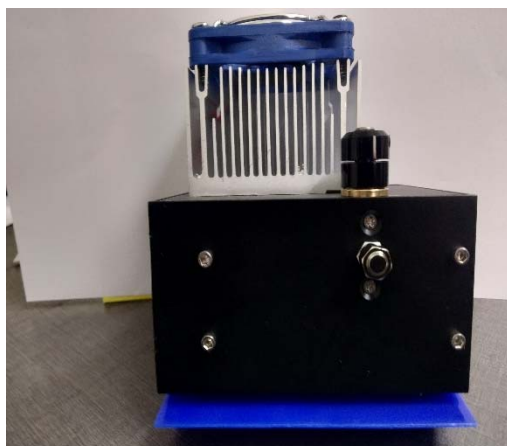


**RI2AS SPECTROMETER**



Our spectrometer RI2AS Series developed by the Research India Innovation group “**RI Instruments & Innovation India**”, which apply to the field of Material science, food safety, environmental sciences and more.

Spectrometer with 3648 pixels CCD linear array detector has high resolution up to 0.03 nm (FWHM). The system includes incident slit, collimating mirror, dispersion element (grating), focusing optical system and detector. Light is collected through the optical fiber into the spectrometer slit then the spectral information can be read out by the software

**Standard Models:**

Model No.	Wavelength Range
RI2AS	200 - 1100 nm
RI2AS-C	Customized wavelength Customized Integration Time
Optional Attachments	
-V	Variable Slit 0- 200 /400 um continous
-T35	Cooled Detector -35 °C
-W	Connection through Wifi

**Software Features:**

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software.

**Cooled Detector:**

70% increased S/N at long exposures  
Lower dark current  
High Sensitivity for low light applications

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



Research  
and Science



Authentication  
and Anti-Counterfeit



Defense and  
Security



Biotechnology

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



**SPECIFICATON:**

Design	:	Czerny Turner
Detector	:	Toshiba TCD1304 linear array
Lens	:	Detector Collecting lens
Detector range	:	200 – 1100 nm
Pixels	:	3648
Sensitivity	:	161000 counts/μW per ms integration time
Focal Length	:	110 mm
TEC Cooled	:	-35 °C (Optional)
Filter	:	Order Sorting Filter
Fiber optic connector	:	0.22 NA, 600 μm Core SMA Connectors Multimode
Wavelength range	:	200- 1100 nm (Grating Dependent)
Slit	:	Variable 0- 200/400microns or Fixed
Optical Resolution	:	0.03 – 8.4 nm
Signal-to-noise ratio	:	350:1
A/D Resolution	:	16 Bit
Onboard Memory	:	64 Spectra
Integration Time	:	10μs – 60 sec
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
Computer Interfaces:	:	USB 2.0/HID 2.0
Temperature:	:	-30 °C to +70 °C Storage & -10 °C to +50 °C Operation
Humidity	:	0%-90% non-condensing



Research  
and Science



Authentication  
and Anti-Counterfeit

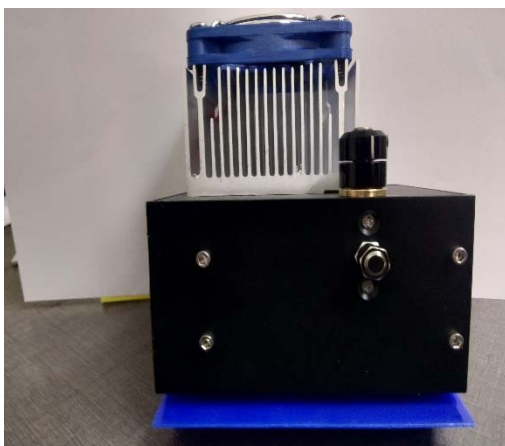


Defense and  
Security



Biotechnology

**RI2OLS – SERIES SPECTROMETER**



Our spectrometer RI2OLS Series developed by the Research India Innovation group “**RI Instruments & Innovation India**”, which apply to the field of Material science, food safety, environmental sciences and more.

Spectrometer with 3648 pixels CCD linear array detector has high resolution up to 0.03 nm (FWHM). The system includes incident slit, collimating mirror, dispersion element (grating), focusing optical system and detector. Light is collected through the optical fiber into the spectrometer slit then the spectral information can be read out by the software

**Standard Models:**

Model No.	Wavelength Range
RI2OLS	200 - 1100 nm Focal Length : 150 mm
RI2OLS-C	Customized wavelength Focal Length : 150mm
Optional Attachments	
-V	Variable Slit 0- 200 /600 um continous
-T35	Cooled Detector – 35C
-W	Connection through Wifi

**Software Features:**

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software.

**Cooled Detector:**

70% increased S/N at long exposures  
Lower dark current  
High Sensitivity for low light applications

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



**SPECIFICATION:**

Design	:	Czerny Turner
Detector	:	Toshiba TCD1304 linear array
Lens	:	Detector Collecting lens ( Quartz)
Detector range	:	200 – 1100 nm
Grating (lines/mm)	:	300/600/900/1200/1800/2400/3600
Pixels	:	3648
Focal Length	:	150 mm
Sensitivity	:	130 photons/count at 400 nm
TEC Cooled	:	35 °C (Optional)
Filter	:	Order Sorting Filter
Fiber optic connector	:	0.22 NA, 600 µm Core SMA Connectors Multimode
Wavelength range	:	200- 1100 nm (Grating Dependent)
Slit	:	Variable 0- 250/600 microns or Fixed 10/25/50/100/200 microns
Optical Resolution	:	0.03 – 8.4 nm
Signal-to-noise ratio	:	400:1
A/D Converter	:	16 Bit, 3 Mhz
Dynamic range:	:	2 x 10 <sup>8</sup> (System) 1300 : 1 (Single)
Dark Noise	:	12 RMS Counts
Integration Time	:	10 µs – 60 sec (Standard), 10 µs to 10 minutes (optional)
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
Computer Interfaces:	:	USB 2.0
Temperature:	:	-30 °C to +70 °C Storage & -10 °C to +50 °C Operation
Humidity	:	0%-90% non-condensing



Research  
and Science



Authentication  
and Anti-Counterfeit

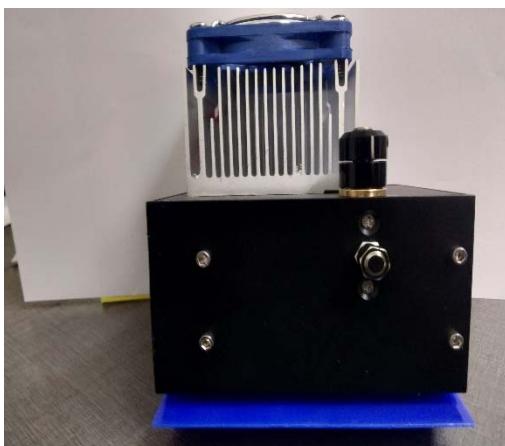


Defense and  
Security



Biotechnology

## RI2OS SPECTROMETER



Our spectrometer RI2OS Series developed by the Research India Innovation group “**RI Instruments & Innovation India**”, which apply to the field of Material science, food safety, environmental sciences and more.

Spectrometer with 3648 pixels CCD linear array detector has high resolution up to 0.03 nm (FWHM). The system includes incident slit, collimating mirror, dispersion element (grating), focusing optical system and detector. Light is collected through the optical fiber into the spectrometer slit then the spectral information can be read out by the software

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



### Standard Models:

Model No.	Wavelength Range
RI2OS	200 - 1100 nm Focal Length : 42 mm input; 68 mm output
RI2OS-C	Customized wavelength Focal Length : 42 mm input; 68 mm output
Optional Attachments	
-V	Variable Slit 0- 200 /600 um continous
-T35	Cooled Detector – 35C
-W	Connection through Wifi

### Software Features:

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software, Save & Search Library, Labview Examples

### Cooled Detector:

70% increased S/N at long exposures  
Lower dark current  
High Sensitivity for low light applications





Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



**SPECIFICATION:**

Design	:	Czerny Turner
Detector	:	Toshiba TCD1304 linear array
Lens	:	Detector Collecting lens ( Quartz)
Detector range	:	200 – 1100 nm
Grating (lines/mm)	:	300/600/900/1200/1800/2400/3600
Pixels	:	3648
Focal Length	:	42 mm input; 68 mm output
Sensitivity	:	130 photons/count at 400 nm
TEC Cooled	:	35 °C (Optional)
Filter	:	Order Sorting Filter
Fiber optic connector	:	0.22 NA, 600 µm Core SMA Connectors Multimode
Wavelength range	:	200- 1100 nm (Grating Dependent)
Slit	:	Variable 0- 250/600 microns or Fixed 10/25/50/100/200 microns
Optical Resolution	:	0.03 – 8.4 nm
Signal-to-noise ratio	:	400:1
A/D Converter	:	16 Bit, 3 Mhz
Dynamic range:	:	2 x 10 <sup>8</sup> (System) 1300 : 1 (Single)
Dark Noise	:	50 RMS Counts
Integration Time	:	10 µs – 60 sec (Standard), 10 µs to 10 minutes (optional)
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
Computer Interfaces:	:	USB 2.0
Temperature:	:	-30 °C to +70 °C Storage & -10 °C to +50 °C Operation
Humidity	:	0%-90% non-condensing



Research  
and Science



Authentication  
and Anti-Counterfeit

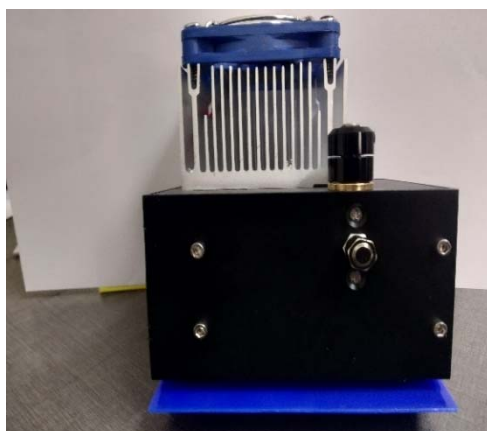


Defense and  
Security



Biotechnology

**RI2RS SPECTROMETER**



Our spectrometer RI2RS Series developed by the Research India Innovation group “**RI Instruments & Innovation India**”, which apply to the field of Material science, food safety, environmental sciences and more.

Spectrometer with 3648 pixels CCD linear array detector has high resolution up to 0.03 nm (FWHM). The system includes incident slit, collimating mirror, dispersion element (grating), focusing optical system and detector. Light is collected through the optical fiber into the spectrometer slit then the spectral information can be read out by the software

**Standard Models:**

Model No.	Wavelength Range
RI2RS	200 - 1100 nm Focal Length : 42 mm input; 68 mm output
RI2RS-C	Customized wavelength Focal Length : 42 mm input; 68 mm output
Optional Attachments	
-V	Variable Slit 0- 200 /600 um continous
-T40	Cooled Detector – 40C
-W	Connection through Wifi

**Software Features:**

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software.

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



Research  
and Science



Authentication  
and Anti-Counterfeit



Defense and  
Security



Biotechnology

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



**SPECIFICATION:**

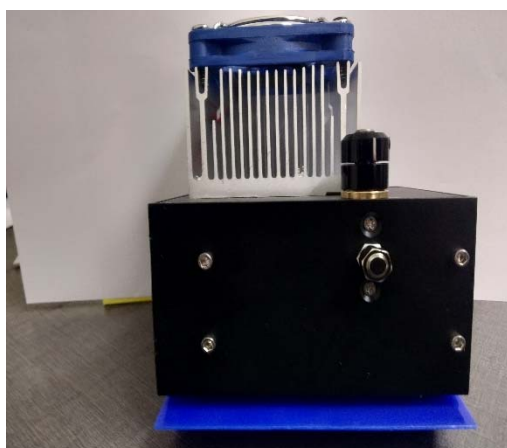
Design	:	Czerny Turner
Dimension	:	102 mm x 84 mm x 59 mm
Detector	:	Toshiba TCD1304 linear array
Detector range	:	200 – 1100 nm
Pixels	:	3648
Focal Length	:	42 mm input; 68 mm output
TEC Cooled	:	-40 °C (Optional)
Filter	:	Order Sorting Filter
Fiber optic connector	:	0.22 NA, 600 µm Core SMA Connectors Multimode
Wavelength range	:	200- 1100 nm (Grating Dependent)
Slit	:	Variable 0- 200/400microns or Fixed
Optical Resolution	:	0.02 – 8.4 nm
Signal-to-noise ratio	:	12000 : 1**
A/D Converter	:	16 Bit, 3 Mhz
Integration Time	:	10 us – 60 secs
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
Computer Interfaces:	:	USB 2.0
Temperature:	:	-30 °C to +70 °C Storage & -10 °C to +50 °C Operation
Humidity	:	0%-90% non-condensing

\*\*avg





## RIGCS Spectrometer



Our spectrometer RI Series developed by the Research India Innovation group “**RI Instruments & Innovation India**”, which apply to the field of Material science, food safety, environmental sciences and more.

Spectrometer with 3648 pixels CCD linear array detector has high resolution up to 0.03 nm (FWHM). The system includes incident slit, collimating mirror, dispersion element (grating), focusing optical system and detector. Light is collected through the optical fiber into the spectrometer slit then the spectral information can be read out by the software

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



### Standard Models:

Model No.	Wavelength Range
RIGCS-150	300 - 1100 nm Focal Length : 150 mm
RIGCS-110	200 - 1100 nm Focal Length : 110
RIGCS-150-C	Customized wavelength Focal Length : 150
RIGCS-110-C	Customized wavelength Focal Length : 110
Optional Attachments	
-V	Variable Slit 0- 200 /600 um continous
-T35	Cooled Detector – 35°C
-W	Connection through Wifi
Optional Grating Coating	
-G	Gold
-M	MgF <sub>2</sub>

### Software Features:

Instrument Control & Data Collection parameters are user-definable, such as Exposure time, dark correction, signal averaging, spectral smoothing, Automatic Saved Spectra. Graphics saved in .txt format and be opened in any Third-Party Software E.g. Origin, Excel and other data processing software, Save & Search Library, Labview Examples

### Cooled Detector:

70% increased S/N at long exposures  
Lower dark current  
High Sensitivity for low light applications



## Specifacaton:

Design	:	Czerny Turner
Detector	:	Linear CCD Array
Lens	:	Cylindrical
Detector range	:	200/300 – 1100 nm
Pixels	:	3648
Pixels Size	:	8 μm x 200 μm
Pixel Well Depth	:	100,000 electrons
Grating (lines/mm)	:	300/600/900/1200/1800/2400/3600
Sensitivity	:	1,65,000 counts/μW /ms integration time
Focal Length	:	110/150
TEC Cooled	:	-35 °C (Optional)
Filter	:	Order Sorting Filter
Fiber optic connector	:	SMA 905 to 0.22 numerical aperture single-strand optical fiber
Wavelength range	:	200- 1100 nm (Grating Dependent)
Slit	:	Variable 0- 250/600 microns or Fixed 10/25/50/100/200 microns
Optical Resolution	:	0.03 – 8.4 nm
Signal-to-noise ratio	:	1000:1 {15000: 1 (avg)}
A/D Converter	:	16 Bit, 3 Mhz
Dynamic range:	:	1300 : 1 (Single)
Dark Noise	:	50 RMS Counts
Integration Time	:	10 μs – 60 sec (Standard), 10 μs to 10 minutes (optional)
Stray light:	:	<0.05% at 600 nm
Power Consumption	:	100mA @ 5V from USB interface
Trigger Modes	:	3 modes – Optional
Connector	:	SMA
Operating System	:	Windows 10 / 8 / 7 (32 & 64 Bit)
Software	:	RI Spectra, With Database Search Option & Manual Shift Calibration
Computer Interfaces:	:	USB 2.0
Temperature:	:	-30 °C to +70 °C Storage & -10 °C to +50 °C Operation

Contact Our Sales  
Specialist: →

sales@researh-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@  
gmail.com

→  
9425678895

7000649320

RIFR532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



**BALANCED DEUTERIUM HALOGEN (RIDH2000) : UV  
to near infrared high quality long life research wide band light**



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

Standard Models:

Model No.	Wavelength Range
RIDH2000	190-400 nm (deep ultraviolet Deuterium bulb); 360-2500 nm (halogen bulb)
RIDH2000-D	180-400 nm (deep ultraviolet Deuterium bulb); 360-2500 nm (halogen bulb)
RID2000	190-400 nm (deep ultraviolet Deuterium bulb)

Optional :

-F	Filter Holder
-S	Shutter



Research  
and Science



Authentication  
and Anti-Counterfeit



Defense and  
Security



Biotechnology

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

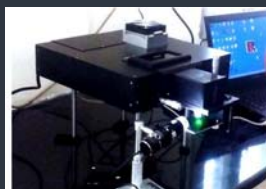
rresearchindia@  
gmail.com

9425678895

7000649320

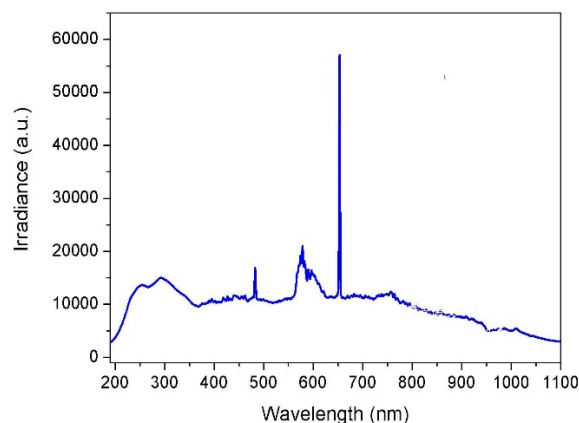
RIDR-532

Direct coupled optics.  
No optical fiber based  
delivery or collection



### RIDH2000 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



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

**85-26**

Our products let you take the power of spectroscopy wherever you need to go.



Research  
and Science



Authentication  
and Anti-Counterfeit



Defense and  
Security



Biotechnology

**DEUTERIUM LIGHT SOURCE (RID2000) :**



Our Deuterium (RID2000) light produce a stable output spectrum of 190-400nm. Its peak-to-peak stability is less than 0.005%, and the drift is only +/- 0.5% per hour.

Contact Our Sales  
Specialist: →

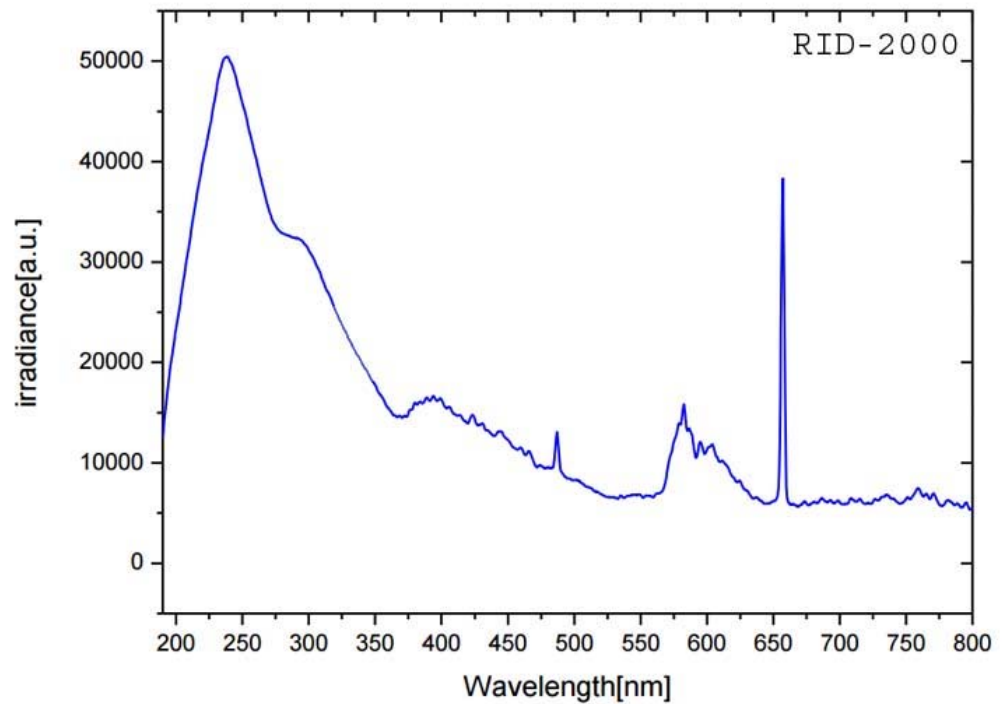
sales@research-  
india.co.in

rresearchindia@  
gmail.com

→  
9425678895

7000649320

RIFR532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



Research  
and Science



Authentication and  
Anti-Counterfeit



Defense and  
Security



Biotechnology



Contact Our Sales  
Specialist: →

sales@research-india.co.in

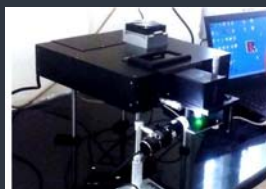
rresearchindia@gmail.com

→  
9425678895

7000649320

RIDR-532

Direct coupled optics.  
No optical fiber based  
delivery or collection



### RID2000 Features:

- Deep UV coverage. The coverage is 190-400nm.
- Superior performance. Super stable light source output with peak-to-peak stability of less than 0.005%.
- The RID-2000 has an SMA905 interface, which is convenient for connecting with spectrometers and measuring accessories such as optical fibers.
- RID-2000 deuterium lamp with a life of 1000 hours can be easily replaced.
- Power supply: 85 ~ 250V AC 50 ~ 60HZ

### Standard Models:

Model No.	Wavelength Range
RID2000	190-400 nm Deuterium Lamp – 25 W
RID2000-D	190-400 nm Deuterium Lamp – 30 W
Customization On request and the custom order quantity is more than 5.	

### RID2000 PARAMETERS :

<b>Size:</b>	150 mm x 119 mm x 200 mm
<b>Weight:</b>	3.5 kg
<b>Bulb Power:</b>	25/30 W (deuterium lamp)
<b>Source Lifetime</b>	2000 hours
<b>Wavelength range:</b>	190-400 nm (deep UV deuterium lamp)
<b>Warm up time:</b>	40 minutes
<b>Voltage Drift :</b>	< 0.01 % per hour
<b>Voltage stability:</b>	< 5x10 <sup>-6</sup> peak (0.1-10.0 Hz)
<b>Humidity range:</b>	5 - 95%
<b>Power consumption:</b>	~ 78 VA
<b>Power requirements:</b>	85-264 V 50/60 Hz

**85-26**

Our products let you take the power of spectroscopy wherever you need to go.



Research  
and Science



Authentication  
and Anti-Counterfeit

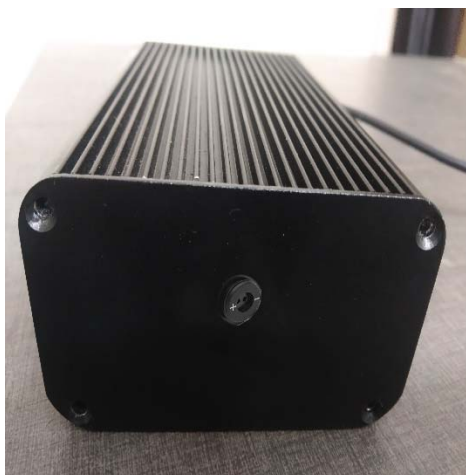


Defense and  
Security



Biotechnology

## LED LIGHT SOURCE – PUSH FIT TYPE



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

LED light source wavelength conventional products are: 375 ~ 1550nm various specifications

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@g  
mail.com

9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available version 532 &  
785 nm



### Product performance:

1. SMA905 interface
2. High coupling efficiency
3. User Replacable LED
4. Lifetime: 100,000 hours
5. 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.

### Procedure:

LEDs can be exchanged without any wiring changes, just pull one out and push the next one in



**SPECIFICATON:**

Model No.	Centre Wavelength	Half Width	Optical Output Power before fiber	Connector
RIPL375	375 nm	10 nm	10 mW	SMA/FC
RIPL405	405 nm	20 nm	6 mW	SMA/FC
RIPL465	465 nm	25 nm	20 mW	SMA/FC
RIPLA525	525 nm	32 nm	2.6 mW	SMA/FC
RIPL528	528 nm	35 nm	7 mW	SMA/FC
RIPLA590	590 nm	15 nm	2 mW	SMA/FC
RIPLA635	635 nm	10 nm	4 mW	SMA/FC
RIPLA639	639 nm	17 nm	7.2mW	SMA/FC
RIPL780	780 nm	30 nm	18 mW	SMA/FC
RIPL870	870 nm	40 nm	22 mW	SMA/FC
RIPL940	940 nm	50 nm	18 mW	SMA/FC
RIPL1050	1050 nm	55 nm	2.5 mW	SMA/FC
RIPL1070	1070 nm	80 nm	7.5 mW	SMA/FC
RIPL1200	1200 nm	100 nm	2.5mW	SMA/FC
RIPL1300	1300 nm	100 nm	2.5mW	SMA/FC
RIPL1450	1450 nm	100 nm	2.5mW	SMA/FC
RIPL1550	1550 nm	100 nm	2.5mW	SMA/FC
RIPLA-WL	425 nm – 635 nm	--	15 mW	SMA/FC

Contact Our Sales  
Specialist: →

→  
sales@research-  
india.co.in

rresearchindia@g  
mail.com

→  
9425678895

7000649320

RIFRAMAN - Fiber Optic  
Based Raman System,  
available in 532 &  
785 nm  
Based Raman System,



Research  
and Science



Authentication and  
Anti-Counterfeit

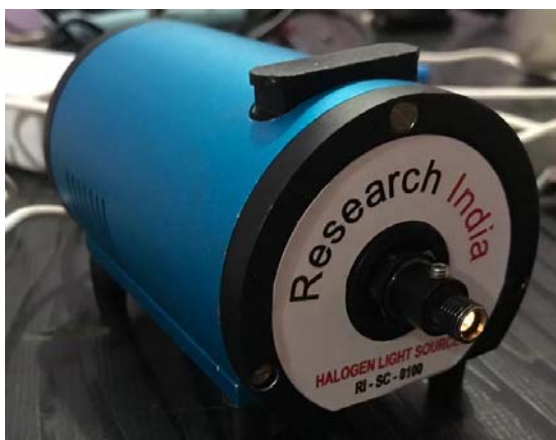


Defense and  
Security



Biotechnology

### Stabilized Tungsten Halogen Light Source (RI-SC-0100)



Our Stabilized Tungsten Halogen light source for laboratory applications integrates the tungsten halogen lamp and provides continuous output from 360 nm to 2200 nm.

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

#### Specifications

Source:	Tungsten Halogen
Wavelength range:	360-2600 nm
Nominal bulb power:	10 watts
Power after fiber:	≥ 10mW ( 400 um fiber)
Source lifetime:	4000 hours (typical)
Stability of optical output:	0.15% peak-to-peak
Drift of optical output:	<0.3% per hour
Operating temperature:	5 °C – 35 °C
Operating humidity:	5-95% without condensation at 40 °C
Power requirements:	12 VDC

Optional: post mounted by using the two 1/4"-20 (M6) taps on the bottom of the



Research and Science



Authentication and Anti-Counterfeit



Defense and Security



Biotechnology

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

→  
9425678895

7000649320

RIFR532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



**Cuvette Holder**



The CH-UV Cuvette holder are designed for Absorption, Transmission and Fluorescence measurements and should be used with 1-cm Pathlength cuvettes, includes 2 UV/VIS/NIR Collimating lens.

The Cuvette holder for fluorescence measurement is same with minor changes, In this case collimating lens are placed under an angle of 90 degrees to isolate excitation from emission wavelengths, and the other ports have SiO2 coated aluminum mirrors to enhance the signals.

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

**Specification:**

Standard Models:

Model No.	Description
CH-UV	Cuvette Holder With SMA 905 Connector ( Lens not included)
CH-UV-2	Cuvette Holder With 2 UV/VIS/NIR Lenses
CH-UV-4	Cuvette Holder With 4 UV/VIS/NIR Lenses
CH-UV-FL	Cuvette Holder With 2 UV/VIS/NIR Lenses and 2 SiO2 coated aluminum mirrors
Optional	
-C	Cusotmization on Request

<b>Pathlength:</b>	10 x 10 mm
<b>Z Height</b>	15 mm
<b>Filter slot (Width):</b>	6.50 mm
<b>Collimating lenses</b>	Quartz Lenses (185nm-2500nm)
<b>Connector</b>	SMA905

9425678895

7000649320

RIFR 532/785 - Fiber Optic Based Raman System, available version 532 & 785 nm





**Fiber Optic Cables**



Our optical fiber assemblies act as both illumination and read fibers and connect easily to any spectrometers, light sources and sampling accessories. These fibers are durable, high-quality patch cords that consistently deliver uniform results with minimal signal variance.

We offer SMA-905 or FC/PC connectors and these can be the same or different on both ends, we also do the customization and offer applications fiber e.g., Round to Linear Fiber in which a bundle of fibers configured in a round pattern on one end and a linear array on the other end. The linear array is aligned with the slit height of the spectrometer

**Specification:**

<b>Jacket :</b>	Standard Fiber silicon Tube or Stainless Steel (-SS)
<b>Fiber Core Size (ccc):</b>	200ums, 300 ums, 400 ums, 600 ums , 1000 ums
<b>Connectors:</b>	SMA 905
<b>Length (XL):</b>	1 meter (-1L) , 2 meters (-2L) {Customized length on request}
<b>Wavelength (FF)</b>	200 – 1100 nm (-UV) 200-1100 nm Solarization Resistant (SR) 300 -1400 nm (VIS)
<b>Operating Temperature:</b>	-20 °C to 80 °C
<b>Pressure @ 25 °C</b>	50 bar
<b>Bending radius</b>	<b>Short Term</b> (20 mm @ 200 um, 80 mm @ 400 um, 120 mm @ 600 um, 150 mm @1000 um), <b>Long Term</b> (80 mm @ 200 um, 160 mm @ 400 um, 240 mm @ 600 um, 300 um)

**Standard Models:**

Model No.	Description
OF-CCC-XL-FF	Standrad Optical Fiber with SMA Connector
<b>Optional Attachments</b>	
RFCL	Adjustable UV/VIS/NIR Collimating/focusing lens
<b>Notes:</b>	
- CCC	Fiber Core
- XL	Fiber Length
- FF	Wavelgnth range
- SS	Jacket
- FC	For FC Connector

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber Optic Based Raman System, available version 532 & 785 nm



**REFLECTION PROBES**



Our Reflection probes are durable, high-quality patch cords that consistently deliver uniform results with minimal signal variance. Reflection Probes are a convenient way to measure diffuse, or specular materials. The light from a light source is sent through six illumination fibers to the sample and the reflection is measured by a 7th fiber positioned in the center of the reflection probe tip. The 7th fiber is coupled to a spectrometer

**Specification:**

<b>Probe ferrule material:</b>	Stainless steel
<b>Probe ferrule length:</b>	65.2 mm (-A) , 76.2 mm (-W)
<b>Numerical aperture:</b>	0.22
<b>Probe ferrule diameter:</b>	4.21 (-A) - 6.35 mm (-W)
<b>Jacket :</b>	Standard Fiber silicon Tube or Stainless Steel (-SS)
<b>Fiber Core Size (ccc):</b>	200ums, 400ums, 600 um
<b>Connectors:</b>	SMA 905
<b>Length (XL):</b>	1 meter (-1L) , 2 meters (-2L) {Customized length on request}
<b>splitting point:</b>	Middle
<b>Operating Temperature:</b>	-20 °C to 80 °C
<b>Pressure @ 25 °C</b>	50 bar
<b>Bending radius</b>	<b>Short Term</b> (20 mm @ 200 um, 80 mm @ 400 um, 120 mm @ 600 um), <b>Long Term</b> (80 mm @ 200 um, 160 mm @ 400 um, 240 mm @ 600 um)

**Standard Models:**

Model No.	Description
RF-CCC-XL-A-UV	$\lambda = 200 - 1100$ nm, Solarization Resistant
RF-CCC-XL-W-UV	$\lambda = 200 - 1100$ nm Solarization Resistant
RF-CCC-XL-A-VIS	$\lambda = 340 - 1400$ nm
RF-CCC-XL-W-VIS	$\lambda = 340 - 1400$ nm

**Optional Attachments**

RFCL	Adjustable UV/VIS/NIR Collimating/focusing lens
------	---

**Notes:**

- CCC	Fiber Core
- XL	Fiber Length
- A/W	Ferrule length & Diameter
- SS	Jacket

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

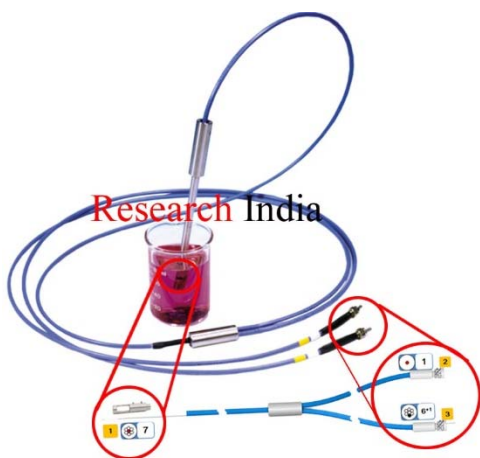
9425678895

7000649320

RIFR 532/785 - Fiber Optic Based Raman System, available version 532 & 785 nm



## Transmission Dip Probe



Our TD Series variable pathlength transmission fiber optic dip probe used in a wide range of laboratory and other environments, such as for liquid transmission, absorption, Fluorescence etc.

Variable pathlength transmission immersion fiber optic probes connected to our Spectrometers and light source to easily measure the absorbance and transmission of solutions. These stainless-steel probes are especially suitable for embedded in industrial process streams for real-time sample monitoring.

The probe's 1/4-inch outer diameter can be set by the user from 0.5 mm to 10 mm, making it extremely versatile for high absorbance or low absorbance liquids. As long as the probe tip is immersed in the liquid, it can be measured. The light from the source can be coupled into a bundle of six fibers through a standard SMA905 connector and then conducted all the way to the end of the probe, through a lens and specular reflection through a user-defined 0.25-10 mm physical gap. The reflected light enters the seventh probe fiber, which conducts the detected data into the spectrometer through the SMA905 connector. In order to maximize the detection efficiency of the probe, the probe fiber at the end of the probe is placed in the middle of the illumination fiber. The fiber bundle is divided into two parts in the metal portion in the middle of the probe, and is connected to the spectrometer and the light source through a fiber.

### Standard Models:

Model No.	Description
TD-CCC-XL-WR	$\lambda = 200 - 1100$ nm or 380-2500
Notes:	
- CCC	Fiber Core
- XL	Fiber Length
- SS	Jacket
- WR	Wavelength
- HT	high temperature up to 200 °C

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



Research  
and Science  
and Science



Authentication and  
Anti-Counterfeit  
Anti-Counterfeit



Defense and  
Security  
Security



Biotechnology

## Specification

Description	:	6 illumination fibers, 1 detection fiber, core can be customized by user, standard length 2 meters or 1 meter
Wavelength range (-WR)	:	200-1100 nm (UV) or 380-2500 (VIS) or 200-1100 nm (SR)
Fiber optic connector	:	SMA905 connector (2)
Optical path	:	0.25 - 10 mm optical path, user can adjust freely
Probe	:	304 Stainless steel tube, 140-160 mm (length) x 6.35 mm (1/4-inch diameter), waterproof.
Sheath tube	:	PVC multilayer tube or 304 stainless steel (-SS)
Operating temperature	:	-30 °C to 100 °C. (-HT high temperature up to 200 °C)
pressure	:	Probe tip 10 bar @ 25 °C
Fiber Core Size (ccc)	:	200ums, 300ums, 400ums, 600 ums
Length (XL)	:	1 meter (-1L) , 2 meters (-2L) {Customized length on request
splitting point	:	Middle
Operating Temperature:	:	-20 °C to 80 °C
Pressure @ 25 °C	:	50 bar
Bending radius	:	<b>Short Term</b> (20 mm @ 200 um, 80 mm @ 400 um, 120 mm @ 600 um), <b>Long Term</b> (80 mm @ 200 um, 160 mm @ 400 um, 240 mm @ 600 um)

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



Research  
and Science  
and Science



Authentication and  
Anti-Counterfeit  
Anti-Counterfeit



Defense and  
Security  
Security



Biotechnology

### Multi-furcated Fiber-optic Cables (MFFOC)



Simultaneous multi-point measurements and multichannel spectrometers, require multi-furcated fiber optic cables. These assemblies can function as a combiner or splitter of light as they have multiple legs on one side which converge into a single connector on the opposite side. We offer virtually any combination possible, which can be adapted to your requirements

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@  
gmail.com

9425678895

7000649320

Typical setups that require multifurcated cables are:

- Multiple illumination fibers splitting out from one light source to different sampling points
- One sampling point such as an integrating sphere, cosine corrector or collimating lens being measured with several spectrometers

Various types of connectors, jacketing's and fiber sizes are available for these multi-furcated fiber cables. Contact us to configure and quote you on your specific needs.

RIFR 532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



Research



Authentication and



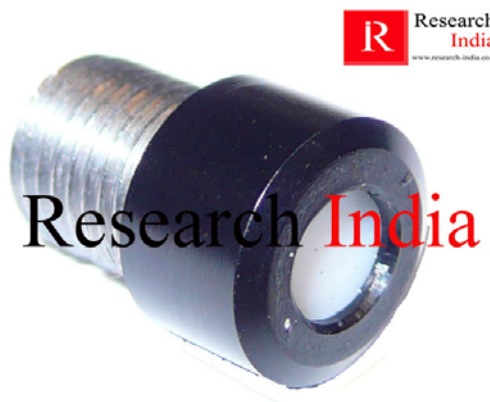
Defense and



Biotechnology



**Cosine Connector (Model No. RICC )**



The Cosine Corrector is a type of optical component used for spectral radiation sampling to collect radiation (light) in a 180° solid angle, thereby eliminating the limitations of other sampling devices due to light collection geometry. The resulting optical coupling problem.

The CC-UV Cosine Corrector has an effective area of 3.2 mm to 4.8 mm and is available in imported PTFE. The cosine corrector can be screwed into the multimode fiber of any SMA connector. When coupled to a microfiber spectrometer, these cosine correctors can be used to measure solar radiation, ambient light, light, and analysis of LED sources and laser sources.

Wavelength range: 200~2500nm  
Interface: SMA905  
Field of view: 180°

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber Optic Based Raman System, available version 532 & 785 nm



## Collimating Lens



Collimating lenses are curved optical lenses that help to make parallel the light that enters your spectrometer setup. These lenses allow users to control the field of view, collection efficiency and spatial resolution of their setup, and to configure illumination and collection angles for sampling.

Each RIFC5-series lens is 5 mm in diameter, has focal length of 10 mm and is responsive at UV-Vis or Vis-NIR wavelengths.

Collimating lenses are common to most of the sampling accessories we offer. As such, these lenses are used for an extensive array of applications and measurement techniques including absorbance, irradiance and emission.

This product can be used for fiber collimation or for coupling focusing. For collimation purposes, it can be used for single mode or multimode fiber. If it is used as coupling focus, it can only be used for multimode fiber (numerical aperture 0.22~0.37NA)., core diameter  $\geq$  100 microns).

Connector: SMA905 (Standard), FC, TA connector (6.35mm diameter metal head), 3/8-24  
External thread: 3/8-24  
Lens: Quartz  
Lens diameter: 5 mm  
Lens focal length: 10 mm  
Wavelength range: 185 -2500 nm (RIFC5-UV), 350 -2000 (RIFC5-VIS)  
Operating temperature: -40~150 °C  
Housing material: Aluminum anodized

### Standard Models:

Model No.	Description
RIFC5	Colimating Lens with SMA Connector
RIFC5-FC	Colimating Lens with FC Connector
Notes	
- UV	Wavelength range: 185 -2500 nm
- VIS	Wavelength range: 350 -2000

Contact Our Sales  
Specialist: →

sales@research-india.co.in

rresearchindia@gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber Optic Based Raman System, available version 532 & 785 nm



Research



Authentication and



Defense and



Biotechnology

## Collimating Lens



Collimating lenses are curved optical lenses that help to make parallel the light that enters your spectrometer setup. These lenses allow users to control the field of view, collection efficiency and spatial resolution of their setup, and to configure illumination and collection angles for sampling.

Each RICOL-series lens is 6 mm in diameter, has focal length of 10 mm and is responsive at UV-Vis or Vis-NIR wavelengths.

Collimating lenses are common to most of the sampling accessories we offer. As such, these lenses are used for an extensive array of applications and measurement techniques including absorbance, irradiance and emission.

This product can be used for fiber collimation or for coupling focusing. For collimation purposes, it can be used for single mode or multimode fiber. If it is used as coupling focus, it can only be used for multimode fiber (numerical aperture 0.22~0.37NA)., core diameter  $\geq$  100 microns).

Connector: SMA905 (Standard), FC, TA connector (6.35mm diameter metal head), 3/8-24  
External thread: 3/8-24  
Lens: Quartz  
Lens diameter: 6 mm  
Lens focal length: 10 mm  
Wavelength range: 185 -2500 nm (RICOL-UV), 350 -2000 (RICOL-VIS)  
Operating temperature: -40~150 °C  
Housing material: Aluminum anodized

### Standard Models:

Model No.	Description
RICOL-SMA	Collimating Lens with SMA Connector
RICOL-FC	Collimating Lens with FC Connector
Optional Attachments	
- UV	Wavelength range: 185 -2500 nm
- VIS	Wavelength range: 350 -2000

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@  
gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



Research



Authentication and



Defense and



Biotechnology

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@  
gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



### SMA TO SMA Connector (RISMA)



To connect one fiber to another, a fiber interconnect is needed. They can be useful for coupling patch cords to fiberoptic probes and other devices, or for any multiple-fiber application where coupling of standard optical fibers and accessories is preferable to creating costly and complex fiber-optic assemblies

**The SMA905 adapter has a metal sleeve with better elasticity, so the precision of the production is higher than that of other manufacturers. The concentricity of the two fibers can be within 0.005mm.**

**Material:** stainless steel

**Aperture:** 3.17mm (elastic)

#### **SAM905 connector introduction:**

The standard diameter of the ferrule of the SMA905 connector is: 3.175mm  
SMA905 connectors are available in ceramic and metal ferrules;  
Metal ferrules are divided into two types: flat and groove



Research



Authentication and



Defense and



Biotechnology

Contact Our Sales  
Specialist: →

sales@research-  
india.co.in

rresearchindia@  
gmail.com

9425678895

7000649320

RIFR 532/785 - Fiber  
Optic Based Raman  
System, available  
version 532 & 785 nm



### SMA TO FC/PC Connector ( RISMAFC)



To connect one fiber to another, a fiber interconnect is needed. They can be useful for coupling patch cords to fiberoptic probes and other devices, or for any multiple-fiber application where coupling of standard optical fibers and accessories is preferable to creating costly and complex fiber-optic assemblies.

Material: Hard Aluminum, surface anodized  
Accuracy: 0.005mm

This product is an adapter of FC female to SMA905 female, which does not have a great loss and influence on light. The loss of light can be mainly the finish of fiber end face treatment and the concentricity of fiber. The typical insertion loss for mating an FC/PC-terminated SM fiber to an SMA-terminated MM fiber is less than 0.2 dB<sup>a</sup>, while the typical insertion loss for mating an FC/PC-terminated MM fiber to an SMA-terminated MM fiber is less than 1.4 dB<sup>b</sup>

#### Recommendations:

1. be sure to ensure the end face of the two fibers
2. try to use the same core diameter fiber optic docking, or small core diameter transmission to the large core fiber.
3. Normally, two hundred identical matrices of the same fiber will also be worn, because light will be refracted and reflected from one medium to another. Normally, it will lose 10-20%.



Research



Authentication and



Defense and



Biotechnology