

## Laser Scanning Type

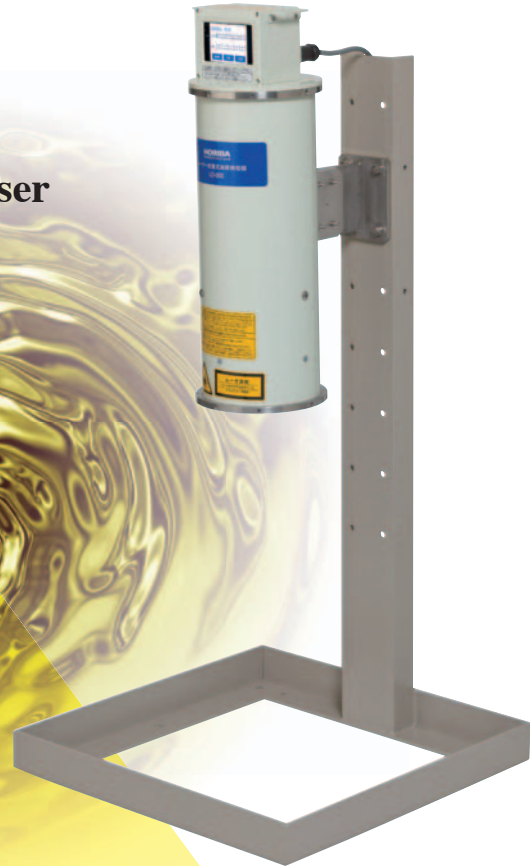
# Surface Oil Detector LO-300

**LO-300 provides early warning by on-line detection of oil leakage with a laser and a security camera (option)**



**Security Camera Unit Type**

Stand and camera unit are options.



**Standard Type**

Stand is option.

# LO-300 Provides Reliable, Early Detection of

## Easy maintenance, Easy installation, Easy operation



the main body of detector  
LO-300

LO-300 uses a laser to scan water surface or the ground to detect an oil film with high sensitivity.

LO-300 with camera unit (option) enables to record the video when LO-300 detects the alarm and stores the image captured before and after alarm signal.

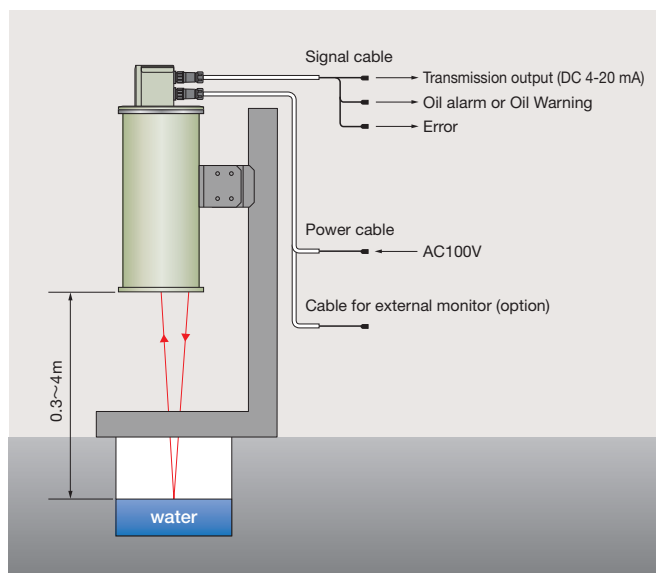
### Laser Scanning Type Surface Oil Detector

# LO-300

#### 3.5 inches color LCD with touch panel



#### Functional schematic



#### Features

##### ▶▶▶ Easily accessible monitor with 3.5 inch color LCD with touch panel

Various operations are available such as reflection level diagnosis, instrumental error judgment, oil film detection etc.

The LCD backlight is automatically turned off when there is no operation on the touch panel for 15 min. or more.

This function prolongs lifetime of LCD and saves energy.

##### ▶▶▶ Variety of functions

WARNING and ALARM, 2 alarm settings are available.

LO-300 watches the cumulative elapsed time of laser module when it reaches certain level then requests the maintenance work.

##### ▶▶▶ Detection distance from 0.3m to 4m

LO-300 enables oil film detection under a fast sample flow with ripples to an extent, detection distance up to 4m between the detector and the water surface is possible.

In case of the still-water surface, up to 6m is available.

The laser scanner module rotates around the optical axis thus rejecting local light scattering by the wave ripple to detect the mean intensity of the reflection from the surface.

##### ▶▶▶ Detection area setting is available

The area detection function performs judgment by the rate of the oil film present on the detection area.

Alarms caused by reasons other than oil leakage accident (accumulated oil film, iron bacteria, insect, fish and others) can be excluded.

##### ▶▶▶ Laser life time is four years

The recommended maintenance cycle is four years (improved to double compared our existing product).

LO-300 is always watching the cumulative elapsed time of laser module, when it reaches to the limit, can display "exchange" of a laser.

The optical device in the main body has our original hanging structure (bell-shaped structure), which assures vertical installation of the instrument even with a slight inclination of the detector, allowing easy installation work.

##### ▶▶▶ Security Camera (Option)

LO-300 with camera unit (option) enables to record the video when LO-300 detects the alarm and stores the image on the surface captured before and after alarm signal.

The image with time stamp can validate that oil leakage is true or false.

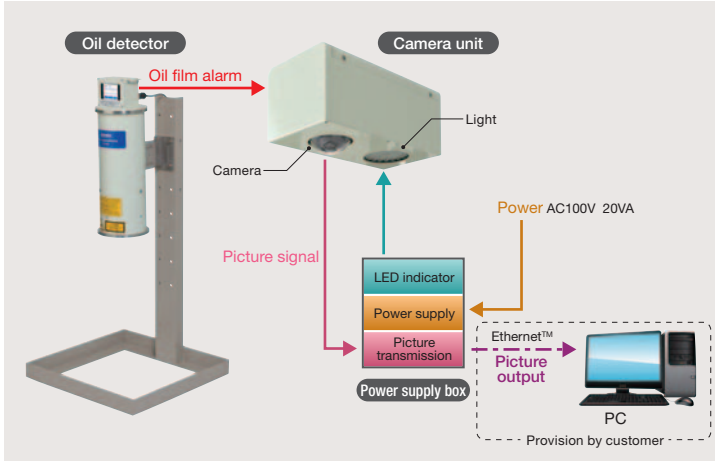


# Oil Leakage.



## Function of security camera

### LO-300 with security camera (option) system



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### Images by camera

#### Daytime



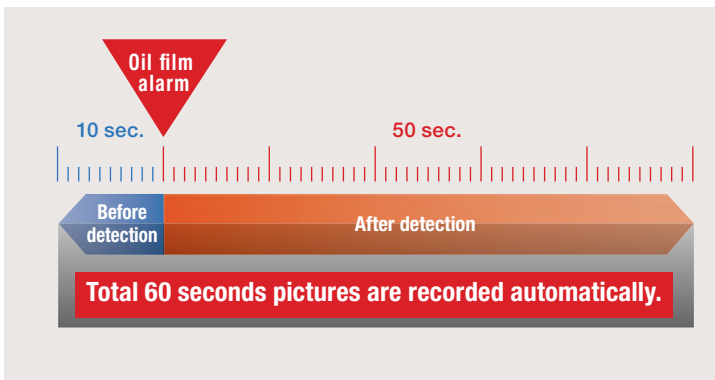
▲ White objects on the surface are oil films.

#### Night



▲ Light will turn on automatically at night.

### Time chart



## Specification

### The main body detector

Products name	Laser scanning type Surface Oil Detector	
Subject of detection	Oil on water surface or liquid on floor	
Detection method	Surface scanning laser/reflected light sensor	
Light source	Semiconductor laser, wavelength(λ)650nm, within 1mW output (Class2)	
Leak detection	Leak detection alert When the state to exceed a set level of "Oil WARNING" or "Oil ALARM" passes longer than "CONT.TIME SET", it judges alert.	
Outputs	Transmission output (1ch) DC4-20mA accordance with reflection level Contact output (2ch) Oil Alarm/System Error	
Setting and Indication	Indication	Light reception level (DC 4-20mA) Surface oil area (0-100%)
	Setting level, Status display	
Power supply	AC100V±10% 50/60 Hz 100W less than	
Attached cables	Power cable (1pc) Length : 5m VCTF 1.25sq x 3cores Signal cable (1pc) Length : 5m NA3VCSB AWG21(0.5sq) x 8cores with shield	
Installation Conditions	Installation inclination : less than ±3° Avoid direct sunlight/The rain avoiding provisions are necessary. Frozen provisions of the surface of the water of detection are necessary.	
Operating temperature range	-10 - +50°C (without freeze)	
Structure	Installation	Outdoor installation type
	Protection code	IP66 corresponding
Mass	Approx. 11kg	
Option	Detector stand, Shading hood, Steam measures food	

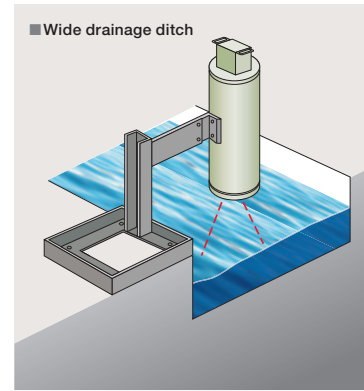
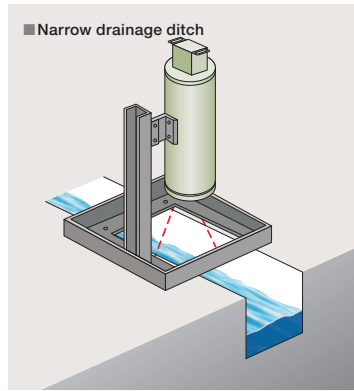
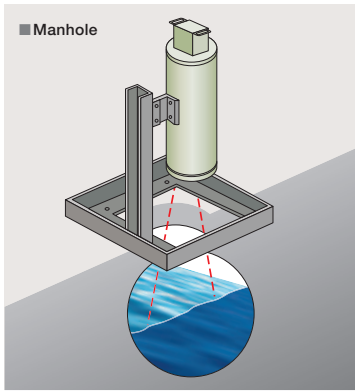
### Camera unit

Sensor	1/4 inch MOS sensor	
Pixel	Color type, 1.3M pixel	
Network	LAN	10BASE, 100BASE
	Compression schemes	H.264 (format : MPEG4) JPEG (format : JPEG)
	Image quality	Resolution : VGA Frame rate : 3 fps bit rate : 768 kbps
Mass	Approx. 2kg	

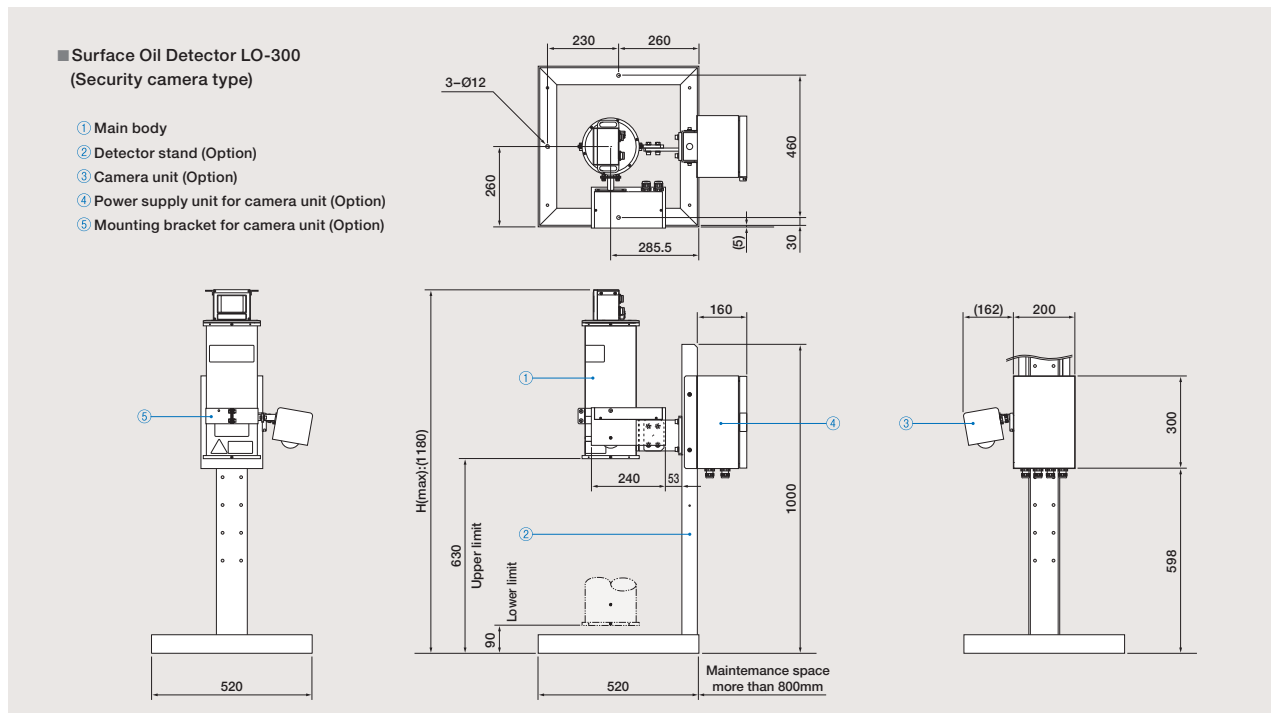
### Power supply unit

Output	DC 25V (for LED light) DC 12V (for camera monitor)
External dimensions	200(W) x 300 (H) x 160 (D) mm
Mass	Approx. 5.5 kg
Power supply	AC 100V 20 VA

## Examples of installation



## External dimensions (unit : mm)



- Please read the operation manual before using this product to assure safe and proper handling of the product.
- Camera unit (option) is limited specification only in Japan. Except Japan, Camera unit is not available.

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