



# IRIS CM<sup>TM</sup>

## Oil & Gas

Intrinsically Safe Video-Based  
Asset Condition Monitoring

### C1D2-READY VIBRATION MONITORING FOR THE OIL & GAS INDUSTRY

Avoid costly breakdowns, reduce unplanned downtime, and cut repair expenses by identifying issues early. The IRIS CM<sup>TM</sup> Oil & Gas system delivers continuous, video-based vibration monitoring designed for hazardous environments. With C1D2 certification, it's the first solution of its kind—purpose-built for upstream, midstream, and downstream operations. Enhance safety, optimize efficiency, and extend the life of your critical equipment with a system engineered for precision and reliability.



- First C1D2 certified solution designed for industries operating in hazardous areas, where explosive gases or vapors may be present.
- Powered by Motion Amplification® to expose vibrations and movements with crystal-clear accuracy—showing what the eye can't see but the camera can.
- Connect multiple systems effortlessly with synchronized triggering and data capture—delivering multi-angle video streams for real-time insights and diagnostics.
- 24/7 Insight to catch elusive issues as they happen. Get the full picture over time—no guesswork needed.
- Capture perfectly synchronized video across multiple units—each system communicates and triggers the others automatically for a unified view of your asset's behavior.

#### Why Choose Iris CM Oil & Gas?

The critical C1D2 certification ensures the system can be safely deployed in hazardous locations across the oil and gas value chain. And, the intrinsically safe enclosure, coupled with the Iris CM cameras, allow continuous monitoring of your assets with live Motion Amplification®, and store recordings and comprehensive data analysis.

Upgrade your safety and performance with the Iris CM Oil & Gas system—designed to keep your operations safe, efficient and compliant, no matter how harsh the environment.





## FEATURES

### FREQUENCY FILTERING

Bandpass, HDR, bandstop, lowpass, and highpass filtering of time waveform and video.

### MOTION MAPS

Show colorized image overlays of individual frequencies or overall motion.

### TOP FREQUENCY FILTERING

Automatically determine frequencies of interest and create multiple filtered data sets with a single click.

### NOTIFICATIONS

Email notifications from triggers with Motion Amplification® videos viewable from the cloud.

### VIDEO ANNOTATIONS

Add text, shape, annotations, and company logo overlays with export to video.

### LIVE MOTION AMPLIFICATION®

Apply amplification before acquiring a recording. Scan assets instantly to see motion in real time.

### TIME WAVEFORMS, SPECTRA, AND ORBITS

Unlimited number of regions can be drawn in the video to measure displacement. All measurements are simultaneous.

### STABILIZATION

Entire frame and region based image stabilization.

### DATA EXPORT

Export waveform, spectra, orbits, and object paths to .csv file.

### STORAGE

90 minutes worth of HD video stored per camera. Extract video from any time in the last 90 minutes.

### TRANSIENT MOTION AMPLIFICATION®

See Motion Amplification® of small motions as an object moves through the scene.

### TRANSIENT PATH PLOT

Show the path of an object in the video as well as in the plot.

### TRIGGERS

Virtual camera-based sensors  
Accelerometers  
IEPE (E.g. Impact Hammer, Pressure Sensor)  
Manual Triggers

## SPECIFICATIONS

### INDUSTRIAL GRADE CAMERA

5 GigE high resolution CMOS sensor, high definition.

### C1D2 CAMERA ENCLOSURE

30+ pounds and permanently installed.

### FREQUENCY RANGE

2 cameras: 4,500 CPM (73Hz) at 150 fps  
Maximum: 36,000 CPM (600 Hz) at 1,200 fps with reduced resolution.

1 camera: 0 CPM (0 Hz) to 5,400 CPM (90 Hz) at 180 fps  
Maximum: 39,000 CPM (650 Hz) at 1,300 fps with reduced resolution.

### SAMPLE RATE

180 fps in HD, up to 1,300 fps at reduced resolution.

### ACQUISITION SYSTEM

Intel Core i9, 4 TB Samsung SSD for persistent storage, 32 GB RAM

### MOTION AMPLIFICATION® FACTOR

1-500x.

### ANALYSIS DEVICE

Intel i7 processor, 32GB RAM, 1 TB SSD, dual batteries, lightweight, MIL-STD-810G standard drop protection, 1 yr accidental damage protection.

### LENSES

16-96mm, 9-50mm

### MINIMUM DISPLACEMENT

<0.01 mils (0.25  $\mu$ m) at 3.3 ft (1m) with 50mm lens, 0.005 mils (0.125  $\mu$ m) at close focus.

### ETHERNET CABLE LENGTH

Maximum recommended cable length is 100m or 328 ft.

### LIGHTING KIT

LED Light 23,000 lux at 1 meter, lithium ion light battery, light stand. (Optional)



## Trigger Types

### ROI TRIGGERS

- Waveform Pk-Pk
- Spectrum Digital Overall
- Spectrum Frequency Band

### MANUAL TRIGGER

User can execute a manually defined trigger at any time via the push of a button

### SPEED TRIGGER VIA TACH

- Upper Threshold
- Lower Threshold

### EXTERNAL SENSOR TRIGGERS\*

- Waveform Pk-Pk
- Spectrum Digital Overall
- Spectrum Frequency Band

*\*Digiducer or ICP Sensor coming in through Digital Signal Conditioner*

### TIMER TRIGGER

Hourly, daily, weekly, monthly, specific time

## NOTE

All triggers have the ability to reference additional cameras such that concurrent video data is available for all cameras of interest (even across CM units).

Each trigger can now leverage Boolean logic to combine data from multiple sensors or measurements in the definition of a trigger.

