

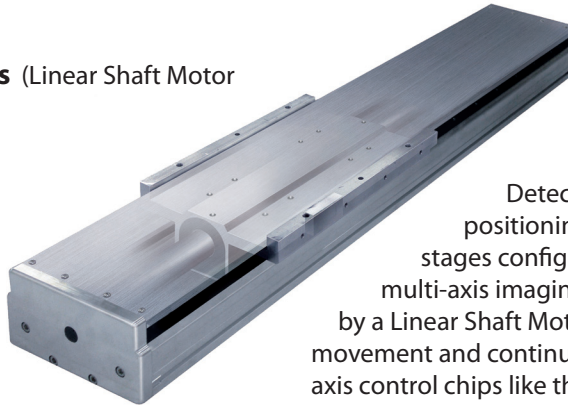
NIPPON PULSE FOR SEMICONDUCTOR MANUFACTURING

Nippon Pulse offers a variety of motion control products perfect for semiconductor manufacturing, in both front end and back. We offer standard and custom Linear Shaft Motor servomotors and linear stages, stepper motors that can be run as servo motors, and precision motion controllers in a variety of configurations, to meet your specific requirements and customization needs.

WAFER FABRICATION

Wafer Handling Robotics (Linear Shaft Motor + Linear Hybrid Steppers)

Linear Shaft Motors' precise, smooth movement and low backlash make them ideal for fab robotics. The motors don't require maintenance due to their non-contact construction, keeping the application operating with no downtime. Linear hybrid steppers provide superior response and high force characteristics in a compact package.



Flat Panel Display Inspection (SLP Stages + PCL Controller Chips)

Detect defects and obtain precise positioning coordinates with our SLP stages configured into an X-Y structure for multi-axis imaging. Each SLP stage is driven by a Linear Shaft Motor for quick, ultra-precise movement and continuous focus in scanning. Multi-axis control chips like the PCL6100 series assist with inspection, while reducing the burden on the camera system's processor and external signals.

ASSEMBLY & TESTING

Die Bonding (PMX Box Controller)

PMX-4EX four-axis motion controller allows for precise control and smooth movement when dispensing epoxy or solder, with linear, circular and arc interpolation capabilities.



Wafer Lithography (Linear Shaft Motor + Hybrid Steppers)

Linear Shaft Motor provides smooth movement with minimal backlash upon stopping and changing direction for precision and repeatability, perfect for the precise work of etching labels onto die via lithography. Our rotary hybrid steppers are ideal for positioning, and provide high torque in a small package.

Chip Placement / Pick and Place (Linear Shaft Motor + Tin-Can Steppers + Commander Core)

The Linear Shaft Motor allows for quick, high-precision movement, while our tin-can stepper motors provide lightweight rotational movement, working together



seamlessly for pick-and-place requirements. Commander motion controller gets your application to market quickly.

Wafer Scanning (Linear Shaft Motor + SCR Linear Stages)

Customized nanopositioning linear stages are ideal for scanning because of their configurability for multi-axis movement. Each Nippon Pulse linear stage comes with an integrated Linear Shaft Motor, whose capabilities meet the critical requirements of scanning acoustic microscopy and tomography, including extreme accuracy and speed for on-the-fly adjustments.

NPM

Nippon Pulse

Your Partner in Motion Control

COMMANDER CORE FOR SEMICONDUCTOR MANUFACTURING

Nippon Pulse's COMMANDER core is a powerful hybrid IC that bridges the gap between design-from-scratch and off-the-shelf motion controllers. COMMANDER core is secure, flexible and easy to use, and is built around Nippon Pulse's PCL6000-series ASIC, "The Most Advanced Controller Chips in the World."



Get to Market Faster

Your system design can be quickly proven out with the Commander Development Kit, which includes a development board and core module. The OEM can incorporate the core module itself into their final custom PCB design. Nippon Pulse can also custom design PCB boards to your application specifications.

time and support. Commander is easily scalable from prototype to production with no changes to the software.

Ready-Built

Commander is a ready-built motion controller that eliminates the need to source components from additional suppliers, so it is free from dependency on other components' lifespans (and the huge revisions to products in the field such lifespans usually entail). Commander is ideal for applications such as textile machines, CNC milling, welding equipment, small robotics, and manufacturing equipment.

Easily Scalable

For OEMs, the Commander core is a cost-effective tool for ramping up to higher-volume production with minimal design

LINEAR SHAFT MOTORS

Our brushless servo motor is incredibly precise, simply designed, and withstands harsh environments without wear and tear.

Stage Integration

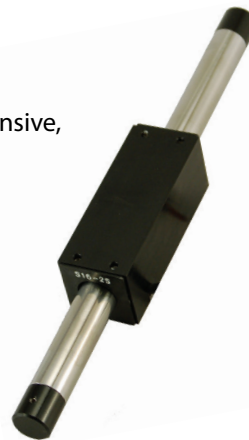
The Linear Shaft Motor servomotor can be integrated into a variety of systems, including Nippon Pulse's SCR and SLP linear stages, to reduce downtime and the need for motor replacement.

Accuracy

The Linear Shaft Motor's design is highly responsive, with high stiffness and low speed variation for achieving high dimensional and geometric accuracy. The motor's design eliminates the need to compensate for inaccuracies, such as backlash, pitch error or thermal expansion.

Settling Time

The LSM's low settling time and minimal position deflection allows for quick changes in motion with minimal positional overshoot or tool wandering.



ABOUT NIPPON PULSE

Since 1952, Nippon Pulse has built state-of-the-art motion control products. We provide solutions for original equipment manufacturers that include products that can accomplish common semiconductor manufacturing tasks.

Over the past 60 years, Nippon Pulse has been established as a leader in stepper motor, driver and controller technology. We want to impress you with our products and service, not just satisfy your requirements. We do this through complete system engineering expertise, individual attention and support, superior prototyping, and cutting-edge technology.

Nippon Pulse America, Inc. is a wholly owned subsidiary of Tokyo-based Nippon Pulse Motor Co. Ltd., and serves customers in North, Central and South America, and Europe.

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