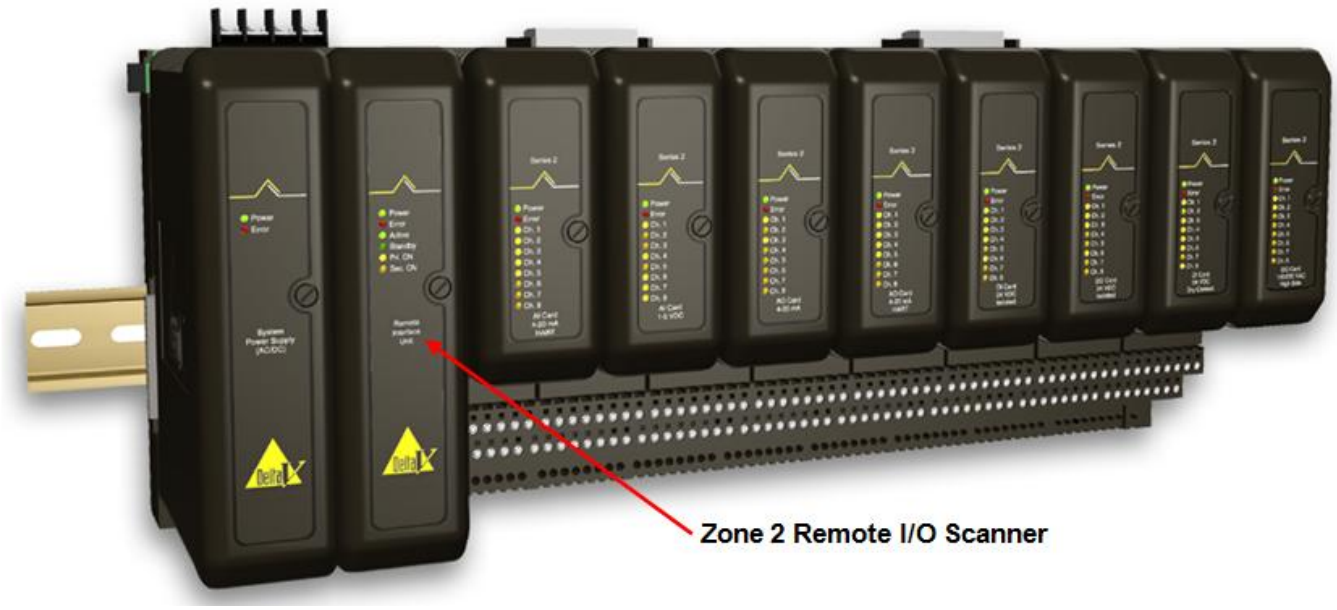
DeltaV M-series Zone 2 Remote I/O



Unlike any other remote I/O solution, DeltaV shared remote I/O connects with any DeltaV controller for maximum installation flexibility.

- Shared remote I/O for maximum flexibility
- Easy plug-and-play installation
- Easy to use

Introduction

DeltaV Zone 2 Remote I/O scanners provide communication and control between the field devices and the other nodes on the control network. Control strategies and system configurations can be used with the DeltaV system's *powerful* controllers with I/O residing either local to the controller, or on a remote I/O scanner.

Benefits

Shared remote I/O. Unlike other remote I/O, DeltaV Zone 2 Remote I/O can be shared amongst several DeltaV controllers for a greater range of applications and installation flexibility.

Easy plug-and-play installation. DeltaV Zone 2 Remote I/O automatically identifies itself to the control network, saving the usual no-value engineering work that other automation systems require. Additionally, I/O cards are recognized as they are inserted into the remote I/O subsystem.

Easy to use. Like the regular I/O in your DeltaV system, the DeltaV controller manages all activities for your Zone 2 Remote I/O.

Product Description

The DeltaV Zone 2 Remote I/O delivers big savings in the installation process. The compact, modular design allows you to cost-effectively meet your process needs.

Shared remote I/O for maximum flexibility

I/O Targeting. The Zone 2 Remote I/O scanner supports targeting of Classic I/O to controllers on a per card basis. For example, a card can be owned by a controller, with different I/O cards owned by a different controller, with the limit that a Remote I/O scanner can support 4 controllers maximum.

Each DeltaV controller can have up to 16 Remote I/O scanners associated with it.

The DeltaV system supports up to 120 remote I/O scanners. The scanners communicate on the same Ethernet network as the controllers and workstations.

The primary port supports 10/100 MB communication, and the secondary supports 10 MB only.

Data Passthrough. The controller is equipped with the ability to pass smart HART® information from field devices to any workstation node in the control network.

This means you can take advantage of applications, such as AMS™ Suite: Intelligent Device Manager that enable you to remotely manage the HART information contained in your HART equipped devices.

Mounting. This plug-and-play system structure provides modular system growth with a single controller and is approved for remote mounting in a Class 1, Div 2 or ATEX Zone II environment. Refer to the System Power Supplies and I/O Subsystem Carriers product data sheets for additional information.

I/O Types and Capacity. The Zone 2 Remote I/O scanner supports one carrier (8 simplex cards) of either Classic I/O or Hart I/O. The scanner and I/O cards can be installed on either horizontal or VerticalPlus carriers. Any of the Classic or Hart I/O cards may be utilized. The Hart data from the I/O channels can be used in a control strategy, providing the user with the same experience using remote I/O as when using local I/O.

The following card types *are not* supported with Zone 2 remote I/O: Multi-function Card, Sequence of Events I/O, FOUNDATION fieldbus, Profibus DP, DeviceNet, AS-I, Serial. I/O Card redundancy is also not supported.

Easy plug-and-play installation

Self-Addressing. The Zone 2 Remote I/O scanner is unique in its ability to automatically identify itself to the DeltaV control network. When the Zone 2 Remote I/O scanner is powered up, it is automatically assigned a unique address—no dip switches, no configuring—just *plug and play!*

Self-Locating. A Zone 2 Remote I/O scanner's physical location is easy to find. LEDs on the face of the controller can be made to flash, providing a *strong visual clue.*

Automatic I/O Detection. The Zone 2 Remote I/O scanner can identify all I/O interface channels located on the subsystem. As soon as an I/O interface is plugged in, the scanner knows the general characteristics of the field devices managed by that I/O interface. This reduces the "no-value engineering" associated with configuration*—easy!*

Easy to use

Total Control. The controller(s) manages all control activities for the I/O interface channels. It also manages all communication functions for the communications network. Time stamping, alarming, and trend objects are also managed within the controller(s). The controller(s) executes your control strategy. Information from an input channel on a Zone 2 Remote I/O scanner is received, control strategy applied, and data is sent to an output channel on Zone 2 Remote I/O scanner within 200 ms - assuming a 100 ms scan time for the I/O.

Hardware Specifications

Specifications for the Zone 2 Remote I/O Scanner	
Power requirement	Supplied by System Power Supply through 2-wide Power/Controller Carrier
Maximum current	2.0 A
Fuse protection	3.0 A, non-replaceable fuses
Power dissipation	4.0 W typical, 5.4 W maximum
Mounting	On right slot of power/controller carrier.
Environmental specifications:	
Operating temperature	-40 to 70° C (-40 to 158° F)
Storage temperature	-40 to 85° C (-40 to 185° F)
Relative humidity	5 to 95%, non-condensing
Airborne contaminants	ISA-S71.04-1985 Airborne Contaminants Class G3 Conformal coating
Shock (normal operating conditions)	10 g ½-sine wave for 11 ms
Vibration (operative limit)	1 mm peak-to-peak from 5 Hz to 16 Hz, 0.5 g from 16 Hz to 150 Hz
Hazardous area/location*	ATEX EEx nA IIC T4 Class 1, Div 2, Groups A, B, C, D, T4
LED Indicators:	
Green – Power	Indicates DC power is applied.
Red – Error	Indicates an error condition.
Yellow flashing – Pri. CN	Indicates valid primary control network communication.
Yellow, flashing – Sec. CN	Indicates valid secondary control network communication.
All except Power flashing	Visual identification mode (Initiated by user from engineering software tools).
All except Power flashing, sequenced	Firmware upgrade in progress.
External connections:	
Primary Control Network	8-pin RJ-45 connector
Redundant Control Network	8-pin RJ-45 connector

**Refer to Zone 2 installation instructions (12P2046) and/or Class 1 Division 2 installation instructions (12P1293) for information on installing in hazardous areas.*

Ordering Information

Description	Model Number
Zone 2 Remote I/O scanner	VE4021

Prerequisites

- For each Zone 2 Remote I/O scanner you will need to select the mounting carrier. Please refer to the I/O Carrier product data sheet for details. Use model VE4050S2K1C0 8-Wide I/O Interface Carrier with Carrier Shield Bar for the I/O cards, and model VE3051C0 2-Wide Power/Controller Carrier for the scanner and associated power supply

- Each Zone 2 Remote I/O scanner requires a dedicated system power supply. Please refer to the Power Supplies product data sheet for details. Use model VE5008 24/12 VDC DC to DC System power supply.

To locate a sales office near you, visit our website at:
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