

Fruit and Vegetable Quality Analyzer

NY2400

Features

- High sampling coverage and accuracy
- Multi-dimensional data integration
- Non-contact, non-destructive, fast
- Measures damage, size, freshness, sweetness, rot
- High precision, sensitivity in complex environments
- Low power, long battery life
- Easy installation, integrates with sorting systems
- Broad application for fruits and vegetables

Application

- **Fruit and Vegetable Maturity Detection:** Maturity is a key parameter of fruit and vegetable quality. The instrument assesses maturity by detecting color and spectral characteristics of the produce.
- **Internal Quality Detection:** The instrument can measure the internal quality of fruits and vegetables, such as sugar content and acidity.

Description

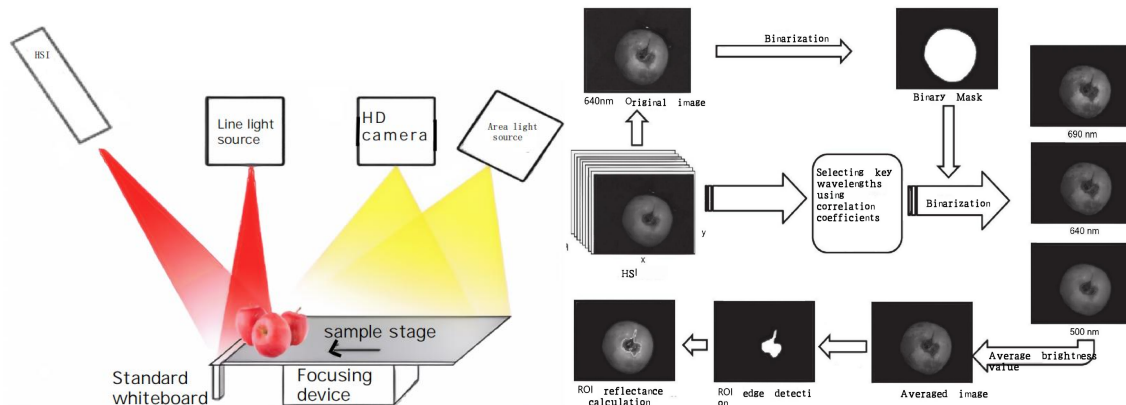
The Fruit and Vegetable Quality Analyzer by Optosky employs cutting-edge hyperspectral technology to evaluate the quality of fruits and vegetables. By capturing detailed spectral information across multiple wavelengths, this analyzer integrates advanced imaging processing and data analysis algorithms to deliver accurate assessments. It provides non-destructive, efficient, and high-resolution measurements, making it ideal for detecting parameters like damage, freshness, and sweetness.

In the food industry, the Fruit and Vegetable Quality Analyzer is crucial for quality control, sorting, and grading. It's used in agricultural production, food processing, and distribution to ensure optimal quality and minimize waste.

- **Freshness Detection:** The instrument determines freshness by analyzing changes in spectral information.
- **Variety Identification:** Different varieties of fruits and vegetables have distinct spectral characteristics, allowing for precise identification of types.
- **Pest and Disease Detection:** The instrument identifies and locates pests and diseases by analyzing spectral reflection characteristics, even before visible symptoms appear.



1. Detection Principle

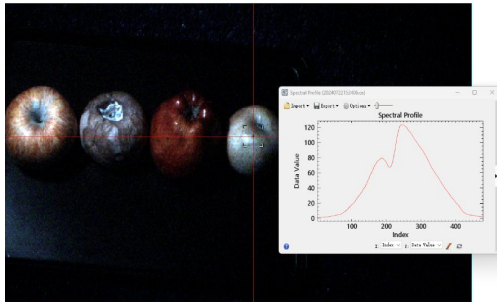


The principle of NY2400 is based on spectroscopy-based hyperspectral imaging technology, which comprehensively analyzes the quality of fruits and vegetables by capturing spectral information on their surfaces. The fruit and vegetable samples placed on the electronically controlled moving platform (or conveyor belt) are illuminated by a light source. The reflected light of the sample is captured by the spectrum camera through the lens, and one-dimensional images and spectral information are obtained. As the electronically controlled mobile platform (or conveyor belt) drives the sample to run continuously, continuous one-dimensional images and real-time spectral information can be obtained. All data are recorded by computer software, forming a three-dimensional data cube containing image information and spectral information. . By analyzing these data and using algorithms such as machine learning, various quality parameters of fruits and vegetables can be extracted. NY2400 measurement is characterized by fast, non-destructive and high precision. It has broad application prospects and important practical value in the field of fruit and vegetable quality inspection.

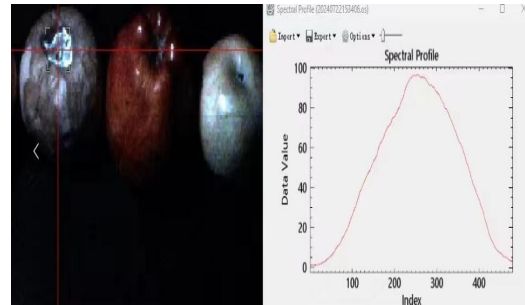
2. Instrument Advantages

- (1) There are many spectral features. High spectral resolution. The sampling interval of the imaging spectrometer is small, and the resolution is less than 2nm. As the number of bands increases, the amount of data increases exponentially.
- (2) Non-contact, second-level testing, non-destructive testing and pollution-free testing of fruits and vegetables can be carried out.
- (2) The instrument has excellent cost performance. The instrument can measure multiple parameters of fruits and vegetables. While ensuring performance, the instrument has a significant price advantage.
- (3) The instrument can be customized according to the testing conditions and environmental requirements.
- (4) Excellent instrument after-sales and algorithm services. The company has offices in major cities across the country, and the company has a professional algorithm team to provide support.

3. Test Picture



Fresh



Rot

4. Parameter

Indicator	Parameter
Measurement Parameters	Detection of fruit and vegetable damage, size, freshness, sweetness, etc.
Spectral Range	900-1700 nm
Spectral Resolution	Better than 4.5 nm
Spatial Resolution	Better than 1 nm
Maximum Spatial Channels	512
Maximum Spectral Channels	640
Dynamic Range	16-bit
Scanning Range	0-280 nm
Reflectance Calibration Plate	Standard 30%, optional 50%
VIS Camera Resolution	24 million

Note: Parameters such as spectral range can be customized according to the actual needs of customers.

5. Configuration list

No.	Item	Quantity	Optional
1	Measurement Main Unit	1 unit	Standard
2	Objective Lens and Radiance Calibration	1 set	Standard
3	Fruit and Vegetable Service Workstation	4 sets	Standard
4	High-Stability Blue Halogen Lamp	4 units	Standard
5	Standard Calibration Plate	1 plate	Standard
6	30% Gray Plate	1 plate	Optional
7	50% Gray Plate	1 plate	Optional

Note: It can be supplied according to the actual configuration requirements of customers.