

S305QAL

Dust Emissions Monitor for CEMS



S305QAL - Dust Emissions Monitor for CEMS

- Simple one sided installation, just one small process coupling
- No alignments required, therefore no measurement accuracy issues due to poor alignment.
- Easily adaptable air-purge option
- Easy to commission
- Local display with status indication
- Not affected by vibrations
- Reliable and durable
- Low maintenance costs, no time consuming cleaning operations
- Flow velocity compensation 3 – 40 m/s
- Certified for official regulation monitoring
- No need for consumable spare parts
- Lowest certified range 0 – 7.5 mg/m³
- Ex model is suitable for Zone 20, 21 and 22 inside and Zone 21 and 22 outside the duct

IECEx/ATEX Zone approvals

The certified S305QAL Ex model can be used in the following applications:



Inductive Electrification

S305QAL is designed for measuring Total Suspended Particles (TSP) in the airflow inside pipes and ducts and stacks.

When moving particles pass nearby or hit the probe, a signal is induced. Inductive Electrification Technology is based on the Triboelectric AC signal and it minimizes the influence of sensor contamination, temperature drift and velocity changes at a detection limit as low as 0.01 mg/m³.

S305QAL is approved for plants operating under the below regulations:

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- EC Directive 2000/76 Waste incineration
- LCPD – Directive 2001/80/EC for large combustion plants
- EC Directive 2010/75 Industrial Emissions
- EC Directive 2015/2193 (Medium Combustion Plants) Germany: 27th BImSchV, the 30th BImSchV or the 44th BImSchV
- S305QAL is compliant with EN 15267-1,2,3 and EN 14181, EN 13284-2:

Waste
incineration

Power
generation

Filtration
plants

Cement

Pharma-
ceutical

Steel

Chemical

Wood

QAL 1

Conformity of S305QAL to EN 15267-3:2007

- Certification ranges: 0 ... 7.5 mg/m³, 0 ... 15 mg/m³, 0 ... 100 mg/m³
- Flow rates in the range from 3 - 40 m/s
- Can be networked via RS485 (Modbus RTU) interface compliant to VDI 4201

QAL 2

Installation, commissioning, and calibration of S305QAL 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

QAL 3

The periodic control of the S305QAL 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

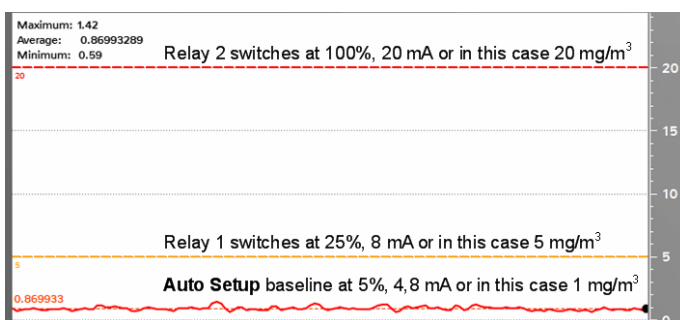
AST

Annual Surveillance Test (AST)

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

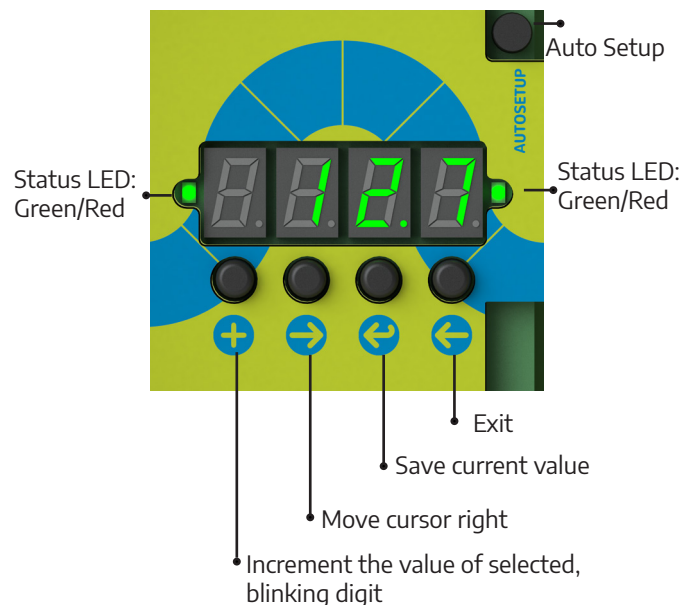
Sintrol's Unique Auto Setup Function

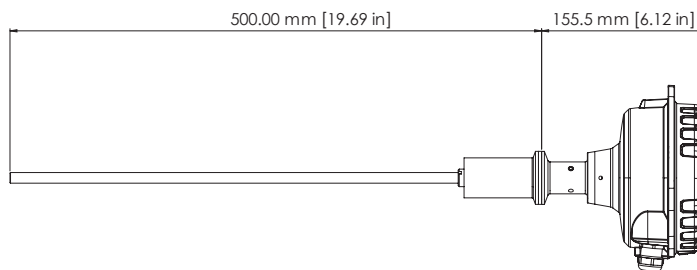
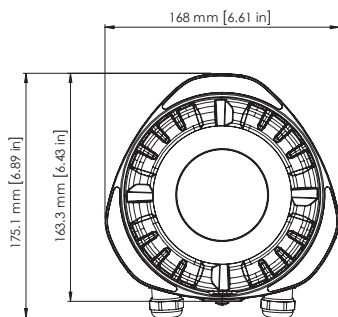
The Auto Setup function is a unique Sintrol Dust Monitor feature which allows for a simple, user friendly setup. During the Auto Setup procedure, which is done in normal process conditions, the dust monitor will automatically adapt to the process conditions and set the measuring range and alarms accordingly.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



Local Display and User Interface

The S305 equipped with a local user interface for set-up and adjusting the instrument. The operator can see the actual measurement values on the 4- digit display in mA, % or mg/m³. 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	S305QAL / S305QAL Ex
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	2 × Independent SPDT dry contact relays, max. 30 V DC / 5 A or 240 V AC / 5 A, cos = 1 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 (with USB, RF and RS-485)
Physical characteristics	
Enclosure	Aluminium
Wetted parts	Probe: Stainless steel (316L) Coated probes optional 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 Teflon-coated probe
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	S305QAL PC901026 S305QAL Ex PC901040
Hazardous location approvals	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