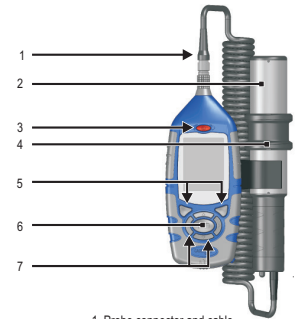


Field Guide  
CEL-712 Microdust Pro

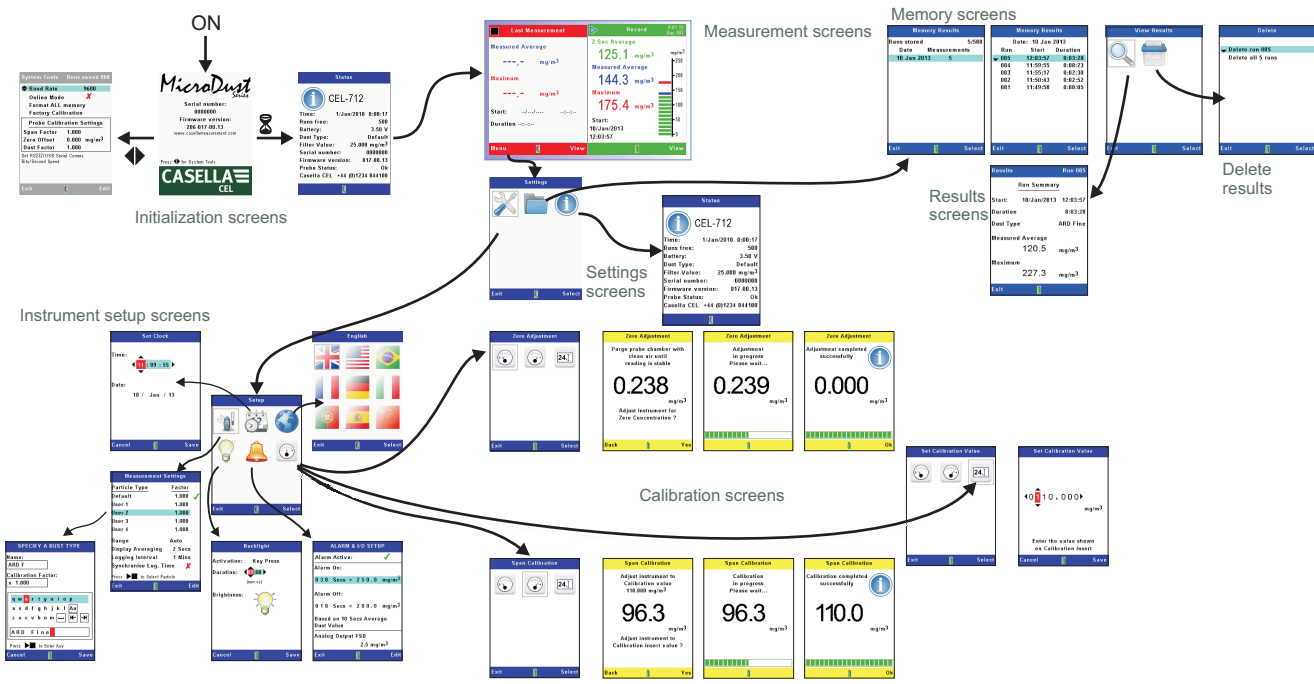


1. Probe connector and cable
2. Probe
3. On/Off key
4. Probe collar
5. Soft keys
6. Run/Stop key
7. Navigation keys

Figure 1. The CEL-712 Microdust Pro

**Introduction**  
This field guide is designed to rapidly familiarise you with your CEL-712 Microdust Pro real-time dust monitor.  
The guide assumes this is the first time you have used the instrument and includes instructions to install the batteries, switch ON, set up the instrument to be ready for use, calibrate it, take measurements, and store it safely.

**IMPORTANT**  
We want you to get the best possible performance from your Microdust Pro instrument. Please refer to the User Handbook for safety information and more detailed operating instructions.



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## Fitting the batteries

The Microdust Pro instrument requires three AA batteries.

Remove the battery compartment cover and fit the batteries using the correct polarities. Refit the battery compartment cover.

**Note:** The batteries can be zinc carbon, alkaline or rechargeable. DO NOT mix battery types. Replace all the instrument's batteries at the same time.

## Connect the probe

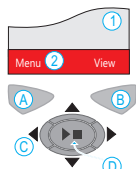
With the connectors red dot forwards, insert the probe connector into the socket at the top of the instrument. Press the connector fully home. To remove the connector, pull its outer collar away from the instrument.

The Probe clips into the supporting cradle on the side of the instrument. When making measurements you may either leave the probe in the support cradle (useful if instrument is tripod mounted) or it may be detached for easier access and measurement in awkward locations such as inside vents or ducts. Maintaining a small flow of air through the probe if the probe is stationary.

## Switch the instrument ON

Press the **On/Off** key. Confirm the battery condition icon shows a good level of charge.

The initialisation screen is displayed briefly followed by the STOP mode measurement screen (red bars at the top and the bottom of the screen). In Stop Mode, data logging is not active. Alternative Stop Mode screens may be selected by pressing the **View** key, these include the current real time dust conditions plus the final results from last measurement **'Run'** (if available). Press the **Menu** key to access the Setup, Memory and instrument Status screens.



- 1 – Current screen
  - 2 – Soft menu
  - A, B – Soft keys
  - C – Navigation keys
  - D – Run/Stop key
- Instrument controls

## Instrument controls

The instrument screens can show measurement information, a series of icons that you use to select options, or configuration settings.

At the bottom of each screen there are soft menu options, which you can select by pressing the soft key below it.

The four navigation keys allow you to move among the displayed icons, and to change the settings of the instrument configuration.

Please refer to the Microdust Pro User Manual for complete instructions to use the controls and instrument configuration settings.

## Instrument setup

Set the date and time

Display the instrument's **Setup** screen, select the 'Set Clock' option, and press the **Select** soft key.

Use the left/right navigation keys to select digits of the displayed date and time, and the up/down navigation keys to change the current setting. Press the **Exit** soft key to save the date and time setting.

The instrument uses the date and time information to time-stamp measurements in the Results Memory.

Select auto-ranging

For most measurement applications you should use automatic range selection.

Display the instrument's **Setup** screen, select the **Measurement Settings** option and press the **Select** soft key.

Use the up/down navigation keys to select the **Range** entry, press the **Edit** soft key and then use the left/right navigation keys to select the **Auto** range option. Press the **Exit** soft key to save the setting.

Set the display averaging period

The instrument displays measurements that are a rolling average taken over a period of time. Set a longer **Display Averaging** time to improve measurement stability when particulate concentration is changing rapidly.

You can set the **Display Averaging** value in the range 1 to 60 seconds.

## Calibration

Before you use the instrument to make measurements, you should check its calibration settings. There are two calibration settings to check.

The **Zero** adjustment sets the instrument to zero when there is no particulate contamination present.

The **Span** calibration restores the instrument to the factory standard settings for sensitivity.

Display the instrument's **Setup** screen, select the **Calibration** option, and press the **Select** soft key.

### Zero adjustment

Connect the purge bellows to the nozzle at end of probe handle. Rapidly squeeze the bellows to fill the probe with clean air before you perform a zero adjustment.

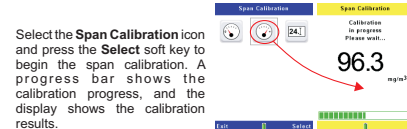
Refer to the Microdust Pro User Manual for instructions to purge the probe with clean air.

Select the **Zero Adjustment** icon and press the **Select** soft key to begin the zero adjustment.

### Span calibration

Each probe is supplied with an optical calibration insert. To perform a span calibration, you must use the calibration insert which matches the current probe. Do not mix calibration inserts between different probes.

Fit the calibration insert into the notched side of the probe sample chamber ensuring the insert's arrow marking points towards the handle.



Select the **Span Calibration** icon and press the **Select** soft key to begin the span calibration. A progress bar shows the calibration progress, and the display shows the calibration results.

The instrument stores measurements to its internal memory, after which you can view them on the screen or transfer them to a computer running the Casella Insight Data Management Software for analysis and long-term storage.

Select the **Measurement Settings** icon on the **Setup** screen, press the **Select** soft key and set a suitable logging interval. The logging interval (1 second to 60 minutes) is the period of time between each recorded data point.

Select a short logging interval for short measurement runs where you require high resolution in the measurements.

Select a long logging interval for extended measurement runs where you do not expect rapid changes in measurements to occur.

Logging stops automatically when the internal memory becomes full.

Press the **Run/Stop** key from the measurement screen to start data logging. Press the **Run/Stop** key again to stop data logging.

## Memory results display

The instrument stores the results of measurement runs in its internal results memory where you can view a summary of the data. For a more detailed analysis of each measurement run, transfer the data to a computer.

Display the instrument's **Settings** screen, select the **Memory Results** icon and press the **Select** soft key to display the **Memory Results** screens.

The first screen displays measurement Runs according to their stored

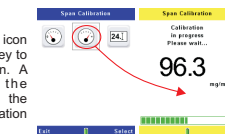
date. Use the up/down navigation keys to select one of the entries in the list, and press the **Select** soft key to display a list of the measurement runs for the selected date.

The list shows the start time and duration of each of the measurement runs for that date.

Use the up/down keys to highlight one of the measurement runs in the list and press the **Select** soft key to display the **View Results** screen.

Highlight the **Results** icon and press the **Select** soft key to see a summary of the selected measurement run.

Highlight the **Delete** icon and press the **Select** soft key to delete a measurement run. You can choose to delete individual or all runs.



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