

SWIR CAMERA SYSTEMS

ADVANCED IMAGING AND INSPECTION SOLUTIONS

SWIR camera systems operate in the 900 – 1700 nm wavelength range and detect the chemical and physical differences within the product's structure.

They detect bruising, sprouting and foreign matter in fruits, vegetables and meat products, as well as moisture change and quality differences. They bring more reliable and efficient quality control processes, saving time.

EARLY DETECTION WITH SWIR

VISIBLE IMAGE



SWIR IMAGE



Bruises and internal damage that are not visible on the surface are detected clearly with SWIR imaging.



HOW DOES IT WORK?



SWIR Imaging Technology
Generates images in the 900 – 1700 nm wavelength range.



Spectral Analysis
Analyzes the reflection spectrum of the product and determines its chemical and physical properties.



Defect Detection
Detects bruising, sprouting, foreign matter, moisture and quality issues in real time.



Quality Assurance
Automatically increases product quality while reducing fire, waste and costs.



Easy Integration
Easily integrates with existing error and automation systems for seamless operation.

APPLICATION EXAMPLES

EARLY BRUISING DETECTION (FRUITS)

Bruised areas inside the fruit that are invisible on the surface are detected at an early stage with SWIR.

VISIBLE IMAGE



SWIR IMAGE



BRUISING AND ODOR DAMAGE DETECTION (MEAT)

Detects bruising and odor damage that occur inside the meat and helps deliver high quality products with SWIR.

VISIBLE IMAGE



SWIR IMAGE



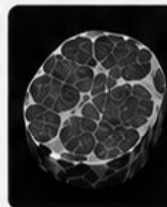
FAT QUALITY AND FRESHNESS ANALYSIS (MEAT)

Analyzes the fat distribution, moisture and freshness of meat products with SWIR and evaluates quality.

VISIBLE IMAGE



SWIR IMAGE



MOISTURE DISTRIBUTION ANALYSIS

Analyzes moisture differences inside the product with SWIR and improves quality control processes.

VISIBLE IMAGE



SWIR IMAGE



KEY BENEFITS



HIGH PENETRATION
Provides clear imaging up to 900 – 1700 nm wavelength range.



REAL-TIME ANALYSIS
High-speed imaging and advanced algorithms deliver instant results.



SUPERIOR IMAGE QUALITY
High contrast and low noise deliver detailed images even in low light.



EASY INTEGRATION
Seamlessly integrates with all packaging and production lines.



DATA RECORDING & REPORTING
All data is recorded, reports are generated and traceability is ensured.

TECHNICAL SPECIFICATIONS

Resolution	640x512 pixels
Frame Rate	100 Hz
Wavelength Range	900 – 1700 nm
Focus	Manual
Interface	Ethernet
Operating Temperature	0 – 50 °C
Power Supply	220 VAC
Weight (including conveyor)	50 kg

WHY SWIR CAMERA SYSTEMS SHOULD BE PREFERRED?

- ✓ Increases product quality and reduces fire and costs
- ✓ Enables early detection and saves time and resources
- ✓ Delivers high performance in demanding production conditions
- ✓ Supports food safety and regulatory compliance
- ✓ Provides hygienic and reliable control without contact measurement