Leading Spectroscopy Company

RIMS: Modular Raman Spectrometer with Imaging (3 Channel)

Our Modular Raman Spectrometer with Imaging RIMS Series developed by the **"RI Instruments & Innovation India"** which applies in the field of **Medical Sciences, Material Science, Nano Science, Basic Sciences, Food Safety, Environmental Sciences, Biological Science, Forensic Science and more**.

Software & Hardware Features

Instrument Control & Data Collection parameters are user-definable, such as exposure time, dark correction, base line correction, signal averaging, spectral smoothing, automatically saved spectra. Graphics could also be saved in .txt, .bmp, format and could be opened in any Third-Party Software i.e. Origin, Excel and other data processing software.

In one modular setup user can perform Raman, Raman Imaging, Fluorescence, Absorbance, Transmittance, Reflection, Irradiance, CRI and more.

Standard Models

Model No.	Wavelength Range
RIMS-S	Channel 1: 200- 4500 cm-1 Channel 2: 200- 4500 cm-1 Channel 3: 200- 1100 nm
RIMS-M	Channel 1: 120- 4500 cm-1 Channel 2: 120- 4500 cm-1 Channel 3: 200- 1100 nm
RIMS-C	Customized

Contact Us:
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Technical Specifications

Design	**:**	Czerny Turner
Detector	:	Linear array
Pixels	:	Linear Array CCD 3648 Pixel
Filter	:	Order Sorting Filter
Slit	:	Continuous Variable 0- 200/400 µm
Integration Time	:	1ms – 60 secs
A/D Resolution	:	16 Bit
Stray light:	:	<0.05% at 600 nm; <0.10% at 435 nm
Power Consumption	:	100mA @ 5V from USB interface
Trigger Modes	:	3 modes – Optional
Operating System	:	Windows 10 /8 / 7 (32 & 64 Bit)
Software	:	RI Spectra, With Database Search Option & Manual Shift Calibration, Measurement – Raman, Absorption, Transmission, Reflection, Fluorescence, Irradiance and Color Measurement (CRI)
Computer Interfaces	:	USB 2.0
Laser Stability	:	1%
Laser Power	:	200 mW (Standard), 300mW – 500mW (Optional)
Laser Mechanism	:	Tunable
Light Source	:	190-400 nm (deep ultraviolet Deuterium bulb); 360-2500 nm (halogen bulb)
Bulb Power	:	30 W (deuterium lamp); 20 W (halogen lamp); high power (tungsten halogen lamp)
Typical output power with 600 um UV fiber	:	200 µwatt (deuterium bulb), 625 µW (Halogen Bulb)
Reflection Standard	:	PTFE Material, Reflectivity 250-1500 nm, > 98%; 250-2200 nm, > 95%
Sample Holder	:	Raman, Absorption, Transmission, Reflection of powder/liquid/thin film samples
Fluorescence Measurement	:	LED Light Source (Wavelength depending upon application) (Optional)

Channel 1

Spectral range	:	120/200- 4500 cm^{-1}
Focal Length	:	250 mm
TEC Cooled	:	-35 ^{0}C (Standard) , -40 ^{0}C (Optional)
Coupling	:	Direct Coupled air free optics
Optical Resolution	:	2-4 cm-1

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Signal-to-noise ratio		12000:1
Laser Wavelength	:	532 nm
Objective Lens	:	10x
Coupling	:	Optics
Edge Filter	:	Long Wave Pass Filter
Sample Stage	:	Vertical for Holding Powder Sample (Standard) Horizontal for holding Liquid Sample- Optional
Channel 2		
Spectral range	:	120/200- 4500 cm^{-1}
Focal Length	:	200 mm
TEC Cooled	:	-40 ^{0}C (Standard) , -45 ^{0}C (Optional)
Coupling	:	0.39 NA, 600 µm Core SMA Connectors Multimode
Optical Resolution	:	2-5 cm^{-1}
Signal-to-noise ratio	:	12000:1
Laser Wavelength	:	785 nm
Excitation fiber	:	100 ums optical fiber (Standard)
Collection Fiber	:	200 ums optical fiber (Standard) and 7 cores fiber :200 um with the 1 core of 600um Round to Linear optical fiber (Optional)
Laser line blocking	:	OD 6
Objective Lens	:	4x, 10x, 40x
Digital camera	:	5 MP
Focusing	:	Coaxial focusing control with ball bearing guide way & large knobs. Pre focusing/ auto focusing lock & tension adjustment ring.
Illumination	:	Built-in illumination system with 6V-20W Halogen or 3W LED
Condenser	:	Abbe condenser N.A. 1.25 having aspherical lens, adjustable iris diaphragm.
Multimode	:	Easy adjustment switch between Camera Mode and Spectrometer Mode
Channel 3		
Spectral range	:	200 – 1100 nm
Focal Length	:	110 mm
Coupling	:	0.24 NA, 600 µm Core SMA Connectors Multimode
Optical Resolution	:	0.5 nm @ 10 µm Slit Size
Signal-to-Noise ratio	:	2000:1

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BALANCED DEUTERIUM HALOGEN (RIDH2000)

UV to near infrared high-quality long-life research wide band light source.

Our Balanced Deuterium Halogen (RIDH2000) composite light source for laboratory applications integrates the continuous broadband deuterium and tungsten halogen lamp spectrum in one channel. The integrated spectrum provides continuous output from 190 nm to 2500 nm.

The deuterium lamp emits a continuous spectrum of light ranging from 190-400 nm in the UV range to 400-800 nm in visible light, making the deuterium lamp a highly accurate source of analytical instrumentation, such as for liquid chromatography.

Tungsten halogen light bulbs are the principle of light-emitting principle is the use of objects and thermal radiation theory to achieve tungsten halogen lamp is to conduct sufficient current filament, the filament heat incandescent state, it will shine. The tungsten halogen lamp bulb usually has a wavelength in the range of 360 nm to 2000 nm. The life of a tungsten halogen bulb is related to its operating temperature. The higher the color temperature, the shorter the life

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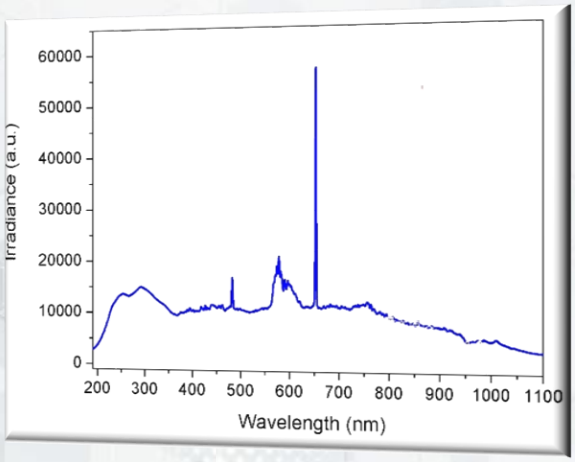
Size	150 mm x 119 mm x 200 mm
Weight	3.5 kg
Bulb Power	30 W (deuterium lamp); 20 W (halogen lamp); high power (tungsten halogen lamp)
Source Lifetime	2000 hours
Typical output power with 600µm UV fiber	200 µW (deuterium bulb) 625 µW (tungsten bulb)
Wavelength range	180/190-400 nm (deep UV deuterium lamp); 360-2500 nm (standard tungsten halogen bulb)
Warm up time	20 minutes
Voltage Drift	< 0.01 % per hour
Voltage Stability	< 5x10^-6 peak (0.1-10.0 Hz)
Color Temperature	3000 K (Halogen)
Humidity range	5 - 95%
Power consumption	~ 78 VA
Power requirements	85-264 V 50/60 Hz



RIDH2000 Light Source Features

- Experimental high stability, high quality deuterium lamp and tungsten halogen lamp.
- Efficient cooling system.
- Provide 190-2500 nm continuous spectral radiation continuous output.
- High power output.
- SMA905 standard interface output.
- Deuterium and tungsten halogen lamps can be turned on separately.
- Long life, high stability.
- Suitable for UV spectrometry

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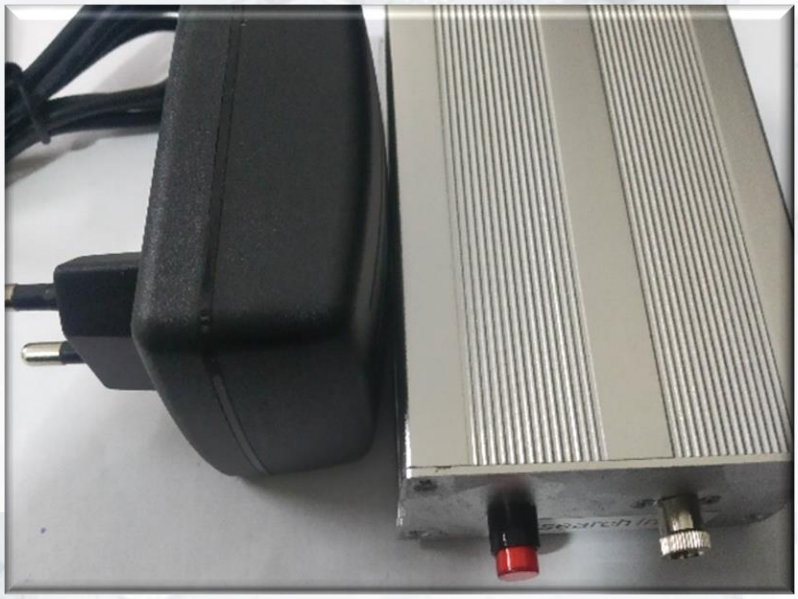
LED Light Source

Research India RIL Series LED light source has various specifications from ultraviolet to near infrared. Both are SMA905 interface outputs, and their coupling efficiency is high.

The optical power of the fiber-coupled output is about 1~2mw with core diameter ≥ 600um, numerical aperture 0.22NA.

LED light source wavelength conventional products are: 265 ~ 880 nm various specifications



Product Performance

- SMA905 interface
- High coupling efficiency
- LED light-emitting chip adopts imported lamp beads, its performance is stable, and it will not drift and float for a long time.
- Lifetime: 100,000 hours
- Emits a cold light source, which has a small heat dissipation, a small volume, and is easy to carry

Application Range

Widely used in high-resolution optics, phosphor reflection, medical applications, photolysis media reactions, UV adhesive curing, special lighting, etc.

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LED Specifications

Model No.	Centre Wavelength	Half Width	Optical Output Power	Connector
RIL270	270nm	5 nm	1.5mW	SMA/FC
RIL310	310nm	6nm	1.5mW	SMA/FC
RIL370	370nm	8nm	2-5mW	SMA/FC
RIL395	395nm	9nm	2-5mW	SMA/FC
RIL405	405nm	9nm	2-5mW	SMA/FC
RIL425	425nm	14nm	2-5mW	SMA/FC
RIL460	460nm	15nm	2-5mW	SMA/FC
RIL485	485nm	25nm	2-5mW	SMA/FC
RIL495	495nm	21nm	2-5mW	SMA/FC
RIL525	525nm	29nm	2-5mW	SMA/FC
RIL545	545nm	34nm	2-5mW	SMA/FC
RIL605	605nm	16nm	2-5mW	SMA/FC
RIL665	665nm	12nm	2-5mW	SMA/FC
RIL800	800nm	17nm	2-5mW	SMA/FC
RIL880	880nm	15nm	2-5mW	SMA/FC
RI White LED	--	--	2-5mW	SMA/FC.

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