CONTROL EQUIPMENT
est. 1977 PTY LTD
Gas Detection and Industrial Hygiene

Microdust Pro

Real Time Dust Monitor

- **Real-time graphical display of dust levels**
- **Simple icon driven user interface**
- **Extensive range: 0.001mg/m3 to 250g/m3 (Auto-ranging)**
- **Unique removable sampling probe**
- **Rugged design for harsh environments**
- **Multi-language operation**
- **Sampling for total dust, (respirable, PM2. or PM10 with optional adaptor)**
- **Unique on-site calibration insert**
- **Environmental enclosure available for boundary monitoring applications**

Overview

The Microdust Pro is a real-time hand-held, data logging instrument for the detection of airborne dusts, fumes and aerosols. It is ideal for walk-through surveys and for checking the effectiveness of control measures. It is a simple to use instrument which gives the user the additional qualitative data which cannot be gained by gravimetric air sampling methods alone.
This extremely versatile instrument can also be used with a range of accessories for static and size selective sampling applications. The screens are colour coded to ease navigation. Real-time instantaneous readings are given on the large display along with average levels. The Microdust Pro logs the data also which means that it can be downloaded later for review.

Applications

- Risk assessments for dusts and aerosols
- Monitoring dust levels within the workplace
- Industrial process monitoring
- Testing air filtration efficiency
- Environmental dust assessments
- Boundary monitoring for construction and demolition
- Personal compliance monitoring
- Site dust levels

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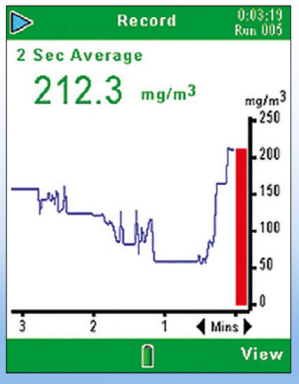
Quick and Easy Dust Measurements

The Microdust Pro can be used for spot checks and walk-through surveys with the advantage of seeing instantly when and where excessive dust levels are occurring. The Microdust Pro is incredibly easy to use with a simple interface. A user can be taking a measurement within seconds of starting the instrument.

An optical insert is used on site that provides a spot check of the instrument's calibration response. The screens are color coded to ease navigation, once a measurement is started they turn green (shown below) or red when stopped. When taking a measurement, real-time instantaneous and average levels are shown and subsequently stored to the memory for review later.

Multi-lingual Interface



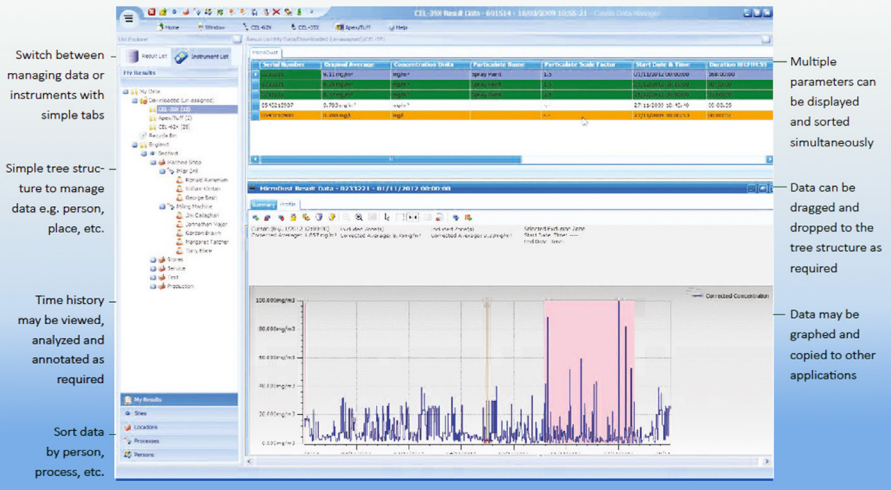
Real-time graphical dust display

Insight

Management Software

The Microdust Pro can be downloaded to Casella Insight Data Management Software using the USB cable provided. Once downloaded, the time history of the dust level can be displayed and analysed as necessary, so the times and extent of particularly 'dusty' events can be seen.

Measurements can be stored in relation to the person or area they were measured and reports can be produced showing the relevant data for multiple people or places as required.



For more detail on Casella Insight Data Management Software, please visit the 'Support' section of **www.casellasolutions.com**

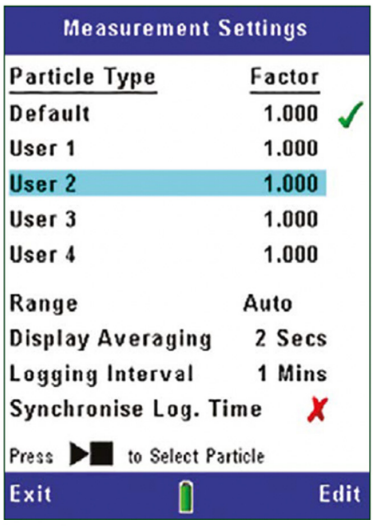
On-Site Calibration

The instrument is factory calibrated using a method traceable back to isokinetic techniques and is conducted in a custom built wind tunnel using ISO 12103-1 A2 Fine test dust (Arizona road dust equivalent).
Each probe is also supplied with its own unique Calibration Insert, which creates a known optical scattering effect in the probe's sampling chamber.

This fixed reference can be used to confirm the original factory calibration point, although annual factory recalibration is recommended.
While the Microdust Pro comes factory calibrated, by using an optional Apex2 Air Sampling Pump and gravimetric adaptor, user-defined dust-type settings may be obtained.

This means that the user can calculate a correction factor for the actual type of dust being measured and ensures maximum accuracy for their particular application.

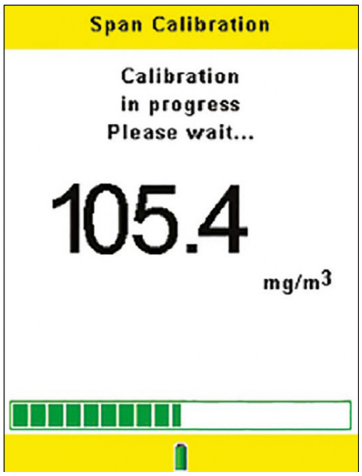
On-site callibration device



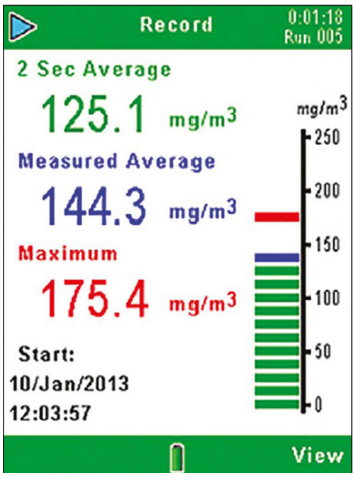
Single setup screen

3 Easy Steps to Taking a Measurement

Step 1
Switch on



Step 2
Enter the calibration menu, then calibrate in 1 button press



Step 3
Exit the menu, then press play key to start a measurement

Gravimetric calibration to calibrate for specific dusts

Dust Detective

For site operators and managers who have a requirement for area monitoring, the Dust Detective is an ideal survey tool, which is quick to assemble, easily deployed and provides data which can be downloaded for evaluation and reporting purposes. The unit uses a Microdust Pro real time dust monitor, Apex2 air sampling pump and operates off internal batteries for up to 13 hours.
Both gravimetric and real-time dust data can be obtained, and foam inserts can also be used which allow size selection of PM10, PM2.5 and respirable fractions to be taken.

- Gravimetric & real-time dust data
- Ideal for site surveys
- Operates up to 13 hours
- Samples for PM10, PM2.5 and respirable fractions
- No external power supply required

Dust detective environmental enclosure

Technical Specifications

Measuring range	0.001mg/m3 - 250,000 mg/m3
Zero stability	< 2ug/m3
Batteries	3 x AA
External power	12VDC (via CEL- PC18 supply)
Logging interval	1 sec to 60 minutes
Communication	Mini B USB
Size (instrument)	172 x 72 x 33mm (6.8 x 2.8 x 1.3”)
Size (probe)	35 x 205mm (1.4 x 8.1”)
Tripod mount	1/4” Whitworth
Resolution	0.001mg/m3
Operating temp	0 - 55°C
Battery run time	Approx 13 hours
Weight	< 600g including batteries (<22oz)
Memory	86,000 data points (500 measurement runs)
Analogue output	0 - 2.5V DC FSD
Alarm output	Switched open drain <15V & 500mA DC

Ordering Information

CEL-712/K1	Instrument kit contains CEL-712 Microdust Pro, calibration insert, cleaning bellow, USB cable, 3 x AA batteries, Insight Data Management Software, instruction manual (on flash memory drive) and field guide. All housed in a briefcase style lockable case.

Optional Accessories

206101B	Gravimetric adaptor
206102B	Size selective adaptor (requires PUF filters)
P118204	PUF filters for PM2.5 (Pack 10)
P118208	PUF filters for respirable (Pack 10)
P118206	PUF filters for PM10 (Pack 10)
APEX2IS-PLUS	Apex2IS Plus Pump, no docking station
209152B/KIT	Single Docking Station for Apex2IS Pump inc power supply and USB Cable
CEL-PC18	Universal power supply
CMC51	USB download cable*
CEL-6718	Lightweight tripod
206084D	Briefcase style lockable case*
206200D	Dust Detective Environmental enclosure (order CEL-712/K1 and pump separately)

* included with instrument kit

Accessories

A number of accessories are available for use with the Microdust Pro. The size selective adaptor can be used in conjunction with an air sampling pump and PUF filters, such that the real time measurement will be of the required size fraction of dust. If just gravimetric calibration is required then the gravimetric adaptor can be used with an air sampling pump.

Lightweight tripod

Gravimetric adaptor

Size selective adaptor