USE CASE SPOTLIGHT

Hazardous Area Monitoring and Control on Offshore Drilling Platforms





WTPE-9H66-22W
21.5" Explosion-Proof Panel PC

WTPE Series Explosion-Proof Panel PC

As offshore drilling operations continue to advance toward higher levels of automation and digitalization, operators face increasing demands for safe, reliable, and real-time monitoring in hazardous environments. Harsh conditions such as high humidity, salt spray, severe vibration, and exposure to drilling contaminants place significant stress on control systems, while the presence of flammable gases and vapors requires strict compliance with hazardous-location safety standards. Conventional industrial systems may struggle to provide the reliability, visibility, and connectivity needed to support mission-critical drilling operations.

To address these challenges, an offshore drilling operator deployed the WTPE Series ATEX-certified explosion-proof panel PC as a centralized platform for hazardous-area monitoring, control, and data visualization across drilling operations.

Solution

The WTPE Series explosion-proof panel PC was implemented as both a rugged human-machine interface (HMI) and edge control platform, enabling operators to monitor and manage critical drilling processes directly within ATEX Zone 2 hazardous environments. Certified for ATEX Zone 2 and Class I Division 2 (C1D2) applications, the system provides a safe and reliable computing platform for offshore operations.

Integrated with drilling PLCs, data acquisition systems, field sensors, and isolated power infrastructure, the WTPE Series supports real-time visualization of drilling parameters, equipment status, alarms, and operational trends. Available in 15-inch, 19-inch, and 21.5-inch display sizes, the platform can be deployed across control rooms, field stations, and equipment panels while maintaining a consistent user experience and unified data architecture.

By serving as a bridge between field-level operational technology (OT) systems and higher-level management networks, the WTPE Series enables local decision-making, faster troubleshooting, and improved situational awareness throughout the drilling platform.

Key Benefits

- Centralized monitoring and control of drilling operations within hazardous ATEX Zone 2 environments
- Real-time visualization of pressure, temperature, flow, rotational speed, and mud-monitoring data
- ATEX Zone 2 and Class I Division 2 certifications supporting regulatory compliance and operational safety
- Reliable operation in offshore environments exposed to vibration, moisture, corrosion, and electrical noise
- Seamless integration with PLCs, sensors, DAQ systems, and isolated power infrastructure
- Enhanced situational awareness with real-time alarms, equipment diagnostics, health monitoring, and trend analysis

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