

**ONE LIFE.  
PROTECT IT.**



**XKD1<sup>+</sup>**  
**DATA SHEET**

## PRODUCT FEATURES

- Personal, wearable dust monitor
- Designed to provide early warning of personal exposure to airborne particulates
- On device early warning alerts for increased particulate levels
- PM1, 2.5, 4.25 and 10 measurement ranges
- 0.1 µm to 10 µm particle sizing range
- Low-end sensor resolution, measuring down to 0.1 µm
- Custom Logging Intervals from 10 seconds to 60 seconds
- On-device Audio/Visual alarms
- Custom alarm set points
- Custom STEL and TWA period alarm thresholds
- On-device self-check routine
- Battery operated, rechargeable (16 hours+)
- On-device data logging
- Live data readout via **BreatheLITE** application
- Data analytics functions via **BreatheLITE** and **BreatheMOBILE** applications
- Range of personal mounting options
- Low maintenance

## PRODUCT OVERVIEW

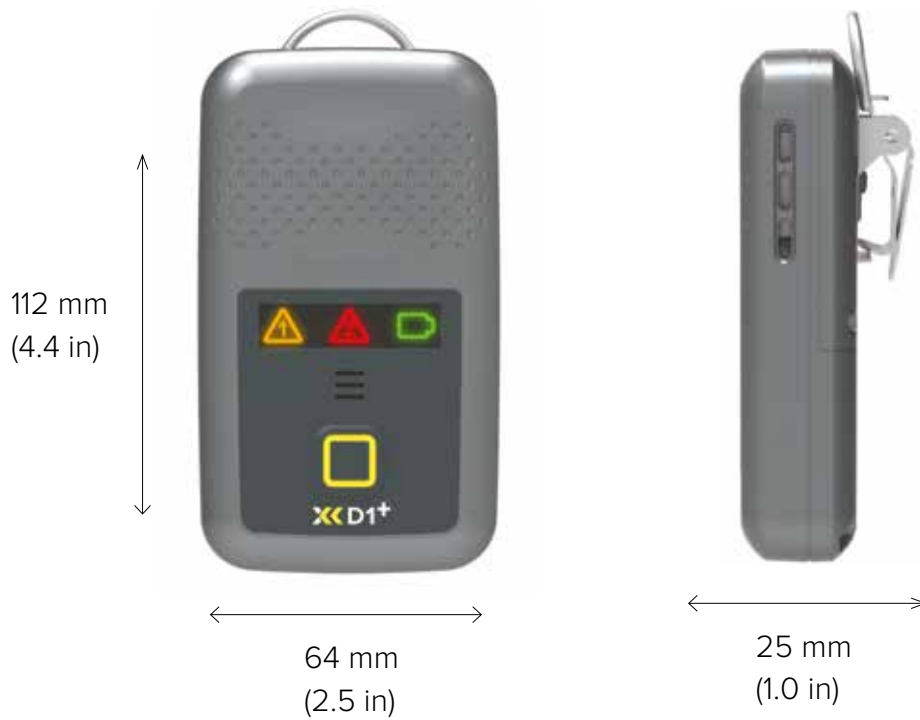
The Trolex **XD1<sup>+</sup> Personal Dust Monitor** is designed to provide detailed real-time data on airborne particulate levels so that users can take appropriate actions to stay safe and ensure personnel are fully protected from particulate-related health hazards.

The **XD1<sup>+</sup>** allows users to monitor respirable particulate matter values (PM) to indicate and warn of harmful personal exposure in working environments. Measurement information is displayed on device in the form of custom short-term exposure limit (STEL) or long-term exposure limit/time-weighted average (TWA) audio visual alarms.

Precise data is collected for the selected particulate matter value, enabling detailed concentration profiling and analysis using the Trolex **BreatheLITE** and **BreatheMOBILE** application software.



**PRODUCT DIMENSIONS**



**PRODUCT MOUNTING**

The **XD1+** is supplied with an alligator mounting clip as standard. A Klick Fast stud is available to allow the **XD1+** to be compatible with a range of wearable, wall and pole fixing kits (see product data sheet for additional fixing kit details).



**XD1+** with alligator clip.

## PARTICULATE SENSING PARAMETERS

<b>Sensing technology</b>	Optical Particle Counter (OPC)
<b>Particulate measurement</b>	0.1 $\mu\text{m}$ to +10 $\mu\text{m}$
<b>PM measurement capability</b>	PM1.0, PM2.5, PM4.25 and PM10
<b>Operating range*</b>	Up to ~150 $\text{mg}/\text{m}^3$
<b>PM density range</b>	0.8 $\text{g}/\text{ml}$ to +8.0 $\text{g}/\text{ml}$ (default: 1.65 $\text{g}/\text{ml}$ )
<b>Units of measurement</b>	$\mu\text{g}/\text{m}^3$ – logged on-device $\text{mg}/\text{m}^3$ or $\mu\text{g}/\text{m}^3$ – <b>BreatheLITE</b> / <b>BreatheMOBILE</b>
<b>Sampling interval</b>	Custom 1 second intervals (default 10 seconds)
<b>Flow rate</b>	0.1 L/min (typical)
<b>Accuracy</b>	$\pm 10\%$

\*The **XD1<sup>+</sup>** may define particulate measurement peak trends up to the quantity specified depending on operating environment.

## TECHNICAL SPECIFICATION

<b>Operating temperature</b>	+10 °C to +40 °C (Optimum performance) -10 °C to +50 °C (Maximum performance)
<b>Humidity</b>	20% to 80% RH, non-condensing (Optimum performance) 0% to 95% RH, non-condensing (Maximum performance)
<b>Housing material</b>	PC/ABS polymer housing
<b>Ingress protection</b>	Main enclosure: IPX4 Particle flow path: IP4X
<b>Weight</b>	170 g
<b>Data connections</b>	USB-C connector (charging and data transfer) Bluetooth LE 5.3
<b>Connectivity</b>	<b>BreatheLITE</b> PC application <b>BreatheMOBILE</b> application
<b>User options</b>	STEL and TWA alarm setpoints Latching alarms Particulate measurement
<b>User interface/alarms</b>	Visual icon illumination (STEL, TWA, battery indication), audible (85 dB) + vibration alert
<b>Self-test</b>	Sensor hardware, circuitry and battery test on activation 'Push to test' during operation
<b>Response test</b>	Custom particle compliance test
<b>Battery capacity</b>	8.2 Wh lithium ion
<b>Battery run time</b>	8+ hours (full health at ambient)
<b>Charging temperature limits</b>	0 to +45 °C
<b>Pollution degree</b>	2 (except for dust path)
<b>Maximum operating altitude</b>	2000 m
<b>Maximum mounting height</b>	2 m
<b>Charging time</b>	0% to 100%: 3 hours
<b>Maximum charge current</b>	1.5 A

<b>Memory capacity</b>	1 GB (6 months data logging at 10 second intervals)
<b>Product fixing/body mounting</b>	Personal mounting clip, Klick Fast stud options
<b>Certification</b>	CE and UKCA compliant

## ORDER REFERENCE

Option	Description
TX8061.00.01	General Purpose <b>XD1<sup>+</sup></b>
TX8061.00.10	Team Pack (5 x <b>XD1<sup>+</sup></b> + Data and Charging Dock)
P5644.4001	Body Mount Kit
P5644.4002	Pole or Wall Mount Kit
P5650.4002	Protective Case
P5650.4001	Data and Charging Dock
P5628.4000	Compliance Pack <sup>+</sup> (4 x Samples, 4 x Applicators + 1 x Hood)
P5644.4004	Sample Replacement Kit (12 x Samples + 12 x Applicators)
P5650.15	Replacement Sensor Assembly
-	BreatheLITE + BreatheMOBILE

## 18. DISPOSAL

### 18.1 Waste of Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU)



This symbol, if marked on the product or its packaging, indicates that this product must not be disposed of with general household waste.

In the European Union and many other countries, separate collection systems have been set up to handle the recycling of electrical and electronic waste.

At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste. Contact Trolex or the distributor for disposal instructions.

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## DISCLAIMER

The information provided in this document contains general descriptions and technical characteristics of the performance of the product. It is not intended as a substitute for and is not to be used for determining suitability or reliability of this product for specific user applications. It is the duty of any user or installer to perform the appropriate and complete risk assessment, evaluation and testing of the products with respect to the specific application or use. Trolex shall not be responsible or liable for misuse of the information contained herein. When instruments are used for applications with technical safety requirements, the relevant instructions must be followed.

All pertinent state, regional, and local safety regulations must be observed when installing and using this instrument. For reasons of safety and to help ensure compliance with documented system data, only Trolex or its affiliates should perform repairs to components.

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**At Trolex, we save lives.**

We believe that no person should risk their life to earn a living.

We aim to become the world's leading name in health and safety technology through pioneering products that provide real-world benefits to our customers whenever workers operate in hazardous environments.

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