

DeltaV™ Safety Instrumented System

Version 13 Update



Improve Scalability and Flexibility

The global safety network allows you to easily deploy your safety system across multiple areas and safety applications.



Increase Engineering Efficiency

Virtualization of DeltaV SIS with Electronic Marshalling allows you to develop and test safety logic without hardware.



Better Connectivity to Third-Party Systems

Redundant Modbus provides a dependable interface to any DCS or Human Machine Interface (HMI).

Local Safety Network Bridge

Seamless integration of local safety networks

The Local Safety Network Bridge (LSNB), a new non-interfering device, enables flexibility and ease of system expansion by providing safety-rated communication among multiple local safety networks through a global safety network. The global safety network not only enables even larger applications, but also allows functional segregation. A typical example is separation of fire and gas (F&G) and emergency shutdown (ESD) applications over separate local safety networks while allowing safe and secure communication across both F&G and ESD. No user configuration is required to transfer data across different local safety networks.

Further building on DeltaV SIS™ flexibility, Version 13 (v13) delivers strong features designed to help users implement safety instrumented systems (SIS) on a broad range of safety applications. Built by Emerson experts, v13 increases project efficiency and connectivity to third-party systems so users can implement a modern safety system regardless of the distributed control system (DCS) vendor.

LSNBs communicate over a redundant Ethernet safety network that can be extended via fiber optic links to cover large distances.

Virtual Simulation of DeltaV SIS

Increased engineering efficiency

Using the virtual simulation of DeltaV SIS with Electronic Marshalling, engineers can work in an easy and intuitive environment where they can simulate the entire DeltaV SIS systems including the CHARM Smart Logic Solver (CSLS), SZ controllers, and LSNB to verify safety logic. Thanks to unchanged module Cyclic Redundancy Checks (CRCs), users can trust that safety logic tested in a virtual environment will behave the same when transferred to real hardware.

Virtual DeltaV SIS nodes are easily created and assigned to host computers using DeltaV Virtual Studio, which is an integrated application environment designed for easy implementation and management of virtual DeltaV SIS hardware components for off-line configuration and testing. DeltaV Virtual Studio is used to create, modify, start, stop, and move virtual CSLS as well as virtual SZ controllers and virtual LSNBs.



Figure 1: The CSLS and the rest of DeltaV SIS hardware components can be virtualized to simulate an entire DeltaV SIS system.



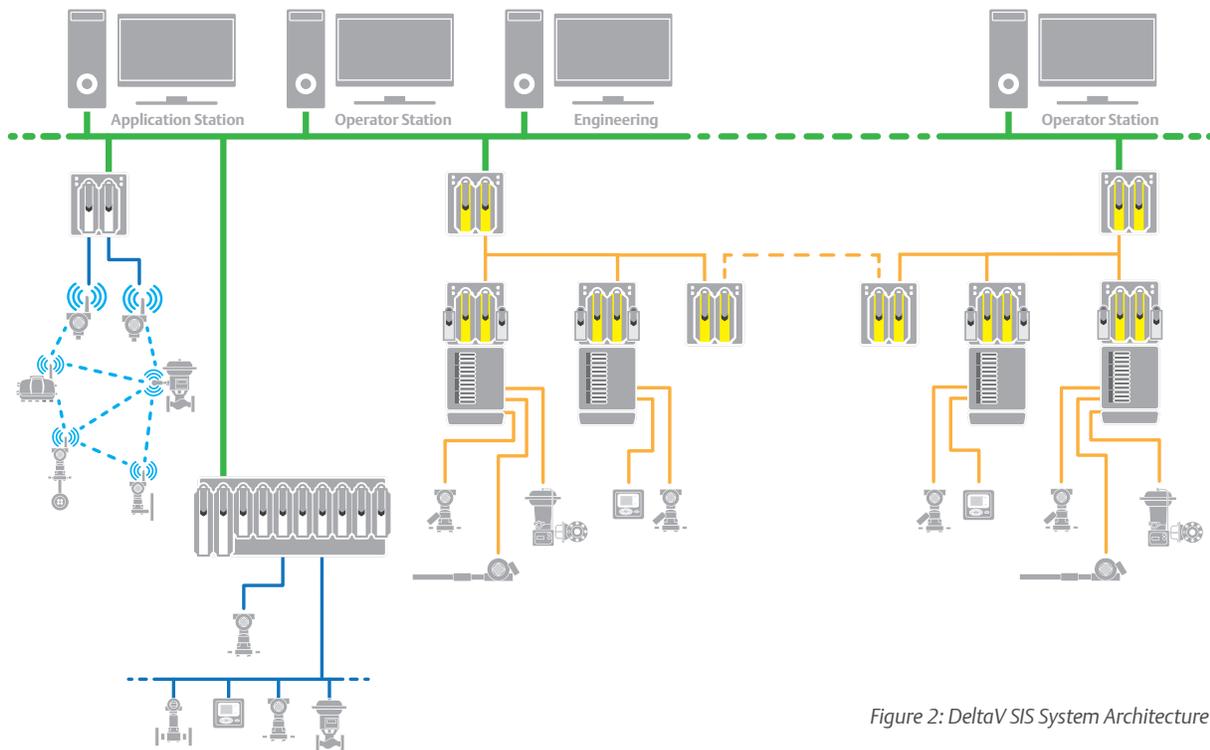


Figure 2: DeltaV SIS System Architecture

Redundant Modbus

Stronger interface to third-party systems

DeltaV SIS can be integrated with any control system via open standards such as Modbus TCP, and OPC. The existing Modbus interface on the SZ controller has been improved to include redundant communication paths.

Additional DeltaV SIS v13 products

DeltaV SIS new IS LS CHARMS

v13 includes two new intrinsically safe (IS) logic solver (LS) CHARMS:

- IS RTD LS CHARM
- IS Thermocouple CHARM

These new LS CHARMS eliminate the need for an external barrier when connecting temperature sensors.

New Dual Universal Safety Carrier

The existing SZ controller carrier allows installation on vertical DIN-rails only. To provide additional installation options, the new Dual Universal Safety Carriers allow mounting the SZ controllers and the LSNBs on a horizontal DIN-rail.

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