

# ***FIRELEC Migration Solution***

***RS3™ > DeltaV™***

***Discrete Inputs/Outputs***

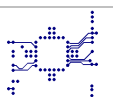
***RIA (RS3 Interface Adapters)***

***FMS-RS3FIM-DV-1***

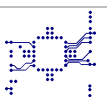
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|            |             |                      |

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# 1. INTRODUCTION



The purpose of this document is to guide the user of a FIM series I/Os RS3™ system within the safe, efficient and easy way to migrate toward a DeltaV™ system.

FIRELEC has developed a migration solution "**FMS-RS3FIM-DV-1**" allowing to protect the existing wiring investment as the user converts from an existing RS3 system (FIM-series I/Os) to the DeltaV™ system.

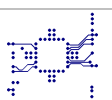
The **FMS-RS3FIM-DV-1** solution is a set of migration adapters installed in place of existing FIM electronic modules onto Input / Output termination panels.

On the front of RIAs, SUBD connectors are used for connection of existing I/Os to the DeltaV I/O cards using dedicated shielded cables with SUBD connectors at one end and numbered wires or suitable connectors (matching with the type of I/O block of the DeltaV card) at the other end.

### **1.1. KEY ADVANTAGES OF THE FMS-RS3FIM-DV-1 SOLUTION**

**FMS-RS3FIM-DV-1** solution protect your wiring investment as you convert from the RS3™ FIM series system to the DeltaV™ system of Emerson Process Management with following advantages :

- **FMS-RS3FIM-DV-1** is a pre-engineered marshalling solution ready to work without any technical rework or limitation regarding existing capabilities of the RS3 system to be migrated.
- The system migration can be done gradually, step by step with reduced risk for the process unit
- As the instrument wiring is not disturbed, the instrument checkout during start-up is reduced to the minimum
- The DeltaV™ system's configuration allows for the engineering conversion to be done efficiently. The speed at which **FMS-RS3FIM-DV-1** solution can be implemented ensures to reduce the process downtime to the minimum.
- All existing documentations (electrical schemes, loop drawings, maintenance procedures, .....) remain unchanged as the existing I/O panels are kept in place.

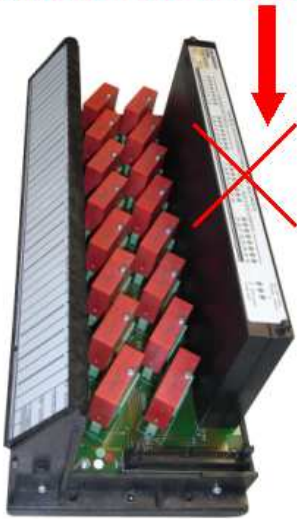


**1.2. DESCRIPTION OF THE "FMS-RS3FIM-DV-1" SOLUTION**

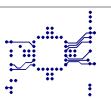
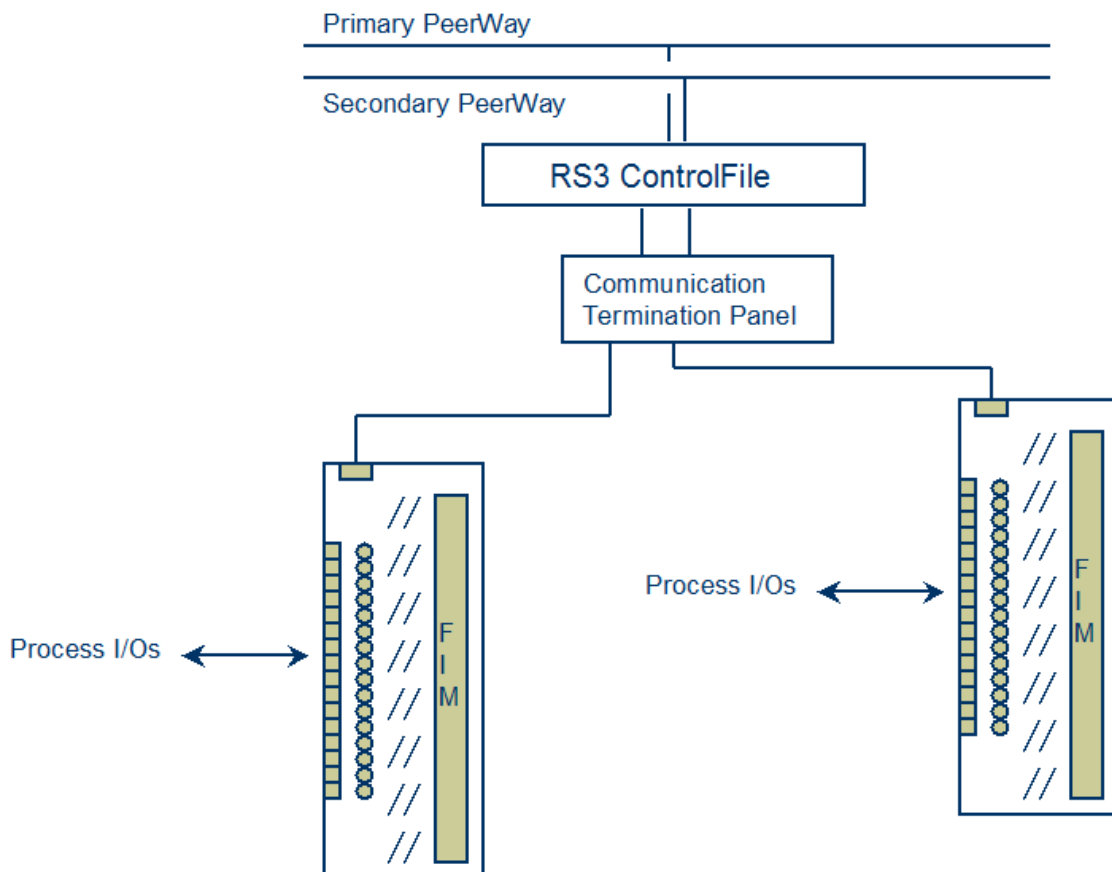
**1.2.1. Principle of migration**

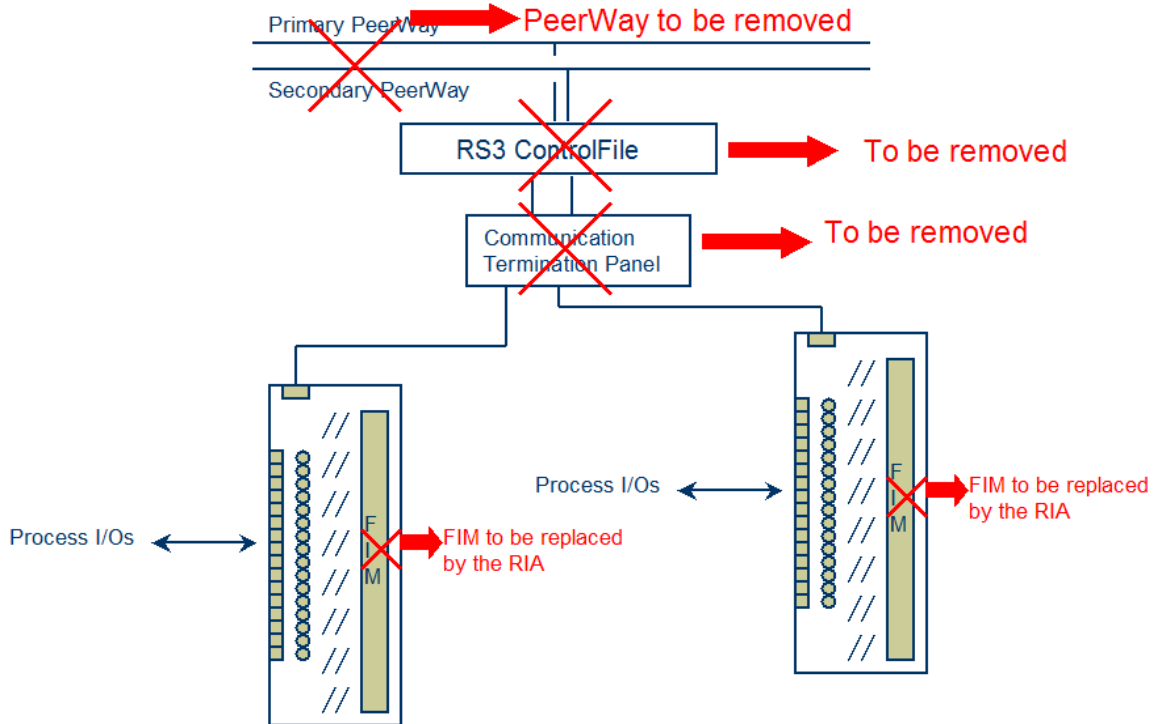
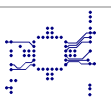
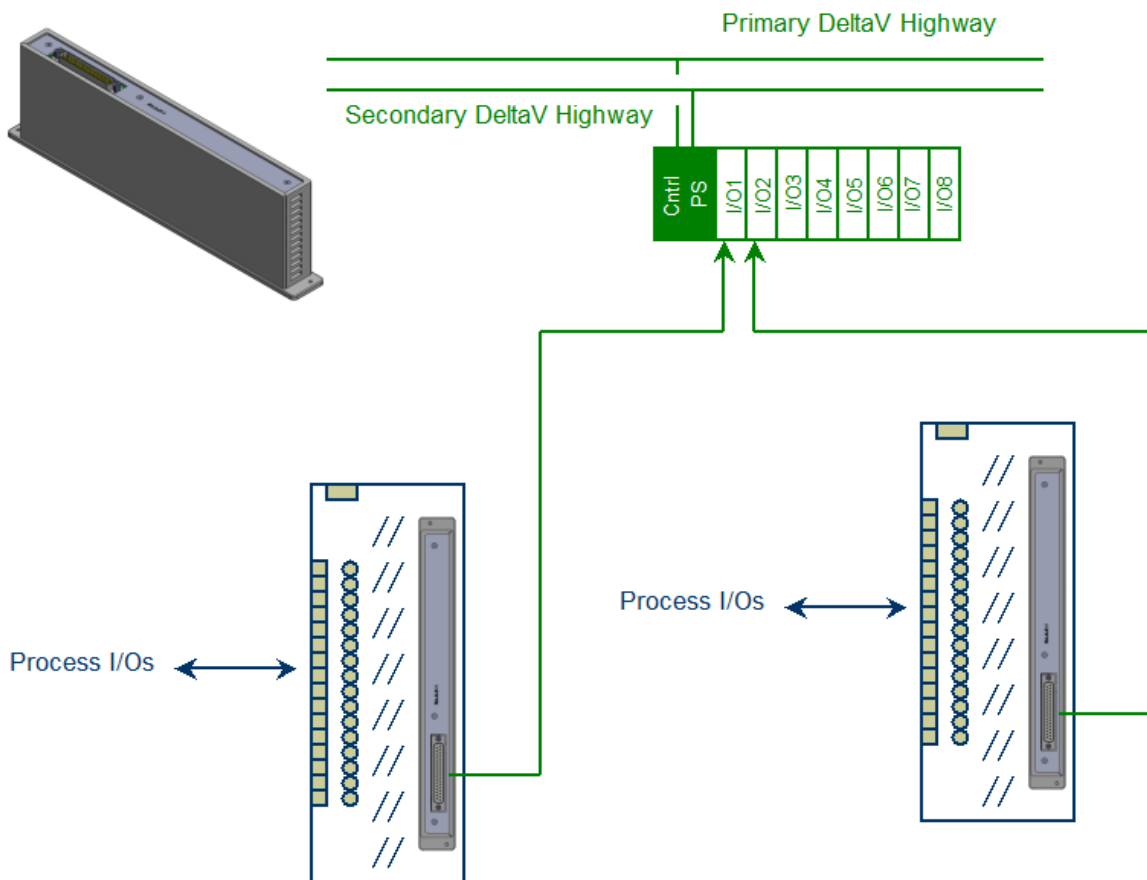
FIM electronic module to be removed

RIA to be plugged in place of existing FIM module

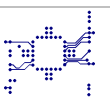


**1.2.2. Existing RS3 architecture**



**1.2.3. Existing RS3 Hardware to be removed**

**1.2.4. New DeltaV architecture**


## 2. DISCRETE INPUTS/OUTPUTS



## 2.1. EXISTING RS3 PANEL TO BE KEPT : ISOLATED DISCRETE TERMINATION PANEL (A / B)

### 2.1.1. MDIO Type : 01984-4121-000X (Panel A) : 16 DI /DO (CH1 - CH16)

#### Panel A with I/O distribution as follow :

Channels 1 to 16 : DI

#### New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO1-A1

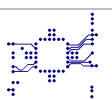
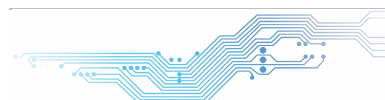
| Panel to be kept :<br>Panel A : 01984-4121-000X<br>01984-4383-0002   | RIA-DIDO-01-1   | CBL-RS3FIM-DV-1-DIDO1-A1   | 1/2 x DI Card 32CH<br>VE4001S2T2B5 or<br>SE4001S2T2B5                                       |
|--|---|--|---|
| <p>16 DI or DO (channels 1 - 16)<br/>                     Input frequency limited to 75Hz due to the DeltaV DI card.</p> <p>RIA plugged in place of the FIM module</p> | <p>Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module (see appendix 1 for compatibility table)</p> <p><b>RIA-DIDO-01-1</b> configured by internal jumpers as DI for all 16 channels</p> | <p>DeltaV connector J3 or J4</p> <p>CH 1 to 16 : Cable option A (&gt; J3)<br/>                     CH 17 to 32 : Cable option B (&gt;J4)</p> | <p>Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block</p> |

#### Panel A with I/O distribution as follow :

Channels 1 to 16 : DO

#### New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO1-B1

| Panel to be kept :<br>Panel A : 01984-4121-000X<br>01984-4383-0002                 | RIA-DIDO-01-1   | CBL-RS3FIM-DV-1-DIDO1-B1   | 1/2 x DO Card 32CH<br>VE4002S1T2B6 or<br>SE4002S1T2B6                                |
|--|---|--|--|
| <p>16 DI or DO (channels 1 - 16)</p> <p>RIA plugged in place of the FIM module</p> | <p>Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module (see appendix 1 for compatibility table)</p> <p><b>RIA-DIDO-01-1</b> configured by internal jumpers as DO for all 16 channels</p> | <p>DeltaV connector J3 or J4</p> <p>CH 1 to 16 : Cable option A (&gt; J3)<br/>                     CH 17 to 32 : Cable option B (&gt;J4)</p> | <p>Discrete Output card, 32 channels, 24 Vdc, High-side, 40 pin Mass Termination</p> |





**Panel A with I/O distribution as follow :**
Channels 1 to 8 : DI or DO
Channels 9 to 16 : DI

Or

Channels 1 to 8 : DI
Channels 9 to 16 : DI or DO
**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO1-C1**
**Panel to be kept :**

Panel A : 01984-4121-000X

01984-4383-0002

**RIA-DIDO-01-1**
**Cable N°1 :**  
 CBL-RS3FIM-DV-1-DIDO1-  
 C1-1

+

**Cable N°2 :**  
 CBL-RS3FIM-DV-1-DIDO1-  
 C1-2

**1/2 x DI Card 32CH**  
 VE4001S2T2B5\_ or  
 SE4001S2T2B5

**1 x DO Card 8CH**  
 VE4002S1T2B3 or  
 SE4002S1T2B3

16 DI or DO (channels 1 - 16)

Input frequency limited to 75Hz due to the DeltaV DI card.

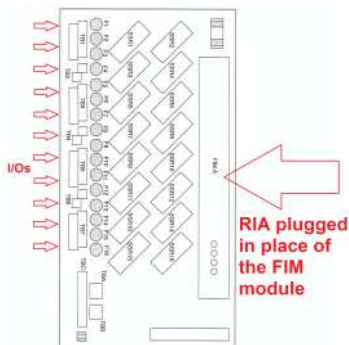
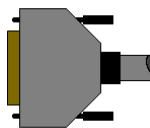
Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module (see appendix 1 for compatibility table)

**RIA-DIDO-01-1 configured by internal jumpers in accordance with I/O requirement**
**Cable N°1 :**  
 DeltaV connector J3 or J4

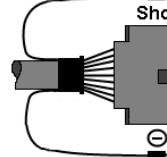
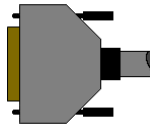
 CH 1 to 16 : Cable option A (> J3)  
 CH 17 to 32 : Cable option B (>J4)

Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block

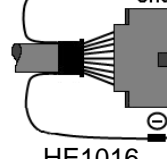
Discrete Output card, 8 channels, 24 Vdc, High-side, 16 pin Mass Termination


 SUBD37  
 Pin for DI


HE1020


 SUBD25  
 Pin for DO


HE1016



1/2 x DI Card 32CH



DO Card 8CH



**Panel A with I/O distribution as follow :**
Channels 1 to 8 : DI or DO
Channels 9 to 16 : DO

Or

Channels 1 to 8 : DO
Channels 9 to 16 : DI or DO
**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO1-D1**
**Panel to be kept :**

Panel A : 01984-4121-000X

01984-4383-0002

**RIA-DIDO-01-1**
**Cable N°1 :**  
 CBL-RS3FIM-DV-1-DIDO1-  
 D1-1

+

**Cable N°2 :**  
 CBL-RS3FIM-DV-1-DIDO1-  
 D1-2

**1 x DI Card 8CH**  
 VE4001S2T2B3 or  
 SE4001S2T2B3

**1/2 x DO Card 32CH**  
 VE4002S1T2B6 or  
 SE4002S1T2B6

 16 DI or DO (channels 1 -  
 16)  
 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

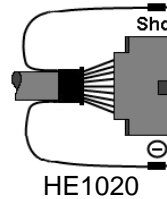
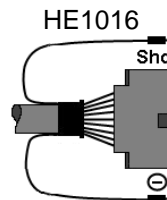
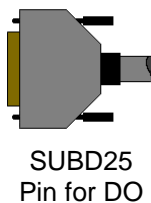
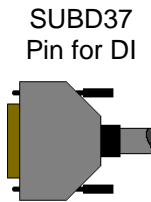
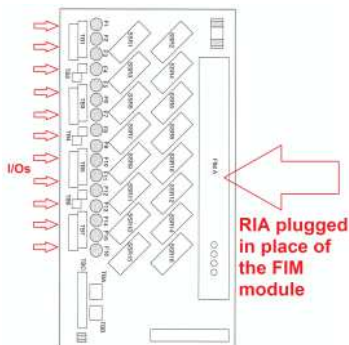
 Adapter installed on  
 existing Isolated Discrete  
 Termination Panel in  
 place of the FIM module  
 (see appendix 1 for  
 compatibility table)

 RIA-DIDO-01-1  
 configured by internal  
 jumpers in accordance  
 with I/O requirement

**Cable N°2 :**  
 DeltaV connector J3 or J4

CH 1 to 16 : Cable option A (> J3)  
CH 17 to 32 : Cable option B (>J4)

 Discrete Input card, 8  
 channels, 24 Vdc, Dry  
 contact, 16 pin Mass  
 Termination

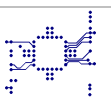
 Discrete Output card, 32  
 channels, 24 Vdc, High-side,  
 40 pin Mass Termination


**Panel A with I/O distribution as follow :**

Channels 1 to 16 : DI or DO

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO1-E1**

|   |   |  |   |
|---|---|--|---|
| <b>Panel to be kept :</b><br><br>Panel A : 01984-4121-000X<br><br>01984-4383-0002           | <b>RIA-DIDO-01-1</b>  | <b>Cable N°1 :</b><br>CBL-RS3FIM-DV-1-DIDO1-E1-1<br>+<br><b>Cable N°2 :</b><br>CBL-RS3FIM-DV-1-DIDO1-E1-2                      | 1/2 x DI Card 32CH<br>VE4001S2T2B5_ or<br>SE4001S2T2B5<br><br>1/2 x DO Card 32CH<br>VE4002S1T2B6 or<br>SE4002S1T2B6   |
| 16 DI or DO (channels 1 - 16)<br>Input frequency limited to 75Hz due to the DeltaV DI card. | Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module<br><br>(see appendix 1 for compatibility table)<br><br>RIA-DIDO-01-1 configured by internal jumpers in accordance with I/O requirement | Cable N°1 and 2 :<br>DeltaV connector J3 or J4<br><br>CH 1 to 16 : Cable option A (> J3)<br>CH 17 to 32 : Cable option B (>J4) | Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block<br><br>Discrete Output card, 32 channels, 24 Vdc, High-side, 40 pin Mass Termination |
| <p style="color: red; font-weight: bold;">RIA plugged in place of the FIM module</p>        |   | SUBD37 Pin for DI<br><br>HE1020<br><br>SUBD25 Pin for DO<br><br>HE1020<br>   | 1/2 x DI Card 32CH<br><br>1/2 x DO Card 32CH<br>  |



**2.1.2.MDIO Type : 01984-4121-000X (Panel A) : 16 DI /DO (CH1 - CH16) and 01984-4124-000X (Panel B) : 16DI (CH17 - CH32)**

**Panel A with I/O distribution as follow :**

Channels 1 to 16 : DI

**Panel B with I/O distribution as follow :**

Channels 17 to 32 : DI

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO2-A1**

**Panel to be kept :**

Panel A : 01984-4121-000X  
 01984-4383-0002

Panel B : 01984-4124-000X  
 01984-4383-0002

**RIA-DIDO-01-1**

**CBL-RS3FIM-DV-1-DIDO2-A1**

**1 x DI Card 32CH  
 VE4001S2T2B5 or  
 SE4001S2T2B5**

Panel A :  
 16 DI or DO (channels 1 - 16)

Input frequency limited to 75Hz due to the DeltaV DI card.

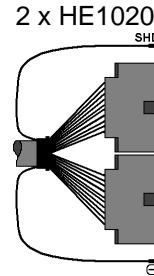
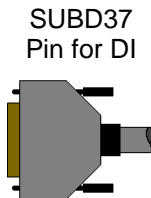
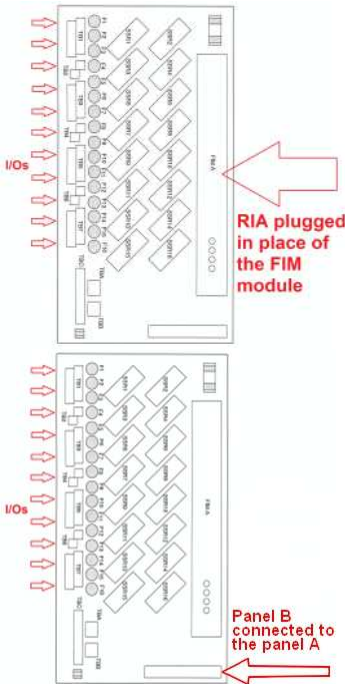
Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module  
 (see appendix 1 for compatibility table)

DeltaV connector J3 and J4

Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block

Panel B :  
 16 DI (channels 1 - 16)  
 Input frequency limited to 75Hz due to the DeltaV DI card.

**RIA-DIDO-01-1 configured by internal jumpers as DI for channels 1 to 16**



**Panel A with I/O distribution as follow :**

Channels 1 to 16 : DO

**Panel B with I/O distribution as follow :**

Channels 17 to 32 : DI

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO2-B1**
**Panel to be kept :**

 Panel A : 01984-4121-000X  
 01984-4383-0002

 Panel B : 01984-4124-000X  
 01984-4383-0002

**RIA-DIDO-01-1**
**Cable N°1 :**
**CBL-RS3FIM-DV-1-DIDO2-B1-1**
**+  
Cable N°2 :**
**CBL-RS3FIM-DV-1-DIDO2-B1-2**
**1/2 x DI Card 32CH  
 VE4001S2T2B5\_ or  
 SE4001S2T2B5**
**1/2 x DO Card 32CH  
 VE4002S1T2B6 or  
 SE4002S1T2B6**

Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module (see appendix 1 for compatibility table)

 Panel A :  
 16 DI or DO (channels 1 - 16)

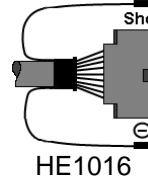
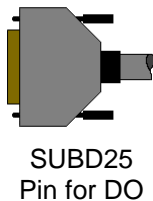
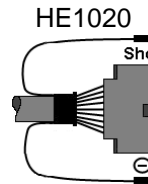
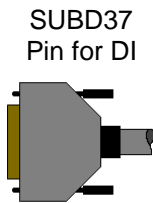
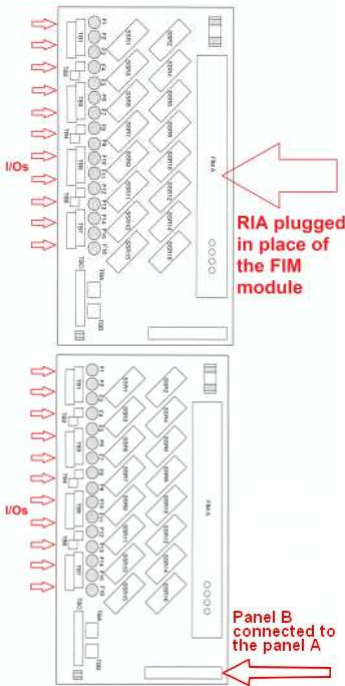
 Panel B :  
 16 DI (channels 1 - 16)  
 Input frequency limited to 75Hz due to the DeltaV DI card.

 Cable N°1 and 2 :  
 DeltaV connector J3 or J4

Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block

 CH 1 to 16 : Cable option A (> J3)  
 CH 17 to 32 : Cable option B (>J4)

Discrete Output card, 32 channels, 24 Vdc, High-side, 40 pin Mass Termination

**RIA-DIDO-01-1 configured by internal jumpers as DO for channels 1 to 16**


1/2 x DI Card 32CH



1/2 x DO Card 32CH



**Panel A with I/O distribution as follow :**

Channels 1 to 16 : DI or DO

**Panel B with I/O distribution as follow :**

Channels 17 to 32 : DI

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO2-C1**
**Panel to be kept :**

 Panel A : 01984-4121-000X  
 01984-4383-0002

 Panel B : 01984-4124-000X  
 01984-4383-0002

**RIA-DIDO-01-1**
**Cable N°1 :**
**CBL-RS3FIM-DV-1-DIDO2-  
C1-1**

+

**Cable N°2 :**
**CBL-RS3FIM-DV-1-DIDO2-  
C1-2**
**1 x DI Card 32CH  
VE4001S2T2B5\_ or  
SE4001S2T2B5**
**1/2 x DO Card 32CH  
VE4002S1T2B6 or  
SE4002S1T2B6**

 Panel A :  
 16 DI or DO (channels 1 - 16)

 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

 Panel B :  
 16 DI (channels 1 - 16)  
 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

 Adapter installed on  
 existing Isolated Discrete  
 Termination Panel in  
 place of the FIM module

 (see appendix 1 for  
 compatibility table)

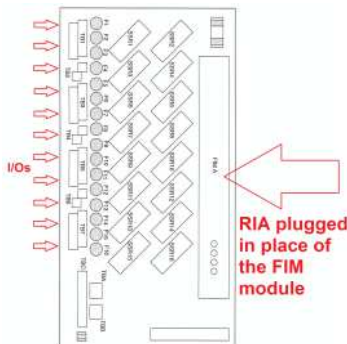
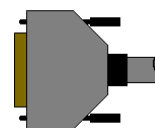
**RIA-DIDO-01-1  
configured by internal  
jumpers in accordance  
with I/O requirement**

 Cable N°1  
 DeltaV connector J3 and J4

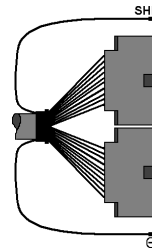
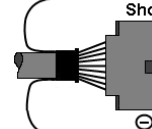
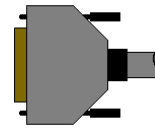
 Cable N°2 :  
 DeltaV connector J3 or J4

 CH 1 to 16 : Cable option A (> J3)  
 CH 17 to 32 : Cable option B (>J4)

 Discrete Input card, 32  
 channels, 24 Vdc, Dry  
 contact, 40 pin Mass  
 Termination block

 Discrete Output card, 32  
 channels, 24 Vdc, High-side,  
 40 pin Mass Termination

 SUBD25  
 Pin for DI


2 x HE1020


 SUBD25  
 Pin for DO


1 x DI Card 32CH



1/2 x DO Card 32CH



## 2.2. EXISTING RS3 PANEL TO BE KEPT : DIRECT DISCRETE TERMINATION PANEL

### 2.2.1. MDIO Low Side Switching (DO) : 01984-4127-000X and 10P52700001(CE) : 16 DI /DO (CH 1 - 16) and 16DI (CH17 - CH32)

#### With I/O distribution as follow :

Channels 1 to 8 : DI or DO

Channels 9 to 16 : DI

Channels 17 to 32 : DI

Or

Channels 1 to 8 : DI

Channels 9 to 16 : DI or DO

Channels 17 to 32 : DI

### New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO3-A1

#### Panel to be kept :

01984-4127-000X  
 or  
 10P52700001  
 01984-4383-0002

RIA-DIDO-02-1  
 (Low Side Version  
 depending on the  
 existing FIM type  
 installed)

Cable N°1 :  
 CBL-RS3FIM-DV-1-DIDO3-  
 A1-1  
 &  
 Cable N°2 :  
 CBL-RS3FIM-DV-1-DIDO3-  
 A1-2/A

1 X DI Card 32CH  
 VE4001S2T2B5\_ or  
 SE4001S2T2B5  
 /  
 1 x DO Card 8CH  
 VE4002S1T2B3 or  
 SE4002S1T2B3

16 DI or DO (channels 1 - 16) and 16 DI (channels 17 - 32)

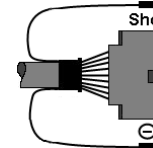
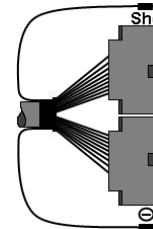
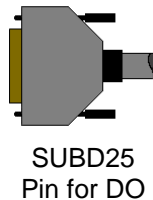
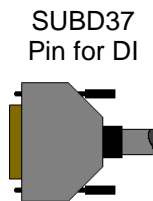
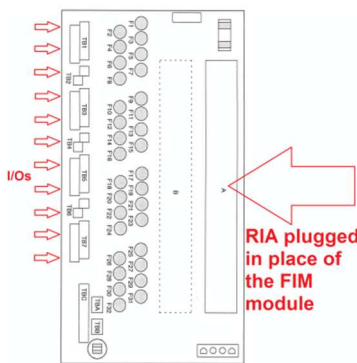
Input frequency limited to 75Hz due to the DeltaV DI card.

Adapter installed on existing Direct Discrete Termination Panel in place of the FIM A or B module

(see appendix 1 for compatibility table)

1 x SUBD25M for DO (16 max)  
 1 x SUBD37M for DI (32 max)

Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block  
 Discrete Output card, 8 channels, 24 Vdc, High-side, 16 pin Mass Termination



**With I/O distribution as follow :**

Channels 1 to 16 : DI or DO

Channels 17 to 32 : DI

### New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO3-A2

**Panel to be kept :**

01984-4127-000X  
 or  
 10P52700001  
 01984-4383-0002

**RIA-DIDO-02-1**  
 (Low Side Version  
 depending on the  
 existing FIM type  
 installed)

**Cable N°1 :**  
**CBL- RS3FIM-DV-1-DIDO3-**  
**A2-1**  
 &  
**Cable N°2 :**  
**CBL- RS3FIM-DV-1-DIDO3-**  
**A2-2**

**1 X DI Card 32CH**  
**VE4001S2T2B5\_**  
**or**  
**SE4001S2T2B5**  
 /  
**1/2 x DO Card 32CH**  
**VE4002S1T2B6**  
**or**  
**SE4002S1T2B6**

16 DI or DO (channels 1 - 16)  
 and  
 16 DI (channels 17 - 32)  
 Input frequency limited to 75Hz due to the DeltaV DI card.

Adapter installed on existing Direct Discrete Termination Panel in place of the FIM A or B module  
 (see appendix 1 for compatibility table)

1 x SUBD25M for DO (16 max)  
 1 x SUBD37M for DI (32 max)

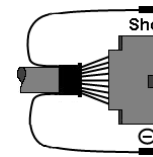
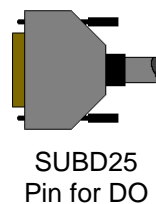
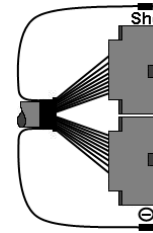
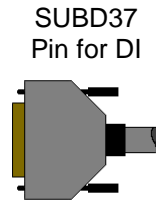
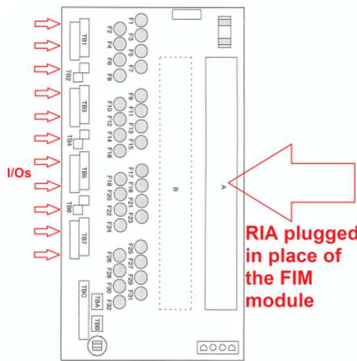
**Cable N°1 : CBL-1145**

**Cable N°2 : CBL-1146**  
 DeltaV connector J3 or J4

CH 1 to 16 : Cable option A (> J3)  
 CH 17 to 32 : Cable option B (>J4)

Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block

Discrete Output card, 32 channels, 24 Vdc, High-side, 40 pin Mass Termination





**2.2.2.MDIO High Side Switching (DO) : 10P52700001(CE) : 16 DI /DO (CH 1 - 16) and 16DI (CH17 - CH32)**

**With I/O distribution as follow :**

Channels 1 to 8 : DI or DO

Channels 9 to 16 : DI

Channels 17 to 32 : DI

Or

Channels 1 to 8 : DI

Channels 9 to 16 : DI or DO

Channels 17 to 32 : DI

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO4-A1**
**Panel to be kept :**

10P52700001

01984-4383-0002

**RIA-DIDO-02-2**  
 (High Side Version  
 depending on the  
 existing FIM type  
 installed)

Cable N°1 :  
**CBL- RS3FIM-DV-1-DIDO4-**  
**A1-1**  
 &  
Cable N°2 :  
**CBL- RS3FIM-DV-1-DIDO4-**  
**A1-2**

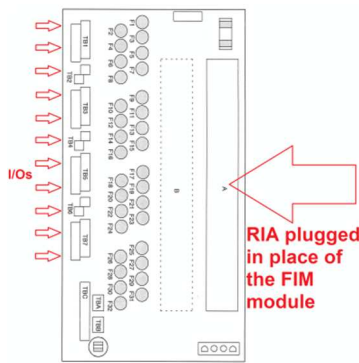
**1 X DI Card 32CH**  
**VE4001S2T2B5\_ or**  
**SE4001S2T2B5**  
 /  
**1 x DO Card 8CH**  
**VE4002S1T2B3 or**  
**SE4002S1T2B3**

16 DI or DO (channels 1 - 16)  
 and  
 16 DI (channels 17 - 32)  
 Input frequency limited to 75Hz due to the DeltaV DI card.

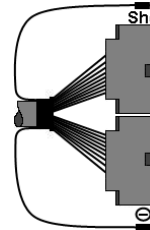
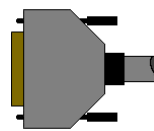
Adapter installed on existing Direct Discrete Termination Panel in place of the FIM A or B module  
 (see appendix 1 for compatibility table)

1 x SUBD25M for DO (16 max)  
 1 x SUBD37M for DI (32 max)

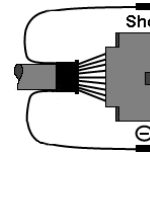
Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block  
 Discrete Output card, 8 channels, 24 Vdc, High-side, 16 pin Mass Termination



SUBD37  
 Pin for DI



SUBD25  
 Pin for DO



DI Card 32CH



DO Card 8CH



**With I/O distribution as follow :**

Channels 1 to 16 : DI or DO

Channels 17 to 32 : DI

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO3-A2**
**Panel to be kept :**

 10P52700001  
 01984-4383-0002

**RIA-DIDO-02-2**  
 (High Side Version  
 depending on the  
 existing FIM type  
 installed)

**Cable N°1 :**  
**CBL- RS3FIM-DV-1-DIDO4-**  
**A2-1**  
 &  
**Cable N°2 :**  
**CBL- RS3FIM-DV-1-DIDO4-**  
**A2-2**
**1 X DI Card 32CH**  
**VE4001S2T2B5\_ or**  
**SE4001S2T2B5**  
 /  
**1/2 x DO Card 32CH**  
**VE4002S1T2B6 or**  
**SE4002S1T2B6**

 16 DI or DO (channels 1 -  
 16)  
 and  
 16 DI (channels 17 - 32)  
 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

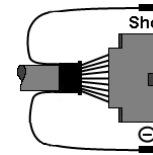
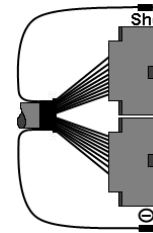
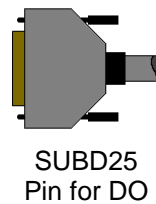
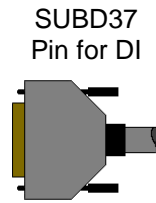
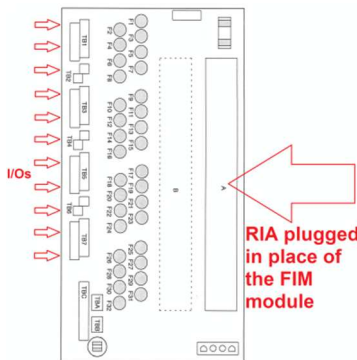
 Adapter installed on  
 existing Direct Discrete  
 Termination Panel in  
 place of the FIM A or B  
 module  
 (see appendix 1 for  
 compatibility table)

 1 x SUBD25M for DO (16 max)  
 1 x SUBD37M for DI (32 max)

**Cable N°1 : CBL-1145**
**Cable N°2 : CBL-1146**  
 DeltaV connector J3 or J4

 CH 1 to 16 : Cable option A (> J3)  
 CH 17 to 32 : Cable option B (>J4)

 Discrete Input card, 32  
 channels, 24 Vdc, Dry  
 contact, 40 pin Mass  
 Termination block

 Discrete Output card, 32  
 channels, 24 Vdc, High-side,  
 40 pin Mass Termination


DI Card 32CH



1/2 x DO Card 32CH



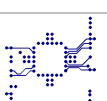
**2.3. EXISTING RS3 PANEL TO BE KEPT : HIGH DENSITY ISOLATED DISCRETE TERMINATION PANEL**

**2.3.1. MDIO Type : 01984-4167-000X : 16 DI /DO (CH1 - 16) and 16DI (CH17 - CH32)**

With I/O distribution as follow :

- Channels 1 to 8 : DI or DO
- Channels 9 to 16 : DI
- Channels 17 to 32 : DI
- Or
- Channels 1 to 8 : DI
- Channels 9 to 16 : DI or DO
- Channels 17 to 32 : DI

| New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO3-A1   |  |  |
|--|--|--|
| <b>Panel to be kept :</b><br><br>01984-4167-000X<br><br>01984-4383-0002  | <b>RIA-DIDO-03-1</b>   | <b>Cable N°1 :</b><br>CBL- RS3FIM-DV-1-DIDO5-A1-1<br>&<br><b>Cable N°2 :</b><br>CBL- RS3FIM-DV-1-DIDO5-A1-2<br><br>1 X DI Card 32CH<br>VE4001S2T2B5_ or<br>SE4001S2T2B5<br>/<br>1 x DO Card 8CH<br>VE4002S1T2B3 or<br>SE4002S1T2B3 |
| 16 DI or DO (channels 1 - 16)<br>and<br>16 DI (channels 17 - 32)<br>Input frequency limited to 75Hz due to the DeltaV DI card. | Adapter installed on existing Direct Discrete Termination Panel in place of the FIM A or B module<br><b>(see appendix 1 for compatibility table)</b><br><br>1 x SUBD25M for DO (16 max)<br>1 x SUBD37M for DI (32 max) | Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block<br>Discrete Output card, 8 channels, 24 Vdc, High-side, 16 pin Mass Termination   |
|  |  |  |



**With I/O distribution as follow :**

Channels 1 to 16 : DI or DO

Channels 17 to 32 : DI

**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO5-A2**
**Panel to be kept :**
**01984-4167-000X**
**01984-4383-0002**
**RIA-DIDO-03-1**
**Cable N°1 :**  
**CBL- RS3FIM-DV-1-DIDO5-**  
**A2-1**  
**&**  
**Cable N°2 :**  
**CBL- RS3FIM-DV-1-DIDO5-**  
**A2-2**
**1 X DI Card 32CH**  
**VE4001S2T2B5\_ or**  
**SE4001S2T2B5**  
**/**  
**1/2 x DO Card 32CH**  
**VE4002S1T2B6 or**  
**SE4002S1T2B6**

 16 DI or DO (channels 1 - 16)  
 and  
 16 DI (channels 17 - 32)  
 Input frequency limited to 75Hz due to the DeltaV DI card.

 Adapter installed on existing Direct Discrete Termination Panel in place of the FIM A or B module  
**(see appendix 1 for compatibility table)**

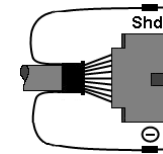
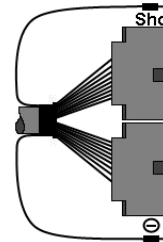
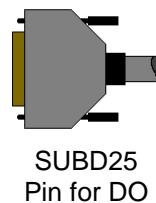
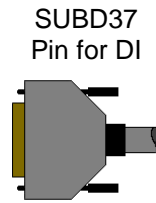
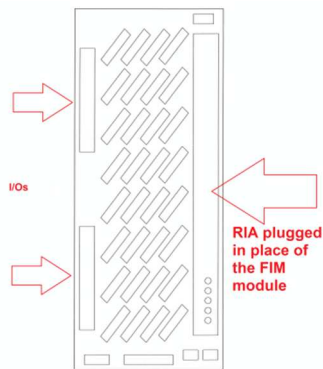
 1 x SUBD25M for DO (16 max)  
 1 x SUBD37M for DI (32 max)

**Cable N°1 : CBL-1145**
**Cable N°2 : CBL-1146**  
 DeltaV connector J3 or J4

 CH 1 to 16 : Cable option A (> J3)  
 CH 17 to 32 : Cable option B (>J4)

Discrete Input card, 32 channels, 24 Vdc, Dry contact, 40 pin Mass Termination block

Discrete Output card, 32 channels, 24 Vdc, High-side, 40 pin Mass Termination



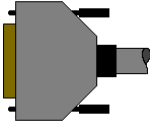
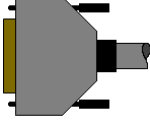
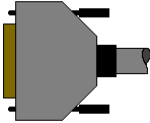
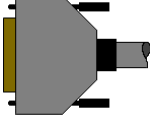
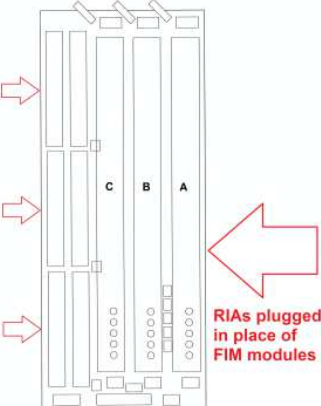

DI Card 32CH

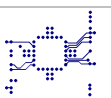


1/2 x DO Card 32CH



**2.4. EXISTING RS3 PANEL TO BE KEPT : MULTI FIM DISCRETE TERMINATION PANEL**
**2.4.1. MDIO Type : 01984-4282-000X : [ 16 DI /DO (CH1 - 16) and 16DI (CH17 - CH32) ] x 3**
**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO6-A1**

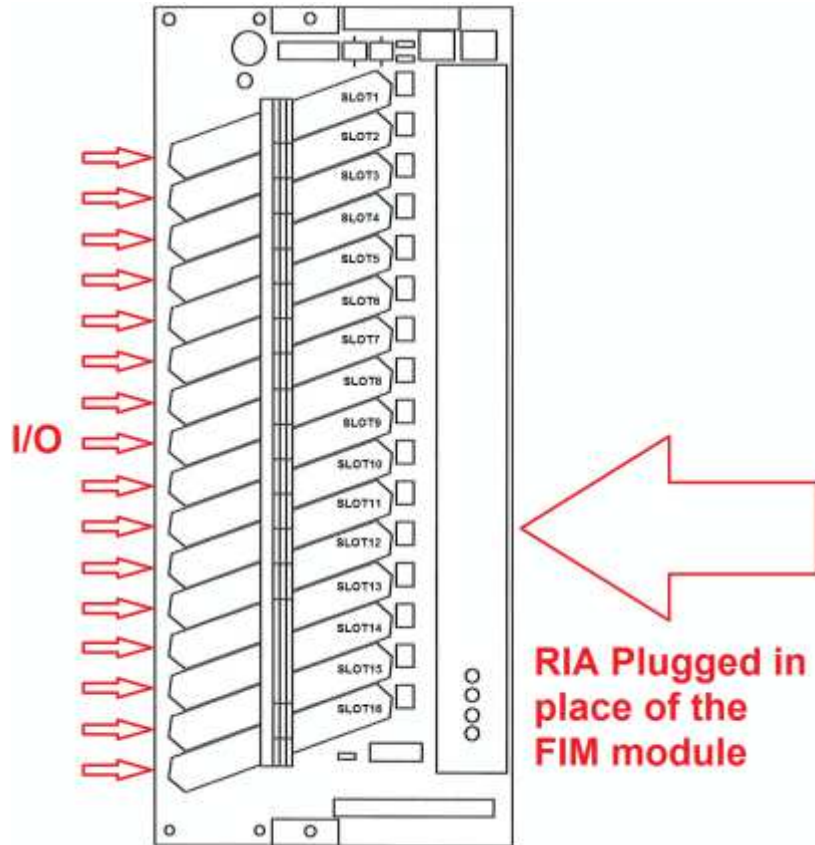
| Panel to be kept :   | 2 x RIA-DIDO-02-1<br>(Low Side Version)  | Cables<br>To be determined<br>depending on the existing<br>field wiring of remote<br>termination panels   | DeltaV I/O cards<br>To be determined<br>depending on the existing<br>field wiring of remote<br>termination panels |
|--|--|---|---|
| 01984-4282-000X  |  |   |   |
| 01984-4383-0002  |  |   |   |
| 2 x 16 DI or DO (channels 1 - 16)<br>and<br>2 x 16 DI (channels 17 - 32)<br>Input frequency limited to 75Hz due to the DeltaV DI card. | Adapter installed on existing Isolated Discrete Termination Panel in place of the FIM module<br><br>(see appendix 1 for compatibility table) | SUBD37 pin<br><br>SUBD25 Pin<br><br>SUBD37 pin<br><br>SUBD25 Pin<br> | TBD<br><br><br><br><br>TBD  |
|   |    |   |   |



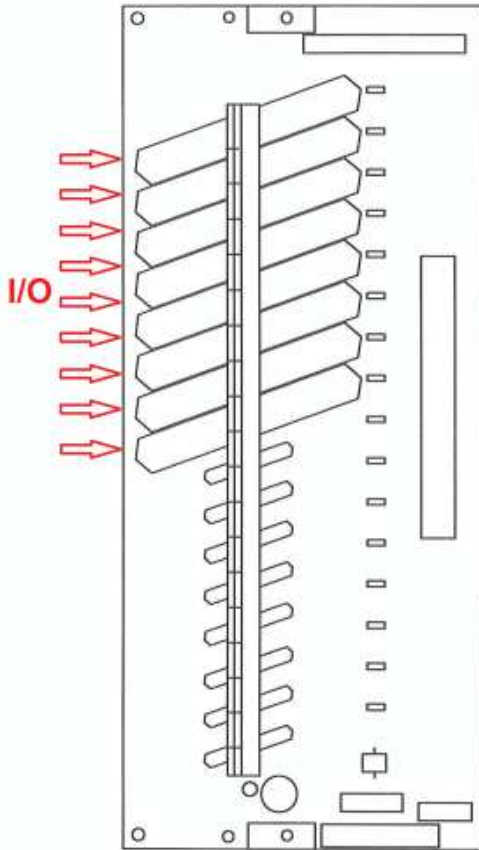
## 2.5. EXISTING RS3 PANEL TO BE KEPT : IS DISCRETE TERMINATION PANEL (A / B)

### 2.5.1. MDIO Type : 10P5037000X (Panel A) 10P5049000X (Panel B)

#### Panel A : Slot 1 to 16



| Slot | Input channel | Output channel |
|------|---------------|----------------|
| 1    | 1 - 2         | Or 1           |
| 2    | 3 - 4         | Or 3           |
| 3    | 5 - 6         | Or 5           |
| 4    | 7 - 8         | Or 7           |
| 5    | 9 - 10        | Or 9           |
| 6    | 11 - 12       | Or 11          |
| 7    | 13 - 14       | Or 13          |
| 8    | 15 - 16       | Or 15          |
| 9    | 17 - 18       |                |
| 10   | 19 - 20       |                |
| 11   | 21 - 22       |                |
| 12   | 23 - 24       |                |
| 13   | 25 - 26       |                |
| 14   | 27 - 28       |                |
| 15   | 29 - 30       |                |
| 16   | 31 - 32       |                |

**Panel B : Slot 17 to 32**


| Slot | Input channel | Output channel available on Panel A with connection between panel A and panel B |
|------|---------------|---|
| 17   | Not available | 2   |
| 18   | Not available | 4   |
| 19   | Not available | 6   |
| 20   | Not available | 8   |
| 21   | Not available | 10  |
| 22   | Not available | 12  |
| 23   | Not available | 14  |
| 24   | Not available | 16  |

On this panel, I.S. DO modules (1 channel) can be plugged only on slot 1 to 8 corresponding to channels 1, 3, 5, 7, 9, 11, 13, 15. In that case, channels 2, 4, 6, 8, 10, 12, 16 are not available.

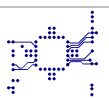
I.S. DI modules (2 channels) can be plugged on all 16 slots available on the panel corresponding to channels 1 to 32.

**2.5.2. MDIO Type : 10P5037000X (Panel A) 10P5049000X (Panel B) - Configuration example 1**

Table 1 here below, shows an I/O configuration with 8 x DO and 16 x DI.

Panel A : Slot 1 to 16 (Panel B is not used in that case)

| Slot    | Input channel | Output channel |
|---------|---------------|----------------|
| 1 : DO  |               | 1              |
| 2 : DO  |               | 3              |
| 3 : DO  |               | 5              |
| 4 : DO  |               | 7              |
| 5 : DO  |               | 9              |
| 6 : DO  |               | 11             |
| 7 : DO  |               | 13             |
| 8 : DO  |               | 15             |
| 9 : DI  | 17 - 18       |                |
| 10 : DI | 19 - 20       |                |
| 11 : DI | 21 - 22       |                |
| 12 : DI | 23 - 24       |                |
| 13 : DI | 25 - 26       |                |
| 14 : DI | 27 - 28       |                |
| 15 : DI | 29 - 30       |                |
| 16 : DI | 31 - 32       |                |



**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO7-A1**
**Panel to be kept :**

Config 1  
 10P5037000X  
 With I.S. MTL barriers  
 type : MTL4013 MTL 4014  
 MTL 4017

01984-4383-0002

**RIA-DIDO-04-1**
**Cable N°1 :**  
**CBL- RS3FIM-DV-1-DIDO7-**  
**A1-1**

+

**Cable N°2 :**  
**CBL- RS3FIM-DV-1-DIDO7-**  
**A1-2**
**1/2 x DI Card 32CH**  
**VE4001S2T2B5\_ or**  
**SE4001S2T2B5**
**1 x DO Card 8CH**  
**VE4002S1T2B3 or**  
**SE4002S1T2B3**

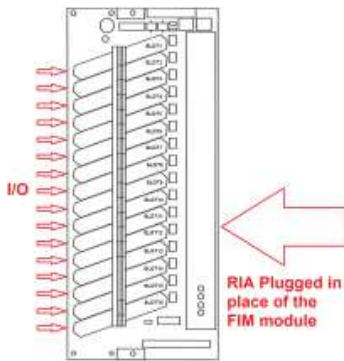
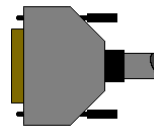
16 DI (channels 17 - 32)  
 8 DO ( channels 1 to 15 by  
 odd step) see table 1  
 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

Adapter installed on  
 existing IS Discrete  
 Termination Panel A in  
 place of the FIM

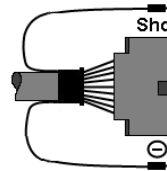
(see appendix 1 for  
compatibility table)

Discrete Input card, 32  
 channels, 24 Vdc, Dry  
 contact, 40 pin Mass  
 Termination block

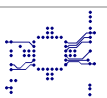
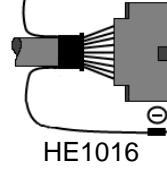
Discrete Output card, 8  
 channels, 24 Vdc, High-side,  
 16 pin Mass Termination  
 1/2 x DI Card 32CH


 SUBD37  
 Pin for DI


HE1020


 SUBD25  
 Pin for DO


HE1016





**2.5.3.MDIO Type : 10P5037000X (Panel A) 10P5049000X (Panel B) - Configuration example 2**

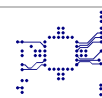
Table 2 here below, shows an I/O configuration with 16 x DO and 16 x DI.

**Panel A : Slot 1 to 16**

| Table 2 |               |                |
|---------|---------------|----------------|
| Slot    | Input channel | Output channel |
| 1 : DO  |               | 1              |
| 2 : DO  |               | 3              |
| 3 : DO  |               | 5              |
| 4 : DO  |               | 7              |
| 5 : DO  |               | 9              |
| 6 : DO  |               | 11             |
| 7 : DO  |               | 13             |
| 8 : DO  |               | 15             |
| 9 : DI  | 17 - 18       |                |
| 10 : DI | 19 - 20       |                |
| 11 : DI | 21 - 22       |                |
| 12 : DI | 23 - 24       |                |
| 13 : DI | 25 - 26       |                |
| 14 : DI | 27 - 28       |                |
| 15 :DI  | 29 - 30       |                |
| 16 : DI | 31 - 32       |                |

**Panel B : Slot 17 to 32**

| Slot    | Input channel | Output channel available on Panel A with connection between panel A and panel B |
|---------|---------------|---|
| 17 : DO | Not available | 2   |
| 18 : DO | Not available | 4   |
| 19 : DO | Not available | 6   |
| 20 : DO | Not available | 8   |
| 21 : DO | Not available | 10  |
| 22 : DO | Not available | 12  |
| 23 :DO  | Not available | 14  |
| 24 : DO | Not available | 16  |



**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO7-A2**

**Panel to be kept :**  
 Config 1  
 10P5037000X  
 With I.S. MTL barriers  
 type : MTL4013 MTL 4014  
 MTL 4017  
  
 01984-4383-0002

**RIA-DIDO-04-1**

**Cable N°1 :**  
 CBL- RS3FIM-DV-1-DIDO7-  
 A2-1

+

**Cable N°2 :**  
 CBL- RS3FIM-DV-1-DIDO7-  
 A2-2

1/2 x DI Card 32CH  
 VE4001S2T2B5\_ or  
 SE4001S2T2B5

1/2 x DO Card 32CH  
 VE4002S1T2B6 or  
 SE4002S1T2B6

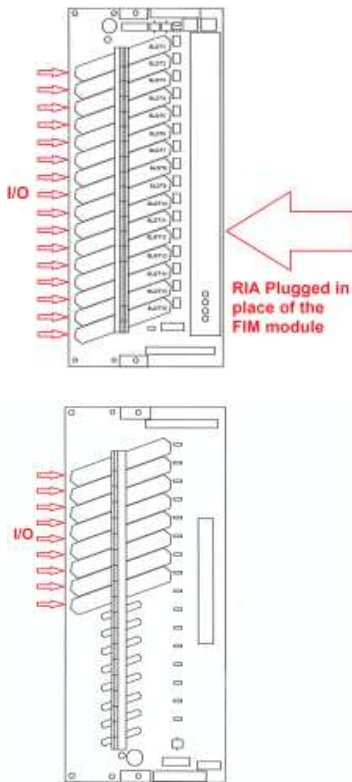
16 DI (channels 17 - 32)  
 8 DO ( channels 1 to 15 by  
 odd step) see table 1  
 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

Adapter installed on  
 existing IS Discrete  
 Termination Panel A in  
 place of the FIM

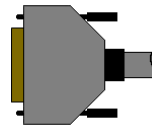
(see appendix 1 for  
 compatibility table)

Discrete Input card, 32  
 channels, 24 Vdc, Dry  
 contact, 40 pin Mass  
 Termination block

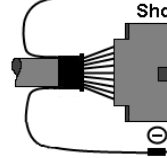
Discrete Output card, 32  
 channels, 24 Vdc, High-side,  
 40 pin Mass Termination



SUBD37  
 Pin for DI



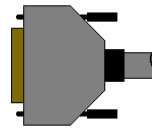
HE1020



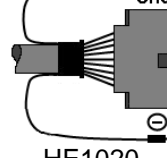
1/2 x DI Card 32CH



SUBD25  
 Pin for DO



HE1020



1/2 x DO Card 32CH

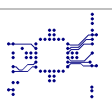


**2.5.4.MDIO Type : 10P5037000X (Panel A) 10P5049000X (Panel B) - Configuration example 3**

Table 3 here below, shows an I/O configuration with 4 x DO and 24 x DI.

**Panel A** : Slot 1 to 16 (Panel B is not used in that case)

| Table 3 |               |                |
|---------|---------------|----------------|
| Slot    | Input channel | Output channel |
| 1 : DO  |               | 1              |
| 2 : DO  |               | 3              |
| 3 : DO  |               | 5              |
| 4 : DO  |               | 7              |
| 5 : DI  | 9 - 10        |                |
| 6 : DI  | 11 - 12       |                |
| 7 : DI  | 13 - 14       |                |
| 8 : DI  | 15 - 16       |                |
| 9 : DI  | 17 - 18       |                |
| 10 : DI | 19 - 20       |                |
| 11 : DI | 21 - 22       |                |
| 12 : DI | 23 - 24       |                |
| 13 : DI | 25 - 26       |                |
| 14 : DI | 27 - 28       |                |
| 15 : DI | 29 - 30       |                |
| 16 : DI | 31 - 32       |                |



**New DeltaV architecture - FMS-RS3FIM-DV-1-DIDO7-A3**
**Panel to be kept :**

Config 1  
 10P5037000X  
 With I.S. MTL barriers  
 type : MTL4013 MTL 4014  
 MTL 4017  
  
 01984-4383-0002

**RIA-DIDO-04-1**
**Cable N°1 :**  
**CBL- RS3FIM-DV-1-DIDO7-**  
**A3-1**
**+**  
**Cable N°2 :**  
**CBL- RS3FIM-DV-1-DIDO7-**  
**A3-2**
**1 x DI Card 32CH**  
**VE4001S2T2B5\_ or**  
**SE4001S2T2B5**
**1 x DO Card 8CH**  
**VE4002S1T2B3 or**  
**SE4002S1T2B3**

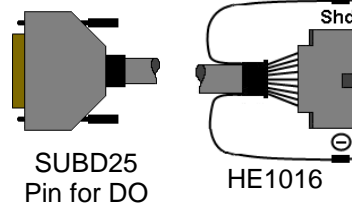
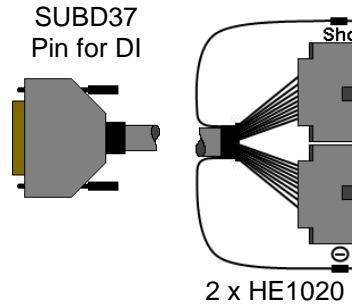
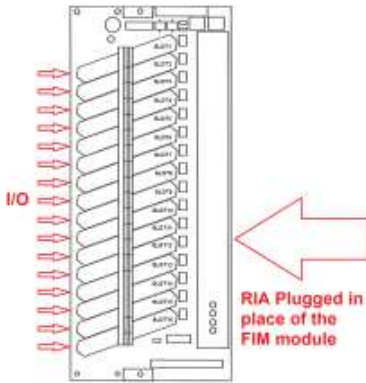
16 DI (channels 17 - 32)  
 8 DO ( channels 1 to 15 by  
 odd step) see table 1  
 Input frequency limited to  
 75Hz due to the DeltaV DI  
 card.

Adapter installed on  
 existing IS Discrete  
 Termination Panel A in  
 place of the FIM

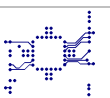
[\(see appendix 1 for  
 compatibility table\)](#)

Discrete Input card, 32  
 channels, 24 Vdc, Dry  
 contact, 40 pin Mass  
 Termination block

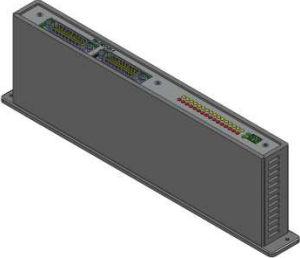
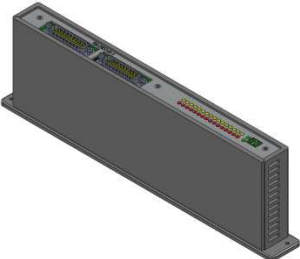

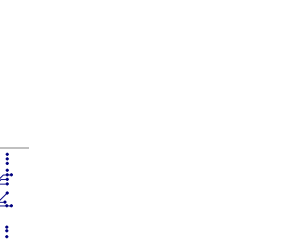
Discrete Output card, 8  
 channels, 24 Vdc, High-  
 side, 16 pin Mass  
 Termination

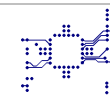



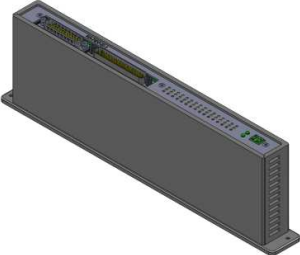
# 3. APPENDIX 1

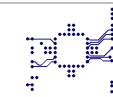


**3.1. DISCRETE INPUT / OUTPUT TABLE**


| Line   | RS3 Panel reference | CE | RS3 Panel description                                  | RS3 FIM Reference | CE | RS3 FIM Description               | RIA Migration adapter reference | RIA Mechanical signature | RIA Structure   |
|--------|---------------------|----|--|-------------------|----|-----------------------------------|---------------------------------|--------------------------|---|
| DIDO 1 | 1984-4121-000X      | -  | Isolated DIO Termination Panel "A" - 16CH (DI/DO)      | 1984-4080-000X    | -  | MDIO : Low Side DO switching FIM  | RIA-DIDO-01-1                   | B                        |    |
| DIDO 2 | 1984-4121-000X      | -  | Isolated DIO Termination Panel "A" - 16CH (DI/DO)      | 10P53520006       | CE | MDIOL : Low Side DO switching FIM | RIA-DIDO-01-1                   | B                        |    |
| DIDO 3 | 1984-4124-000X      | -  | Isolated DIO Termination Panel "B" - 16CH (DI)         | 1984-4080-000X    | -  | MDIO : Low Side DO switching FIM  | RIA-DIDO-01-1                   | B                        |  |
| DIDO 4 | 1984-4124-000X      | -  | Isolated DIO Termination Panel "B" - 16CH (DI)         | 10P53520006       | CE | MDIOL : Low Side switching FIM    | RIA-DIDO-01-1                   | B                        |  |
| DIDO 5 | 1984-4127-000X      | -  | Direct discrete termination panel - 16 DI/DO and 16 DI | 1984-4080-000X    | -  | MDIO : Low Side DO switching FIM  | RIA-DIDO-02-1                   | B                        |  |
| DIDO 6 | 1984-4127-000X      | -  | Direct discrete termination panel - 16 DI/DO and 16 DI | 10P53520006       | CE | MDIOL : Low Side DO switching FIM | RIA-DIDO-02-1                   | B                        |  |



| Line    | RS3 Panel reference | CE | RS3 Panel description  | RS3 FIM Reference | CE | RS3 FIM Description                | RIA Migration adapter reference | RIA Mechanical signature | RIA Structure   |
|---------|---------------------|----|--|-------------------|----|------------------------------------|---------------------------------|--------------------------|---|
| DIDO 7  | 10P52700001         | CE | Direct discrete termination panel "II"<br>16 DI/DO and 16 DI           | 1984-4080-000X    | -  | MDIO : Low Side DO switching FIM   | RIA-DIDO-02-1                   | B                        |    |
| DIDO 8  | 10P52700001         | CE | Direct discrete termination panel "II"<br>16 DI/DO and 16 DI           | 10P53520006       | CE | MDIOL : Low Side DO switching FIM  | RIA-DIDO-02-1                   | B                        |   |
| DIDO 9  | 10P52700001         | CE | Direct discrete termination panel "II"<br>16 DI/DO and 16 DI           | 10P53550006       | CE | MDIOH : High Side DO switching FIM | RIA-DIDO-02-2                   | B                        |   |
| DIDO 10 | 1984-4167-000X      | -  | High Density Isolated Discrete termination panel<br>16 DI/DO and 16 DI | 1984-4080-000X    | -  | MDIO : Low Side DO switching FIM   | RIA-DIDO-03-1                   | B                        |   |
| DIDO 11 | 1984-4167-000X      | -  | High Density Isolated Discrete termination panel<br>16 DI/DO and 16 DI | 10P53520006       | CE | MDIOL : Low Side DO switching FIM  | RIA-DIDO-03-1                   | B                        |   |
| DIDO 12 | 1984-4282-000X      | -  | Muti-FIM Discrete Termination Panel<br>(3 x 32 CH)                     | 1984-4080-000X    | -  | MDIO : Low Side DO switching FIM   | 1 to 3 x RIA-DIDO-02-1          | B                        |  |
| DIDO 13 | 1984-4282-000X      | -  | Muti-FIM Discrete Termination Panel<br>(3 x 32 CH)                     | 10P53520006       | CE | MDIOL : Low Side DO switching FIM  | 1 to 3 x RIA-DIDO-02-1          | B                        |   |



**3.2. I.S. DISCRETE INPUT / OUTPUT TABLE**

| Line       | RS3 Panel reference | CE | RS3 Panel description                                  | RS3 FIM Reference                    | CE | RS3 FIM Description               | RIA Migration adapter reference                                   | RIA Mechanical signature | RIA Structure   |
|------------|---------------------|----|--|--------------------------------------|----|-----------------------------------|---|--------------------------|---|
| DIDO -IS 1 | 10P50370001         | CE | MDIO MTL IS Termination panel A - 16 slots             | 10P53520006                          | CE | MDIOL : Low Side DO switching FIM | RIA-DIDO-04-1   | B                        |  |
| DIDO -IS 2 | 10P50490001         | CE | MDIO MTL IS Termination panel B - 16 slots - 8 DO only | 10P53520006<br>If redundancy applied | CE | MDIOL : Low Side DO switching FIM | No RIA to be plugged<br>Panel B managed by RIA plugged on panel A | B                        |   |

