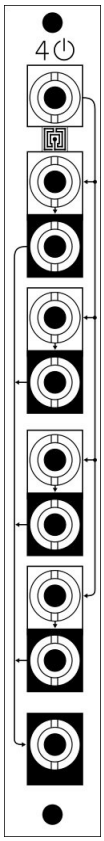
LARIX ELEKTRO

CONTROLE 4ONOFF

WHAT'S THAT THING ?

The **4ONOFF** is four electronic switches, intended to be an extension for the **SWITCH** modules (and to a lesser extent, for the **KNOBS** module).
In other words, simple ON-OFF of any signal with a GATE signal.



Module content :
- 4 electronic switches with signal IN and OUT jacks.
- One global INPUT
- OUTPUT, sum of all VCA outputs.

GATE control of each switches available on the back of the module, with a 4 pin connector.

Typical use :
- With the **SWITCH** module, switches On/Off any signals.
- GATE controllable 4 IN selector.
- GATE controllable distribution, 1IN to 4 OUT.

The module needs another module to access to its GATE controls.
Since the circuit is not fully protected, it is preferable not to use modules other than those proposed.
In any case, make sure that a voltage below zero, or above 5V, is not used to control the module.

Note that, unlike the control voltage, the signal that is controlled by the switches can have an operating range between +12V and -12V.

Technical specifications:

+12V : 20mA
-12V : 20mA (+5V is not used)
35mm deep (Approx.) with PSU connector
3HP

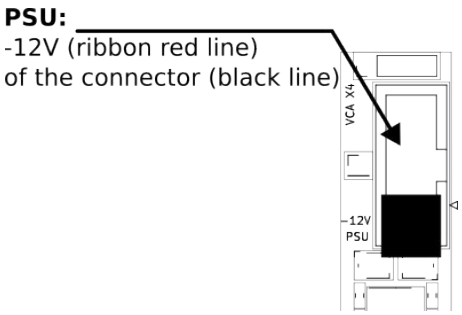
GATE INPUT range : 0V to 5V.
SIGNAL I/O range : +/- 12V

Installation:

PSU connection

At first, ensure that there is enough power to supply the module.

The package contains 2 cables, one for power and the other to connect the module that will provide the GATE (**KNOBS**, **SWITCH**, or something else).
Do not confuse these 2 cables. For power, the cable is wider, and one of the connectors is larger than the other (as a lot of cables from other modules...).
In any case, you will have difficulty inserting the wrong cable into the module, and some pins will stick out on the side. You may have some problem and it may damage your module.



Beware of the orientation: the red strip on the ribbon cable should match the white line on the module, and on the PSU board (-12V).
Connect the PSU ribbon into the PSU connector, the small connector (2x5 pin) into the module, and the large one (2x8 pin) into the PSU Board.

It is better to have a **well-insulated box** because parasites can be added to the signal of the modules.
If you are not familiar with electronics, prefer commercial boxes. This is especially true for power supplies: a poorly designed power supply can damage the modules.

To avoid various problems, electromagnetic, but not only, **complete the empty spaces with blind front panels** (Blank panels).

! WARNING: DO NOT CONNECT PSU to the other connector!
It will damage the module.

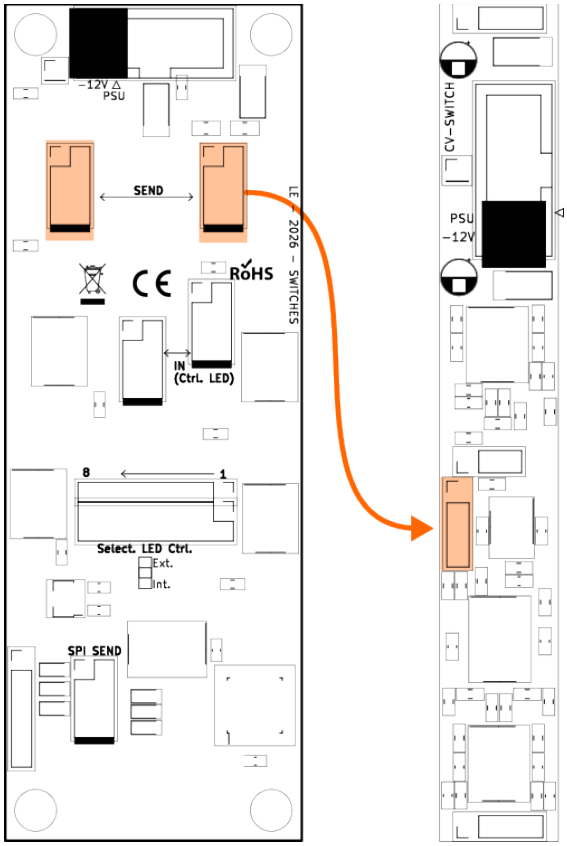
Connecting the 4ONOFF to its controller
Exemple with the SWITCH module

There are plenty of jacks, but the GATE input is missing. Is this a design mistake? An oversight?
No, the 4 GATES are combined into a single connector at the back of the module.

The module was designed to be controlled by another module like the **SWITCH**.
The **SWITCH** has 8 big switches, with no jack output. But it has the same connector on the back of the module. This way, manual control is moved away from the cables.
The **SWITCH** package contains another module, the **EXT**, which is intended to receive these 8 GATEs. The **4ONOFF** is intended to replace this **EXT** module.
And technically, the wiring between the two modules is identical.

The intended way to connect the 2 modules together is to use the second cable provided in the package.

> ***WARNING**, it is not the same one used for the PSU. The cable in question here is thinner, and the connector is also smaller. Another detail, the cable has the same connector on both ends, unlike the PSU cable. If you reverse the cables for power, the module may malfunction or even be damaged. However, using a power cable to connect the 2 **KNOBS** and **EXT.** modules will not cause any problems.*
> ***In fact, if the length of the cable does not suit you, it is possible to use a power cable as a replacement.***



The cable is connected between one of the **SEND** connector of the **SWITCH** module and the connector of the **4ONOFF** module.

Do not confuse with the **SPI SEND** connector.

The connector on the cable has 2 rows, but the connectors on the **4ONOFF** module only have one row. Why?
Because the **SWITCH** provides 8 signals, and the **4ONOFF** can process only 4.
To choose which row of switch from the **SWITCH** you want to ue to control the **4ONOFF**, simply insert the connector to on of the row.

And if you made a mistake or want to change the switches, it's not a big deal; you just need to switch to the other row.

The connection is the same if you use another module.
For example the **KNOBS**, or even the **EXT**.

If the cable is not flipped (twisted), the GATE from the top switch controles the top circuit of the **4ONOFF**, and so on. If you want to reverse this order, simply flip the connector before inserting it. No worries, there is no reason this would cause problems or damage your modules.

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