

industrial



RIVERTRACE



Specialists in water quality monitoring

www.rivertrace.com

INTRODUCTION

Rivertrace is a market leader with over 30 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 9001:2008 and employ around 25 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



CONTENTS



PAGE 2:

OCD CW
COOLING WATER
MONITOR



PAGE 4:

OCD 50M OIL IN
WATER MONITOR



PAGE 6:

SMART 50M
OIL IN WATER
MONITOR



PAGE 8:

OCD XTRA OIL IN
WATER ANALYSER



PAGE 10:

SMART PFM 107
OIL-IN-WATER
MONITOR

industrial



OCD CW COOLING WATER



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.

MONITOR

OCD CW

OCD 50M

Smart 50M

OCD XTRA

Smart PFM

SPECIFICATION

Range:	0-99ppm
Accuracy:	+/- 2 ppm (oil only)
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:	\pm 10% of Nom. Voltage
Consumption:	10 VA Max
Degree of Protection:	IP 55
Electrical installation (over voltage) classification:	EN61010-IEC664 category 11

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

OCD 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 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.

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.



OCD 50M "EX" System

SPECIFICATION

Range:	Low range High range	0-10ppm Condensate 0-200ppm Cooling Water
Accuracy:	Low range High range	+/- 1ppm +/- 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/250vac	
Fault Relay:	5A/250vac	
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)	
110Vac outlet supply:	220 VA	
220Vac outlet supply:	440 VA	
24Vac-outlet supply:	48VA	
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.

SMART 50M OIL IN WATER



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 and suspended solids 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 and additional process variables can also be provided using the Modbus digital communications protocol (over RS485).

As standard the following data is available:

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

Conductivity, pH and Dissolved Oxygen can also be monitored by incorporating the Auxiliary Inputs Assembly. We are also able to build this as an "Exd" type system in a protective enclosure for Hazardous Environments.

MONITOR

SPECIFICATION

Ranges:	Low range	0.1 - 10 ppm
	Medium range	1 - 200 ppm
	High range	1 - 5000 ppm
Accuracy:	Low range	+/- 0.15 ppm
	Medium range	+/- 5 ppm
	High range	+/- 200 ppm
Alarm 1 Operating Point:	Low range	0.1 - 10 ppm
	Medium range	1 - 200 ppm
	High range	1 - 5000 ppm
Alarm 2 Operating Point:	Low range	0.1 - 10 ppm
	Medium range	1 - 200 ppm
	High range	1 - 5000 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, Modus over RS485, 4-20 mA with HART	
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:	0.5 - 10 Bar / 7.25 - 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 (pending):	Tested to EN61010 EN61326 (CE), c UL us.	

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

OCD CW

OCD 50M

Smart 50M

OCD XTRA

Smart PFM

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, turbidity, 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
Turbidity range:	0 - 999 ntu
Resolution:	1 ppm, 1ntu
Accuracy oil range:	+/- 5ppm up to 50ppm thereafter 10% of reading
Accuracy turbidity range:	+/- 5ntu up to 50ntu thereafter 10% of reading
Solids discrimination:	100 ppm minimum (any calibrated solid type)
Oil alarm setpoints:	2 x 1 - 200 ppm - user adjustable
Turbidity alarm setpoints:	2 x 1 - 999 ntu - 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.

SMART PFM 107 OIL-IN-WATER



APPLICATIONS

- FPSO/FSO/FSU Produced Water Discharge
- Drill Rig Slop Tanks
- Oily Water Separator Discharge
- Regulatory Compliance

PRINCIPLE OF OPERATION

The monitor measures particulates in the sample stream on a continuous basis by passing the process fluid through a proprietary photo optical measuring cell developed by Rivertrace Technologies.

Using a combination of optical recognition algorithms and light intensity it is possible to differentiate between Oil particles, Gas/Air Bubbles and Solid particulates in the range 0-500 microns. Flow and particulate characteristics can be visualised live via remote access and via optional dedicated software on any Windows PC.

Oil concentration, pressure, temperature and oil alarm status are displayed on an easy to read back lit alpha numeric display. 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 accessed remotely or downloaded onto a pc via LAN or USB for further analysis. When connected to the internet it is possible for remote diagnostics to be performed by the manufacturer or an approved service centre.

The Smart PFM offers a choice of auto cleaning methods to ensure the accuracy is maintained at all times. Dependant of the utilities available you can choose from an air driven solenoid, electronic actuator or high power ultrasonic cleaning method. The cleaning is fully automatic and operates whenever it senses contamination of the optical windows.

FEATURES

- Oil, gas, suspended solid inflow measurements
- Oil type independent – no calibration required
- Solid particles and gas contamination independent
- Measure concentration, size and number density of oil, solids and gas
- Embedded windows with full auto restore via USB memory Stick

MONITOR

SPECIFICATION

Oil concentration range	0 - 40 ppm for MEPC 107(49) – higher ranges available
Oil concentration accuracy	+/- 1 ppm
Particle size range	1 to 500 µm
Oil alarm 1 & 2 operating point	15 ppm maximum (adjustable)
Oil alarm 1 operating delay	1 - 5 seconds
Oil alarm 2 operating delay	10 to 600 seconds
Alarm contact rating	5 Amps at 230 VAC
Alarm relay mode	De-energised in alarm state
Output signal	4-20 mA
Network communication	Ethernet (RJ45) – remote access – Wi-Fi optional with additional hardware
IMO Data transfer	USB 2 Memory stick
Ambient temperature	0°C to 55°C (32°F to 131°F)
Humidity	95% maximum non condensing
Sample temperature	1 to 70°C (33.8°F to 158°F)
Sample flowrate	0.5 to 5 l/min (0.13 to 1.3 gpm)
Sample pressure	1 to 10 bars (14.5 to 145 psi)
Clean water requirements	None
Cleaning system	Compressed air at 6 bar (87 psi)
Weight	28 kg (62 lbs)
Dimensions [mm]	Height: 528mm (20.8"), Width: 600mm (23.6"), Depth: 280mm (11")
Supply voltage	100-240 VAC or 24 VDC option available
Supply variation	+/- 10% of nominal voltage
Supply frequency	50 - 60 Hz
Power consumption	50 VA normal, 100 VA peak
Degree of ingress protection	IP65
Approvals (pending)	MEPC.107 (49), MED, UL

OCD CW

OCD 50M

Smart 50M

OCD XTRA

Smart PFM

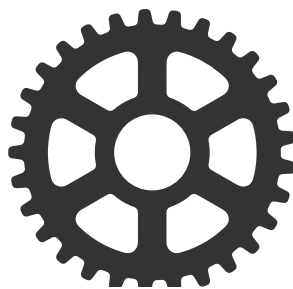
SUPPORT



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.

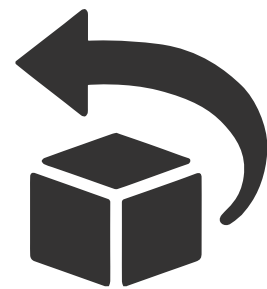
technical@rivertrace.com



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



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

ACCREDITATIONS

