



- **Easy installation - only standard twisted-pair cable needed between transmitter and sensor**
- **Touchpad data entry - eliminates all dial settings and potentiometer adjustments**
- **Non-volatile memory**
- **Continuously reading display**
- **Dynamic Process Tracking™ allows fast response to abrupt moisture changes**

Neutron backscatter is the best technique for non-contact measurement of moisture in many inorganic bulk materials such as metallurgical coke, iron ore, phosphate, etc. The TN Technologies' Moisture On-Line Analysis System (MOLA) is the accepted standard neutron backscatter moisture gauge in many industries, particularly coke moisture for iron and steel making.

# MOLA

## Moisture On-Line Analysis System



The combination of solid shielding and high-efficiency **TEXLIUM™** detectors in the MOLA sensor provide unmatched stability and reliability.

Now, TN has coupled the proven MOLA sensor with the same sophisticated multiprocessor used with our SGD density gauge to provide a new generation of neutron backscatter moisture gauges.

Some of the features of the MOLA are:

- **Multiple spans - several spans can be held in memory and selected by different methods such as keypad input or external contact.**
- **Versatile alarms - process related and self diagnostic alarms are supported. Several alarm output methods are provided.**
- **Direct readout of sensor signal - simplifies calibration.**
- **Generalized calibration algorithm - accommodates linear and non-linear gauge response to moisture content.**
- **A single transmitter is used for both density and moisture sensors when density compensation is needed..**
- **Optional RS-232 or RS-422 outputs for digital link to supervisory control computer.**

***TN Technologies***  
A Thermo Instruments Company

# Specifications

## Standard System Features

LED display

Touchpad data entry

Brownout protection

Non-volatile memory

Dynamic Process Tracking™

Process and self diagnostic alarms

Optically-isolated current outputs; settable within range 0-20mA into 800 ohms or less

Source decay compensation

User-defined response time

## Optional System Features

Compensation for variable process density

LCD display(s) with viewing window

Relays: 1 form C contact set (SPDT) for each relay, 10 amp, 28 VDC/120 VAC contact ratings with 80% power factor

Shutter position indicator switches

Power controlled shutter

Multiple current outputs

RS-232/RS-422 port

Sensor mounting frame with wearliner

Wearliner failure sensor

Quick-Cal calibration check assembly

## Moisture Sensor

FM Certified Non-Incendive construction for use in: Class I, Div 2, Group C,D; Class II, Div 1, Group E, F, G; Class III, Div 1

All solid shielding materials

Dimensions:

13 3/4 in. (34.9 cm) height

13 3/4 in. (34.9 cm) width

14 1/2 in. (36.2 cm) depth

Weight: 160 lbs. (72.6 kg)

Modular preamp/detector assembly

Modular power supply

## Transmitter Enclosure

Nema 4 large window steel enclosure, painted to meet Nema 4x standards. Other enclosures available

Dimensions:

9 1/2 in. (24.1 cm) height

11 in. (27.9 cm) width

8 3/4 in. (22.2 cm) depth

Weight: 21 lbs. (9.5 kg)

## Source

Moisture sensor: 200 mCi to 1000 mCi 241 Am-Be

Bulk density compensation system: 50 to 8000 mCi 137 Cs.

All source housings meet or exceed safety requirements of State Licensing Agencies, Nuclear Regulatory Commission, and the Department of Transportation

## Ambient Temperature

-20°F to 140°F (-30°C to 60°C)

## Power Requirements

115 VAC or 230 VAC  $\pm 10\%$ , 50 or 60 Hz @ 110 VA



TN Technologies Inc. • P.O. Box 800 • Round Rock, Texas 78680-0800 • 512/388-9100 • 800/736-0801 • Fax: 512/388-9200

# ***TN Technologies***

A Thermo Instruments Company