

# ReceivingOPT BA



## Specification Measurement System

Wavelength used	950nm – 1690nm
Measurement interval	> 60 raw values/minute
Number of probes	1 – 6
Repeat accuracy	< 0.5% - standard deviation points
This product is designed for quality assurance and incoming goods control. Further applications are at the discretion of the customer.	

## Central Spectrometer Unit (CSU)

Form factor	400mm x 500mm x 250mm (WxHxD)
Weight	25kg // 55.1lb
Electrical protection class	IP 54
Ambient temperature	Unheated, cooled +5°C to 50°C // 41°F to 122°F Heated, cooled -20°C to 50°C // -4°F to 122°F
Relative air humidity	Max. 80 %, non condensing
Interfaces	Ethernet
Power Supply	230V AC // 120V AC

## Contact Probe

Form factor	Diameter 165mm // 6.5in, Length 178mm // 7in
Weight	4.5kg, 9.9lb
Measurement window	sapphire glass, 17,25mm // 0.67in diameter
Electrical protection class	IP 65
Ambient temperature	-20°C to 60°C // -4°F to 140°F
Flange Type	DN50 PN10-16s
Data transfer	RS 485 and fiber optic cable
Light sources	2 x max. 5 W
Expected life time	Approx. 5,000h per bulb, two bulbs installed
Power supply	24V DC // 400mA

## Hybrid connector cable

Consisting of	Communication (RS 485), power supply, fiber optic cable
Diameter	10mm // 0.39in
Weight	120g/m // 0.08lb/ft
Maximum bend radius	70mm // 0.23ft
Optimal bend radius	150mm // 0.49ft
Ambient temperature	-40 °C/-40 °F to 80 °C/176 °F

## APOS ATP Terminal

Touch screen	7" Screen, 800x480 Pixel
Protection class	IP64
Ambient temperature	-10 °C to +50 °C
Relative air humidity	max. 80% non condensing
Interface	Ethernet

## LED Display ALDS for wall mounting

Protection class	IP64
Ambient temperature	-10 °C to +50 °C
Relative air humidity	max. 80% non condensing
Interface	RS232, RS485

# ReceivingOPT BA



## Online analysis of biomass instantly upon delivery

ReceivingOPT BA automatically measures your material supply during delivery - in real time. The cumbersome, time-consuming and delayed analysis of individual samples in the laboratory is no longer needed. The system automatically generates a complete documentation of the woody materials received. It creates the basis to assess the quality supplied immediately and uses the information generated for billing by water/ash content, calorific value or other parameters needed.

## Management of material delivery

With ReceivingOPT BA, APOS has developed an application for complete coverage of the material delivery process based on the well-known and established NIR technology. The entire process from weighing to the identification of calorific value, water content, ash content, material management diary and settlement is administrated by the APOS application. The system can be integrated with the software of the truck scale and with existing ERP systems or MS-Excel for billing, according to the customer's situation. APOS also provides a large LED display (ALDS) that immediately, during delivery, shows the quality of the material delivered.

## Technology

Key to the system is APOS' NIR technology that delivers a set of values every 0,9 seconds, no matter how many parameters are needed for the individual application. For ReceivingOPT BA, approx. 1000 value sets are generated during the unloading of a typical walking-floor truck. These values are visualized for the yard manager and the truck driver in real time during unloading.

## Purpose

The system is typically used for quality management of woody materials, let it be fresh wood chips or recycling materials. Even contaminated qualities work. Individual calibrations can be generated by APOS for further parameters like lignin or glue contamination. The systems are also used for billing and for strategic supplier evaluation.

## Typical Installation

A typical installation consists of the self-service terminal for the truck driver that is installed close to the unloading pit, at least one sensor/probe per pit and the central spectroscopy unit (CSU), which can be installed indoors or outdoors and a PC solution for use by the material receiver. The system comes with a user friendly application in your language to manage the complete wood yard in one application. In addition, APOS offers ReceivingOPT Journal (ROJ) as a software add-on product. The ROJ is the tool for the Material Flow Manager, who has constant insight from any place in the corporate network into the current supply and the entire delivery history of all unloading stations managed by APOS systems.



APOS-ALDS



Installed probe



APOS ATP/self-service-terminal



CSU (Spectrometer unit)

## Reception with ReceivingOPT BA:

1. While the truck is on the truck scale, it is registered in the APOS system. With integration of the truck scale in the APOS ReceivingOPT BA system, the weighing data is automatically transferred to ReceivingOPT BA and a data set is created in the material reception diary.

### 1. Truck on scale



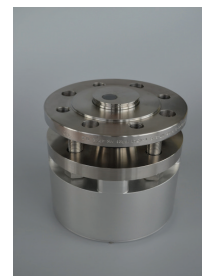
2. The truck driver starts unloading and he himself or the yard manager (as defined by the customer supervisor) starts the measurement process. The driver identifies himself/his cargo on the terminal by entering an ID number or by scanning a code.

### 2. ATP Input Terminal



3. During unloading the fuel is transported over the sensor. Measurement values are generated every 0.9 seconds, which sums up to almost 1000 individual measurements (or virtual samples) per walking floor truck. These almost 1000 measurements replace the single manual sample that is typically used without using ReceivingOPT BA.

### 3. Truck unloading at bunker



Measuring probe



## 4. Reception screen



4. The material is analyzed in real time regarding e.g. its water and ash content and calorific value. The analysis is performed in the central spectrometer unit CSU. Both, fuel reception team and truck driver see a real time visualization of the delivered quality in their office or the ATP at the bunker, respectively.

## 5. Overview of all measuring points



5. The ReceivingOPT BA software can manage up to 6 measuring points/pits. The overview shows all your measuring or discharge points at a glance. The yard manager can see at any time, where unloading and measuring is running or not.

## 6. Material delivery office



6. Measurement results and unique identifier (number plate, supplier code...) are transferred to fuel receiving office in real time i.e. the yard manager can immediately see and assess what is unloaded. The automatically generated, continuous journal can be adopted to local requirements with a few clicks. This simplifies the user documentation and a qualified quality assurance discussion with the suppliers.

## 7. ERP Integration

7. All data can be exported to excel or your ERP for further processing. APOS has realized various ERP interfaces and if necessary an individual interface to an ERP system / accounting software can be created.