

Laser Type Oil Film Detector LMD-3000



The LMD-3000 detects a film of oil on water surfaces in drainage ditches, pits, oil water separating tanks, purification plant water inlets, etc., and generates an alarm.

Detection performance for which the conventional detector (LMD-2000) had a reputation is greatly improved. In addition, maintainability is enhanced.

Utilize the LMD-3000 for early detection of oil leaks which threaten river and marine environments and prevention of external oil leak accidents.

Extended detection distance

The capability to withstand water ripples is improved to enable even the surface of flowing water to be monitored from the height of 4 m (conventional height + 1 m).

With the bell-shaped structure and continuous line scanning followed, the light receiving area is enlarged to implement more stable detection.

Variable settings of oil film width for alarm generation (area detection function)

Whether to generate an alarm can be determined according to the ratio (%) of an oil film on the monitored water surface (2 m or lower still water surface).

Oil leak alarms are prevented from being generated by factors other than oil leak accidents (such as oil films staying on water, iron bacterium, insects, or fish).

Enhanced maintainability

The laser-related design is drastically improved to extend the maintenance cycle to 4 years (twice the conventional one).

The laser module can be easily replaced on site. (Planned)

Easy-to-view screen

A 3.5-inch large-screen color LCD (with a touch panel) has been employed to exceedingly improve visibility and operability.

The color graphic display enables the monitored state to be identified at a glance.

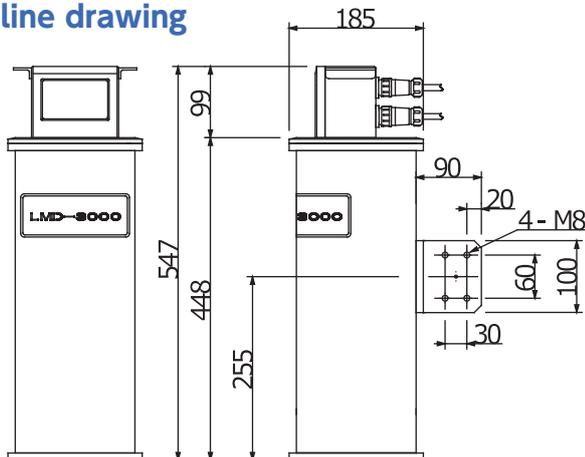


Standard Specifications	LMD-3000 System
Model	LMD-3000 (standard type)
Subject of detection	Oil films floating on water surface or floor (gasoline, kerosene, light oil, heavy oil, insulation oil, lubricating oil, etc.)
Detection method	Laser beam scanning and reflected light receiving
Light source	Semiconductor laser output 1 mW or less (Class 2)
Alarm setting and determination	Oil film level, oil film area, oil film duration, alarm determination (alarm is generated when the condition exceeding the set level continues for the oil film continuing time or more.)
Output	1-point current output (4 to 20 mA according to the light receiving level) and 2-point contact output (oil film alarm, equipment failures, level abnormality)
Display	Light receiving level (4 to 20 mA), oil film area (0 to 100%), setting level, operation display
Power supply	AC 100 V±10% 50/60Hz 100 VA or less
Supplied cable	Power cable (1.25 mm sq., 3-wire, 5 m), signal cable (0.5 mm sq., 8-wire shielded, 5 m)
Installation conditions	Installation inclination (±3° or less), no freeze of water surface subject to oil film detection, direct sunlight and rain protection required, detection distance: 0.3 to 4 m (max. 6 m for still water surface)
Surrounding environment	Temperature: -10 to 50°C
Structure	Sealed structure, applicable for outdoor use, equivalent to IP66
External dimensions	φ185x547(H) mm
Weight	Approx. 11 kg
Option	Contact output addition (oil film caution), isolation function, shading hood, anti-fog hood, external monitor, mounting stand

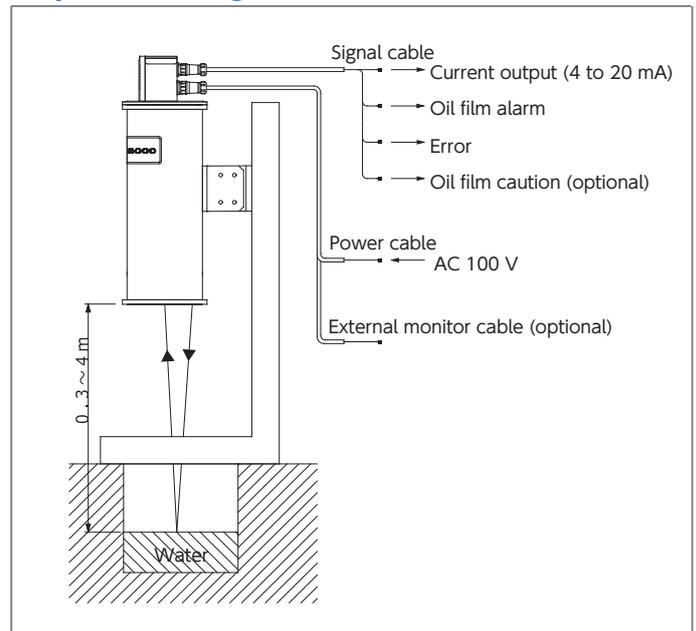
Detection principle

The laser scanning type oil film detector LMD-3000 uses a property that the reflection rate of oil is greater than that of water. This detection system radiates semiconductor laser beams to scan water surfaces, capture fluctuations in the strength of reflected light, and detect a film of oil on the surface.

Outline drawing



System configuration



- ⚠ Precautions for Use** To ensure proper and safe operation, be sure to read the "Instruction Manual" before using this product.
- The specifications or external appearance described in this brochure are subject to change without prior notification due to alteration of laws and regulations or improvements to this product.
 - Actual colors may slightly vary from those of the photos due to printing.

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Safety Precautions

Before use of this product, carefully read "Warnings and Cautions" in the Instruction Manual supplied with the product.