



## Oil in Water Sensor Adapter Kit

### Add Hydrocarbon Sensing to Existing Water Quality Sondes and AUVs



YSI 6600 water quality sonde with adapted Turner hydrocarbon sensor monitors oil in polluted waters, shipping channels, and mines



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The YSI Turner Sensor Adapter (TSA) expands water quality monitoring to include third-party analog output sensors. In addition to monitoring for the standard water quality parameters of Temperature, Conductivity, pH, Dissolved Oxygen, Turbidity, Blue-Green Algae, and Chlorophyll, 6-Series customers can now measure hydrocarbons and other parameters from the Turner Cyclops-7® submersible sensor line.

Hydrocarbon monitoring in water is of growing importance near oil platforms, marinas, and spill-affected waters. Two stand-alone Turner sensors have been used extensively for oil monitoring and mapping applications—a crude oil sensor with a near UV LED source and a refined fuels sensor with a deep UV LED source. The crude oil sensor is useful for detecting oil throughout the water column in offshore monitoring. Closer to shore, where colored dissolved organic matter (CDOM) concentrations can be high and cause interfere with crude oil readings, the refined fuels sensor is recommended.

By plugging the sensor adapter into an optical port on a YSI sonde, hydrocarbons can be added to water quality parameters in profiling or continuous monitoring applications. Because the Turner probe is seamlessly integrated into the YSI sensor suite, hydrocarbon data are logged and transmitted along with water quality data.

### Advantages

**Field Upgradable:** The Turner Sensor Adapter Kit can be quickly installed onto existing YSI sondes that may already be deployed. It provides the lowest-cost solution to adding oil monitoring capability to current monitoring locations.

**No Wiring:** No new wiring or external datalogger required. The YSI sonde supplies power and logs data to its internal memory. If the sonde is already connected to a data logger, then the logger program will only require a slight change to accept additional output parameters over SDI-12.

**CDOM Rejection:** Using a deep UV LED, interference from naturally occurring CDOM is reduced, thus giving the maximum signal with minimal interference. A C7 CDOM sensor can also be added if another sensor adapter is purchased.

### Compatibility

The TSA Kit will quickly fit any YSI 6600 sonde. YSI stocks kits for 6600 sondes; special orders are available for other YSI sondes. All sondes must have been manufactured after 2002. The TSA Kit is compatible with YSI's EMM68 harbor buoy.

*Note:* The overall sonde length is extended by approximately 5 inches when the adapter and hydrocarbon sensor are installed. Therefore, the pH wiper system and anti-fouling guard will not fit with this configuration. Contact YSI's Integrated Systems division for a quote on special fabrications.



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**ISO 9001**  
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### Oil in Water Sensor Adapter Kit Includes:

Adapter	202400	YSI Turner C7 Sensor Adapter with sonde-to-sensor coupler, wet-pluggable C7 connector, and microprocessor controller
Sensors	202401 202402 202403	One of the following Turner sensor options: Refined fuels sensor for coastal monitoring Crude oil sensor for open ocean monitoring CDOM sensor for coastal monitoring
Accessories	202414 202415	Extended 14 in. plastic sensor guard without bottom plate (fits 6600 sondes) Extended transport and calibration cup without endcap and gasket (fits 6600 sondes)
Firmware		Firmware upgrade to add auxiliary ports 1 and 2 parameter selection in the Sensor Menu, and millivolts and engineering units in the Report Menu
Instructions	202416	Installation and calibration instructions

### Sensor Specifications:

#### Near-Shore Refined Fuels Sensor with CDOM Rejection

Min. Detection Limit	2 ppb NS (1.5 Napthalene Disulfonic Disodium Salt)
Range	0-10,000 ppb NS (1.5 Napthalene Disulfonic Disodium Salt)
Sensor Output (AUX)	0-5 V
Linearity	0.99 R <sup>2</sup>
Depth	61 meters
Temperature Range	0-50 deg C

#### Open-Water Crude Oil Detection Sensor

Min. Detection Limit	0.2 ppb QS (Quinine Sulfate)
Range	0-1,500 ppb QS (Quinine Sulfate)
Sensor Output (Aux)	0-5 VDC
Linearity	0.99 R <sup>2</sup>
Depth	61 meters
Temperature Range	0-50 deg C

#### CDOM Sensor

Min. Detection Limit	0.4 ppb QS (Quinine Sulfate)
Range	0-2,500 ppb QS (Quinine Sulfate)
Sensor Output (Aux)	0-5 VDC
Linearity	0.99 R <sup>2</sup>
Depth	61 meters
Temperature Range	0-50 deg C