

G2000 Ambient Oil Mist Detector

Line-of-Sight Opacity Meter for Machinery Spaces

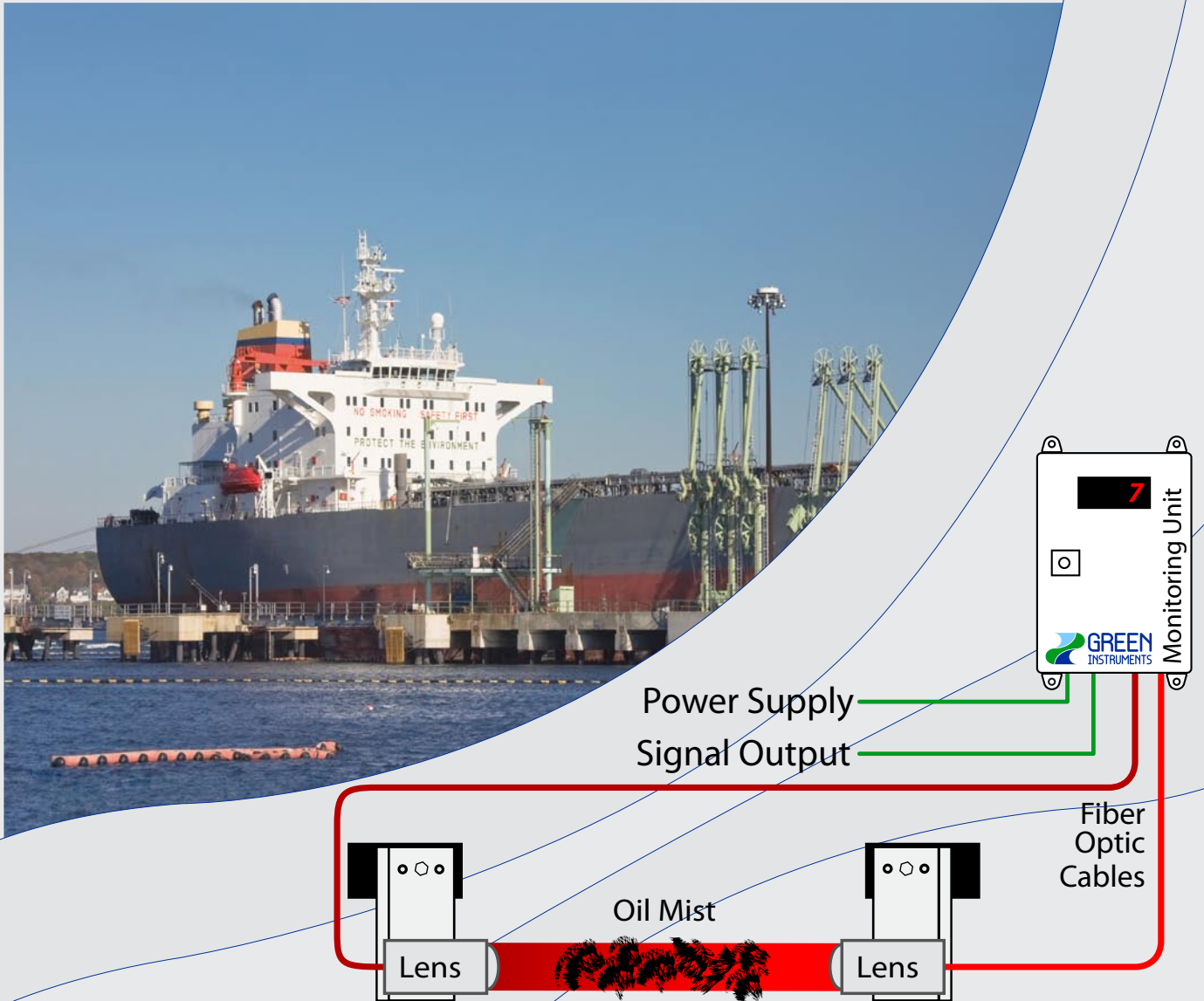
Monitoring of Dust, Smoke & Oil Mist

Perfecting Sensible Technology

Detect the formation of oil mist in open spaces for the protection of your ships and crew from fire. The G2000 Ambient Oil Mist Detector is usually installed in engine rooms, pump rooms, or other rooms with hydraulic installations, especially above hydraulic power packs and hydraulic aggregate pumps.



Cost-Effective Protection



G2000 Ambient Oil Mist Detector System Layout

The G2000 Ambient Oil Mist Detector is used to monitor pump rooms, engine rooms, and other facilities. As the IMO points out, most engine-room fires are the result of the build up of oil mist. OCIMF's "Ship Inspection Report (SIRE) Programme" also draws in particular attention to the oil mist hazard for hydraulic aggregate pumps and the transmission pipes under high pressure.

Thus, early alarms on the formation of oil mist are important. This small safety investment yields great benefits while more and more vetting inspectors would like to see this equipment onboard. The G2000 is ideal for applications where an accurate response to smoke, dust, or oil mist is required in unattended machinery spaces.

Atmospheric oil mist can be formed in one of two ways. First, oil leaks in pressurized oil lines produce a very fine atomized spray. Second, evaporating oil on a hot surface produces what is known as blue smoke. These tiny droplets of oil in the air have a low ignition temperature or can be sparked off by other sources.

Key Features

- Early alarm for the formation of oil mist
- Cost effective protection of ships from fire hazard
- Compliant with requirements of inspection programs, such as SIRE
- Satisfy vetting inspectors
- Large area coverage per unit
- Integrate the output signal into your on-board alarm system
- Two freely configurable alarm relays
- Multiple alarm levels: lens cleaning alarm and oil mist alarm
- Reliable result
- Durable and robust design
- Easy to configure, operate, and maintain
- Easy cleaning of open lenses
- Worldwide customer support via service partners

For Hydraulic Installation



G2000 AOMD Fiber Optic Mini Head

The G₂₀₀₀ AOMD is a line-of-sight opacity meter. It sends a high -power infrared beam of light across the section to be monitored. If the beam along the line of sight passes through oil mist, smoke, or dust, this light beam is scattered and absorbed and thus the receiver signal is reduced. The monitoring unit monitors the translucency, then inverting the signal for the display of opacity. The alarms will activate if the opacity exceeds the preset limits.

The line-of-sight measurement principle has the decisive advantage of covering a larger area than single-point extractive-sampling systems. With the latter measurement principle, you run the risk of having placed a sensor in an area where oil mist does not build up under any circumstances due to the air flow within the engine or pump room. The line-of-site measurement principle solves this problem elegantly.

The G₂₀₀₀ will also react to smoke, dust and other obstructions intercepting the light beam. Consequently, the reading of the sensor will change and possibly trigger an alarm. Although this might be perceived as "false alarm", it gives you at the same time an indication of other malfunctions.

Specifications

Monitoring Unit:

Power Supply	standard 210–250 V AC – 50/60 Hz – 20 VA max. or optional 105–130 V AC – 50/60 Hz or 20–30 V DC
Ambient temperature	0°C – 55°C
Output signal (linearized)	4...20 mA (4 mA ≈ 100% – 20 mA ≈ 0% Opacity) max. 800 Ω or 0...10 V DC (0 V ≈ 100% – 10 V ≈ 0% Opacity) max. 10 mA
Dimensions / Weight	H×W×D: 300 × 200 × 150 mm / 5.5 kg (monitoring unit alone)
Enclosure	IP 65 Steel box – with DNV, LRS and other approvals

Digital Display (& Optional Remote Digital Display):

Display	0...100% opacity level (programmable)
Alarm delay	default 10 s (programmable 0–99 s)
Relay function	2 relays, volt free, freely configurable - lens cleaning alarm and oil mist alarm - max. 250 V AC, max. 2A (NO/NC)
Power supply	22...250 V AC – 50/60 Hz or 20–300 V DC – 4 VA (only relevant if remote)
Dimensions	H×W×D: 48 × 96 × 120 mm – for panel cut-out 44.5 × 91.5 mm

Fiber-Optic Heads and Cables:

Operating temperature	0°C -65°C
Head dimensions	H×W×D: < 120 × 100 × 60 mm
Socket	Grade A steel - welded to structure
Scanning distance	3 to 9 m – Optional 1 to 3m
Optic fibers	glass-fiber core in stainless steel jacket - Length: 4.5m - optional 6.0m, 7.5 m or others

Optional Equipment:

Alarm Annunciator - Remote Display
Visualization and data logging

Data-system integration via various busses such as RS485 and CAN

Specifications subject to changes without notice

