



RIVERTRACE

Cleaner. Smarter.



www.rivertrace.com

INTRODUCTION

Rivertrace is a market leader with over 35 years experience of Oil in Water Quality Monitoring. Rivertrace manufacture oil content monitors for the marine, offshore and industrial markets with up to date technological engineering solutions to meet strict regulatory requirements.

Our impressive client list includes leading European, American and Asian separator manufacturers. We also supply most of the major International Shipping Companies together with the leading Offshore Oil and Gas Operators as well as Premier Land Based Industrial Organisations.

We are dedicated to producing high quality products and service to meet oil in water monitoring solutions.

Rivertrace are accredited to ISO 9001:2015 and employ around 30 people at our 10,000 sq. ft. factory in Redhill.

Local sales, service and support is provided by our strong global network of agents.

OUR SALES & SERVICE NETWORK



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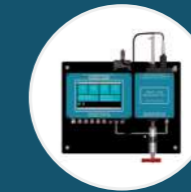
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SMART BILGE 15PPM Oil Content Monitor



APPLICATIONS

- MEPC 107(49) and MEPC285(70) Bilge Water Discharge
- Rig Slop Tank Discharge
- Air Cooler Drains Overboard Discharge
- Oily Water Separator Discharge

OPTIONS > All options can be ordered from new or retrofitted to existing Rivertrace Smart Bilge monitors.

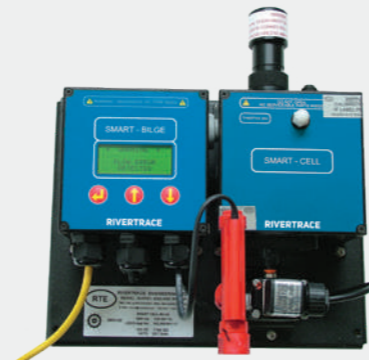
By utilising the "Smart Cell" Detector Array Technology, developed by Rivertrace, the OCM analyses all three oil types (HFO, Diesel and Emulsions) simultaneously without the need for re-calibration.

A manual cell cleaning device is included as standard to easily enable routine maintenance. Optical cell fouling is recognised as a leading cause of monitor malfunction or incorrect reading. By simple operation of the manual cleaning device, the "Smart Cell" remains in optimum operating condition.

Replacement calibrated measuring cells can be purchased for easy change over on board the vessel and calibration check kits enable the crew to demonstrate the monitor is within factory calibration to PSC Surveyors.

The Smart Cell Bilge Alarm is readily available as a 5ppm version if required. It can also be tailor made for Hazardous Environments (Zone 1 & 2) as an Exd system with Auto Clean, all enclosed in an explosion proof cabinet.

FLOWSWITCH > The flowswitch option has been designed to ensure that bilge water is flowing through the measuring cell when in monitoring mode. An error is shown on the display if there is no flow. The flowswitch monitors the flow of water through the cell. This ensures that the flow cannot be shut off accidentally or maliciously. In case of no flow, the Smart Bilge will close the overboard discharge valve.



AUTOCLEAN > The autoclean option has been designed to ensure that the measuring cell glasstube is kept free from fouling. Cell fouling is recognised as a leading cause of monitor malfunction. Fitting the Autoclean removes the need for the ship's crew to remember to clean the cell manually.



5 ppm > available factory set meeting requirements of DNV 'Clean Design' 5 ppm calibration verification kits are also available

SPECIFICATION

MEASUREMENT

Oil types:	HFO, Diesel and Mixture C (IMO defined)
Clean water calibration:	+/- 2ppm of factory set values
Oil range:	0 - 40 ppm
Accuracy oil + solids:	+/- 5ppm up to 30 ppm
Solids discrimination:	100ppm Iron Oxide in 10 ppm Diesel
Response time:	< 5 sec (oil reading)

ALARMS

Oil alarm 1 setpoint:	1 - 15 ppm user adjustable
Oil alarm 2 setpoint:	1 - 15 ppm user adjustable
Oil alarm 1 delay:	0 - 5 seconds user adjustable
Oil alarm 2 delay:	0 - 600 seconds user adjustable

INPUT / OUTPUT

Analogue output:	Active 4-20mA / 0 - 20mA
Switch inputs:	2 x switch inputs for separator and backflush status

DATA STORAGE AND RETRIEVAL

Calibration data storage:	Stored in cell
IMO required data:	Stored in Control enclosure
IMO required data retrieval:	Via LCD display, RS 232 comms link or USB

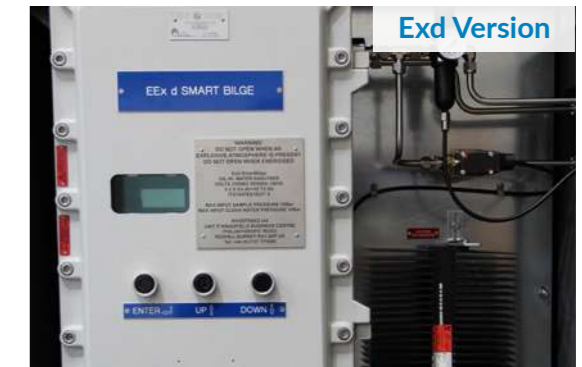
SYSTEM AND SUPPLY

Supply voltage:	115 or 230V AC, 50 - 60Hz (24V AC & 12V DC available)
Supply voltage Consumption:	< 50 VA incl. solenoid valve
Supply voltage tolerance:	+/- 15%
Projected life:	> 50,000 hrs
Protection class:	IP 65
Approvals:	MEPC 107(49) - DNV-GL, USCG, CCS, Class NK, Russian Register, Transport Canada.
Weight:	3.2 Kg / 7.05lb

Specifications and system descriptions accurate at time of printing. These are subject to change.

CALIBRATION CHECK >

The monitor's calibration can be checked using our calibration check kit. This is an approved method of demonstrating that the unit is still working correctly to Port State Control and Class.



SMART PFM 107 Oil in Water Monitor



APPLICATIONS

- Drill Rig Slop Tanks
- Oily Water Separator Discharge
- Regulatory Compliance
- Produced Water Discharge

FEATURES

- Oil type independent
- On Screen Flow Rate
- Solid Discrimination to MEPC.107(49)
- 7" full colour touch screen.
- Camera display to view contaminants within the sample.

PRINCIPLE OF OPERATION

The SMART PFM monitor has been designed specifically for use in analysis of oily water samples, this is undertaken by backlighting microscopy combined with image processing. A diffused light beam is emitted across the measuring cell to illuminate the oily water sample. A series of images are taken of the sample at a microscopic level. The images are then analysed via an advanced image analysis algorithm to distinguish oil particles and to extract essential information such as concentration, size, number and density. The data of oil in water content is displayed on the LCD screen.

Oil concentrations, alarms and fault log are stored within the system to comply with the reporting requirements of IMO resolution MEPC.107(49) and can be downloaded onto a pc via LAN or USB for further analysis.

The SMART PFM 107 offers a choice of auto cleaning methods to ensure the accuracy is maintained at all times. The cleaning is fully automatic and operates whenever it senses contamination of the optical windows.



Exd version

SPECIFICATION

MEASUREMENT	
Clean water calibration	Required
Oil range	0-40 ppm
Resolution	1.0 ppm
Accuracy oil	±1 ppm
Response time	< 3.5 sec. (oil reading)
ALARMS	
Oil alarm 1 set point	15 ppm standard – (1-15 ppm adjustable)
Oil alarm 2 set point	15ppm Standard – (1-40 ppm adjustable)
Oil alarm 1 & 2 delays	AL1 - 0-2 seconds user adjustable (for overboard valve)
AL2 – 0-70 seconds.	
Alarm contacts	2 SP alarm relays 5A @ 250 VAC (NC in alarm)
USER INTERFACE	
LCD display:	7" Touchscreen LCD display--
INPUT/OUTPUT	
Analogue output	Loop powered 4-20 mA (standard)
Cable terminals	Accept cores of 2.5 mm2 (HV) and 1.5 mm2 (LV)
Cable glands	Accept 10-14 mm cable diameters
Switch inputs	2× switch inputs: for separator & flow switch feedbacks
DATA STORAGE & RETRIEVAL	
IMO data	Stored on hard drive of the system – encrypted USB memory stick is provided with software to download and read encrypted IMO data
ENVIRONMENTAL & SAMPLE	
Ambient humidity	95% RH Max @55°C (131°F)
Ambient temperature	0 to 55°C (32 to 131°F) (standard – Increased range optional)
Flow temperature	0°C to 70°C (32 to 140°F)
Flow rate	0.5- 2 L/min
Flow pressure	0.5 to 6 bars (16 to 87 PSI)
Design pressure	8 bars (145 PSI)
Pipe fittings	¾ inch BSPP
Inclination	25° in any plane from normal mounting
SYSTEM & SUPPLY	
Supply voltage	100 to 240 Vac
Supply voltage consumption	50 VA normal, 100 VA peak
Supply tolerance	±10% of nominal voltage
Auto clean pressure	4-6 bar compressed air
Protection class	IP65
Approvals	MED and MEPC.107(49)
CONSTRUCTION & OTHER CRITERIA	
Security	Protection of all calibration dependent items
Auto clean timing	Variable 1 to 360 min (360 min factory default)
Weight	29.5 Kg (65 lbs)
Dimensions	Height: 528mm (20.8"), Width: 600mm (23.6"), Depth: 280mm (11")

Specifications and system descriptions accurate at time of printing. These are subject to change.

SMARTSAFE ORB Bilge Security System



APPLICATIONS

- Bilge Water Discharge Security
- Integration with Electronic Oil Record Books
- Protection Against Magic Pipe
- Provides early indication of faults

KEY FEATURES

- Rivertrace Connected Ready
- Camera integrated in separator interface to capture tampering
- Smaller module
- Simpler installation
- Improved Security

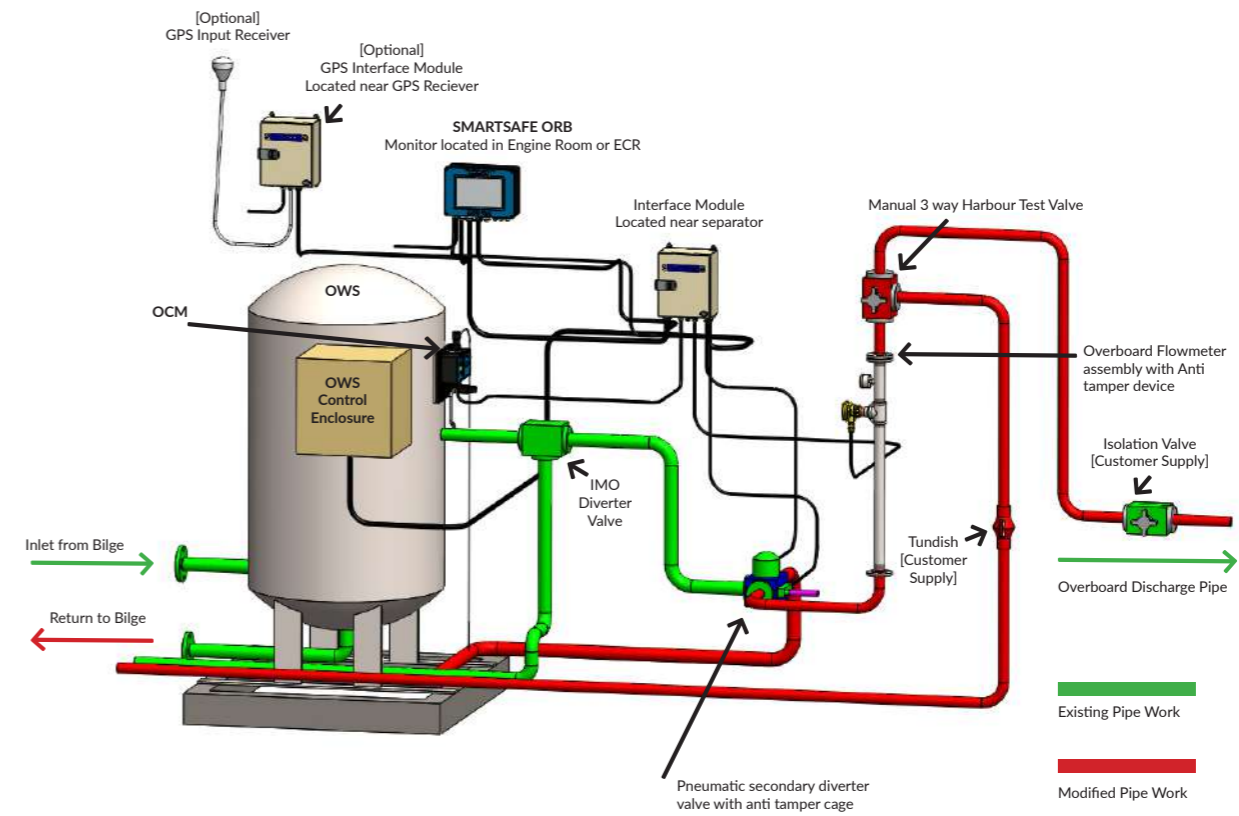
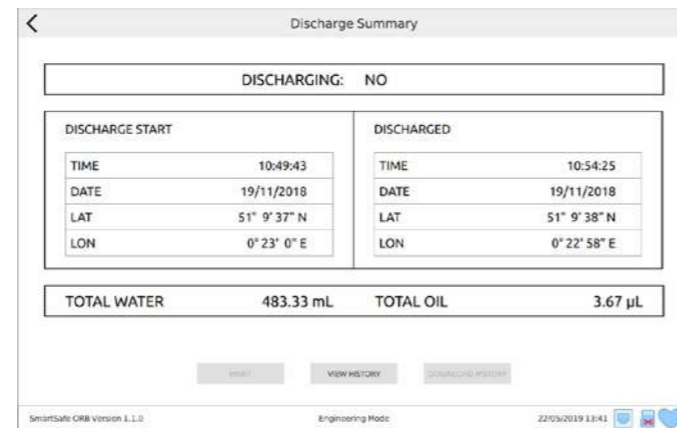
The SMARTSAFE ORB Bilge Overboard Security System was developed to prevent the vessel from illegal discharge "Magic Pipes" and minimise discrepancies in the oil record book.

In its simplest form the Smartsafe ORB will utilise the ships GPS and records each 'event' of the bilge water discharge process. The control module will store these events for a period of three years exceeding MEPC requirements.

It is a complete interlocked system ensuring security of your discharges. This includes tamper proof electronic flow meters and secondary diverter valve with position feedback installed after the standard IMO diverter valve. The secondary diverter valve is controlled solely by the Smartsafe ORB and will immediately be closed should a malfunction or malicious act be detected.

Rivertrace's SMARTSAFE ORB can provide electronic recording of the discharges. When connected to the ship's LAN system the monitor will send automated emails at set intervals. The data is then interpreted and recorded in the Rivertrace Connected database and shown on the user-friendly dashboard interface. All data including the email report can be accessed through the dashboard providing the user with a full auditable trail of the discharges. The discharge data can also be used as an automated entry into your electronic ORB.

Discharge Summary Screen



SPECIFICATION (Main Control Enclosure)

Supply Voltage	100 - 240V ac
Supply Variation	+ - 10% of norm. voltage
Supply Frequency	50/60 Hz
Consumption	30 VA Max
Control display	10" Touch Screen
Approval	ABS Type Approval (Pending)
Size	H 254 x W 330 x D 115mm
Weight	<5Kg
Outputs	Ethernet and USB

Specifications and system descriptions accurate at time of printing. These are subject to change.

OPTIONAL COMPONENTS

GPS & INTERFACE MODULE
PRINTER
RIVERTRACE CONNECTED DASHBOARD

SMART ODME Oil Discharge Monitoring



APPLICATIONS

- Slop Water Discharge
- Tank Wash Water Discharge
- Clean Ballast Water Discharge
- Bio Fuel Approved
- Easy Installation

Smart ODME Pump - Measuring Cell



Smart ODME Zener Barrier Module Assembly



The Oil Discharge Monitoring Equipment (Smart ODME) has been designed to provide means of monitoring, recording and controlling the ballast discharge for crude oil, product and chemical tankers including ICE class vessels. This system is modular in construction and does not require the usual pump/motor bulkhead penetration as used on older systems. The Smart ODME includes all components required to meet MEPC 108(49) and the latest MEPC 240(65) for Bio Fuels, effective 1 January 2016.

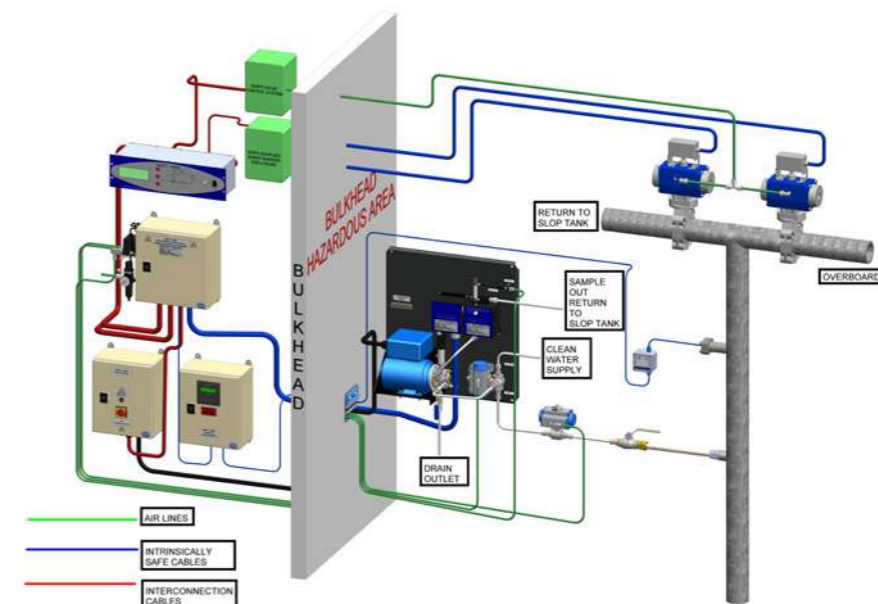
The Smart ODME incorporates a 'simulation mode' to aid system demonstration to PSC surveyors, is designed for ease of retrofitting, operation, installation and maintenance.

Discharge limits are set at 30 litres of Oil per nautical mile or 1 / 30,000 of the previous cargo for slop and wash water discharges.

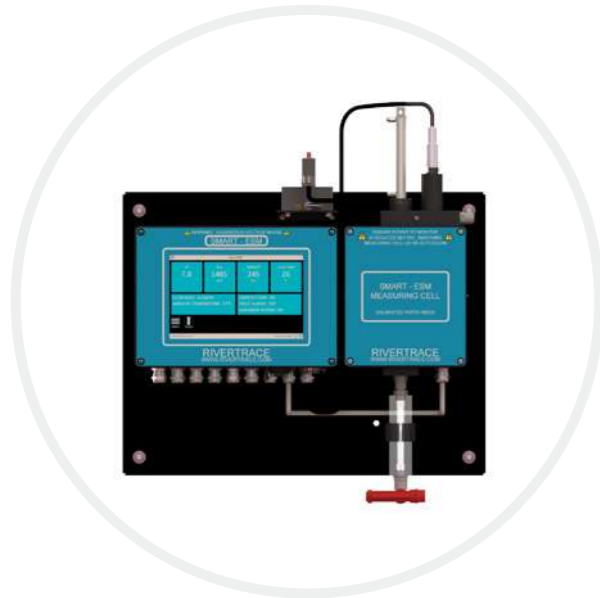
SPECIFICATION

MEASUREMENT	
Oil types:	As Per MEPC 108(49) + MEPC 240(65) requirements
Clean water calibration:	Automatic
Oil measurement range:	0 - 1000 ppm all types
Resolution:	1 ppm
Accuracy oil + solids:	As Per MEPC 108(49) requirements
DATA STORAGE AND RETRIEVAL	
Data retrieval:	via LCD display or download to PC using Hyperterminal or Rivertrace IMOLog downloader programme
SYSTEM AND SUPPLY	
Supply voltage:	115 / 230V ac, 50 - 60Hz (Switchable)
Zener Barrier/Computer Module:	115 / 230V ac, 50 - 60Hz (Switchable)
Motor:	380-440V ac, 50-60Hz, 3 phase, 250W
Supply voltage Consumption:	< 50 VA Single Phase
Approvals:	MEPC 108 (49) - DNV GL, GL + USCG, ABS, CCS, NKK and BV, MEPC 240(65) - DNV GL

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SMART ESM Wash Water Monitor for Ship Exhaust Gas Cleaning Systems



APPLICATIONS

- Ensures compliance of wash water discharge from ship EGCS is within regulatory limits
- Fully compliant with IMO MEPC 259(68)
- Systems suitable for both new ship and retrofit installations
- Compatible with Open Loop, Closed Loop and Hybrid systems
- Suitable for inlet and outlet monitoring

FEATURES

- PAH Measurement is compensated for turbidity
- Continuous real-time monitoring of wash water discharge including PAH, turbidity, Temperature and pH
- On screen historical data graphs showing Instant/ Hourly/Daily/Weekly figures
- Automatic cleaning of optical path
- Plug and play maintenance design
- Easy calibration check kits or component replacement

Optional Components

- Pressure Regulator
- Heat Exchanger
- Motor / Pump



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.

SPECIFICATION

	PaH	pH	Turbidity
RANGE	0µg/L to 4500µg/L	0 to 14	0 - 500
ACCURACY	5% of measurement reading	0.1 pH	0.1NTU up to 100 NTU, 1NTU thereafter.
NUMBER OF SAMPLE POINTS	one common sample line		
MEASURING PRINCIPLE	UV Fluorescence	pH Electrode	
CABINET DIMENSIONS (EXTREME WIDTHS)(WXHXD)	1090 x 971 x 369 mm		
CABINET WEIGHT	93 Kg		
SUPPLY VOLTAGE	115 or 230 VAC 50/60 Hz		
OUTPUTS	1x 4-20mA for each parameter (PaH, Turbidity, Temperature and pH) 1 x Volt free fault relay for each parameter (PaH, Turbidity, Temperature and pH) Individual common fault alarm relays and 1x general fault alarm relay		
STORAGE	Internal SD Card Downloadable to External USB		
IP RATING	IP66		
WETTED PARTS MATERIAL	All PVC-U and Brass Pump		
STANDARD SUPPLY	SMART ESM Monitor Flow Meter and Switch Debubbler Strainer Air Regulator Three-way 'T' valve Cabinet		
APPROVALS	DNV type approval (pending)		
SAMPLE INLET CONNECTION	Flange blanking ½" PN16/8 RFB 316/L		
SAMPLE OUTLET CONNECTIONS	Flange blanking ½" PN16/8 RFB 316/L		
AIR CONNECTION	10mm pipe		
CLEAN WATER INLET CONNECTION	Flange blanking ½" PN16/8 RFB 316/L		
SAMPLE / CLEAN WATER TEMPERATURE RANGE	0°C to *40°C *Higher available with a heat exchanger		
SAMPLE / CLEAN WATER PRESSURE RANGE	1 to *4 Bar *Higher available with a pressure regulator		
REQUIRED AIR SUPPLY PRESSURE RANGE	4 - 6 BAR		
COMPRESSED AIR NORMAL / AVERAGE CONSUMPTION	450mL / Hr		
SAMPLE / CLEAN WATER FLOW RATE RANGE	0.4 to 4 LPM		
AMBIENT TEMPERATURE RANGE	0°C to *50°C *Higher optional with a vortex cabinet cooler		

Specifications and system descriptions accurate at time of printing. These are subject to change.

SMART 50M Oil in Water Monitor



APPLICATIONS

- Hydrocarbon Leak Detection
- Lube Oil Cooler Monitoring
- Boiler Feed Protection
- Heat Exchanger Leak Detection
- Produced Water Reuse - RO Feed Water, Steam Generator Feed Water
- Industrial Wastewater/Groundwater discharge

A versatile and sophisticated monitor to suit multiple applications in marine and industrial environments. The Smart 50M uses a nephelometry based detection technique and uses sophisticated algorithms to detect Oil in the sample.

The design of the measuring cell allows the monitoring of high temperature and high pressure samples across multiple ranges of Oil Concentration. Auto-Clean and Auto-Zeroing functionality ensures the maintenance is minimal and that the measuring cell is kept free from fouling.

The Smart 50M can provide the Oil Concentration value to a DCS or PLC using a 4-20mA output.

As standard the following data is available:

- Oil Concentration
- Sample Pressure
- Sample Temperature
- Fault Status
- Alarm and Run states

SPECIFICATION

Ranges:	Low range	0 - 10ppm
	Medium range	0 - 200ppm
Accuracy:	Low range	+/- 0.15%
	Medium range	+/- 5 ppm
Alarm 1 Operating Point:	Low range	1 - 10 ppm
	Medium range	1 - 200 ppm
Alarm 2 Operating Point:	Low range	1 - 10 ppm
	Medium range	1 - 200 ppm
Alarm 1 Operating Delay:	1 - 15 seconds	
Alarm 2 Operating Delay:	1 - 600 seconds	
Alarm contact rating:	8 AMP @230VAC	
Output signal:	4-20 mA	
Ambient temperature:	1-60 °C / 34 - 122 F	
Humidity:	Max 98% non condensing	
Sample temperature:	1 - 95 °C / 34-203 F	
Sample Flow:	0.3 - 3 Ltrs per min / 0.079 - 0.79 Gal per min	
Sample Pressure:	1.0 Bar Minimum / 14.50 Psi 3.0 Bar Nominal / 43.50 Psi 10.0 Bar Maximum / 145 Psi	
Clean Water requirements:	0.3 - 3L per min / 0.079 - 0.79 Gal per min for 'zeroing'	
Weight:	15kg / 33.07 lb	
Size:	500 x 360 x 150mm / 19.7" x 14.2" x 5.9"	
Supply voltage:	115 - 230 VAC	
Power consumption:	15 VA	
Degree of Protection:	IP56	
Approvals:	Tested to EN61010 EN61326 (CE), c UL us.	

Specifications and system descriptions accurate at time of printing. These are subject to change.

SMART TURBIDITY Turbidity Monitor



APPLICATIONS

- Sewage Treatment Plant Effluent Monitor
- Brewing Quality Monitor
- Groundwater Effluent

OPTIONS > All options can be ordered from new or retrofitted to existing Rivertrace Smart Cell monitors.

By utilising the "Smart Cell" Detector Array Technology, developed by Rivertrace, the monitor accurately analyses the quality of the sample stream and outputs the turbidity value in nephelometer turbidity units (NTU). Turbidity is the cloudiness or haziness of a fluid caused by large numbers of individual particles.

A manual cell cleaning device is included as standard to easily enable routine maintenance and prevent optical cell fouling which is recognised as a leading cause of monitor malfunction or incorrect reading. By simple operation of the manual cleaning device, the measuring cell remains in optimum operating condition.

Replacement calibrated measuring cells can be purchased for easy change over and calibration verification kits enable the user to demonstrate the monitor is within factory calibration.

The Smart Turbidity Monitor is also available for Hazardous area Environments classified as Zone 1 & 2.

AUTOCLEAN > The autoclean option has been designed to ensure that the measuring cell glass tube is kept free from fouling. Cell fouling is recognised as a leading cause of monitor malfunction. Fitting the Autoclean removes the need for the ship's crew to remember to clean the cell manually.



CALIBRATION CHECK > The monitor's calibration can be checked using our calibration check kit. This is an approved method of demonstrating that the unit is still working correctly.



SPECIFICATION

MEASUREMENT

Clean water calibration:	+/- 2 NTU of factory set values
Turbidity range:	0 - 100 NTU
Accuracy:	+/- 1 NTU
Response time:	< 5 sec

ALARMS

Alarm 1 set point:	1 - 100 NTU user adjustable
Alarm 2 set point:	1 - 100 NTU user adjustable
Alarm 1 delay:	0 - 5 seconds user adjustable
Alarm 2 delay:	0 - 600 seconds user adjustable

INPUT / OUTPUT

Analogue output:	Active 4-20mA / 0 - 20mA
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DATA STORAGE AND RETRIEVAL

Calibration data storage:	Stored in cell assembly
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SYSTEM AND SUPPLY

Supply voltage:	115 or 230V AC, 50 - 60Hz (24V AC & 12V DC available)
Supply voltage Consumption:	< 50 VA
Supply voltage tolerance:	+/- 15%
Projected life:	> 50,000 hrs
Protection class:	IP 65
Weight:	3.2 Kg / 7.05lb

Specifications and system descriptions accurate at time of printing. These are subject to change.

SMART WiO Water in Oil Sensor



APPLICATIONS

- Condition monitoring Lubrication oil including:
 - 2 and 4 stroke engines
 - Compressors
 - Pumps
 - Gear boxes
 - Turbines
- Condition monitoring for Hydraulic oil including:
 - All machines using hydraulic oil up to 10bar

FEATURES

- Measures the absolute water content in oil.
- Early warning by using pre alarm and alarm
 - The PAV (Pre Alarm Value) is set to 50% humidity.
 - The MAV (Main Alarm Value) is set to 90% humidity.
- Takes the oil temperature into consideration in order to measure the saturation
- The sensor measures the saturation of the oil independent from the oil type and oil age
- No cleaning of the sensor is needed.



The working principle is a capacitive measurement operating on absorption of water in oil. The physical measured value is % Humidity. New oil has the ability to hold a certain amount of dissolved water. The maximum water amount oil can hold is called "saturation point". Above the "saturation point" free water will fall out which can cause corrosion inside of the engine. The "saturation point" is influenced by temperature and other different factors like the composition of oil mineral or synthetic, formulation of additives and will change during the lifetime of the oil. The Water in Oil Sensor (WiO) is not measuring free water or emulsion, which is detectable by regular Water in Oil test kits, it measures the absolute water content in oil.

The PAV (Pre Alarm Value) is set to 50% humidity. The MAV (Main Alarm Value) is set to 90% humidity.

More than 100% humidity means free water is present. From this point regular Water in Oil test kits begin to measure.

Normally in the field, the water in oil content is measured by a Water in Oil test kit. The results are mostly <0.02% (or 100.02% humidity), this value means free water content. If the WiO Sensor shows the main alarm, the value is higher than 90% humidity and damage could be caused to the engine if 100% humidity is reached.

SPECIFICATION

Controller Specification

Power Supply	18...32 VDC
Current Consumption	60mA
Polarity Protection	Yes
Alarm relays	Pre-alarm at 50% humidity Main alarm at 90% humidity
Output Current	<300mA
Operating Temperature	-25 to +85 °C
Protection Degree	IP67
Analog Output: Water in Oil	4...20 mA (equiv. 0...100% Humidity Linear)
Analog Output: Temperature	4...20 mA (equiv. 0...100°C Linear)
Dimensions:	125mm x 80mm x 57mm
Local Indication	LED Indicators

Sensor Probe Specification

Wrong Polarity protection	Yes
Operating temperature	-25 to 85 °C
Protection degree	IP65
Pressure resistance against medium	10 bar
Connection type	G3/4" Male Thread
Material	Stainless Steel AISI 303; 1.4305
Dimensions	50mm x 187mm
Cable Length to Controller	15m
Insertion Length	120mm
Local indication	LED Indicators

Options

Indicator Dial Temperature		Indicator Dial Humidity	
Indicator Dial type	Analog needle type	Indicator Dial type	Analog needle type
Unit of Measurement	Degrees Celsius	Unit of Measurement	% Humidity
Range	0 - 100°C	Range	0% - 100% Humidity
Dimensions	96mm x 96mm x 77mm	Dimensions	96mm x 96mm x 77mm

Specifications and system descriptions accurate at time of printing. These are subject to change.



APPLICATIONS

- Lube Oil Cooler Monitoring
- Engine cooling water
- Industrial waste water
- Groundwater discharge

The OCD CW is a low cost solution for simple cooling water monitoring applications, designed for monitoring engine cooling water and fresh water systems. The system is widely used in refineries and power stations when discharging their cooling water to local rivers and the sea. Boiler condensate can also be monitored with the addition of a cooler.

With solids discrimination up to 50ppm the OCD CW provides repeatable accurate monitoring and can also be used in industrial waste water applications.

SPECIFICATION

Range:	0-99ppm
Accuracy:	+/- 2 ppm
Alarm Operating Points:	1 - 98ppm (adjustable)
Alarm 1 Operating Delay:	0 - 60 sec (adjustable)
Alarm 2 Operating Delay:	10 - 240 sec (adjustable)
Alarm Contact Rating:	8A @ 240V AC (inductive)
Output signal:	0-20mA, 4-20mA (820 Ω min load), 0-5V & 1-5V DC (50 K Ω min load)
Ambient temperature:	1 - 60°C / 34 - 140°F
Humidity:	90% RH Max @ 55°C / 131°F
Sample temperature:	1 - 40°C / 34 - 104°F
Sample Flow:	0.1 - 2 l/min / 0.026 - 0.53 gpm
Sample Pressure:	0.1 to 10 Bar / 1.45 - 145 PSI
Weight:	2.25kg / 4.96 lb
Size:	215 x 242 x 73 mm / 8.5 x 9.5 x 2.9 Inches
Supply voltage:	2 models available 230V/115V AC and 24V AC
Supply variation:	± 10% of Nom. Voltage
Consumption:	10 VA Max
Degree of Protection:	IP 55
Electrical installation (over voltage) classification:	EN61010-IEC664 category 11

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OCD XTRA Oil in Water Analyser



APPLICATIONS

- FPSO/FSO/FSU Produced Water Discharge
- Drilling and Production Rig Slop Tanks/Deck Drains
- Oil/Water Separator discharge
- Re-injection or Water Flood Water Quality Control
- Process Control
- Produced Water Reuse - RO Feed Water
- Industrial Wastewater Discharge

The "OCD Xtra" combines multiple light wavelengths with multiple sensor technology, to measure oil accurately in the range 0-200 ppm, even in the blackest of produced water.

Multiple oil types are automatically compensated for by sophisticated algorithms. The multi-parameter display shows the sample's oil content, pressure and a graphical average of the last 4 hours oil readings. The last 7 days readings are stored in ROM and can be accessed from the help menu.

The OCD Xtra has the ability to adjust the calibration settings against laboratory analysis on site. Full on screen help is available to guide the operator during set-up and maintenance routines.



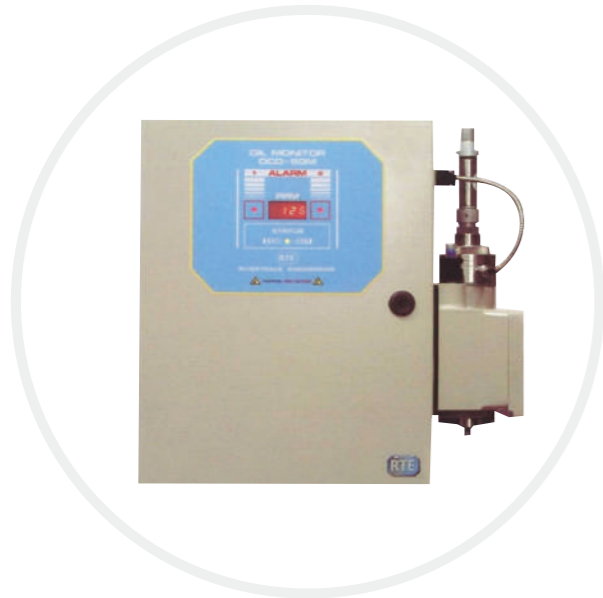
OCD Xtra purged system

SPECIFICATION

Oil types:	Factory calibrated on up to 6 different oil types
Clean water cal:	+/- 10 ppm of factory set values
Oil range:	0 - 200 ppm
Resolution:	1 ppm, 1ntu
Accuracy oil range:	+/- 5ppm up to 50ppm thereafter 10% of reading
Solids discrimination:	100 ppm minimum (any calibrated solid type)
Oil alarm setpoints:	2 x 1 - 200 ppm - user adjustable
Alarm Contacts:	2 single pole Alarm Relays 8A @ 250V ac
Fault Contact:	1 single pole Alarm Relay 8A @ 250V ac
Analogue output:	isolated 0 - 20mA, 4-20mA, 0-5V dc
Remote input:	remote Start / Stop function available with latching switch
Environmental and Sample	
Ambient Humidity:	90% RH Max @ 50°C / 122 F
Ambient temperature:	0 - 45°C / 32 - 113°F
Sample temperature:	0 - 60°C / 32 - 140°F
Sample flow rate:	0.5 - 4 L per min / 0.13 - 1.06 gal per min
Sample pressure:	3 - 10 bar / 44 - 145 psi
System and Supply	
Protection class:	IP 65
Approvals:	tested to EN61010 EN61326 (CE), c UL us.
Weight:	25 kg / 55 lb
Supply voltage:	24V ac, 115 or 230V ac, 50 - 60Hz (+/- 10%)
Consumption:	60 VA max
Auto clean air Supply (pneumatic only):	4 bar / 58 psi
Variations	
Each OCD Xtra is built to order according to specific stringent requirements. Atex and Intertek approvals. EExd electrical protection. Hazardous area Zone 1 or Zone 2 purged protection.	

Specifications and system descriptions accurate at time of printing. These are subject to change.

OCD 50M oil in Water Analyser



APPLICATIONS

- Hydrocarbon Leak Detection
- Lube Oil Cooler Monitoring
- Boiler Feed Protection
- Heat Exchanger Leak Detection
- Produced Water Reuse - RO Feed Water, Steam Generator Feed Water
- Industrial Wastewater/Groundwater discharge

FEATURES

- 0-10ppm or 0-200ppm
- External sample cell to keep high temperatures away from the electronic components.
- Sensitivity to provide a normal measurement range of 0-10 ppm.
- Display resolution of 1 ppm.
- High temperature optic cell glass and cell seals.
- Stainless steel wetted parts.
- Automatic cell cleaning.
- DNV-GL approved.

A monitor designed to cater for the special conditions associated with high sample temperatures. This unit will detect oil in much smaller quantities with great reliability and repeatability. Increased boiler protection from early detection of oil contamination.

The OCD 50M is Type Approved by DNV-GL for marine use. It is a requirement of DNV-GL flagged vessels that Boiler Condensate must be monitored for Oil Ingress. This is a simple and reliable solution to this requirement.



OCD 50M "EX" System

SPECIFICATION

Range:	Low range	0-10ppm Condensate
	High range	0-200ppm Cooling Water
Accuracy:	Low range	+/- 1ppm
	High range	+/- 5ppm to 50 ppm, +/- 10% thereafter
Alarm Operating Points:	Adjustable in 1ppm increments	
Alarm 1 Operating Delay:	0 - 60 sec adjustable	
Alarm 2 Operating Delay:	0 - 60 sec adjustable	
Alarm Contact Rating:	5A/250V AC	
Fault Relay:	5A/250V AC	
Output Signal:	0-5v DC (1k ohm min.) 4-20mA loop output	
Projected Life (Electronics):	> 50,000 Hours	
Ambient Temperature:	-20 - 55 °C / -4 - 131 F	
Sample Temperature:	1 - 90 °C / 34 - 194 F	
Sample Flow:	1 - 3 Litre per min / 0.26 - 0.79 Gal per min	
Sample Pressure:	0.1 - 10 Bar / 1.45 - 145 Psi	
Weight:	17kg / 37.5 lb	
Size:	484H x 420W x 156D mm / 19.1H x 16.5W x 6.1D Inches	
Supply Voltage:	110/230 V AC (Switchable) 24V ac (optional)	
110V AC outlet supply:	220 V AC	
220V AC outlet supply:	440 V AC	
24V AC-outlet supply:	48V AC	
Environmental Protection:	IP55	
Autoclean Unit: - Dry Compressed Air:	4 - 6 Bar G	
Approvals:	DNV-GL	

Specifications and system descriptions accurate at time of printing. These are subject to change.

SUPPORT

ACCREDITATIONS



Tech Support

Rivertrace is committed to providing exceptional customer service which includes aftersales care. Should you require technical support with any of our products, please contact us via the email address below.

remotesupport@rivertrace.com



Spares Enquiry

If you wish to purchase or make an enquiry about spares, please submit details to the email address below. A member of our dedicated sales team will respond with a list of spares, current costs and lead times.

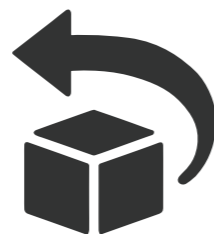
sales@rivertrace.com



Services

If you wish to book a service attendance on our equipment or want to arrange a calibration on your monitor please contact us on the email below. A member of our service team will respond with prices and availability.

service@rivertrace.com



Returns

Our procedure to manage returns, repairs, and replacements ensure turnaround times are as short as possible.

To receive a copy of the Rivertrace returns policy please contact the email address below:

service@rivertrace.com





ESVA Solutions
2221 Enrique Díaz de León,
Colonia Jardines del Country
44210 Guadalajara, México

Tel: +521 3334828401
email: info@esvasolutions.com
www.esvasolutions.com