

Passive, real-time, personal  
aerosol monitor/datalogger

Product Specifications

## Thermo Scientific personal DataRAM pDR-1000AN Monitor



### Key Features

- Measure airborne particulate concentration in real-time
- Highest measurement range of any real-time personal particulate monitor
- Simple zeroing and calibration
- No moving parts, silent operation
- Compact, durable, and self-contained

The Thermo Scientific personal DataRAM pDR-1000AN Monitor is a passive sampling, light-scattering nephelometer that measures real-time mass concentrations of dust, smoke, mists, and fumes in industrial as well as other indoor and outdoor environments.

Nephelometry, a light-scattering technology, is highly sensitive and incorporates a pulsed, high output, near-infrared light emitting diode source, as well as a silicon detector/hybrid preamplifier, collimating optics and a source reference feedback PIN silicon detector.

The pDR-1000AN monitor features a high measurement range of 0.001 to 400 mg/m<sup>3</sup> (auto-ranging), a 400,000-fold span. An optical feedback and stabilized sensing system, sets the standard for sensitivity, long-term stability and reliability.



Simple zeroing, with particle-free air, is quick using the included zeroing kit.

The internal firmware controls an automatic calibration check. A gravimetric calibration can be performed by weighing a separate filter sample and programming in the calibration constant to provide the same reading.

The pDR-1000AN monitor is an ultra-compact, durable and self-contained instrument designed for hand-held or belt-worn unattended operation. There are no moving parts which provides for silent, dependable operation.

Selectable alarm levels with built-in audible signal and switched output, a RS-232 communications port, and a programmable analog concentration output are all part of this versatile instrument.

## Product Specifications

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality 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 air quality products.

### Thermo Scientific personal DataRAM pDR-1000AN Monitor

<b>Concentration Measurement Range</b>	0.001 to 400 mg/m <sup>3</sup> range (auto ranging) <sup>1</sup>
<b>Scattered Coefficient Range</b>	1.5 x 10 <sup>-6</sup> to 0.6m <sup>-1</sup> (approx.) @ lambda= 880nm (not displayed)
<b>Precision/Repeatability Over 30 Days</b>	±0.5 of reading or ± 0.015 mg/m <sup>3</sup> , whichever is larger, for 1 second averaging time ±0.5 of reading or ± 0.015 mg/m <sup>3</sup> , whichever is larger for 10 second averaging time ±0.2% of reading or ± 0.005 mg/m <sup>3</sup> , whichever is larger for 60 second averaging time
<b>Accuracy<sup>1</sup></b>	±5% of reading ± precision (traceable to SAE Fine Test Dust)
<b>Resolution</b>	0.1% of reading or 0.001 mg/m <sup>3</sup> , whichever is larger
<b>Particle Size Range of Max. Response</b>	0.1 to 10µm
<b>Aerodynamic Particle Cut-Point Range</b>	10µm nominal
<b>Concentration Display Updating Interval</b>	1 second
<b>Concentration Display Averaging Time<sup>2</sup></b>	1 to 60 seconds (user selectable)
<b>Data Logging Averaging Periods<sup>3</sup></b>	1 second to 1 hour
<b>Total # of Data Points Logged in Memory</b>	13,391
<b>Number of Data Tags</b>	99 (maximum)
<b>Logged Data</b>	Average concentration, time/date, and data point number
<b>Readout Display</b>	LCD 16 characters (4 mm height) x 2 lines
<b>Serial Interface</b>	RS-232 / 4,800 baud
<b>Computer Requirements</b>	IBM-PC compatible, 486 or higher, Windows 95® or higher, ≥ 8 MB memory, Hard disc drive 3.5" floppy, VGA or higher resolution monitor
<b>Analog Output</b>	0 - 5V and 4-20mA
<b>Physical Dimensions</b>	6" (153mm) H x 3.6" (92mm) W x 2.5" (63mm) D
<b>Weight</b>	18oz. (0.5kg)

### Instrument Accessories

The following accessories are available for the personal DataRAM pDR-1000AN Monitor:

#### Standard Accessories:

- Soft shell carrying case
- Digital communications cable
- Z-Pouch zeroing kit
- Belt clip kit
- AC power supply and charger
- Analog signal output cable

#### Optional Accessories:

- Rechargeable (NiMH) battery pack
- Remote alarm unit
- Active sampling kit
- Portable pump unit
- Should strap
- Wall mounting bracket

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

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