



TM AI COBOT S Series

Native AI Engine + Robotic Arm + Vision System

TM AI Cobot - S Series

Features:

- High-payload of 25kg
- Best reach in 25kg payload cobot market
- Built-in vision system & AI
- Suitable for machine tool material push stack, automobile industry assembly



ON: 54-990-005-0

TM5S

- Payload: 5 kg
- Reach: 900 mm



ON: 54-990-007-0

TM7S

- Payload: 7 kg
- Reach: 700 mm



ON: 54-990-012-0

TM12S

- Payload: 12 kg
- Reach: 1300 mm

Enhance motor speed! Cycle time is 25% faster

- The joint speed of the 6th axis is increased from 225°/s to 450°/s
- Improves the cycle time and reduces it by 25%*

Repeatability increased by up to 70% to 0.03mm

- Repeatability of TM5S/TM7S/TM12S/TM14S is 0.03mm, a 70% improvement

Control box is upgraded to IP54

- Control box has a IP54 rating and is suitable for harsh environment applications
- Effective protection against dust and water



ON: 54-990-014-0

TM14S

- Payload: 14 kg
- Reach: 1100 mm



ON: 54-990-025-0

TM25S

- Payload: 25 kg
- Reach: 1902 mm

Brand new Robot Stick with Enabling Switch and RESET button

- Robot Stick with 3-position Enabling Switch, RESET button for safer operation
- Combine with TM Screen for easy teaching, debugging, and control via teach pendant and TM Pen

Up to 31 PL=d, Cat.3 Safety Functions certified by TUV

- Safety functions acc. to ISO 13849-1 certified by TÜV. Passed international safety certification ISO 10218-1
- Regional safety certification of UL & CSA for North America, CE for Euro
- Enables easy safety assessments with flexible safety functions that lower the cost of safety control configuration

TMflow™ 2 Series: Safe, Easy, and More Intelligent

- Innovative graphical UI with more exclusive software
- Includes dozens of function nodes that are easier to use and yet to close the gap between integration and your application

Technical Specifications

Model		TM7S	TM5S	TM14S	TM12S	TM25S
Order No.		54-990-007-0	54-990-005-0	54-990-014-0	54-990-012-0	54-990-025-0
Weight		22.9 kg	23.9 kg	33 kg	33.3 kg	80.6 kg
Maximum Payload		7 kg	5 kg	14 kg	12 kg	25 kg
Reach		700mm	900mm	1100mm	1300mm	1902mm
Joint Ranges	J1, J2, J4, J5, J6	+/- 360°				
	J3	+/- 152°	+/- 158°	+/- 163°	+/- 162°	+/- 166°
Speed	J1, J2	210° /s		130° /s		100° /s
	J3	210° /s		210° /s		130° /s
	J4	225° /s		225° /s		195° /s
	J5	225° /s		225° /s		210° /s
	J6	450° /s		450° /s		225° /s
Maximum Speed		4m/s		4m/s		5.2m/s
Repeatability		+/- 0.03mm		+/- 0.03mm		+/- 0.05mm
Degrees of freedom		6 rotating joints				
I/O Ports	Control Box	Digital In: 16/Digital Out: 16, Analog In: 2 / Analog Out: 2				
	Tool Conn.	Digital In: 3 / Digital Out: 3				
		DO_0(DO-0/AI) / DO_1(DO-1/RS485+) / DO_2(DO-2/RS485)				
I/O Power Supply		24V 2.0A for control box and 24V 1.5A for tool				
IP Classification		IP54 (Robot Arm); IP54 (Control Box)				
Typical Power Consumption		240 watts		400 watts		500 watts
Temperature		The robot can work in a temperature range of 0-50°C				
Cleanroom Class		ISO Class 3				
Power Supply		100-240 VAC, 50-60 Hz				
I/O Interface		2XCOM, 1XHDMI, 3XLAN, 2XUSB2.0, 4XUSB3.0				
Communication		RS232, Ethernet, Modbus TCP/RTU (master & slave), PROFINET (Optional), EtherNET/IP(Optional)				
Programming Environment		TMflow, flowchart based, script based				
Certification		CE, SEMI S2 (Option)				

AI & Robot Vision

AI Function	Classification, Object Detection, Segmentation, Anomaly Detection, AI OCR
Application	Positioning, ID/2D Barcode Reading, OCR, Defect Detection, Measurement, Assembly Check
Positioning Accuracy	2D Positioning: 0.1mm ^{*(1)}
Eye in Hand (Built-in)	Auto-focused color camera with 5M resolution, working distance 100mm~
Eye to Hand (Optional)	Support Maximum 2X GigE 2D cameras or 1X GigE 2D Camera + 1X 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

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