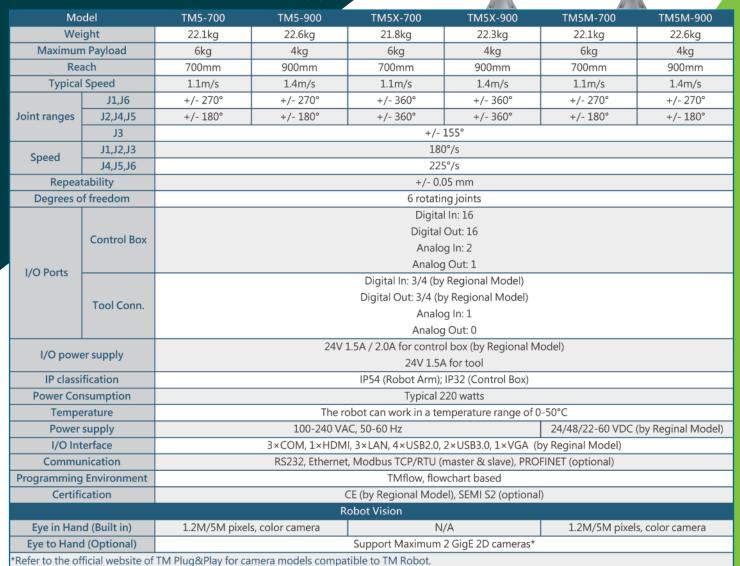# TM5

The most intelligent collaborative robot with built-in vision

TM ROBOT

www.tm-robot.com

Specification

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

Model		TM5-700	TM5-900	TM5X-700	TM5X-900	TM5M-700	TM5M-900
Weight		22.1kg	22.6kg	21.8kg	22.3kg	22.1kg	22.6kg
Maximum Payload		6kg	4kg	6kg	4kg	6kg	4kg
Reach		700mm	900mm	700mm	900mm	700mm	900mm
Typical Speed		1.1m/s	1.4m/s	1.1m/s	1.4m/s	1.1m/s	1.4m/s
Joint ranges	J1,J6	+/- 270°	+/- 270°	+/- 360°	+/- 360°	+/- 270°	+/- 270°
	J2,J4,J5	+/- 180°	+/- 180°	+/- 360°	+/- 360°	+/- 180°	+/- 180°
	J3	+/- 155°					
Speed	J1,J2,J3	180°/s					
	J4,J5,J6	225°/s					
Repeatability		+/- 0.05 mm					
Degrees of freedom		6 rotating joints					
I/O Ports	Control Box	Digital In: 16 Digital Out: 16 Analog In: 2 Analog Out: 1					
	Tool Conn.	Digital In: 3/4 (by Regional Model) Digital Out: 3/4 (by Regional Model) Analog In: 1 Analog Out: 0					
I/O power supply		24V 1.5A / 2.0A for control box (by Regional Model) 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			24/48/22-60 VDC (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), PROFINET (optional)					
Programming Environment		TMflow, flowchart based					
Certification		CE (by Regional Model), SEMI S2 (optional)					
Robot Vision							
Eye in Hand (Built in)		1.2M/5M pixels, color camera		N/A		1.2M/5M pixels, color camera	
Eye to Hand (Optional)		Support Maximum 2 GigE 2D cameras*					

*Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.

TM
R O B O T

TM12 / TM14

High payload with extended reach

Specification

SEMI S2   ISO 10218-1:2011   ISO/TS 15066:2016 $C\epsilon$

Model		TM14	TM12	TM14X	TM12X	TM14M	TM12M
Weight		32.5kg	32.8kg	32.2kg	32.5kg	32.5kg	32.8kg
Maximum Payload		14kg	12kg	14kg	12kg	14kg	12kg
Reach		1100mm	1300mm	1100mm	1300mm	1100mm	1300mm
Typical Speed		1.1m/s	1.3m/s	1.1m/s	1.3m/s	1.1m/s	1.3m/s
Joint ranges	J1,J6	+/- 270°	+/- 270°	+/- 360°	+/- 360°	+/- 270°	+/- 270°
	J2,J4,J5	+/- 180°	+/- 180°	+/- 360°	+/- 360°	+/- 180°	+/- 180°
	J3	+/- 163°	+/- 166°	+/- 163°	+/- 166°	+/- 163°	+/- 166°
Speed	J1,J2	120°/s					
	J3,J6	180°/s					
	J4,J5	150°/s	180°/s	150°/s	180°/s	150°/s	180°/s
Repeatability		+/- 0.1 mm					
Degrees of freedom		6 rotating joints					
I/O Ports	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 and 24V 1.5A for tool					
IP classification		IP54 (Robot Arm); IP32 (Control Box)					
Power Consumption		Typical 300 watts					
Temperature		The robot can work in a temperature range of 0-50°C					
Power supply		100-240 VAC, 50-60 Hz				22-60 VDC	
I/O Interface		3×COM, 1×HDMI, 3×LAN, 4×USB2.0, 2×USB3.0					
Communication		RS232, Ethernet, Modbus TCP/RTU (master & slave), PROFINET (optional)					
Programming Environment		TMflow, flowchart based					
Certification		CE, SEMI S2 (optional)					
Robot Vision							
Eye in Hand (Built in)		1.2M/5M pixels, color camera		N/A		1.2M/5M pixels, color camera	
Eye to Hand (Optional)		Support Maximum 2 GigE 2D cameras*					

*Refer to the official website of TM Plug&Play for camera models compatible to TM Robot.