

Migration

Provox™ > DeltaV™

Analog Inputs

DM Series - Using ADP-DM

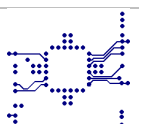
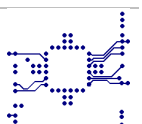
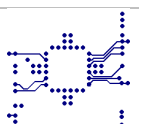


TABLE OF CONTENTS

1. INTRODUCTION	3
1.1. KEY ADVANTAGES OF THE FMS-PVXDM-DV-1 SOLUTION	ERREUR ! SIGNET NON DEFINI.
2. ANALOG INPUTS	5
2.1. DM6311 -A1 AND -A2.....	6
2.1.1. DESCRIPTION AND CONNECTION.....	6
2.1.2. SOLUTION : FMS-PVXDM-DV-1-AI1-A1	7
2.2. DM6312 A1 AND -A2	8
2.2.1. DESCRIPTION AND CONNECTION.....	8
2.2.2. SOLUTION : FMS-PVXDM-DV-1-AI2-A1	9
2.3. DM6321 - A1.....	10
2.3.1. DESCRIPTION AND CONNECTION.....	10
2.3.2. SOLUTION : FMS-PVXDM-DV-1-AI3-A1	11
2.3.3. SOLUTION : FMS-PVXDM-DV-1-AI3-A2	11
2.3.4. SOLUTION : FMS-PVXDM-DV-1-AI3-A3	12
2.3.5. SOLUTION : FMS-PVXDM-DV-1-AI3-A4	12
2.4. DM6322.....	13
2.4.1. DESCRIPTION AND CONNECTION.....	13
2.4.2. SOLUTION : FMS-PVXDM-DV-1-AI4-A1	14
2.4.3. SOLUTION : FMS-PVXDM-DV-1-AI4-A2	15
2.4.4. SOLUTION : FMS-PVXDM-DV-1-AI4-A3	15
2.4.5. SOLUTION : FMS-PVXDM-DV-1-AI4-A4	16
2.4.6. SOLUTION : FMS-PVXDM-DV-1-AI4-A5	16
2.5. DM6331.....	17
2.5.1. DESCRIPTION AND CONNECTION.....	17
2.5.2. SOLUTION : FMS-PVXDM-DV-1-AI5-A1	18
2.6. DM6341.....	19
2.6.1. DESCRIPTION AND CONNECTION.....	19
2.6.2. SOLUTION : FMS-PVXDM-DV-1-AI6-A1	20
2.7. DM6351 DM6352 DM6353 DM6354 DM6355	21
2.7.1. DESCRIPTION AND CONNECTION.....	21
2.7.2. SOLUTION : FMS-PVXDM-DV-1-AI7-A1	22



1. INTRODUCTION



The purpose of this document is to guide the user of a 10 series I/Os PROVOX™ system with the safe, efficient and easy way to migrate toward a DeltaV™ system.

FIRELEC has developed an economical migration solution (FMS-PVXDM-DV) allowing to protect the existing wiring investment as the user convert from an existing PROVOX™ system toward the DeltaV™ system.

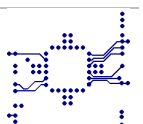
The **FMS-PVXDM-DV-1** solution is a set of migration adapters installed in place of the existing 10 series PROVOX™ I/O files, allowing to migrate easily the existing PROVOX™ I/Os toward a new DeltaV™ system, keeping the I/O wiring in place.

The PROVOX™ I/Os connected on the existing I/O field termination assemblies are kept in place and connected on adapters electrically and mechanically fully compatible with existing I/Os and the new DeltaV™ I/O cards linked using suitable cables provided with each type of migration adapter.

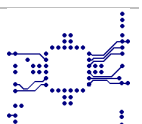
1.1. KEY ADVANTAGES OF THE FMS-PVXDM-DV-1 SOLUTION

FMS-PVXDM-DV-1 solution protects the wiring investment as the user converts from the PROVOX™ 10series system toward the DeltaV™ system of Emerson Process Management with following advantages :

1. **FMS-PVXDM-DV-1** is a pre-engineered solution, ready to work without any technical rework or limitation regarding the existing capabilities of the PROVOX™ system to be migrated.
2. As the instrument wiring is not disturbed, the instrument checkout during start-up is reduced to the minimum
3. The DeltaV™ system's configuration allows for the engineering conversion to be done efficiently. The speed at which **FMS-PVXDM-DV-1** solution can be implemented ensures to reduce the process downtime to the minimum.
4. All existing documentations (electrical and loop drawings, maintenance procedures,) remain unchanged as the I/O labelling is strictly the same on new migration adapters than on previous PROVOX™ I/O field termination assemblies removed.






2. ANALOG INPUTS



2.1. DM6311 -A1 AND -A2

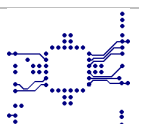
2.1.1. Description and connection

8 channels - Analog input -A1 : 1-5V ; -A2 : 0-10V

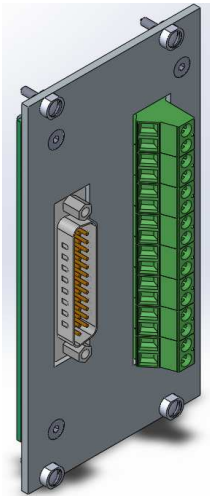
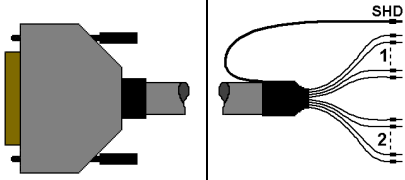
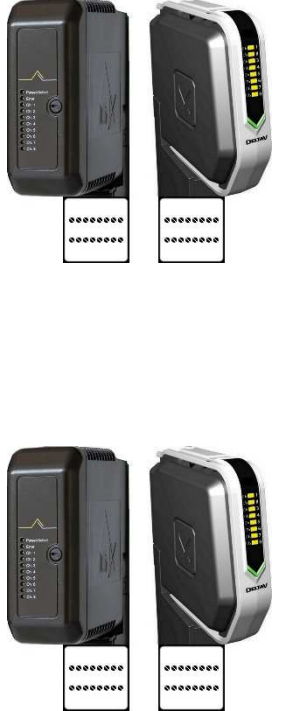
Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6311-A1 and -A2 - PN : 39A6178XXXX	PN : 36A3885XXXX
-A1 : Analog input - 1-5V -A2 : Analog input - 0-10V	AI Single ended
	

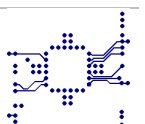


New FIRELEC ADP-DM : ADP-DM-AI-02-1 (4 channels)
Description
4 channels - Analog input adapter - Voltage input



2.1.2. Solution : FMS-PVXDM-DV-1-AI1-A1




New DeltaV™ architecture - FMS-PVXDM-DV-1-AI1-A1			
Interface unit	Cable		DeltaV™ card
<p>ADP-DM-AI-02 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-PVXDM-DV-1-AI1-A1</p> 		<p>2 x VE4003S7B1 or 2 x SE4003S7B1 Isolated Input, 4 channels (Thermocouple, mV, V, RTD)</p> 



2.2. DM6312 A1 AND -A2

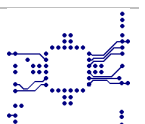
2.2.1. Description and connection

4 channels - Isolated Analog input -A1 : 1-5V ; -A2 : 0-10V

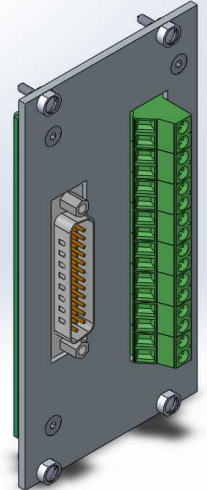
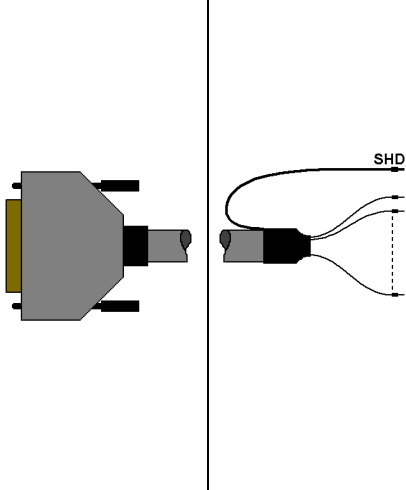

Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6312-A1 and -A2 - PN : 39A8568XXXX	PN : 36A3886XXXX
-A1 : Isolated Analog input - 1-5V -A2 : Isolated Analog input - 0-10V	AI Isolated
	

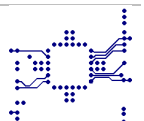


New FIRELEC ADP-DM : ADP-DM-AI-02-1 (4 channels)
Description
4 channels - Analog input adapter for isolated signal



2.2.2. Solution : FMS-PVXDM-DV-1-AI2-A1




New DeltaV™ architecture - FMS-PVXDM-DV-1-AI2-A1			
Interface unit	Cable		DeltaV™ card
<p>ADP-DM-AI-02 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-PVXDM-DV-1-AI2-A1</p> 		<p>VE4003S7B1 SE4003S7B1 Isolated Input, 4 channels (Thermocouple, mV, V, RTD)</p> 



2.3. DM6321 - A1

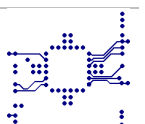
2.3.1. Description and connection

8 channels - Analog input -A1 : 4-20mA

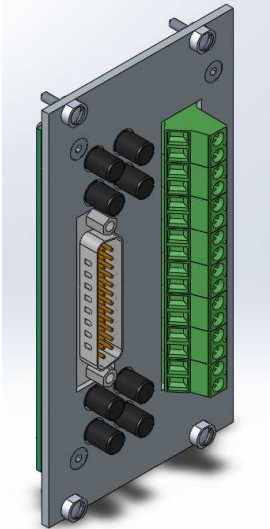
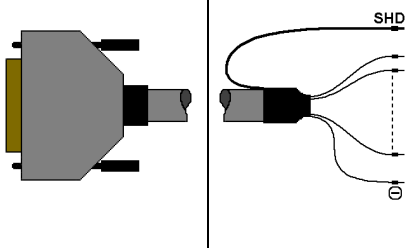

Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6321-A1 - PN : 39A6178XXXX	Option -B1 : Without power supply PN : 36A3885XXXX Option -B2 : With transmitter power supply PN : 36A3887XXXX
-A1 : Analog input - 4-20mA	AI Single ended
	



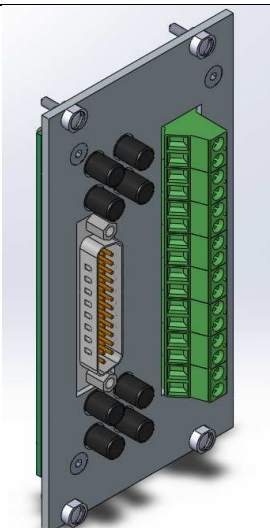
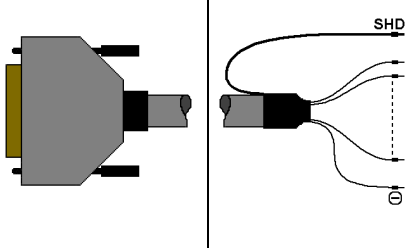

New FIRELEC ADP-DM : ADP-DM-AI-01-1 (8 channels)
Description
8 channels - Analog input adapter for 2 wire transmitters (Configuration by jumpers) 8 channels - Analog input adapter for 4 wire transmitters (Configuration by jumpers)

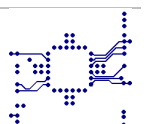


2.3.2. Solution : FMS-PVXDM-DV-1-AI3-A1

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI3-A1		
Interface unit	Cable	DeltaV™ card
<p>ADP-DM-AI-01 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-1147A or B CH 1 to 8 : Cable option A CH 9 to 16 : Cable option B</p> 	<p>1/2 x VE4003S2B6 1/2 x SE4003S2B6 Analog Input card, 16 channels, 4-20 mA, 2 wires, Terminal block</p> 

2.3.3. Solution : FMS-PVXDM-DV-1-AI3-A2

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI3-A2		
Interface unit	Cable	DeltaV™ card
<p>ADP-DM-AI-01 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-1147A CH 1 to 8 : Cable option A</p> 	<p>VE4003S2B1 SE4003S2B1 Analog Input card, 8 channels, 4- 20 mA, 2 wires, Hart, Terminal block</p> 

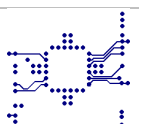


2.3.4. Solution : FMS-PVXDM-DV-1-AI3-A3

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI3-A3		
Interface unit	Cable	DeltaV™ card
ADP-DM-AI-01 installed in I/O file type BC11008 with 1U cable tray type CT11068	CBL-PVXDM-DV-1-AI3-A3	VE4003S2B4 SE4003S2B4 Analog Input card, 8 channels, 4-20 mA, 2 wires, Hart, 16 pin Mass Termination

2.3.5. Solution : FMS-PVXDM-DV-1-AI3-A4




New DeltaV™ architecture - FMS-PVXDM-DV-1-AI3-A4		
Interface unit	Cable	DeltaV™ card
ADP-DM-AI-01 installed in I/O file type BC11008 with 1U cable tray type CT11068	CBL-1147A <u>CH 1 to 8 : Cable option A</u>	VE4033S2B1 SE4033S2B1 Analog Input card, 8 channels, 4-20 mA, Redundant, Hart, Terminal block



2.4. DM6322

2.4.1. Description and connection

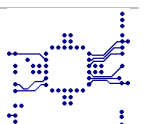
4 channels - Isolated Analog input -A1 : 4-20mA

Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6322-A1 - PN : 39A8568XXXX	PN : 36A3886XXXX
Isolated Analog input - 4-20mA	AI Isolated
	

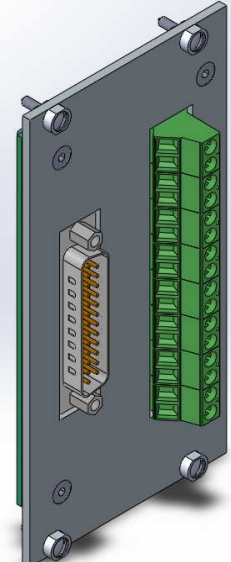
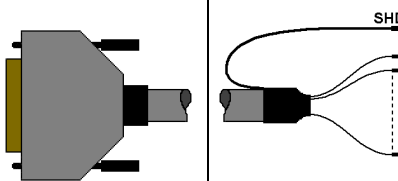



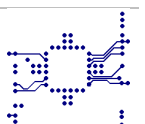
New FIRELEC ADP-DM : ADP-DM-AI-03-1 (4 channels)
Description
4 channels - Analog input adapter for isolated signals (1-5V)

New FIRELEC ADP-DM : ADP-DM-AI-04-1 (4 channels)
Description
4 channels - Analog input adapter for signals (4-20mA), when galvanic isolation is not required anymore.

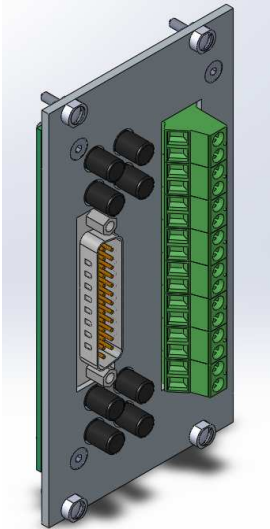
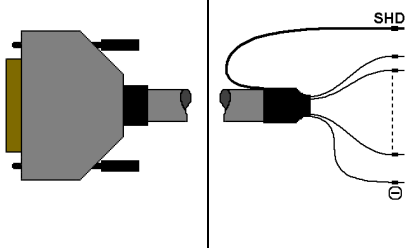



2.4.2. Solution : FMS-PVXDM-DV-1-AI4-A1

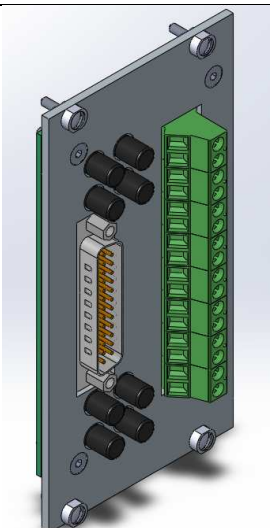
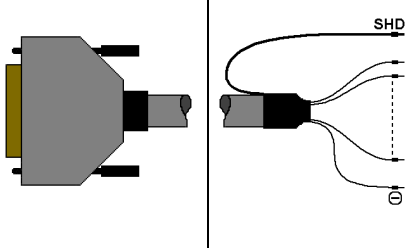

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI4-A1			
Interface unit	Cable		DeltaV™ card
ADP-DM-AI-03 installed in I/O file type BC11008 with 1U cable tray type CT11068	CBL-PVXDM-DV-1-AI4-A1		VE4003S7B1 SE4003S7B1 Isolated Input, 4 channels (Thermocouple, mV, V, RTD)
			

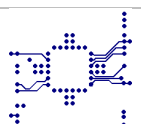


2.4.3. Solution : FMS-PVXDM-DV-1-AI4-A2

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI4-A2		
Interface unit	Cable	DeltaV™ card
<p>ADP-DM-AI-04 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-1227A, B, C or D <u>CH 1 to 4</u> : Cable option A <u>CH 5 to 8</u> : Cable option B <u>CH 9 to 12</u> : Cable option C <u>CH 13 to 16</u> : Cable option D</p> 	<p>1/4 x VE4003S2B6 1/4 x SE4003S2B6 Analog Input card, 16 channels, 4-20 mA, 2 wires, Terminal block</p> 

2.4.4. Solution : FMS-PVXDM-DV-1-AI4-A3

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI4-A3		
Interface unit	Cable	DeltaV™ card
<p>ADP-DM-AI-04 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-1227A or B <u>CH 1 to 4</u> : Cable option A <u>CH 5 to 8</u> : Cable option B</p> 	<p>1/2 x VE4003S2B1 1/2 x SE4003S2B1 Analog Input card, 8 channels, 4- 20 mA, 2 wires, Hart, Terminal block</p> 

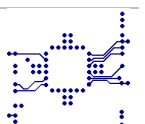


2.4.5. Solution : FMS-PVXDM-DV-1-AI4-A4

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI4-A4		
Interface unit	Cable	DeltaV™ card
ADP-DM-AI-04 installed in I/O file type BC11008 with 1U cable tray type CT11068	CBL-PVXDM-DV-1-AI4-A1	1/2 x VE4003S2B4 1/2 x SE4003S2B4 Analog Input card, 8 channels, 4-20 mA, 2 wires, Hart, 16 pin Mass Termination

2.4.6. Solution : FMS-PVXDM-DV-1-AI4-A5




New DeltaV™ architecture - FMS-PVXDM-DV-1-AI4-A5		
Interface unit	Cable	DeltaV™ card
ADP-DM-AI-04 installed in I/O file type BC11008 with 1U cable tray type CT11068	CBL-1227A or B CH 1 to 4 : Cable option A CH 5 to 8 : Cable option B	1/2 x VE4033S2B1 1/2 x SE4033S2B1 Analog Input card, 8 channels, 4-20 mA, Redundant, Hart, Terminal block



2.5. DM6331

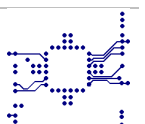
2.5.1. Description and connection

4 channels - Isolated RTD Input 3 wires

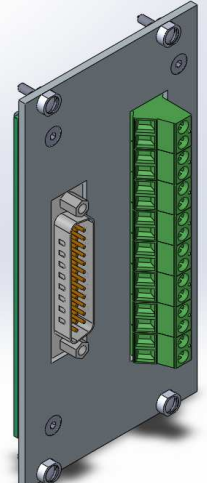
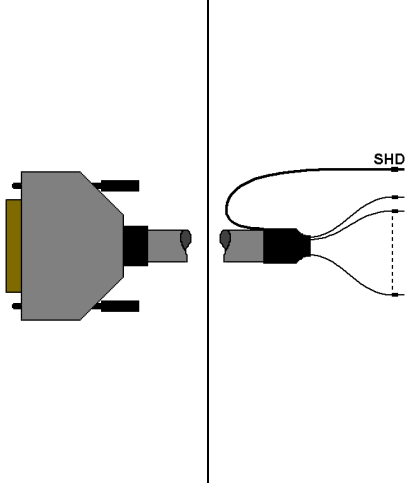

Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6331-A1 - PN : 39A7234XXXX	PN : 36A3885XXXX
<ul style="list-style-type: none"> -A1 : Isolated RTD input -50°F +200°F / -46°C +93°C -A2 : Isolated RTD input -100°F +500°F / 38°C 260°C -A4 : Isolated RTD input 0°F +300°F / -18°C 149°C -A5 : Isolated RTD input -330°F +140°F / -201°C +60°C -A6 : Isolated RTD input -100°F +600°F / -73°C 316°C -A7 : Isolated RTD input 0°F +1000°F / -18°C +538°C 	AI RTD
	

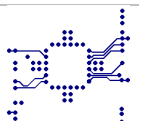
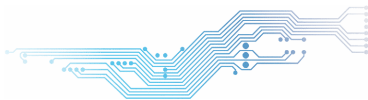


New FIRELEC ADP-DM : ADP-DM-AI-02-1 (4 channels)
Description
4 channels - Analog input adapter for RTDs



2.5.2. Solution : FMS-PVXDM-DV-1-AI5-A1




New DeltaV™ architecture - FMS-PVXDM-DV-1-AI5-A1			
Interface unit	Cable		DeltaV™ card
<p>ADP-DM-AI-02 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-PVXDM-DV-1-AI5-A1</p> 		<p>VE4003S7B1 SE4003S7B1 Isolated Input, 4 channels (Thermocouple, mV, V, RTD)</p> 



2.6. DM6341

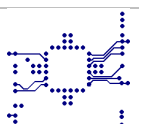
2.6.1. Description and connection

4 channels - Isolated mV Input / -10mV to 70mV

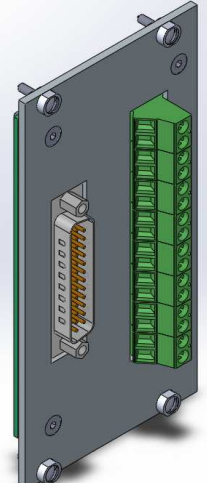
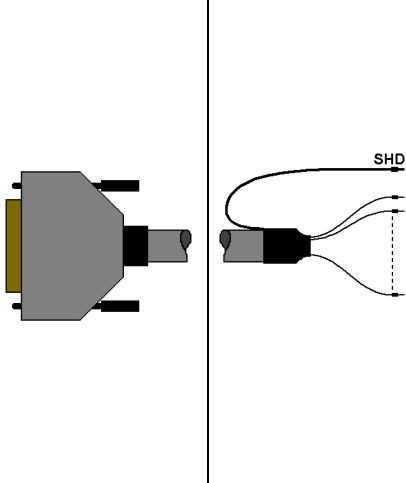

Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6341-A1 - PN : 39A8567XXXX	PN : 36A3886XXXX
Isolated mV Input / -10mV to 70mV	AI Isolated mV
	

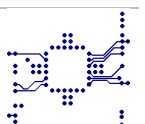


New FIRELEC ADP-DM : ADP-DM-AI-02-1 (4 channels)	
Description	
4 channels - Analog input adapter for mV inputs	






2.6.2. Solution : FMS-PVXDM-DV-1-AI6-A1

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI6-A1			
Interface unit	Cable		DeltaV™ card
<p>ADP-DM-AI-02 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>CBL-PVXDM-DV-1-AI6-A1</p> 		<p>VE4003S7B1 SE4003S7B1 Isolated Input, 4 channels (Thermocouple, mV, V, RTD)</p> 



2.7. DM6351 DM6352 DM6353 DM6354 DM6355
2.7.1. Description and connection

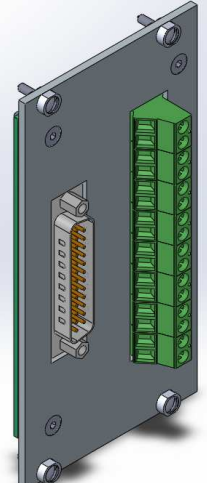
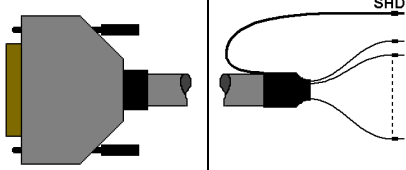
4 channels - Isolated Thermocouple Type J, K, T, E, R

Existing PROVOX™ architecture	
I/O file and communication card	
I/O file	
DM6003	
	
I/O Card	Field Termination Assembly
DM6351-A1 -A2 (TC J) - PN : 39A8567X022 and X032 DM6352-A1 -A2 (TC K) - PN : 39A8567X042 and X052 DM6353-A1 (TC T) - PN : 39A8567X062 DM6354-A1 (TC E) - PN : 39A8567X072 DM6355-A1 (TC R) - PN : 39A8567X082	PN : 36A3886XXXX
DM6351-A1 : 0°F +1400°F / -18°C +760°C DM6351-A2 : -60°F +640°F / -51°C +338°C DM6352-A1 : 0°F +2300°F / -18°C +1260°C DM6352-A2 : 0°F +1000°F / -18°C +538°C DM6353-A1 : -300°F +600°F / -185°C +316°C DM6354-A1 : -100°F +1600°F / -73°C +871°C DM6355-A1 : 0°F +3200°F / -18°C +1760°C	
	


New FIRELEC ADP-DM : ADP-DM-AI-02-1 (4 channels)
Description

4 channels - Analog input adapter for Tc

2.7.2. Solution : FMS-PVXDM-DV-1-AI7-A1

New DeltaV™ architecture - FMS-PVXDM-DV-1-AI7-A1			
Interface unit	Cable		DeltaV™ card
<p>ADP-DM-AI-02 installed in I/O file type BC11008 with 1U cable tray type CT11068</p> 	<p>TC compensation cable CBL-PVXDM-DV-1-AI7-A1</p> 		<p>VE4003S7B1 SE4003S7B1 Isolated Input, 4 channels (Thermocouple, mV, V, RTD)</p> 