

Description of ProfiLux Aquatic Bus (PAB) for aquarium and terrarium computer



Valid from firmware version 5.00
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Description PAB

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This programming guide is valid for the following *ProfiLux* computers:

- *ProfiLux 3*
- *ProfiLux 3 eX*

The availability of several functions and setting options described below depends on the model and on the existing extensions.

This instruction describes the configuration and use of the PAB, all other functions of *ProfiLux* are described in the *Programming manual*. Below an excerpt of the relevant menu structure in *ProfiLux*:

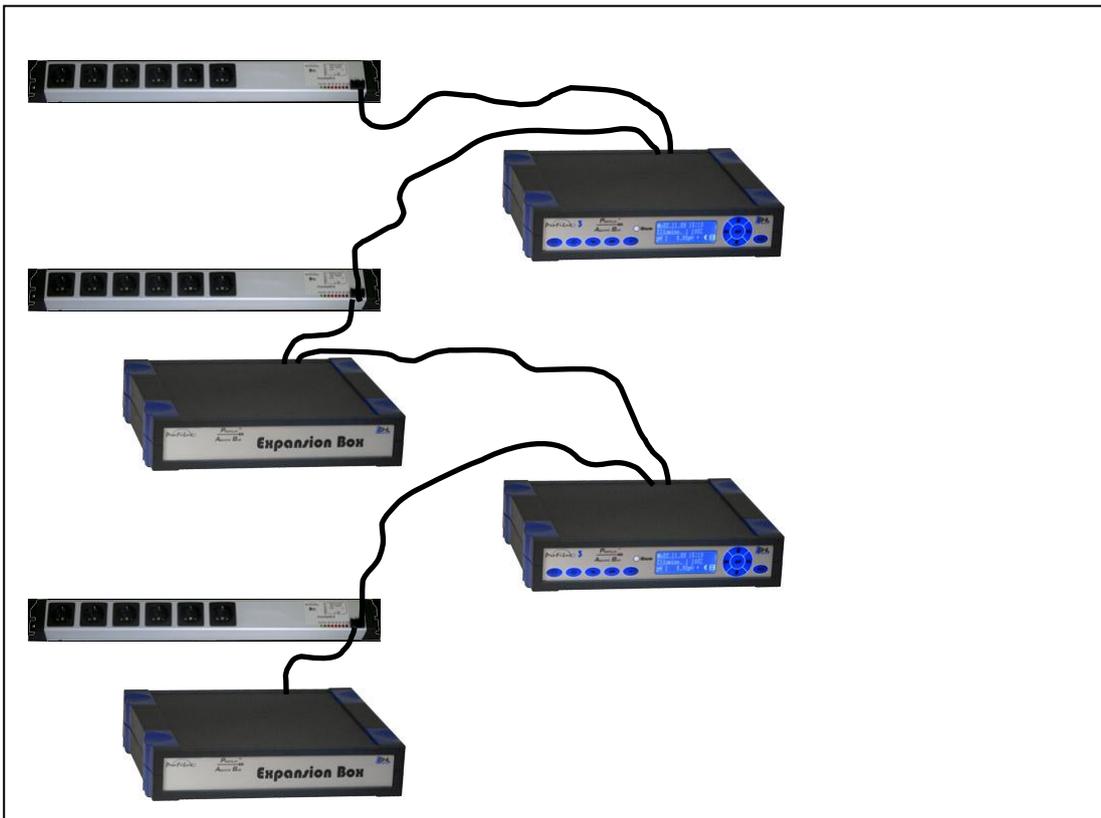
Description PAB



1 Connection

Devices with *ProfiLux Aquatic Bus* – in short PAB – are connected to the corresponding RJ45 sockets at the *ProfiLux 3*. Several PAB devices are so to say daisy-chained. This means that the first PAB device is connected via a PAB connection cable with one of the PAB ports of the *ProfiLux 3*. The next PAB device is either connected to the free PAB port at the *ProfiLux 3* or at the free PAB port of the preceding PAB device. A further PAB device is then connected to free PAB port of the preceding PAB device and so on. Also several *ProfiLux* computers can be connected to this bus. The last PAB devices therefore have always one free PAB port.

Example



Hint

Never connect the last two PAB devices through an additional PAB connection cable in order to get a ring connection. The last PAB devices must always have one free PAB port.

A new device can also be connected during operation. For this, connect simply the device to the free port of the *ProfiLux* or of a PAB device and establish the power supply.

Hint

If you have to disconnect the bus, you should be aware that the PAB devices can't be addressed anymore from then on. *ProfiLux* displays then a **PABCOM** alarm, since it can't reach anymore all assigned PAB devices. As far as sensors are displayed which can't be interrogated anymore, then **COM AL** is displayed. During operation it is not advisable, since from disconnecting on, sockets and 1-10V interfaces can't be controlled and sensors can't be interrogated anymore. When the connection of the PAB has been established again, everything works again as before.

2 Settings

2.1 PAB group

If only one *ProfiLux* is connected to the PAB, then this setting doesn't have to be changed. It can remain on the standard value 1.

If several *ProfiLux* shall be connected to one PAB, then to each *ProfiLux* computer an unique group has to be assigned, so that the PAB devices can be differentiated.

When the group number has been stored, then from this point on the *ProfiLux* is part of the set group. All PAB devices that have been assigned before are no longer addressed, since these are still part of the original group. They have to be newly assigned.

Hint

The selection of the group number is free, but you have to pay attention, that one group is not allocated several times.

2.2 Assign devices

Assign devices has to be used every time when you add or remove a device to / from the PAB or if you change extension cards within an *Expansion Box*. You have to select always all PAB devices also if they have already been assigned once before.

Hint

Before the devices can be assigned, all connections have to be established completely. Therefore the power supply of all PAB devices has to be secured. If this is not guaranteed, the bus is interrupted and not all PAB devices can be addressed. Also all extension cards have to be installed already in their *Expansion Box* at that time.

With *Assign devices* the whole PAB is searched for devices and afterwards their serial number is displayed. All devices which you would like to assign to *ProfiLux*, have to be selected with the arrow keys. If a PAB device is already assigned to another *ProfiLux* then you deprive the other *ProfiLux* the corresponding device with your choice.

Hint

Arrow up/down: to navigate in the list of the PAB devices
Arrow right: selection of the marked PAB device
Arrow left: removes the selection of the marked PAB device
Return: terminates the assignment

When the selection has been finished and has been confirmed with **Return**, *ProfiLux* adds all PAB devices that have been selected to its group. Afterwards the new sensor inputs, sockets, interfaces etc. are determined and stored in *ProfiLux*.

Hint

If not all devices are found, you should check the PAB connection and the power supply of all PAB devices.

2.3 Configure device

Herewith you can make the settings of the PAB devices. After selection of *Configure device* all connected devices are displayed, after selection of one device you can make settings (depending on the selected device).

2.3.1 Configure Expansion Box

The *Expansion Box* contains presently no adjustable values.

2.3.2 Configure PAB Powerbar

2.3.2.1 Set numbering

With this value the number of the first socket (start number) of the *Powerbar-PAB* is set. The following sockets are numbered further on according to the start number.

Example

Start number = 3:
first socket: switchable socket 3,
second socket: switchable socket 4,
and so on

2.3.2.2 Set initial states

If the *Powerbar-PAB* doesn't receive commands anymore over a minute (e.g. since the bus has been interrupted, *ProfiLux* is switched off or is defective, ...), the sockets of the *Powerbar-PAB* can be switched due to safety reasons into a predefined state (on or off). The initial state can be programmed separately for each socket. For example it can make sense to keep the filter switched on. On the other side it is better to switch off the heating in case of an error so that the aquarium is not overheated.

2.4 PAB System reset

With this menu item you remove all PAB devices as well as their resources (sensor inputs, interfaces, etc.) from the storage of the *ProfiLux*. This should of course only be done if *ProfiLux* shall actually address no PAB devices anymore or if there have occurred problems with the PAB.

3 Error diagnostics

Problem	Cause	Elimination
During <i>Assign devices</i> not all or none PAB devices are found.	The connection at the PAB is interrupted or a PAB device has no power supply. A PAB device has not been started completely.	Check if all PAB connection cables are properly connected and are not damaged. Check if each PAB device is supplied with voltage. After the PAB device has been connected to the power supply, it lasts around 5 seconds until it is ready.
During <i>Assign devices</i> PAB devices are found several times.	The PAB devices have been connected to a ring.	Check if all PAB connection cables have been connected properly. Only one PAB cable may be plugged into the last two PAB devices.
At <i>ProfiLux</i> a <i>PABCOM</i> alarm is displayed.	The connection to the PAB device is interrupted or has no power supply.	Check if all PAB connection cables are properly connected and are not damaged. Check if each PAB device is supplied with voltage.
At <i>ProfiLux</i> <i>COM AL</i> is displayed for one sensor.	The sensor can't be addressed since it or the whole PAB device has been removed, the connection to the PAB device is interrupted or the PAB device has no power supply.	When the sensor has been removed, all PAB devices have to be read in again with <i>Assign devices</i> . Check if all PAB connection cables are properly connected and are not damaged. Check if each PAB device is supplied with voltage.
The <i>Powerbar-PAB</i> doesn't switch to the initial state when the <i>ProfiLux</i> is switched off or when the PAB connection to the <i>Powerbar-PAB</i> is interrupted.	The initial state hasn't been stored.	Set the initial state once again and don't forget saving.
At <i>ProfiLux</i> not all sensor inputs are displayed.	During <i>Assign devices</i> not all devices have been selected which should have been assigned to the <i>ProfiLux</i> .	With <i>Assign devices</i> read in again all PAB devices that shall be used with the <i>ProfiLux</i> .