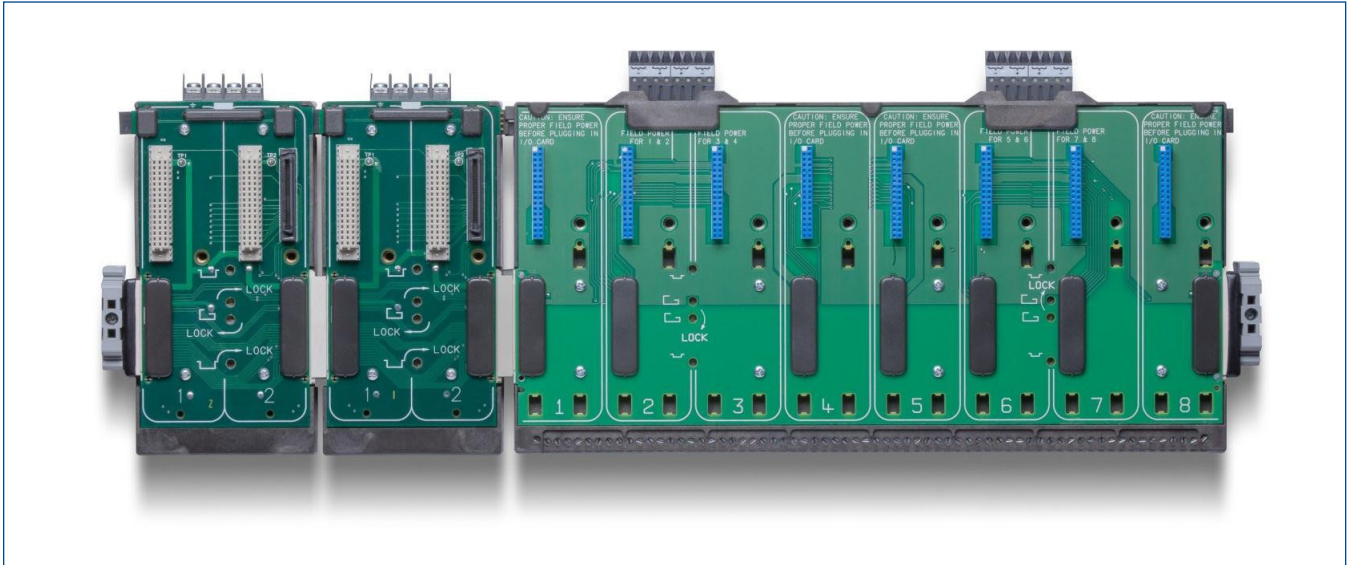


# DeltaV™ M-series I/O Subsystem Horizontal Carriers



The DeltaV™ modular I/O subsystem is easy to install and maintain.

- Modular design allows flexible installation
- Allows you to expand online
- Integrated power distribution

## Introduction

Get your I/O subsystem up and running efficiently with the DeltaV horizontal mount I/O carriers. The power/controller carrier contains internal power buses. You don't need to use external cabling to connect the system power supply to the DeltaV controller and the I/O interface carriers.

The power/controller and I/O carriers are modular. Purchase only what you need but be assured that as your system grows you can add plug-and-play carriers—Easy!

## Benefits

**Modular design allows flexible installation.** A T-type DIN rail is all you need to mount the power/controller carrier into place. The I/O interface carrier plugs on to the power/controller carrier. Simply plug your I/O terminal blocks into the carrier. The DeltaV system's modular design approach allows you to add I/O carriers as you need them.

**Allows you to expand online.** Additional 8-wide carriers may be added online as desired. Carrier extenders give you the flexibility to install I/O carriers in multiple rows with 1, 2, 3 or 4 carriers per row.

**Integrated power distribution.** Controller and I/O interface power distribution is integrated into the carriers to reduce and simplify power and grounding. Carriers also have integrated shield ground bar to isolate and drain field noise away from system power.



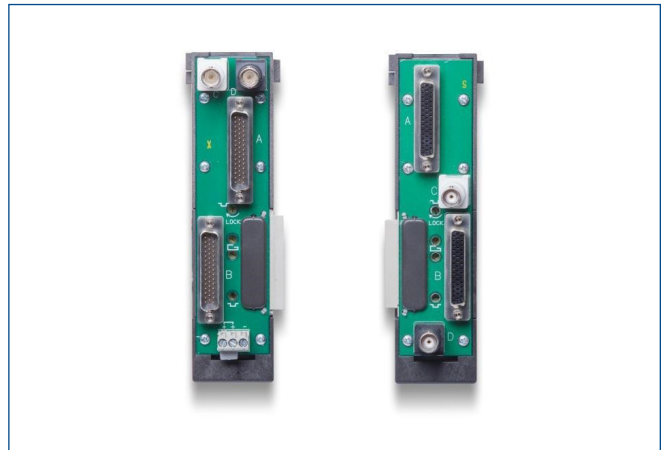
*The DeltaV horizontal-mount carriers provide plug-and-play ease for your I/O subsystems.*

## Product Description

The I/O interface carrier plugs on to the power/controller carrier. The power/controller carrier supplies the system power and communications between the I/O interfaces and the controller. The controller processes the I/O interface information. An additional power/controller carrier is required for use with redundant controllers.

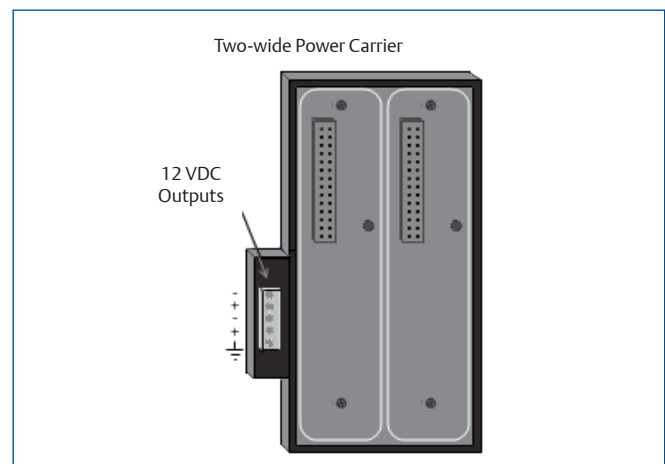
Mount your interface carrier on a T-type DIN rail. The I/O interface carrier includes the connections for the bulk 24 VDC field instrument power, I/O interfaces, and terminal blocks. Each I/O interface carrier is equipped with a connector that allows an additional I/O interface carrier to be plugged on to it. Up to 64 I/O interfaces on eight 8-wide I/O interface carriers are supported by a single I/O subsystem. For the horizontal-mount solution, 1-wide local bus extenders allow you to continue the I/O bus on a different row of carriers.

With the introduction of DeltaV SIS the left one-wide and right one-wide dual carrier extenders have two, 44-pin D-Shell connectors which supports dual cables for a fault tolerant configuration. The A and B connectors are in parallel so either port may be used. The new dual carrier extenders are a prerequisite for DeltaV SIS as these also provide extension of the redundant safety bus used by the Safety Logic Solvers. The VerticalPLUS mount carriers also support dual cables and can be used with DeltaV SIS. Refer to the new VerticalPLUS Carrier Product Data Sheet for more details on these new carriers.



*Front view of dual carrier extenders.*

The horizontal carrier family also offers a 2-wide power carrier. Use this carrier, along with one or two system power supplies to provide 12 VDC local bus power connected through the carrier extenders. There are two 12 VDC output connections powered by either supply. For redundant power, ensure that the power demand is within the output range of one system power supply.



*Two-Wide Power Carrier for power injection.*

## Hardware Specifications

Specifications for the I/O Subsystem Horizontal Carriers		
<b>2-Wide Power/Controller Carrier</b>		
Capacity	One system power supply and one controller or two system power supplies	
<b>Dimensions</b>	<b>Centimeters</b>	<b>Inches</b>
Height	16.5	6.5
Width	8.4	3.3
Depth	3.1	1.2
Connector to connector width	9.1	3.6
<b>8-Wide I/O Carrier Specifications</b>		
Capacity	Eight I/O cards and eight terminal blocks	
<b>Dimensions</b>	<b>Centimeters</b>	<b>Inches</b>
Height	16.5	6.5
Width	33.6	13.2
Depth	3.1	1.2
<b>Current Ratings</b>		
Backplane	8 A max (supplied to I/O cards)	
Bussed field power bus	6.5 A max (supplied to field terminals)	
<b>1-Wide I/O Carrier Extender (Left and Right) Specifications</b>		
Capacity	Single or dual cables with SIS safety bus coax cables	
<b>Dimensions</b>	<b>Centimeters</b>	<b>Inches</b>
Height	16.5	6.5
Width	4.2	1.7
Depth	3.1	1.2
<b>Current Ratings</b>		
Backplane	8 A max (supplied to I/O cards)	
Injected Power connector (Left extender only)	8 A max (supplied to I/O cards)	

Environmental specifications (All Carrier components)	
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


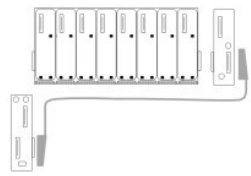
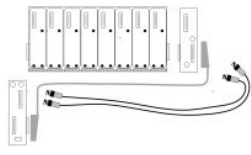
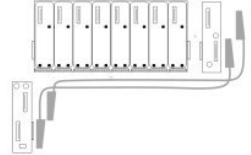
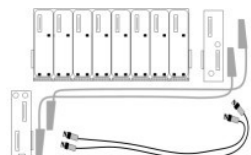
\*Operating any electronics at the higher end of its temperature range for long periods of time will shorten its expected lifetime, see *Effects of Heat and Airflow Inside an Enclosure White Paper* for more information.






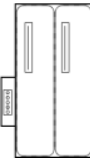
\*\*Refer to Zone 2 installation instructions (12P2046) and/or Class 1 Division 2 installation instructions (12P1293) for information on installing in hazardous areas.

## System Compatibility

M-series I/O carriers are not physically compatible with S-series controller carriers, except when used with the DeltaV SIS Adapter.

## Ordering Information

Description	View	Model Number
8-Wide I/O Interface Carrier with Carrier Shield Bar		VE4050S2K1C0
8-Wide I/O Interface Carrier with Carrier Shield Bar and Single Enhanced Carrier Extender Cable		VE4050E1C0
8-Wide I/O Interface Carrier with Carrier Shield Bar, Single Enhanced Carrier Extender Cable, and Redundant SISNet Coax Cables		VE4050E1C2
8-Wide I/O Interface Carrier with Dual Carrier Extension Cable and Carrier Shield Bar		VE4050E2C0
8-Wide I/O Interface Carrier with Carrier Shield Bar, Dual Enhanced Carrier Extender Cables, and Redundant SISNet Coax Cables		VE4050E2C2

2-Wide Power/Controller Carrier		VE3051C0
2-Wide Power/Controller Carrier with Dual Enhanced Extender Cables		VE3051C2
2-Wide Power/Controller Carrier with Single Enhanced Extender Cable		VE3051C3
2-Wide Power/Controller Carrier with Single Enhanced Extender Cable and Redundant SISNet Coax Cables		VE3051C5
Carrier Blank Cap		VE6101
Horizontal-Mount 2-Wide Power Carrier; 12 Vdc Output		VE5056

**Emerson**  
**North America, Latin America:**

☎ +1 800 833 8314 or  
 ☎ +1 512 832 3774

**Asia Pacific:**

☎ +65 6777 8211

**Europe, Middle East:**

☎ +41 41 768 6111

🌐 [www.emerson.com/deltav](http://www.emerson.com/deltav)

©2017, Emerson. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. The DeltaV logo is a mark of one of the Emerson family of companies. All other marks are the property of their respective owners.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.