



Multiplex Raman System

Fiber-coupled Multiplex Raman System (MRaman-532 or MRaman-785) is designed to meet the needs for multi-ports monitoring. With a parallel design, the system provides as many as 10 independent channels for simultaneous Raman measurements at different sampling locations. The Multiplex Raman System features high throughput spectrograph with a deep cooled high performance CCD, narrow bandwidth and frequency stabilized lasers, flexible and convenient fiber optic coupling, and robust design with no moving parts. The laser sources can be 532 nm, 785 nm, 830 nm, or other available laser wavelengths for Raman.

The Multiplex Raman System can be easily configured for remote monitoring/control of any combinations of liquids, solids, and gas sample streams through fiber optics and choices of different sampling probes.

With the SpectraSoft software, user can easily select to make simultaneous or sequential Raman measurements at the different ports.

The Multiplex Raman System is an ideal tool for on-line monitoring, as well as for R&D in the laboratories. It can also be easily coupled to other instruments/equipment to add Raman measurement capabilities.



System Benefits:

- High throughput, high sensitivity
- Robust design, no moving parts
- Efficient operation with multiple monitoring spots in one unit
- Flexible sampling options
- High value to own

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Fiber-based Multiplex Raman System - Features and Specifications:

Item	Description	Features / Specifications
SF18	Lens-based grating spectrograph	<ul style="list-style-type: none"> • 85 mm focal length • Standard coverage (others available upon request): 150 to 4300 cm^{-1} for 532 nm laser 100 to 3000 cm^{-1} for 785 nm laser 100 to 2000 cm^{-1} for 830 nm laser • All preset, no moving parts
Detector	TE deep cooled scientific CCD	<ul style="list-style-type: none"> • NIR enhanced front-illuminated sensor with no-etalonging • Peak QE > 55% at 650 nm, best for 532 and 785 nm excitation • Permanent vacuum • Guaranteed TE cooling to -60°C at ambient temperature • 16-bit, 2 MHz and 100 kHz read-out: 3.5 e- rms (typical), 6 e- rms (max) 14 e- rms (typical), 20 e- rms (max) 0.001 e-/p/sec (typical); 0.006 e-/p/sec (max)
Lasers	532 nm 785 / 830 nm	<ul style="list-style-type: none"> • 50 mW (higher power available upon request) • 400 mW multimode frequency stabilized (single mode available upon request)
Sampling Probe	Choices of probes Fiber connector	<ul style="list-style-type: none"> • Collinear design/high throughput optics • Built-in laser line clean-up filter • Built-in deep narrow notch filter • > 20 mm working distance • High collection efficiency • No interference from other lights • OD > 6: maximum rejection of Rayleigh scattering and high transmission • Wide coverage from 40 cm^{-1} to 4400 cm^{-1} • Convenient SMA 905 or FC
User Interface	Computer Operating System SpectraSoft	<p>PC Windows 7, 64 bit</p> <ul style="list-style-type: none"> • Control of multiplex lasers and laser power, CCD gain and digitization, system calibration • Data processing: proprietary automatic background removal, spectrum averaging, normalization, overlay • Data analysis: peak identification, area, online monitoring
Physical	Width x Depth x Height	300 mm x 396 mm x 164 mm
Electrical	Input Voltage	100 – 240 V, 50 - 60 Hz

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