

Product		TM5S	TM7S	TM12S	TM14S
Weight (With Camera / kg)		23.9	22.9	33.3	33
Weight (Without Camera / kg)		23.6	22.6	33	32.7
Maximum payload (kg)		5	7	12	14
Reach (mm)		900	700	1300	1100
Mounting		Wall, Table, Ceiling			
Joint ranges	J1, J2, J4, J5, J6	±360°			
	J3	±158°	±152°	±162°	±159°
Joint speed	J1, J2	210°/s		130°/s	
	J3			210°/s	
	J4	225°/s			
	J5				
	J6	450°/s			
Average speed (m/s) *		1.4	1.1	1.3	1.1
Repeatability (mm)		±0.03			
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			
I/O Power	Control Box	24 V 2.0 A			
	Tool	24 V 1.5 A			
Ingress Protection		IP54 for Robot Arm, AC control Box, Robot Stick and TM Screen			
Operating Temperature and Humidity		0 to 50°C, 85% max. (with no condensation)			
Motor Power	AC Units	100 to 240 VAC, 50/60 HZ			
	DC Units	24 to 60 VDC			
I/O Interface		2×COM, 1×HDMI, 3×LAN, 2×USB2.0, 4×USB3.0			
Communication		RS232/RS-422/RS-485, Ethernet, Modbus TCP/RTU (master & slave), PROFINET (optional), EtherNet/IP (optional)			
Programming Environment		TMflow (flowchart-based and script-based)			
Certification		ISO Cleanroom Class 3 and SEMI S2 (Optional)			
Robot Vision	Eye in Hand (Built in)	1.2 M / 5 M pixels, color camera (camera models only)			
	Eye to Hand (Optional)	Supports Maximum 2 x GigE 2D cameras			

* Average speed is tested under a performance mode condition.