

Data Sheet

Robotics – Collaborative Robots

TM12S

TM AI Cobot S Series



Technical Specification

Model	TM12S
Weight (kg)	33.3
Maximum payload (kg)	12
Reach (mm)	1300
Mounting	Wall, Table, ceiling
Controller weight (kg)	13.5
Typical speed (m/s)	1.3
Maximum Speed (m/s)	4.5
Range: Joint 1	+/- 360°
Range: Joint 2	+/- 360°
Range: Joint 3	+/- 162°
Range: Joint 4	+/- 360°
Range: Joint 5	+/- 360°
Range: Joint 6	+/- 360°
Speed: Joint 1	+/- 130°/s
Speed: Joint 2	+/- 130°/s
Speed: Joint 3	+/- 210°/s
Speed: Joint 4	+/-225°/s
Speed: Joint 5	+/-225°/s
Speed: Joint 6	+/-450°/s
Repeatability (mm)	+/-0.03
Control Box I/O Ports	Digital In: 16 Digital Out: 16 Analogue In: 2 Analogue Out: 2
End arm tool I/O Ports	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; 24V 1.5A for tool
IP Classification	IP65 (Robot Arm); IP54 (Control Box)
Typical Power Consumption (watts)	400

Temperature	0-50°C
Cleanliness	ISO Class 3
Power supply	100-240 VAC, 50-60 Hz or 24 -60 VDC
I/O Interface	COM: 2, HDMI: 1, LAN: 3, USB2.0: 2, USB3.0: 4
Communication	RS-232/RS-422/RS-485, Ethernet, Modbus TCP/RTU (master & slave)
Communication (Optional)	Optionally support specified network card of PROFINET, EtherNet/IP, EtherCAT, CC-Link
Programming Environment	TMflow (flowchart based, Script based), TM Craft (development program)
Integrated Camera Available	5M pixels, colour, 100mm working distance*(1) or without built in vision
Certification	TUV certificated ISO 13849-1, ISO 10218-1, ISO/TS 15066 SGS Certification UL1740, CAN/CSA Z424-14 (R2019) CE, NSF/ANSI 169 (optional), SEMI S2 (optional)
AI Functions (Optional)	Classification, Object detection, Sematic Segmentation, Anomaly detection, Intense segmentation - (External hardware required-AI server required)* (1)
Applications	Positioning, 1D,2D Barcode reading, OCR, Defect Detection, Measurement, Assembly check* (1)
Positioning Accuracy	2D Positioning: 0.1 mm TM Landmark 3D positioning (the working point is located 100/200/300mm away from the landmark): 0.10/ 0.20/ 0.33 mm* (1)
Eye in Hand (Build-in)	Auto-focused Colour camera with 5M resolution, working distance 100mm - infinite* (1)
Eye in Hand (Optional)	Support maximum 2 external cameras either 2 GigE 2D camera or 1 X GigE 2D camera + 1 X 3D Camera* (1)
Force Sensing	(Optional)
Force x-y-z: Range	+/- 300 N
Force x-y-z: Precision	2 % F.S.
Force x-y-z: Accuracy	5.5 % F.S.
Torque x-y-z: Range	+/- 30 Nm
Torque x-y-z: Precision	0.3 % F.S.
Torque x-y-z: Accuracy	5 % F.S.
Note	* (1) The features mentioned are applicable only to the built-in vision cobot, and they also support the addition of an external camera integrated with the TM cobot
HSN Code	84795000
Is this part Make-to-Order?	Yes
Inner Package Quantity	1 No.
Manufacturer Name	Techman Robot Inc.
Brand Name	TM Robot
Country of Origin	Taiwan
Note	For product queries and customised applications, contact your regional office, local dealer, or Janatics Global Solutions, India.