S710 MARINE DUST MONITOR

SINTROL
For Good Measure

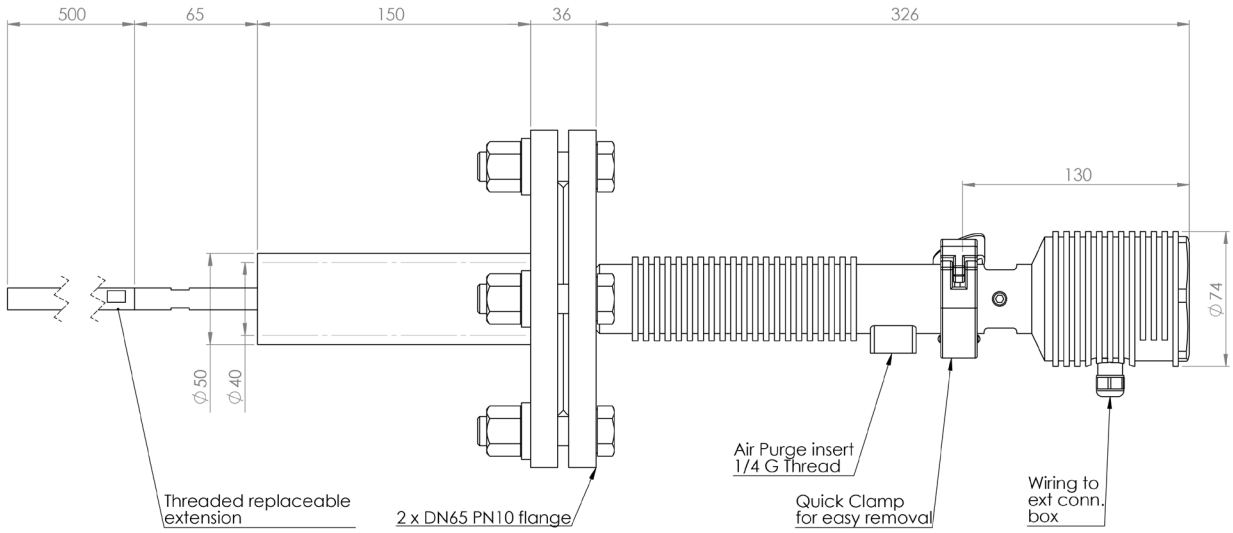
Product overview

The S710 Marine Dust monitor is a microprocessor-based, self-adjusting device, equipped with two independent and fully adjustable alarm signals, isolated 4 – 20 mA output loop and RS485 bus set to operate with MODBUS RTU protocol.

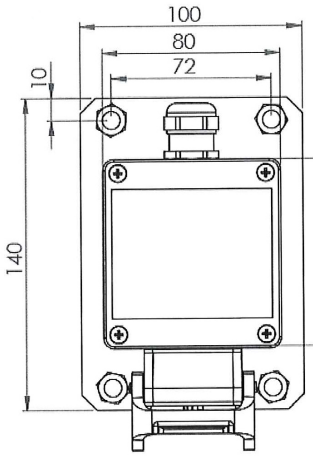
The device is designed especially for marine environment. It is a compact unit with the sensor and control electronics built into one robust enclosure, which has been specifically designed for easy installation and operation.

The S710 Marine uses Sintrol's proven and reliable inductive electrification technology where the interaction of particles with the sensor rod causes a small electrical charge to pass between the particulate and sensor.

It is this small electric charge that provides the signal monitored by the electronics, the signal generated is proportional to the dust level even if particles accumulate on the sensor. Experience has shown that this method of monitoring dust level in gasses, offers accurate results with minimum maintenance.



S710 Marine general dimensions



S710 Marine Connection box with Harting Han –connectors for easy and convenient connectivity

TECHNICAL SPECIFICATION

Product name	S710 Marine
Measurement Objects	Solid particles in a gas flow
Particle Size	0.3 µm or larger
Measurement Range	From 0.1 mg/m³
Measurement Principle	Inductive Electrification
Probe Protection Category	IP68
Connection Box Protection Category	IP65
Sensor Length (total/measuring)	Default: 565 mm Threaded extension available.
Power Supply	12-24 VDC
Power Consumption	3 W
Connection	Cable of 2 meters with 12 signals
Process Connection	DN65PN6
Output Signals	• Two output signals (100 – 280 mA) • Isolated 4 - 20 mA output loop
Communication Interface	• RS-485 • internal USB
Communication Protocol	• Modbus RTU (RS-485) • SNT network (USB and RS-485)
Alarm settings	• Set automatically by auto-setup based on average measured dust flow: 5 times and 20 times of reference dust flow. • User selectable
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
Alarm hysteresis time	• Default at factory, 0s • Adjustable from 0 – 25 s

PROCESS CONDITIONS

Temperature	Max 450 °C
Pressure	Max 200 kPa
Gas Velocity	Min 3 m/s
Humidity	Max 95 % RH (non-condensing)

AMBIENT CONDITIONS

Staring temperature	-20...+60 °C
Running temperature	-40...+70 °C
Humidity	Max 95 % RH (non-condensing)

MATERIALS AND WEIGHT

Probe (wetted part)	Stainless steel (AISI 316L)
Process Connection (wetted part)	Stainless steel (AISI 316L)
Probe Enclosure	Stainless steel (AISI 316L)
Probe Insulation (wetted part)	PEEK
Probe Weight	1,7 kg
Connection box	ABS
Connection box screws	Stainless steel
Connection box fixing plate	Stainless steel (AISI 316L)
Connection box fixing U Bolts	Stainless steel (AISI 316L)
Connection box Weight	0,5 kg

PRINCIPLE OF OPERATION:

Sintrol dust monitors are based on a unique Inductive Electrification technology. The measurement is based on particles interacting with an isolated probe mounted into the 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 provide the most accurate dust measurement output.

Classic triboelectric technology is based on the DC signal, which is caused by particles making contact with the sensor to transfer charges. Compared to DC based measurements, the Inductive Electrification technology is more sensitive and minimizes the influence of sensor contamination, temperature drift and velocity changes. By using the Inductive Electrification technology it is possible to reach dust concentration measurement thresholds as low as 0.01 mg/m3.

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