SMART III NIR

NEAR INFRARED SENSOR

FINNA GROUP

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

Ambient Operating Temperature	0 to 50˚C
Relative Humidity	0 to 90 percent non-condensing
Storage Temperature	-18 to 80˚C
Dimensions & Weight	10" x 13-1/2 x 5" (254mm x 343mm x 127mm): 20lbs, (9.1kg)
Power Requirements	120 VAC 60 HZ or 230 VAC 50/60 HZ, 120 VA
Inputs	NIR or RF Sensor; High Voltage Isolated
Outputs	• Isolated 4 to 20 mA • Loss of Product Alarm • Span adjustable • Data is in ASCII format for simple interface • Isolated Serial Data Port, RS-232C (RS-485)

SENSOR

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

ACCESSORIES

Opto-Port Attachment	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.
Dust Shield	Ensures the sensor will provide consistent and accurate results by preventing the build-up of dust and grime on the lens
Explosion Proof Housing	Type of enclosure designed specifically for hazardous environments
Cooling Jackets and Housings	Protects the sensor in high temperature environments
Test Plate	Used to verify a repeatable calibration signal