

TOSHIBA MACHINE SCARA robot series
NEW LITE models THL Series

THL 300

- **Low cost**
Excellent performance at affordable prices.
- **Improved weight capacity and allowable inertia**
Expanded applicability of multi-hand with improved weight capacity and allowable inertia.
- **Energy-efficient**
Up to 20% reduction in required power-supply capacity compared with our previous models. Low-power consumption robots ideal for energy conservation era.

Robot Specifications



Model	THL300	
Type	Horizontal multi-joint	
No. of controlled axes	4	
Arm length	300mm (125mm+175mm)	
Working envelope	Axis 1	±125°
	Axis 2	±145°
	Axis 3 (Z-axis)	0~160mm
	Axis 4 (Z-axis rotation)	±360°
Maximum speed	Axis 1	660°/s
	Axis 2	660°/s
	Axis 3 (Z-axis)	1120mm/s
	Axis 4 (Z-axis rotation)	1500°/s
	Composite	5.1m/s
Cycle time (with 2kg load) *2	0.48s	
Maximum payload mass	5kg	
Allowable moment of inertia	0.05kg·m ²	
	Positioning *3 X-Y	±0.01mm
	repeatability Z (Axis 3)	±0.015mm
	Axis θ (Z-axis rotation)	±0.007°
Hand wiring	8 inputs/8 outputs	
Hand pneumatic joints *4	φ4 ×3 pcs	
Position detection	Absolute	
Robot controller cable	3.5m	
Power capacity	0.7kVA	
Mass	12kg	

*1 : Acceleration/deceleration rates may be limited according to the motion pattern, load mass and amount of offset.

*2 : When the environment temperature is constant 20°C. Positioning repeatability accuracy in one-direction movement. Not absolute positioning accuracy.

*3 : Horizontal 300mm, vertical 25mm, round-trip. Continuous operation is not possible beyond the effective load ratio.

*4 : Pneumatic joints are provided on the base. Please refer to the drawings for the details of the pneumatic joints. Pipes to be are provided by the customers.

Controller Specifications



Model	TSL3000	
No. of controlled axes	4 axes	
Motion modes	PTP, CP(Continuous Path ; Linear, Circular), Short-Cut, Arch Motion	
Storage capacity	Approx. Total: 6400 point + 12800 steps 1 program : 2000 point + 3000 steps	
No. of registrable programs	Maximum 256	
Programming language	SCOL(similar to BASIC)	
Teaching unit (Option)	Teach pendant TP1000 (Cable length 5m, 3-point enable switch)	
External I/O signals	8 inputs / 8 outputs(Plus or minus common selectable)	
Hand control signals	8 inputs / 8 outputs	
External operation signal	Input : cycle operation mode, start, stop, (13 signals) output : Servo ON, emergency stop, etc. (10 signals)	
Serial communication ports	RS232C : 2 ports	
Other functions	Torque control, Interruptive functions, self-diagnosis, I/O control and communications during motion, Coordinate calculations, Built-in PLC, etc.	
Power supply	Single phase AC190V~250V , 50/60Hz(±1Hz)	
Outer Dimensions and Mass	150(W)×256(H)×304(D)[mm] , 6.5kg	
PC Software for Programming Support(Option)	TSPC : Program editor, teaching, remote operation, etc.	
Option	I/O extension, Field-network (CC-Link, Devive-Net, Profibus) *5	

TEACH PENDANT(OPTION)

Controller
TSL3000

*5:CC-Link is a registered trademark of CC-Link Partner Association.
DeviceNet is registered trademark of ODVA.
Profibus is a registered trademark of Profibus User Organization.

