# AS520

## personal air quality monitor

**Wearable air quality monitoring system providing complete and reliable assessment of the air quality in the immediate vicinity of the wearer**

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**A wearable air quality monitoring system that makes use of a complementary range of sensing technologies to provide a complete and reliable assessment of the air quality in the immediate vicinity of the wearer.**

**Electrochemical cells, a laser optical particle monitor, temperature and humidity sensors are included in the system, which also incorporates a highly-sensitive GPS receiver and 3 axis accelerometer. A microphone is fitted to monitor ambient noise. A basestation provides a docking unit to store the sensor unit at night and to allow access to a regulated 12V supply to power the battery charging circuit. The basestation is fitted with a GPRS modem, patch antenna and SIM card, which are used to transmit the data that are saved on the unit during the day to a central monitoring site.**

### Specification

- accurate electrochemical cells (Alphasense A4) monitoring CO, NO, $NO_2$, and $O_3$. Other sensors available on request.

- optical particle counter (Alphasense).

- temperature and relative humidity sensor (Atmospheric Sensors).

- MEMS 3-axis accelerometer to detect movement.

- GPS module with integrated antenna

- microphone to detect ambient noise level.

- high-capability 32-bit ARM microcontroller.

- bi-colour LED to indicate battery state-of-charge and correct operation of the unit.

- battery and compatible charger circuit to give 24 hours running and some contingency (two 18650 lithium-Ion cells).

- SD Card storage up to 32GB.

- supplied with a shoulder strap and belt clip so can be worn in different ways.

**Basestation:** 151 W x 178 D x 90 H. Weight 352g.

**Sensor unit:** 100 W x 83 D x 130 H. Weight 534g.

**Power supply:** 1.2A max off 12V power supply (during charging) Weight 180g.

System includes: basestation, sensor unit, power supply, shoulder strap. A belt clip is fitted to the rear of the unit.

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