

## Mini Me® Bench Top Robot

### Description

Improve productivity, cut manufacturing costs and increase product quality with the Mini Me® articulated robot arm.

The Mini Me® ME100 is quick to install, simple to operate and can be quickly reconfigured to support small to medium production volumes. Aimed at being a low cost alternative to pick and place assembly of light-weight payloads, the ME-100 packs high flexibility and accuracy into a small package. No need for a heavy steel table bolted to the floor, The ME-100 can be installed on most tables or benches already in your facility with a few screws or a couple of small clamps for mounting.

### Teaching The Mini Me - Software Engineer Not Required!

Provided with the ME-100 is a simple “point and click” interface that requires only basic Windows® skills to operate. With this interface, all robot operation sequences and interfaces to other instruments can be setup, saved and operated. If you can use a mouse, you can program this robot.

Advanced Users can program the same functionality using a straightforward Windows DLL provided with each system.

### The Mini Me System Includes:

Mini Me Robot with standard gripper  
Control Electronics & Cables  
Teach Tool

### Additional Programs Available:

Installation  
Training  
Preventive Maintenance  
Depot Level Support



### Features

- ◆ True bench top capability
- ◆ Small footprint, low weight
- ◆ Industrial grade mechanisms
- ◆ 6 Axis including built-in force feedback grippers
- ◆ Simple “point & click” teaching
- ◆ 3D vision option available
- ◆ Fits in fume hoods or laminar flow bench
- ◆ Customization available
- ◆ Product line maintains backwards compatibility of software

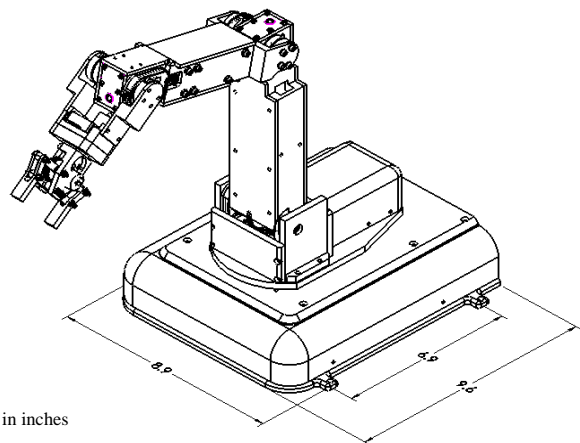
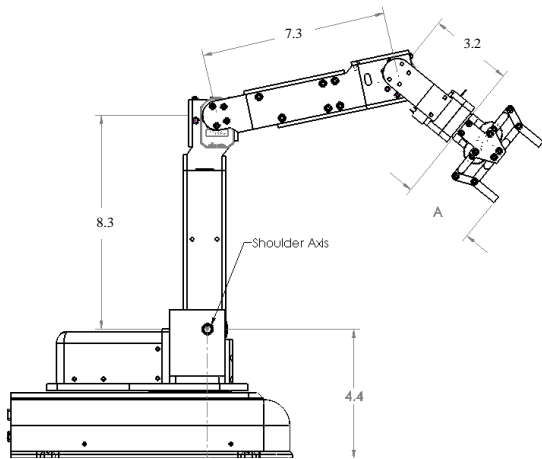


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Base Robotic Arm system comes equipped with standard gripper as shown. 3D vision option is available as well as customizing end effectors, specialized application modifications and smart fixtures. Applications include pick-n-place, load/unload, pick-present object-place and assembly of light weight components, to name a few.

Parameter	Value	Units	Notes
Weight, Robot	15 (6.8)	Lbs (kg)	
Motion time	1.0 - 1.5	Sec	Time to perform a 180 degree motion in the shoulder rotation axis (worst case move).
Power consumption	30	Watts, rms	
Payload	0.5 - 1.0 (0.22-0.45)	Lbs (kg)	Dependent upon gripper configuration and arm positioning.
Accuracy	0.039 (1.0)	Inches (mm)	Measured as repeatable 3D error when moving to a set position from a random starting point.
Repeatability	0.025 (0.6)	Inches (mm)	Measured as repeatable 3D error when moving to a set position from the same starting point.
Arm length at max extension	22 (55.9)	Inches (cm)	
Programming	PC required with USB or RS-232 link. Programming uses simple human readable text based script files. Windows 2000/XP/Vista compatible. PC is not included.		
Operation	May be operated directly by PC link or in stand alone mode without PC.		
Standard Interfaces	RS-232, RS-485		
Optional PLC interfaces	8 discrete wire interface (4 in/4 out), opto-isolated, User programmable via scripting.		
Weight, Electronics Enclosure	15 (6.8)	Lbs (kg)	
Size, Electronics Enclosure	8" w x 10" d x 9" h (20 x 25 x 23 mm)		Electronics connects to arm via a pair of 10' cables to allow locating the drive electronics remotely.



Dimensions are in inches

All values are nominal. Specifications subject to change without notice. Graphs and charts are for reference only.

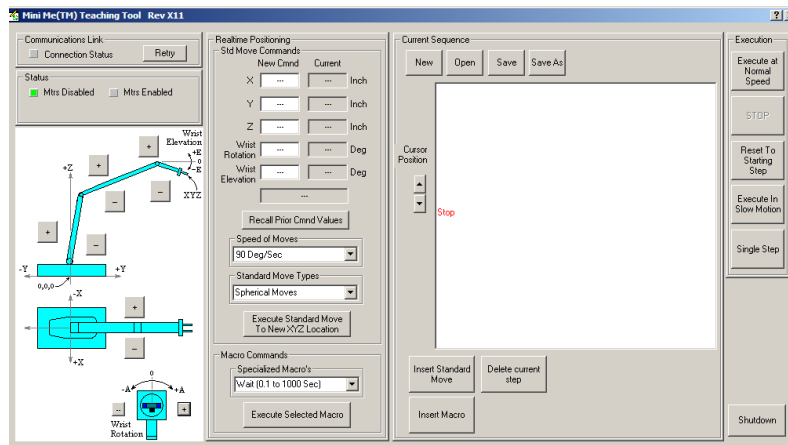


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## Teaching Tool

Every Mini Me comes with software tools to help you teach the sequences needed for your application. The Teaching Tool provides a straightforward interface for making test moves and for creating execution scripts. Almost every thing is performed via a “point and click” with very little typing. This tool creates the underlying code for you while you work in a graphical environment.

As can be seen in the figure below, the Teaching Tool is divided into three basic sections: leftmost are the jog controls, center is XYZ/Macro select controls, and rightmost are the script controls.



The jog section allow the User to incrementally move the arm in real time to any desired position with respect to any individual joint.

The XYZ/Macro pane provides feedback on the current XYZ position of the gripper. It also allows commanding moves to a specific XYZ position and execution of macros (ex open/close gripper).

Lastly, the XYZ/Macro section allows the User to insert a line in the script that corresponds to the last macro executed. This feature allows you to test out various macro moves and then insert the one that performs the desired action with a single button press. This provides a “follow me” type of tool for creating scripts and execution sequences.

The rightmost section displays the current script. Naturally you can save or recall scripts. All scripts are created by the Teaching Tool. The User does not need to worry about syntax or format as the script writes that for you . Scripts are displayed in plain English and allow looping, control of external devices, time delays, and generation of alert sounds (which allow the User to alert operators that a specific motion or sequence is about to be executed).

Windows DLL are provided to allow advanced Users the same functionality as the Teaching Tool macros. You can write your own scripts or execute calls to each command from state machines of your own. Control functions like command/response, positioning status and fault status queries are accessed via DLL's.

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