

On-line Spectrometers

RamanOnline IoT Spectrometer

Molecular-Level Process Arbiter Under Extreme Operating Conditions

- Analytical Reliability Under Extreme Environments
- Real-Time Multi-Dimensional Process Analysis Capability
- Full-Process Compliance and Digital Integration
- Flexible Adaptation to Multi-Scenario Applications



One Platform Many Possibilities

Contact Us sales@venuslabtech.com

Get a Quote



Get Expert Advice
+658099 5547 (WhatsApp)



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www.venuslabtech.com

Overview

Introduction:

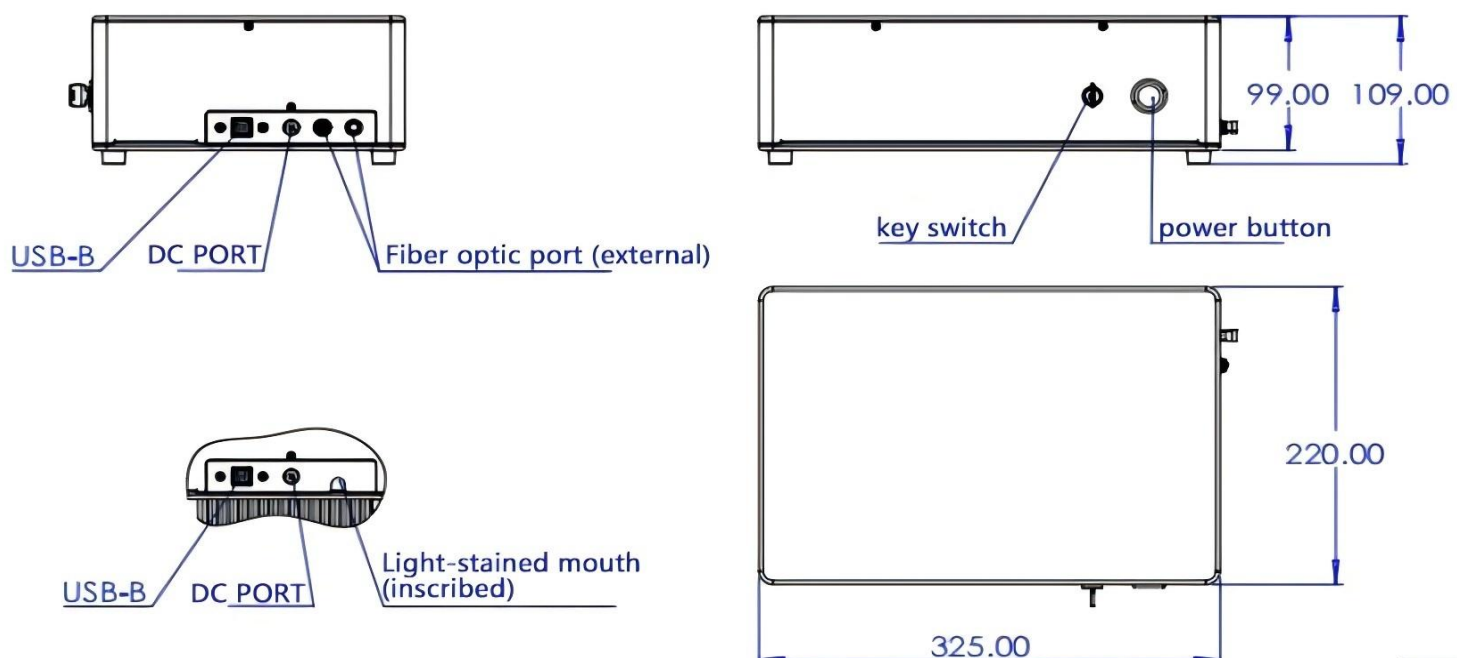
It is an online molecular spectroscopy analysis equipment designed specifically for extreme industrial environments. Its core function is to capture the molecular vibration fingerprint spectra of substances in real time through the Raman scattering effect, thereby realizing accurate monitoring of chemical components, structural changes and reaction progress during the production process.

Its technical characteristics can be summarized as "extreme environment adaptability + real-time molecular-level insight"

Features:

- Excellent performance: It has advantages such as high resolution and high sensitivity.
- Long-distance testing: It can be equipped with composite optical cables with a length of 1 - 100m to adapt to complex on-site detection scenarios.
- Powerful software: It is compatible with multiple operating systems and can perform data collection, analysis, comparison, and other tasks.
- Multi-channel detection: The Raman analyzer can support single-channel and multi-channel analysis and detection.
- High and low temperature resistance: The probe is suitable for $-60\text{ }^{\circ}\text{C} \sim +200\text{ }^{\circ}\text{C}$ and is applicable to harsh working conditions of low and high temperatures.
- High pressure resistance: The probe can withstand a high pressure of 15 MPa and can monitor high-pressure reactions.
- Corrosion resistance: The probe is suitable for highly corrosive systems such as sulfuric acid, hydrochloric acid, nitric acid, and hydrogen fluoride.

Dimensions and Interface Description:



Specifications

Common Parameter Specification Table

Parameter	Specification
Laser Power	500mW
Spectral Resolution	~8cm ⁻¹ @ 25um
Integration Time	8ms - 30min
Detector Pixels	1024x58 pixels (customizable)
Detector Cooling	-25°C (minimum)
Laser Peak Wavelength	c ± 0.5nm
Spectral Shift Error	3cm ⁻¹
Spectral Shift Repeatability	1cm ⁻¹
Laser Linewidth	0.08nm
Laser Power Stability	3% P-P (@2hrs)
Communication Interface	USB
Power Supply	5V 10A
Operating Temperature	0 - 40°C
Operating Humidity	5 - 80%

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	VLRO-785
Spectrometer Input Interface	SMA905
Laser Output Interface	FC/PC
Dimensions	325 × 220 × 109 mm
Excitation Wavelength	785nm

 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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