FAIRINO

FR10

New Generation Flexible Collaborative Robot

FAIRINO FR10 deeply integrates flexibility, safety, and ease of use, while also combining industrial-grade precision and high stability. With its technical characteristics of combining strength and flexibility, it redefines the performance benchmark of collaborative robots and provides an efficient and easily deployable intelligent solution for flexible intelligent manufacturing.



Rtd 10kg **Max 14kg**
Payload

1400mm
Reach

±0.05mm
Repeatability

Feature Advantages

Safe and reliable

Self-developed and self-produced core components + modularization design, building a whole-link stability assurance system from hardware to algorithms

High-Efficiency Protection

Certified with IP65 protection rating, it can handle complex industrial environments such as dust and water mist, ensuring long-term stable operation of the equipment

Minimalist Deployment

Supports graphical programming, intuitive teaching, and flexible drag-and-drop operations, integrates multi-axis linkage control modules, enabling even users with no prior experience to quickly complete device debugging and scenario adaptation

Open Ecosystem

Compatible with ROS secondary development, equipped with a self-developed open platform, supporting multiple communication protocols, and providing convenient development interfaces for equipment manufacturers and integrators

Application Area

Covers high-precision repetitive application scenarios such as industrial spraying, welding, screw fastening, palletizing, handling, pick & place, etc.

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FR10 Technical Specification

Parameter Type	Parameter	
Payload	10kg(Max:14kg)	
Reach	1400mm	
Degrees of freedom	6 rotating joints	
HMI	10.1 inch teach pendant (Optional)or mobile terminal Web App	
Pose repeatability per ISO 9283	±0.05mm	
Axis movement	Working range	Maximum speed
Base	±175°	±120°/s
Shoulder	+85°/-265°	±120°/s
Elbow	±160°	±180°/s
Wrist 1	+85°/-265°	±180°/s
Wrist 2	±175°	±180°/s
Wrist 3	±175°(Optional ±360°)	±180°/s
Typical TCP speed	1.5m/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	≈40kg
Operating temperature	0-45°C
Operating humidity	90%RH(non-condensing)
Materials	Aluminium 、 Steel
Black Optional	yes
■ Typical power test payload settings, different loads are set according to robot models, payload configuration parameters are as follows :	
FR10 payload setting: 10kg, Z-axis: 60mm	
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	300W
Typical peak power	500W

FR10 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	2.044 kg (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