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# TM5

The most intelligent collaborative robot with built-in vision



## SMART

Built-in vision system, Masters in robot vision

## SIMPLE

Revolutionary user interface, Easy to deploy

## SAFE

Complies with ISO 10218-1:2011 & ISO/TS 15066:2016

# SMART

## Built-in vision system

TM Robot is equipped with a built-in vision system, which integrates into both the hardware and software perfectly, whereas traditional add-on vision solutions to robotics are complicated, time consuming and costly to implement.

## Masters in robot vision

Many standard robot vision functions are already built into our system: pattern matching, object localisation, image enhancement, bar code reading, colour recognition, etc. All these functions have been integrated into our remarkably easy-to-use user interface.

# SIMPLE

## Revolutionary user interface. Easy to deploy

You can implement your automation task with our revolutionary intuitive user interface, an all-graphic flow chart based HMI. TM Robot equipped with well designed hand-guiding functions with servo assist. You can lock selected axes to allow adjustment in defined planes and then fine tune the co-ordinates with easy editing of those co-ordinates within the programming package. TM robot is so simple to program and very easily deployed into different applications, remarkably reducing your time-to-production and saving your total cost in automation.

# SAFE

## Safety is our priority

TM Robot complies with ISO 10218-1:2011 & ISO/TS 15066:2016 human-robot co-operation safety requirements for collaborative robots, allowing the robot to be programmed with both speed and force limits. TM Robot is serious about safety in every aspect of the design of the whole robot system, through hardware, software and operational design.

## TM5 The first choice for flexible automation applications

The TM5 collaborative robot features simple programming, innovative integrated vision capabilities together with the latest safety functionality, all leading to rapid deployment in a huge variety of applications. Having vision identification functionality completely integrated within the collaborative robot platform, provides an easy and intuitive way to achieve robot calibration to work piece or tooling, product selection, 1D or 2D barcodes and a host of other vision applications, delivering a true Industry 4.0 solution.

- Reach: **700mm, 900mm**     ▪ Payload: **6kg, 4kg**
- Industrial application: **3C industry, Automobile industry, Food industry, Other**

# Specification

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

Model	TM5-700	TM5-900	TM5M-700	TM5M-900
Weight	22.1Kg	22.6Kg	22.1Kg	22.6Kg
Payload	6kg	4Kg	6kg	4Kg
Reach	700mm	900mm	700mm	900mm
Typical Speed	1.1m/s	1.4m/s	1.1m/s	1.4m/s
Joint ranges	J1	+/- 270°		
	J2,J4,J5	+/- 180°		
	J3	+/- 155°		
	J6	+/- 270°		
Speed	J1~J2	180°/s		
	J3	180°/s		
	J4~J5	225°/s		
	J6	225°/s		
Repeatability	+/- 0.05 mm			
Degrees of freedom	6 rotating joints			
I/O ports		Control box	Tool conn.	
	Digital in	16	3/4 (by Regional Model)	
	Digital out	16	3/4 (by Regional Model)	
	Analog in	2	1	
	Analog out	1	0	
I/O power supply	24V 1.5A for control box and 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			
Power supply	100-240 VAC, 50-60 Hz		DC24V/48V/22~60V (by Reginal Model)	
I/O Interface	3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0, 1×VGA (by Reginal Model)			
Communication	RS232, Ethernet, Modbus TCP/RTU (master & slave)			
Programming Environment	TMflow, flowchart based			
Certification	CE (by Regional Model), SEMI S2 (Option)			
Variation Models	X: without hand eye camera, SEMI: SEMI S2 certified			
Robot Vision				
Eye in Hand (Built in)	1.2M/5M pixels, color camera			
Eye to Hand (Optional)	Support Maximum 2 GigE cameras			