

Handheld Devices

Professional Instruments for Plant Science,
Biotechnology and Agriculture



Handheld Devices

SEEING BEYOND THE SURFACE

Lightweight battery-powered devices

Quick, reliable and repeatable experiments

Excellent tools for research and education

- | Ergonomic design | Splash-Proof | OLED Graphical Display
- | Integrated GPS Module | Li-ion Rechargeable Battery via USB port
- | Communication by Bluetooth and/or USB



FluorPen & PAR-FluorPen

- Measurement of photosynthetic activity in the lab, field or greenhouse
- Automated measurements of Ft, QY, OJIP, NPQ and Light Curves
- May be equipped with an integrated light meter for direct digital readouts of PAR

Applications

| Photosynthesis Research | Screening and Characterization of Photosynthetic Mutants | Field Studies | Stress Detection
| Agriculture and Forestry | Herbicide Testing | Education



Monitoring Pen

- Designed for extreme conditions
- Pre-programmed chlorophyll fluorescence measurement of Ft, QY, NPQ, OJIP, and Light Curves

Applications

| Monitoring of Photosynthetic Performance | Plant Screening in Lab and Field | Stress Physiology | Agriculture & Forestry
| Oceanography: Coral Physiology and Stress



AquaPen-C & AquaPen-P

- Sophisticated chlorophyll fluorescence measurements in suspensions
- Automated measurements of Ft, QY, OJIP, NPQ, Light Curves and Optical Density in AP-C version
- Equipped either with a cuvette (AP-C) or submersible probe (AP-P)
- Ultra-high sensitivity of 0.5 μg Chl/L in dilute suspensions

Applications

- | Photosynthesis Research of Algal and Cyanobacterial Suspensions
- | Detection of Algal Contamination in Water
- | Phycology and Limnology
- | Oceanography
- | Biotechnology



PlantPen NDVI & PlantPen PRI

- Rapid measurements of NDVI and PRI
- NDVI correlates with chlorophyll content
- PRI correlates with carotenoid content (for stress assessment)
- Inexpensive, non-invasive and easy to use

Applications

| Rapid Screening of Chlorophyll Content | Field and Lab Studies
| Early Stress Detection | Nutrition Effects | Agronomy, Forestry
and Plant Physiology



N – Pen

- Rapid non-invasive prediction of leaf nitrogen-content based on NDGI index
- Absolute calibrations for wheat, maize and barley
- Relative measurement of nitrogen in all other species
- Rapid measurements in the lab or field

Applications

| Yield Predictions | Increasing Nitrogen Use Efficiency | Minimizing Yield-limiting N Deficiencies | Minimizing Fertilizer Applications and Environmental Contamination



PolyPen

- Complete system for measuring leaf reflectance spectra
- Automatic calculation of all commonly used reflectance indices: NDVI, PRI, MCARI, TVI, NPCI etc.
- Allows calculation of customised indices

Versions:

- UVIS: 380 nm - 790 nm
- NIR: 640 nm - 1,050 nm

Applications

- | Plant Screening & Field Studies
- | Stress response
- | Pigment Composition
- | Water Content of Plants
- | Nitrogen Status
- | Grain Yield



PolyPen-Aqua

- Sophisticated handheld replacement for benchtop spectrophotometers
- Measurements of absorbance and transmittance spectra

Versions:

- UVIS: 380 nm - 790 nm
- NIR: 640 nm - 1,050 nm

Applications

- | Quantitative and Qualitative Analyses of Solutions
- | Growth Monitoring of Autotrophic and Heterotrophic Microorganisms
- | Spectral Measurements of Cell Suspensions
- | Pigment Composition
- | Protein Analysis



SpectraPen

SpectraPen LM 510

- Rapid detection of light intensity and spectral quality in the lab, greenhouse or field
- Measurements of irradiance in radiometric or photometric units

Calibrated versions:

- UVIS: 340 nm - 790 nm
- NIR: 640 nm - 1050 nm

SpectraPen Mini

- Small portable spectroradiometer and quantum light meter
- Calibrated in the spectral range of 400 nm – 850 nm
- Controlled via mobile application



LaiPen

- Specially developed for measurement of Leaf Area Index (LAI)
- Studies of canopy growth and productivity
- Single and dual sensor operation mode possible
- Rapid, repeated measurements for large-scale screening programs

Applications

| Canopy Growth and Productivity | Forest Dynamics | Impact of Air Pollution and Insect Damage on Foliar Health | Remote Sensing
| Global Carbon Cycle



SEEING BEYOND THE SURFACE

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