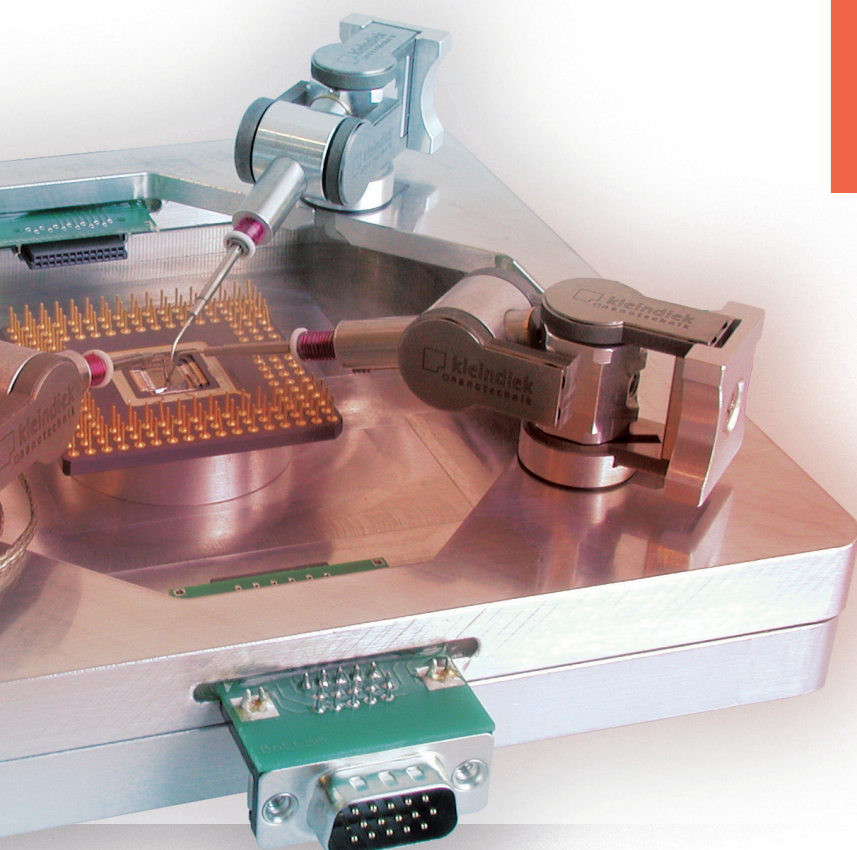
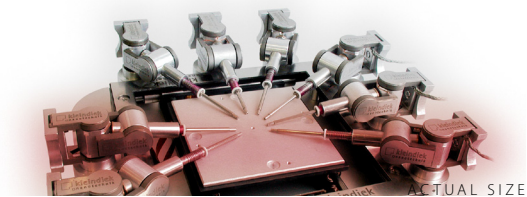


# MM3A-LMP Micromanipulator

The MM3A-LMP micromanipulator is an economical and flexible alternative to conventional semiconductor probing instruments. Electrical measurements require probes to have low drift, high precision, a large working range and also to be insensitive to environmental conditions. The MM3A-LMP outshines conventional probes in all these aspects. It is designed for measurements on 45 nm, 65 nm, 90 nm and larger technology and it offers unsurpassed stability, extreme precision and the flexibility to allow you to create your own prober station.



## APPLICATIONS

Electrical probing (FA)

Nanomanipulation

Ex-situ lift-out

Materials science

## PLUG-IN TOOLS

Micro four-point probe

Microgripper

Rotational tip

Low current measurement kit

Safe tip approach

Force measurement system

# MM3A-LMP Micromanipulator

## More compact and more flexible

- Small and practical
- Plug-and-play system with modular components
- Interfacing solutions for all light microscopes and prober stations
- Fast setup and removal
- Effortless work with multiple manipulators
- Useful plug-in tools

## Clearer and simpler

- Result-oriented operation which leads to increased throughput
- Intuitive control interfaces and software
- User-friendly and easy to learn
- Quick and easy probe tip exchange
- Compact, stand-alone electronics
- Reduced interference due to pioneering cabling technology

## More robust and more stable

- Compact construction delivers higher resonance frequencies
- Excellent stability
- Low drift (1 nm/min)
- Reliable operation (one year endurance test)
- Virtually unsusceptible to vibrations
- Fast pre-positioning by hand

## Faster and more precise

- No backlash or reversal play
- Sub-nanometer resolution (0.25 nm)
- Extensive working range (100 cm<sup>3</sup>)
- No "blind axis" like with cartesian systems
- Coarse and fine displacement in one drive
- High operating velocity (up to 10 mm/sec)

## Technical specifications

- Length 62.1 mm
- Width 20.4 mm
- Height 25.4 mm
- Weight 45 g
- Operating range AB 240°  
Operating range C 12 mm
- Speed AB up to 10 mm/s  
Speed C up to 2 mm/s
- Resolution A 10<sup>-7</sup> rad (5 nm)  
Resolution B 10<sup>-7</sup> rad (3.5 nm)  
Resolution C < 0.5 nm
- Holding force 1 N
- Holding torque 3 to 4 Nmm
- Lift Y 5 g
- Probing current range 10 nA to 100 mA
- Maximum probing voltage 100 V
- Probing signal resistance 7.0 Ω
- Temperature range 273 K to 353 K
- Lowest pressure Not vacuum compatible
- Mounting Magnetic
- Material Stainless steel, aluminium

A = LEFT/RIGHT  
B = UP/DOWN  
C = IN/OUT

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