

**CAPI2 BV NETHERLANDS**

# ACT 3.0.x programming manual

*Distributed power  
systems*

*Get into the bus.....*



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# 1. Setting up the connection to Capi2

For a stable and reliable connection we need to be sure that the connection and setup is being done correctly. To create a correct connection the following is needed:

1. Branche node (integrated in the installation)
2. MT232 monitor
3. USB serial convertor
4. Laptop (XP/VISTA)



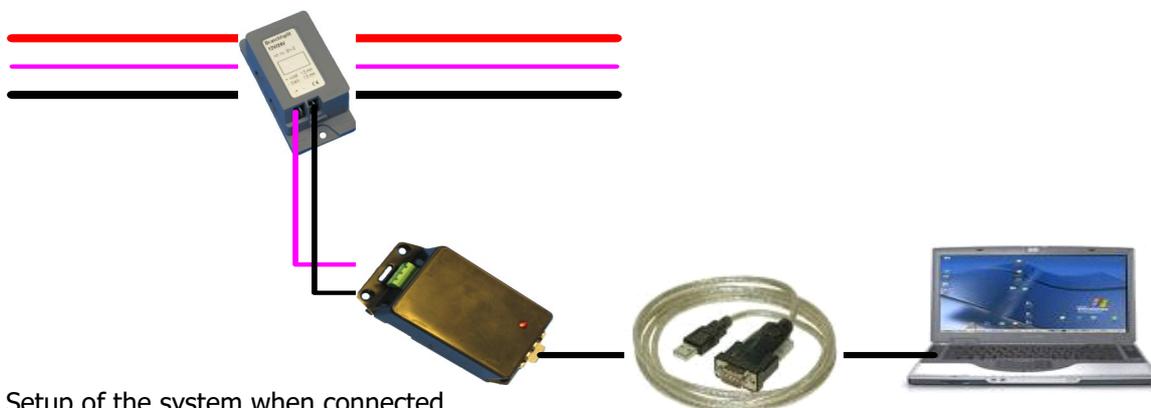
First you need to install the driver of the USB converter to the laptop, read the manual supplied to the USB convertor how to do this. After the driver has been installed you need to check the comport setting. This because normally a virtual comport is going to be selected and that is causing communication problems .

- Do this as follow the solve for **XP** as **VISTA**:

- Select -**Start**
- Select -**Settings**
- Select -**Control panel**
- Select -**System**
- Select -**Devicemanager**
- Select -**Tab hardware**
- Select -**Ports**
- Select -**Usb-to-serial**
- Select -**Tab properties**
- Select -**Advanced**
- Select -**COM3 (must be 3 this is essential)**

The setup for the USB to Serial is now completed

When using the USB to serial convertor always use the same USB port on the computer as where you did the configuration. It only will work on that connection point!

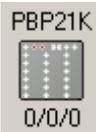


Setup of the system when connected

## 2. Nodes overview

### **PBP** Push Button Panel

**PBP21K** - This node is the user interface panel, showing statuses of nodes and letting the user activate/deactivate them. It is possible to connect up to 8 nodes in every switch.  
Use right click menu to set the mode of the node



### **NLM** Navigation Light Motor

**NLM** - This node let's the user monitor status of output nodes, for example the starboard or port light for a motor boat.  
In the System Configuration area, it is possible to connect a LED on the node to one single output node



### **NLS** Navigation Light sailing

**NLS** - This node let's the user monitor status of output nodes, for example the starboard or port light for a sailing boat.  
In the System Configuration area, it is possible to connect a LED on the node to one single output node



### **SNX (s)** Sensor Node switch

**SNX (s)** - This is an input node used to switch a PN3,10 or 16. It is possible to connect one or more PN's to it.  
Use right click menu to set the mode of the node



### **SNX o/c** Sensor Node open / close

**SNX (o/c)** - This is a Sensor Node in a special mode: it will act as a sensor that can be connected to a switch on a Push Button Panel.  
Use right click menu to set the mode of the node



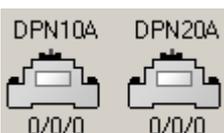
### **PN3,10 and 16** Power Node

**3A 10A 16A** - This is an output node for respectively 3, 10 and 16 amp. It is possible to connect one or more switches from PBP or SNX to it.  
Use right click menu to set the mode of the node



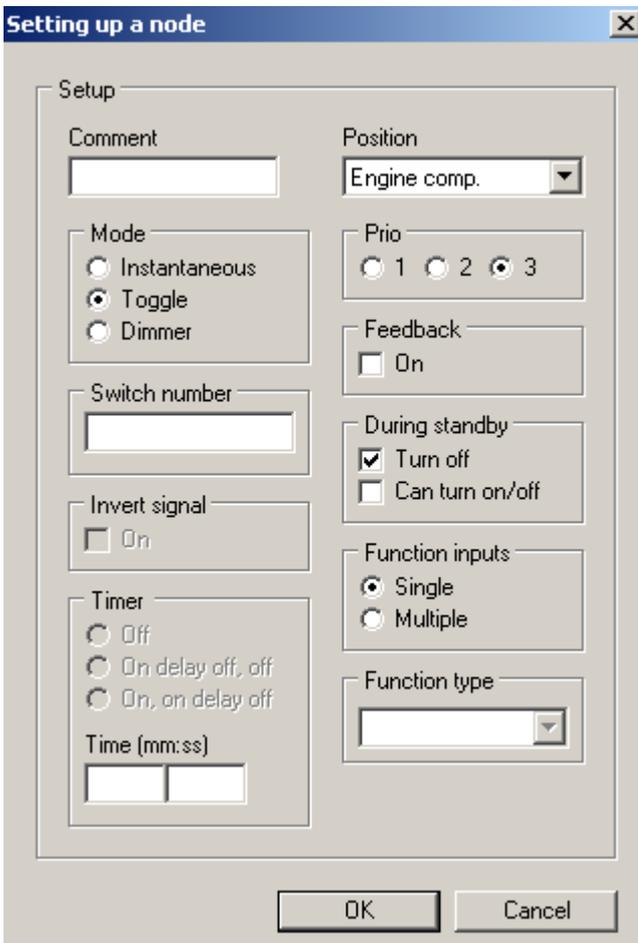
### **DPN10 and 20** Direct Power Node

**DPN10A DPN20A** This is an output node, with the ability to be configured both together with a manual button as well as a secondary sensor node (or any switch for that matter) which can be enabled or disabled through a specific switch. Use right click menu to set the mode of the node.



### 3. Setting up a node

**NOTE:** If a function can not be setup in the specific node, it will not be high lighted in the popup. To get in the set-up menu bring the pointer to the node and left mouse click to open.



**- Comment:**

- Add the **comment** you want to see when programmed

**- Position:**

- Add the **position** where the node will be located. For example Engine comp. More positions can be added in system settings.

**- Mode:**

- **Instantaneous**, outputs power while button is being held down
- **Toggle**, toggles outputs power on/off each time the switch is pushed
- **Dimmer**, toggles outputs power on/off each time the switch is pushed shortly, but slowly increases/decreases output voltage when the switch is being held

**- Prio:**

- When voltage drops below 12V (prio 3) node with prio 3 will be switched off, and so also for prio 2 below 11.5V (prio2) .
- Or if the PBP fails or at C2 damage all the prio 1 will be turned on automatic as a safety supply.

**- Feedback:**

- Feedback on, will give a buzzer warning if a disconnected load condition has been detected on a node, for example broken cable. This is if the current drops below 30mA.

**- Switch number:**

- The switch number can be filled in that must be setup.

**- Invert signal:**

- Signal can be inverted from NO to NC.

**- Timer:**

- Off (button works as programmed in PN toggle, dimmer)
- On, delay off, off (press on, after given time it turns off)
- On, on delay off (press on and stays on, press on and after given time turns off)

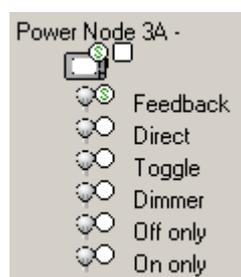
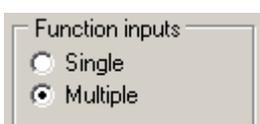
**- During standby:**

- Node stays operational during the standby mode of the PBP if Turn of is deselected and can turn on/off is ticked.

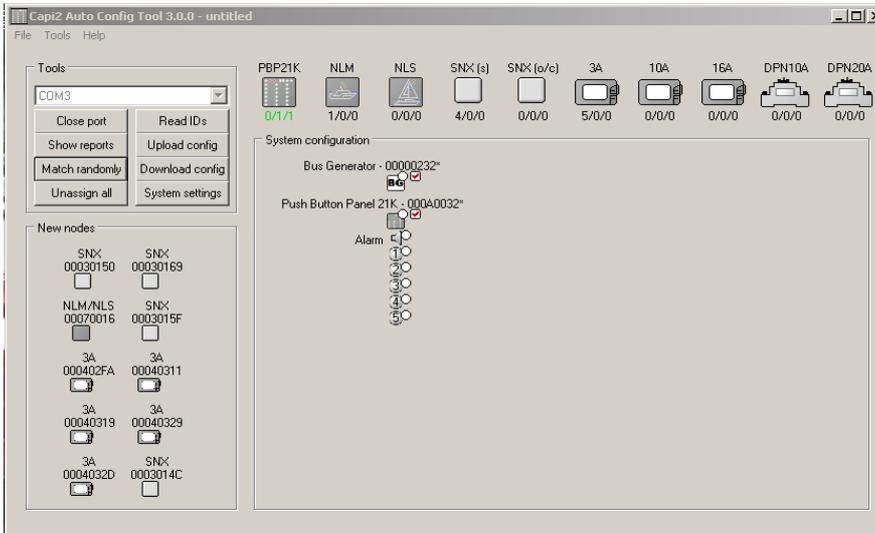
**- Function input:**

- Single if node is used for instantaneous, toggle or dimmer.
- Multiple if more switch functions are needed in 1 or more nodes such as 3 dimmer inputs or 2 direct inputs to create a wider range of programming in the configuration. Each one of the multiple input can individual be configured. Setting up a node can also be used for each Multiple input.

Example multiple node



## 4. Auto Config Tool overview

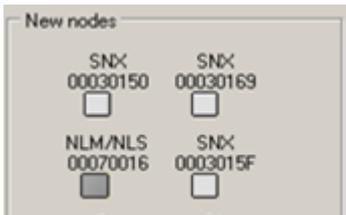


- The Auto configuration tool is divided into 4 parts:

1. Node bar
2. New nodes
3. Tools
4. System configuration



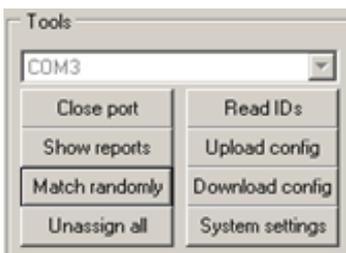
-Node bar you can see the total amount of nodes and selected in the system configuration



-New nodes you can see all the nodes and the id number of each individual node, this can be important when setting up a configuration. These will be shown after selected read id's

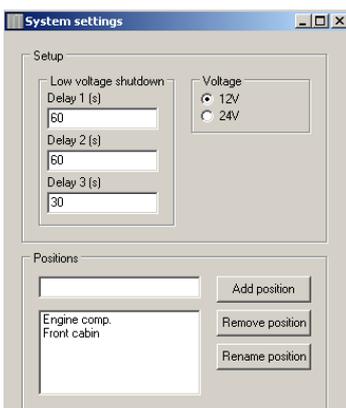


- System configuration will be displayed and programmed, each node will be displayed and setup will be displayed/



- Tools used for several things:

- Close port: Opening or closing the communication trough the MT232.
- Read Id's: Reading the id's of the nodes in the system.
- Show reports: Showing all data of the configuration in a ready for print format.
- Upload config: Uploading the program from the PBP into the computer.
- Download config: Downloading the program from the computer to the PBP.
- Match randomly: Matching the serials of the nodes randomly in the configuration.
- Unassign all: Unassign the matched nodes in the configuration.
- System settings: To select the system settings.



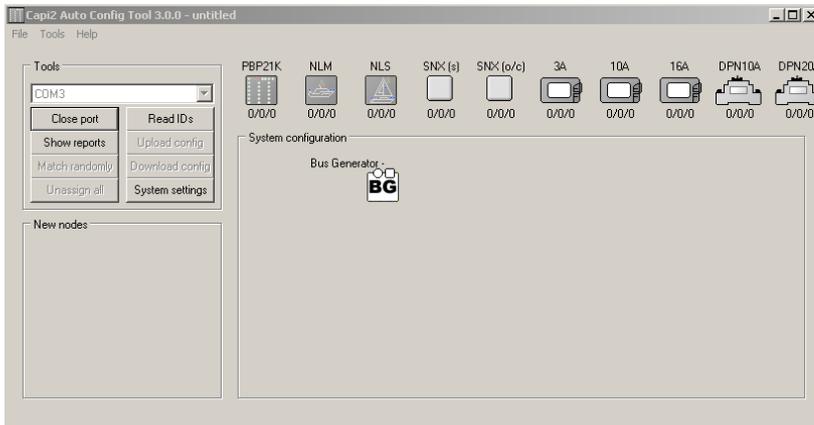
- Systems settings

Low voltage shutdown: delay times for priority 1, 2 and 3

Voltage: Selection of the system power

Positions: Adding positions like engine room, master room, bathroom etc

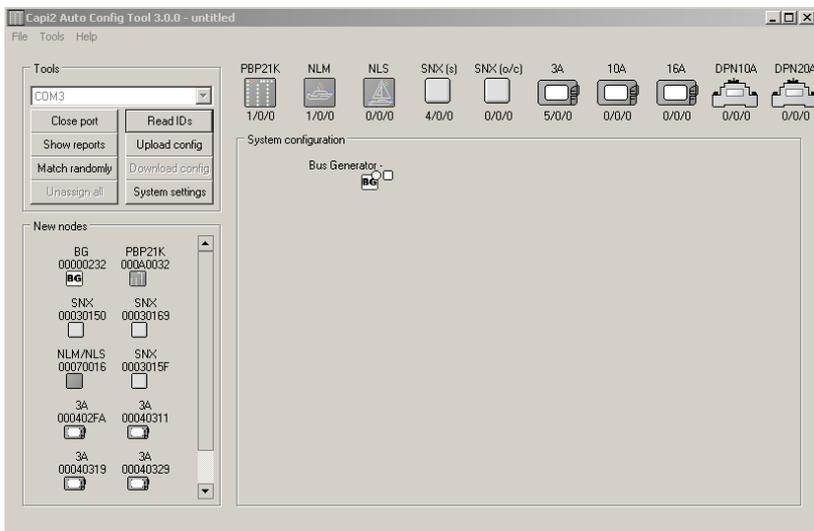
## 5. Setting up a configuration



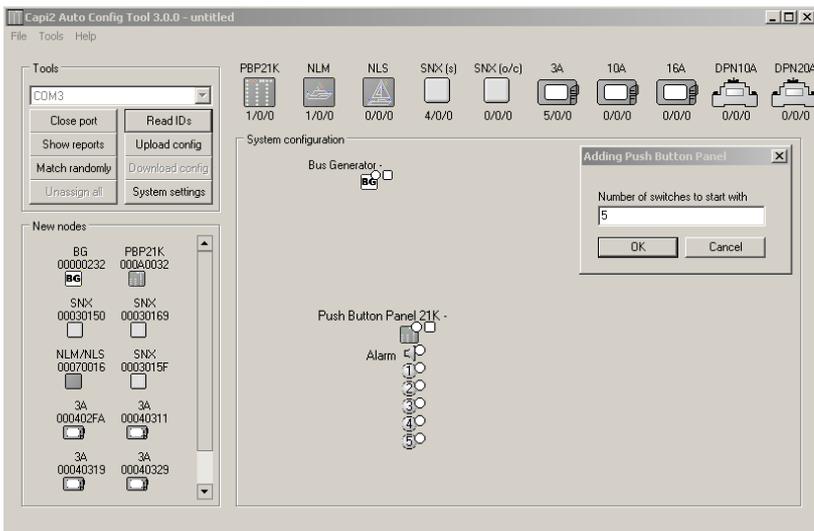
- Open the ATC tool

Read IDs

- Select read Id's.



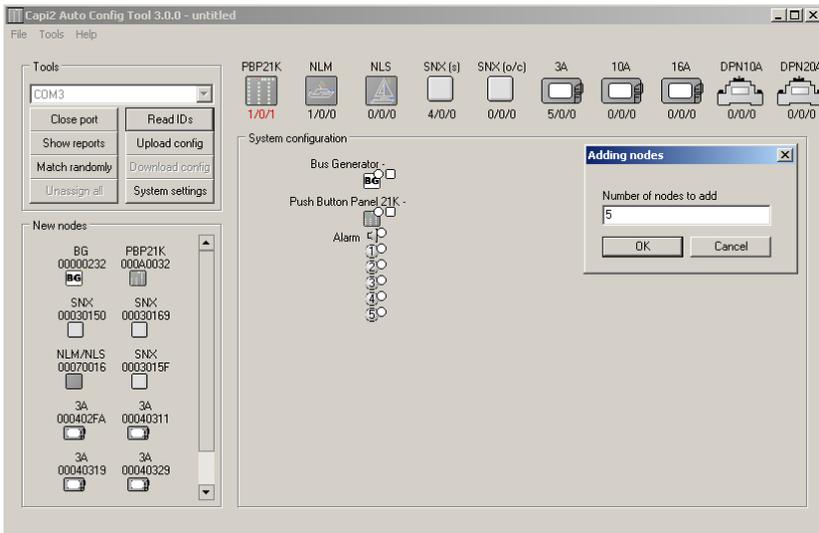
- The Auto Config Tool is reading out all the id's of the system and will display them in New Nodes. Also in the node bar the amount of nodes per type are displayed



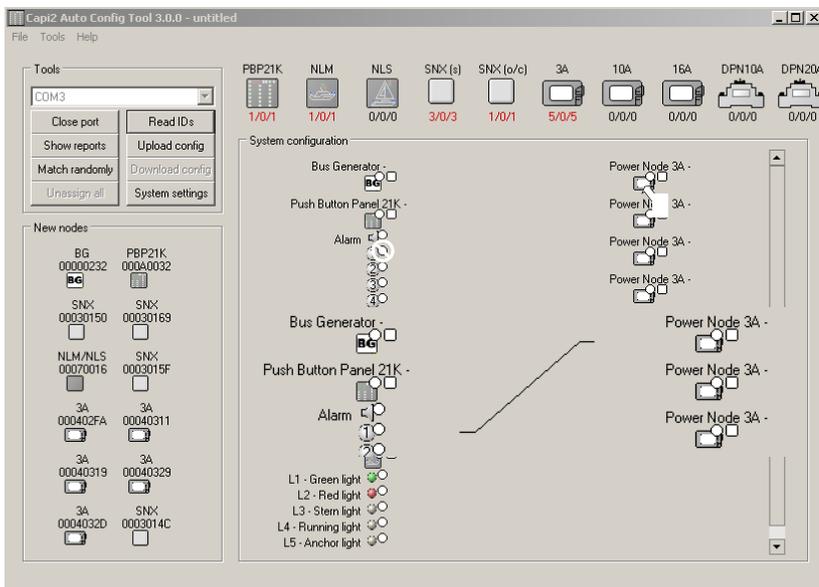
- Now we bring the pointer to the PBP21K in the node bar and click left mouse button.

- Then fill in the amount of required buttons for the configuration to make and select ok

- The PBP with 5 buttons is now added

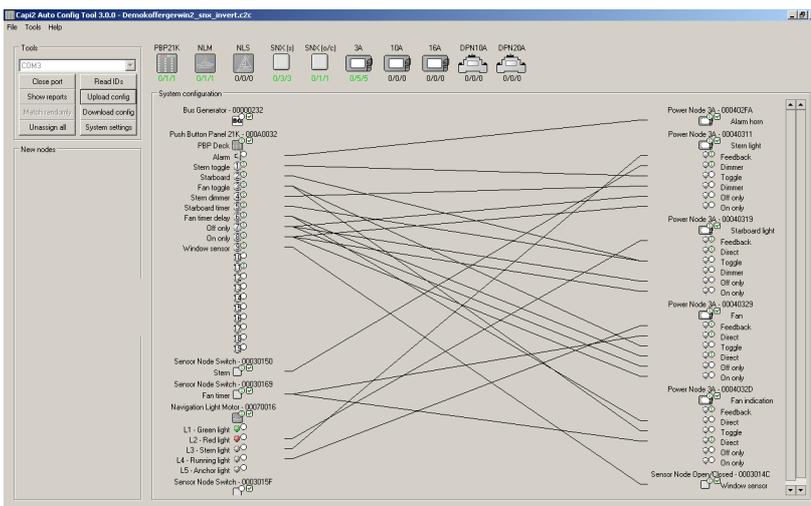


- Add now all the remaining nodes needed for the configuration.



- Now the setup has done and the commands can be programmed to each node.

When setting up the configuration just select the button you want to use with the pointer until you see the icon. Then left mouse button, hold it and drag it to the node. When it is ready to connect you will see the icon changing back into the pointer again. Then release the mouse button. And a standard connection is made. Pressing button 1 the node goes on, pressing again the node goes off (toggle).



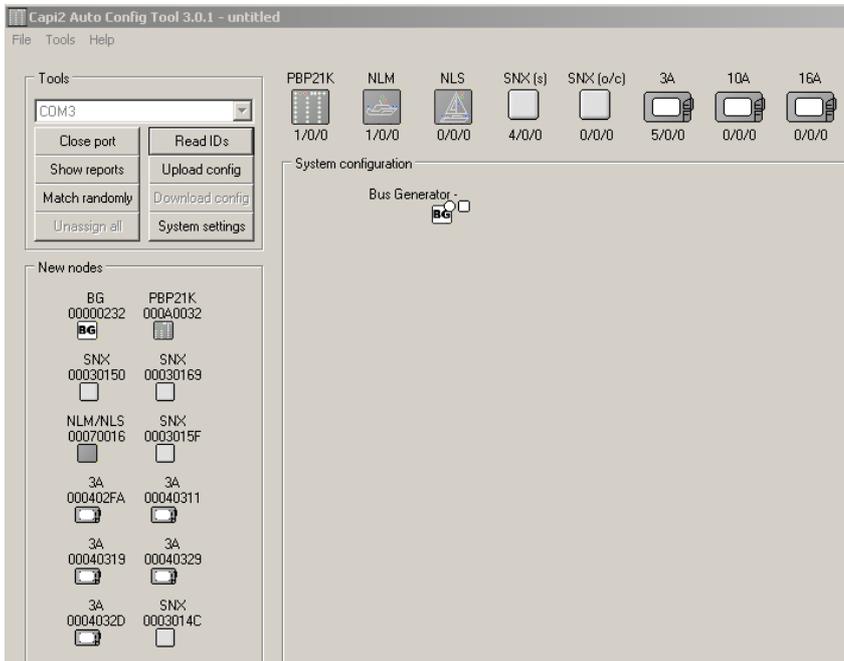
- Now you have to assign the nodes in the configuration. You can do this randomly by selecting match or drag them from new nodes to the assigned function in the program. This is needed if the nodes have been already installed and the position of the node is known.

Download config

- Now you can select download, the configuration is being downloaded to the system and ready to use.

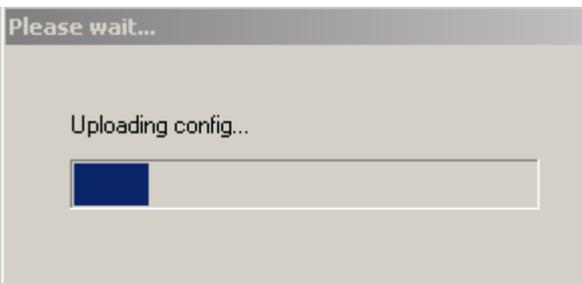


Also we can upload the configuration from a system that has been programmed, simply by selecting Upload config. The configuration will be uploaded, save the file and start working in it. When any changes has been applied, you simply download the configuration again.

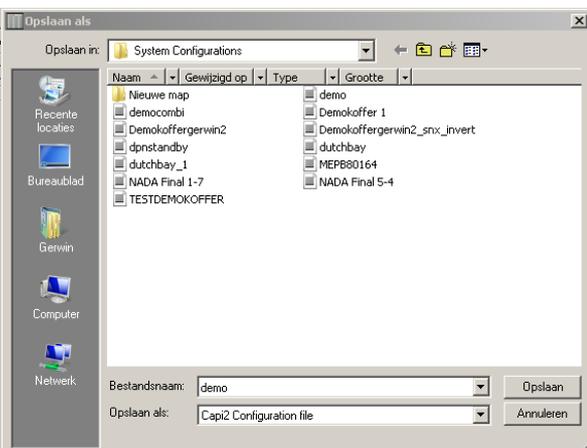


To retrieve the configuration from the system:

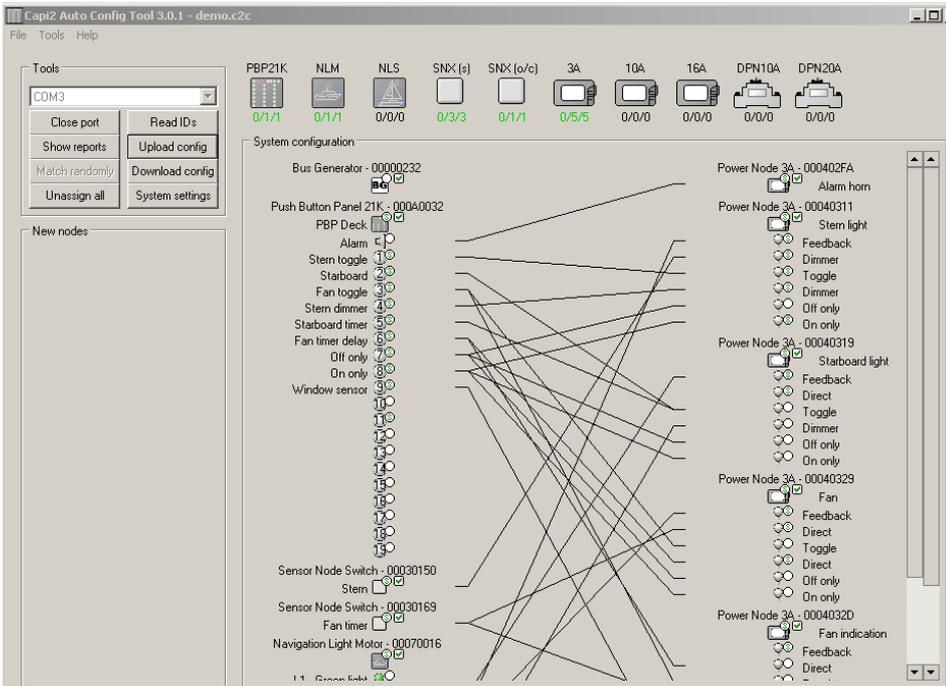
- Read IDs** | Select read Id's: All the id numbers will be retrieved.
- Upload config** | Select Upload config: Upload will be performed



The system is started to upload and the nodes matched.



Now give the uploaded file a name and save the configuration on your computer. You now have a backup of the system.



Now the configuration has been uploaded and you can start working in it. If you want to remove nodes or add nodes, comments it all works the same as starting to make a configuration.

Show reports

Select Show reports: Have a overview of the configuration on paper for the logbook

