

TM5 **TM AI COBOT**

Native Al engine + Robotic arm + Vision system

Perfectly in one



Model		TM5-700 TM5-900		TM5M-700	TM5M-900			
Weight		22.1kg	22.1kg 22.6kg		22.6kg			
Maximum Payload		6kg	4kg	6kg	4kg			
Reach		700mm	900mm 700mr		900mm			
Joint ranges	J1,J6	+/- 270°	+/- 270°	+/- 270°	+/- 270°			
	J2,J4,J5	+/- 180°	+/- 180°	+/- 180°	+/- 180°			
	J3	+/- 155°						
Speed	J1,J2,J3	180°/s						
	J4,J5,J6	225°/s						
Туріса	al Speed	1.1m/s	1.4m/s	1.1m/s	1.4m/s			
Max. Speed		4 m/s						
Repea	atability	+/- 0.05 mm						
Degree Of Freedom		6 rotating joints						
		Digital In: 16						
	Control box	Digital Out: 16						
	Control box	Analog In: 2						
1/0		Analog Out: 1						
I/O		Digital In: 4						
	TIC	Digital Out: 4						
	Tool Conn.	Analog In: 1						
		Analog Out: 0						
I/O Power Supply		24V 2.0A for control box						
		24V 1.5A for tool						
IP Classification		IP54 (Robot Arm); IP32 (Control Box)						
Power Consumption		Typical 220 watts						
Temperature		The robot can work in a temperature range of 0-50°C						
Cleanliness		ISO Class 3						
Power Supply		100-240 VA0	C, 50-60 Hz	22-6	50 VDC			
I/O Interface		3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0						
Communication		RS232, Ethernet, Modbus TCP/RTU (master & slave), PROFINET (optional) ,EtherNet/IP (optional)						
Programming Environment		TMflow, flowchart based						
Certification		CE, SEMI S2 (optional)						
			AI & Vision* ⁽¹⁾					
Al Fu	nction		Classification, Object De	etection, Segmentation				
Application		Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check						
Desitient	A	2D Positioning: 0.1 mm* ⁽²⁾						
Positioning Accuracy		TM Landmark 3D Positioning (Working Point away from Landmark 100/200/300mm): 0.24/0.53/1.00 mm* ⁽²⁾						
Eye in Ha	nd (Built in)	Auto-focused color camera with 5M resolution, Working distance 100 mm $\sim \infty$						
Eve to Han	d (Optional)	Support Ma	aximum 2× GigE 2D cameras o	1 C-E 2D C-market 1 2	C_{a}			

* ⁽¹⁾ No built-in vision robot arms TM5X-700, TM5X-900 are also available. * ⁽²⁾ The data in this table are measured by TM laboratory and the working distance is 100mm. It should be noted that in practical applications, the relevant values may be different due to factors such as the on-site ambient light source, object characteristics, and vision programming methods that will affect the change in accuracy. $^{
m *}$ $^{
m (3)}$ Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.

SEMI S2 ISO 10218-1:2011 ISO/TS 15066:2016

CE

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тм12 /тм14 /тм16 /тм20

TM AI COBOT with built-in vision

The best and smartest choice for smart factory

Model		TM12	TM14	TM16	TM20	TM12M	TM14M	TM16M	TM20M			
Weight		32.8kg	32.5kg	32kg	32.8kg	32.8kg	32.5kg	32kg	32.8kg			
Maximur	n Payload	12kg	14kg	16kg	20kg	12kg	14kg	16kg	20kg			
Reach		1300mm	1100mm	900mm	1300mm	1300mm	1100mm	900mm	1300mm			
Joint ranges	J1,J6	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°			
	J2,J4,J5	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°			
	J3	+/- 166°	+/- 163°	+/- 155°	+/- 166°	+/- 166°	+/- 163°	+/- 155°	+/- 166°			
Speed	J1,J2	120°/s	120°/s	120°/s	90°/s	120°/s	120°/s	120°/s	90°/s			
	J3	180°/s	180°/s	180°/s	120°/s	180°/s	180°/s	180°/s	120°/s			
	J4	180°/s	150°/s	180°/s	150°/s	180°/s	150°/s	180°/s	150°/s			
	J5	180°/s	150°/s	180°/s	180°/s	180°/s	150°/s	180°/s	180°/s			
	J6	180°/s	180°/s	180°/s	225°/s	180°/s	180°/s	180°/s	225°/s			
Туріса	l Speed	1.3m/s	1.1m/s	1.1m/s	1.3m/s	1.3m/s	1.1m/s	1.1m/s	1.3m/s			
Max. Speed		4 m/s										
Repeatability		+/- 0.1 mm										
Degree Of Freedom		6 rotation joints										
	Control box	Digital In: 16										
		Digital Out: 16										
		Analog In: 2										
I/O		Analog Out: 1										
	Tool Conn.	Digital In: 4 Digital Out: 4										
		Analog In: 1										
		Analog Out: 0										
I/O Power Supply		24V 2.0A for control box and 24V 1.5A for tool										
IP Class	ification	IP54(Robot Arm); IP32(Control Box)										
Power Consumption		Typical 300 watts										
Temperature		The robot can work in a temperature range of 0-50°C										
Cleanliness		ISO Class 3										
Power Supply		100-240 VAC, 50-60 Hz 22-60 VDC										
I/O Interface		3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0										
Communication		RS232, Ethernet, Modbus TCP/RTU(master & slave), PROFINET(Optional), EtherNet/IP(Optional)										
Programming Environment		TMflow, flowchart based										
Certification		CE, SEMI S2 (Option)										
				AI & Vi	sion* ⁽¹⁾							
AI Function		Classification, Object Detection, Segmentation										
Application		Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check										
Positioning Accuracy		2D Positioning: 0.1 mm* ⁽²⁾										
		TM Landmark 3D Positioning (Working Point away from Landmark 100/200/300mm): 0.24/0.53/1.00 mm* ⁽²⁾										
Eye in Hand (Built in)		Auto-focused color camera with 5M resolution, Working distance 100 mm $\sim \infty$										
Eye to Hand (Optional)		Support Maximum 2× GigE 2D cameras or $1 \times$ GigE 2D Camera + 1× 3D Camera* ⁽³⁾										

* ⁽²⁾ The data in this table are measured by TM laboratory and the working distance is 100mm. It should be noted that in practical applications, the relevant values may be different due to factors such as the on-site ambient light source, object characteristics, and vision programming methods that will affect the change in accuracy.
* ⁽³⁾ Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.

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