

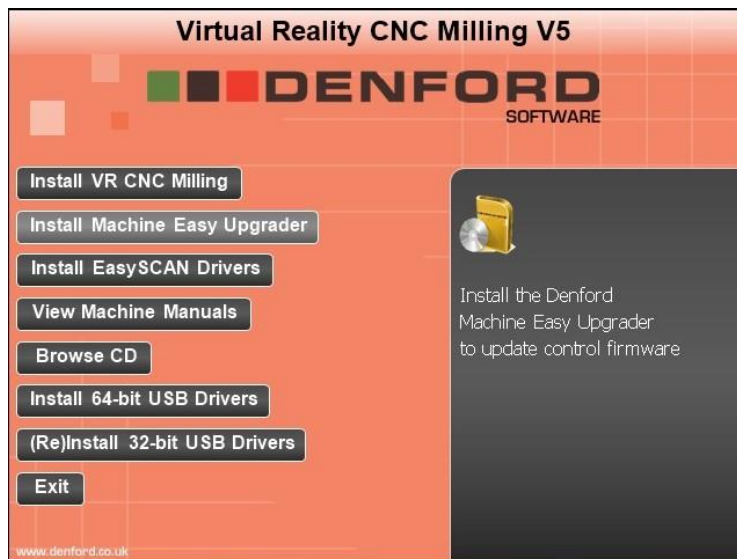
## Tech note – Easy Upgrader 2

Easy Upgrader can be used to:

- Update Firmware (only if required to do so, different versions are described within the firmware section)
- Change the Machine type
- Change the Serial number of the machine
- Device IO tests
- Encoder tests

### Installing Easy Upgrader 2:

1. If Easy Upgrader 2 is not installed on your computer, you can download the latest version of VR Milling 5 or VR Turning (Note version 6 of VR milling and VR Turning contains a version of Easy Upgrader that is not compatible with the older Baldor Based machines)
2. Visit <https://denford.co.uk/software-downloads-support/> to download
3. Within the installer menu click “Install Machine Easy Upgrader” and follow the steps to install



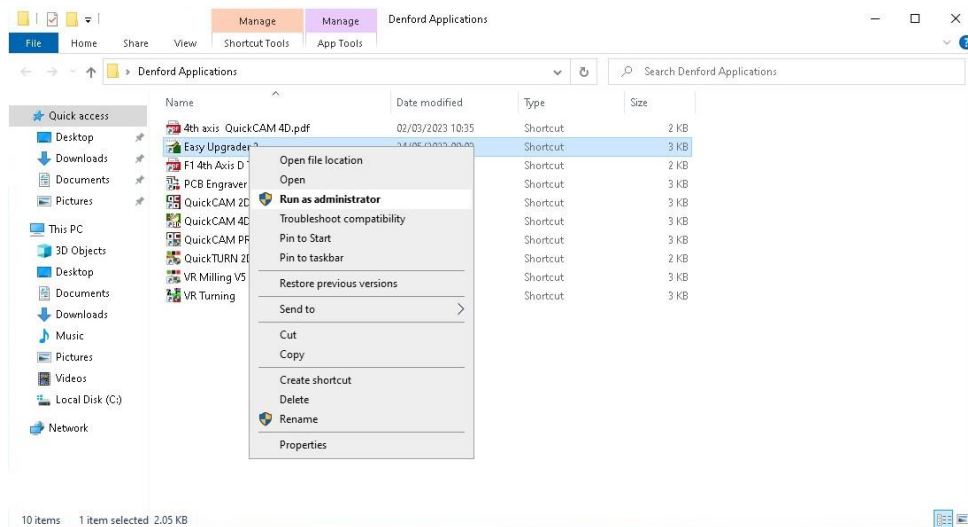
4. Once installed Easy Upgrader 2 can be found in the Denford Applications folder or within the start menu

# Tech note – Easy Upgrader 2

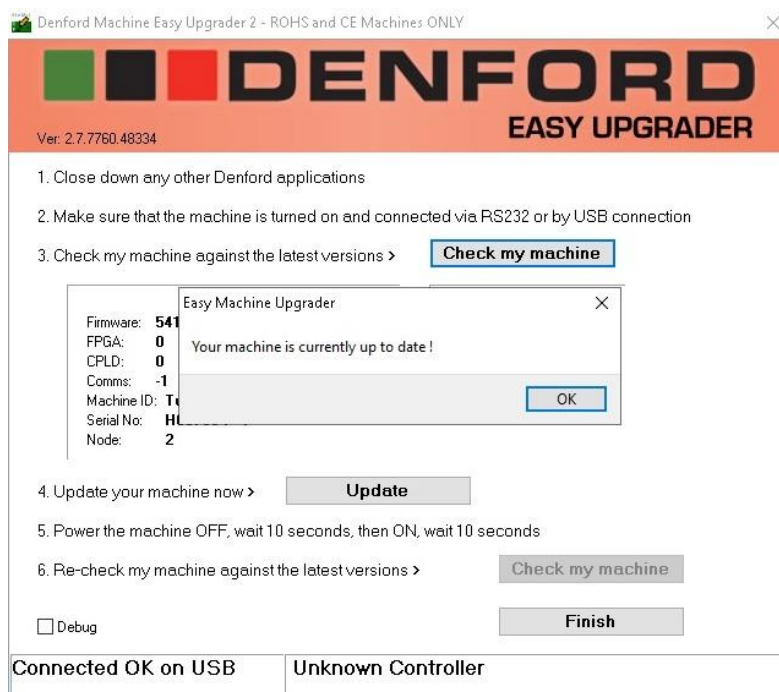
## Firmware

Before upgrading the firmware you must ensure that you correctly identify the NextMove card in use and the electronics in use on the machine.

1. Right click Easy Upgrader and Run as Administrator

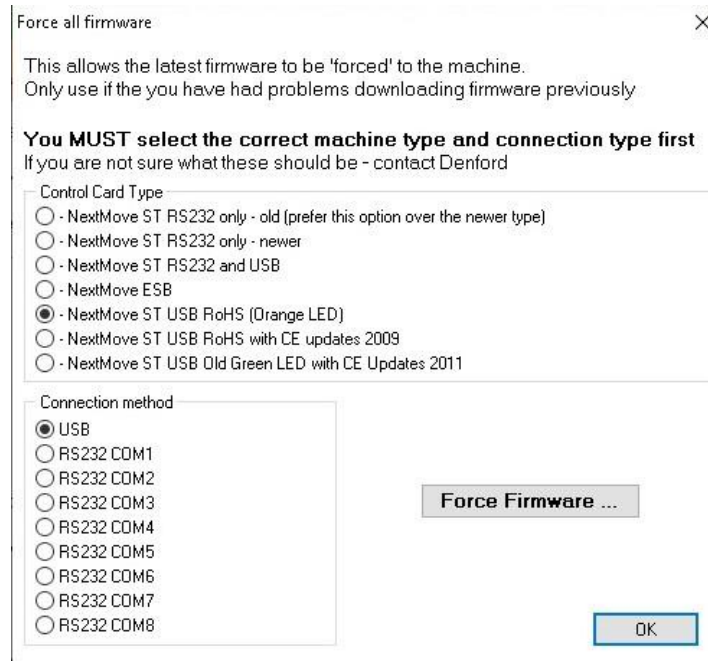


2. Follow the instructions within the software but **do not** carry out step 4. Update



## Tech note – Easy Upgrader 2

3. Double click anywhere on the orange banner to open the card selection window

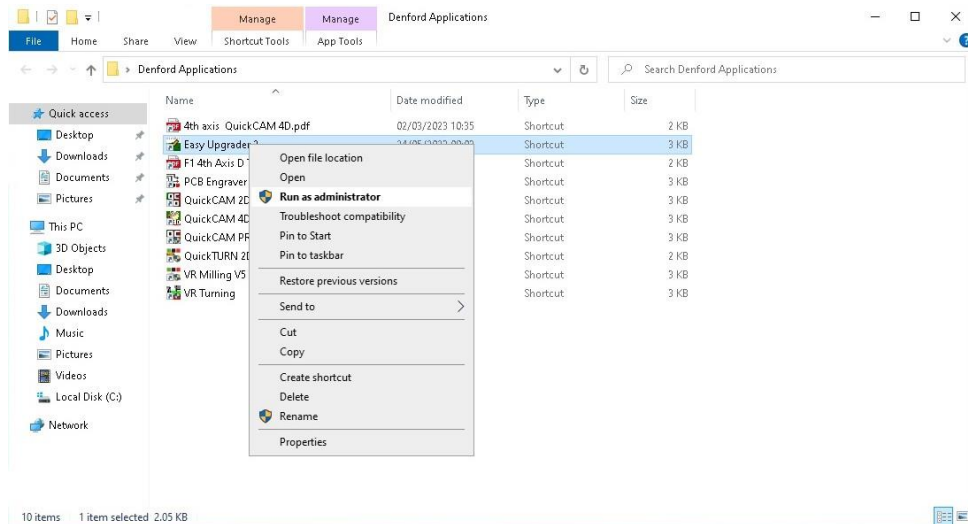


4. Select the correct card you have fitted to your machine with a note on if you have the CE upgrade to the electronics
5. Select the correct connection method
6. Press the Force Firmware button
7. Power cycle the machine once the firmware has downloaded

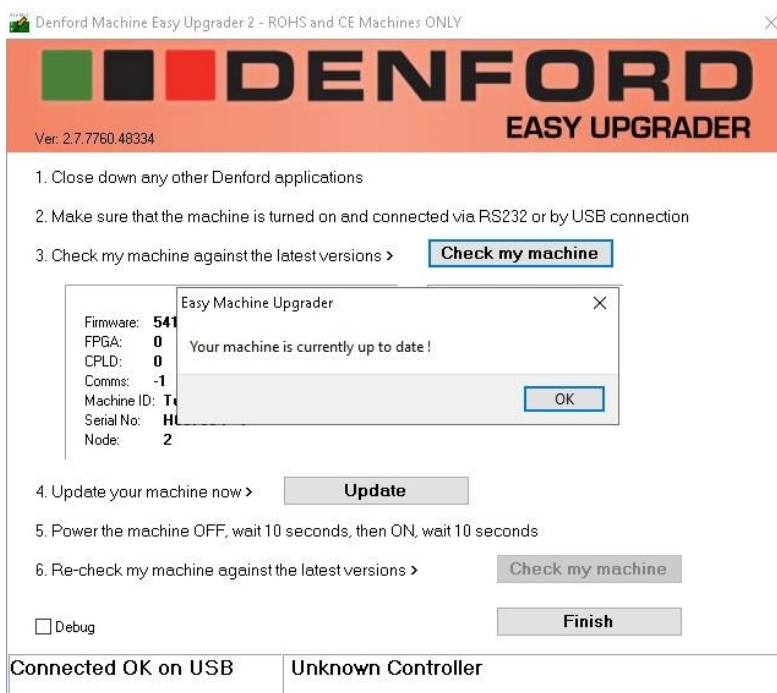
# Tech note – Easy Upgrader 2

## Changing Machine Type or Serial Number

1. Right click Easy Upgrader and Run as Administrator

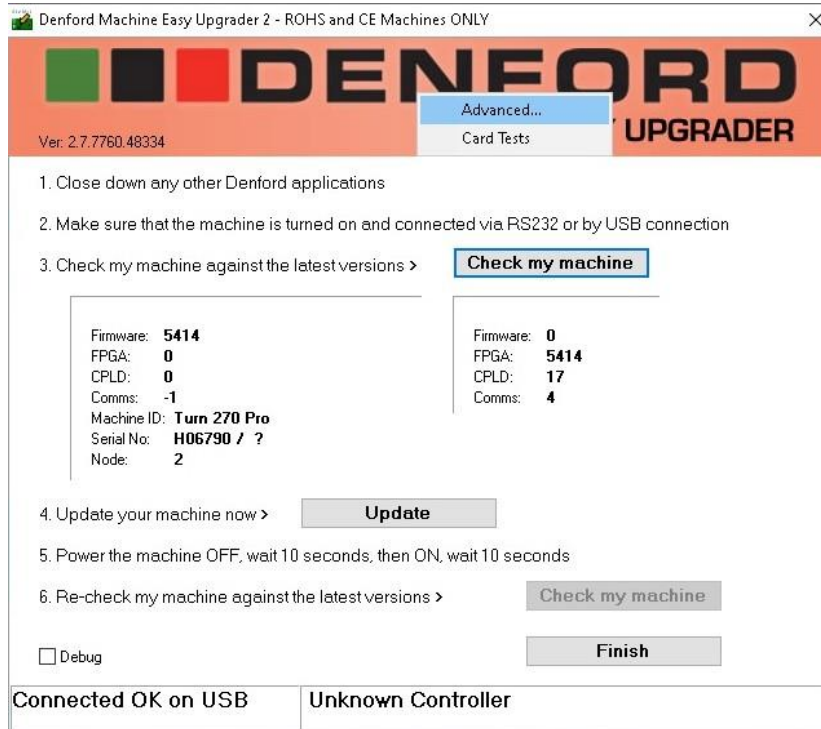


2. Follow the instructions within the software but **do not** carry out step 4. Update

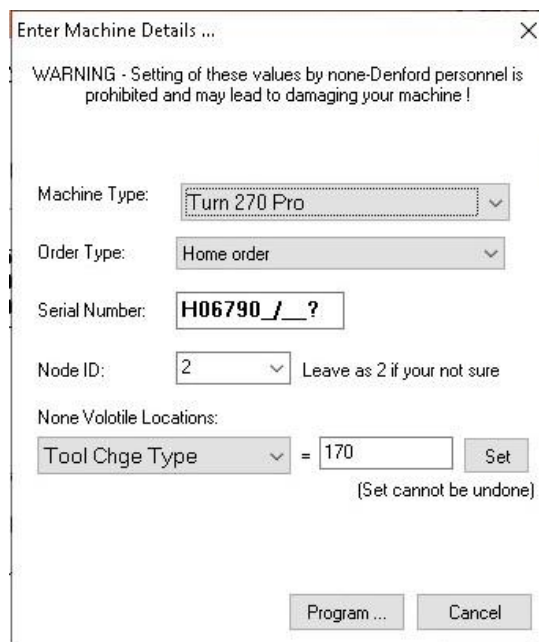


## Tech note – Easy Upgrader 2

3. Right click anywhere on the orange banner and click Advanced – Password is **dave**

The screenshot shows the 'Denford Machine Easy Upgrader 2' application window. The title bar reads 'Denford Machine Easy Upgrader 2 - ROHS and CE Machines ONLY'. The interface has an orange header with the Denford logo and the word 'UPGRADER'. Below the header, there are instructions for the user: 1. Close down any other Denford applications, 2. Make sure that the machine is turned on and connected via RS232 or by USB connection, 3. Check my machine against the latest versions >. A 'Check my machine' button is next to instruction 3. Below the instructions, there are two columns of machine details. The left column shows: Firmware: 5414, FPGA: 0, CPLD: 0, Comms: -1, Machine ID: Turn 270 Pro, Serial No: H06790 / ?, Node: 2. The right column shows: Firmware: 0, FPGA: 5414, CPLD: 17, Comms: 4. Below these details, there are buttons for 'Update', 'Check my machine', and 'Finish'. At the bottom, there are two status boxes: 'Connected OK on USB' and 'Unknown Controller'.

4. The below window will pop up and here the Machine Type and Serial Number can be changed

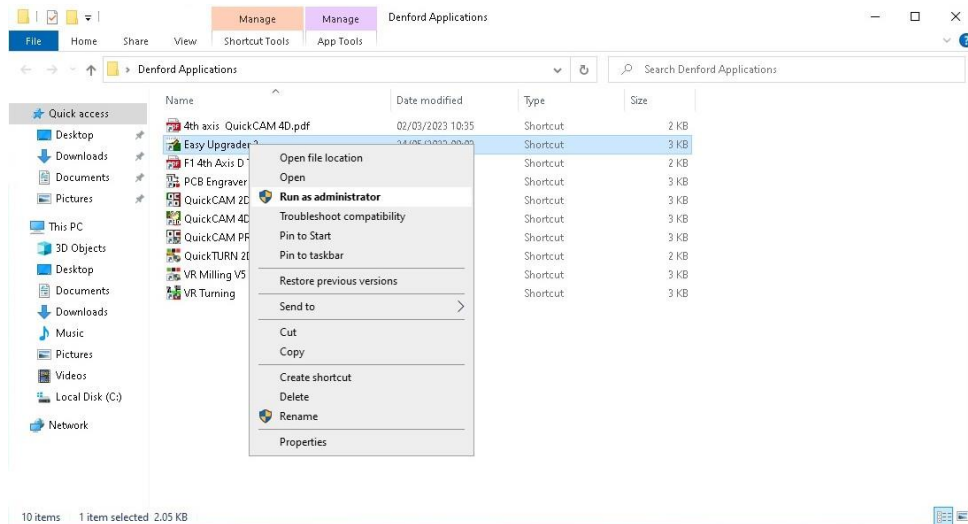
The screenshot shows a dialog box titled 'Enter Machine Details ...'. It contains a warning message: 'WARNING - Setting of these values by none-Denford personnel is prohibited and may lead to damaging your machine!'. Below the warning, there are several input fields: 'Machine Type' (a dropdown menu showing 'Turn 270 Pro'), 'Order Type' (a dropdown menu showing 'Home order'), 'Serial Number' (a text box containing 'H06790 / \_\_?'), 'Node ID' (a dropdown menu showing '2' with a note 'Leave as 2 if your not sure'), and 'None Volatile Locations' (a section with a 'Tool Chge Type' dropdown, an equals sign, a text box with '170', and a 'Set' button). At the bottom, there are 'Program ...' and 'Cancel' buttons.

5. Once changed press the Program button

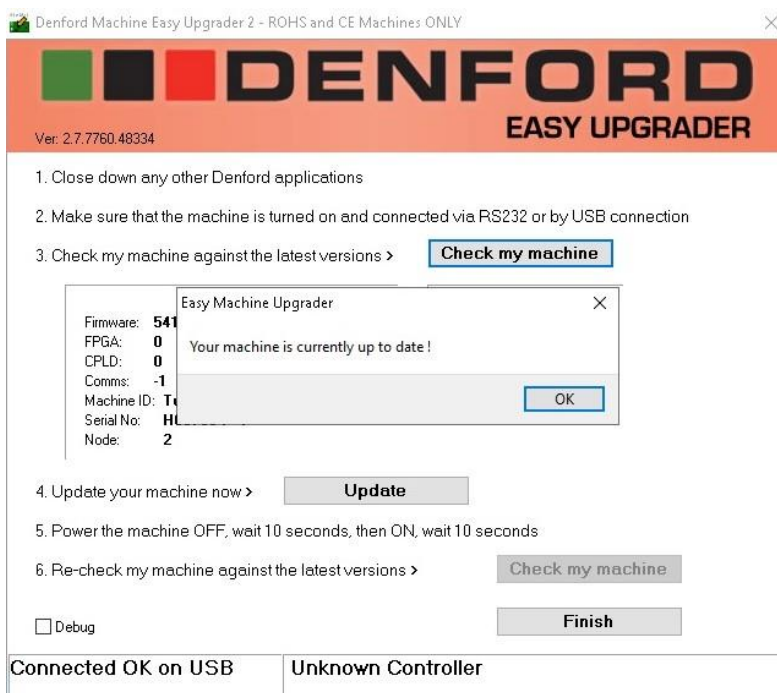
# Tech note – Easy Upgrader 2

## IO Diagnostics and Encoder tests

1. Right click Easy Upgrader and Run as Administrator

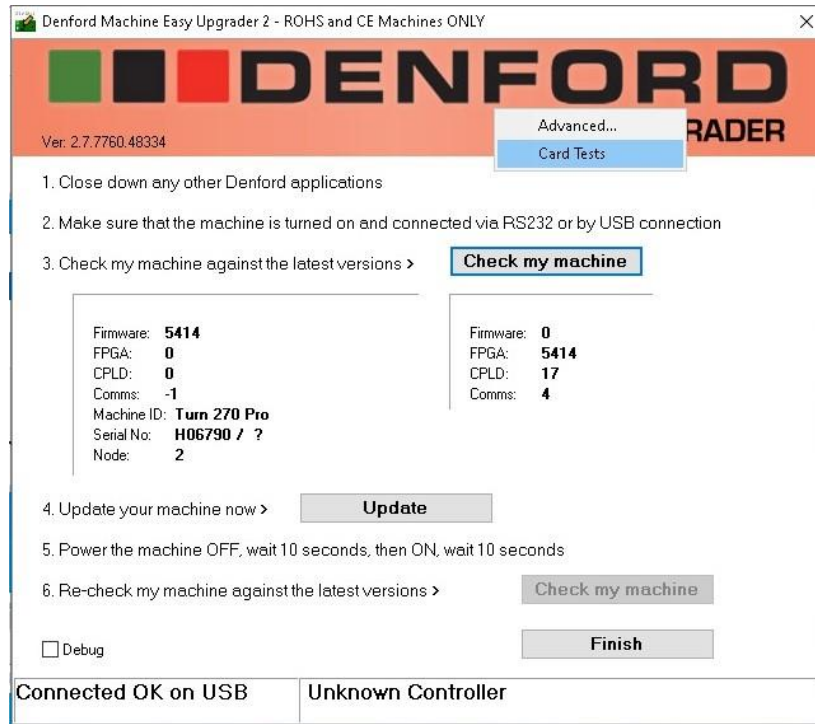


2. Follow the instructions within the software but **do not** carry out step 4. Update



## Tech note – Easy Upgrader 2

- Right click anywhere on the orange banner and click Card Tests – Password is **TRISTAR**



Denford Machine Easy Upgrader 2 - ROHS and CE Machines ONLY

Ver. 2.7.7760.48334

Advanced...  
Card Tests

- Close down any other Denford applications
- Make sure that the machine is turned on and connected via RS232 or by USB connection
- Check my machine against the latest versions > **Check my machine**

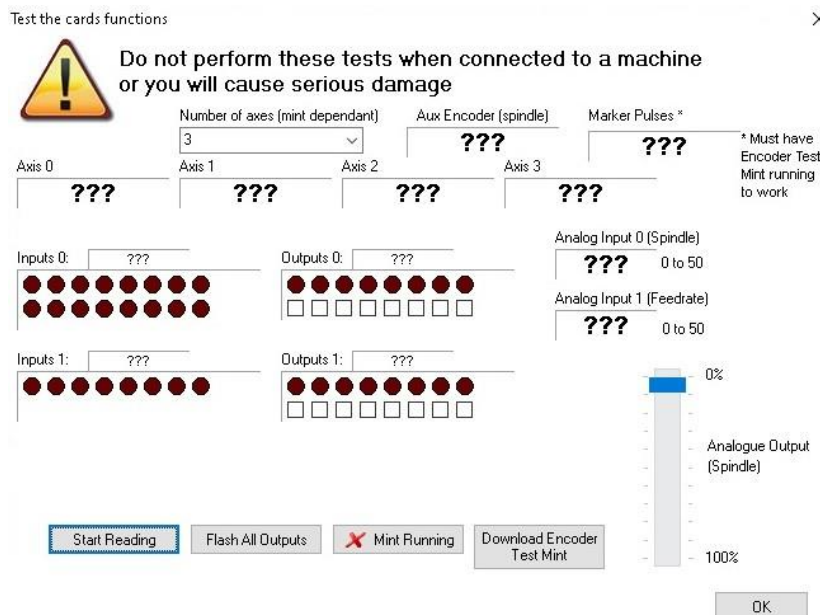
Firmware: <b>5414</b>	Firmware: <b>0</b>
FPGA: <b>0</b>	FPGA: <b>5414</b>
CPLD: <b>0</b>	CPLD: <b>17</b>
Comms: <b>-1</b>	Comms: <b>4</b>
Machine ID: <b>Turn 270 Pro</b>	
Serial No: <b>H06790 / ?</b>	
Node: <b>2</b>	

- Update your machine now > **Update**
- Power the machine OFF, wait 10 seconds, then ON, wait 10 seconds
- Re-check my machine against the latest versions > **Check my machine**

☐ Debug **Finish**

Connected OK on USB    Unknown Controller

- In order to monitor the IO, the Start Reading button must be pressed in the bottom left hand corner



Test the cards functions

**Do not perform these tests when connected to a machine or you will cause serious damage**

Number of axes (mint dependant): **3**

Aux Encoder (spindle): **???**

Marker Pulses \*: **???**

\* Must have Encoder Test Mint running to work

Axis 0: **???**    Axis 1: **???**    Axis 2: **???**    Axis 3: **???**

Inputs 0: **???**    Outputs 0: **???**

Inputs 1: **???**    Outputs 1: **???**

Analog Input 0 (Spindle): **???** 0 to 50

Analog Input 1 (Feedrate): **???** 0 to 50

Analog Output (Spindle): 0% to 100%

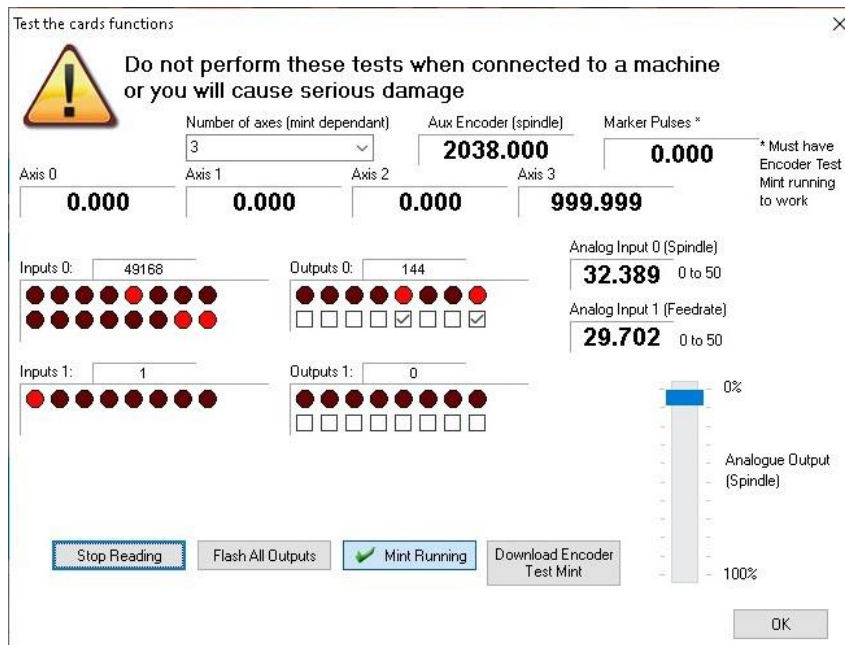
**Start Reading**    **Flash All Outputs**    **Mint Running**    **Download Encoder Test Mint**

**OK**



## Tech note – Easy Upgrader 2

5. Within the menu:
- The spindle encoder position (if fitted) can be monitored
  - The Marker Pulse of the encoder can be monitored (for notification of a full revolution)
  - The position of the AXES can be viewed
  - The different inputs can be monitored
  - The different outputs can be monitored and forced on or off using the check box underneath
  - The Analogue Inputs (for the spindle speed and federate speed override knobs if fitted) can be monitored

The screenshot shows a software window titled "Test the cards functions" with a close button (X) in the top right corner. A yellow warning triangle icon is on the left, followed by the text: "Do not perform these tests when connected to a machine or you will cause serious damage". The interface includes several data fields and controls:

- Number of axes (mint dependant):** A dropdown menu showing "3".
- Aux Encoder (spindle):** A text box showing "2038.000".
- Marker Pulses \*:** A text box showing "0.000".
- Axis 0:** A text box showing "0.000".
- Axis 1:** A text box showing "0.000".
- Axis 2:** A text box showing "0.000".
- Axis 3:** A text box showing "999.999".
- Inputs 0:** A text box showing "49168" above a row of 10 red indicator lights.
- Outputs 0:** A text box showing "144" above a row of 10 red indicator lights, each with a checkbox below it. The 4th and 10th checkboxes are checked.
- Inputs 1:** A text box showing "1" above a row of 10 red indicator lights.
- Outputs 1:** A text box showing "0" above a row of 10 red indicator lights, each with a checkbox below it.
- Analog Input 0 (Spindle):** A text box showing "32.389" with a range of "0 to 50".
- Analog Input 1 (Feedrate):** A text box showing "29.702" with a range of "0 to 50".
- Analogue Output (Spindle):** A vertical slider bar ranging from 0% to 100%, currently positioned at 0%.
- Buttons:** "Stop Reading", "Flash All Outputs", "Mint Running" (with a green checkmark icon), and "Download Encoder Test Mint".
- OK button:** Located at the bottom right.

Note in order to carry out any Encoder tests, the Download Encoder Test Mint button should be pressed first.