

# SpectroSave®

In-Line Spectrometer  
for Color Quality Control



**Innovation**  
*In Every Dose*

# A Revolution in Plastics Quality Control

## Differential Spectrometry on the Production Line

SpectroSave is a patented differential in-line spectrometer that enables instantaneous comparison to reference part, digitally setting the Pass/Fail criteria at the production line.

- In-line testing of product color
- Real-time adjustment of additive feeder

## Versatile Design

SpectroSave is designed for work on the production floor, standing up to all types of dirt and bumps, easily installed on conveyors or robots, and requiring no frequently re-calibration.

- Resistant to vibrations
- Withstands varying temperatures with no need for re-calibration
- Tolerates production environments
- Enables various external communication options

## Multiple Testing Modes

SpectroSave is built to fit your needs, allowing QA engineers to choose from internal or external sampling triggers and Differential or Absolute testing modes.

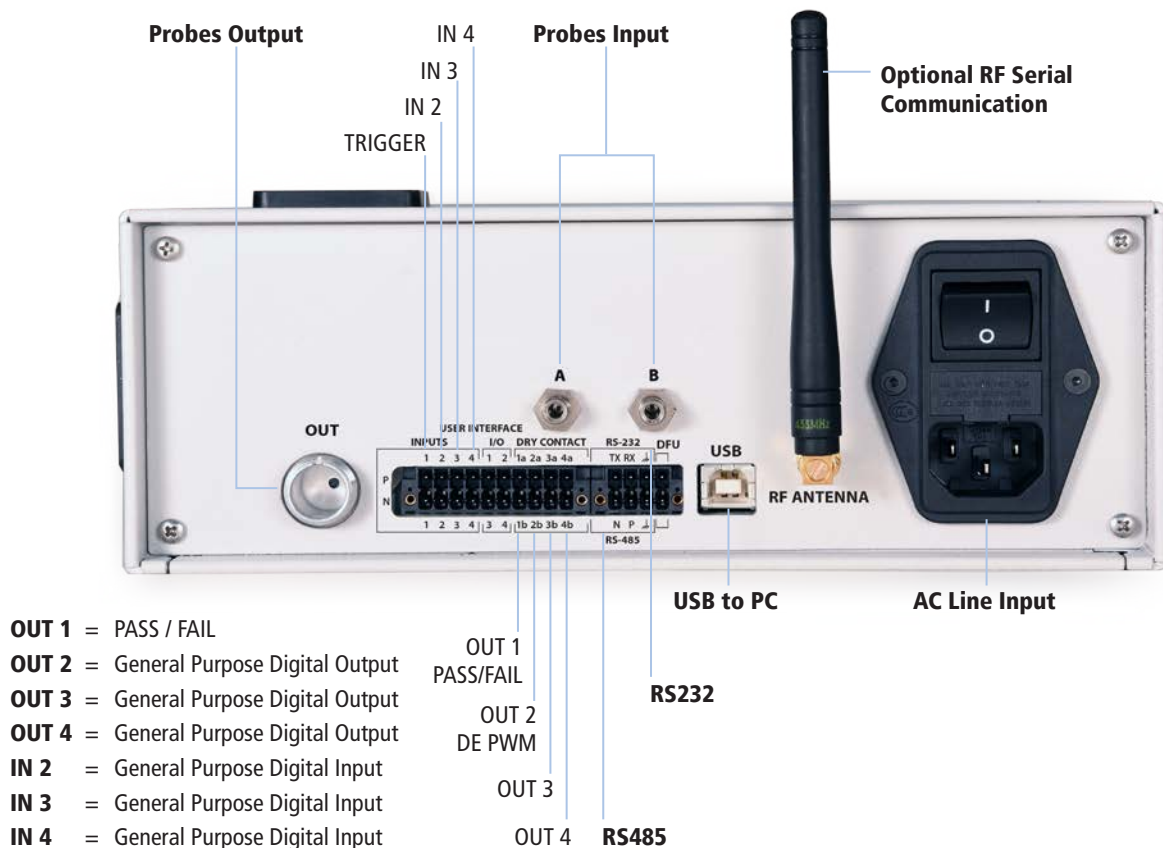
- **Differential mode** - measures  $\Delta E$  between reference and new product
- **Absolute mode** - when the actual color coordinates  $L^*a^*b^*$  is measured

SpectroSave enables digital setting and output of the Pass/Fail criteria for further process control or alarms



## Specifications

Spectrometer type	Modified Czerny-Turner with 12 nm resolution
Light source	Stabilized high temperature tungsten halogen filament
Measurement modes	Differential: Color difference CIE DE2000 Absolute: $L^*a^*b^*$ coordinates
Color measurement accuracy	$\Delta E < 0.1 1\sigma$ (on white tile)
Stabilization time on cold start up	<1 min
Control	LCD display + 4 push buttons on front panel
I/O Highly customizable for versatile control and integration	- External trigger - Serial communication (wired and optional RF) - Pass/Fail digital output - General Purpose DIOs
Connectivity	- PC based software - On-line data monitoring and reports generator
Input power	85 - 265VAC (47 - 63Hz), 0.34/0.17A
Environment temperature range	-10°C – +45°C
Dimensions (WxDxH)	190x230x90 mm



# Probes

## One System - Multiple Probe Types

SpectroSave is the only Spectrometer with interchangeable and multiple probes, enabling easy and cost-efficient QA for any job within a single instrument setup.

- Reflection
- Transmission
- Opacity
- Haze



### Small Form Factor

SpectroSave probes' small form factor and patented optical design make them insensitive to distance, surface texture and orientation.

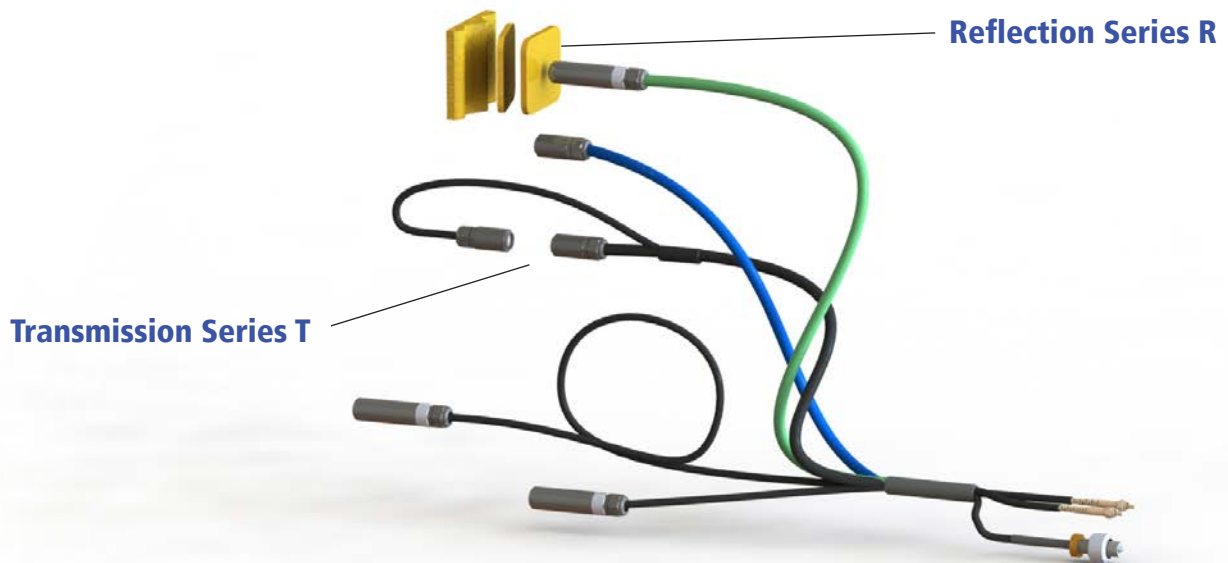
### Plug and Play

SpectroSave probes are highly stable, enabling immediate switching between tests with no need for alignment of complex calibrations.

Probe	Function	Measured Area Size	Operational to the Sample
<b>A</b>	Reflection color measurement	0.6 cm <sup>2</sup>	0 – 12 mm
<b>D</b>	Transmission color measurement	0.6 cm <sup>2</sup>	Up to 10 cm

## Key Features

- Probe contains reference self-calibration and part branches
- Reflection series (R)
- Transmission series (T)
- Color variations of less than 0.5 within 0 – 12 mm probe height from the surface
- Sampled area 9 mm
- 1,3,5 or 10 meter rugged fiber cable for optimal integration in the production line



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**R** - Reflection Series  
**T** - Transmission Series

**In-line part branch  
 cable length**

**01** - 1 m  
**03** - 3 m  
**05** - 5 m  
**10** - 10 m

**Reference branch  
 cable length**

**01** - 1 m  
**03** - 3 m  
**05** - 5 m

Optional RF Serial  
 Communication

Control Module

Interchangeable probes

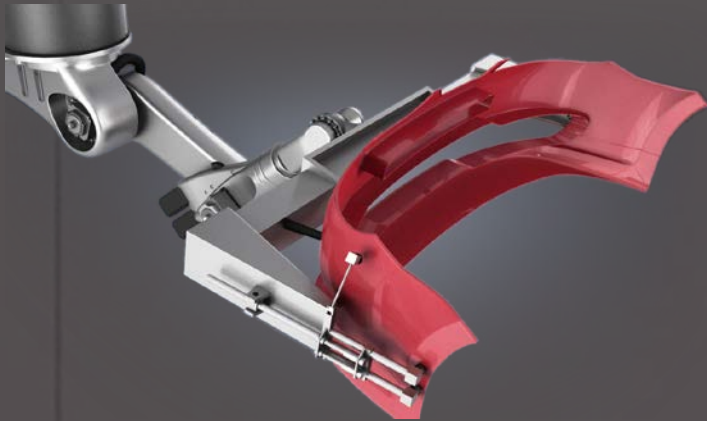


# Real-Time QA Integration

## Standalone or Integrated

Integrate Spectrosave with LIAD's gravimetric or volumetric feeders to reduce costs and improve efficiency.

- Reduce product rejects by objectively controlling color additive dosing
- Reduce masterbatch usage by lowering the set point to non-distinguishable levels



## Connection to Post-Processing Robot

SpectroSave can be connected to the post-processing robot, enabling in-line analysis of plastic parts, real-time decision making and immediate set point adjustments.

- Faster decision making
- Increased profit margin
- Higher quality products



# Turn your LIAD's volumetric or gravimetric feeders into "Smart Feeders"

Objectively alter the masterbatch dosing set point, and compare  $\Delta E$  of products in real-time.



See the SpectroSave  
in action



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