

# MIROS OIL SPILL DETECTION

## AUTOMATIC OIL SPILL SURVEILLANCE & TRACKING FOR FAST & EFFICIENT SPILL RECOVERY



**DATASHEET**

The Miros Oil Spill Detection (OSD) system is a world-leading solution for oil spill surveillance and recovery. This proven technology provides round-the-clock surveillance with automatic spill detection.

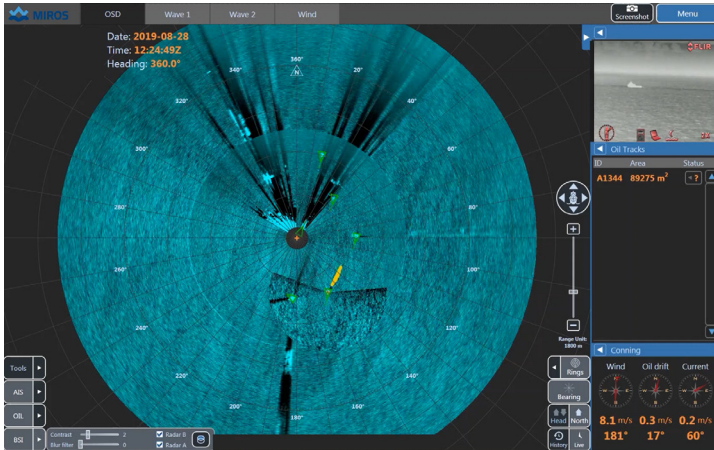
Once a spill is detected, Miros OSD can switch its priorities to handle the dynamic and shifting environment of an oil spill recovery operation. The system automatically tracks spills as they develop and drift, facilitating swift and efficient recovery efforts and guiding the optimal positioning of booms, skimmers and dispersant.

### KEY FEATURES

- Automatic oil spill detection
- Automatic oil spill tracking
- IR & optical camera integration
- Historical data with playback mode
- High sensitivity & low false alarm rate
- Operational in low visibility, day or night
- AIS targets, wind, current and wave data
- Access data locally & remotely

### ESSENTIAL FOR

- Round-the-clock oil spill surveillance
- Fast and efficient recovery of oil spills
- Efficient deployment of boom/skimbers
- Post-incident analysis
- Spatial positioning & thickness estimation
- Avoiding environmental catastrophe



The graphical user interface shows present and historical oil spill detections. Wind and ocean current data, as well as oil drift direction and speed, are also displayed. The addition of wave information is optional.

Miros OSD receives data input from X-band marine radars, optional IR/optical cameras, and existing wind, GPS, gyro and AIS sensors.

Positions and shapes of radar detections are overlaid by AIS targets and drift buoys.

The optional addition of IR and optical cameras can aid operators in the verification of oil spill detections, the identification of the thickest parts of the spill, and estimation of spill thickness and volume.

Historic radar imagery can be played back providing a clear insight into an oil spill's development as well as serving as a recording of the contingency efforts undertaken.

Alarms are managed with configurable thresholds, operator acknowledgement and alarm history.

## SPECIFICATIONS

### Detection Mode

Surveillance Mode:  
Recovery Mode:

### Characteristic

Low false alarm probability  
High detection probability

**Detection range by radar** (typical range, depending on antenna height and local wind conditions):

### Radar Pulse Mode

Short Pulse:  
Medium Pulse::

### Pulse Length

50 - 80 ns  
250 - 300 ns

### Range<sub>MAX</sub>

2 - 4 km  
4 - 7 km

**IR camera range** (typical range, depending on camera height and local atmospheric conditions)

### Target

Oil:  
Detect Person:  
Detect Boat:

### Size

-  
1,8 x 0,5 m  
4,0 x 1,5 m

### Range<sub>MAX</sub>

0,9 - 6,0 km  
0,8 - 1,2 km  
2,2 - 3,9 km

### Tracking

Radar:  
Camera:

Multiple oil spill targets  
Multiple oil spill targets, AIS targets and drift buoys

### Input Interfaces

Gyro Heading:  
GPS Position, Time:  
Wind:  
AIS:

NMEA-0183  
NMEA-0183  
NMEA-0183  
NMEA-0183

### X-Band Radar Interface

Ant. Beam Width:  
Ant. Rot. Speed:  
Ant. Mount. Height:  
Pulse Mode:

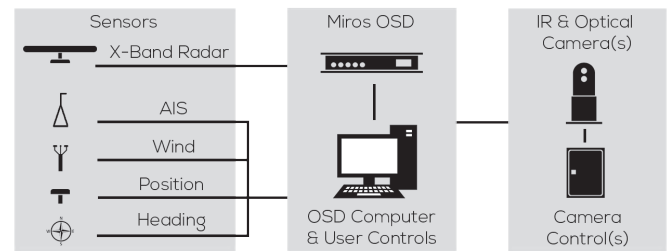
1.3° or less (6 feet or more)  
> 15 RPM  
> 15 m above sea level  
Short pulse (50 - 80 ns) or  
medium pulse (250 - 300 ns)

Pulse Rep. Frequency:  
Output Power:  
Radar Signals:

1000 Hz or higher  
10 kW or more  
Raw video, sync, heading  
marker and azimuth

Antenna Polarisation:

Vertical or horizontal



### Output Interfaces

Data:  
Alarm:

Ethernet, FTP on TCP/IP  
Visual, sound

### Environmental specifications outdoor equipment

Temperature: -30°C to +50°C  
Humidity: 0 - 100 % RH condensing  
IP (Outdoor Equipment): 56

### Electrical Data

Supply Voltage:  
Power Consumption:

100-240 VAC 50-60 Hz  
Nom: 250 W, max 300 W  
(basic system)

### Ordering Information

Basic System:  
Additional Radar Option:

OSD using an existing radar  
Integration of second existing  
radar

IR Option:

Up to 8 gyro-stabilised, dual  
cameras with IR and daylight  
sensors

Dedicated Radar:

Horizontal or vertical antenna  
polarization, 12 kW or 25  
kW transceiver, 6,5' or 8'  
antenna(s), 24 RPM or 42  
RPM

Software Options:

Multiclient system, wave  
measurement

Specifications are subject to change without prior notice.