Expertise On-Demand

Streamlined Workflows

IIoT Ready

Ski ...kforce

DeltaV™ VERSION 14

Better Lifecycle Value

Built-in Security

CONTROL ENGINEERING

2019 ENGINEERS' CHOICE AWARDS

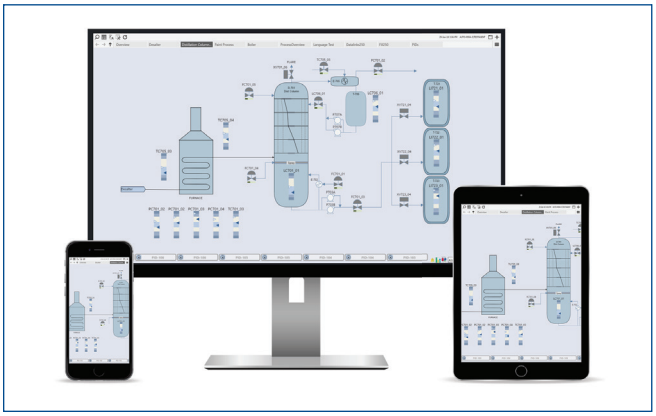
WINNER

OF THE PROCESS CONTROL SYSTEMS CATEGORY

What's New in DeltaV™ Version 14

DeltaV Live

Modern, built-for-purpose operations experience



DeltaV v14.3 introduces DeltaV Live, Emerson's new, modern, built-for-purpose operations experience, designed for today's high-performance operator requirements. DeltaV Live is a highly-customizable Operator Interface that aids operational excellence through state-of-the-art graphics development and operations platforms. DeltaV Live is Emerson's first operator interface to natively support HTML5 graphics, which is one of the most adaptive and advanced graphics platforms in use and is already dominant in consumer spaces, setting the foundation for ubiquitous, multi-platform graphics.

DeltaV Live supports industry standards like ISA 101.01 and industrial best-practices, such as those defined by the Center for Operator Performance (COP). These features allow users to design high-performance graphics while minimizing the dependency on scripting. Such important factors as display hierarchies, screen real estate distribution and assignment, coordinated display navigation ("yoking"), and areas of responsibility per operator, are all available without the need for scripting, allowing for an enhanced operations experience. For advanced applications, DeltaV Live offers the power of TypeScript for configuring highly complex scenarios. Also, provided out-of-the-box, DeltaV Live allows users to easily create different navigation experiences. Depending on the configured display hierarchy, you have the option to select single row, double row, or three rows of navigation buttons during configuration. These buttons are automatically associated with displays that correspond to the assigned hierarchy level. DeltaV Live offers a collection of tools to create, manage and visualize your process information. Each tool has been designed with Human Centered Design principles from the ground up, eliminating complexities, simplifying workflows, and enhancing the overall user experience.

PK Controller

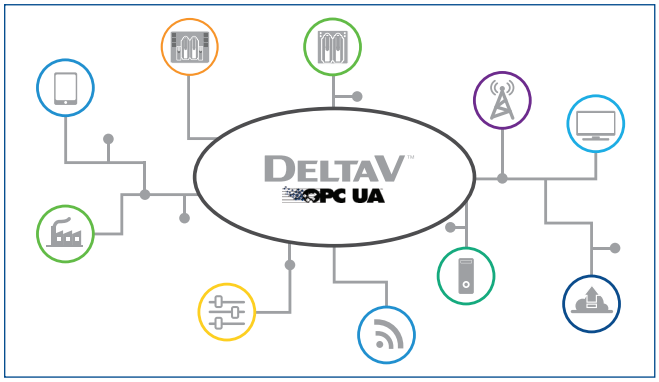
Powerful Standalone, Easily Integrated.

The DeltaV PK Controller provides a control solution for smaller-scale applications, such as skid units or small unit operations. It is designed to operate in a standalone fashion, meaning that it runs without requiring a connection to a server, a panel HMI, or other typical DCS system elements. Any time after being configured to run in a standalone fashion, the DeltaV PK Controller may be merged into a larger DeltaV system. The merging process incorporates the database and graphics from the standalone DeltaV PK Controller into the larger DeltaV Database, resulting in a single, native database and system. This process addresses potential conflicts with tags, thereby eliminating the hassle of mapping two systems together.

The DeltaV PK Controller is configured in a standalone fashion using the PK Controller Engineering Software, which can run in a laptop. Alternatively, the DeltaV PK Controller may be configured using standard DeltaV Engineering tools on a ProPlus or DeltaV Engineering Workstation. In addition, the DeltaV PK Controller features built-in Ethernet ports and native protocols supported by the controller, eliminating the need for extra cards.

OPC UA

DeltaV provides a seamless integration for IIoT-enabled devices by implementing OPC UA in our already comprehensive line of OPC Classic products. Now, our OPC UA servers can run on ProfessionalPlus, Application station, and PK controller. We have also added native OPC UA clients that can run on ProfessionalPlus, Application stations, and the EIOC card, eliminating the need to use OPC Mirror when communicating directly with OPC UA servers.



Cybersecurity

ISASecure System Security Assurance (SSA) Certification

Emerson is always enhancing the security features available with DeltaV. DeltaV v14.3 went through a comprehensive security certification process called ISASecure, developed by the ISA Security Compliance Institute (ISCI). This is based on the ISA/IEC 62443 series of standards.

DeltaV v14.3 has two certifications: ISASecure System Security Assurance (SSA) and ISASecure Security Development Lifecycle Assurance (SDLA), both at Level 1. DeltaV v14.3 will be the first DCS vendor in the industry to obtain the ISASecure SSA certification.

A reference architecture with specific DeltaV and DeltaV SIS components is covered by the ISASecure SSA certification, which means that, in v14.3, our customers are getting a certifiable platform to enable a full system security certification.

Click here to access the "ISASecure SSA Certification for DeltaV and DeltaV SIS" FAQ, which contains detailed information about this certification.

CIOC2 – Achilles Level 2 Certified

The redesigned CIOC2, which is a drop-in replacement for the original CIOC, has Achilles Communications Certification Level 2, along with more computing power to allow new features to be added in the future.

Support for New Operating System Security Features

To prevent cyber-attacks, such as the harvesting of credentials and the compromising of workstations, DeltaV v14.3 has been tested with Microsoft Credential Guard and Device Guard. These features are available on the Windows 10 and Windows Server 2016 operating systems and are now available as an optional deployment feature with DeltaV.

Independent DeltaV Domain Controller

Emerson encourages customers to deploy DeltaV systems in a domain environment, and, in v14.3, users can elect to run the domain controller functionality on independent servers, rather than the ProfessionalPlus or Application stations. This option reduces the load on the DeltaV database server and further protects the domain controllers within the DeltaV Area Control Network.

12 CHARM IO Junction Box

Electronic Marshalling with Distributed CHARMs enables installation in close proximity to field devices and can eliminate costly engineering and installation efforts. When field devices are wired directly to CHARMs in a junction box close to the physical location of the field devices, the need for loop sheets disappears, because the wire path is direct. The time and effort required to perform instrument loop checks is greatly reduced, as many field devices are automatically recognized in DeltaV. Multicore cables are replaced with Ethernet cables that communicate the various signal types back to the CHARM IO Cards (CIOC) or CHARMs Smart Logic Solvers (CSLS).

M-Series Controllers Communicating with CHARMs and Wireless

To simplify deployment of Electronic Marshalling and Wireless field devices in existing installations, CHARMs and Wireless devices can now be assigned to M-series controllers. This will enable users to utilize Wireless IO and Electronic Marshalling without having to purchase an S-series controller.

LS DI 120V AC Isolated Plus CHARM

This new CHARM for the CSLS has a higher wetting current than the traditional 120V AC Isolated CHARM, which means it can be used for proximity sensors or with existing long multicore cables and removes the need for installing extra resistors on the terminals.

New Function Blocks

Two new function blocks, the Enhanced Ramp (ERAMP) and Enhanced Control Selector (ECTSL), can be utilized to reduce controller load and replace custom complex solutions with easily configured native functionality. The ERAMP allows for easy setpoint and output ramping enabled both by operators and by higher logic. The ECTSL is an enhanced version of the existing control selector block with up to 16 inputs available for selection as determined either by operator input or by automatic high, middle, or low select logic.

EtherNet/IP Control Tag Integration

EtherNet/IP Control Tag Integration is a new EIOC protocol that provides tag-based communication when integrating ControlLogix and CompactLogix PLC data. By eliminating the need for register mapping, integration of external data requires significantly less configuration and validation time.

UDEP Projects

Upload Enhancements

Enhancements to the upload dialog have been made, including: filtering, sorting, and the option to save to XML. These functionalities, combined with the new ability to prohibit the uploading of specific parameters, will simplify the uploading process and reduce mistakes that can negatively impact configuration.

Download Status Details

The new "show details" functionality lets users know why a download is required, revealing to them all subsystems that will be modified, added, or deleted with the update.

Production System Warnings

To reduce errors and protect running systems from adverse actions, the ability to designate a system as a "production system" has been added to System Preferences. When enabled, additional warnings will be presented for actions that could have an adverse effect on a running process.

Configurable Area Index

The ability to configure an "area index" on an area in a plant provides a way to create logical ordering and groupings for a plant's areas, which can be shown to operators using area filter displays.

Easily delete graphics or charts from all workstations, without downloads

DeltaV v14.3 offers users a new utility to easily designate graphics and PHV trends for deletion from a centralized location that manages the propagation process to nodes without requiring workstation downloads. This utility also includes a central recycle bin that allows restoring files to their original location or discarding them altogether. The restoration process is also fully automated and eliminates the need to download a workstation. This Graphics and Trends delete utility is accessible from the DeltaV Operate and Process History View (PHV).

Enable on-chart statistics for each pen

With the PHV Enhancements project, DeltaV v14.3 provides the means to quantitatively analyze process data within Process History View. The user is able to view the process tendencies over a period of time and have a better understanding of what the data represents, all at a glance, instead of running another DeltaV application to view and analyze data manually. With this added functionality, a user can immediately tell the highest/lowest process values over a given time frame, the cumulative amount consumed/produced, an accurate average process value, and obtain a quantitative expression. In addition, the Process History View is now compatible with Themes and is capable of adjusting background and pen colors according to the active Theme.

EIOC PRP Redundancy

In addition, we are introducing Parallel Redundancy Protocol (PRP) for all protocols in the EIOC. This allows the EIOC to provide a fault-tolerant network by receiving data on both networks simultaneously, producing a zero-time recovery.

Scalable EIOC

The new scalable EIOC provides the same benefits as before, but now with a scalable capacity from 1 to 256 devices, allowing more flexibility when engineering small- or medium-sized projects.

Sorting & Color-Coding Batches on Batch List

Improved batch list visualization enables users to better organize and understand the information found on the batch list view. Improvements include:

- Batch list sorting by either state or batch ID
- Batch list color-coding according to the state of the batch
- Batch list filtering, including wildcard capability, by Batch ID, Area, Process Cell, or Unit
- Alternating light/dark row background color variation in the batch list to make reading wide rows easier.

Alarm Management Improvement

We have enhanced the DeltaV System Alarm Management application to enable multi-selection of areas/units/modules and editing of conditioning properties, as well as the ability for module names and descriptions to print to XML.

DeltaV Simulate Enhancements

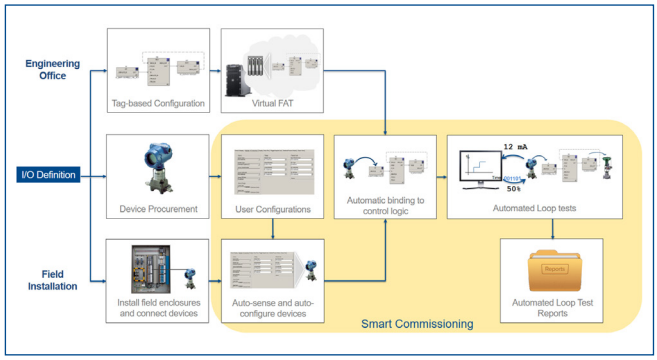
Improve operational excellence

DeltaV Simulate now supports complete batch simulation (including Batch Executive) and improved scenario management, resulting in easier maintenance and engineering efficiency.

Smart Commissioning

Automate commissioning tasks

Smart Commissioning significantly reduces the time and effort spent during the commissioning of HART instrumentation by automating most of the associated tasks. The DeltaV Device Commissioner application allows you to manage the commissioning workflow and initiate a "one click" commissioning process based on pre-configured settings and templates. Smart Commissioning can be used for both DeltaV and DeltaV SIS loops.



SIS configuration using exSILentia

Reduce configuration effort

Emerson partnered with exida to deliver a database-centered solution that enables automatic configuration of safety logic based on information captured in exida's exSILentia software. This approach not only reduces configuration effort, but also provides a consistent configuration approach, with less errors and rework, that can be easily traced back to the safety requirement specifications.

New SIS Function Blocks

Increase scalability for Cause and Effect Matrices

Two new SIS function blocks, monitor block and effect block, simplify the configuration of large Cause and Effect Matrices. The new block was specifically designed to cascade and accommodate large CEMs. Now, creating a large CEM is just matter of combining a few blocks.

Partial Stroke Test Improvements

Continuous improvements with the integration of Fisher DVC and its Partial Stroke Test (PST) functionality include:

- A configurable PST timeout to accommodate larger valve assemblies.
- A visual indicator on the DeltaV DVC faceplate to display PST status provided by a new firmware version of Fisher DVC6200.

SIS IO Simulation

Decouples the safety logic testing from the IO physical design

Emerson is introducing efficient IO simulation for virtual CSLS that is based on the signal name (Device Signal Tag, DST). It is not necessary to know the physical location of the signal, and so the separation between the safety logic configuration and the IO physical design is effectively maintained.

SIS Alarm Groups

Meaningful alarm visualization

Function blocks and user-defined parameters can be gathered into user-defined groups for improved identification and easier alarm navigation. For each group, users can define a unique name, a description, a faceplate, detail, and a primary control display.

SIS Cybersecurity Improvements

Reliable enforcement of physical presence

The "time-unlock-command" removes the risk of leaving the logic solver unlocked, and the "single-unlock-command" eliminates the need to return to the field after an authorized change has been made. The SZ controller key switch centralizes physical presence for all of the CSLS under the safety network.

Improved Status Handling

Simplifies the handling of safety applications' statuses for both communication failures and status propagation from downstream logic, eliminating the need for custom logic.

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