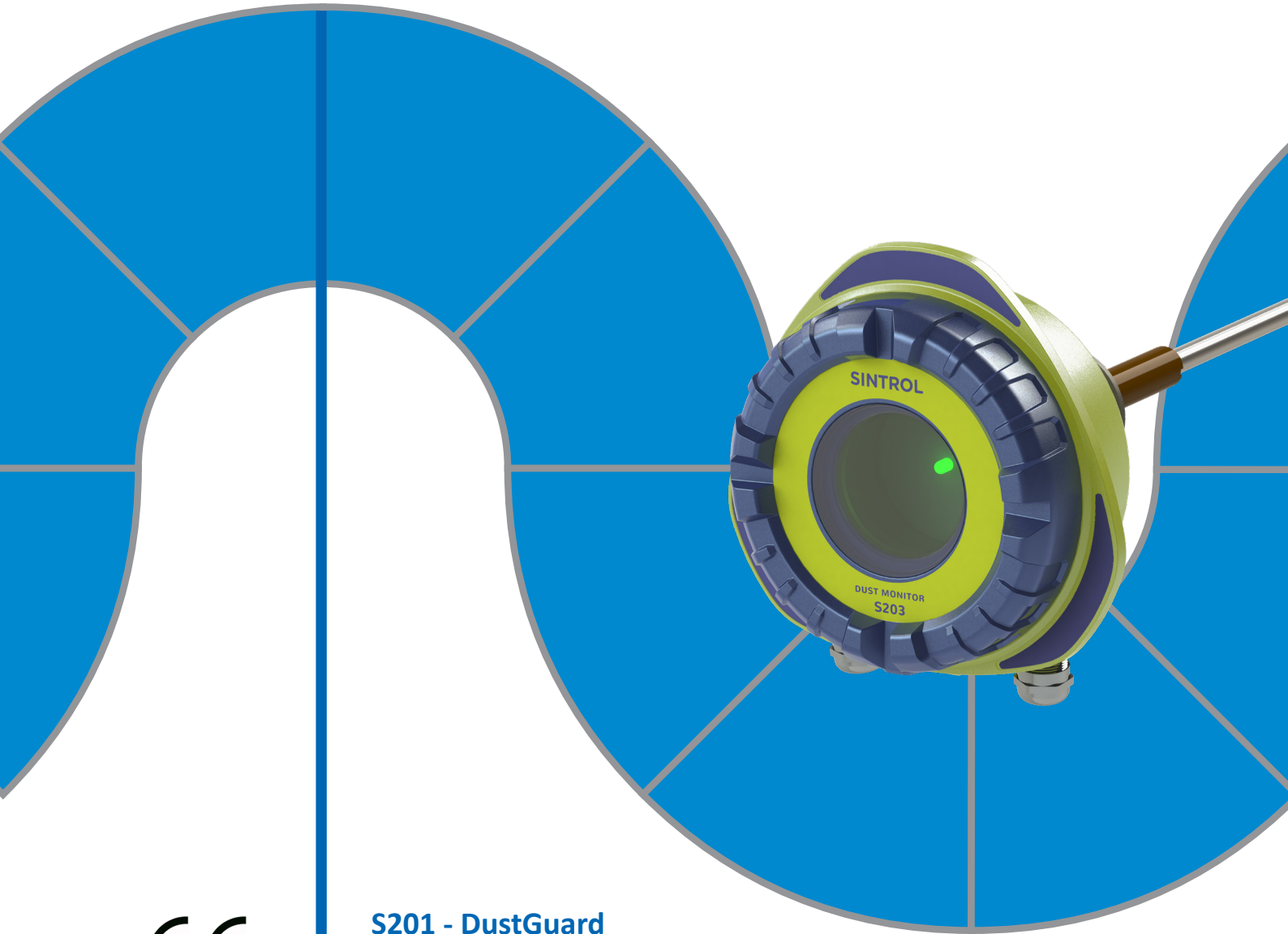


# S201 & S203 DUST MONITORS



CE

 **RoHS<sub>2</sub>**  
2011/65/EU

S201 - DustGuard

S203 - Trend Monitor

Network and Data Logging



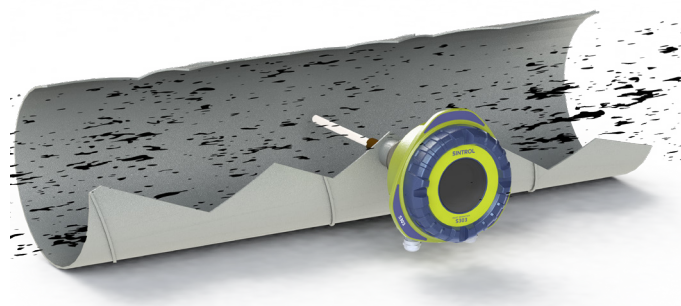
**SINTROL**  
For Good Measure

# S201 DustGuard, S203 Trend Monitor

- Good value for money
- Easy start-up and commissioning
- Rugged design for harsh industrial conditions
- Proven technology
- Accurate dust measurement
- Extremely wide measurement range
- Normalized (instruments are all identical) instrument with a detection limit of 0,01mg/m<sup>3</sup>

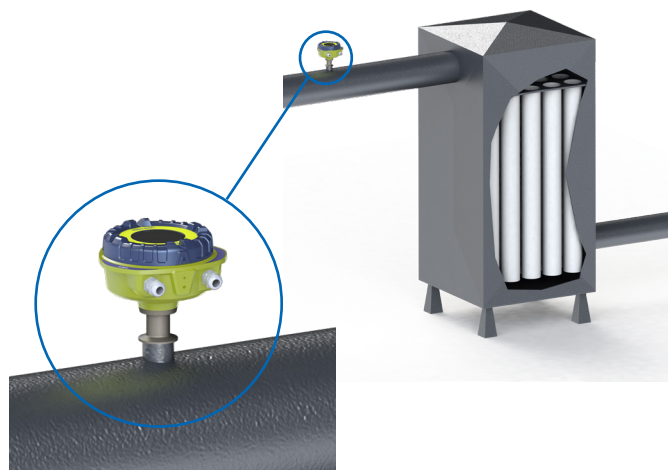
## Proven Technology since 1993

Sintrol has become a globally recognized dust monitoring supplier with over 17.000 installations in more than 50 countries. The measuring principle has evolved into a proven standard for dust monitoring needs. Extensive tests have been carried out in Finland and Germany. The results showed excellent linearity over various dust types.



## Common Filtration Control

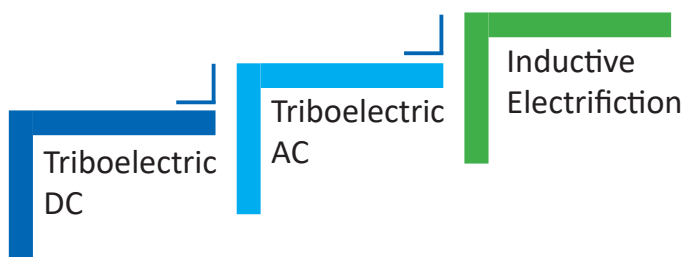
- Straightforward filter leak detection on an ALERT and ALARM signal base
- Filter performance monitoring and optimization on the mA output signal of S203
- Minimize product loss by finding even the smallest leakages
- Identify broken solenoid valves
- Monitor pulse efficiency and reduce pulse rates
- Reduce consumption of compressed air
- Enable preventive maintenance
- Proactively reduce emergency downtime



## Features

X Standard, OOptional, -blank- Not Available	S201	S203
Rugged IP65 rated Aluminum pressure casted enclosure	X	X
Quick clamp process connection for easy installation	X	X
Green, yellow and red LED for status indication	X	X
Auto Setup function for efficient commissioning	X	X
Two dry contact relays to indicate dust alert and dust alarm	X	X
24 VDC and 80 to 230 VAC power supply	X	X
USB interface for convenient connection during commissioning	X	X
DustTool PC-software for parametrization and setup	X	X
Normalized during production to ensure identical instruments and quality	X	X
Linearized during production to standard test dust (Arizona Road Dust)	X	X
RS485 to communicate with Modbus RTU to your control system or with Sintrol protocol to your PC and DustTool	X	X
Isolated and active mA-output, to indicate the status $\geq 21$ mA or $\leq 3.6$ mA is used	O	X

## Inductive Electrification Technology



The measurement of Sintrol dust monitors is based on particles interacting with an isolated probe mounted into a duct or stack. When moving particles pass nearby or hit the probe, a signal is induced. This signal is then processed through a series of Sintrol's advanced algorithms to filter out the noise and provides the most accurate dust measurement.

Classic **triboelectric technology** is based on the DC signal, which is caused by particles making contact with the sensor to transfer charges. Inductive Electrification Technology is based on the Triboelectric AC signal. It is more sensitive and minimizes the influence of sensor contamination, temperature drift and velocity changes than DC. By using Inductive Electrification Technology, it is likely to reach a detection limit as low as  $0.01 \text{ mg/m}^3$ .

## The S200 Series

The S200 series comes with a wide range of different probes and process connections. The new mechanical solutions reflect our field of experience over the last twenty years. Sintrol has engineered and developed the instrument to fit individual processes and demands based on customer needs.

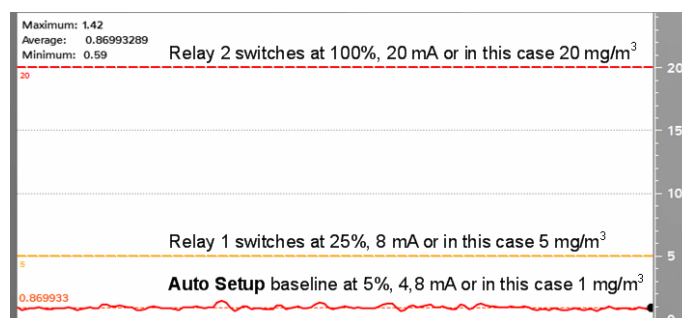
## DustTool Parametrization Software

The S200 series monitors 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. Just connect a USB cable directly to a USB connector. DustTool will automatically detect the interface being used and connect to the device.

## Sintrol's Unique Auto Setup Function

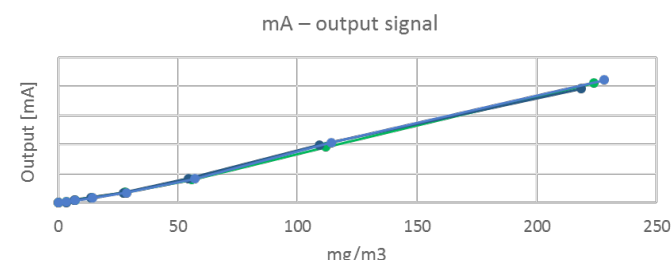
The **Auto Setup** function is a unique Sintrol Dust Monitor feature which allows for a simple, user friendly setup. During the auto setup procedure, which is done in normal process conditions, the dust monitor will automatically adapt to the process conditions and set the measuring range and alarms accordingly. At normal conditions the instrument will show green light and the mA output is set to 5% of range.

In case the measuring point is before the filtration system, the **Auto Setup** baseline could be several  $\text{g/m}^3$  and after the filtration system the auto setup baseline could be only a few  $\text{mg/m}^3$ . In both cases, no manual range setup is required.

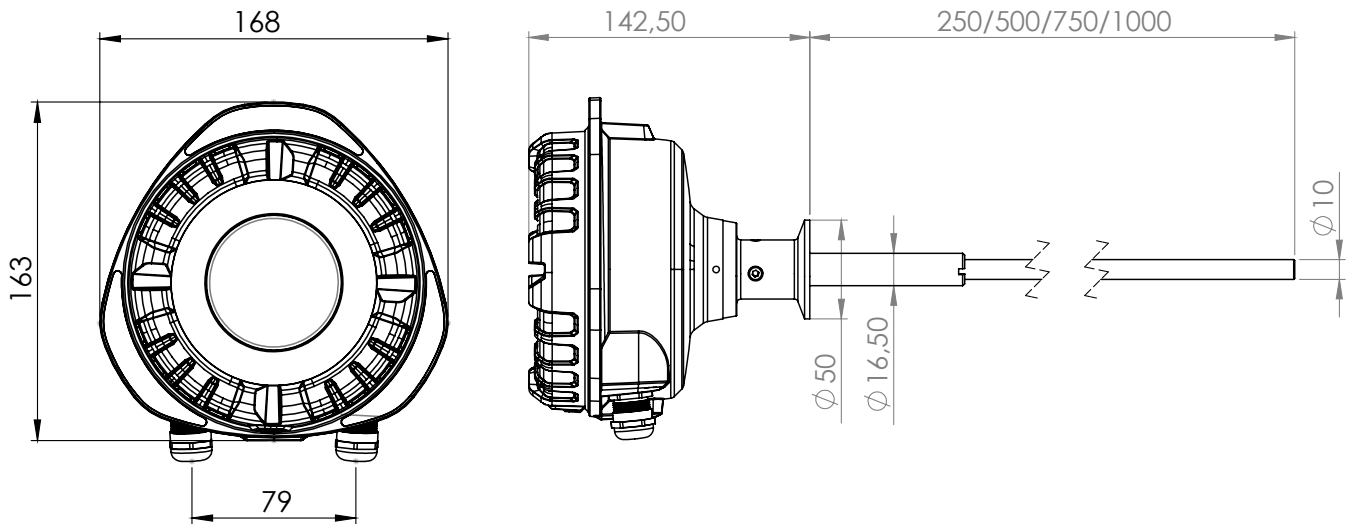


## Test Results

Multiple show excellent linearity over various dust types. The graph below illustrates the mA output on standard test dust ISO 12103 medium (Arizona Road Dust).



Temperature tests showed close to no impact over the whole temperature range.



SIN201/203/1119

Product Name		S201, S203
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> , depending on conditions	
Measurement principle	Inductive Electrification	
Protection code	IP65	
Power supply	24 VDC and 80-240 VAC	
Power consumption	Up to 10 W	
Output signals	<ul style="list-style-type: none"> <li>Two dry contact Relays, max 5A@30VDC / 5A@240VAC</li> <li>Isolated 4-20 mA output loop (S203)</li> </ul>	
Communication interface	<ul style="list-style-type: none"> <li>Serial communication RS-485</li> <li>USB</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>	
<b>Ambient Conditions</b>		
Temperature	-40°C to +60 °C (-40 °F to 140 °F)	
Humidity	Max 95 % RH (non-condensing)	
<b>Materials and Weight</b>		
Enclosure / casing	Aluminum	
Weight	1,5 kg (3,3 lbs)	
<b>Process conditions</b>		
Temperature	Max 200 °C (392 °F) default, optionally up to 700 °C (1292 °F)	
Pressure	Max 300 kPa default, optionally up to 6000 kPa	

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