

SMART ESM

Wash Water Monitor for
Ship Exhaust Gas Cleaning Systems

Rev 010



- With the IMO's 2020 global sulphur cap fast approaching, a popular solution to ensure compliance is to install an exhaust gas cleaning system (EGCS).
- For this, wet scrubber systems use wash water to remove the pollutants from the exhaust gas. Therefore the wash water being discharged must be monitored at all times to ensure it is within the limits set by the regulating body. There are IMO regulations for water quality parameters including Polycyclic Aromatic Hydrocarbons (PAHs), pH and turbidity prior to discharge into the ocean.
- Rivertrace is an ISO 9001 Quality-Assured Company and market leader in Oil in Water Quality Monitoring, with over 30 years' experience and your partner to ensure that the wash water discharged from your exhaust gas cleaning systems is compliant with the global regulations on discharge.
- Our SMART ESM monitor developed by Rivertrace, is suitable for both the inlet and outlet of a wet exhaust gas cleaning system, measuring and recording PAH, Turbidity, Temperature and pH, on open-loop, closed-loop and hybrid scrubber systems.
- The SMART ESM is fully compliant with MEPC 259(68) and provides reliable information to ensure compliance with the worldwide SOx limits.

- Ensures compliance of wash water discharge from ship EGCS is within regulatory limits.
- Fully compliant with IMO MEPC 259(68) and Statement of Compliance from DNV GL (Pending)
- Systems suitable for both new ship and retrofit installations.
- Compatible with Open Loop, Closed Loop and Hybrid systems.
- Turnkey solution to monitor PAH, Turbidity, Temperature and pH.
- Suitable for inlet and outlet monitoring
- PAH Measurement is compensated for turbidity
- Continuous real-time monitoring of wash water discharge.
- A large 10" touch screen display provides a flexible user interface and data is relayed to the ships main control system via an Ethernet connection and 4-20 mA analogue outputs.
- On screen historical data graphs showing Instant/Hourly/Daily/Weekly figures
- A broad selection of inbuilt analogue and digital outputs.
- Data can be emailed automatically
- Automatic cleaning of optical path
- Quick cost effective maintenance design / Plug and play maintenance design
- Easy calibration checks kits or component replacement

Power supply	100 – 240V AC, 47 – 63 Hz single phase
Dimensions	H480mm x W560 x D183
Weight	18.5Kg
Operating pressure	Max 4.0 bar
Ambient operating temp	0 - *50 °C *Higher Optional
Sample flow	0.1-4 L/min
PAH range	0 - 4500 µg/L
PAH resolution	1 µg/L
PAH accuracy	1 %
Turbidity range	0 - 500 FNU
Turbidity resolution	0.1 up to 100 NTU, 1 thereafter
Turbidity accuracy	0.1 up to 100 NTU, 1 thereafter
pH range	0 - 14
pH resolution	0.1
pH accuracy	0.1

System outputs	RS485 Modbus TCP/IP Ethernet (RJ45) 4x Volt free relay contacts for each parameter measured 4x 4-20 mA output for each parameter measured SD Card for storing
Display/user interface	10.1" capacitive touchscreen
Sample inlet/outlet	¼" BSPP threaded holes
Monitor configuration	The control module and cell module with individual PAH and turbidity cartridges, are separate units on a backplate to ensure easy calibration and maintenance
Enclosure	IP66
Regulatory Approvals	DNV GL Statement of Compliance (Pending)

- Cooling Enclosure
- Degasser
- Printer

