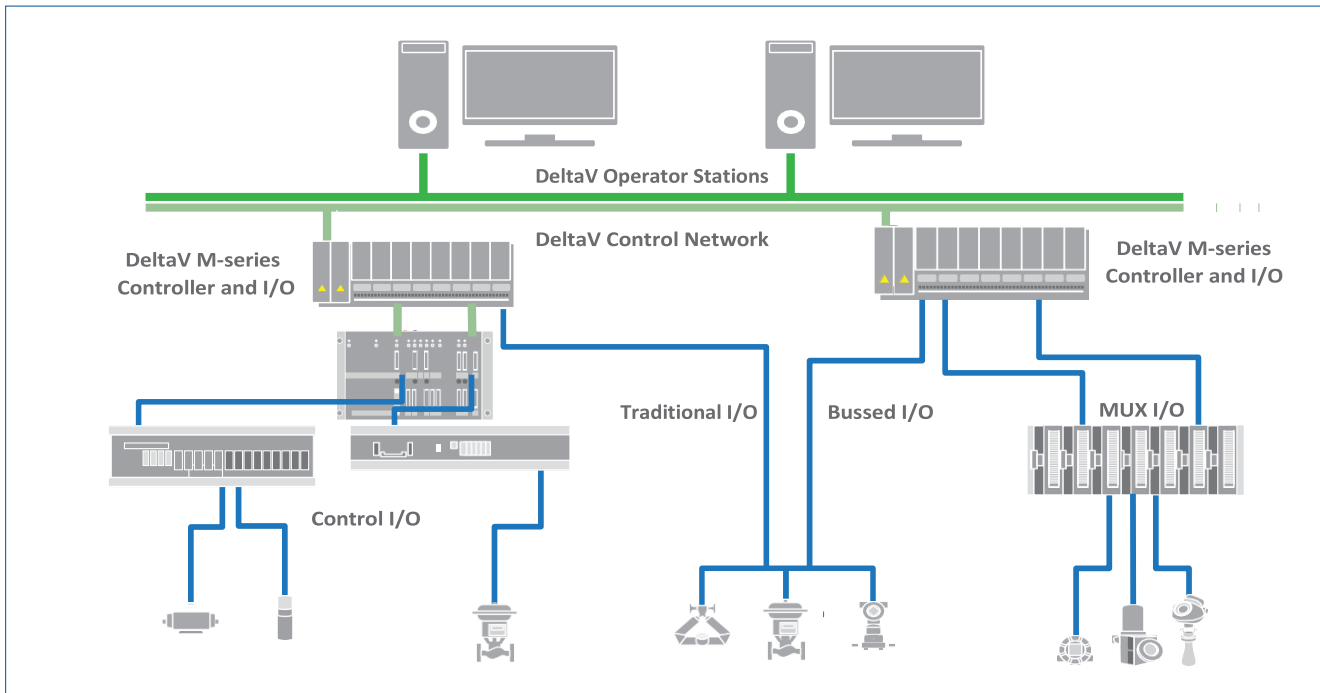


# DeltaV™ Flex.Connect Solutions for PROVOX™ Control I/O



DeltaV™ Flex.Connect Solutions for PROVOX™ Control I/O.

- Reduce business risks by minimizing process downtime
- Save 75% of installation costs
- Preserve HART® signals

## Introduction

If concerns about downtime and wiring costs are preventing you from migrating your PROVOX™ system to a new DeltaV™ system, then consider DeltaV Flex.Connect wiring solutions for PROVOX 20-Series Control I/O.

## Benefits

**Reduce business risks by minimizing process downtime.** This solution brings device signals to DeltaV I/O from the existing PROVOX I/O termination panels through the CP6701 I/O file. Keeping device wires intact accelerates the new system startup, enabling you to rapidly resume production.

**Save 75% of installation costs.** Eliminating new field wiring saves money and reduces the risk of errors. Time and materials savings are significant.

**Preserve HART® signals.** Use HART® Pass-through for complete diagnostics at the DeltaV Operator Station.

## Product Description and Specification

DeltaV Flex.Connect wiring solutions provide direct connection from PROVOX 20-Series Control I/O termination panel assemblies to DeltaV M-series cards or Electronic Marshalling - CHARMs I/O terminal blocks.

DeltaV Flex.Connect Interface Adapters for PROVOX Control I/O (PIA) are placed in the existing CP6701 I/O files where the I/O cards were inserted, keeping the existing PROVOX I/O cables, termination panels, and field wiring in place.

The following PROVOX point types have DeltaV Flex.Connect wiring solutions as described here:

### Analog Inputs (AI)



Sixteen PROVOX Analog / SMART Inputs connects to two 8-channel DeltaV AI HART cards or one 16-channel DeltaV AI HART card.

### Analog Outputs (AO)



Eight PROVOX Analog / SMART Outputs connects to an 8 channel DeltaV AO HART card or to half a 16-channel DeltaV AO HART card.

### Digital Inputs (DI) and Pulse Count Inputs (PCI)



Sixteen PROVOX Digital Inputs connects to two 8-channel DeltaV DI cards or to half of a 32-channel DI<sup>(1)</sup> card.

Eight PROVOX Pulse Count inputs connects to two 4-channel DeltaV PCI cards.

### Digital Outputs (DO)



Sixteen PROVOX Digital Outputs connects to two 8-channel DeltaV DO cards, or to half of a 32-channel DO card.

### Digital Inputs / Outputs (DIO)



A mix of sixteen PROVOX Digital Inputs or Outputs connects to half of each 32-channel DeltaV DI<sup>(1)</sup>/DO cards.

## Ordering Information

For inquiries and ordering information, please contact your local Emerson sales office. Please specify required cable lengths on your request. For reference, DeltaV Flex.Connect wiring solutions for specific PROVOX 20-Series termination panel models are indicated in the following table: (Note: DeltaV Flex.Connect solutions drawings are available upon request.)

Flex.Connect Solution #	PROVOX 20-Series Control I/O Termination Panel Models	PROVOX Signals	DeltaV Traditional I/O Card Types	Flex.Connect Solutions Drawing Numbers
FC-P2-SOL-3-10	Analog Input CL6861, 62 (with channel filters and 250-ohm resistors installed)	16 AI 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16-C CBL-734
FC-P2-SOL-3-11	SMART Input CL6895, 96 (with 250-ohm resistors, and CL6859X1-A1 modules installed)	16 AI HART 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16-C1 CBL-734
FC-P2-SOL-3-12	Analog Input Isolated CL6897, 98 (CL6855 modules installed)	16 AI 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16-C1 CBL-734
FC-P2-SOL-3-13	SMART Input CL6895, 96 (without channel filters and 250-ohm resistors installed and with CL6859X1-A5 modules installed)	16 AI HART 4-20mA	8-ch HART AI (two). Screw terminals.	PIA-2AI-8 Qty 2 – CBL-736
FC-P2-SOL-3-14	Analog Input CL6861, 62 (without channel filters and 250-ohm resistors installed)	16 AI HART 4-20mA	8-ch HART AI (two). Screw terminals.	PIA-2AI-8 Qty 2 – CBL-736
FC-P2-SOL-3-15I	Analog Input I.S. CL6341 (MTL I.S. modules installed)	16 AI 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16-C CBL-734
FC-P2-SOL-3-16I	Analog Input I.S. CL6321-2 (MTL I.S. modules installed)	16 AI 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16-C1 CBL-734
FC-P2-SOL-3-17	SMART Input CL6895, 96 (without channel filters and 250-ohm resistors installed and with CL6859X1-A5 modules installed)	16 AI HART 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16 CBL-734
FC-P2-SOL-3-18	Analog Input CL6861, 62 (without channel filters and 250-ohm resistors installed)	16 AI HART 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16 CBL-734
FC-P2-SOL-3-19I	SMART Input CL6345 (with HART MTL I.S. modules installed)	16 AI HART 4-20mA	8-ch HART AI (two). Screw terminals.	PIA-2AI-8 Qty 2 – CBL-736
FC-P2-SOL-3-20I	SMART Input CL6321-2 (with HART 51184 I.S. modules installed)	16 AI HART 4-20mA	8-ch HART AI (two). Screw terminals.	PIA-2AI-8 Qty 2 – CBL-736
FC-P2-SOL-3-21I	SMART Input CL6345 (with HART MTL I.S. modules installed)	16 AI HART 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16 CBL-734
FC-P2-SOL-3-22I	SMART Input CL6321-2 (with HART 51184 I.S. modules installed)	16 AI HART 4-20mA	16-ch 4-20mA HART AI. Screw terminals.	PIA-AI-16 CBL-734
FC-P2-SOL-2-20	Analog Output CL6871, 72	8 AO 4-20mA	8-ch 4-20mA HART AO. Screw terminals.	PIA-AO-8 CBL-736
FC-P2-SOL-2-21	Analog Output CL6871, 72	8 AO 4-20mA	8-ch 4-20mA HART AO. Mass-term.	PIA-AO-8 CBL-735
FC-P2-SOL-2-22	SMART Output CL6885, 86	8 AO HART 4-20mA	8-ch 4-20mA HART AO. Screw terminals.	PIA-AO-8 CBL-736

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FC-P2-SOL-2-23	SMART Output CL6885, 86	8 AO HART 4-20mA	8-ch 4-20mA HART AO. Mass-term.	PIA-AO-8 CBL-735
FC-P2-SOL-3-24I	Analog Output CL6342 (With MTL I.S. modules installed)	16 AO 4-20mA	8-ch 4-20mA HART AO (Two) Screw terminals.	Two each: PIA-AO-8 CBL-736
FC-P2-SOL-3-25I	Analog Output CL6342 (With MTL I.S. modules installed)	16 AO 4-20mA	8-ch 4-20mA HART AO (Two) Mass-term.	Two each: PIA-AO-8 CBL-735
FC-P2-SOL-3-26I	Analog Output CL6331-2 (With CL6332 MTL I.S. modules installed)	16 AO 4-20mA	8-ch 4-20mA HART AO (Two) Screw terminals.	Two each: PIA-AO-8 CBL-736
FC-P2-SOL-3-50	Discrete Input CL6781, 83, 84, 87, 88 (With CL6751/53 DI modules installed)	16 DI	Half of a 32-ch DI <sup>(1)</sup> , 24 VDC, Dry Contact. Screw terminals.	PIA-DI-16-PS CBL-792A or CBL- 792B
FC-P2-SOL-3-51	Discrete Input CL6781, 83, 84, 87, 88 (With CL6751/53 DI modules installed)	16 DI	8-ch DI (two), 24 VDC, Dry Contact. Screw terminals.	PIA-2DI-8 Qty 2 - CBL-736
FC-P2-SOL-3-52	Discrete Input CL6781, 83, 84, 87, 88 (With CL6751/53 DI modules installed)	16 DI	Half of a 32-ch DI <sup>(1)</sup> , 24 VDC, Dry Contact. Mass-term.	PIA-DI-16-PS CBL-773A or CBL- 773B
FC-P2-SOL-2-80	Pulse Count Input CL6761, 62, 63, 64 (With CL6751/53 DI modules installed)	8 PCI	4-ch PCI, VE4015, (two) Screw terminals.	PIA-2PULSE-4 Qty 2 - CBL-923
FC-P2-SOL-3-53I	Discrete Input CL6301-3 (With CL6302 MTL I.S. modules installed)	16 DI	Half of a 32-ch DI, 24 VDC, Dry Contact. Screw terminals.	PIA-DI-16-PS CBL-792A or CBL- 792B
FC-P2-SOL-3-54I	Discrete Input CL6301-3 (With CL6302 MTL I.S. modules installed)	16 DI	8-ch DI (two), 24 VDC, Dry Contact. Screw terminals.	PIA-2DI-8 Qty 2 - CBL-736
FC-P2-SOL-3-55I	Discrete Input CL6301-3 (With CL6302 MTL I.S. modules installed)	16 DI	Half of a 32-ch DI, 24 VDC, Dry Contact. Mass-term.	PIA-DI-16-PS CBL-773A or CBL- 773B
FC-P2-SOL-5-56I	Discrete Input CL6343 (With MTL I.S. dual channel modules installed)	32 DI	32-ch DI, 24 VDC, Dry Contact. Screw terminals.	Qty 2 - PIA-DI-16-PS CBL-792A & CBL- 792B
FC-P2-SOL-5-57I	Discrete Input CL6343 (With MTL I.S. dual channel modules installed)	32 DI	32-ch DI, 24 VDC, Dry Contact. Mass-term.	Qty 2 - PIA-DI-16-PS CBL-773A & CBL- 773B
FC-P2-SOL-5-58I	Discrete Input CL6343 (With MTL I.S. dual channel modules installed)	32 DI	8-ch DI (four), 24 VDC, Dry Contact. Screw terminals.	Qty 2 - PIA-2DI-8 Qty 4 - CBL-736
FC-P2-SOL-3-60	Discrete Output CL6787, 88 (With CL6754 DO modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Screw terminals.	PIA-DO-16 CBL-792A or CBL- 792B
FC-P2-SOL-3-61	Discrete Output CL6787, 88 (With CL6754 DO modules installed)	16 DO	8-ch DO (two), 24 VDC, High-Side. Screw terminals.	PIA-2DO-8 Qty 2 - CBL-736
FC-P2-SOL-3-62	Discrete Output CL6787, 88 (With CL6754 DO modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Mass-term.	PIA-DO-16 CBL-773A or CBL- 773B
FC-P2-SOL-3-63	Discrete Output CL6775, 76 (With CL6755 DO modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Screw terminals.	PIA-DO-16 CBL-792A or CBL- 792B
FC-P2-SOL-3-64	Discrete Output CL6775, 76 (With CL6755 DO modules installed)	16 DO	8-ch DO (two), 24 VDC, High-Side. Screw terminals.	PIA-2DO-8 Qty 2 - CBL-736
FC-P2-SOL-3-65	Discrete Output CL6775, 76 (With CL6755 DO modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Mass-term.	PIA-DO-16 CBL-773A or CBL- 773B

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FC-P2-SOL-3-66I	Discrete Output CL6343 (With MTL I.S. modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Screw terminals.	PIA-DO-16 CBL-792A or CBL-792B
FC-P2-SOL-3-67I	Discrete Output CL6343 (With MTL I.S. modules installed)	16 DO	8-ch DO (two), 24 VDC, High-Side. Screw terminals.	PIA-2DO-8 Qty 2 - CBL-736
FC-P2-SOL-3-68I	Discrete Output CL6343 (With MTL I.S. modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Mass-term.	PIA-DO-16 CBL-773A or CBL-773B
FC-P2-SOL-3-69I	Discrete Output CL6301-3 (With CL6303 MTL I.S. modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Screw terminals.	PIA-DO-16 CBL-792A or CBL-792B
FC-P2-SOL-3-70I	Discrete Output CL6301-3 (With CL6303 MTL I.S. modules installed)	16 DO	8-ch DO (two), 24 VDC, High-Side. Screw terminals.	PIA-2DO-8 Qty 2 - CBL-736
FC-P2-SOL-3-71I	Discrete Output CL6301-3 (With CL6303 MTL I.S. modules installed)	16 DO	Half of a 32-ch DO, 24 VDC, High-Side. Mass-term.	PIA-DO-16 CBL-773A or CBL-773B
FC-P2-SOL-3-90	Discrete Input / Output CL6787, 88 (With CL6753/54 modules installed)	16 DI/DO	Part of 32-ch DI <sup>(1)</sup> , 32-ch DO. Screw terminals.	PIA-DI-DO-16 CBL-792A or CBL-792B
FC-P2-SOL-3-91	Discrete Input / Output CL6787, 88 (With CL6753/54 modules installed)	16 DI/DO	Part of 32-ch DI <sup>(1)</sup> , 32-ch DO. Mass-term.	PIA-DI-DO-16 CBL-773A or CBL-773B

**Notes:**

- (1) The DI solutions are not compatible with the new 32-channel Series 2 Plus 24 VDC DI card. The older 32-channel Series 2 DI 24 VDC card or the 8-channel DI 24 VDC card must be utilized with these solutions.
- (2) CL6881/82 SMART Transmitter Interface Cards are re-wire directly to the DeltaV DCS.

## Prerequisites

A preliminary site visit is required to survey installed control system architecture and electrical grounding practices, to document I/O models and numbers of each, and to review schedule constraints and turnaround objectives. Qualified Emerson engineers or technicians perform site reviews.

## Services

For help in planning, justifying, or implementing your system migration, contact your local Emerson representative. Expert consultants are available to advise you on a variety of concerns including safety system design, implementation and standards compliance: digital buses, wireless applications, control performance and process optimization.

### Emerson

#### North America, Latin America:

1100 W. Louis Henna Blvd. Round  
Rock, TX 78681-7430

☎ +1 800 833 8314 or

☎ +1 512 832 3774

#### Asia Pacific:

☎ +65 6777 8211

#### Europe, Middle East:

☎ +41 41 768 6111

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