



TYPE APPROVAL CERTIFICATE
No. **ELE171014CS/001**

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Marine Dust and Particulate monitoring
<i>Type</i>	S710
<i>Applicant</i>	TECNOVA HT SRL VIA CASTELLAZZO, 29 20010 PREGNANA MILANESE (MI) ITALY
<i>Manufacturer</i>	SINTROL OY
<i>Place of manufacture</i>	RUOSILANTIE 15 FI-00390 HELSINKI FINLAND
<i>Reference standards</i>	Rules for the Classification of Ships - Part C - Machinery, Systems and fire protection - Ch.3, Sect.6, Tab.1.

Issued in **Genoa** on **January 13, 2016**. This Certificate is valid until **January 26, 2021**



RINA Services S.p.A.
Valerio Bonanni

This certificate consists of this page and 1 enclosure

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S710

Product description

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.

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/m^3
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

Reference Documents

- ONBOARD MONITORING MANUAL for Gaseous Emissions - Tecnova HT S-Keeper 7 Marine Emission Monitoring System dated 15/07/2015 n° 5096
- Annex A Dust Meter Calibration Sintrol S710 Marine
- Sintrol Dust Monitor - Data Sheet dated October 13, 2015
- Sintrol Oy Manufacturer's Declaration - November 23 - 2015

Test Carried Out

- Tecnova HT S.r.l. verification, in accordance with ISO 8178-1:2006 - May 2015 - rev. 03 - prot. 205a/15/FG_rev03 by Eco Chimica Romana Accredia LAB N° 0286.
- TesLab 146109F EMC / Vibration Test dated 06/05/2015
- Marine Emission System S-Keeper7 - Equivalence Test - Ref. Tecnova HT: SK-1

Note

For each specific installation on board, the system configuration drawings are to be always sent for approval. The test of the system will be carried out with simulation of functionality in normal, emergency and single failure condition. Final acceptance of the system is subject to the good result of functional test to be carried out on board

Genoa January 13, 2016