

Specification											
TM12S	TM14S	TM25S	TM30S	TM12S-M	TM14S-M	TM25S-M	TM30S-M	TM12S-X	TM14S-X	TM25S-X	TM30S-X
33.3kg	33kg	81.6kg	80.6kg	33.3kg	33kg	81.6kg	80.6kg	33kg	32.7kg	81.3kg	80.3kg
12kg	14kg	25kg	30kg	12kg	14kg	25kg	30kg	12kg	14kg	25kg	30kg
1300mm	1100mm	1902mm	1702mm	1300mm	1100mm	1902mm	1702mm	1300mm	1100mm	1902mm	1702mm
+/- 360°											
+/- 162°	+/- 159°	+/- 166°	+/- 170°	+/- 162°	+/- 159°	+/- 166°	+/- 170°	+/- 162°	+/- 159°	+/- 166°	+/- 170°
130°/s		100°/s		130°/s		100°/s		130°/s		100°/s	
210°/s		130°/s		210°/s		130°/s		210°/s		130°/s	
225°/s		195°/s		225°/s		195°/s		225°/s		195°/s	
225°/s		210°/s		225°/s		210°/s		225°/s		210°/s	
450°/s		225°/s		450°/s		225°/s		450°/s		225°/s	
4.5m/s		5.2m/s		4.5m/s		5.2m/s		4.5m/s		5.2m/s	
+/- 0.03mm		+/- 0.05mm		+/- 0.03mm		+/- 0.05mm		+/- 0.03mm		+/- 0.05mm	
6 rotating joints											
Digital In: 16 / Digital Out: 16											
Analog In: 2 / Analog Out: 2											
Digital In: 3 / Digital Out: 3											
DO_0 (DO-0/AI) / DO_1 (DO-1/RS485-) / DO_2 (DO-2/RS485+)											
24V 2.0A for control box, 24V 1.5A for tool											
IP54 (Robot Arm) IP54 (Control Box)				IP54 (Robot Arm)				IP54 (Robot Arm) IP54 (Control Box)			
400W		600W		400W		600W		400W		600W	
0~50°C											
ISO Class 3											
100~240 VAC, 50~60 Hz		200~240 VAC, 50~60 Hz		24~60 VDC		48~60 VDC		100~240 VAC, 50~60 Hz		200~240 VAC, 50~60 Hz	
2×COM, 1×HDMI, 3×LAN, 2×USB2.0, 4×USB3.0											
RS-232/RS-422/RS-485, Ethernet, Modbus TCP/RTU (master & slave)											
PROFINET (optional), EtherNet/IP (optional)											
TMflow (flowchart), TMscript (script based), TMcraft (development program)											
TÜV certificated ISO 13849-1, ISO 10218-1, ISO/TS 15066											
SGS certificated UL1740, CAN/CSA Z424-14 (R2019)											
CE, SEMI S2 (optional)											
AI & Robot Vision											
Classification, Object Detection, Segmentation, Anomaly Detection, AI OCR Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check 2D Positioning: 0.1 mm ^{*(1)} TM Landmark 3D positioning (the working point is located 100/200/300mm away from the landmark): 0.10/ 0.20/ 0.33 mm ^{*(1)} Auto-focused color camera with 5M resolution, Working distance 100 mm ~ ∞								N/A			
Support Maximum 2× GigE 2D cameras or 1× GigE 2D Camera + 1× 3D Camera ^{*(2)}											
^{*(1)} 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.											
^{*(2)} Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.											

TM AI Cobot Specification



Specification							
Model		TM5-700	TM5-900	TM5M-700	TM5M-900	TM5X-700	TM5X-900
Weight		22.1kg	22.6kg	22.1kg	22.6kg	21.8kg	22.3kg
Maximum Payload		6kg	4kg	6kg	4kg	6kg	4kg
Reach		746mm	946mm	746mm	946mm	746mm	946mm
Joint Ranges	J1,J6	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 360°	+/- 360°
	J2,J4,J5	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 360°	+/- 360°
	J3	+/- 155°					
Speed	J1,J2	180°/s					
	J3	180°/s					
	J4	225°/s					
	J5	225°/s					
	J6	225°/s					
Max. Speed		4m/s					
Repeatability		+/- 0.05mm					
Degree Of Freedom		6 rotating joints					
I/O	Control Box	Digital In: 16 / Digital Out: 16					
		Analog In: 2 / 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, 24V 1.5A for tool					
IP Classification		IP54 (Robot Arm) IP32 (Control Box)					
Typical Power Consumption		220W					
Temperature		0-50°C					
Cleanliness		ISO Class 3					
Power Supply		100-240 VAC, 50-60 Hz		22-60 VDC		100-240 VAC, 50-60 Hz	
I/O Interface		3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0					
Communication		RS-232, Ethernet, Modbus TCP/RTU (master & slave)					
		PROFINET (optional), EtherNet/IP (optional)					
Programming Environment		TMflow (flowchart), TMsript (script based), TMcraft (development program)					
Certification		ISO 13849-1, ISO 10218-1, ISO/TS 15066					
		CE, SEMI S2 (optional)					
AI & Robot Vision							
AI Function		Classification, Object Detection, Segmentation, Anomaly Detection, AI OCR				N/A	
Application		Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check					
Positioning Accuracy		2D Positioning: 0.1 mm ^{*(1)}					
		TM Landmark 3D positioning (the working point is located 100/200/300mm away from the landmark): 0.24/ 0.53/ 1.00 mm ^{*(1)}					
Eye in Hand (Built in)		Auto-focused color camera with 5M resolution, Working distance 100 mm ~ ∞					
Eye to Hand (Optional)		Support Maximum 2× GigE 2D cameras or 1× GigE 2D Camera + 1× 3D Camera ^{*(2)}					
*(1) 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.							
*(2) Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.							

Specification											
TM12	TM14	TM16	TM20	TM12M	TM14M	TM16M	TM20M	TM12X	TM14X	TM16X	TM20X
32.8kg	32.5kg	32kg	32.8kg	32.8kg	32.5kg	32kg	32.8kg	32.5kg	32.2kg	31.7kg	32.5kg
12kg	14kg	16kg	20kg	12kg	14kg	16kg	20kg	12kg	14kg	16kg	20kg
1300mm	1100mm	917mm	1300mm	1300mm	1100mm	917mm	1300mm	1300mm	1100mm	917mm	1300mm
+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 270°	+/- 360°	+/- 360°	+/- 360°	+/- 360°
+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 180°	+/- 360°	+/- 360°	+/- 360°	+/- 360°
+/- 166°	+/- 163°	+/- 155°	+/- 166°	+/- 166°	+/- 163°	+/- 155°	+/- 166°	+/- 166°	+/- 163°	+/- 155°	+/- 166°
120°/s	120°/s	120°/s	90°/s	120°/s	120°/s	120°/s	90°/s	120°/s	120°/s	120°/s	90°/s
180°/s	180°/s	180°/s	120°/s	180°/s	180°/s	180°/s	120°/s	180°/s	180°/s	180°/s	120°/s
180°/s	150°/s	180°/s	150°/s	180°/s	150°/s	180°/s	150°/s	180°/s	150°/s	180°/s	150°/s
180°/s	150°/s	180°/s	180°/s	180°/s	150°/s	180°/s	180°/s	180°/s	150°/s	180°/s	180°/s
180°/s	180°/s	180°/s	225°/s	180°/s	180°/s	180°/s	225°/s	180°/s	180°/s	180°/s	225°/s
4m/s											
+/- 0.1mm											
6 rotating joints											
Digital In: 16 / Digital Out: 16											
Analog In: 2 / Analog Out: 1											
Digital In: 4 / Digital Out: 4											
Analog In: 1 / Analog Out: 0											
24V 2.0A for control box, 24V 1.5A for tool											
IP54 (Robot Arm)											
IP32 (Control Box)											
300W											
0-50°C											
ISO Class 3											
100-240 VAC, 50-60 Hz				22-60 VDC				24-60 VDC		100-240 VAC, 50-60 Hz	
3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0											
RS-232, Ethernet, Modbus TCP/RTU (master & slave)											
PROFINET (optional), EtherNet/IP (optional)											
TMflow (flowchart), TMsript (script based), TMcraft (development program)											
ISO 13849-1, ISO 10218-1, ISO/TS 15066											
CE, SEMI S2 (optional)											
AI & Robot Vision											
Classification, Object Detection, Segmentation, Anomaly Detection, AI OCR								N/A			
Positioning, 1D/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check											
2D Positioning: 0.1 mm ^{*(1)}											
TM Landmark 3D positioning (the working point is located 100/200/300mm away from the landmark): 0.24/ 0.53/ 1.00 mm ^{*(1)}											
Auto-focused color camera with 5M resolution, Working distance 100 mm ~ ∞											
Support Maximum 2× GigE 2D cameras or 1× GigE 2D Camera + 1× 3D Camera ^{*(2)}											
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