Model 600 Moisture Meter

Real-Time Online Coal Analysis

- ♦ **Monitoring**

- ♦ **Process Control**

DESCRIPTION

The Model 600 Moisture Meter is a registered microwave/nuclear gauging device for measuring moisture weight percent of bulk material. The measuring portion of the device, which consists of a source and detector assembly, is normally mounted across a conveyor belt on existing belt structure. The detector is connected to an electronics enclosure which processes the detector signal and presents them as analog outputs (0-10V or 4-20mA). The Moisture Meter generates moisture weight percent and weight/density measurements every 3 seconds making it useful for online process and control applications.

APPLICATIONS AND USES

Monitoring
> Use of the Moisture Meter on a load-out conveyor provides a means for monitoring and accounting for the effects of moisture on coal shipments. Use of the Moisture Meter on a plant bunker feed belt allow for monitoring boiler feed moisture which can lead to more accurate reporting of plant heat rates.

Process Control
> Use of the Moisture Meter on the output of a prep plant allows for closed-loop feedback to control dryers. Use of the Moisture Meter as a process control element can reduce moisture variability and ensure specification compliance thereby improving profit margins.

Other Uses
> The Model 600 Moisture Meter may be installed with the Model 410 Ashmeter™ to provide real time analysis of ash, moisture, and heating value.

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DESIGN FEATURES

Rugged Belt Mounted Analyzer
- Assembly is dustproof and waterproof
- Assembly bolts onto existing belt structure without modification
- Minimizes installation time and cost
- Requires no routine maintenance

Source Holder/Detector
- Source is housed in a protective shield
- Gamma rays are collimated into a fan beam to maximize coal interrogation zone (approximately 160 times that of other units)

Detector Temperature Control
- Eliminates drift due to ambient temperature variations
- Ensures system precision and accuracy

Advanced Data Acquisition and Control
- Easy to use operator interface (12 button keypad accesses all instrument functions)
- Digital Outputs for alarm or control
- Moisture and Weight/Density analog outputs for connection to other process equipment

TECHNICAL SPECIFICATIONS

Performance
Accuracy .... 0.3-1.0 wt. % (typ) for washed or raw coals
Response Time .... 3 seconds (typ)

Operational Material
Material Top Size .... 0-2 in (0-51 mm) (typ), may accommodate 4 in (102 mm)
Material Depth .... 1-10 in (25-254 mm) depending on material density

System Outputs
Analog .... Two (2) isolated 0-10 V or 4-20 mA analog outputs for reporting material moisture wt%/weight/density
Digital .... Two (2) 12 V digital outputs

Environmental Conditions
Operating Temperature .... Analyzer: -5°-120°F (-20-40°C)
Enclosure: 40°-120°F (5-40°C)
Humidity .... Analyzer: 0-100%
Enclosure: 0-90%, non-condensing
Environment .... Class II, Div.1 group F (G optionally available). All units are protected against dust and moisture (NEMA 4).

Electrical Requirements
Power Requirement .... 120 VAC, 60 Hz, 0.5 KVA

Radiation Levels
Surface .... 1.0 mREM/hr maximum radiation dose rate at all points on the surface of the equipment except in the direct beam.
Vicinity .... Less than 0.1 mREM/hr maximum radiation rate at all points outside 3 ft. of the source housing.

Shipping Weight
Weight .... 900 lbs (410 kg)

Options Remote Readout

SERVICE

ETI offers an annual service contract for all analyzer customers. Coverage includes radiation safety surveys, leak tests, calibration of electronics and nucleonics, cleaning, and routine maintenance.

Please contact ETI for performance data, additional information, or application evaluation.

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