



APPLICATION NOTE

IONODES SECURE DISPLAY STATIONS FOR CONTINUOUS FLARE MONITORING

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 **IONODES**

REAL-TIME OPERATIONAL VISIBILITY

In oil and gas operations, flare stacks are essential safety systems. They are designed to securely burn excess or hazardous gases during startups, shutdowns, maintenance activities, and unexpected process upsets. Although flares are not part of day-to-day production, they often function as a final safeguard against uncontrolled releases. Because of this role, flares may receive increased operational attention and regulatory oversight, depending on the facility type and jurisdiction.

Flares are most active during periods when operating conditions are least stable. Facilities need confidence that these systems are performing as intended when they are required, not only during routine operating conditions. At the same time, flare stacks can be difficult to observe directly. Their height, remote placement, exposure to extreme heat, and location in hazardous areas can limit direct access and visibility.

To address this challenge, some facilities use 24/7, non-contact flare monitoring, typically with thermal imaging cameras. These systems allow flare behavior to be observed continuously from a safe distance, without exposing personnel or equipment to extreme environments.





Dedicated Live Video Display

This is where IONODES Secure Display Station can add value. By presenting live flare conditions on a dedicated display in a controlled location, flare status becomes easier for operations teams to monitor. Instead of relying on someone to log into software, open a VMS client, or manually check a camera view, live flare visibility can remain available as part of normal operational awareness.

The Secure Display Station is designed to support this type of continuous visibility in real operating environments. It supports ONVIF and RTSP IP video, making it compatible with a wide range of IP cameras, including thermal imaging cameras commonly used for flare monitoring. It also supports PTZ camera control, allowing operators to adjust views when conditions change.

Multiple layouts are available, and up to 32 video streams can be displayed across one, two, or three monitors. This can be useful for facilities with multiple flares, large sites, or distributed operations where several camera views need to remain visible at the same time.

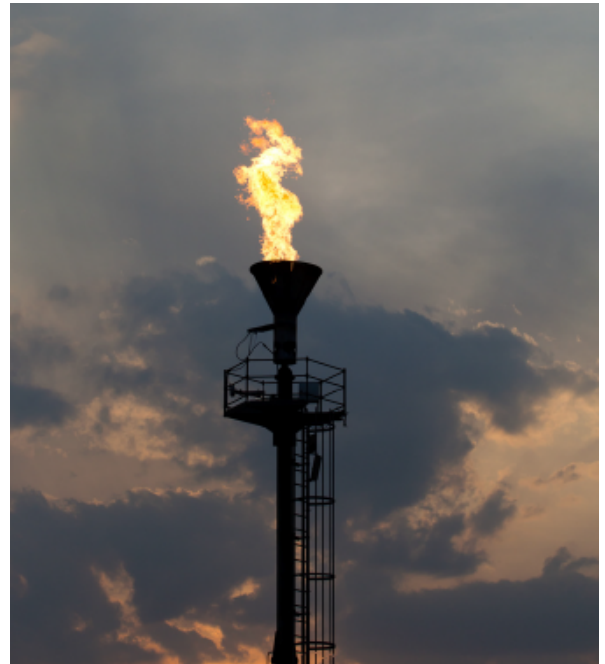
Because it can operate independently of a video management system or NVR, the Secure Display Station provides dedicated visibility without adding unnecessary system dependencies. This can be useful in control rooms, operations centers, remote locations, public display areas, or facilities with limited on-site security or technical staff.

SUPPORTING RESPONSE, SAFETY, AND OVERSIGHT

Continuous visibility can also support faster response when conditions change. Flame instability, flame loss, or abnormal combustion behavior may be recognized earlier, before a situation escalates or requires a formal investigation. Earlier awareness gives operations teams more time to assess the situation and take corrective action when needed.

Remote visibility can also help reduce unnecessary exposure. When teams cannot confirm flare operation from a safe location, personnel may need to enter hazardous areas to verify what is happening. Secure Display Stations help reduce that need by providing a clear, shared view from a controlled location.

From a compliance standpoint, this approach can support a more consistent oversight model. Regulators are increasingly focused on how facilities maintain real-time awareness and control during changing or abnormal conditions, rather than relying only on documentation after an event.



BUILT FOR SECURE, ALWAYS- ON DISPLAY

Secure Display Stations are built for this type of environment. They are ultra-compact appliances, locked down and secure for high-traffic areas and use a fanless architecture to support reliable, continuous operation. Also, these devices automatically recover after power interruptions, restoring live visibility quickly without manual intervention. These architectural and security features help support consistent performance, which can be important during periods of elevated operational stress.

Over time, shared visibility can also improve alignment across operations, environmental compliance, safety teams, and management. A continuously observed flare becomes a common reference point, reducing confusion between teams and shifts and helping decisions stay grounded in the same real-time view.



Compatible with most
IP cameras



Available VMS integration
or run in standalone



Locked down and secure
for installation in
public areas



Display up to 32 cameras
on up to three 4K
monitors

SIMPLE DEPLOYMENT, CENTRALIZED MANAGEMENT

The Secure Display Station is designed for straightforward deployment in operational environments. It can be placed on a flat surface, such as a desktop, or mounted behind any monitor using the included VESA mounting bracket, allowing it to fit into control rooms, operations centers, and shared workspaces.

When onboarded into PERCEPT Cloud, Secure Display Stations can be centrally managed alongside other IONODES devices. This enables fleet-level oversight from a single interface and helps simplify configuration, monitoring, and updates across sites and locations.





DISCOVER WHAT



CAN DO FOR YOUR
BUSINESS

To learn how a Secure Display Station can be integrated into your flare monitoring strategy, or to discuss a deployment tailored to your facility, [contact our team](#) today.



www.ionodes.com



Head Office (Canada)
1-450-696-1060
1-844-696-1060 (Toll Free)



info@ionodes.com

EMEA Sales Contact
+352 661 23 03 33

