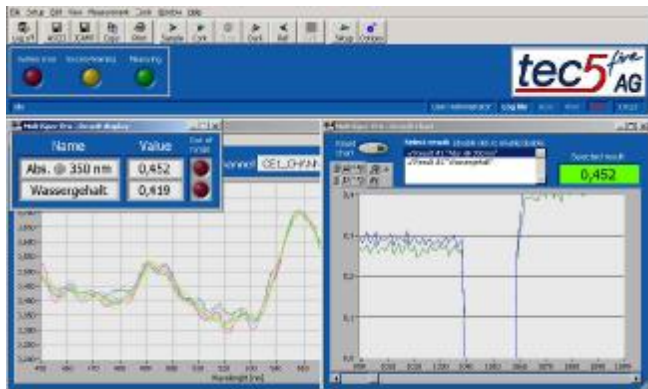


MultiSpec^{Pro} Process Software for Spectroscopy

for Windows 2000 and XP

MultiSpec^{Pro} is a 32 Bit software package based on LabVIEWTM with various data acquisition modes, data display / processing and output options, optimized for process applications. It supports all tec5 operating electronics and spectrometer systems. It is offered by tec5 in a basic version and additional modules for e.g. chemometric prediction and color measurements.



Benefits

- Continuous measurement with automatic data/result storage
- Various scan and display modes (e.g. charts)
- Simultaneous handling of various windows containing spectra, charts, results or other information
- Predictions based on linear regression
- Direct data export in ASCII or JCAMP format
- Output of result and status messages
- System diagnostic protocols

Optional:

- Chemometric prediction on UnscramblerTM, GRAMSTM and NIRCALTM models
- Color measurement module
- System control module
- Multi-channel module
- I/O module for process communication (digital and analog I/O's (TTL / 4...20mA) or Profibus)
- Data preprocessing module with Bubble Detection

MultiSpec^{Pro} Basic Package

MultiSpec^{Pro} offers the complete functionality of data acquisition, graphical display and data storage/ output. In addition data evaluation on basis of linear regression method is available.

Additional Modules

Chemometric Prediction

with the **UnscramblerTM On-Line Predictor (OLUP)** from CAMO. OLUP makes the full UnscramblerTM functionality available in MultiSpec^{Pro} by performing predictions using Unscrambler models:

- Quantitative predictions based on MLR, PLS1, PLS2
- Various outlier tests available
- Works on up to 10 models simultaneously
- No limitations on the number of parameters
- Note: The UnscramblerTM is needed to calculate the models.

with **GRAMSTM - Predictor** from Thermo Galactic

Color Module

- Color determination according to CIELAB, CIE94, CMC
- 10 standard illuminants predefined
- 2° and 10° standard observer

System Control Module

- User management (Access control)
- Log File for documentation of:
 - Log-In / Log-Out
 - System errors
 - System warnings
- Lamp intensity monitor

Remote Control

- Remote control via digital I/O
- Remote display and control via Internet-Browser

Customer specific data evaluation

The open, modular design offers the easy implementation of customer specific modules:

- Chemometric evaluation with e.g. NIRCALTM - Predictor from Büchi AG
- Module for reaction kinetics
- Calculation of color numbers e.g. Hazen

Functions of MultiSpec^{Pro} Basic Package

Note: An Operating Electronics or Spectrometer System must be connected to operate MultiSpec^{Pro}.

Data acquisition

- Cycles and continuous measurements*
- Automatic dark current correction*
- Simultaneous referencing (2 channel)*
- External shutter control*
- External triggering of the scan cycle*
- Joining of UV/VIS und NIR spectra*

Data evaluation

- Performs an analysis of the composition of an unknown sample using linear regression
- Flexible definition of result values

Graphics

- Display of following spectra: counts, dark current, reference, absorption, transmission*
- Numerical result display for user selectable result values
- Result chart for multiple parameters
- Graphic display for multiple spectra*

Printing

- Support of Windows printer system*

Data export/storage

- Manual and automatic data export of Absorption-/ Transmission- or Raw spectra to JCAMP and ASCII format (EXCEL-compatible)*
- Manual and automatic export of result data to ASCII format

Result output

- All results can be projected on to the available analog and digital outputs or to the Profibus interface

Trial version

- For software evaluation a 30 day Trial version is available*

MultiSpec^{Pro} Lite version

For applications where only data acquisition, display and export of spectra is the main purpose, we offer a low-cost version of MultiSpec^{Pro}. The Lite version includes the functionality marked with a * shown on the left side.

LabVIEWTM

MultiSpec^{Pro} is developed under the graphical LabVIEW programmer environment from National Instruments, which is used worldwide in the process and automation industry. To run MultiSpec^{Pro} the LabVIEW run-time machine 6.1 is needed, which is part of the delivery.

Hardware Configuration Wizard

A wizard helps to configure the MultiSpec^{Pro} software the first time and after every hardware configuration change. A test procedure verifies the configuration. The settings are saved and the electronics is automatically initialized when the application is started.

Supported Electronics and Systems

MultiSpec^{Pro} is designed to support all tec5 Operating Electronics and MultiSpec Spectrometer Systems based upon these electronics:

- PCI and USB electronics
- MOE-1/LOE-1 electronics

Hardware Requirements

- PC with Windows 2000, XP
- Intel Pentium 4 with 2 GHz, 512 MB RAM
60 MB HDD space, SVGA, High Color

Customer Specific Solutions

Employing tec5 software modules and drivers and existing add-on modules for spectral data processing, tec5 develops programs for customer specific applications.



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