DOBOT M1 PRO Collaborative SCARA-Robotic Arm

M1 Pro

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DOBOT M1 Pro is a lightweight, cost-effective, and fully-aware human-machine collaborative robotic arm for light industries. With high precision, vast working range, and complete functions, the M1 Pro has a repeatable end positioning accuracy of 0.02mm and a maximum arm span of 400mm. M1 Pro is perfect for industrial welding, visual identification sorting, PCB plug-in, and other functions, suitable for all types of assembly line operations. The M1 Pro supports secondary development, providing users with a wide scope of use.

Innovative Structural Development

Being a cost-effective collaborative intelligent robotic arm for light industries, M1 Pro is an integral part of innovative structural development. The entire integrated machine design embedded in the electric control cabinet eliminates wiring and cabling issues, improving the efficiency between the servo drivers and control system greatly.

With lightweight structural designs of large and small arms, the robot works more stably, moves more flexibly and quickly, and is perfectly competent for various applications.

While adopting encoders with higher accuracy and stronger anti-interference capabilities, control accuracy is significantly improved, and jitter phenomena at low velocity are effectively reduced.

Adopts the Mature Intelligent Industrial Controller Architecture of DOBOT

M1 Pro has more powerful functions, more stable performance, and more diverse applications. It also acquires more sensitive collision detection and dragging teaching functions, enabling the robots with more collaborative attributes.

New incremental differential encoder interface extends dynamic capture and tracking applications.

Supports continuous trajectory interpolation, more uniform motion, and smoother trajectory; the application of point gluing provides more stable conditions.

Supports parallel processing, such as multi-threading and IO controls in motion, effectively shortening robot motion beats.

More Concise and Humanized Operation Mode

Supports app programming and debugging, and can be directly controlled by smart terminals, such as mobile phones and PAD.

Innovative programming and an interactive interface for more efficient monitoring and debugging.

Supports users in secondary development and remote control, extending the opportunities.





Scope of Work







Specifications

Product Name	M1 Pro		
Arm Length	400mm		
Rated Payload	1.5kg		
Max. Range of motion	Classification	Software Limits	
	Big arm	-85° -85°	
	Small arm	-130° -130°	
	Z-axis Greasing Screw Rod	5mm-245mm	
	End rotation	-360° -360°	
Max. motion velocity	Joint velocity of big and small arms	180°/s	
	Resultant velocity of big and small arms	2000mm/s	
	Z-axis velocity	1000mm/s	
Repeatability	±0.02mm		
Power Supply	100V-240V AC, 50/60Hz		
Communication Interface	Ethernet、RS-232C、Modbus		
I/O	16 Digital Outputs 16-channel digital input		
Control Software	M1Studio		
Operating System	Linux		



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Base Interface		Terminal Interface		
Digital Input	16	Digital Input	4	
Digital Output	16	Digital Output	4	
		0		
Ethernet	2	0	-	
Ethernet USB 2.0	2	0		
Ethernet USB 2.0 Encoder Input	2 2 1			