



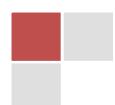
# Cartes FDbus FDbus Cards

Installation et paramétrages du système FDBUS

Installation and settings FDBUS system



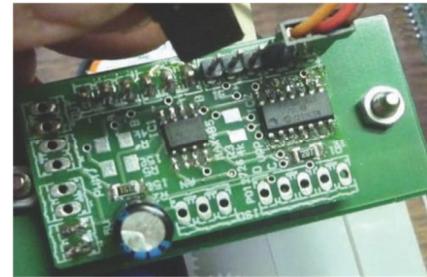
**Installation du FDbus  
1 module analogique  
1 module servo  
et exemple de paramétrages des jauge à servomoteur**



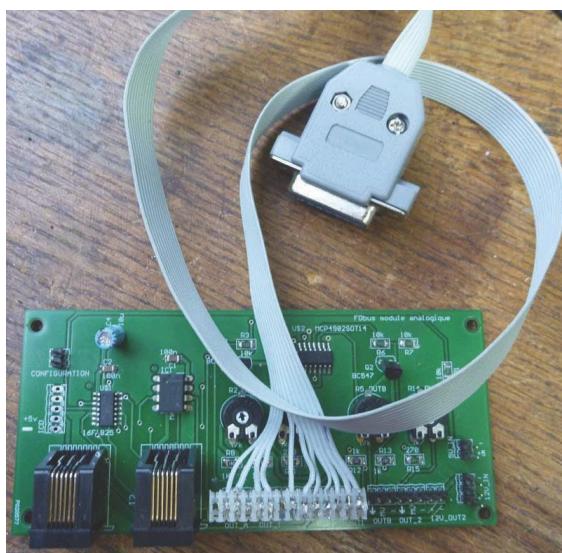
# Composition du matériel fourni



1 carte maitre FD0019



1 module servomoteur FD0020



1 module analogique FD0021 et son câble VOR



2 câbles BUS



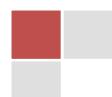
1 VOR modifié



Cliquer sur lien suivant pour télécharger le pilote

[Pilote FDbus](#)

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## Matériel non fourni

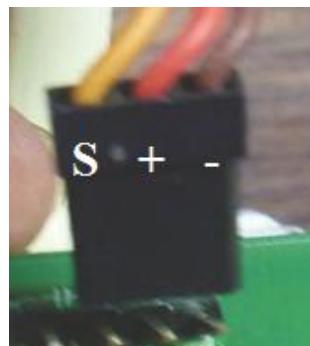
1 câble USB de type A-B



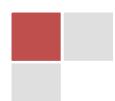
Source d'alimentation 5V 0.5A x par le nombre de servomoteurs

Source d'alimentation pour le backlight du VOR

2 jauge équipées de 2 servomoteurs câblés  
Tel que montré ci-contre



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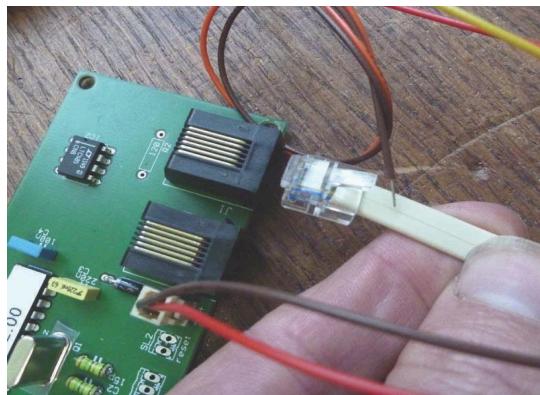
# Connexions



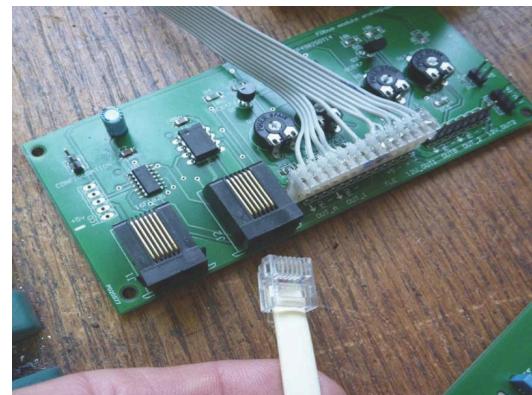
Connecter le VOR sur la carte analogique



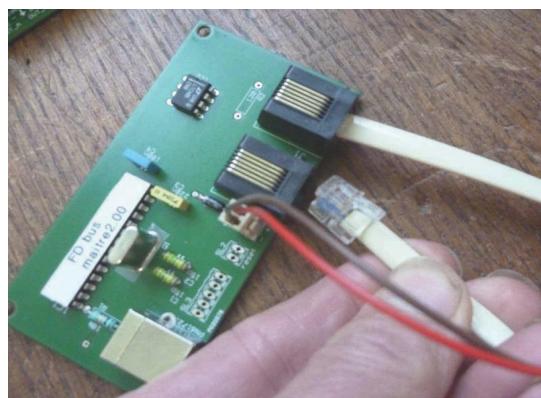
Connecter l'alimentation 5V sur la carte maître



Connecter le 1<sup>ier</sup> câble bus sur la carte maître



Connecter l'autre côté du câble sur le module servo



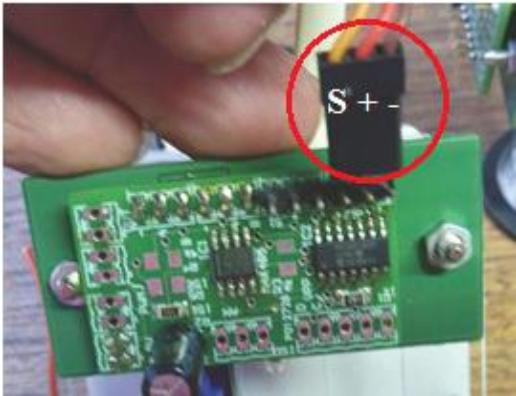
Connecter le 2<sup>ième</sup> câble bus sur la carte maître



Connecter l'autre côté du câble sur le module analogique

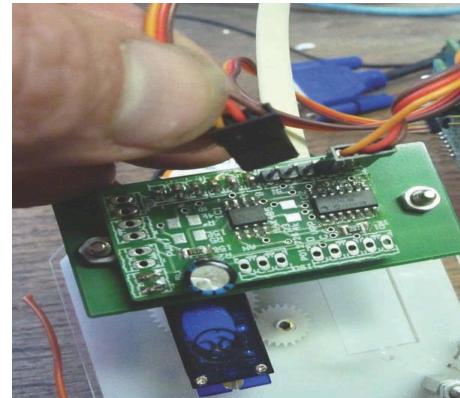
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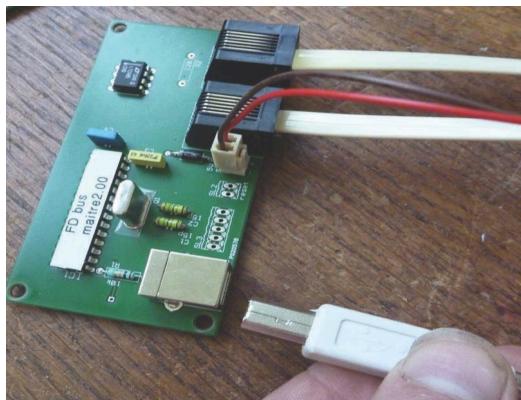
Connecter le servo à la jauge ampèremètre sur le module servo connecteur servo droit.

**ATTENTION AU SENS**



Connecter le servo à la jauge succion sur le module servo connecteur servo gauche.

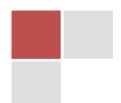
**ATTENTION AU SENS**



Connecter le câble USB à la carte maître et PC

**Important :** Si ce n'est pas fait, mettre sous tension le 5V AVANT le lancement du pilote.

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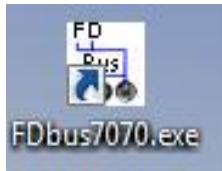
# Test et paramétrages

Le VOR a été réglé en atelier, il n'y rien à faire.

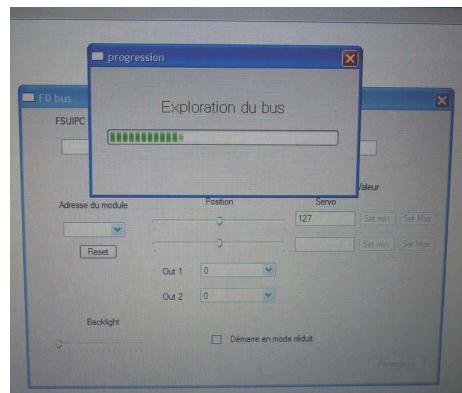
Les jauge doivent être paramétrées selon l'angle de déplacement de l'aiguille.

Note : offsets et valeurs sont préenregistrées dans le ‘module jauge’.

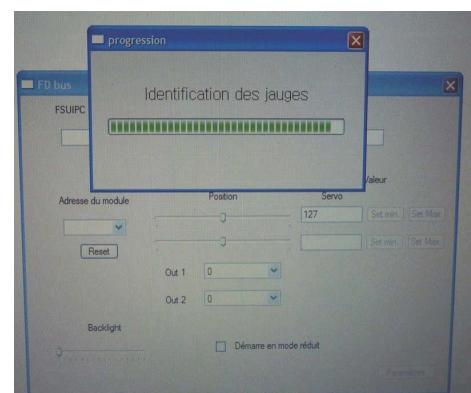
- Prise de gauche : servo 1, jauge de succion
- Prise de droite : servo 2, jauge ampèremètre



Exécuter le pilote



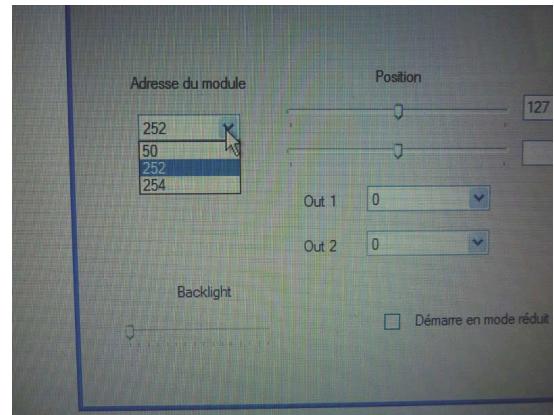
Attendre la fin de l'exploration du bus



Attendre la fin de l'identification des modules

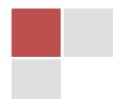


Les servo se placent en position centrale



Sélectionner l'adresse 252 dans la liste déroulante  
C'est l'adresse du module servo

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## Recherche de la position mini de l'aiguille



Déplacer le curseur du servo 1 pour atteindre la position basse sur la jauge. Cliquer sur ‘Set Min’

## Recherche de la position maxi de l'aiguille



Déplacer le curseur du servo 1 pour atteindre la position haute sur la jauge. Cliquer sur ‘Set Max’

## Calibrage des positions intermédiaires et mémorisation des valeurs

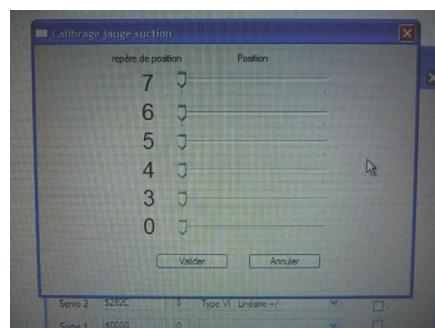


Cliquer sur paramètres

Les valeurs mini et maxi de la  
‘course 1’ sont renseignées

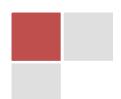
Ici, 85 et 167

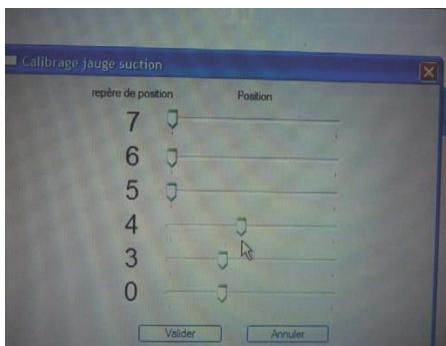
Cliquer sur ‘Calibrage’



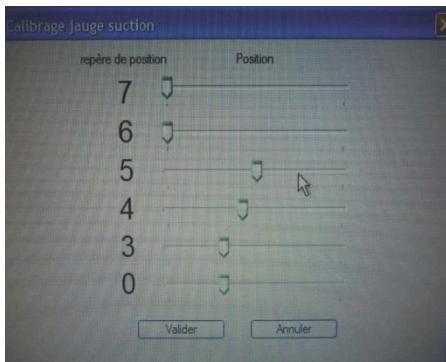
Les 6 curseurs représentent les 6 repères de la jauge succion

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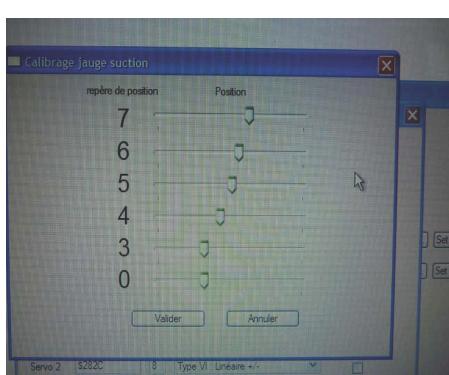




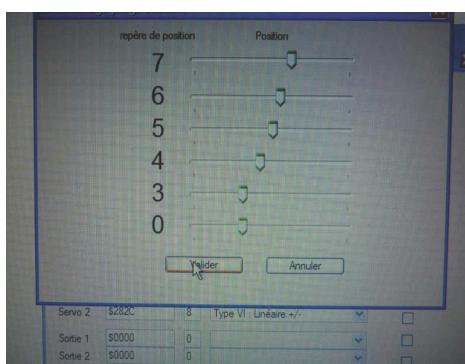
Positionner le curseur 4 pour placer l'aiguille sur le repère 4



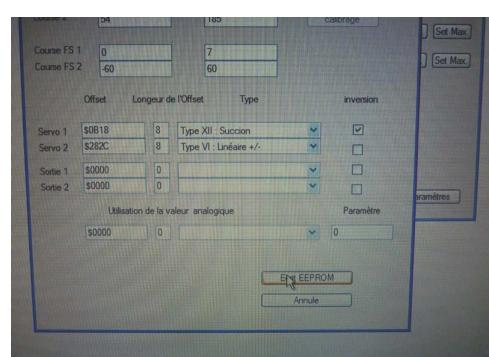
Positionner le curseur 5 pour placer l'aiguille sur le repère 5



Positionner le curseur 6 pour placer l'aiguille sur le repère 6

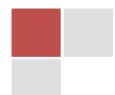


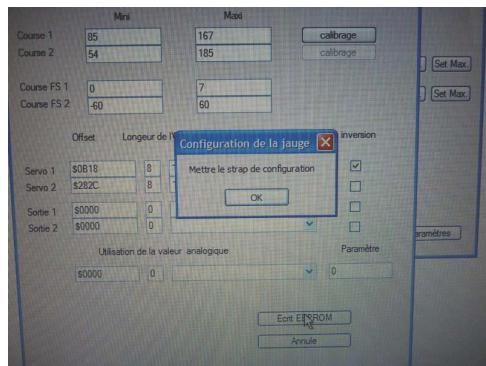
Cliquer sur 'Valider' pour enregistrer les modifications



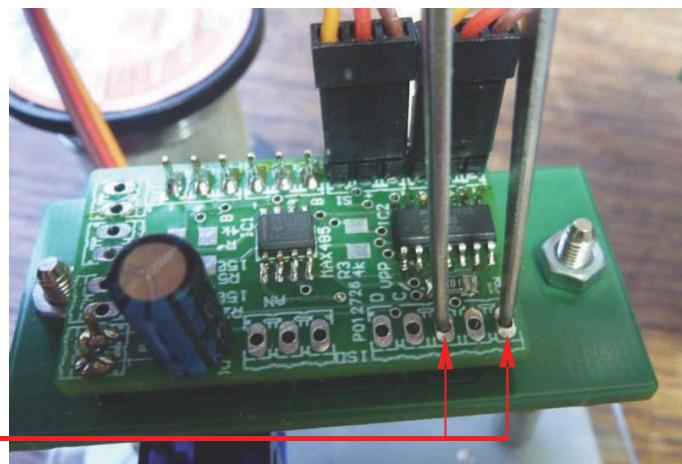
Cliquer sur 'Ecrit EEPROM' pour écrire les modifications dans le module

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Il faut placer un fil entre les 2 points pour Autoriser l'écriture dans le module



**Note Importante**  
**Il faut quitter le pilote et le relancer pour que les nouveaux paramètres soient pris en compte**

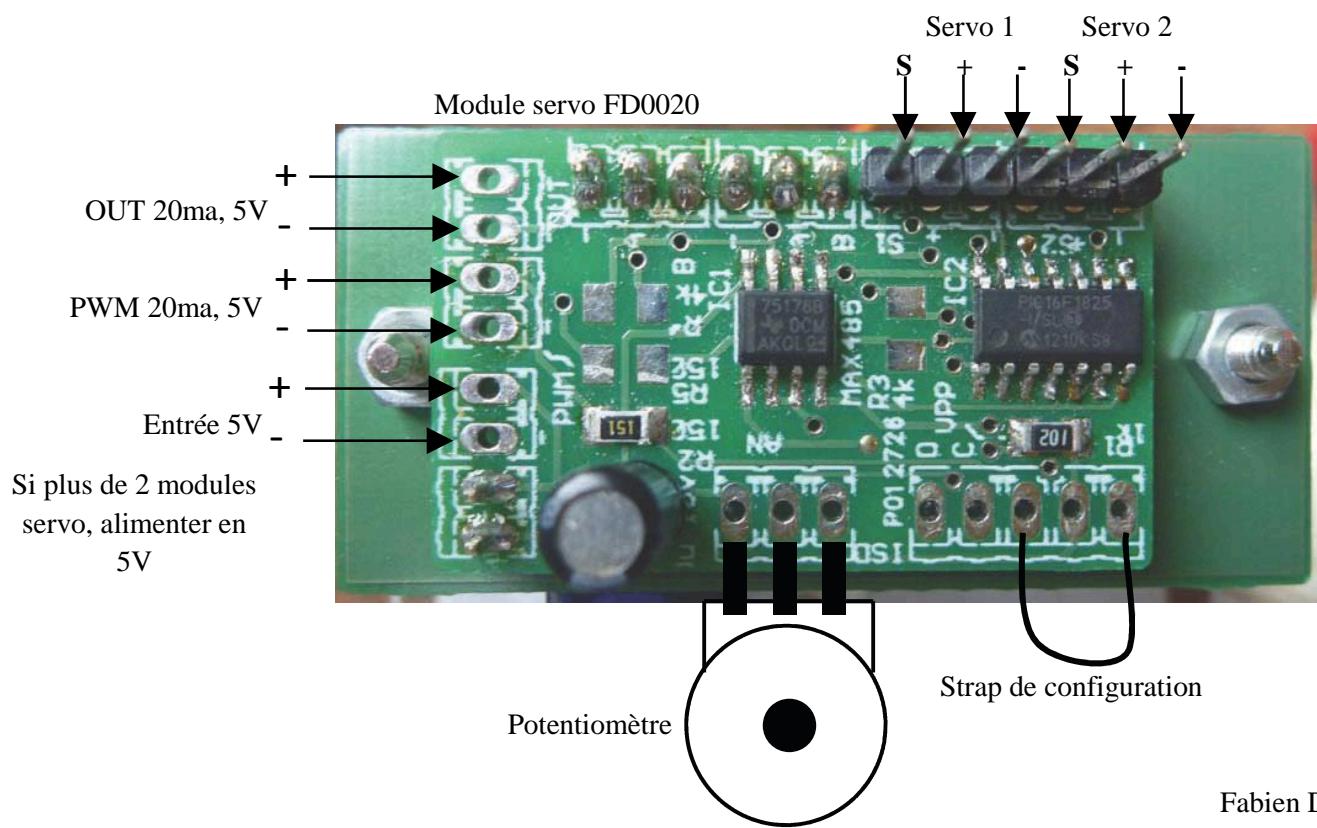
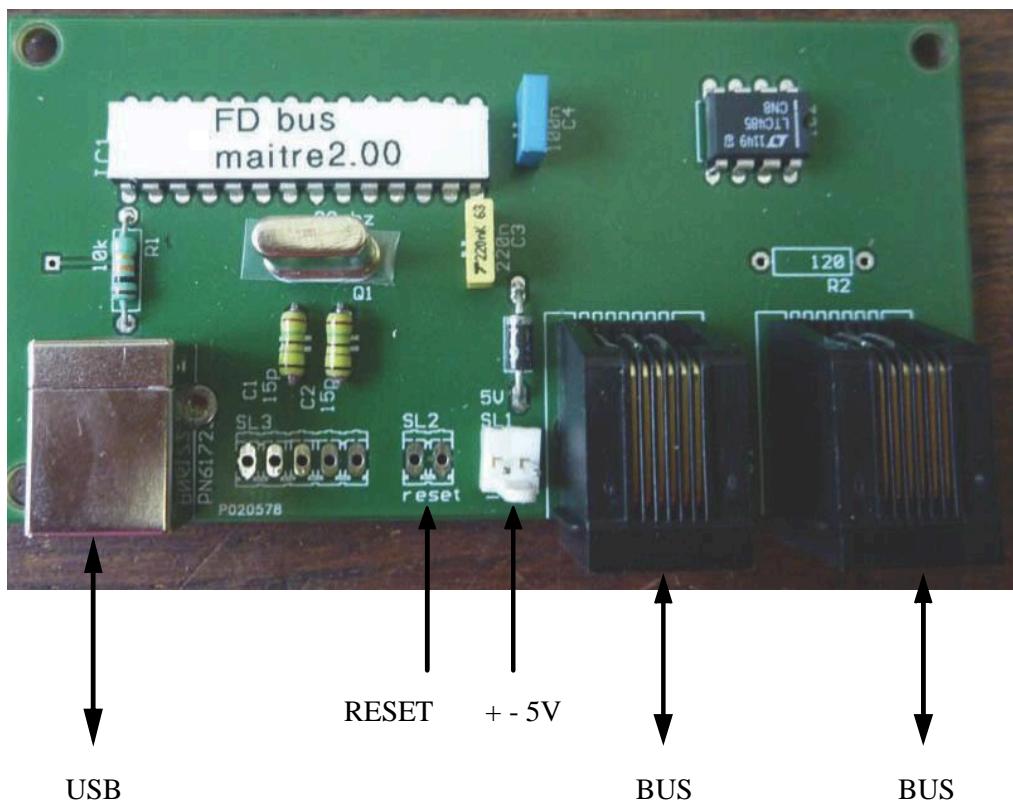
Cliquer sur 'Ok'

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# Description des cartes

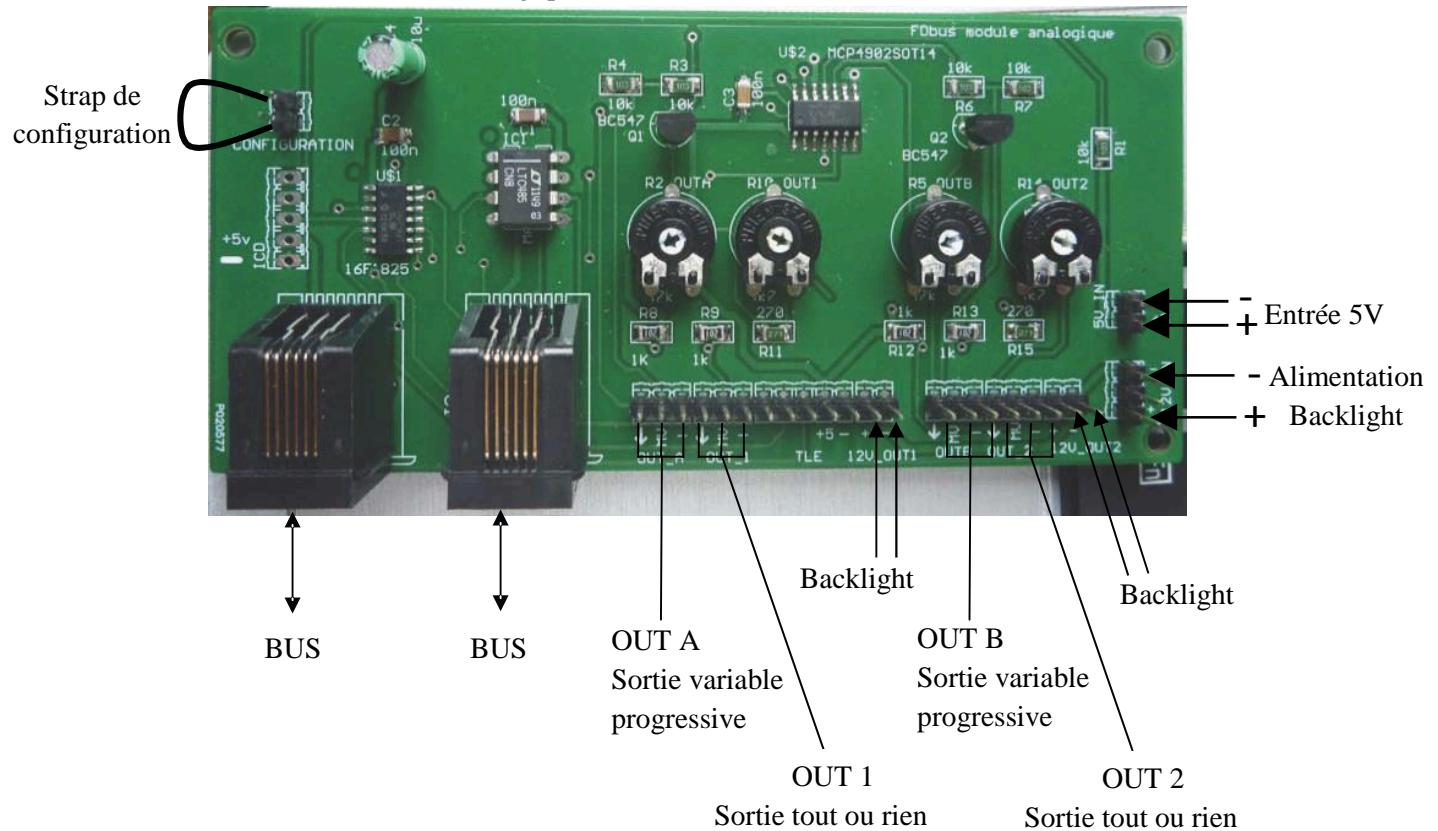
Carte maître FD0019



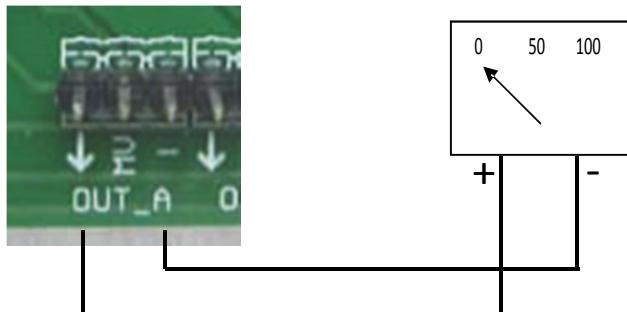
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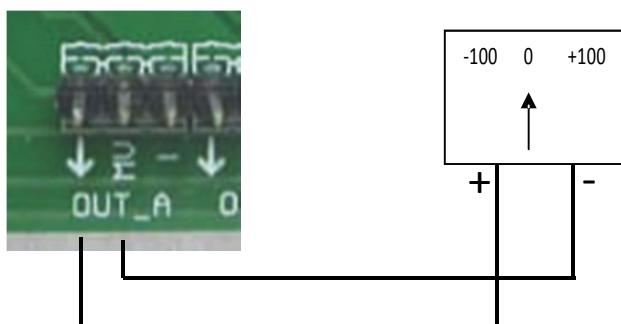
## Module analogique FD0021



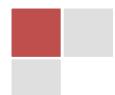
## Exemple de branchement de galvanomètre simple



## Exemple de branchement de galvanomètre à 0 central



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**FDbus installation  
1 analog module  
1 servomotor module  
and settings example of gauges servomotor**



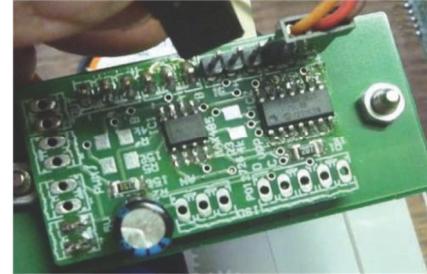
Fabien Deheegher 10/2014



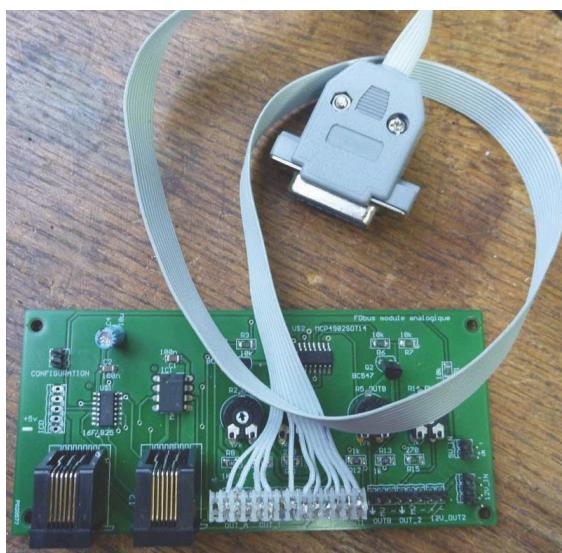
# composition of material provided



1 master card FD0019



1 servomotor module FD0020



1 analogic module FD0021 with his VOR 1 cable



2 BUS cables



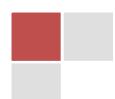
1 VOR modified



Click on the following link to download the driver

[FDbus driver](#)

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## **material not provided**

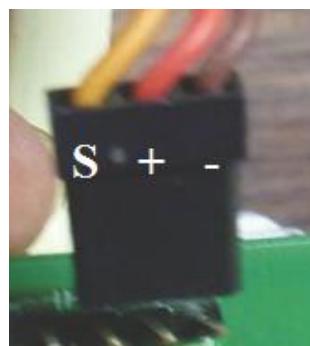
1 type A-B USB cable



Power source 5V 0.5A x by the number of servomotors

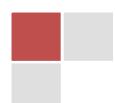
Power source for the VOR backlight

2 gauges equipped with 2 wired servomotors  
as shown opposite



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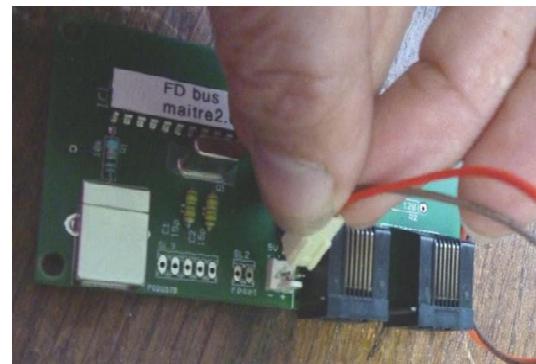
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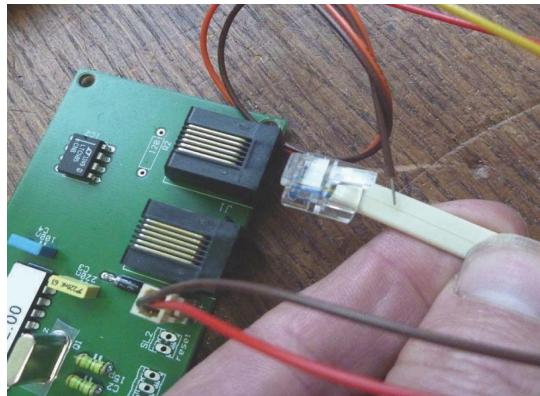
# Connections



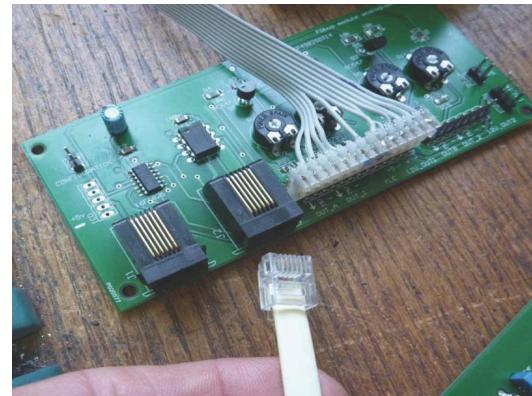
Connect the VOR to the analog card



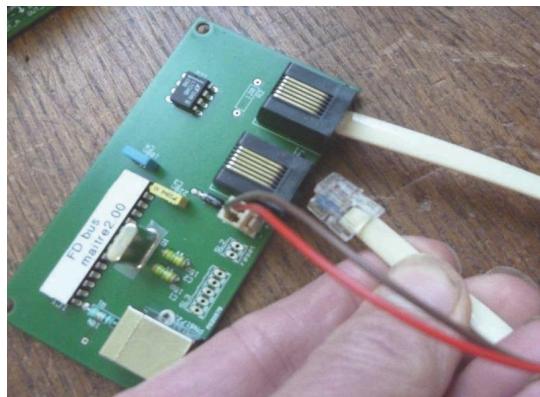
Connect the 5V power supply to the master card



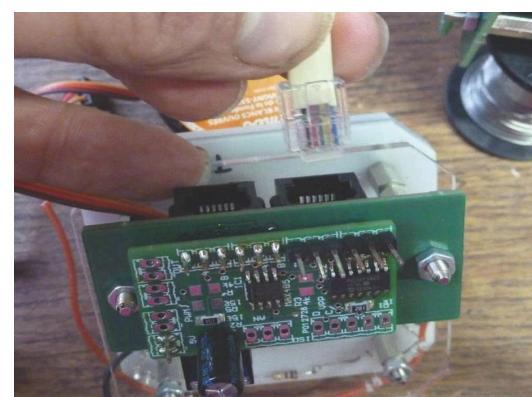
Connect the 1st bus cable to the master card



Connect the other side of the cable to the servo module

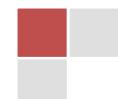


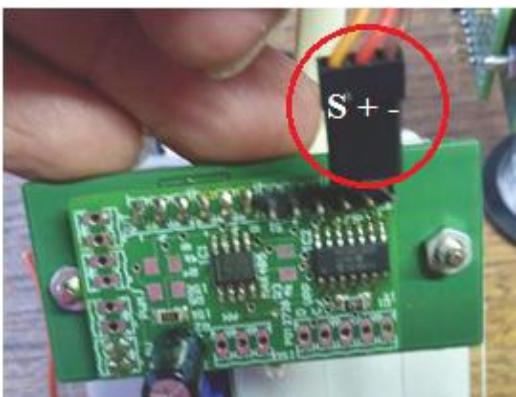
Connect the 2nd bus cable to the master card



Connect the other side of the cable to the analog module

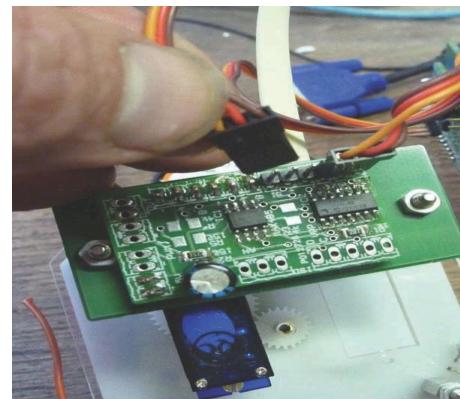
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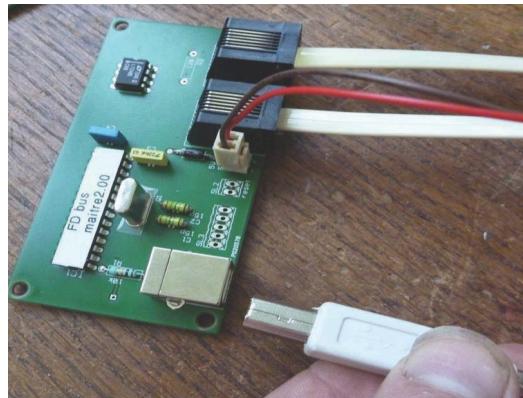
Connect the servo to the ammeter gauge on the servo right connector of module.

**attention to the connectors order (S, +, -)**



Connect the servo to the suction gauge on the servo left connector of module.

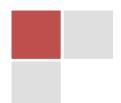
**attention to the connectors order (S, +, -)**



Connect the USB cable to the master card and PC

**Important:** If this is not done, connect the 5V power BEFORE launching the driver.

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# Test and settings

the VOR is set in the workshop, there is nothing to do.

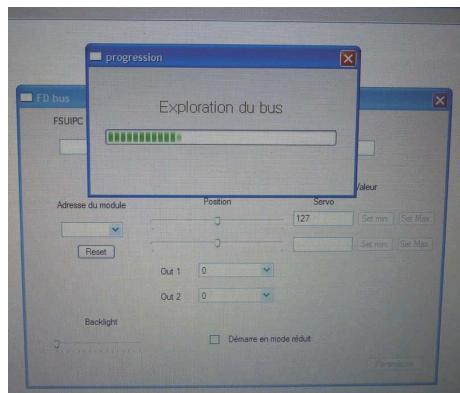
The gauges must be set according to the angle of movement of the needle.

Note : offsets and values are pre-recorded in the 'gauge module'.

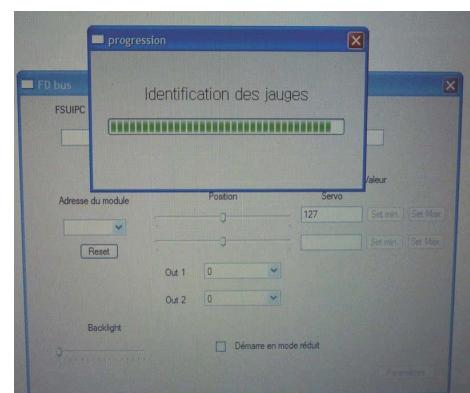
- Right connector: servo 1, suction gauge
- Left connector: servo 2, gauge ammeter



Execute the driver



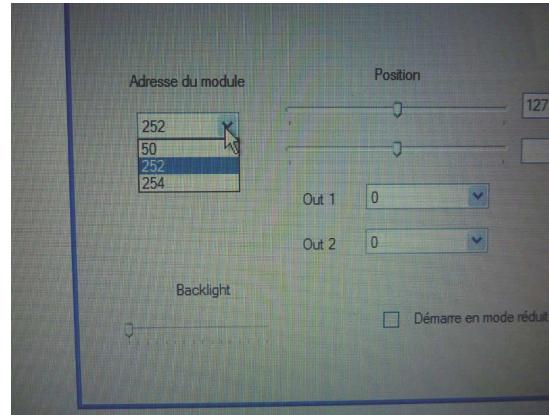
Wait for the end of bus exploration



Wait for the end of module identification

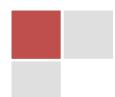


The servo is placed in central position



Select address 252 from the drop-down list  
This is the address of the servo module

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## research the mini position of the needle



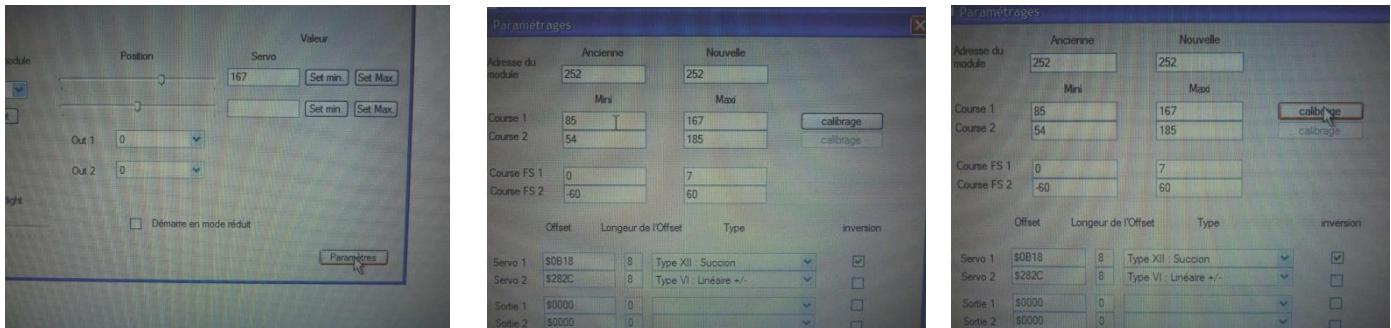
Move the servo 1 slider to reach the down position on the gauge. Click on 'Set Min'

## research the maxi position of the needle



Move the servo 1 slider to reach the high position on the gauge. Click on 'Set Max'

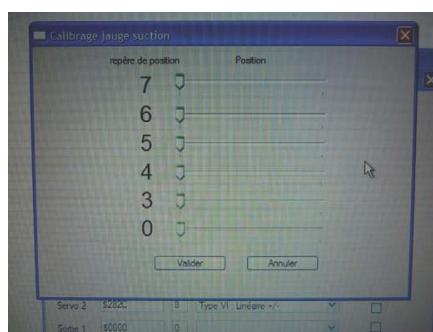
## Calibration of intermediate positions and storage of values



click on parameters

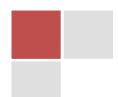
The mini and maxi values of the  
'course 1' are informed  
Right here, 85 et 167

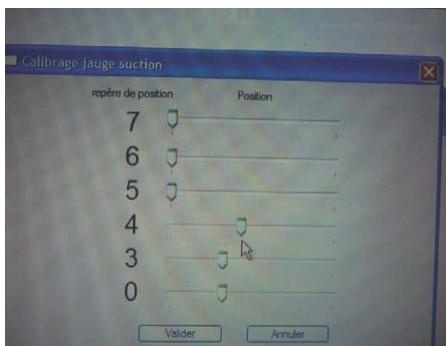
Click on 'Calibration'



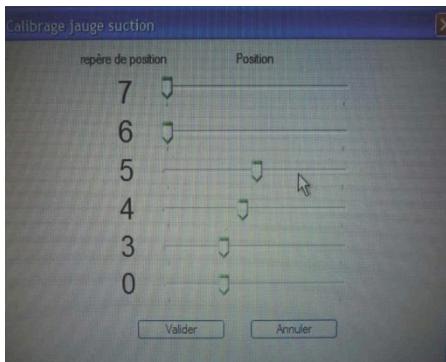
The 6 sliders represent the 6 markers of the suction gauge

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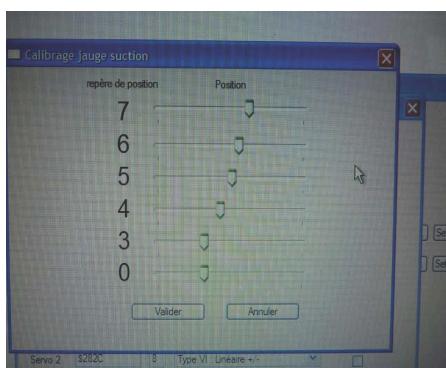




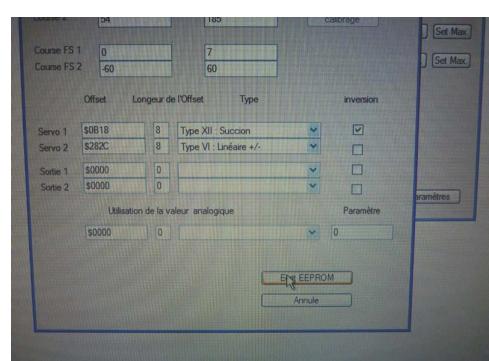
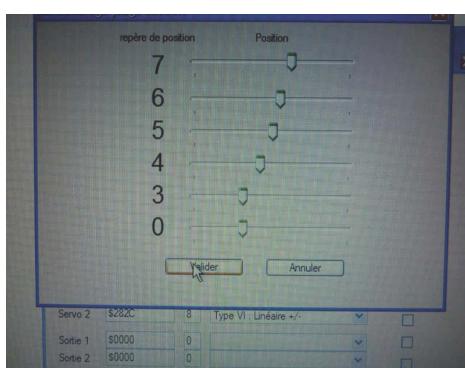
Position the cursor 4 to place the needle on the 4 marker



Position the cursor 5 to place the needle on the 5 marker



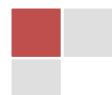
Position the cursor 6 to place the needle on the 6 marker

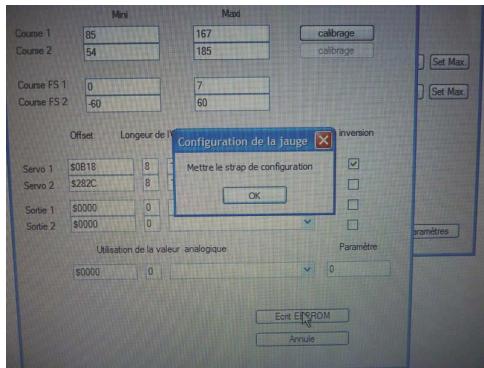


Click on 'Validate' to save the modifications

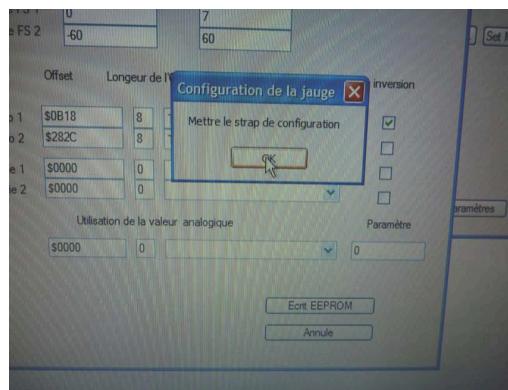
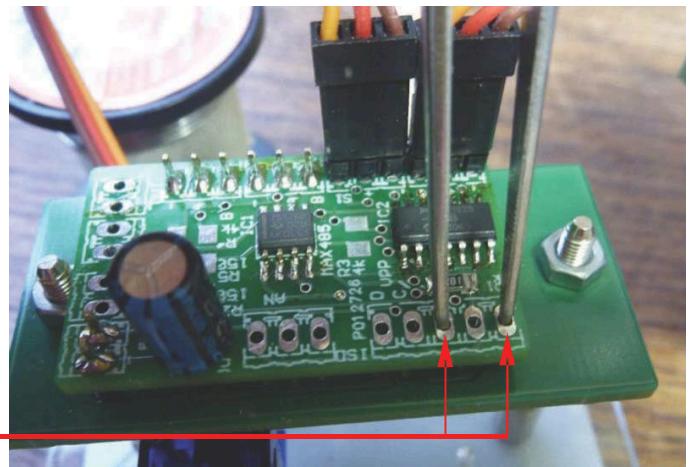
Click on 'Write EEPROM' to write the modifications in the module

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You have to put a wire between the 2 points  
to authorize writing in the module

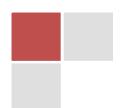


**Important Note**  
**It is necessary to leave the pilot and restart it so  
that the new parameters are taken into account**

Click on 'Ok'

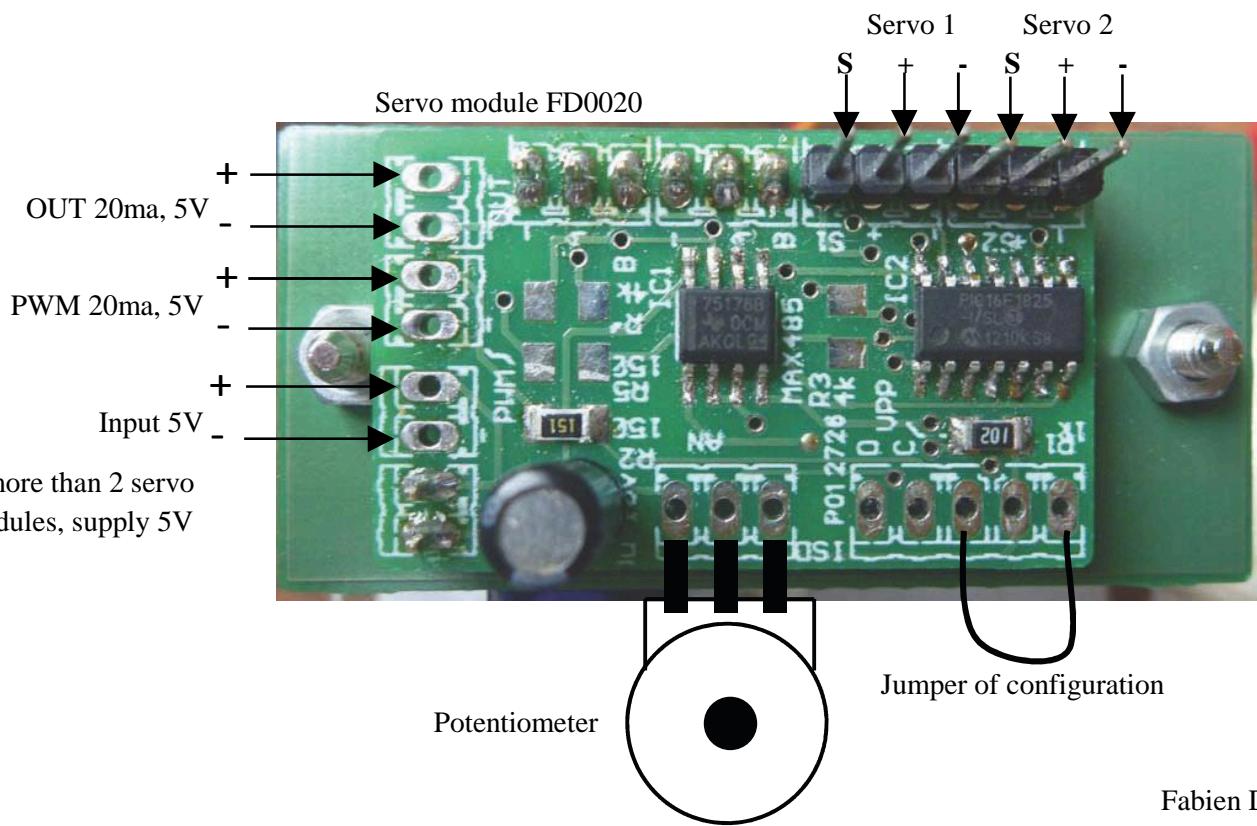
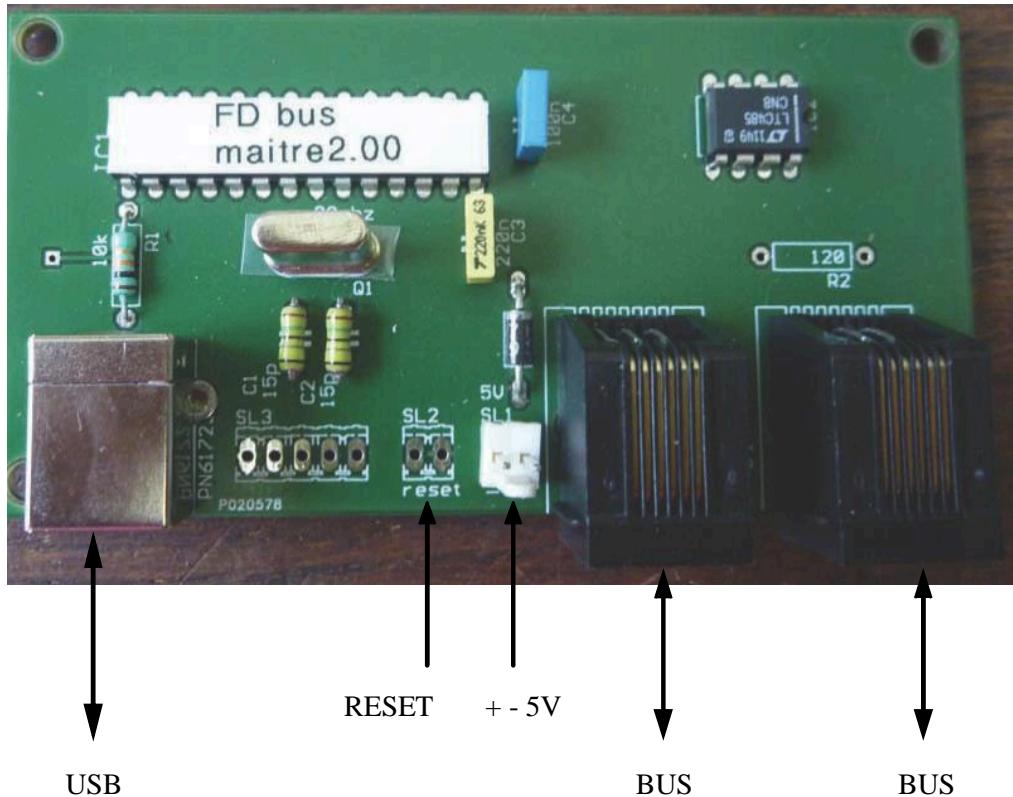
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# Cards description

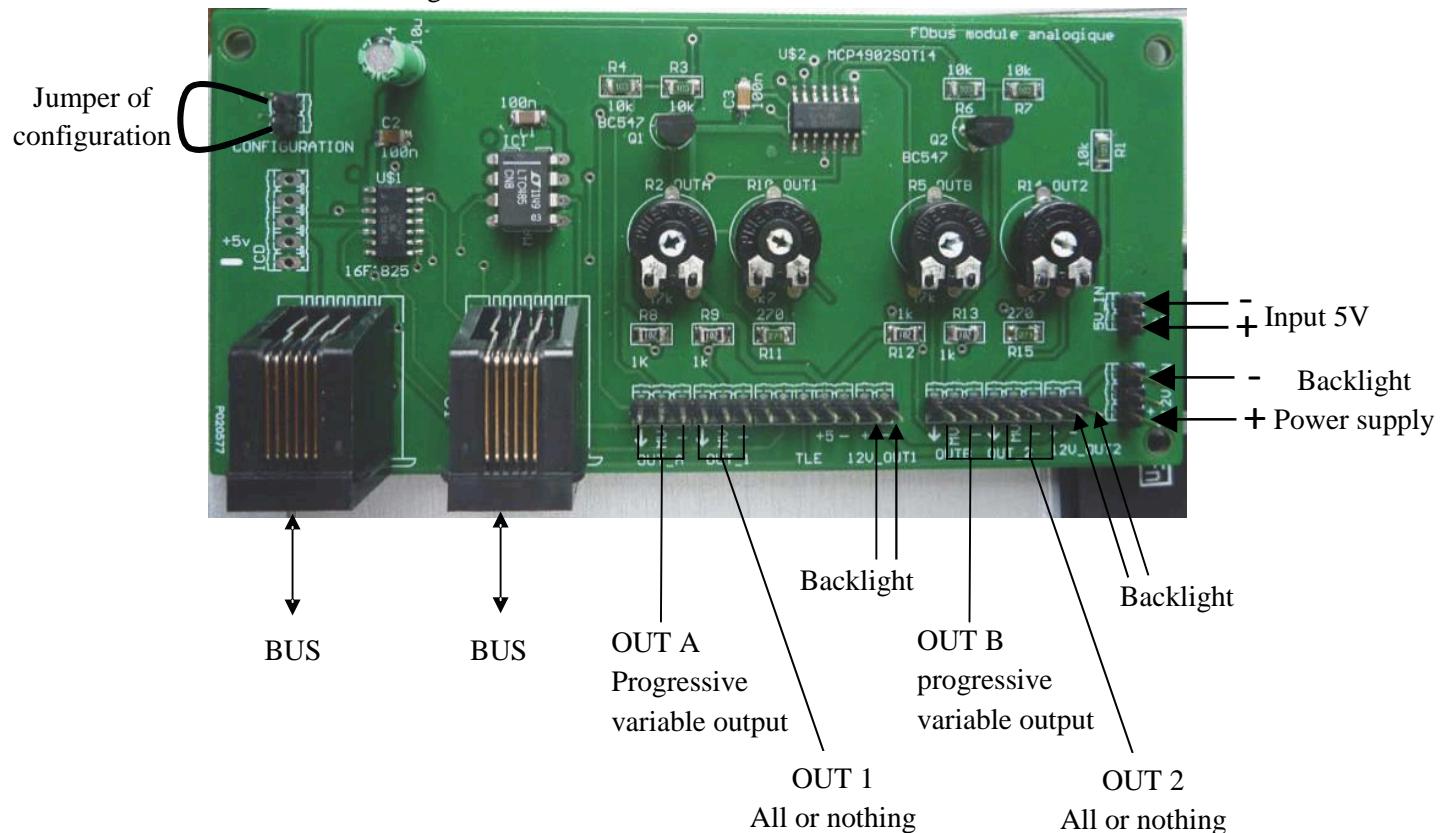
Master card FD0019



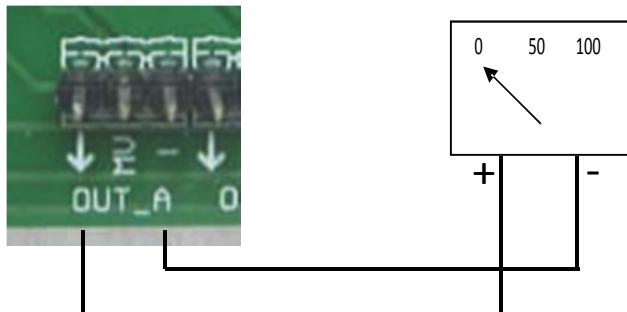
Fabien Deheegher



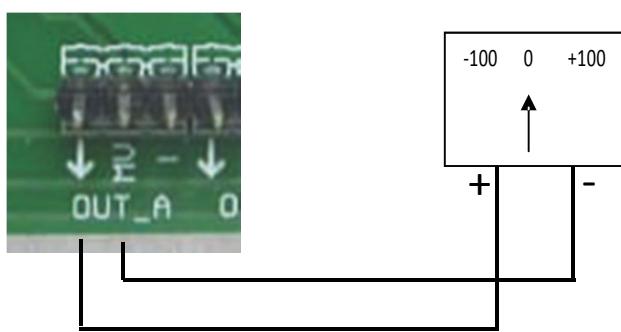
Analog module FD0021



### Example of simple galvanometer connection



### Example of galvanometer connection at 0 central



Fabien Deheegher

