

Photonic & Fiber Alignment Engines

NANOSCALE ACCURACY, MILLISECOND RESPONSIVENESS,
ULTRA-FAST GLOBAL OPTIMIZATION, REAL-TIME TRACKING, 3 TO 18 OR MORE AXES



All-in-One Host Software

Comprehensive, Cross-Platform Rapid Application Development Tool-Kits

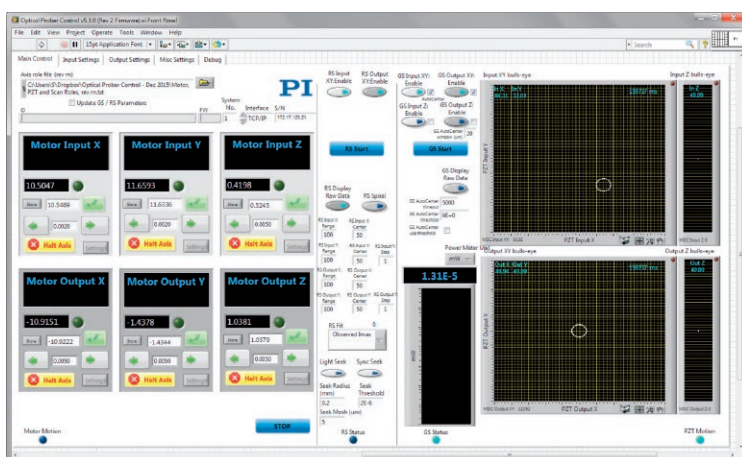
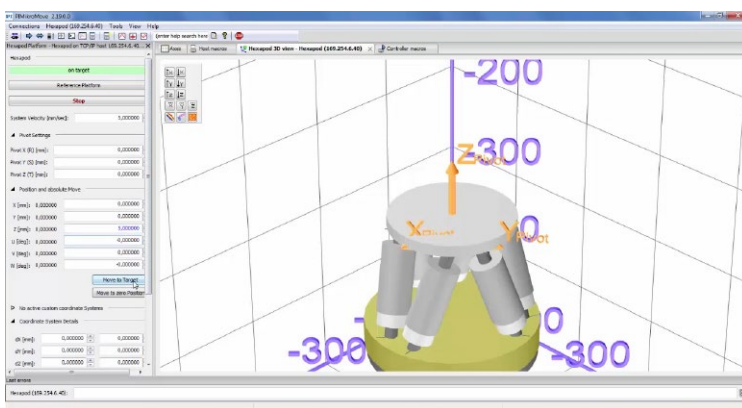
Software emulation allows application programs to be developed and pretested without having all components on site. Simulation tools also avoid collisions e.g., to prevent the moving platform from approaching positions where the platform or the mounted load would collide with the surroundings. The free choice of the pivot point and coordinate systems for definition of work- and tool-space can be done by a simple software command to enable scanning in inclined planes. Mobile apps allow wireless monitoring and control.

User-friendly application development libraries and sample applications for easy, fast, and flexible implementation

- Libraries for C++, C#, VB.net, etc.
- Python
- LabVIEW
- MatLab

Available for Windows, Linux and OS X deployment. Universal Command Set (GCS) simplifies commissioning and programming. Supports PI controllers' built-in, ultrafast, and vibration-free scan/align algorithms.

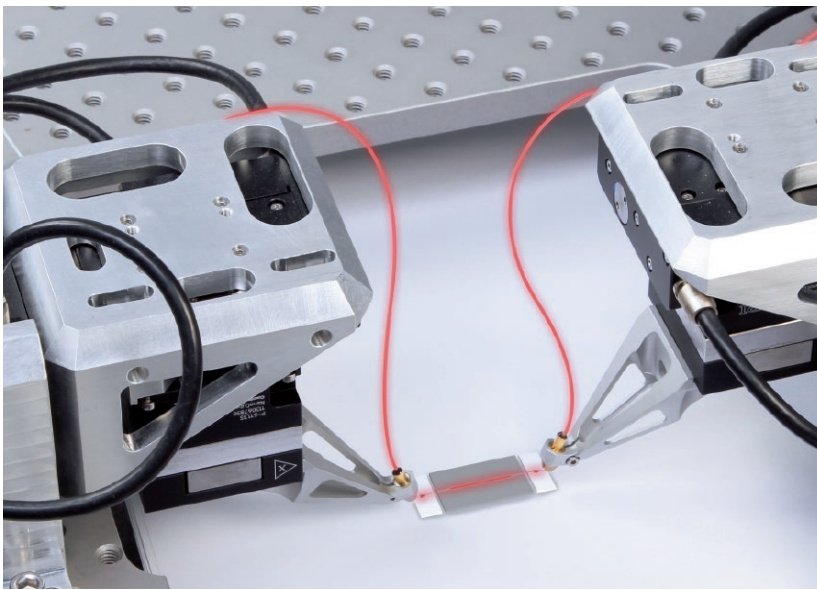
PIMikroMove® GUI for Windows provides quick access to motion and scanning across all PI products regardless of drive technology, controller type, number of axes etc. Includes software-based scan and align routines which work with all PI motion controllers.



An example real-time system-control GUI built on PI's software libraries

Real-Time Fiber Alignment

Double-Sided, Real-Time Fiber Alignment for Planar Test, Packaging, Characterization



- Fast areal scans for characterization and localization, typ. < 0.5 sec
- Simultaneous, global optimization across multiple couplings and degrees of freedom (e.g., XY + Z on both sides of a waveguide in one shot, typ. < 1-2 sec)
- Digital control for throughput and device safety
- Broad supporting software toolkit for rapid development on virtually any platform

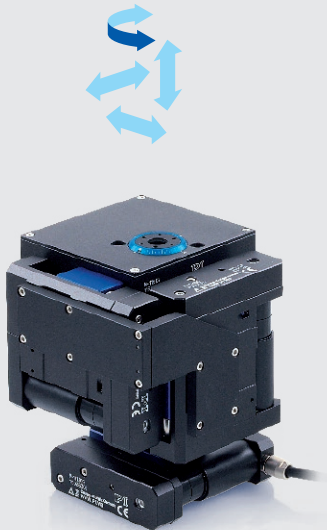
Ultra-precision parallel-kinematic hexapod microrobots offer significant advantages vs. conventional multi-axis stacks:

- Six degrees of freedom
- Cast the rotational centerpoint anywhere (e.g., a focal point, or a waveguide axis)
- User-definable coordinate systems
- Transverse and angular alignment optimization
- No moving cables

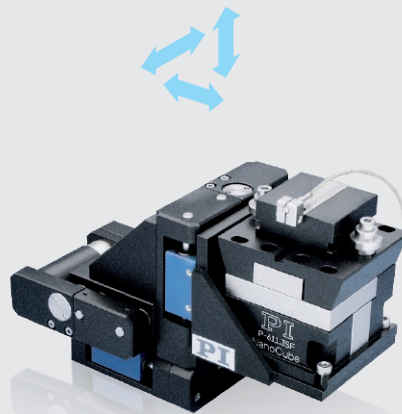


Broad, Versatile Portfolio

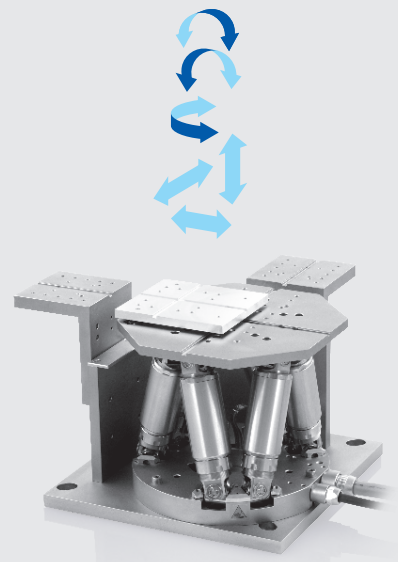
Comprehensive Software Toolkits for Rapid Application Development Across Windows, Linux & OS X



F-131: 3 linear axes, 50 nm step size, to 25 mm travel per axis, plus 1 rotary axis optional.



F-131: Modular, compact coarse/fine XYZ alignment stack. High-speed, piezo-based scanning and alignment algorithms. Control via F-712 with integrated firmware real-time alignment algorithms, or via modular PI controllers with software alignment modules.



Alignment hexapods:
Broad family of solutions

H-811: 6-DOF, automated alignment and scanning, 10 nm resolution, 5 kg load capability, 34 mm / 42° travel.



Higher
resolution

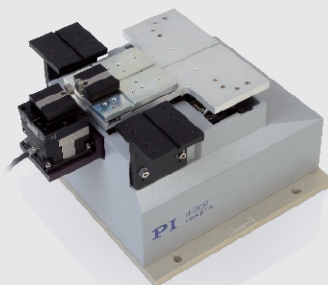


More degrees
of freedom



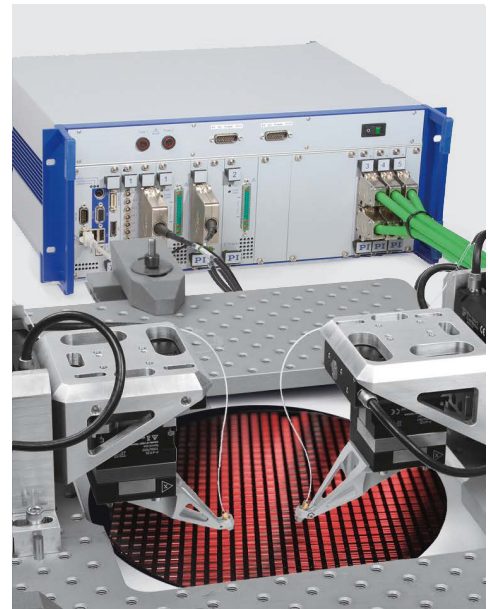
H-206: 6-DOF, 0.1 μm / 0.1 mdeg resolution, built-in alignment algorithms. One- or two-sided alignment. Long travel (up to 15 mm / 13 degrees).

Higher
resolution



Built-in firmware alignment and deep, cross-platform software development toolkit.
One motion controller solution for up to two additional axes or piezo-based 3-axis scanning system for 2 nm resolution and multi-channel global optimization/tracking.

Faster
throughput



F-712: FAB-proven, ultrafast N- and NxM-axis alignment for multiple interacting couplings (as in multi-channel SiP devices). Real-time simultaneous optimization and tracking is built in. Integrated coarse/fine control; 2 nm resolution.

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