



# ICT International Pty Ltd

Instrumentation for Soil, Plant and Environmental Monitoring

## PlantPen PRI 200 & NDVI 300 Leaf Chlorophyll & Carotenoid Content

### Specifications:

- **Measured Parameters:**

PRI (Photochemical Reflectance Index)

$$PRI = (R_{531} - R_{570}) / (R_{531} + R_{570})$$

NDVI (Normalized Difference Vegetative Index)  $NDVI = (NIR - VIS) / (NIR + VIS)$

- **Measuring Light:** PRI: Internal dual wavelength light source  $R_{531} = 531$  nm,  $R_{570} = 570$  nm

NDVI: Internal dual wavelength light source  $VIS = 660$  nm,  $NIR = 740$  nm

- **Detector Wavelength Range:**

PRI: PIN photodiode with 500 to 600 nm bandpass filters.

NDVI: PIN photodiode with 620 to 750 nm bandpass filters

- **FluorPen/PlantPen 1.0 Software:** Windows 2000, XP, or higher

- **Memory Capacity:** Up to 4 Mb

- **Internal Data Logging:** Up to 100,000 data points

- **Display:** 2 x 8 characters LC display

- **Keypad:** Sealed, 2-key tactile response

- **Keypad Escape Time:** Turns off after 3 minutes of no use

- **Power Supply:** 4 AAA alkaline or rechargeable batteries

- **Battery Life:** 48 hours typical with full operation

- **Low Battery Detection:** Low battery indication displayed



**PlantPen** is a Photon Systems Instrument that is a reflectance-based device providing a convenient, low-cost method of measuring the relative chlorophyll content of a leaf sample.

PlantPens measure and calculate particular reflectance indices to assess chlorophyll content, protoporphyrin carotenoids, and other important features in live foliage.

### Two models are available:

- **PRI 200** measures **Photochemical Reflectance Index** in two narrow wavelength bands centered close to 531 nm and 570 nm. PRI is sensitive to changes in carotenoid pigments that are indicative of photosynthetic light use efficiency, the rate of carbon dioxide uptake, or as a reliable water-stress index. As such, it is used in studies of vegetation productivity and stress.
- **NDVI 300** measures **Normalized Difference Vegetation Index**, which is an important indicator of chlorophyll content in plants. The device compares reflected light at two distinct wavelengths,



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### Leaf Chlorophyll & Carotenoid Content

- **Size:** 170 x 57 x 30 mm; 6.7" x 2.2" x 1.2"
- **Weight:** 180 g, 6.5 oz
- **Operating Conditions:**  
Temperature: 0 to 55 °C; 32 to 130 °F.  
Relative humidity: 0 to 95 % (non-condensing)
- **Storage Conditions:**  
Temperature: -10 to +60 °C;  
Relative humidity: 0 to 95 % (non-condensing)
- **Warranty:** 1 year parts and labor

#### PlantPen Versions:

##### Standard PlantPen PRI 200

Standard PlantPen PRI200 measures Photochemical Reflectance Index  
Options include supplemented by Bluetooth, USB or serial port.

##### Standard PlantPen NDVI 300

Standard PlantPen NDVI300 measures Normalized Difference Vegetation Index. Options include supplemented by Bluetooth, USB or serial port.

#### Additional Options:

- Mini-computer
- GPS
- Battery charger
- Transport case



#### Software:

- FluorPen 1.0 Software (Windows 2000, XP, or higher compatible)\*
- Bluetooth communication
- Visualization and data transfer routines to Microsoft Excel
- Real-time and remote control functions
- GPS mapping plug-in

#### Custom-Made Versions:

Besides the two standard models, we offer custom-made PlantPens that can measure other structural or chlorophyll indices

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