

UCOS[®]
SCADA

Reliable Control Under Extreme Conditions

There are plenty of control system hardware that can thrive in extreme and harsh environments.

That's not the case for control system software. Most control systems don't have the specialized functionality required to ensure reliable operations in extreme, harsh, and accesslimited conditions. UCOS does.

It was designed to control the most sophisticated processes under the worst conditions on earth.

UCOS has been doing just that for nearly two decades. From the numbing cold of the frozen Arctic tundra to the blistering heat and punishing sands of the Middle East desert – UCOS performs flawlessly where other control systems struggle.

Here are just some of the specialized features that have led so many companies to make UCOS their control system of choice for extreme environments.

Always Available

Downtime is not an option in extreme environments. So, UCOS is designed to operate all the time. UCOS incorporates unique features that make sure it's always in control:

Fault Tolerance – Fault tolerance minimizes the chance that a single failure will shut down operations. UCOS supports multiple levels of redundancy with programmable failure modes at every level of the architecture: the network, the HMI, the controllers, the data servers, communication channels, and even individual IO points. If a failure occurs, UCOS will contain it.

Configurable Failover – UCOS systems incorporate configurable failover schemes that recognize specialized failure situations and respond with unique failover scenarios.

Bumpless Maintenance – UCOS allows engineers to modify control programs, add input/output (I/O) points, update the system's configuration, and change graphics online – all without restarting the system.

Remote Monitoring and Maintenance

In extreme environments, access to the control system is limited – very limited. So, UCOS includes a full set of remote management and maintenance features not normally found in a control system:

Remote Maintenance – Administrators can securely connect to a UCOS system from anywhere in the world to implement changes, perform system maintenance and management functions (including upgrades), and monitor system performance.

Store and Forward – Every UCOS controller and data server locally archives all relevant data from both the process being controlled and the control system itself. UCOS stores and time-stamps this data for up to 180 days if communication is lost, then forwards this data automatically to a centralized historical database when communication is restored.

System Health Monitor – UCOS doesn't just monitor the process. It also monitors its own health. All key UCOS components use health tags to keep controllers and operators informed of their viability. If a component's health begins to degrade, automated logic or operator intervention can be applied to address the problem before it becomes serious.

UCOS® SCADA

Proactive Control Capabilities

When fixing system problems is physically difficult, it's better to prevent them in the first place. So, UCOS simplifies intricate and specialized control schemes in order to minimize error that is tolerated in other control systems:

Consistent Control Standards – UCOS enforces consistency throughout the system by allowing engineers to rapidly create new control schemes using standard, eliminates the possibility that an engineer will go off-spec.

Robust and Flexible Control Logic – UCOS incorporates a simple, powerful, and flexible programming environment that supports highly sophisticated control schemes.

Integrated Network Support

Communication protocols evolve and bandwidth increases over time. So, UCOS incorporates forward-looking capabilities that ensure robust, secure connections – within the control system and to external systems – now and in the future.

Embedded Protocol Support – UCOS natively supports dozens of industry-standard communication protocols – Ethernet and serial. And, UCOS includes a set of tools that enables rapid incorporation of new protocols.

Locate Controllers Anywhere – UCOS control modules can be located anywhere in the architecture: at, near, or far from the process. UCOS uniquely supports SCADA, DCS, or both architectures with a single technology.

Leverage Improving Bandwidth – UCOS provides elaborate network performance management and tuning utilities that let engineers automatically improve the control system as network infrastructure continues to improve.

Additional Features

UCOS also offers a full complement of native control system functionality including:

- Complete development environment
- Rich, full-color, hi-res operator HMI
- Alarming and logging
- Historical and real-time trending
- Zero-configuration faceplates
- Multi-layered security profiles
- Data server and comms gateway
- Process historical archiver
- Regulatory and sequential control
- Device and network diagnostics
- API & third-party connectivity options



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