

Data Sheet

Robotics – Collaborative Robots

TM20

TM AI Cobot R Series



Technical Specification

Model	TM20
Weight (kg)	32.8
Maximum payload (kg)	20
Power Source	AC / DC
Power Supply	100 to 240 VAC, 50/60 Hz or 24 - 60 VDC
Controller Weight (kg)	14.1
Reach (mm)	1300
Mounting	Wall, Table, ceiling
Typical Speed (m/s)	1.3
Maximum Speed (m/s)	4
Range: Joint 1	+/- 270°
Range: Joint 2	+/- 180°
Range: Joint 3	+/- 166°
Range: Joint 4	+/- 180°
Range: Joint 5	+/- 180°
Range: Joint 6	+/- 270°
Speed: Joint 1	90°/s
Speed: Joint 2	90°/s
Speed: Joint 3	120°/s
Speed: Joint 4	150°/s
Speed: Joint 5	180°/s
Speed: Joint 6	225°/s
Repeatability (mm)	+/- 0.1
Typical power consumption (watts)	300
IP Classification	IP54 (Robot Arm), IP32 (Control Box)
Cleanliness	ISO Class 3

Operating Temperature & Humidity	0 to 50°C, 85% max. (with no condensation)
Storage Temperature & Humidity	-20 to 60°C, 75% max. (with no condensation)
Operating & Storage Environment	No corrosive gases or exposure to water-soluble cutting oil.
Motor Power Supply	48 VDC
Robot Arm Cable Length	3m or 12m
Cobot controller I/O Ports	Digital In: 16 Digital Out: 16 Analogue In: 2 Analogue Out: 1
End arm tool I/O Ports	Digital In: 4 Digital Out: 4 Analogue In: 1 Analogue Out: 0
I/O Interface	COM: 3, HDMI: 1, LAN: 3, USB2.0: 4, USB3.0: 2
Communication	RS-232, Ethernet, Modbus TCP/RTU (master & slave)
Communication (Optional)	Optionally support specified network card of PROFINET, EtherNet/IP, EtherCAT, CC-Link
I/O Power Supply	24 VDC 2.0 A (control box) / 24 VDC 1.5 A (tool)
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
Certifications	ISO 13849-1, ISP 10218-1, ISO/TS 15066 CE, 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 1X GigE 2D camera + 1 X 3D Camera* (1)
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.