

# SMART III NIR

NEAR INFRARED SENSOR



## PRODUCT OVERVIEW

The SMART III NIR sensor, formerly the 910sT NIR, analyzes the material's surface 30 times per second using near-infrared technology. Besides speed, the SMART III offers accuracy - it measures in the 0-60% range, with finite readings available in the 0 - 0.1% range. It is an ideal product for continuous, non-destructive moisture and coat weight measurement on moving webs as well as both flat belt and screw conveyors.



## FEATURES

- Advanced Optics: Simplified design cuts maintenance and calibration requirements
- Detailed Moisture Reporting: Readings are updated 30 times per second as material passes the sensor to enable rapid drying control
- Intuitive User Interface: Simple to learn with advanced reporting available for power users
- Coat Weight Analysis: Precise measurement of coatings to optimize thickness
- Rugged Design: Used in a variety of industrial applications

## BENEFITS

- Non-destructive moisture sensing in the 0 to 60% range
- Patented process of filtering reflected energy from sample that reduces ambient light and color interference
- Simplified optics, no mirror or lens to align
- Stable quartz halogen NIR sensor
- Drift-free temperature stability
- Auto-ranging is used to adjust the NIR Sensor output to an optimum level for reliable processing
- Integration options for process control

## INDUSTRY APPLICATIONS



AGRICULTURE &  
FOOD PROCESSING



GYPSUM/PLASTER



LUMBER/WOOD  
PRODUCTS



PAINT & COATINGS



PHARMACEUTICALS &  
CHEMICALS



PLASTICS &  
COMPOSITES



POWDER-BULK  
SOLIDS



PULP, PAPER  
& PAPER  
CONVERTING



TEXTILES



## About Finna Group

Finna Group develops advanced industrial sensors and handheld meters for a variety of manufacturing processes. Most of the sensors enable cloud-based reporting and analysis. Understanding, innovation, and success are the fundamental principles that define our approach to customer needs.

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## SPECIFICATIONS

### CONSOLE

<b>Ambient Operating Temperature</b>	0 to 50° C
<b>Relative Humidity</b>	0 to 90 percent non-condensing
<b>Storage Temperature</b>	-18 to 80° C
<b>Dimensions &amp; Weight</b>	10" x 13-1/2 x 5" (254mm x 343mm x 127mm): 20lbs, (9.1kg)
<b>Power Requirements</b>	120 VAC 60 HZ or 230 VAC 50/60 HZ, 120 VA
<b>Inputs</b>	NIR or RF Sensor; High Voltage Isolated
<b>Outputs</b>	<ul style="list-style-type: none"><li>• Isolated 4 to 20 mA</li><li>• Loss of Product Alarm</li><li>• Span adjustable</li><li>• Data is in ASCII format for simple interface</li><li>• Isolated Serial Data Port, RS-232C (RS-485)</li></ul>

### SENSOR

<b>Moisture Range</b>	Minimum: 0 to 0.1%, Maximum 0 to 60% (wet weight)
<b>Accuracy</b>	± 0.02% to 0.2% depending on product and moisture range being measured
<b>Repeatability</b>	3 parts in 4096
<b>Calibration</b>	One calibration per year
<b>Update Rate</b>	30 moisture calculations per second
<b>Operating Temperature</b>	Maximum: 122° F/50° C Minimum: 30° F/0° C
<b>Storage Temperature</b>	Maximum: 176° F/80° C Minimum: 0° F/18° C
<b>Lens Distance to Product</b>	9" (282mm) ± 3" (76.2mm)
<b>Sampling Area</b>	0.39" square (10mm square)
<b>Penetration Depth</b>	Up to 1mm (dependent on material)
<b>Dimensions &amp; Weight</b>	14-1/2" x 10-1/2" x 5.375" (368mm x 266.7mm x 137mm); 13-1/2 lbs. (6.1kg)

## ACCESSORIES

<b>Opto-Port Attachment</b>	This stainless steel attachment allows the sensor to adapt to a variety of situations such as screw conveyors and free fall conveyors. Can be ordered with an air blast system for free falling samples.
<b>Dust Shield</b>	Ensures the sensor will provide consistent and accurate results by preventing the build-up of dust and grime on the lens
<b>Explosion Proof Housing</b>	Type of enclosure designed specifically for hazardous environments
<b>Cooling Jackets and Housings</b>	Protects the sensor in high temperature environments
<b>Test Plate</b>	Used to verify a repeatable calibration signal