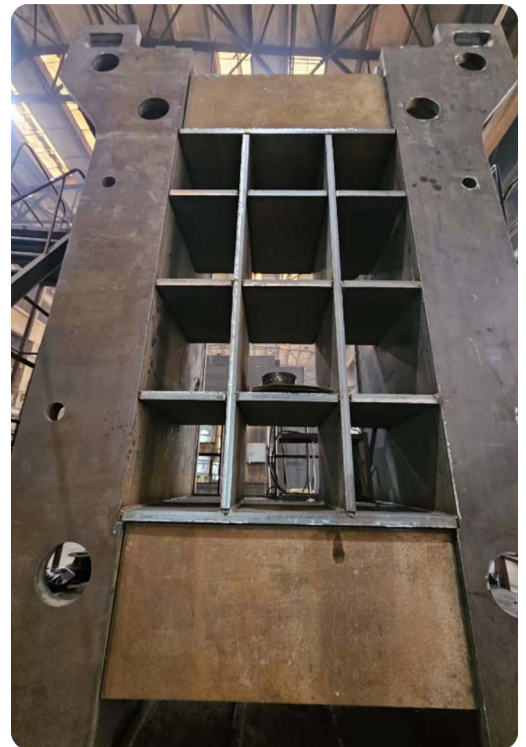
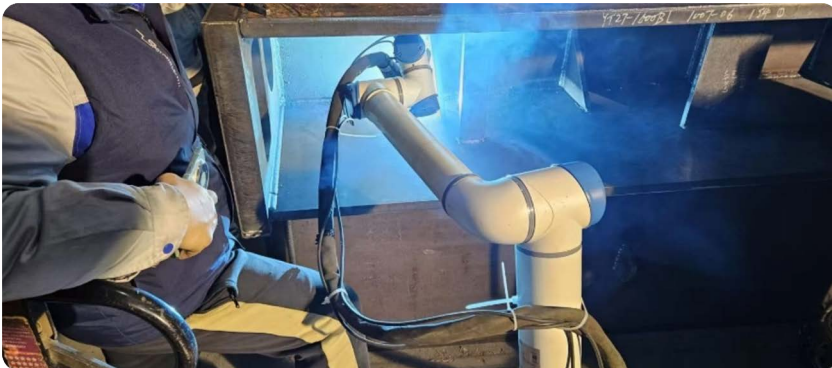


Weld Type: V-groove

Weld Shape: Long straight weld

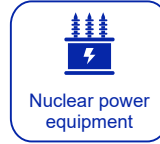
Welding Process: Fast pulse

Workpiece: Pressure equipment



■ Mature technology

(Capable of passing Nuclear Class 1 inspection and ASME inspection)



Flat fillet welding of single-V groove



50mm Height of weld leg



20mm Weld leg height
(Accumulate welding procedure database for fillet welds with different thicknesses and processes)

Vertical-up welding of butt-joined V-groove plates



Front



Back



Official Website



Facebook



LinkedIn



Twitter



YouTube



Instagram



Aotai Electric

Address: 282 Bole Ave High-tech Development Zone
Jinan, Shandong 250101, P.R. China
Tel: +86-531-81921036 Fax: +86-531-88876665
Email: sales@aotaiwelding.com