

Triple Axis Ultraprecise Micromanipulators

uM Series Zero Drift Solid State Drive with Closed Loop Controls



Extreme stability and accuracy miniaturized

Triple and quad axis manipulators:
20 mm range with 5 nm resolution

Proprietary piezo drives provide
extreme stability

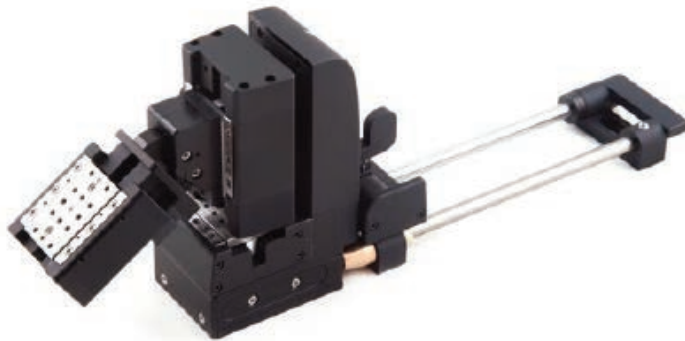
One controller - control up to 65536
manipulators in real-time synchrony

Ethernet PC control interface with
free open source software

“A good micromanipulator is solidly constructed and compact, so that the moment arm from the tip of the electrode, through the body of the manipulator, to the cell in the chamber, is as short as possible. Ideally, the micromanipulator should be attached close to the chamber; preferably bolted directly to the microscope stage.”

The Axon Guide: Electrophysiology and Biophysics Laboratory Techniques. 3rd Edition (2012).

Three Axis Ultraprecise Micromanipulators
uM Series Zero Drift Solid State Drive with Closed Loop Controls



Micromanipulator (uMp-3 | 4)

Positioning range:	20x20x20 mm ³ (XYZ)
Resolution / repeatability:	5 nm / 100 nm
Max. speed:	5 mm/s
Load:	0 - 150 g
True approach angle:	0 - 45 90* degrees
4th axis:	virtual physical (optional)
Table mounting:	Bolt
Electrode exchange**:	Slide + flip rotate
Dimensions:	39x93x101 mm

*Requires 4th physical axis

**Handedness, mounting and electrode exchange options are customer exchangeable

Touch Screen Controller (uM-TSC)

- Intuitive user interface with touch screen display
- Easy speed adjustment and manipulator selection
- Programmable memory positions
- Two RWs per controller; max. 65536 manipulators*
- Millisecond level control synchrony between manipulators
- Fast computer interface through Ethernet
- Open source software development kit

Batteries: Li-ion (rechargeable), full working day usage time

AC charger: 90-264 V, 50-60 Hz

Dimensions: 120x95x123 mm

*Connecting more than two manipulators requires hub

Rotary Wheel remote interface (uM-RW3 | 4)

- Four knob version available for 4th virtual or physical axis
- Quick buttons for speed and manipulator selections
- USB connector to Touch Screen Controller

Dimensions: 170x53x170 mm

