
Orion Automation Platform Features Update



The Orion Family now includes the new OrionLX+ plus the OrionLX CPX, OrionLXm and Orion I/O. All these Orions share the same firmware and configuration in NCD. The new features and enhancements described below are now available to simplify usage, expand application and reduce cost of ownership.

9.x Firmware

This is common firmware for all Orions: OrionLX+, OrionLX CPX, OrionLXm, Orion I/O. Key features:

- For improved video performance, uses new embedded NovaTech browser: less resource intensive than third-party browsers designed for PCs
- Implements Integrity Measurement Architecture (IMA) with Secure Boot technology. This verifies the driver image signature on boot-up.
- Added ability to Enable/Disable Ethernet interfaces
- Back-up and Restore: 5-10 minutes based up PostgreSQL size. Simple one-click
- Once on 9.x firmware, upgrades (new "Distros") will be faster and more reliable
 - Complete re-imaging instead of specific package upgrade
 - About 10 mins, and consistent
 - Practically impossible to "brick" an Orion

New SNMP Manager Protocol

The SNMP (Simple Network Management Protocol) Agent has been available for years in Orions; we are now adding the SNMP Manager on the "Client" side. This means that network attached IEDs, such as switches, servers, modems and routers that do not support DNP, Modbus, or 61850, can now be monitored by Orion. The SNMP Manager implementation in NCD and Orion enables you to select the desired "Object Identifiers" from IED "MIB" master lists. In many IEDs, SNMP can access valuable, non-traditional data such as network traffic and CPU loading. Orion can now access these data and pass on to network administrators.

Web Table Enhancements

Commissioning and testing are now simplified with two enhancements on the "DataValues" webpage. The first provides a filtering mechanism to make it easier to find the desired point(s); the other enables a single point to be "unforced" without having to unforce all points.

Primary / Secondary Enhancement: Output Support

The Orion LogicPak function "Primary/Secondary" enables a "Secondary" IED to be accessed by Orion if the "Primary" IED becomes unavailable. This feature is useful in maintaining an uninterrupted flow of data to SCADA during IED configuration changes, IED firmware updates, or IED failure. In applications where output controls are implemented in both Primary and Secondary IEDs, the Primary/Secondary feature can now also coordinate outputs sent to the IEDs. Outputs controls from SCADA or from logic are routed to the Primary; if Primary is offline, these are routed to the Secondary IED.

IEC 61131 Enhancements

Users can now import and export IEC 61131 programs as well as UDFBs (User-Defined Function Blocks). This includes both program and global variables. User-created blocks can be saved to a directory in NCD and accessed for future configuration. Other IEC 61131 enhancements:

- Online logic is updated closer to real time
- Option to place Logical points online on Orion boot up
- Virtual inputs and outputs can be copied from one NCD file to another

New Calculator In LogicPak

A simple calculator is now available in LogicPak that enables users to create equations using common Excel-style operators and notation including * / () + - ^ SQRT() ABS(), ROUND(), logs and trigonometric functions. Setup is easy:

Step 1: Add new calculation

Calculator

Operators/functions: + - * / () ^ abs() acos()

Name: Calc1

Calculation:

Name	Calculation
Calc1	

Step 2: Give calculation a name, define calculation and save

Calculator

Operators/functions: + - * / () ^ abs() acos() asin() atan() atan2() cos() cosh() exp() ln() log() pow()

Name: Fault_Energy

Calculation: (i^2)*t

Step 3: Validate syntax and check calculation with test variables

Calculate Value

Calculation: (i^2)*t

Enter values for variables:

i:

t:

Step 4: Assign Orion database points to variables

LogicPak Master (LXm.Pak1.ncd)

Close Port

Click Calculator button to create a calculation then click green '+' to add master points. Drag!

Point Name	Calc/Variable name	Min
Line7_Fault Energy	Fault_Energy	0
Event IAX @Line 7	i	0
Event Duration @Line 7	t	0