

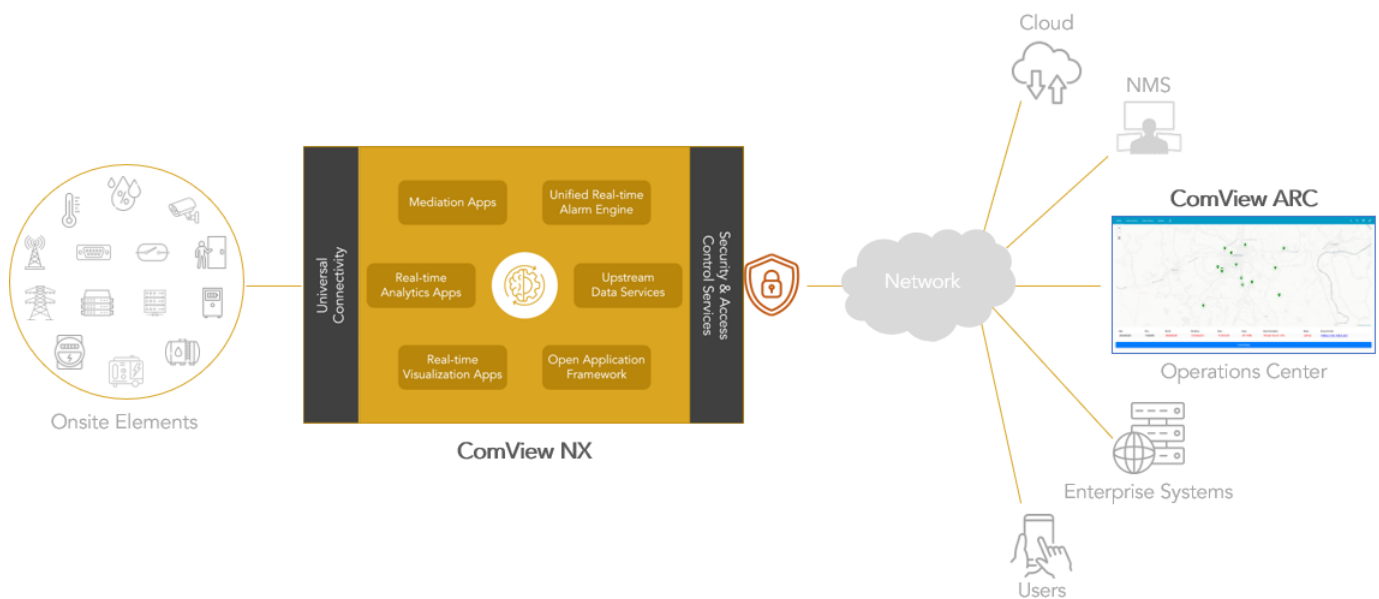
ComView NX

Unified Edge Intelligence for High-Density Remote Sites



ComView NX is a modular, extensible Linux-based edge platform designed to mediate and manage diverse onsite elements at remote, multi-vendor locations. It provides a unified environment for data acquisition, protocol handling, data conversion, alarm monitoring, analytics, and visualization. All telemetry and performance data are normalized for real-time processing and upstream system integration.

The platform uses an open application framework supporting Python-based applications, IPC, MQTT, and REST APIs. This enables integration of new device types, implementation of custom logic, and deployment of advanced analytics. ComView NX supports standardized alarms, automated actions, and structured data exchange with NOC, cloud, and enterprise systems.



Core Platform Capabilities:

- Universal device mediation
- Data acquisition and conversion
- Unified alarm monitoring
- Edge analytics and rule-based automation
- Visualization and dashboards
- Modular, multi-application architecture supporting concurrent apps
- Extensible application framework (Python apps, IPC, MQTT, REST APIs)
- Upstream integration with NOC, cloud, and enterprise systems
- Secure remote access and console-server functions

Representative Users and Applications:

- System integrators/distributors (IT/network/RF/cellular)
- RF and cellular site operators
- Managed service providers (MSPs)
- Corporate network/IT Operations teams
- Public-safety radio site operators (police, fire, EMS)
- Transportation and railway operations centers
- Industrial and mining RF infrastructure
- Utilities and energy providers
- Micro data centers/edge IT sites
- Any remote site monitoring/management

Hardware Highlights:

Processing & Memory

- Quad-core Cortex-A72 64-bit CPU @ 1.5 GHz
- 2 GB RAM and microSD card

Networking

- 1x 1 Gb Ethernet
- 1x 10/100 Ethernet

Supports backhaul connectivity and TCP/UDP-based mediation, monitoring, and analytics

System Control & Indicators

- RTC with lithium battery backup
- Supervisory & reset controller
- Multi-functioned reset pushbutton
- LED indicators: Power, Status, Alarm

Digital Inputs

- 4x non-isolated dry-contact inputs
- 32x isolated dry-contact inputs

Supports monitoring of contact-based site elements, with automated corrective actions via output relays or user scripts

Relay Outputs

- 6x SPDT (Form C) relays
- Rated 10 A @ 250 VAC

Supports interactive control and automated activation through alarm-driven actions or user scripts

Analog Inputs

- 6x isolated analog channels
- 12-bit A/D converter
- 72 V, 36 V, 18 V, Vin, 4–20 mA

Supports analog measurement, digital filtering, data mapping, alarm monitoring, data logging, and real-time analytics

1-Wire Interface

- 1-Wire bus
- 5V power supply

Supports up to 64x 1-Wire digital temperature thermometers

RS-232 Serial Interfaces

- 1x console for local access
- 8x serial ports

Supports server-console access, ASCII data collection and buffering, and alarm monitoring based on ASCII signatures



RS-485 Serial Interfaces

- 2x isolated RS-485 ports
- Supports mediation with Modbus devices, data polling, data conversion, data logging, alarm monitoring, and analytics

USB

- 2x USB 3.0
- 2x USB 2.0

Supports external USB-connected devices such as cameras, storage devices, audio adapters, and other peripherals

Power

- 9-12Vdc/25W, ~ 5W typical
 - Circular DIN + 2-pin screw terminal block
- Supports redundant power input

Physical

- Aluminum enclosure, dual-tone grey
- 1U 19" rack mount, wall mount, desktop
- Dimensions: 16.3" x 6.3" x 1.72" (W x D x H)
- Weight: approx. 2.4lb (1.1kg)

Environment

- Temperature: 0 – 40°C
- Humidity: 10% to 90% RH, non-condensing

MTBF

5.7 yrs at 25°C, MIL-HDBK-217F, Ground Benign

Software Highlights:

Universal Connectivity

ComView NX supports a broad range of physical interfaces — digital inputs, relay outputs, analog channels, 1-Wire sensors, RS-232, RS-485/Modbus, and network-based devices. This enables the platform to function as a universal connectivity hub for onsite elements ranging from simple sensors to complex, protocol-driven systems.

Real-time Visualization Apps

Visualization Apps present analytics data using graphs, gauges, and other visual elements to support trend analysis and operational assessment. All visualizations are generated locally and update in real time based on incoming telemetry and processed analytics.



Mediation Apps

Mediation Apps interface with external equipment and convert raw measurements or protocol-specific data into normalized, CSV-formatted records. These records provide a consistent data model for alarm evaluation, performance analytics, visualization, and automation across diverse device types.

Upstream Data Services

ComView NX provides structured CSV-formatted data records to simplify upstream processing by NMS, analytics platforms, or enterprise systems. The platform supports automatic data push to remote file servers for archival or batch processing and publishes real-time telemetry via MQTT for time-sensitive applications.

Real-time Analytics Apps

Analytics Apps process CSV-formatted data locally to generate performance metrics for specific site elements. Calculations, rate-of-change analysis, threshold evaluation, and trend extraction are performed in real time to support onsite decision logic and upstream reporting.

Security & Access Control Services

Security services include SSL-encrypted communication channels, inactivity-timeout logout, restrictive IP-filtering firewall, two-factor authentication (email or Google Authenticator), and password quality/lifecycle enforcement. These controls support secure remote administration and protect access to onsite systems.

Unified Real-time Alarm Engine

The alarm engine evaluates user-defined conditions, executes corrective actions through relay outputs or user scripts, and distributes alarms to multiple destinations. Supported delivery methods include email, SNMP v1/v2c/v3 traps/informs, HTTP POST, Syslog, and MQTT messaging. Alarm cool-down windows and alarm-cleared notifications help reduce operational overhead and false-positive cycles.

Open Application Framework

The platform is built on a 64-bit Ubuntu Server OS with an NGINX web server, Flask application layer, and Python-based modular architecture. REST API support enables programmatic access to data, configuration, and user-developed applications. The framework leverages widely available Linux development tools, enabling straightforward customization and extension.

Ordering Information:

Model: ComView NXx
Part Number: 100-860000

Contact us for details on supported sensors, peripherals, and systems—or to review your operational requirements



ComView is developed by CSSTEL, a team specializing in remote-site monitoring, mediation, and operational intelligence.

In addition to the standard platform, CSSTEL provides software customization to align ComView with the operational requirements of MSPs, Operations teams, and specialized service environments.

The platform is also available in white-label and OEM configurations for organizations integrating ComView into their own products, service portfolios, or managed offerings.

Specifications and capabilities are subject to change without notice

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