

PRODUCT BROCHURE

# DumoPro

## Continuous Ambient Air Dust Monitor



**Low maintenance real-time monitoring of total suspended particles in industrial environments**

**Designed to industrial standards with built in failsafe features to increase reliability**



**SINTROL**  
Measuring Matters

## Benefits:

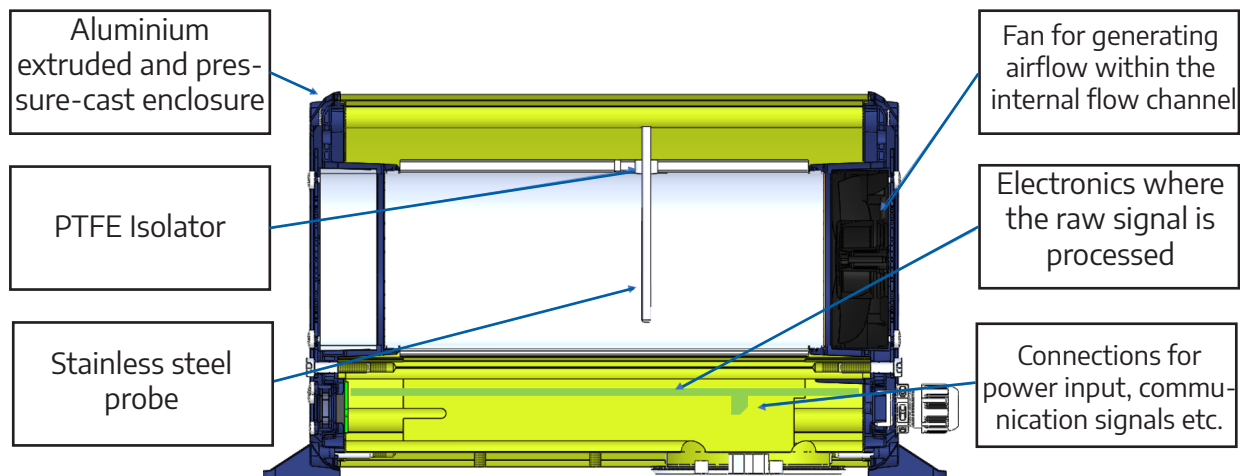
- Low maintenance and robust
- Easy start-up and commissioning
- Wide measurement range
- Internal self-monitoring for failsafe operation
- Fast response time
- No sample handling required
- Product loss prevention

Because of its high sensitivity to total suspended particles, the Sintrol DumoPro is a powerful tool for measuring dust concentration in industrial environments. The field proven state-of-the-art measurement technology is tolerant to sensor contamination making it reliable to a wide variety of dust detection applications. The DumoPro utilizes the Sintrol Inductive Electrification technology providing a wide measuring range.

## Applications:

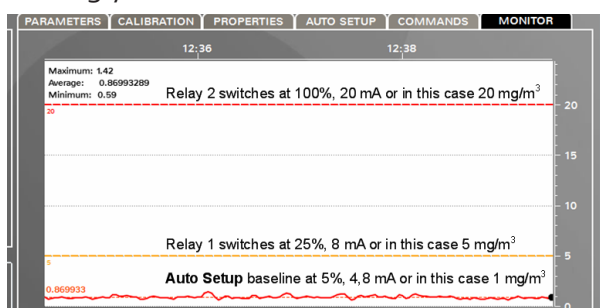
- Early detection of dust leaks
- Workplace dust monitoring
- Equipment and worker protection
- Supports good housekeeping practice
- Hazardous location supervision
- Helps mitigate the risk of dust explosion

The robustness of the DumoPro makes it a safe choice for dust monitoring in rugged industrial environments. Common industries are flour and sugar mills, mining, wood products, grain handling, chemical, power plants or any bulk and powder handling facility. Some common applications include: health & hygiene, equipment safety, good housekeeping, help mitigate the risk of dust explosions, HazLoc monitoring and the detection of unwanted events.



## Sintrol's Unique Auto Setup Function

The Auto Setup function is a unique Sintrol Dust Monitor feature which allows for a simple user friendly setup. During the auto setup procedure, which is done in normal process conditions, the dust monitor will automatically adapt to the present conditions and set the measuring range and alarms accordingly.



## Dust Tool

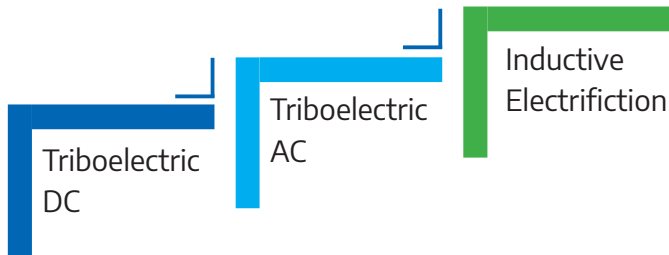
DumoPro can be managed and parameterized with the DustTool PC Software. This offers a convenient platform to view the measurement results, to initiate the Auto Setup and adjust the parameters of the monitor.



## Inductive Electrification Technology

Since 1993, Sintrol has become a globally recognized dust monitor supplier with over 20 000 installations in more than 50 countries. The measuring principle has evolved into a proven standard for dust monitoring needs.

### Inductive Electrification Technology

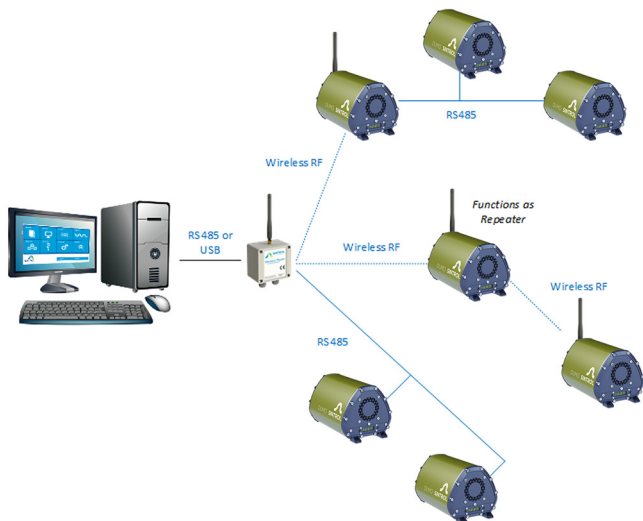


Ambient air is drawn through the measurement chamber producing a steady constant flow.

Particulate matter flowing through the chamber will interact with the sensor rod causing small electrical charges to pass between the particulate and sensor. These small electrical charges provide the signal monitored by the electronics. The generated signal is proportionate to the ambient dust levels.

## Sintrol Network with Wireless Radio Frequency (RF) Option

DumoPro is able to be networked using the Sintrol RF platform. This reduces cabling costs and eases installation with a fully integrated, easy to use RF connection. Each monitor has a range of up to 1 km and can act as its own repeater within the network. With directional antennas the range can be significantly extended.

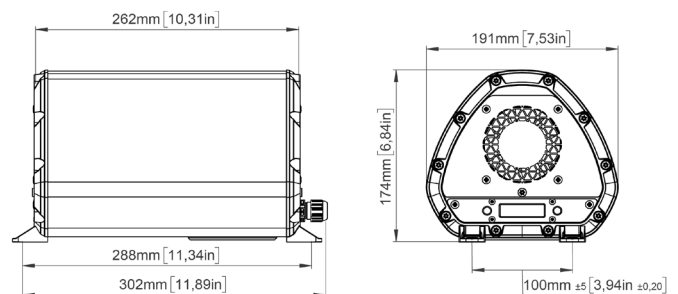


## Reliable and user friendly

In reference to multiple international safety codes, DumoPro is equipped with the below safety features:

- All instruments are 100 % tested, normalized and linearized during production.
- Malfunctions are indicated in the way that relays will relax, the mA output will show 22 mA and LEDs will blink.
- The fan speed is monitored and will trigger an error if the fan is blocked or slowed down.
- A periodic Zero and Span check correction is a standard function of Dumo.
- The solid state relays are normally energized to enable the detection of interruptions in the power supply.
- Voltage supply tolerant to +/- 20 % voltage changes.
- During Auto setup the LED will blink green and a countdown is shown on the display.
- In hazardous locations Auto Setup can be triggered without opening the instrument.
- It is possible to perform some very easy bump check after installation:
  - A properly grounded DumoPro will show no re-action on the measurement by touching it with your hand.
  - DumoPro will react by tearing a piece of paper apart in front of the inlet.
- Dirty or wet sensors may become grounded which distorts the signal. These incidents are detected and an error signal is prompted.
- Onboard display for direct verification of dust levels showing mA % of range or mg/m<sup>3</sup>.

The DumoPro can be installed anywhere in the production process where the determination of the dust levels is critical or informative. The DumoPro makes the task of dust monitoring easier, faster and more reliable than ever before.



Product Name	DumoPro
Measurement objects	Total Suspended Particles (TSP)
Measurement range	Detection Limit 0.01 mg/m <sup>3</sup> Maximum Range up to several g/m <sup>3</sup>
Measurement principle	Inductive Electrification
Protection code	IP66
Power supply	24 V DC + - 20%
Power consumption	Up to 10 W
Output signals	<ul style="list-style-type: none"> <li>Two independent solid state relays, max. 300 V DC / mA</li> <li>Isolated 4 - 20 mA output loop, up to 250 Ω loop resistance, Namur NE43 compliant alarms</li> </ul>
Communication interface	<ul style="list-style-type: none"> <li>Serial communication RS485, USB, Wireless Radio Frequency (RF) (Option)</li> </ul>
Communication protocol	<ul style="list-style-type: none"> <li>Modbus RTU (RS-485)</li> <li>Sintrol network (USB, RF and RS-485)</li> </ul>
Alarm settings	Set by auto setup based on average measured dust level: 5 times and 20 times of reference dust level. User adjustable
Signal averaging time	Default at factory: 100 s, Adjustable from 0-6000 s.
Alarm delay time	Default at factory: 30 s, Adjustable from 0-60 000 s.
<b>Ambient Conditions</b>	
Running temperature	-40°C to +60 °C (-40 °F to 140 °F)
Humidity	Max 95 % Relative humidity (non-condensing)
<b>Materials and Dimensions</b>	
Weight	4.2 kg (9.3 lbs)
Enclosure / housing	Aluminum enclosure, stainless steel cover plates and probe (AISI 316L).
Dimensions (mm):	288 (L) x 191 (W) x 174 (H)
<b>Wireless Communication (Only for RF models)</b>	
Frequency band	868/915 MHz (license free ISM band), 15 channel
Transmit power	Up to +23 dBm, user adjustable
Receiver sensitivity	-110 dBm
Communication protocol	Proprietary Sintrol Network protocol
Typical range (no line of sight)	915 MHz Version for US Up to 800 m. (2600 ft.) in urban environment 868 MHz for EU Up to 1000 m. (3200 ft.) in urban environment NOTE: The RF communication range is highly affected by the surrounding structures and other RF devices

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