

# S304QAL-D/L

## Dust Emissions Monitor for Filter Monitoring



- Certified for filter monitoring
- Conformity to EN 15859-2010
- No need for consumables
- 10 minute commissioning

\*Pending

# S304QAL-D/L- Dust Monitor for Filtration Applications

- **Easy one sided installation with no alignment necessary**
- **Local display with status indication based on self diagnostics**
- **Reliable and durable, not affected by vibrations**
- **Low maintenance costs with no consumables**
- **Ex models available**

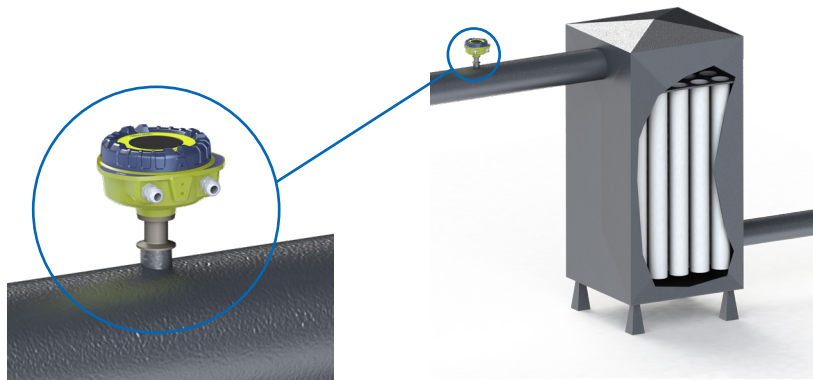
## Common Filtration Control

- Filter leak detection based on ALERT and ALARM signals S304QAL-L
- Optimise filter performance using mA output signal of S304QAL-D
- Optimise your back pulse
- Enable preventive maintenance and proactively reduce emergency downtime

## Inductive Electrification

S304QAL accurately measures Total Suspended Particles (TSP) in the airflow inside pipes and stacks.

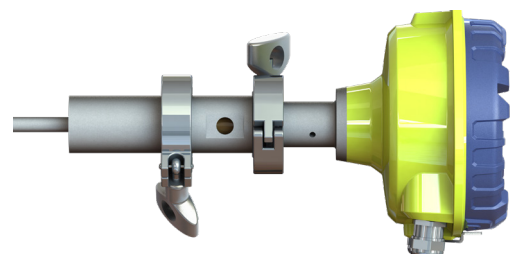
When particles pass nearby or hit the probe, a signal is induced. Inductive Electrification Technology is based on the Triboelectric AC signal and it minimises the influence of sensor contamination, temperature drift and velocity changes.



## Process Connections

### Air Purge (Optional)

Used in process conditions with high probability of dust build up on the probe. Air purge ensures that the base of the probe stays clean of dust build up.



### High Temperature Connector (Optional)

The high temperature probe can be used in process conditions up to 700 °C. HT Connector requires air purge. The flanges for the process connection can be chosen to meet customer specifications.





### Conformity of S304QAL to EN 15859-2010

- Certification ranges: 0 ... 7.5 mg/m<sup>3</sup>, 0 ... 15 mg/m<sup>3</sup>, 0 ... 100 mg/m<sup>3</sup>
- Flow rates in the range from 3 - 40 m/s compensation with mA input
- Can be networked via RS485 (Modbus RTU) interface compliant to VDI 4201
- Two different models: D with mA output and L with relay output



### Installation, commissioning, and calibration of S304QAL against gravimetric sampling

- One sided installation and no mechanical alignments or adjustment
- IP 66 protected, therefore no weather protection needed (-20 to 50 °C).
- Auto Setup function gives instant usable range settings
- Power supply can be 100 - 230 VAC or 24 VDC
- Local- and remote setup possibilities via RS485



### The periodic control of the S304QAL during its ongoing operation

- Automatic Zero and Span check, requires no manual actions.

### Maintenance

- Only cleaning of the probe to be performed
- No further adjustments necessary



### Annual Surveillance Test (AST)

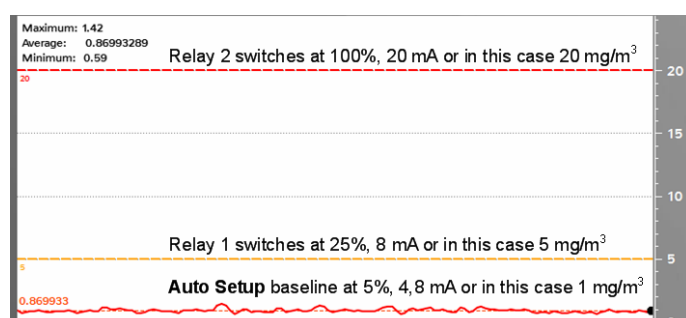
- Annual checking the variability and the validity of the calibration function

## 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.

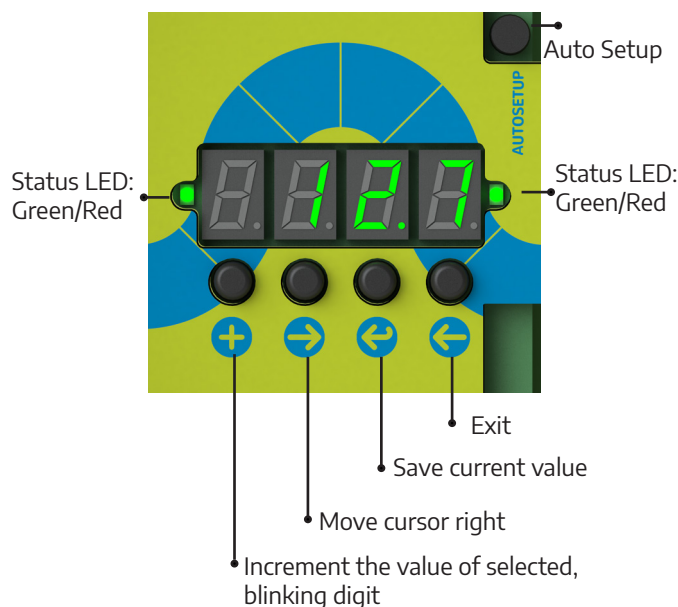
## Sintrol DustTool

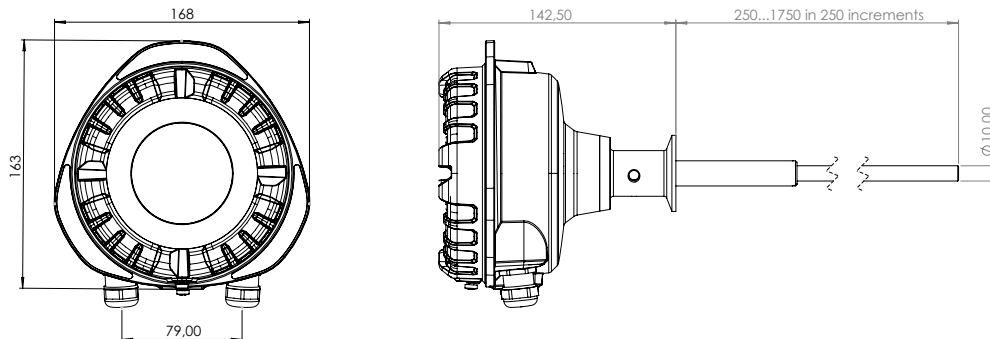
DustTool is a free-of-charge software developed by Sintrol. With DustTool, you can set, adjust and fine tune the parameters of Sintrol Dust Monitor. DustTool has live monitor output screen as show below.




## Local Display and User Interface

The S304QAL equipped with a local user interface for setup and adjusting the instrument. The operator can see the actual measurement values on the 4- digit display in mA, % or mg/m<sup>3</sup>. With the 4-button interface the operator can navigate and change the most important operating parameters. Next to the display, is a button to start the Auto Setup procedure.





Product Name	S304QAL-L/D	S304QAL-L/D Ex (pending)
Measured objects	Total Suspended Particles (TSP)	
Measurement principle	Inductive Electrification	
Measurement range	Detection limit 0,01 mg/m³ Certification ranges: 0 ... 7.5 mg/m³, 0 ... 15 mg/m³, 0 ... 100 mg/m³	
Ingress protection	IP66	
Power supply requirements	24 V DC ±10 % 100 ... 240 V AC ±10 %, 50 / 60 Hz	
Power consumption	Up to 10 W DC / AC	
Output signals certified according to EN15859	S304QAL-L 2 × Independent SPDT dry contact relays, max. 30 V DC / 5 A or 240 V AC / 5 A, cos = 1 S304QAL-D Isolated active 4 ... 20 mA output loop, max. loop resistance 250 Ω	
Communication interface	2 × Serial communication RS-485 USB DustTool Software	
Communication protocol	Modbus RTU (with RS-485) Compliant with VDI 4201 Sintrol network	
Physical characteristics		
Enclosure	Aluminium	
Wetted parts	Probe standard lenght 250 mm (can be extended up to 1500 mm in 250 mm increments) Probe material: stainless steel (316L) Coated probes optional PTFE coated probes optional for non-Ex models Insulation: Polyphenylene sulfide (Ryton R-4)	
Weight	1.5 kg (3.3 lb)	
Ambient conditions		
Temperature	-20 ... 50 °C (-4 ... 122 °F)	
Humidity	Max. 95 % relative humidity (non-condensing)	
Process conditions		
Temperature	Max. 300 °C (572 °F), optionally up to 700 °C (1292 °F) Max. 250 °C (482 °F) with PTFE coated probe Max. 200 °C (392 °F) for Ex-models	
Pressure	Max. 600 kPa (87 psi) in temperatures up to 300 °C (572 °F) Max. 300 kPa (43 psi) in temperatures from 300 °C (572 °F) to 700 °C (1292 °F) when high-temperature process connection is used	
Flow velocity	Min. 3 m/s (9.84 ft/s), max. tested 40 m/s (131.23 ft/s)	
Ordering information	S304QAL-L PC901027    S304QAL-L Ex PC901047 S304QAL-D PC901028    S304QAL-D Ex PC901048	
Hazardous location approvals (Pending)	IECEX/ATEX:  II 2 D Ex ia tb IIIC T200 93°C ...201°C Db Ta= -30°C to +60°C US: Zone 20 A Ex ia ta IIIC T85°C...T201°C Da   CAN: Ex ia ta IIIC T85°C...T201°C Da US/CAN: CL II, DV 1, GP E, F, G. IS Probe Ta= -30°C to +60°C	