Emerson KJ3242X1-BA1 12P2471X062

DeltaV M-series Fieldbus H1 Card



Emerson KJ3242X1-BA1 12P2471X062 is a DeltaV M-series FOUNDATION Fieldbus H1 interface card for digital communication with compatible field instruments. Its two H1 channels carry process variables, device status and diagnostic information into the control system, allowing multiple devices to share a fieldbus segment. For multivariable instruments, the same connection makes the available measurements accessible to DeltaV. The card therefore serves applications that need both process control data and instrument information, with channel-status indicators supporting identification of communication or hardware problems.

Technical Specifications

Product Identity	
Manufacturer	Emerson
Complete identification	KJ3242X1-BA1 12P2471X062
Platform	DeltaV M-series
Functional Configuration	
Interface	FOUNDATION Fieldbus H1
Ports	2
Terminal key	D6
Calibration	Not required
Performance & Power	
LocalBus power	12 VDC at 300 mA
Fieldbus power	9–32 VDC at 12 mA per port
Environment	
Operating temperature	–40 to +70 °C
Relative humidity	5–95%, non-condensing
Protection	IP20
Airborne contaminants	ISA-S71.04-1985 Class G3
Shock	10 g half-sine, 11 ms
Vibration	1 mm peak-to-peak at 2–13.2 Hz; 0.7 g at 13.2–150 Hz

Selected original manufacturer material follows on pages 3–5.

Compatibility & Selection Guide

System compatibility. DeltaV version matters when selecting KJ3242X1-BA1 12P2471X062. Emerson explicitly directs users needing cards for versions earlier than v10.3.1 to request BA1 or BA2. Confirm the installed DeltaV release and simplex or redundant H1 terminal configuration before replacement.

Wiring & Installation Reference

Removal and installation

1. Isolate non-sparking field circuits. De-energize these circuits before removal or insertion. For energy-limited installations, complete an I/O loop assessment on all nodes.

2. Apply the exact powered-removal restriction. Removal or insertion with system power is permitted only in a known non-hazardous area and only one unit at a time.

Installation precautions

Do not disassemble the card; it has no user-serviceable parts. Calibration is not required.

Match the installed DeltaV release and simplex or redundant H1 hardware. Use the complete applicable Zone 2 instructions.

View product reference (PDF) — page 3 · View product reference (PDF) — page 3

KJ3242X1-BA1 Fieldbus H1 Card

Hazardous Atmosphere

II 3G Ex nA IIC Gc
FM12ATEX0090U
IECEx FMG 12.0035U
II 3G EEx nL IIC
Nemko 02ATEX431U

Power Specifications

Local Bus Power	12 VDC at 300 mA
Fieldbus Power	9 to 32 VDC at 12 mA/Port

Environmental Specifications

Ambient Temperature	-40°C to +70°C
Shock	10g ½ Sinewave for 11msec
Vibration	1mm Peak to Peak from 2 to 13.2Hz; 0.7g from 13.2 to 150Hz
Airborne Contaminants	ISA-S71.04 –1985 Airborne Contaminants Class G3
Relative Humidity	5 to 95% Non-Condensing IP 20 Rating
Terminal Block key Position	D6

Note: Refer to the product label for serial number and location and date of manufacture.

Warning: This product has specific instructions for installation, removal and operation in hazardous areas. Refer to document 12P2046 *"DeltaV™ Scalable Process System Zone 2 Installation Instructions".* Other installation instructions are available in the *"DeltaV™ M-Series Hardware Installation and Reference"* manual.

Removal and Insertion

This unit cannot be removed or inserted with system power energized unless the area is known to be non-hazardous and only one unit at a time may be removed or inserted.

Non-sparking field circuits MUST be de-energized before removing and inserting.

For “nL” installation, an I/O loop assessment must be completed on all energy-limited nodes.

A rotary keying system ensures compatibility between I/O cards and terminal blocks after installation is complete. The terminal block must have the keys set for the I/O card with which it is used.

Maintenance and Adjustment

This unit contains no user serviceable parts and should not be disassembled for any reason. Calibration is not required.

Other Safety Approvals

FM APPROVED
CL. I Div. 2 GP.A,B,C,D T4

LR87534

EMERSON

Product Description

The I/O card is enclosed in a DeltaV-designed common form factor that plugs into the I/O interface carrier. The housing is clearly labeled with the enclosed I/O card type. Clearly visible LEDs on the top of the I/O card display the power, error, and status to the two channels included in the I/O card.

The Fieldbus I/O Card meets ISA G3 corrosion specifications by using superior electronic components and conformal coating.

Redundancy Made Easy. The active and standby I/O cards are connected to the field at the redundant terminal block. When a fault is detected, the system automatically switches to the backup I/O card. The reliability rating of the terminal block is greater than the high reliability of the I/O cards.

The controller scans each card of a redundant pair. Incremental controller loading is a function of the number of redundant cards. In addition, the redundant cards have dedicated communication between the pair and the backup card monitors the health of the active card.

Configuration of redundancy is not required as the DeltaV system automatically recognizes the redundant pair of cards and assigns a device signal tag (DST) to the channels on the primary card.

Signals referenced for each connected FOUNDATION Fieldbus device will count at most 1 DST. The DST type counted will be the most valuable type used to reference a signal for each device. For example, a device with 1 AI signal reference and 1 AO signal reference will count as 1 AO DST.

Switchover time for redundant I/O is minimal, and the process will be undisturbed.

An alarm on the integrity error for the primary notifies the operator of a switchover. The backup card is also monitored for integrity alarms. Events that can cause a switchover include.

- Hardware failure within the active card.
- Communications failure between the active card and the controller.
- Removal of the active card from the carrier.
- Detection of a fault in the field wiring.

A switchover may also be initiated from the diagnostics explorer, and the health and status of both cards and their channels are available in the diagnostics explorer.

The system automatically commissions a new standby card. In safe areas, failed cards can be replaced under power. In hazardous areas, appropriate installation procedures must be followed.

The M-series FOUNDATION Fieldbus I/O subsystem includes:

- H1 interface card and simplex terminal block, or
- 2 H1 interface cards and redundant terminal block



FOUNDATION Fieldbus I/O.

Ordering Information

Description	Model Number
M-series H1 I/O Interface Card and Terminal Block (includes 1 Interface Card and a simplex Terminal Block)	VE4017P0
Redundant M-series H1 I/O Interface Card and Terminal Block (includes 2 Interface Cards and a redundant Terminal Block)	VE4037P0

Prerequisites

- A fieldbus power supply is required for each bus segment.
- Each fieldbus segment must be terminated at both ends.
- A fieldbus brick and terminator for each segment are recommended.
- Contact your local sales office for more information on complementary Fieldbus components.

Compatibility

- The Current M-series H1 I/O Interface cards are supported on DeltaV v10.3.1 and later. If cards are required for earlier version of DeltaV, please request KJ3242X1-BA1 or KJ3242X1-BA2.

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