

Thermo Scientific PDM3700 Personal Dust Monitor

Real-time, respirable dust monitor for use in United States based mining applications

The Thermo Scientific™ PDM3700 Personal Dust Monitor is a real-time, respirable, personal dust monitor designed specifically for U.S. based mining applications.

- Waterproof battery protection
- PC-based software for data downloading, review of status flags and MSHA reporting
- Integral charger with download station for PC interface
- Ergonomic and lightweight
- Industry standard sampling inlet



Thermo Scientific PDM3700
Personal Dust Monitor

Reduce Exposure

Engineered for timely, high-quality personal dust exposure information, the PDM3700 monitor protects miners' health by ensuring that the shift-average respirable dust exposure does not exceed regulatory limits. Providing mine workers and management with the tools to personally monitor and reduce their exposure, the PDM3700 monitor is the first line of defense in preventing long-term health effects.

Real-time Measurement

The PDM3700 monitor provides three primary, real-time measurements: primary current mass concentration, primary cumulative mass concentration and percent of limit. Two secondary user-initiated measurements are also available and can be performed without interfering with the primary sample. The battery operated PDM3700 starts by drawing a continuous sample of air from the breathing zone. It then removes any particles that are larger than respirable in size and measures the mass of the dust, which is collected on an exchangeable filter.

Lower per-sample Cost

The dust exposure results are automatically computed, eliminating the need for filter transport and handling steps connected with the manual gravimetric method. This automatic method leads to a significantly lower per-sample cost than with manual sampling and has the added benefit of continuous information availability.

Designed for the Mine Environment

Proven underground capable, through the success of the PDM3600 monitor, the PDM3700 monitor also offers accurate, continuous, personal respirable dust exposure information. Capable of satisfying the typical mine environment, the durable, belt-mounted case is made of static-dissipating housing.

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Measurement Range	0 - 200 mg/m ³
Accuracy	±25% of the reference method (for concentrations greater than 0.2mg/m ³)
Minimum Dust Loading	0.1mg (to achieve specifications)
Maximum Dust Loading	4mg (to achieve specifications)
Mass Concentration Sensitivity	0.05 mg/m ³ (1 σ) (30 second averaging)
Operating Temperature	-4° to 104° F (-20° to +40° C)
Mass Transducer Temperature	32° to 140° F (0° to 60° C) (depending on ambient conditions)
Relative Humidity	0 to 100%
Flow Rate	2.2 L/min.
Flow Accuracy	(2 σ) ±2% (lab conditions), ±5% (mine conditions)
Physical Dimensions	
<i>Enclosure</i>	9.57" (24.31cm) W x 3.25" (8.26cm) D x 6.75" (17.15cm) H. 4.41lbs, 2.0kg
<i>Sampling tube</i>	36.0±0.25"
<i>TEOM mass sensor</i>	2.29" (5.82cm) W x 1.93" (4.9cm) D x 6.05" (7.75cm) H (Included in enclosure weight above)
<i>Charging module</i>	2.84" (7.21cm) W x 6" (15.25cm) D x 7.63" (19.38cm) H, 3.13lbs (1.42kg)
Power Requirements	One internal, lithium-ion battery assembly

Additional Information

Real-Time Primary Measurements

"30 MIN CONC" = Primary current mass concentration (mg/m³)
Represents the latest 30-minute running average of dust exposure

"CUM1" = Primary cumulative mass concentration (mg/m³)
Equals the total dust loading since the beginning of the working shift

"PERCENT OF LIMIT" = Indicates percent of exposure limit for primary sample run

Secondary User-initiated Measurements

For engineering purposes, the PDM3700 is designed to perform user-initiated secondary measurements without interference to primary sample measurements.

"15 MIN CONC" = Secondary current concentration (mg/m³)
Represents the last 15-minute running average of dust exposure since user initiated activation

"CUM2" = Secondary mass concentration (mg/m³)
Represents the dust loading since user initiated activation

Approvals and Designations

The PDM3700 is for use in the United States and complies with the following requirements:

- NIOSH approval number TC-74CPDM-02
- Certified intrinsically safe by the Mine Safety Health Administration (MSHA) (18-A140015-0)
- State of Pennsylvania approval BFE 2-15
- EN61326-1:2005
- FCC Part 15 subpart B
- UN T1-T8 (shipment of lithium ion batteries)
- The PDM3700 Charger complies with the ANSI/UL 1012 standard for power units other than Class 2, 7th Edition (4/29/05)
- Meets all requirements of 30 CFR Part 74

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific industrial Hygiene products.

For more information, visit our website at thermoscientific.com/endblacklung

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This product is manufactured in a plant whose quality management system is ISO 9001 certified.

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