



How can we help you?

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OCD CM Overview

An overview of the OCD CM and its functions

Overview

The OCD CM Bilge Alarm unit is specifically designed for 15 p oily water separator units and meets the Maritime Organizational specifications for Bilge Alarm Units outlined in Resolution MEPC (33).

✦ Ask me anything...



Sample conditions
and general
techniques

General FAQs

Key MEPC
Regulations and
Rivertrace
Solutions

OCD CM



1. PPM DISPLAY

2. SECONDS LED

3) PPM LED

4) ALARM 1 INDICATION LED

5) ALARM 2 INDICATION LED

6) ALARM 1 AJUST LED

7) ALARM 2 AJUST LED

8) SET/ZERO KEY

9) UP KEY

10) DOWN KEY

Specification

Range	: 0 – 30 ppm (Trend t
Accuracy	: Better than IMO MEP
Concentration Indication	: 2 x 7 segment LED
Alarm Operating Points	: 1 - 15ppm (adjustabl
Alarm 1 Operating Delay	: 0-20 sec (adjustabl
Alarm 2 Operating Delay	: 10-240 sec (adjusta
Alarm Contact Rating	: 8A @ 240V
Alarm Relay Mode	: De-energised in Ala
Fault Indication	: Alphanumeric code
Output Signal	: 0-20mA, 4-20mA (820
	: 0-5V & 1-5V DC (50K

Projected Life (Electronics)	: > 50,000 Hours
Ambient Temperature	: +1°C to +55°C
Humidity	: 90% RH Max @ 55°C
Sample Temperature	: +1°C TO +60°C
Sample Flow	: 0.5 to 2 Litre/Minu
Sample Pressure	: 0.1 to 10 Bar
Clean Water Requirement	: As for Sample
Weight	: 2.25kg (stand-alone 7.5kg (auto-clean o
Size	: 215 x 242 x 73mm (s 290 x 468 x 76mm (a
Supply Voltage	: 2 models available
Supply Variation	: ±10% of Nom. Voltag
Supply Frequency	: 50/60 Hz
Consumption	: 10VA Max Alarm (sta : 50VA (during auto-c
Degree of Protection	: IP 55
Electrical installation (overvoltage)	
classification	: EN61010-1EC664 cate

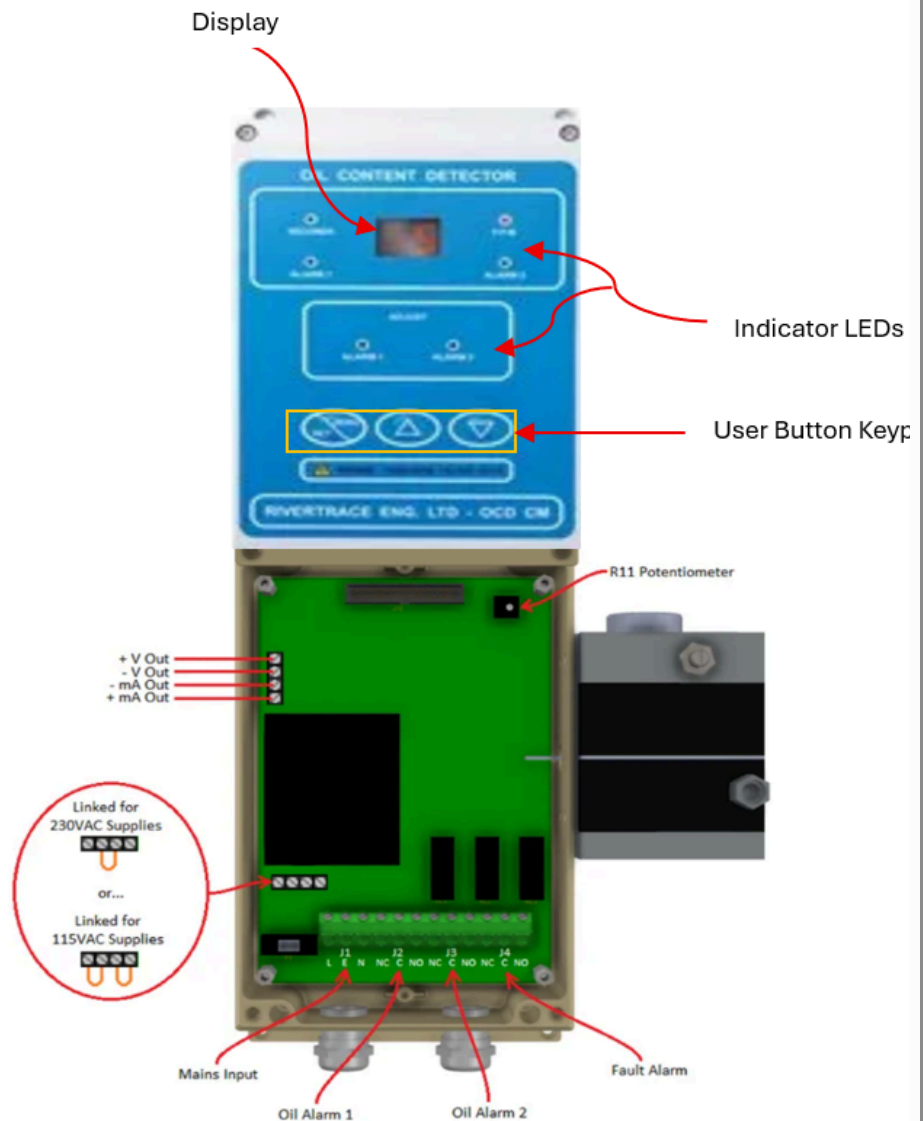
Monitor Layout

The OCD CM is split into two parts. The left side is the control module and is the user interface for the monitor. The right hand side is the measuring cell that the sample flows through to be analysed.

Control side:

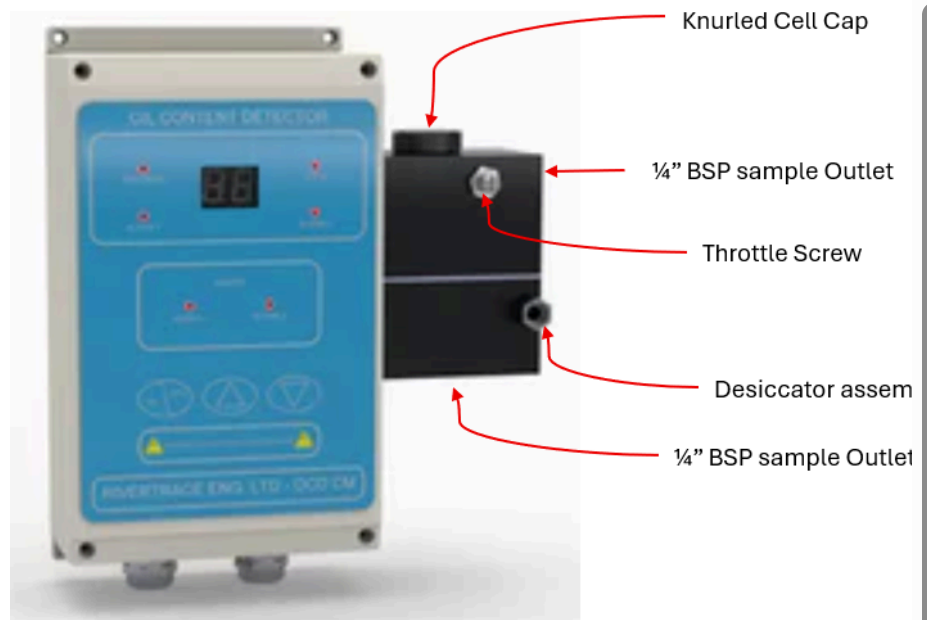
- Oil alarm 1 relay - User adjustable set point and delay time
- Oil alarm 2 relay - User adjustable set point and delay time
- Fault alarm relay - Changes state if an error code is displayed.
- 4-20 / 0-20 mA Output - User adjustable between 0-20mA and 4-20mA
- 0-5V Output - User adjustable between 0-5VDC and 1-5VDC

- Input voltage selector - To be set during installation, dependent on supply voltage.
- Mains Input terminals - 115VAC / 230VAC as standard. 24VAC Available.



Cell Side

The measuring cell houses the electronic and optical components for sample analysis. The sample enters through a 1/4" BSP Female inlet at the bottom and exits via a 1/4" BSP Female outlet at the right. A knurled cap allows access to the glass tube for maintenance which should be cleaned with a bottle brush. A front-mount desiccator removes humidity from the sealed space containing electronics; it uses blue or orange silica granules that need replacement annually or when they turn white, visible through a clear window.

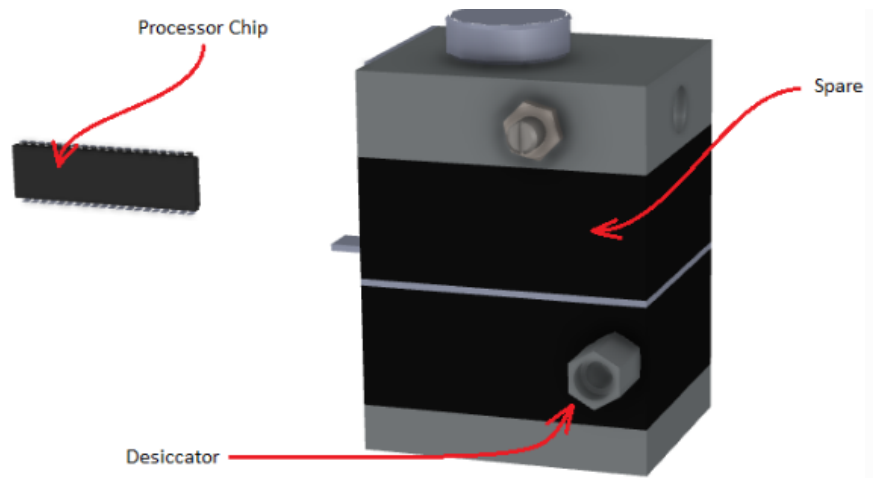


The throttle screw is designed to restrict the outlet flow of measuring cell. This restriction at the outlet increases the sample pressure within the measuring cell and helps to compress any small air bubbles within the sample to reduce the impact of measurement accuracy.

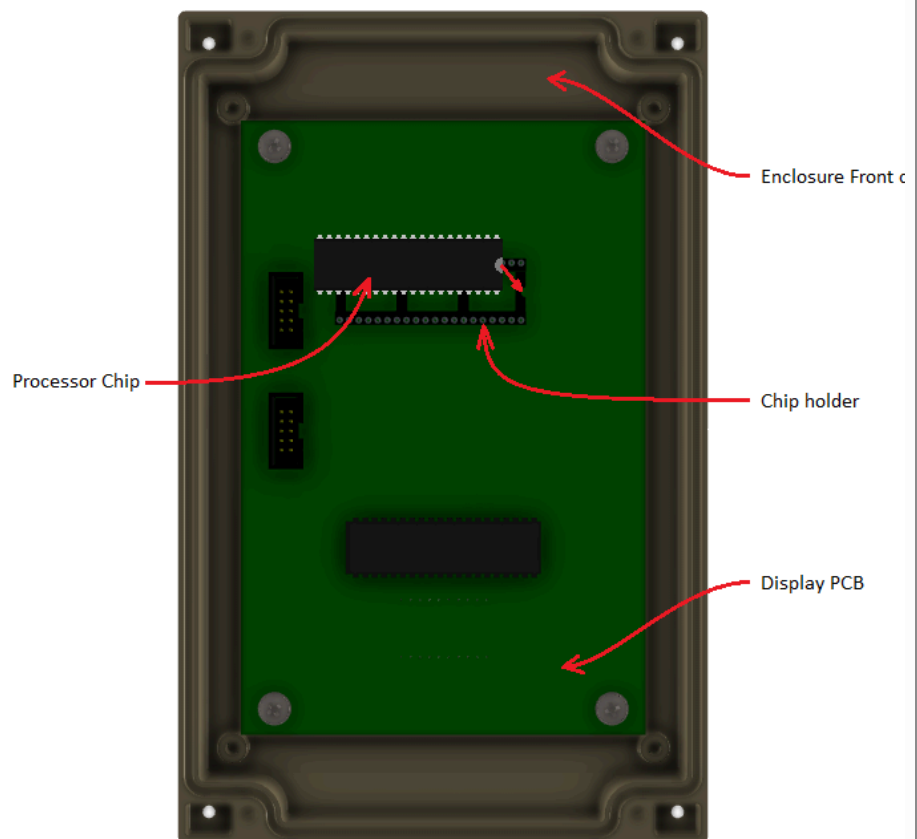
Calibration

To renew the calibration of an OCD CM there are two options. The complete OCD CM can be returned to Rivertrace for factory assessment and recalibration or spare calibrated parts can be purchased for replacement by the user.

The calibration for each measuring cell is stored on a small processor chip. A processor chip is supplied with each measuring cell and these must remain installed as a matched pair. If the cell is replaced without swapping the processor chip alongside, the calibration is void.



The processor chip must be installed in the display PCB within the control module. It is crucial that the chip is inserted into the chip holder in the correct orientation, identified by a "D" mark on both the processor chip and the PCB.



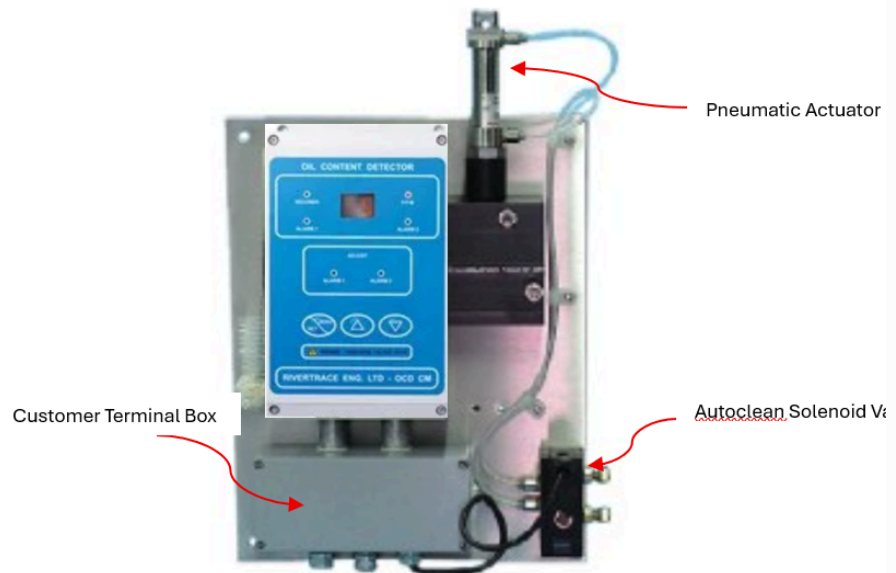
Once the new parts are fitted, the power to the LED within measuring cell must be adjusted whilst clean water is within

measuring cell. We call this "Adjusting Tc (Transmission)". Instructions on replacing the cell and chip can be found [here](#).

It is important to remember to adjust the Tc value if the main PCB is replaced too as the power source for the LED is located on the main PCB.

Optional Extras

The main cause for failure with optical analysing equipment is fouling of the optics. As standard, a bottle brush is supplied with the OCD CM to clean the glass tube with as required. To address this issue, the OCD CM can also be supplied with an "Autoclean" system. This system automatically cleans the cell internals. The frequency of the clean is user adjustable.



We strive to meet the needs of our customer's unique application. For this reason, we also offer this monitor as part of a bespoke system, designed around the customer, as with all Rivertrace products.

Below are some examples of bespoke items that have been included in our designs, alongside the OCD CM.

- **230VAC Mini compressor** For applications requiring an Autoclean system but without compressed air availability.
- **Stainless Steel mounting frame** for a free-standing installation.
- **SCU (Sample Conditioning Unit)** for sample conditions that fall outside of our standard specification requirements.
- **Sample Cooler** for applications where the sample being received by the analyser is outside of our standard specification requirements.
- **Vortex Enclosure Cooler** for reducing the ambient temperature around the analyser in applications where extreme ambient temperatures fall outside of our standard specification requirements.
- **Enclosure Heater** for cold environments where freezing may cause damage.
- **Stainless Steel sunshade** to reduce the temperature around the analyser in exposed applications.
- **Weatherproof enclosure** to protect the analyser and associated equipment from severe weathers, flooding and deluge and of course acting as a mechanical protection against impact or tampering.
- **Sample pressure regulators and PRVs** for ensuring that the sample entering the system cannot cause damage should pressure spiking or high pressures occur.

Each bespoke system is supplied with a manual and technical drawings to support as standard and arrives to the customer as a finished product.

On-Site verification

Rivertrace offer an on-site calibration verification kit. The consists of two, very accurately produced samples that when poured into the measuring cell, display predetermined values. This allows the user to have confidence in the equipment.

Maintenance

Weekly

- Ensure that the monitor reads 0ppm with clean water passing t cell.

Monthly

- Check the colour of the desiccator, If the desiccator granules appear white, the desiccator will need replacing.

Yearly (units with Autoclean only)

- Replace the wiper ring on the Autoclean.

Spare Parts

RECOMMENDED SPARES

Item	Qty
Desiccator packed	1
Bottle brush	1
Fuse (115/230 V Version)	1
Fuse (24 V Version)	1
Bilge Monitor Cell Cleaning Kit	1

Other spares

Item	Qty
Spare cell & Chip for OCD CM	1
Main PCB 115/230 VAC	1
Main PCB 24 VAC	1
Display PCB	1
Cable Gland	1
Membrane Overlay	1
Manual Clean Unit	1
Manual/Auto Clean Wiper Ring	1
Verification Water Sample Kit	1

Was this article helpful?

Yes

No

Related articles

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[OCD CM/CW cell cleaning](#)

[OCM_Cell and Chip replacement](#)

[Setting the T channel on OCD CM/CW](#)

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