

Product Note M161-02/16

PermaSure™: Permanently Assured Reliability



PermaSure™ benefits:

- Automatic recognition of sampling modules and ATR-crystal plates
- Automatic self-test of sampling modules after change
- Automatic use of appropriate measurement settings for each sampling module
- Individual calibration of each sampling module resulting in highest wavenumber accuracy
- Permanent monitoring of spectrometer components and humidity

The QuickSnap™ sampling modules for the ALPHA offer full sampling flexibility. They allow the analysis of almost any kind of sample (e.g. solids, liquids or gases) each with perfectly matched instrument configuration. For each measurement mode (ATR, transmission, DRIFT and external reflectance), the QuickSnap™ modules provide a smart design optimized for maximum user comfort (Fig. 1). With the push of a button, the exchange of the sampling modules is performed quickly and easily.

Permanently recognized

PermaSure™ keeps track and automatically detects the connected sampling module including ATR-crystal plates. Each component has its own unique electronic encoding and even configurations of the same type are distinguished.

Permanently tested

PermaSure™ automatically performs a quick self-test every time a sampling module or ATR-crystal plate is changed in order to ensure a proper instrument performance. Appropriate measurement settings for the used configuration are automatically loaded.

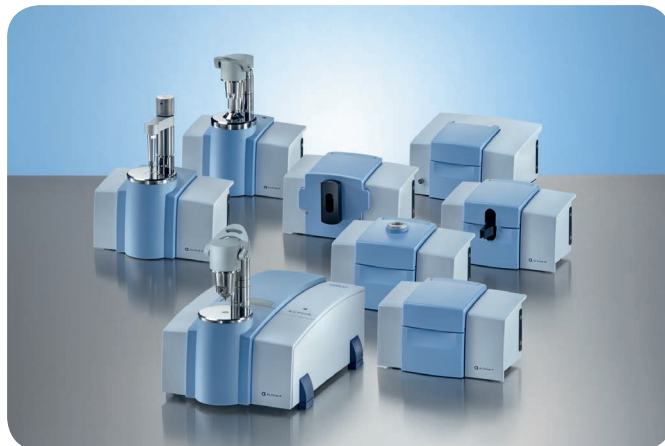


Fig. 1: ALPHA FT-R spectrometer with QuickSnap™ sampling modules.

Permanently calibrated

Moreover, for each instrument setup individual x-axis calibration data is used. This feature guarantees highest wavenumber accuracy for all different optical setups. As a result, the bands of sample spectra are always at the correct position independently from the used measurement setup, safeguarding correct evaluation results both for qualitative and quantitative analysis.

Figure 2 shows the reference band on the ALPHA's internal polystyrene standard measured with different QuickSnap™ sampling modules.

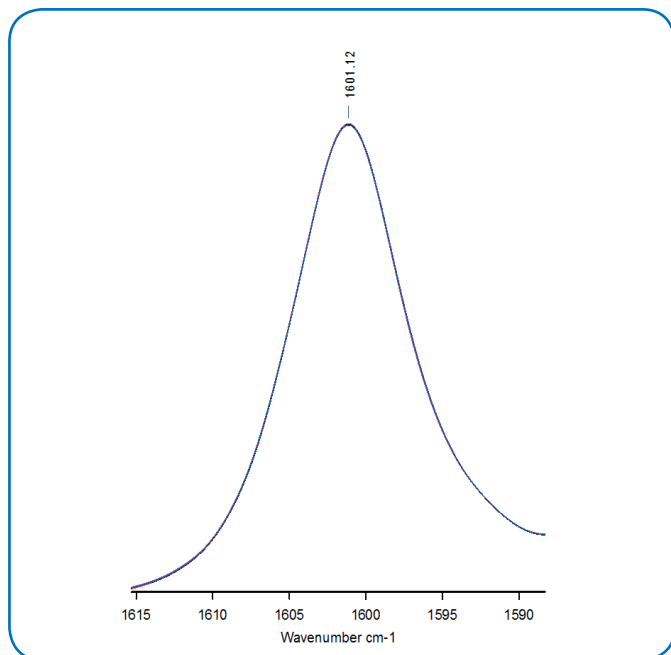


Fig. 2: Reference band of the ALPHA's internal Polystyrene standard measured with four different QuickSnap™ sampling modules: Transmission (red), Diamond-ATR (black), Germanium-ATR (pink) and DRIFT (blue). Due to the individual wavenumber calibration of each instrument setup the position of IR-band is highly accurate and reproducible independent from measurement technique.

Permanently supervised

Finally, PermaSure™ includes a constant monitoring of spectrometer electronics, mechanical components, and humidity assuring correct functioning of the complete instrument.

Figure 3 shows the instrument status window where the status information about all spectrometer components and accessories is shown. The name of the currently active accessory is highlighted in dark blue.



Fig. 3: Instrument Performance Guard showing the status of all spectrometer components and individual sampling modules.