



# MoistTech Corp.®

*Moisture Measurement & Control From Lab To Line*

## TOBACCO 828

Online NIR Moisture Sensor  
Near Infrared Measurement

### **MONITOR**

Moisture Content  
Directly on the  
Production Line

### **ADJUST**

Crucial Moisture Levels  
Immediately

### **MAINTAIN**

Product Integrity  
Throughout the  
Process

### **REDUCE**

Waste & Human  
Error

### **IMPROVE**

Plant Efficiency &  
Product Quality

## Produce More & Waste Less

Improve Manufacturing Production  
with Moisture Control

**Try MoistTech's NIR Technology today!**

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# MoistTech's Online NIR Moisture Sensor

## TOBACCO 828 WIDE RANGE OF APPLICATIONS INCLUDE:

- ✓ Blended
- ✓ CRS
- ✓ Final Blend
- ✓ Tobacco
- ✓ Tobacco Leaf Processing
- ✓ Bright
- ✓ Cut Lamina
- ✓ Lamina Strips
- ✓ Reconstituted
- ✓ Turkish
- ✓ Burley
- ✓ DIET
- ✓ Pipe Tobacco
- ✓ Snuff
- ✓ Whole Leaf
- ✓ Cased Tobacco
- ✓ Expanded Tobacco
- ✓ Primary Tobacco Processing
- ✓ Stem
- ✓ Whole Stems
- ✓ Chewing Tobacco
- ✓ Filler
- ✓ Recon Sheet
- ✓ Strips
- ✓ Cigar

### SEE THE WAYS MOISTURE CONTROL CAN BENEFIT YOUR FACTORY'S OVERALL PRODUCTION!

#### PRODUCT INFORMATION

MoistTech Developed the Model 828 Tobacco Moisture Sensor for instant, non-contact measurement designed specifically for tobacco processing applications and its harsh environment. Precision filters and algorithms have been incorporated into the 828 to optimize performance under the demanding conditions in tobacco processing. The Model 828 is the answer to controlling moisture in primary processing, leaf processing and cut tobacco applications.

While Moisture measurement remains the most common requirement for tobacco processors, the multicomponent capability of the Model 828 can also incorporate online measurement and in certain applications be used to monitor process trends in flavorings, sugars and nicotine.

The Tobacco 828 uses state-of-the-art components allowing installation in the most extreme locations. As result of MoistTech's advanced digital processing, only the Tobacco 828 provides true data regardless of gaps and interruptions of product flow on the belt or screw conveyors.

#### KEY BENEFITS

- **Insensitive to Material Variations** – *particle size, material height and color do not affect the sensor*
- **One-time Calibration & Zero Drift Over Time**
- **Maintenance Free**
- **Product Quality Monitoring** – *allows immediate production line adjustments to improve product quality and consistency*
- **Process Optimization** – *allows 100% monitoring of your production process to reduce product that is "out of specification"*
- **Fuel Consumption Savings** – *reduce your energy usage as the drying/cooking process can be controlled resulting in a reduction in energy consumption*
- **Water Savings** – *reduce your water usage by continuously monitoring moisture content*
- **Dust Prevention** – *help reduce the risk of explosion due to dust*

#### INSTALLATION LOCATIONS

The sensors can be installed using the bracket on the back/top of the sensor 4"-16" (inches) from the product. The MoistTech sensor has many options for installation including:

- Belt, Screw, Drag & Enclosed Conveyors
- Chutes, Cyclones & Bins
- Dryer In/Out
- Pipeline or Pneumatic Conveying using our Flange window or Sampler options.

#### NEAR INFRARED (NIR) TECHNOLOGY

All molecular bonds absorb specific wavelengths of light. Hydrogen bonds including O-H (water); C-H (hydrocarbon) and N-H (ammonia) all absorb strongly in the NIR spectral region. The amount of NIR energy reflected at a given wavelength is inversely proportional to the quantity of absorbing molecules in a product.

The NIR technique is a non-destructive, non-contacting measurement. MoistTech's sensor utilizes multiple wavelengths of NIR light, projected onto the product at a very high repetition rate. The reflected light is then measured using a digitally enhanced detection system and thousands of data points are sampled every second.

#### MANAGEMENT SOFTWARE

MoistTech has designed a suite of high-tech Windows™ programs to provide user-friendly interfaces for configuration, data logging, and monitoring of diagnostics. With this you can perform calibrations, define gauge and measurement parameters, and set-up and configure up to 50 different product codes. The MoistTech Software package is easy to use and compatible with any PC platform.



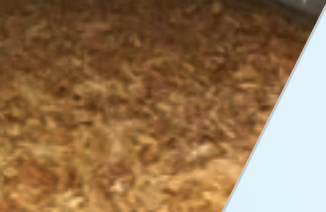
#### DISPLAY OPTIONS

In addition to the MoistTech management software, MoistTech offers several read-out options to display and/or adjust the measurement outputs.

- Digital Panel Meter (DPM) connected by 4-20mA output
- Full Color Touch Operator Panel (OP-14) PLC based connected by RS-232C serial. (provides trending graph)
- HMI: Human Machine Interface is a 7" color touch display for common sensor configuration and monitoring. Ethernet to Ethernet communication.

(OP-14 & OI provide operators & engineers the unlimited ability to make changes to gauge parameters, monitor diagnostics and program calibrations all at-line)

The MoistTech 828 sensor has many areas of application including: before and after the dryers (conditioning cylinders), cutters, toaster and reconstituted lines. The addition of the base and stand option provides instant off-line or at-line under on-line operating conditions.



## STANDARD FEATURES INCLUDE

- 16-bit conversion and 32-bit processing Wavelength selection with each application
- Advanced digital filtering for noise free signal
- Windows™ Operating Software
- Standard Ethernet Output
- 3 x 4 - 20 mA Outputs Embedded PC with Flash Memory
- Optical Window Contamination Monitor
- 2 Year Parts & Labor Warranty
- Pre-calibrated to your application

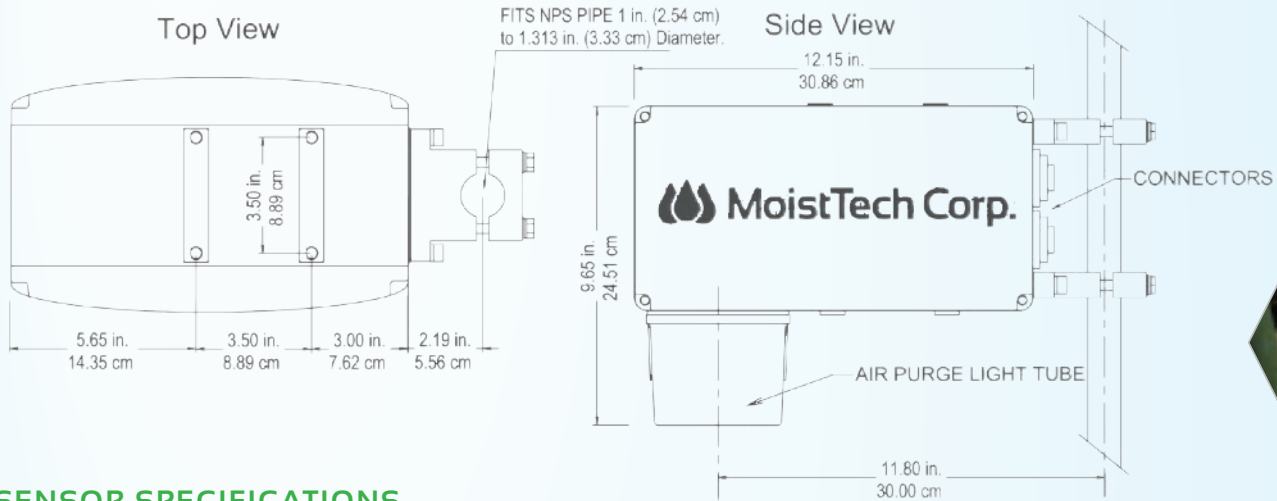
## OPTIONS & ACCESSORIES

In addition to the Display Options listed, MoistTech offers many installation options & accessories:

- Flange window with mounting (measure looking into a window)
- Bulk & Powder Sampler Cup (measure of falling material)
- Snorkel Sampler (measure into the conveyor wall)
- Air or Water Cooling Cover for high temperature with optional auto on/off solenoid
- Product Loss Sample Hold Sensor
- Product Temperature Pyrometer

### Instrument Enclosure Options:

- Nickel Coated
- IP-67 Enclosure Stainless Steel with cooling
- ATEX Rated
- Explosion Proof Classification Enclosure



## SENSOR SPECIFICATIONS

Measured NIR Constituents:

Moisture Ranges:

Accuracy (subject to application):

Repeatability:

Optical Measurement Distance:

Sampling Size:

Calibration Codes:

Weight:

Enclosure:

Dimensions:

Power:

Operating Temperature:

Calibration:

Ambient Light Sensitivity:

Sensor Input/Outputs:

Optional interfaces:

1, 2 or 3 Moisture Ranges: Min 0.01%, Max 97%

0-0.1%, 0-100% PPM Ranges Subject to Application

± 0.01%

± 0.01%

4-16 in (10-40 cm)

Approximately 1.5-in (3.7 cm) diameter on sample

50 Standard

16 lbs (7Kg)

Cast Aluminum, IP65 (NEMA 4), Optional IP67

Stainless

12.1 in x 7.1 in x 6.4 in (31 cm x 18 cm x 16 cm)

80-260 VAC (50/60 HZ), Optional 24VDC

0-130°F (0-55°C)

Vortec Cooling (High Temp): Max 170°F (85°C)

Stainless Steel IP67: Max 200°F (93°C)

Factory Pre-Calibrated, PC Calibration software included, Routine re-calibration is not required

None

Three self-powered isolated 4-20mA outputs,

RS-232/485, Ethernet TCP/IP

Profibus, Profinet, DeviceNet, Ethernet IP

\*Above specifications are subject to application

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