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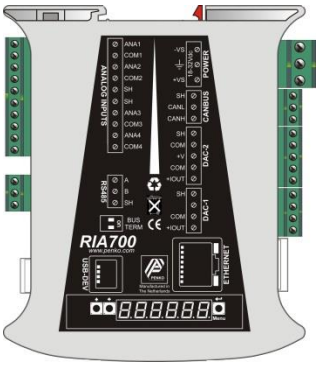

How to…
Connect and setup the RIA700 and FLEX 2100

PENKO
an ETC Company

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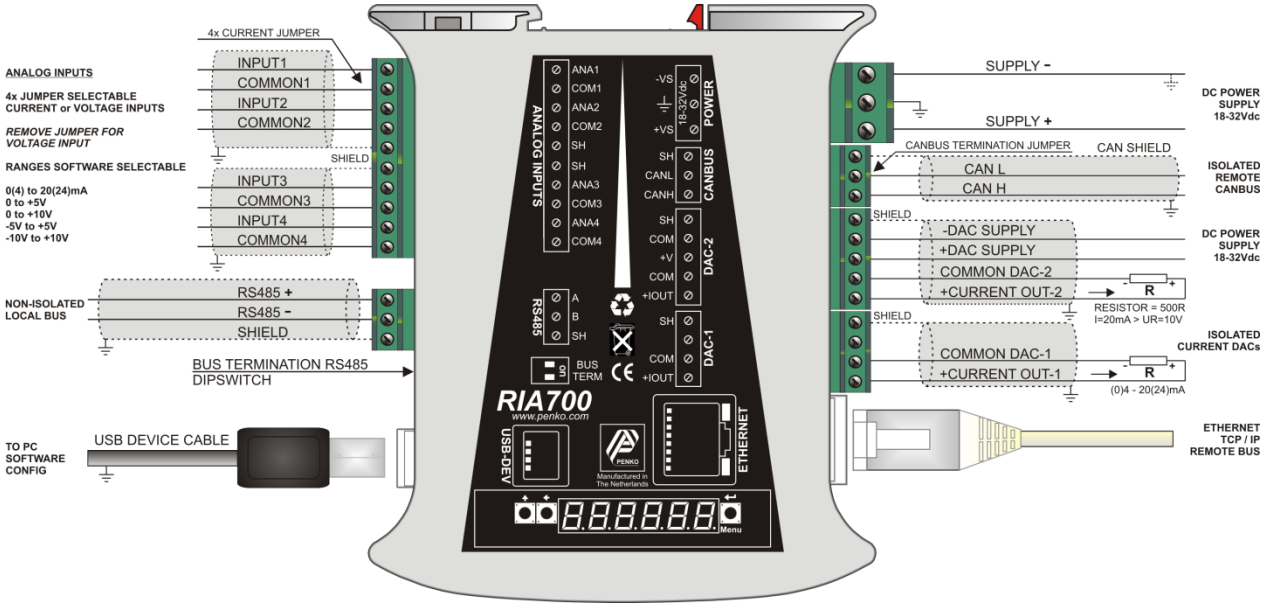
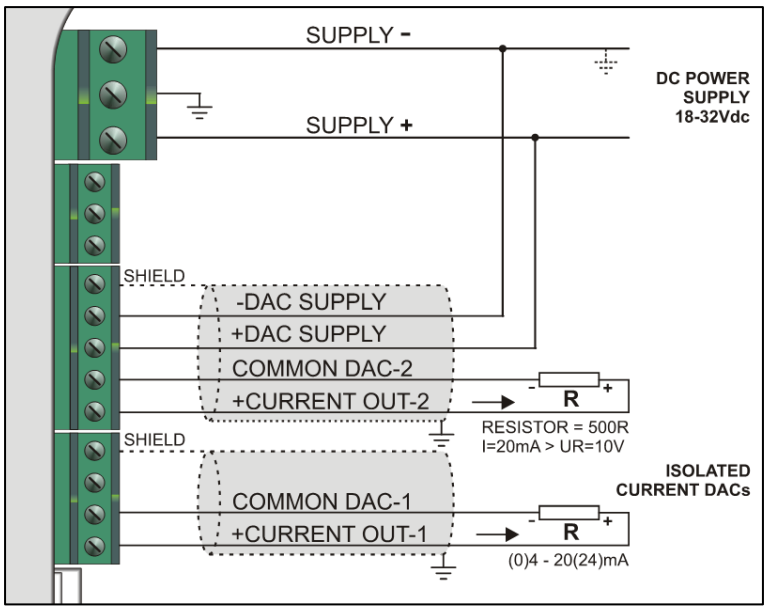
General information

If you only connect the USB-Cable to power the RIA700, the communication ports and analog in- and outputs will not work. The power supply via the USB-Cable is for changing parameter only.

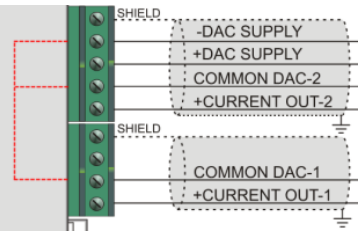


Note: make sure that you connect the DAC power supply otherwise the DAC outputs will not work.

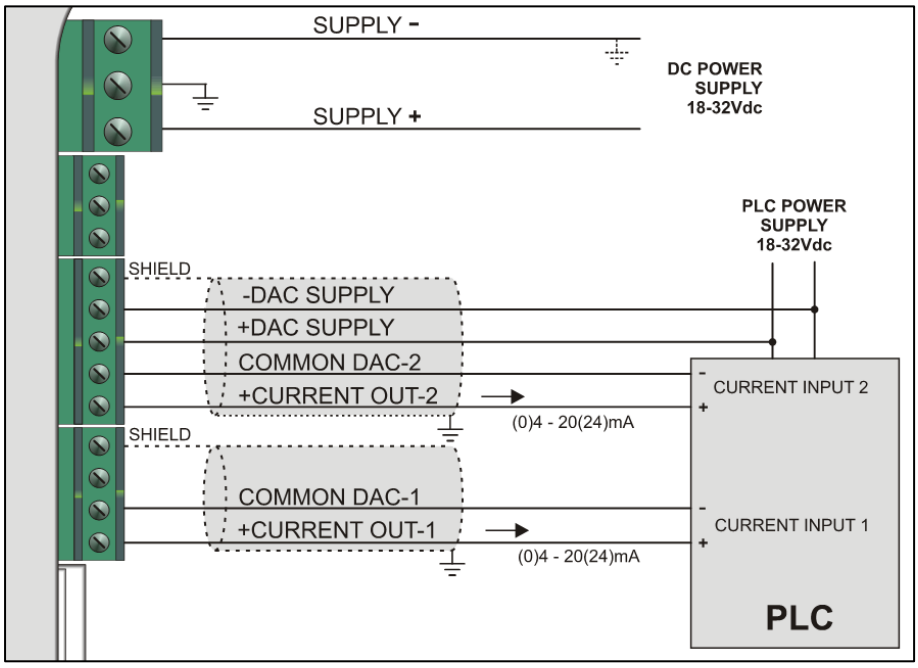
Using the device power supply:



COMMON DAC-1 and COMMON DAC-2 are internally connected to the -DAC SUPPLY. When using the device power supply for the DAC, the current loop will include the SUPPLY- of the device power supply.



Using an external power supply:



In this example the current loop is isolated from the device power supply.

Connecting the RIA700 to a FLEX 2100 with CAN bus

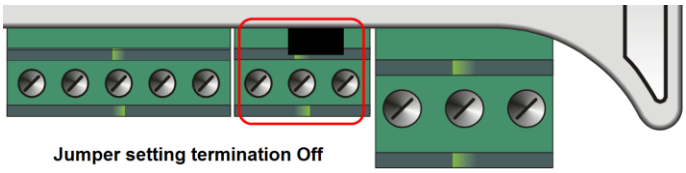
First of all you will need to connect the RIA700 to the FLEX, this can be done by connecting a cable with two wires and a shield parallel (**CanH** goes to **CanH**, **CanL** goes to **CanL** and **Shield** goes to **Shield**). Place a resistor of 120 Ω between **CanH** and **CanL** on the connector side of the FLEX.

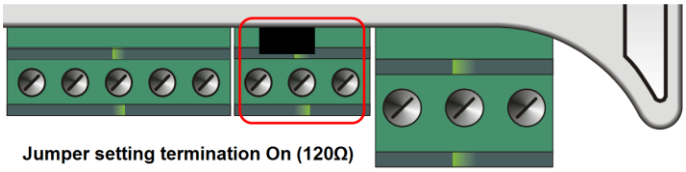
Connect the RIA700 to a FLEX 2100

FLEX 2100		**RIA700**
CanH	Connect to	CanH
CanL	Connect to	CanL
Shield	Connect to	Shield

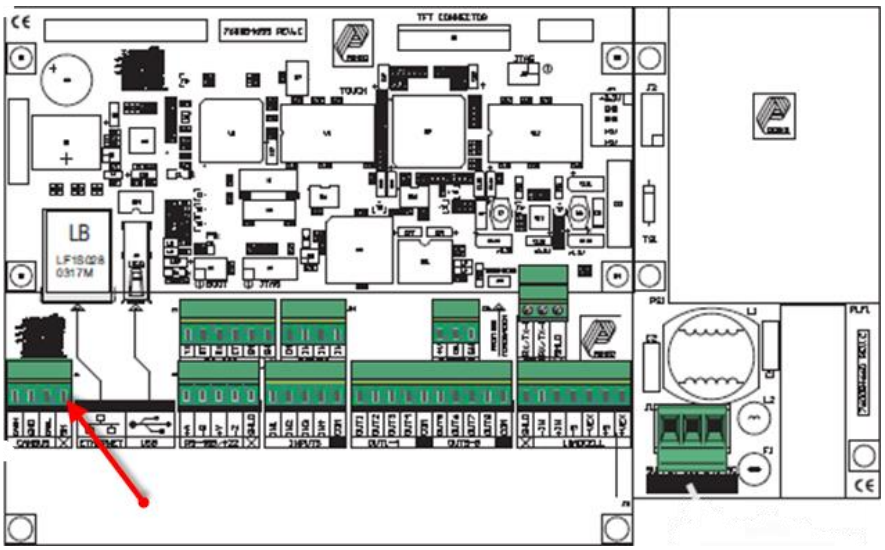
Set the jumper on the RIA700 in the termination “ON” position. This will terminate the bus. The jumper is located above the CAN bus connector.

The CAN bus termination is done with a jumper:



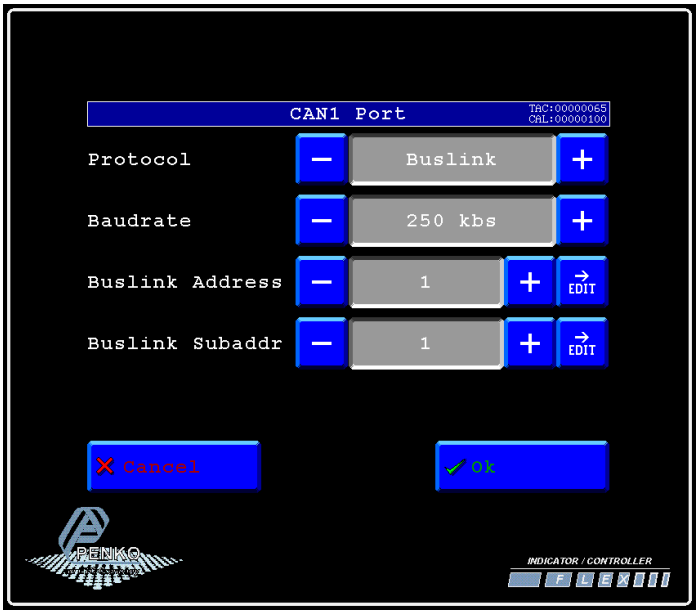


FLEX 2100 CAN bus connector



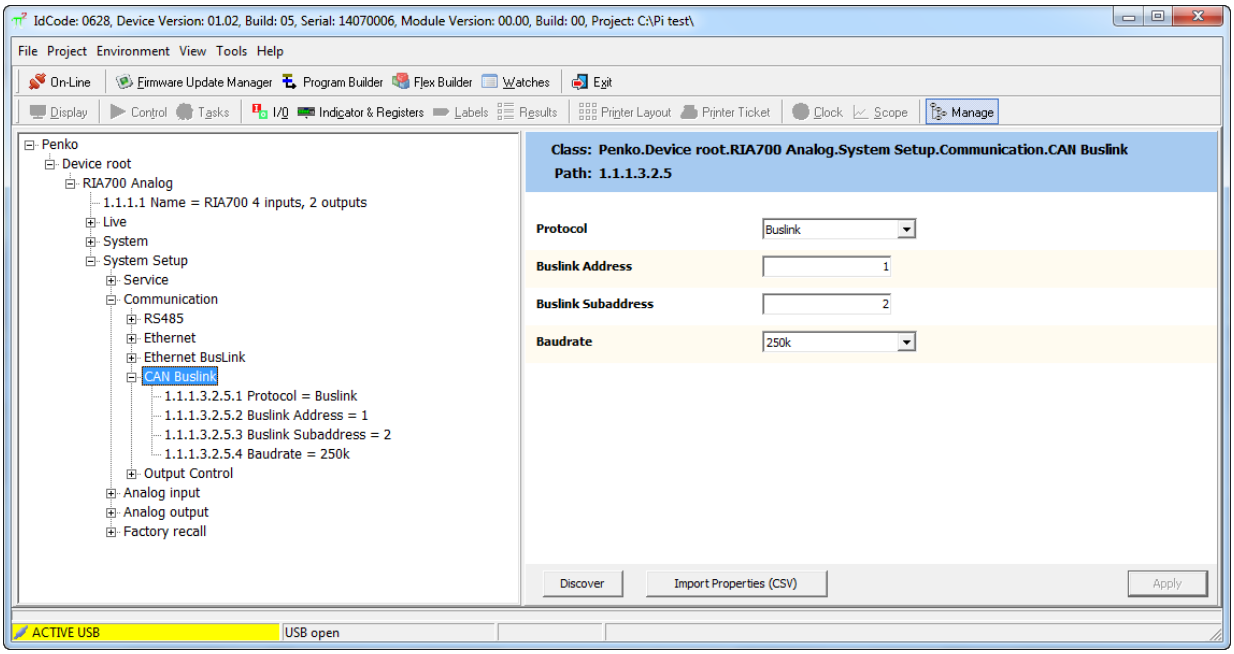
Setup the FLEX

Go to **System setting → System Setup → Port Setup → CAN1 Port**. Set **Protocol** on "**Buslink**", **Baudrate** on "**250 kbs**", **Buslink Address** on "**1**" and **Buslink Subaddr** on "**1**". Press **OK** to save settings. Press **Home** to return to the main screen.

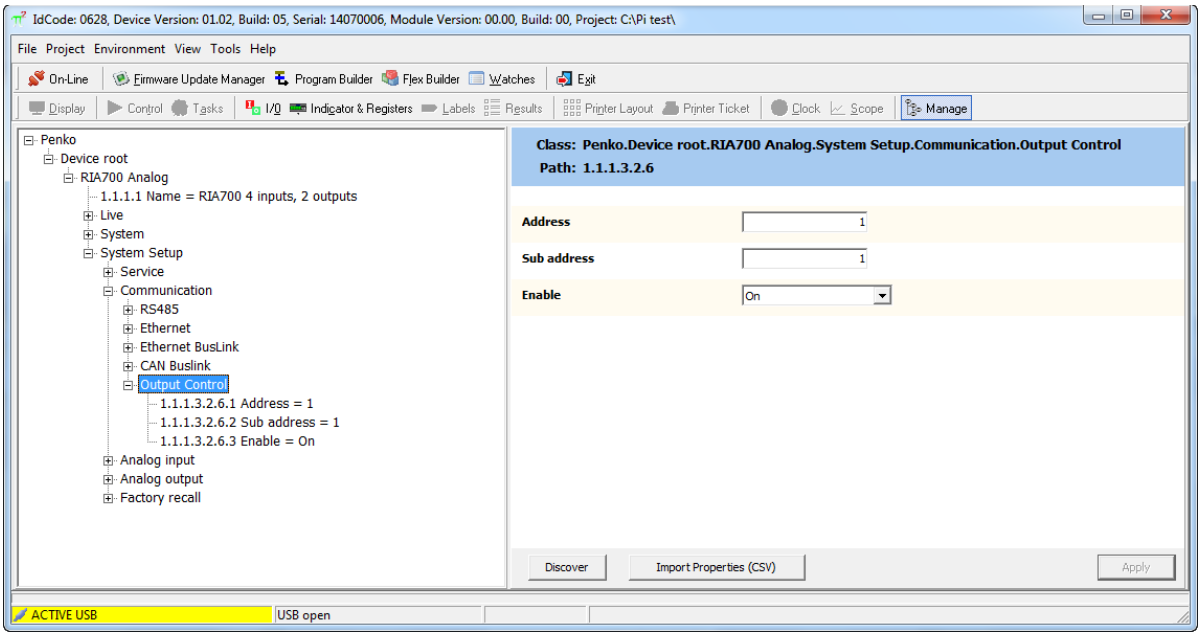


Setup the RIA700

Open Pi Mach II and double click on **RIA700**, then double click on **System Setup**, then double click on **Communication**, then double click on **CAN Buslink**. Set **Protocol** on "**Buslink**", **Buslink Address** on "**1**", **Buslink Sub address** on "**2**" and the **Baudrate** on "**250K**". Click on **Apply** to save settings.

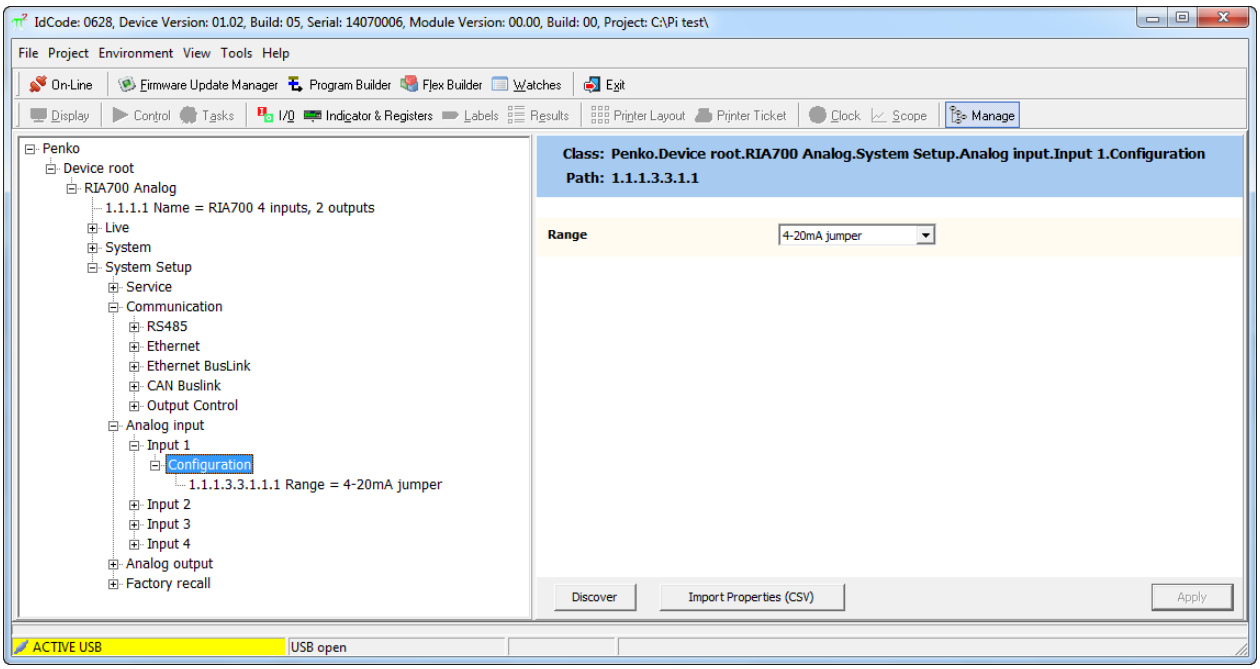


Double click on **Output Control** and set **Address** to "**1**", **Sub address** to "**1**" and set **Enable On**. Click on **Apply** to save settings.



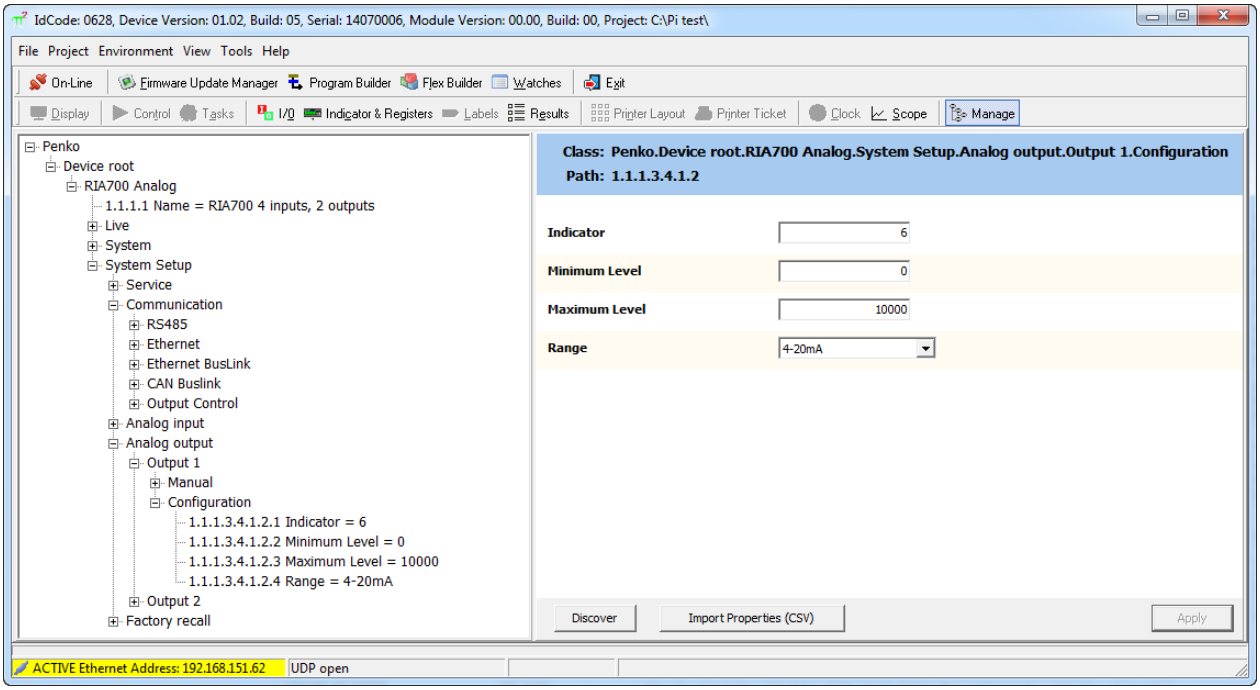
Analog inputs

Double click on **Analog input**, then double click on **Input 1** and double click on **Configuration**. Here you can set the **Range**. The **Range** must be set to **4 – 20mA.** Click on **Apply** to save the changes.



Analog outputs

Double click on **Analog output**, then double click on **Output 1** and double click on **Configuration**. Here you can set the **Parameters**.



Indicator: Set **Indicator** to **6**.

Minimum Level: Set **Minimum Level** to **0** (Level of Indicator 6).

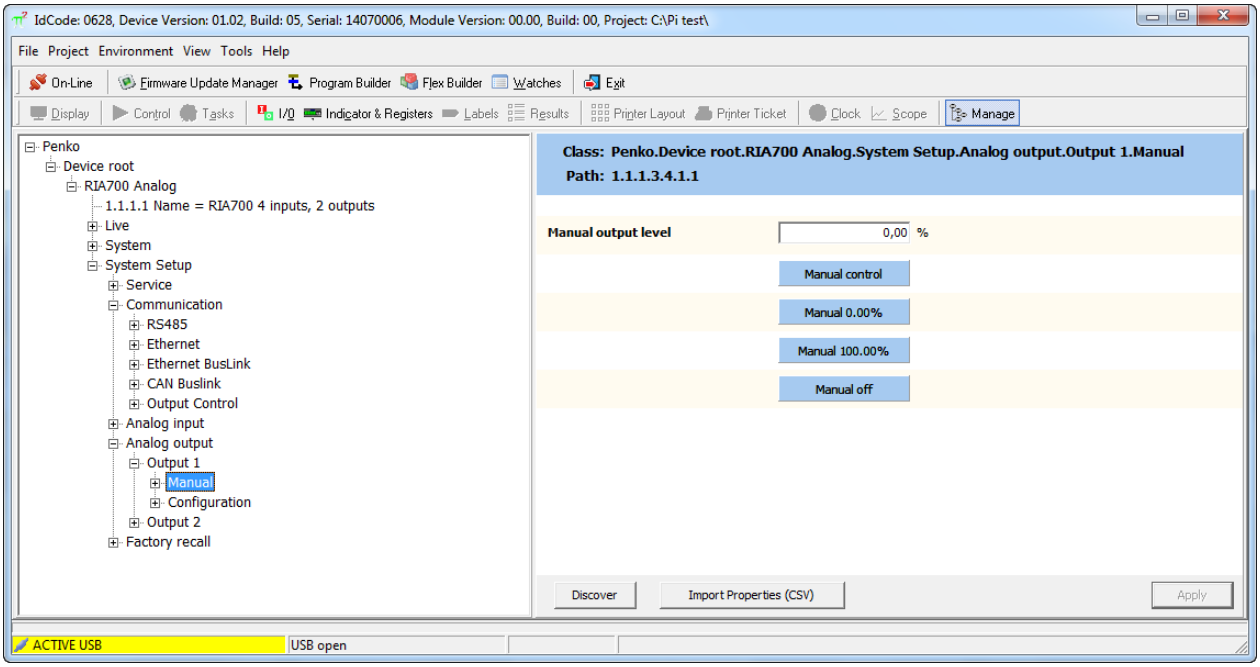
Maximum Level: Set **Maximum Level** to **10000** (Level of Indicator 6).

Range: Set **Range** to **4 – 20mA.**

Click on **Apply** to save the changes.

Control the DAC outputs manually

It is possible to control the DAC outputs manually. Double click on **System Setup,** double click on **Analog output**, then double click on **Output 1** and double click on **Manual**.



Manual output level: here you can set the DAC output manually in a percentage.

Manual control: click on **Manual control** to set the DAC output with an percentage you have set in the **Manual output level**.

Manual 0.00%: click on this button the set the DAC output to 0.00%

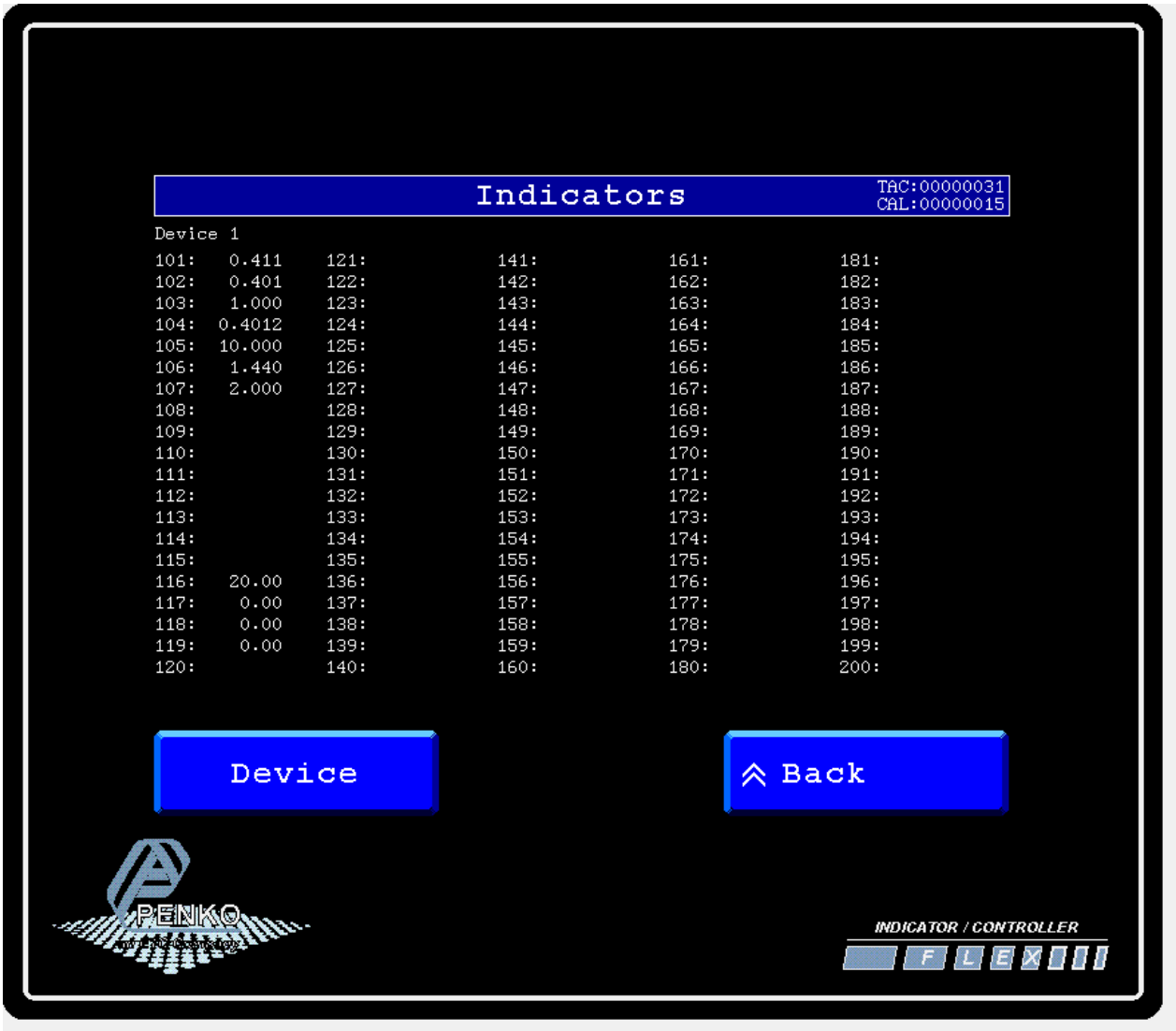
Manual 100.00%: click on this button the set the DAC output to 100.00%

Manual off: click on this button to stop the manual output, the output will now look at the selected Indicator.

Checking the connection

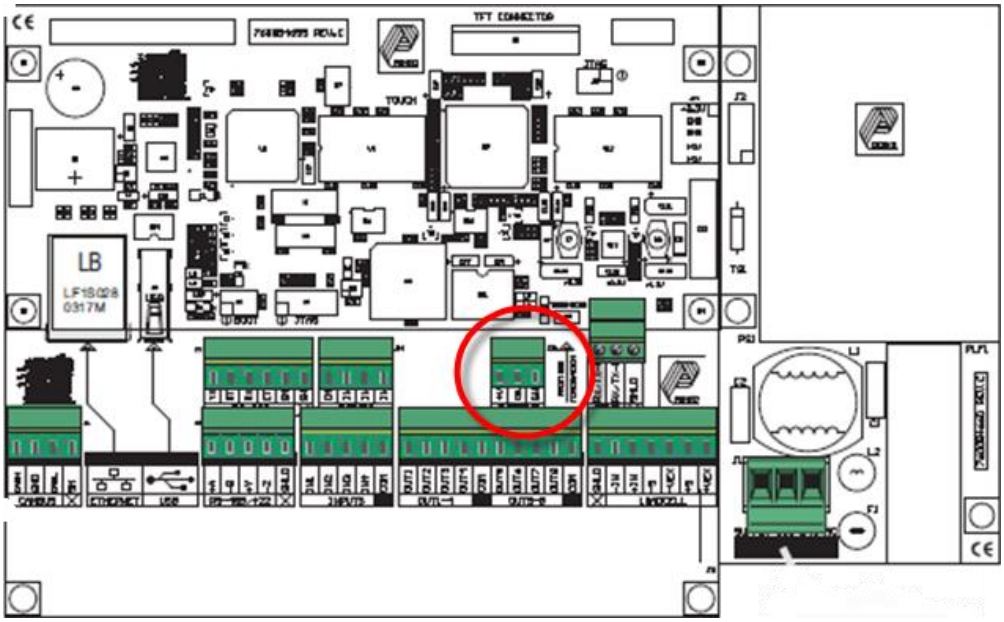
To check if the connection works, use the FLEX and go to **Menu → Status → Indicators → Device**. Now you should see the 4 analog inputs from 116 to 119 if they are switched on.

The2 analog output is shown at 106.

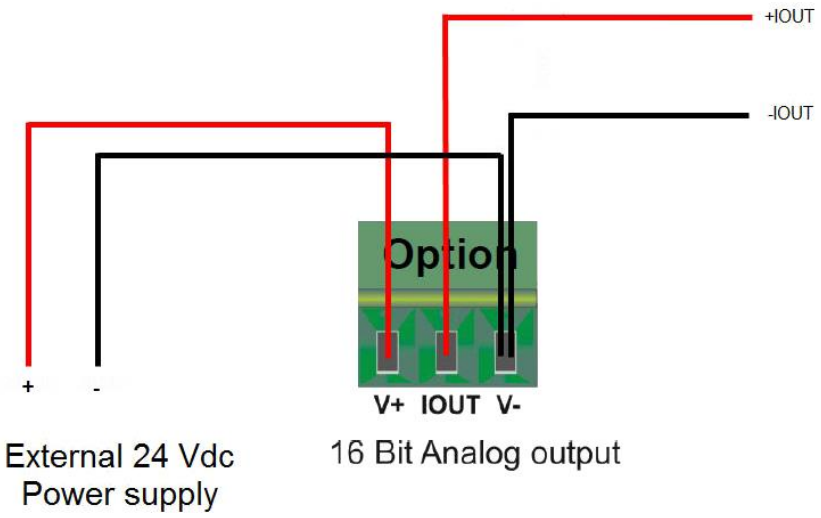


Connect the FLEX 2100 analog output

Location of the analog output

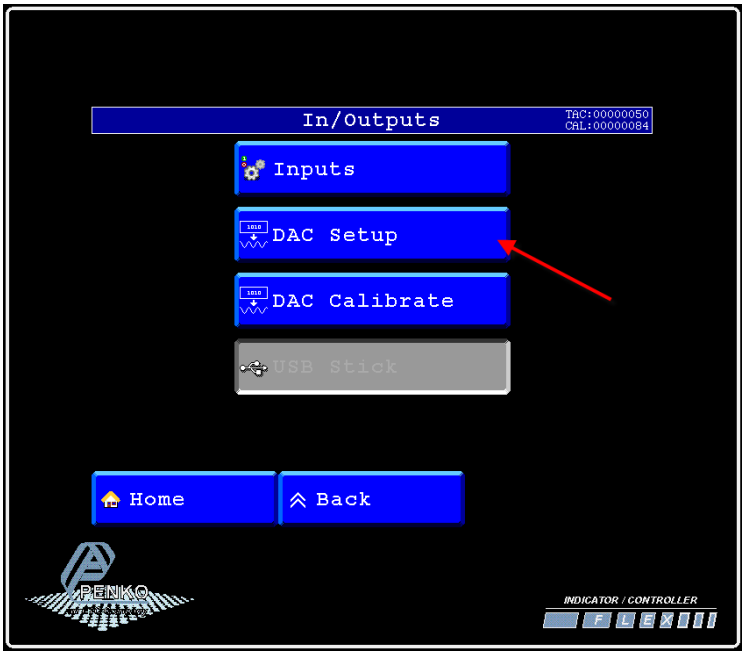


The analog output is an passive output therefore the analog output must have an external 24Vdc power supply.

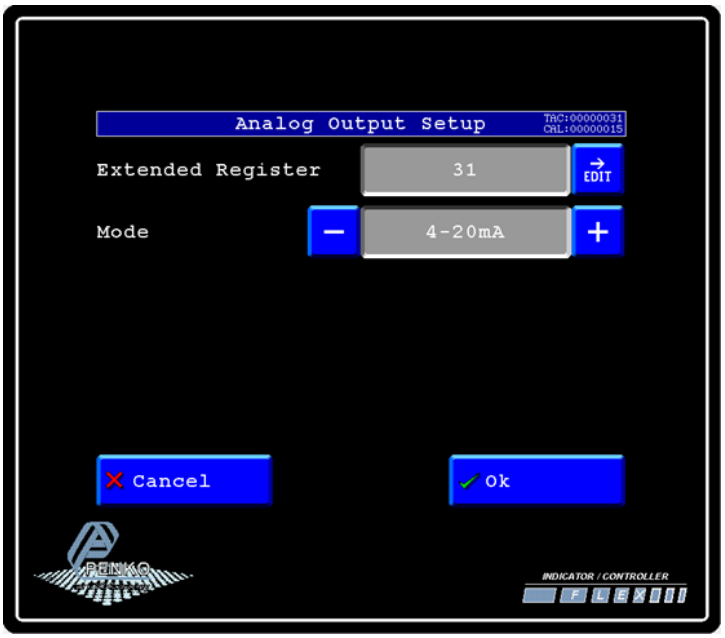


Analog output

Go to **System setting → System Setup → In/Output → DAC Setup**.



Set the **Extended Register** to **31** and **Mode** to **4 – 20mA**.



Press **OK** to save the settings and press **Home** to return to FLEX BLT "Menu"

About PENKO

Our design expertise include systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering B.V. has been at the forefront of development and production of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs, increase ROI and drive profits for some of the largest global brands, such as Cargill, Sara Lee, Heinz, Kraft Foods and Unilever to name but a few.

Whether you are looking for a simple stand-alone weighing system or a high-speed weighing and dosing controller for a complex automated production line, PENKO has a comprehensive range of standard solutions you can rely on.

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http://penko.com/nl/publications_certificates.html

PENKO Professional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. A schedule of training sessions is found on: **www.penko.com/training**

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