

# Motion Controller

## VL-MC Series-400

High-precision multi-axis motion controller, designed for precision control

- Multi-axis high-precision linkage, suitable for complex motion scenarios
- Strong scalability and multi-scenario adaptation capabilities



One Platform Many Possibilities

Contact Us [sales@venuslabtech.com](mailto:sales@venuslabtech.com)

Get a Quote



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## Overview

### "Four-axis All-round Commander" —VenusLab-MC Series-400

The VL-MC Series-400 is a 4-axis motion controller that turns your PC into a precision motion hub via one USB cable. One card drives four steppers or servos at up to 2 MHz, handles linear/circular interpolation, and stores 1,000 move segments for stand-alone operation. Built-in hardware compensation for home, limit, backlash and encoder feedback secures  $\pm 1 \mu\text{m}$  repeatability. Switch instantly between pulse, mm,  $\mu\text{m}$  or degree units, call the Windows API or send 16-byte hex commands—10 lines of code launch a full contour. From wafer inspection to laser micro-machining and optical alignment, MC-400 delivers high-speed, high-accuracy motion in a matchbox-sized package.

### Features of VenusLab-MC Series-400

- 4-axis stepper/servo control
- Panel + joystick + USB command triple interface
- On-the-fly param set: pulse, speed, gap, I/O
- 8-out/4-in programmable I/O
- LCD status display
- 4-axis simultaneous move & XY arc interpolation
- 1 000-segment buffer with dwell-time
- Windows API & flash save for OEM integration

## Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

### 1. Warranty Policy

#### Quality First, Worry-Free Operation

**Warranty Period:** We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

**Coverage:** We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

**Rapid Response:** Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

### 2. Technical Support

#### Expert Team, Full-Process Guidance

**Technical Consultation:** Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

**Scheduled Maintenance:** We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

**Training Services:** We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

### 3. Logistics & Delivery

#### Precision Packaging, Global Reach

**Professional Packaging:** Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

**Logistics Partners:** We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

**Shipping Insurance:** All shipments are fully insured to eliminate logistics risks.

### 4. Compliance & Certification


#### Strict Standards, Total Compliance

**Quality Certification:** Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE** and **RoHS**.

**Export Compliance:** "Committed to environmental responsibility, all our products comply with **RoHS 2.0** and **REACH** standards, ensuring safety and global compliance."

## Explore Series

Model	Interpolation	Size	Pulse output frequency	Handwheel Interface
VL400-100B	Single-axis point position	-	2 MHz	-
VL400-200B	XY straight line + arc	-	2 MHz / axis	-
VL400-300B	XYZ straight line + 2-D arc	-	2 MHz / axis	-
VL400-400B	4-axis linear + XY arc + 3-D spiral (optional)	-	2 MHz / axis	-
VL400-101B	-	140 × 80 × 30 mm (including the handwheel port)	-	Incremental 100 ppr, real-time coordinate echo
VL400-201B	-	140 × 80 × 30 mm	-	2-axis electronic switching, real-time coordinate refresh
VL400-301B	XYZ straight line + 2-D arc	-	-	3-axis button switching, micrometer-level fine adjustment
VL400-401B	4-axis linear + XY arc + 3-D spiral (optional)	-	-	4-axis electronic switching, one-button centering/resetting

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

Let us help you move science forward—faster and smarter.

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