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Inno-spec Product Summary

inno-spec GmbH specializes in the optical multichannel spectrometer technology and offers a variety of products.

The building blocks for this technology are permanently adjusted, thermally stable, and compactly constructed diffraction components coupled with the corresponding multichannel photo sensors and sensor electronics. These “Spectrometer Module Assemblies” are customized for applications from UV to NIR (190 to 2500 nm). The application specific spectral performance is achieved by selecting the right optical gratings, slits, and sensors.

Miniaturized Czerny-Turner spectrometer module model series CT75

A large selection of optical plane gratings (300 to 3600 l/mm) paired with CCD linear sensor and slit widths of 10 to 100 µm make it possible to construct high-quality low-cost spectrometer modules. You get the spectral range of 190 to 1100 nm, with spectral resolutions of up to 0.04 nm (FWHM). Using a Back-Thinned surface sensor, you get spectrometers with exceptional UV characteristics and high overall sensitivity. A SMA fiber input optimizes the usability. A light input shutter is an option.

Concave grating spectrometer module model series MS140

A 140 mm flat-field construction, multiple concave gratings, PDA and (Back-Thinned) CCD sensors make the MS140 spectrometer module the preferred system for demanding applications of 190 to 1100 nm. A SMA fiber shape converter produces the wide-area illumination of the concave grating. Integrated shutter and sensor cooling are optional.

Transmission grating spectrometer module model series MST-IGA

The MST-IGA system is the preferred system for demanding NIR applications up to 2500 nm because of a 50 mm transmission construction with multiple types of VPH transmission gratings and the InGaAs sensors. Standard is SMA fiber input with an integrated shutter and sensor cooling to -40°C.

Imaging spectrometer module model series IST

Different imaging spectrograph modules for hyper-spectral imaging applications are available. These IST modules use highly efficient VPH gratings, special optics and CCD, CMOS or InGaAs focal plane array sensors. They are great for demanding imaging applications up to 2500 nm. These modules can be customized to specific wavelength ranges and resolutions.

The IST-series has a C-Mount lens adapter at the light input. For use with external cameras, the spectrograph can also be provided with a C-mount or custom adapters for the output .

The right operational electronics for all spectrometer modules

inno-spec modules have intelligent operational electronics with an Ethernet interface. The Ethernet data connection is the superior solution for spectrometer systems in industry and research. Cable lengths are not an issue with this technology.

Processing is performed by 32-bit microcontroller electronic with integrated data processing. The system has automated background correction and the wavelengths and absolute calibrations are permanently stored in the system memory. The spectrometer operational electronics also have multiple Analog Digital Converter modules to choose from featuring analogue multiplex functions. For InGaAs and back-thinned sensors the system has sensor cooling controls.

Technically advanced housing concepts for lab and industrial use

inno-spec's compact spectrometers are a combination of a spectrometer module and control electronics. Compact lab spectrometers are in a 19" table housings with changeable cassettes for easy configuration. The housings for these industrial systems are compact metal housings with an IP-65 construction. For special applications, high-grade steel housings and external protective housings can be provided upon request.

For measurement solutions directly at the application site, the integration of compact spectrometer and a measuring probe is recommended. This eliminates the problems of calibration and operating safety that can occur with fiber optic connections.

Measurement software that suits you and your application

A basic measurement program for Windows 2000, NT, XP and Vista with all important spectrometer functions and measurement data conversion to ASCII, JCAMP, and GRAMS is provided free of charge with all systems.

GRAMS users have the possibility to transfer and evaluate measurement data in "GRAMS 32" with the basic measurement program.

With the function libraries under C/C+ and LabView, creating your own program packages is no problem at all.

Also available is a modular spectrometer analysis program. This program comes with a few basic modules and can be expanded with Colorimetrics, Chemometrics, the IR analysis library and a search module.