Optomechatronix OMT

Mobile Near Infrared Component Analyzer

M011-02

Non-destructive measurement of fat component in fish/meat using near infrared light (640-1050nm)

General

Non-destructive component measurement irradiating near infrared light (dual wavelength) into the object. By connecting with PC or mobile PC via USB interface (wired) or Bluetooth (wireless) enables to obtain the signal from each wavelength. The component of object can be measured based on the first/second differentials of each wavelength.

Feature

- Component analysis by absorption measurement in the near infrared region.
- Compact and lightweight by ultra small sensor.
- Connection with mobile devices via Bluetooth
- Easy date manipulation by PC thanks to CSV format.
- Calibration curve function available as a standard necessary for component analysis.
- Applicable fishes; Horse mackerel, Chub mackerel, Black throat seaperch, Conger eel,
- Under preparation: Male-female discrimination of balloon fish and crab

Application

- Oil/Fat component analysis of fish/meat

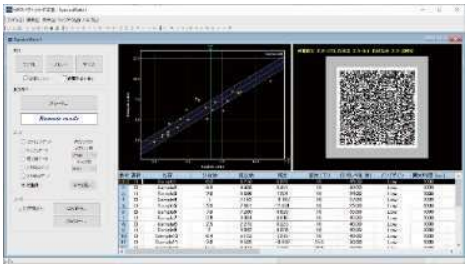
System configuration

Specification

Item	Contents
Wavelength range	640nm ~ 1050nm
Type of detector	Near Infrared spectrophotometer
Slit size (mm)	75×750μm
Wavelength resolution (FWHM)	15nm(max.)
Wavelength reproducibility	-0.5 ~ +0.5nm
Wavelength temperature dependency	-0.05 ~ +0.05nm/℃
Sampling time	20 ~ 10,000ms
Input power (at λ=850nm)	$10E^{-12}$ ~ $10E^{-7}$W
Light source	Halogen lamps (x2)
A/D resolution	16bit
Wavelength resolution	2nm
Power supply	Battery (5V)
Output data	Wavelength, light intensity, first/second differentials
Control method	Main unit switch or USB/Bluetooth control
Data transfer	USB or Bluetooth
Dimension	Φ45×129mm (main unit only)
Weight	Approx. 300g (includes battery)
Applicable environment	5 ~ 35℃、humidity 30 ~ 80% (no condensation)
Remarks	Waterproof sensor cap at main unit White plate for wavelength calibration included

Software

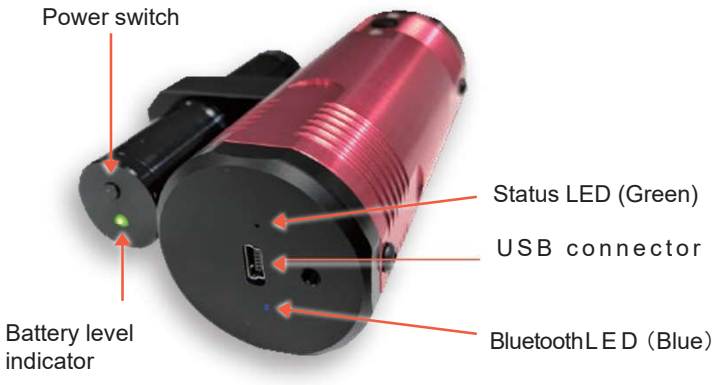
- Set measurement parameters includes exposure interval time and gain
- Real time graphic display of measured data
- Store measured data in CSV format
- On site measurement possible with mobile PC
- Create calibration curve based on component value and measured wave form (option)



Calibration curve creation

Fat data of fish

Dimension



Options :

- Li-ion battery 18650 certified
- P001-01 Calibration curve creation software

- C005-01 Mobile PC
- P002-01 Software for mobile PC
- C005-02 Single charge cradle set
- C005-03 Arm mount
- C005-04 Holster

Configuration

Example of configuration

1	Complete set		
	NIR main unit	M011-02	1
	Li-ion battery (x2)		1
	Li-ion battery charger		1
	Calibration software	P001-01	1
	Mobile PC	C005-01	1
	Single charge cradle set	C005-02	1
	Software for mobile PC	P002-01	1
2	For Calibration curve creation		
	NIR main unit	M011-02	1
	Li-ion battery (x2)		1
	Li-ion battery charger		1
	Calibration software	P001-01	1
3	For On-site fat measurement		
	NIR main unit	M011-02	1
	Li-ion battery (x2)		1
	Li-ion battery charger		1
	Mobile PC	C005-01	1
	Single charge cradle set	C005-02	1

● Specification and external appearance are subject to change without prior notice

OMT Optomechatronix
7F Hamamatsu Act Tower
111-2 Itaya-cho, Naka-ku, Hamamatsu city, 430-7707, Japan
TEL.053-401-2070 FAX.053-401-2071
Mail : info@opt-mt.com URL : http://www.opt-mt.com
Update :Mar.2021