# NIA-DO-01-1 (PRELIMINARY)

**32 channels - Discrete Output migration adapter from NovaTech® D/3® – 8000 Series I/O toward Emerson DeltaV™**

## *Description :*

The **NIA-DO-01-1** migration adapter allows to migrate **TWO** NovaTech® D/3® - 8000 Series I/O cards to **ONE** EMERSON DeltaV™ card avoiding to disconnect and reconnect I/Os of the existing terminal blocks.

The aim is to replace two NovaTech® D/3® - 8000 Series I/O cards whose reference is **NT-8142-DO-DC** (16 channel DO cards) with one Emerson DeltaV™ card whose reference is **VE4002S1T2B8** (32 channel DO card).

The main advantages of the **NIA-DO-01-1** for such migration are as follow:

- The two existing DO terminal blocks and their associated wires are just moved (unplugging / re-plugging) from the existing carrier to the DeltaV™ carrier without any modification of the wiring.
- Since the wiring is not affected, the I/O testing times are reduced.
- The **NIA-DO-01-1** provides same electrical capabilities than the two NT-8142-DO-DC cards to be migrated.

Two 24Vdc Power Supplies are used : one for channels 1 to 16 and one for channels 17 to 32.
They are connected on the dedicated removable 4-screw connector located on the top of the **NIA-DO-01-1.**
The status of each P.S. is displayed by a green LED on the front panel.

The status of each of the 32 outputs is indicated by a yellow LED on the front panel.

The NIA-DO-01-1 is composed of two main parts :

*NIA-DO-01-1 Baseplate*

*DO Application Board*

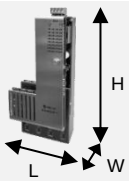
## *Product options :*

Option **-1** : *NIA-DO-01-1* Standard version
Option **-VSH :** *NIA-DO-01-1-VSH* Conformal coating (Tropicalization)

## *Technical specifications :*

**Dimensions :**

Height : 210mm
Width : 83mm
Depth : 68mm (74mm including the fastening screw head)




**Weight :**

545 g (without terminal blocks)

**Temperature range :**

Operating : 0°C to 50°C
Storage : -10°C to 50°C

**Humidity :**

Up to 90% (no condensation)

**Power supply specifications :**

Connection on a 4-screw Screw Terminals : 24 to 12AWG (0.25 to 2.5mm²)
Power supply range : 12 - 30 Vdc
Reverse polarity protection
Overcurrent protection by two 5X20 6.3A 250V fast blow fuses
*(one for channel 1 to 16 and one for channel 17 to 32)*

**Output Specifications :**

Number of channels : 32
Output voltage range : 12 - 30Vdc
ON-state voltage drop : < 1V @ 0.5A
OFF-state leakage current : 1 µA
Max Output current per channel : 0.5A
Max Output current per module : 12A *(6A : ch1-16 + 6A : ch17-32)*
Over current limitation : 2.2A per channel limited by a resettable fuse
Residual current after limitation < 50mA

**Response Time :**

From command ON to output change : 0.45ms Typ. (2ms Max)
From command OFF to output change : 1ms

**Electrical Insulation :**

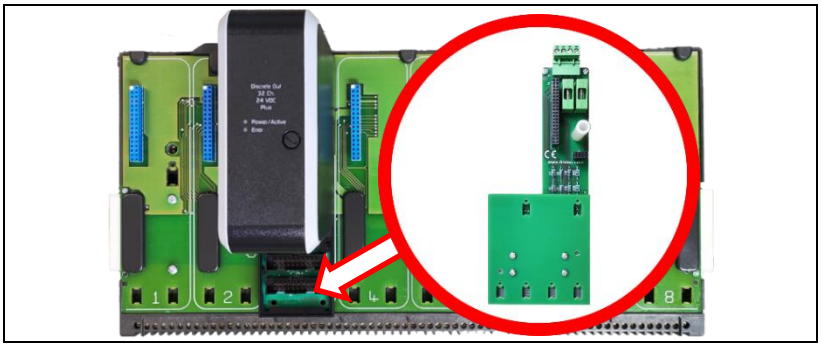
TBD

**Connection to the DCS or to the PLC :**

The NIA-DO-01-1 is directly plugged in the two HE1020 male connectors of the 32Ch DO card Mass Terminal Block (VE4002S1T2B8)

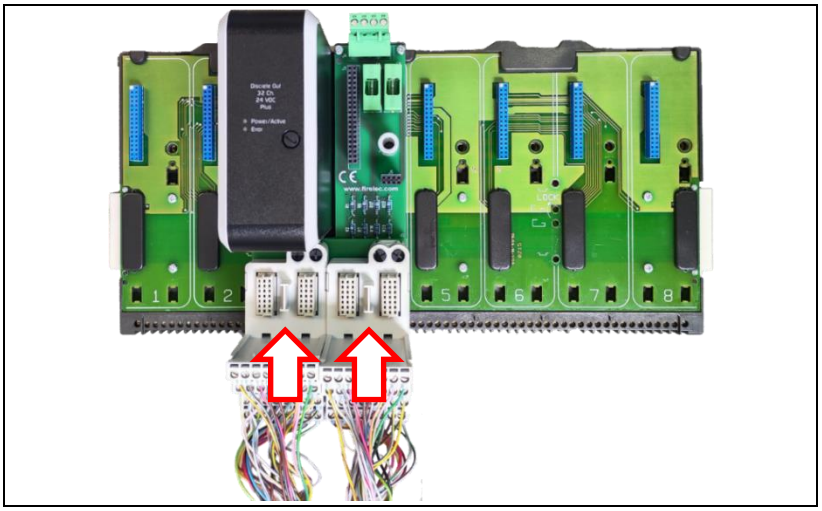
## ***Installation of the NIA-DO-01-1 :***

1



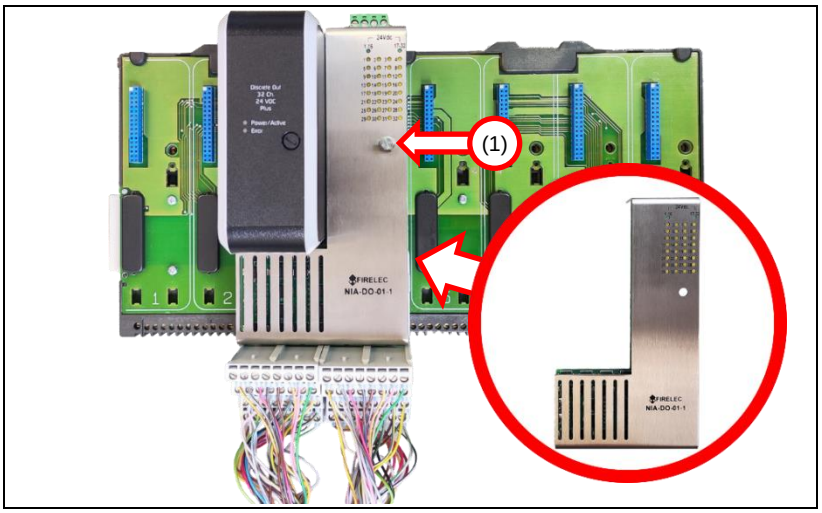
The NIA-DO-01-1 baseplate plugs directly into the two HE1020 connectors of the DeltaV™ DO Mass Termination Block

2



The existing terminal blocks (with wiring kept in place) are inserted in the slots designated for this purpose on the NIA-DO-01-1 baseplate

3

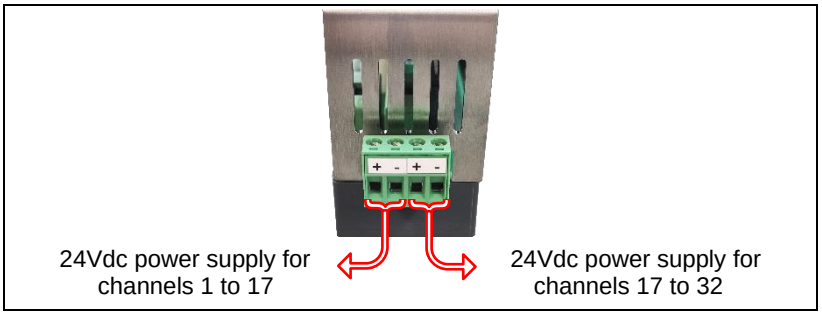



The NIA-DO-01-1 DO Application Board is inserted into both the two terminal blocks and the NIA-DO-01-1 baseplate

The assembly is secured by a fastening screw(1)

Status of each channel is monitored by a yellow LED and the 24Vdc P.S. status are monitored by two green LEDs

4




The two 24Vdc Power Supplies are connected on the removable 4-screw terminal on the top of the assembly