

TOSHIBA MACHINE

TOSHIBA MACHINE'S
SCARA Robots TH Series

TH650A

- HIGH LOAD CAPACITY ·· Maximum 10kg
- HIGH SPEED ·· Cycle time 0.31s
(With 2kg payload)
- POSITIONING REPEATABILITY
·· X, Y $\pm 0.01\text{mm}$, Z $\pm 0.01\text{mm}$, C $\pm 0.004\text{ deg}$
- HIGH RIGIDITY
- BUILT-IN PLC ·· Ready for Touch-Sensitive
Operation panel
- DUCT-LESS DESIGN



Robot specifications

Model	TH650A	
Type	Horizontal Multi-joint	
Number of controlled axis	4	
Arm length	650mm (300mm+350mm)	
Working envelope	Axis 1	$\pm 160^\circ$
	Axis 2	$\pm 143^\circ$
	Axis 3(Z-axis)	200mm(option: 400mm)
	Axis 4(Z-axis rotation)	$\pm 360^\circ$
Maximum speed	Axis 1	$340^\circ/\text{s}$
	Axis 2	$600^\circ/\text{s}$
	Axis 3(Z-axis)	$2050\text{mm}/\text{s}$
	Axis 4(Z-axis rotation)	$1700^\circ/\text{s}$
	Composite	$7.52\text{m}/\text{s}$
Standard cycle time(with 2kg payload)*1	0.31s	
Maximum payload mass*2	10kg	
Allowable moment of inertia at end*2	0.1kgm^2	
Positioning repeatability*3	X-Y(Plane)	$\pm 0.01\text{mm}$
	Z-axis (vertical)	$\pm 0.01\text{mm}$
	Axis 4(Z-axis rotation)	$\pm 0.004^\circ$
Input/output signals for hand	5 inputs / 4 outputs	
Air piping for hand	$\phi 6 \times 4\text{ pcs.}$	
Position detecting system	Absolute system	
Robot-controller cable	5m (Optional length maximum 25m)	
Mass	52kg	

*1:Continuous operation of standard cycle motion pattern is not possible beyond the effective load ratio.

(Horizontal 300mm,vertical 25mm, round-trip, coarse positioning)

*2:Maximum speed rates and acceleration rates are limited depending on motion patterns, payload mass, and offset value.

*3:When the environment temperature is constant.

Controller specifications



Controller
TS3100

Model	TS3100	
No.of axis	No. of simultaneously controlled axes: 8 axes (2 additional axes under development)	
Operation mode	PTP,CP(Linear: Circular),Short-cut,Arch motion	
Storage capacity	Total: 12800 points + 25600 steps 1 program: 2000 points + 3000 steps	
No.of programs	Max.256(247 user files + 9 system files)	
Programming language	SCOL(proprietary,similar to BASIC)	
Teaching unit(option)	Teach pendant TP1000, with 5-meter cable (Program can be written on PC)	
External I/O	32 inputs/32 outputs	
Hand control signals	8 inputs/8 outputs	
External operation signal(exclusive)	Inputs:Program selection, start, stop, reset, etc Outputs:Servo-On status, emergency stop, ready for operation, malfunction alarm, etc	
Serial communication port	RS-232C: 2 ports, Ethernet: 1 port*4	
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 AC200V~240V 50/60Hz 3.5kVA	
Outer dimensions and mass	420W×230H×298D(mm),17kg	
PC software(option)	TSPC:Program editor,Teaching,Remote operation,etc	
Options	I/O extension, I/O cables, Field Network(CC-Link,DeviceNet,Profibus)*4	
External Memory	USB memory stick	

*4:Ethernet is a registered trademark of XEROX Corp. in the U.S.A.
CC-Link is a registered trademark of CC-Link Partner Association.
DeviceNet is a registered trademark of ODVA.
Profibus is a registered trademark of Profibus User Organization.

TEACH PENDANT(OPTION)