OUTDOOR FT-IR SPECTROMETER

MOBILE-IR II

Technical Specifications

The MOBILE-IR II is a portable FT-IR analyzer for the identification of virtually all solid and liquid chemical materials. The ruggedized, battery-powered system is perfectly prepared for off-grid outdoor operation. Sample analysis is performed by rapid and automated workflows, guiding operators step-by-step through the measurement process. Identification of the measured material is performed automatically and based on extensive spectral databases.

Performance

Spectral Range	6000 - 670 cm^{-1}
Resolution	Standard: 2 cm^{-1}; optional: 0.8 cm^{-1}
Wavenumber Accuracy	Better than 0.05 cm^{-1} @ 1576 cm^{-1} (laboratory conditions)
Wavenumber Precision	Repeatability <0.0005 cm^{-1} @ 1576 cm^{-1} (standard deviation of 10 repeated measurements in laboratory conditions)
PQ & OQ	Real-time instrument status control, instrument validation by OVP-X

Hardware Design

Protection Class	IP65 (protection against dust ingress and water jet)
Resilience (vibration, temperature)	Metal housing, vibration damped base RockSolid™ Interferometer (wear-free)
Durability	Permanently aligned Interferometer (RockSolid™) TE-MCT detector (cryogen-free) Laser Class 1, Laser diode, 10 years warranty CenterGlow™ IR source
Detector	High-sensitivity thermoelectrically cooled MCT detector
Sample Interface	Diamond-ATR interface, approx. 1.2 mm x 1.2 mm, edged in stainless steel, lifetime >10 years High pressure clamp for tight contact of solid samples to the ATR-crystal Open access clamp lever design, trough design of sampling area or (optional) flat ATR crystal plate On/off switchable, software-controlled heating of the sampling area up to 80°C

Dimensions & Weight & Mobility

Size	21 cm x 33 cm x 20 cm (w x d x h)
Weight	Approx. 10.5 kg
Mobility	IP67 protected transport trolley with wheels and pull handle; 56 cm x 44cm x 33 cm (w x d x h)

Operating Environment

Operating Temperature	5°C to 40°C (41°F to 104°F)
Storage Temperature	-20°C to 50°C (-4°F to 122°F)
Humidity	Resistant to high humidity (≤80% relative humidity)
Altitude	Up to 2000 m above sea level
Power Supply	Integrated battery, typical operation of 7h, standby mode extends battery life, recharge is possible by supplied power cable.
Power Requirements	100 - 240 VAC, 50/60 Hz, Overvoltage category II

Data System & Connectivity

External PC	Ruggedized touch operated tablet computer, IP65, MIL-STD810G, 10,1" WUXGA-display with 1.000 cd/m²
Connectivity	Ethernet connection via cable or remote control via WiFi adapter

Software

Operating System	Windows 10, 64-bit
User Interface	Guided 2-step workflow w/ integrated sampling SOP Automation of data evaluation, Automation of reporting, Spectrum viewer
Databases	Multiple Bruker-exclusive and third-party databases Customer-built databases
Data Evaluation	Spectrum search, mixture analysis, quantification, multi-evaluation
Data Management	File Archive
User Management	Individual user rights, user specific home screens
Language Support	13 languages supported: English, German, Chinese (simplified), Chinese (traditional), Japanese, Korean, Portuguese, French, Spanish, Italian, Russian, Polish, Turkish
Optional packages	OPUS Search OPUS Validation OPUS Database OPUS Reaction Monitoring Quant 2

Laser class 1 product.
Technologies used are protected by one or more of the following patents:
US 7034944; US 5923422; DE 19704598

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Bruker Optics is ISO 9001, ISO 13485, ISO 14001 and ISO 50001 certified.

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