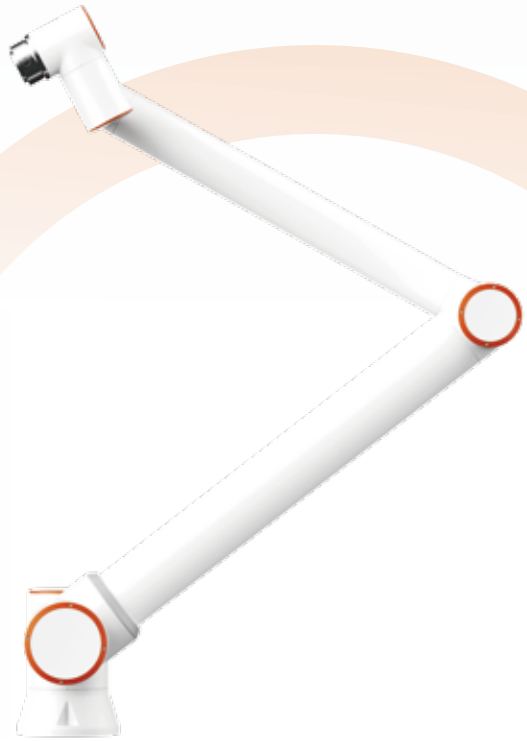
FAIRINO

FR5-WML

New Generation Flexible Collaborative Robot

The new generation of flexible collaborative robot FR5-WML focuses on the core requirements of the welding field. With its excellent operation performance, flexible adaptability, and wide coverage, it has become a core enabler for welding operations in heavy-duty fields such as construction steel structures and shipbuilding. The product supports graphical programming, intuitive teaching, and flexible drag-and-drop operations, and, combined with multi-axis control, significantly lowers the usage threshold. Meanwhile, the open interface is compatible with various mainstream communication protocols to meet the rapid integration needs of complex production lines.



5kg
Payload

1900mm
Reach

±0.1mm
Repeatability

Feature Advantages

Flexible end execution capabilities

The 6th axis is equipped with a conductive slip ring to achieve ±360° non-twisted rotation, support installation in any direction, and adapt to multi-angle and complex weld seam welding.

Wide coverage

With a reach of 1900mm, compared to the FR5 with the same payload, the reach has increased by up to 51%. There is no need to frequently move the robot base, and a single installation can cover a wider working area, making it suitable for welding large workpieces.

Convenient Operation and Maintenance

Equipment installation ≤ 1h, replacement of key components ≤ 1h, reducing downtime losses.

Customizable Flexibility

Increased reach + I/O expansion to meet segmented requirements.

Application Area

Suitable for welding requirements in fields such as building steel structures, shipbuilding, heavy-duty machinery, and equipment manufacturing.

Contact Us

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FR5-WML Technical Specification

Parameter Type	Parameter	
Payload	5kg	
Reach	1900mm	
Degrees of freedom	6 rotating joints	
HMI	10.1 inch teach pendant (Optional)or mobile terminal Web App	
Pose repeatability per ISO 9283	±0.1mm	
Axis movement	Working range	Maximum speed
Base	±175°	±120°/s
Shoulder	+85°/-265°	±120°/s
Elbow	±170°	±180°/s
Wrist 1	+85°/-265°	±180°/s
Wrist 2	±175°	±180°/s
Wrist 3	±360°	±180°/s
Typical TCP speed	2m/s	
IP lassification	IP54 (IP65 Optional)	
Noise	<65dB	

Parameter Type	Parameter
Robot mounting	Any orientation
I/O Ports	(DI) 2 (DO) 2
	(AI) 1 (AO) 1
Tool I/O power supply	24V/1.5A
Footprint	190mm
Weight	≤45kg
Operating temperature	-20-45°C
Operating humidity	90%RH(non-condensing)
Materials	Aluminium 、Steel
Black Optional	no
■ Typical power test payload settings, different loads are set according to robot models, payload configuration parameters are as follows :	
FR5-WML payload setting: 5kg, Z-axis: 30mm	
Select aging test program, connect robot's total power to power meter, set robot to automatic mode,set global speed to 100, click run, if there are no abnormalities after running two cycles, start continuous testing for 24 hours. After 24 hours, respectively, record the peak and average power of the power meter, and then statistically analyze each model :	
Typical average power	270W
Typical peak power	620W

FR5-WML Controller Specification



DC MINI Controller



AC MINI Controller 2kw

Features

IP classification	IP54	IP54
Operating temperature	0-45°C	0-45°C
Operating humidity	90%RH(non-condensing)	90%RH(non-condensing)
I/O Ports	(DI)16 (DO)16	(DI)16 (DO)16
	(AI)2 (AO)2	(AI)2 (AO)2
	High speed pulse input 2	High speed pulse input 2
I/O power supply	24V/1.5A	24V/1.5A
Standard communication	I/O 、TCP/IP 、Modbus_TCP/RTU	TCP/IP 、I/O 、Modbus_TCP/RTU
Optional communication	CC-Link IE Field Basic、Profinet、Ethernet/IP、EtherCAT	CC-Link IE Field Basic、Profinet、Ethernet/IP、EtherCAT
Communication Board Optional Configuration	MiniPCI Express - real-time Ethernet PC Board	MiniPCI Express - real-time Ethernet PC Board
Software development kit	C#/C++/Python/ROS/ROS2	C#/C++/Python/ROS/ROS2

Physical

L*W*H	245*180*44.5 mm (No protrusions)	245*180*44.5mm (No protrusions)
Weight	2.044kg (Weight without wire)	2.5kg (Weight without wire)
Materials	Galvanized plate	Galvanized plate
Power supply	30-60VDC	100-240VAC/10A/Single-phase/50-60Hz
Output power	48VDC / 104Amax	48VDC / 42Amax