LASER DIAGNOSTIC INSTRUMENTS

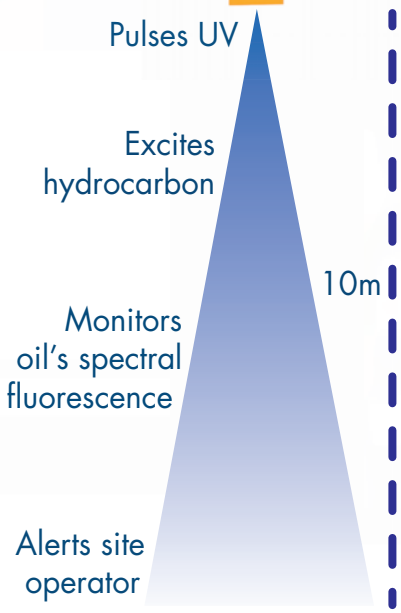
ROW

EARLY DETECTION SYSTEM FOR OIL ON WATER

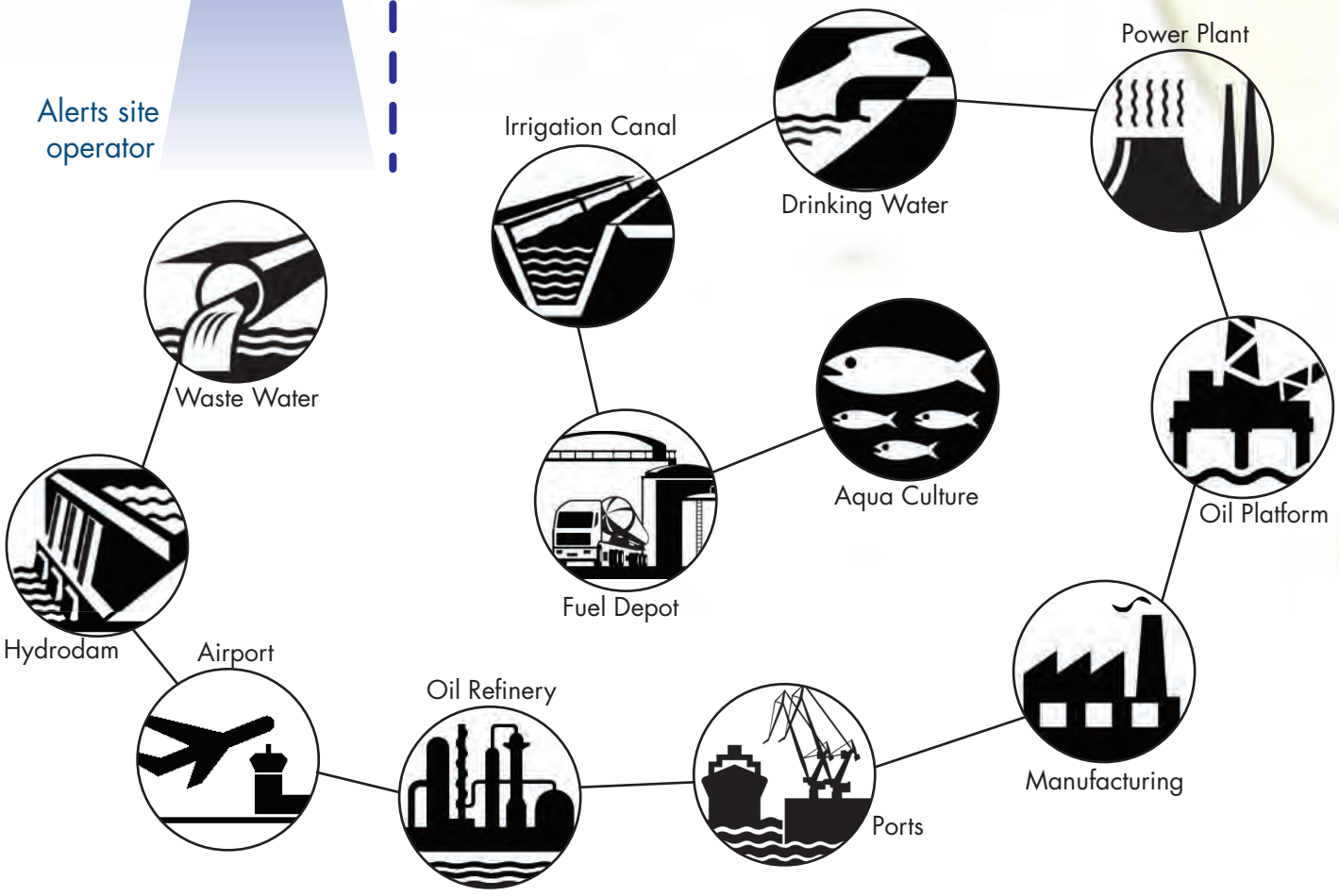
LDI ROW +372 5911 2255 sales@ldi.ee www.ldi.ee Laser Diagnostic Instruments AS

ROW ALUMINUM

Detectable Oils:
motor oils, turbine oils,
vegetable oils, lubricant oils,
hydraulic oils, mineral oils, fuel oils,
marine diesel oils, crude oils, heating oils, gas oils,
bunker fuels, diesel, gasoline, kerosene, aviation fuels



The **ROW** (Remote Optical Watcher) is a non-contact sensor for detecting oil on water. Highly accurate and easy to maintain, the ROW detects and alerts you to unsuspecting oil spills. It provides 24/7 industrial and environmental water monitoring, whether at effluent discharge or influent intake points.



ROW ATEX EXD

For hazardous areas including Zone 1 designations, we offer the ROW ATEX Ex d Oil Detector in an Explosive-proof (Flameproof) enclosure with full systems certification by DNV.

- 316 Stainless steel
- IP68
- 8m range
- 1-micron sensitivity
- 2W power consumption
- System certification ATEX & IECEx
- LDI Manufacturer certified by DNV

ROWs are compatible with standard industrial telemetry outputs (RS485, 4-20 mA, relay) and multiple detectors can be networked together.

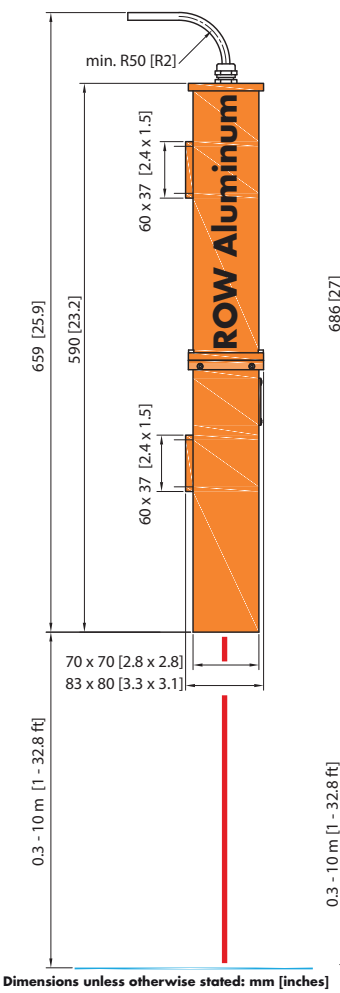
ROW STAINLESS STEEL

For installations in corrosive conditions, the ROW comes in a Stainless Steel (316L) enclosure.

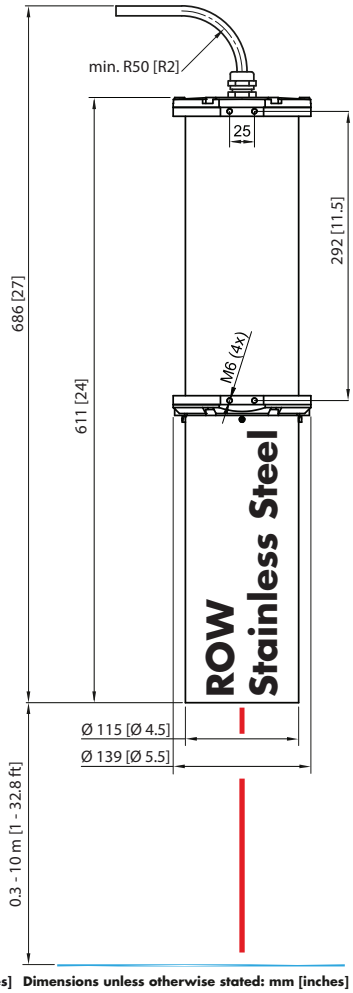
This model offers the perfect balance between economic costs and rugged design that can be installed in even the toughest environments.

Whether at an oil terminal or on the open seas with the instrument integrated on a buoy, the ROW can handle the elements and connect seamlessly to your local telemetry.

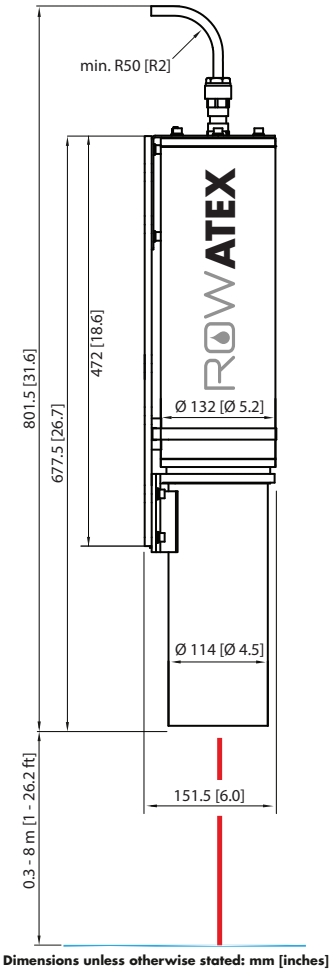
Laser Diagnostic Instruments (LDI) specialises in photonics and software algorithm creating advance fluorescence-based instruments. Located in Estonia (E.U.), LDI is a R&D company and a Manufacturer. All our products are designed and produced in-house. We hold nine core technology patents and continue to innovate our products. As such, you can count on our support for years to come.



Dimensions unless otherwise stated: mm [inches]



Dimensions unless otherwise stated: mm [inches]



Dimensions unless otherwise stated: mm [inches]

LDI ROW

Optical non-contact and autonomous sensor for real-time detection of oil contamination - UV fluorescence technology

TECHNICAL SPECIFICATIONS

MODELS	O-2311A **(Aluminum)** O-2311S **(Stainless Steel)** or O-4501S **(Light Fraction)** version O-2301E **(ATEX EXD)** or O-4501E **(Light Fraction)** version
SENSITIVITY	> 1 µm (micron) oil film
OIL DETECTION*	O-23##X **(Standard series) –** Medium (diesel, lubricants etc..) & heavy (crude, bunker fuels etc..) oils O-45##X **(Light Fraction) –** Light (kerosene, jet fuel etc..), including medium, & heavy oils
RANGE	up to 10 m [33 ft] from surface depending on model
OPERATION TEMPERATURE	-30°C to +60°C [-22°F to 140°F]
ENCLOSURES	IP68, hermetically sealed, weather proof **Aluminum** – Anodised, powder paint, purged (Ar) **Stainless Steel** – Electropolished stainless steel 316L, purged (Ar) **ATEX EXD** – stainless steel 316, explosive-proof enclosure Zone 1
DEVICE DIMENSIONS (L x W x H)	**Aluminum** – 590 x 83 x 80 mm [23.2 x 3.3 x 3.1 in] **Stainless Steel** – 611 x 139 x 139 mm [24 x 5.5 x 5.5 in] **ATEX EXD** – 677.5 x 132 x 132 mm [26.7 x 5.2 x 5.2 in]
WEIGHT	**Aluminum** – 1.8 kg [3.97 lbs] **Stainless Steel** – 9.0 kg [19.8 lbs] **ATEX EXD** – 12.2 kg [26.9 lbs]
POWER OPTIONS (Input)	O-23##X **(Standard series)**: 12 – 24 VDC (10V - 30V) O-45##X **(Light Fraction)**: 12 VDC only Optional: AC/DC adapter, 24 to 12 VDC adapter, solar/battery
POWER USAGE	< 2 Watt (DC)
LIGHT SOURCE	Pulsed UV LED
LED LIFETIME	5 years typical, thereafter, LED replacement
OUTPUTS	[Relay contacts, RS-485 (modbus), 4-20 mA] as standard
TELEMETRY OPTIONS	RS-232, Ethernet/LAN Audio alarm Wi-Fi Wireless Radio or GSM Custom Solutions: Optional adapters available, contact Sales Engineer for additional information
USER INTERFACE	ROW Configurator software for setup & adjustment ROW Manager software for network visualization
CERTIFICATIONS	CE EN 61000-6-2, 61000-6-3, 61326-1, 61000-4-2, 61000-4-5, 61000-4-6, 61000-4-8, 61010-1 **US EPA:** EPA/530/UST-90/009 **IP68:** EN 60529 **ROW ATEX EXD:** EN/IEC: 60079-0, 60079-1 ATEX (Zone 1) II 2 G [DNV 20 ATEX 61463X] IECEx Ex d IIC T6 Gb [IECEx PRE 20.0044X]
WARRANTY	2-years factory warranty as standard, supported worldwide

* Different oils from each country have different properties. Check with LDI or send samples for testing.