Emerson KJ4001X1-BA3 12P3378X042

DeltaV 2-Wide Power/Controller Carrier



Emerson KJ4001X1-BA3 12P3378X042 is the two-wide power/controller carrier in a DeltaV hardware assembly. It provides the base and internal connections that join the system power supply, controller and adjacent I/O carrier arrangement. Integrated power buses distribute system power, while the carrier connection provides the communication path between the controller and I/O interfaces. This component is relevant when replacing or extending the carrier infrastructure around a DeltaV controller; the controller and power-supply electronics remain separate items that must match the required assembly.

Technical Specifications

Product Identity	
Manufacturer	Emerson
Complete identification	KJ4001X1-BA3 12P3378X042
Product type	2-wide power/controller carrier
Functional Configuration	
Hardware system	DeltaV M-series
Maximum combined carrier / LocalBus extender length	6.5 m
Empty permanent slot cover	KJ4001X1-FA1
Calibration	Not required
Performance & Power	
Carrier capacity	One system power supply plus one controller, or two system power supplies
Input power rating	30 VDC at 8 A
Environment	
Ambient temperature	-40 to +70 °C
Relative humidity	5 to 95%, noncondensing
Airborne contaminants	ISA-S71.04-1985 Class G3
Shock	10 g half-sine, 11 ms
Vibration	1 mm peak-to-peak, 2 to 13.2 Hz; 0.7 g, 13.2 to 150 Hz

Selected original manufacturer material follows on pages 3–5.

Compatibility & Selection Guide

System compatibility. Emerson identifies KJ4001X1-BA3 or higher as the upgraded two-wide carrier used for DeltaV SIS support. The data sheet identifies the upgraded design by a small white rectangle on the board; the earlier white-dot version does not support downloads to a Logic Solver. For the SLS1508 configuration described in the February 2021 data sheet, Emerson also specifies DeltaV v8.3 or later and an MD Controller part number 12P2093X082 or higher. These are system prerequisites, not a claim that this carrier alone is a safety controller.

Wiring & Installation Reference

Carrier installation checks

1. Isolate system power. De-energize before inserting, removing or disconnecting carriers and LocalBus extender cables.

2. Check the required hardware. Confirm the carrier, controller and power supply arrangement against the system documentation.

3. Cover permanently unused positions. Fit the KJ4001X1-FA1 module cover wherever no system power supply or controller is intended.

Installation precautions

Do not insert or remove this carrier while system power is energized.

The carrier contains no user-serviceable parts. Do not disassemble it; calibration is not required.

View carrier reference (PDF) — page 3 · View carrier safety instructions (PDF) — page 3

KJ4001X1-BA3 2-Wide Power/Controller Carrier

Hazardous Atmosphere

II 3G Ex ec IIC Gc
FM16ATEX0056U
FM21UKEX0017U

CL. I Div. 2 GP. A,B,C,D
CL. I Zone 2 AEx/Ex ec IIC Gc
FM17US0286U
FM17CA0145U

Power Specifications

Input Power	30 VDC at 8 A

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

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. Power must be de-energized before disconnecting any carriers or LocalBus Extender cables.

A module cover (KJ4001X1-FA1) must be fitted to any permanently unoccupied location on a carrier. (Permanently unoccupied implies no system power supply or controller are intended for that location.)

No combination of I/O carriers and LocalBus Extenders must exceed a length of 6.5 meters. Interconnecting cable between enclosures must be in conduit.

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

LR87534

Hardware Specifications

Specifications for the I/O Subsystem Horizontal Carriers		
2-Wide Power/Controller Carrier		
Capacity	One system power supply and one controller or two system power supplies	
Dimensions	**Centimeters**	**Inches**
Height	16.5	6.5
Width	8.4	3.3
Depth	3.1	1.2
Connector to connector width	9.1	3.6
8-Wide I/O Carrier with field power per two I/O cards Specifications		
Capacity	Eight I/O cards and eight terminal blocks	
Dimensions	**Centimeters**	**Inches**
Height	16.5	6.5
Width	33.6	13.2
Depth	3.1	1.2
Current Ratings		
Backplane	8 A max (supplied to I/O cards)	
Bussed field power bus	6.5 A max (supplied to field terminals) per two I/O cards	
8-Wide I/O Carrier with separate field power for each I/O cards Specifications		
Capacity	Eight I/O cards and eight terminal blocks	
Dimensions	**Centimeters**	**Inches**
Height	16.9	6.7
Width	33.6	13.2
Depth	3.1	1.2
Current Ratings		
Backplane	8 A max (supplied to I/O cards)	
Bussed field power bus	3.2 A max (supplied to field terminals) per I/O card	

Ordering Information

Description	Model Number
DeltaV SLS 1508 Redundant Logic Solver – includes Terminal Block	VS3202
1-wide SIS Net Terminator Assembly (right-hand extender card and two termination resistors)	VS6051
Database Extension for SIS	VS1508
8-Wide Carrier with Extend Cable Assembly (Cable Assembly consists of left & right extender cards, 2 coax cables for Logic Solver communications bus and one cable for carrier backplane communications)	VE4050E1C2
2-Wide Carrier (New modified 2-wide carrier containing bus terminations)	VE3051C0

Related Products

- **DeltaV Workstations and Server Hardware**
- **DeltaV M-Series Traditional I/O**
- **DeltaV SIS Hardware Carriers**
- **DeltaV M-Series I/O Subsystem Horizontal Carriers**
- **DeltaV VerticalPlus I/O Subsystem Carrier**
- **DeltaV PK Controller**
- **DeltaV SIS with Electronic Marshalling**

Prerequisites

- DeltaV v8.3 software or later.
- The 2-wide power/controller carriers were upgraded in 2004 to accommodate the DeltaV SIS system. The new version of the 2-wide power/controller carrier has a small white rectangle printed on the board. This is visible between the power supply module and the MD Controller. The new part number is KJ4001X1-BA3 or higher. The old version had a white dot in place of the rectangle. The old version (with white dot) will not support downloads to a Logic Solver.
- The earliest MD Controllers will not support the DeltaV SIS system. The MD controllers must have a part number 12P2093X082 or higher.

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