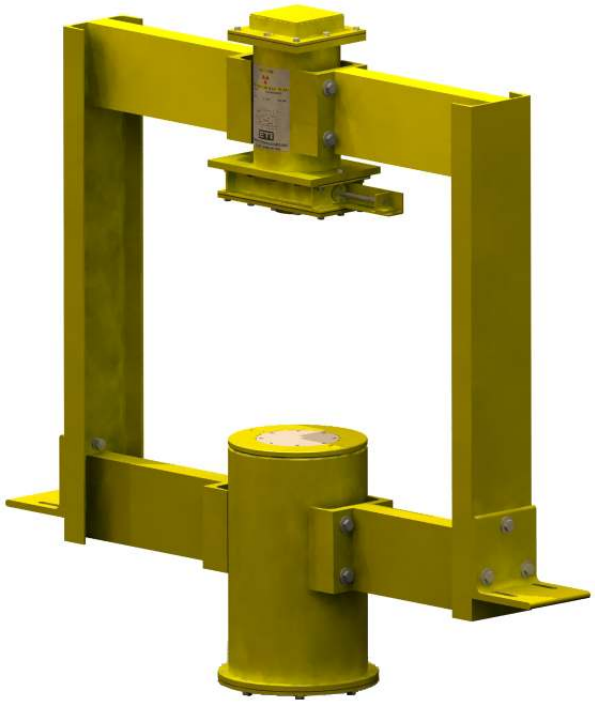
Energy Technologies Inc.

Model 410 Dual-Gamma Analyzer (Ashmeter)



The Model 410 Dual-Gamma Analyzer is a registered nuclear gauging device for measuring ash percentage of material. The measuring portion of the device, which consists of a source and detector assembly, is normally mounted across a conveyor belt on an existing belt structure. The detector is connected to an electronics enclosure housing an industrial computer which processes the detector signals and displays the measured results to the operator. The Ashmeter generates ash percentage and weight/density measurements every three seconds making it useful in online process and control applications. It is designed to control the ETI model HSG1 High Speed Sort Gate for separating process material into different quality piles.

- Sorting

  Real-time measurement of material ash content and a virtually unlimited flow capacity make the Dual-Gamma Ash analyzer a valuable sorting instrument. Run of mine material – especially within seams of highly variable composition - can be efficiently sorted into specific market products, thereby reducing good product waste and improving profit margins.

- Blending

  Use of the Ashmeter as the control element in either feed-forward or feed-back control topologies makes the analyzer a valuable tool for material blending. Electronic control signals from the unit can be used to adjust feed rates from various material sources thereby improving blend quality and efficiency.

- Process Control

  Use of the Ashmeter on the output of a prep plant allows for closed-loop feedback to control heavy media density in the material circuit. Use of the Ashmeter on a plant bunker feed belt allows for boiler operation adjustments to reduce boiler fouling and slagging and can lead to improvements in long-term heat rate.

Energy Technologies Inc.
1741 Triangle Park Drive
Maryville, TN 37801
USA

Phone: (865) 927-9330
Fax: (865) 927-8017

Email: info@energytechinc.com

For more information on any of our products or services please visit us on the web at www.energytechinc.com.

SERVICES

ETI offers an flexible service contracts for all analyzer customers. Coverage includes radiation safety surveys, leak testing, calibration of all electronics and nucleonics, cleaning, and routine software/hardware maintenance

Technical Support
Installation and Setup
Maintenance
Application Support
Hardware Support
Guaranteed Warranty

Energy Technologies Inc.
1741 Triangle Park Drive
Maryville, TN 37801
USA

Phone: (865) 927-9330
Fax: (865) 927-8017

Email: info@energytechinc.com

For more information on any of our products or services please visit us on the web at www.energytechinc.com.

Design Features

Rugged Belt Mounted Analyzer
- Assembly is dustproof and waterproof
- Assembly bolts onto existing belt structure without modification
- Minimizes installation time and cost

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

Auto-Standardization
- Automatic software compensation for electronic drift, source decay, and temperature variations performed every three seconds
- Ensures system precision and accuracy

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

Advanced Data Acquisition and Control
- Intuitive and easy to use operator interface
- Graphical Displays
- Automatic Report Generation
- Automated Calibration
- Manual and Automatic control of process control devices (sort gate, feeder, etc.)
- Analog outputs for connection to other process equipment
- Digital outputs for alarm or sort control

Technical Specifications

Performance	
Accuracy	0.3-1.0 wt. % (typ) for washed or raw materials
Response Time	3 seconds (typ)
Operational Material	
Material Top Size	0-6 in (0-152 mm) (typ), may accommodate 12 in (254 mm)
Material Depth	1-14 in (25-356 mm) depending on material density
System Inputs	
Belt Running	A pair of voltage free contacts indicating that the belt is running
System Outputs	
Analog	Eight (8) isolated 0-20mA or 4-20 mA analog outputs for reporting material ash wt%/weight
Digital	Twelve (12) 24 V digital outputs
Environmental Conditions	
Operating Temperature	Analyzer: -22˚-122˚F (-30-50˚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	120/240 VAC, 50/60 Hz, 3 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	750 lbs (340 kg)
Options	Remote Readout / High-speed Gate / Belt Speed Switch