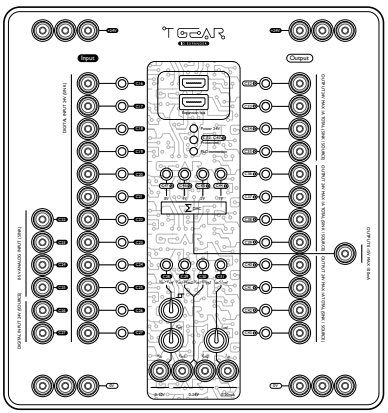


# TGEAR

## IO EXPANDER

*Quickstart guide*

T Gear
Vijzelmolenlaan 1
3447 GX Woerden
www.tgear.eu

T GEAR
IO EXPANDER

# QUICK START

***Cautions for safe use:***
Preferably use the recommended *T Gear Power Supply* (PSU0009001), this is a protected 24V 6A DC power supply. Connecting the *IO Expander* to an unprotected, large current (>6A), AC power supply, or voltages higher than 24V DC may cause damage to the device and connected devices and may cause electric shock or fire!

Only connect *T Gear* devices to the *expansion bus* connector. The expansion bus connector is not a regular HDMI connector. Other uses may cause damage to the device and connected devices.

Do not expose *T Gear* devices to water or any other liquid.
If liquid makes its way inside a device, immediately disconnect it and contact the supplier.

## WHAT'S IN THE BOX?

| Amount | Part |
|---|---|
| 1x | IO Expansion Module (IOE0003001) |
| 1x | Test lead blue |
| 1x | Test lead red |
| 1x | Test lead black |
| 1x | Expansion cable |

Not included
T Gear Power Supply (PSU0009001)
T Gear PLC Trainer (PLC0001001)

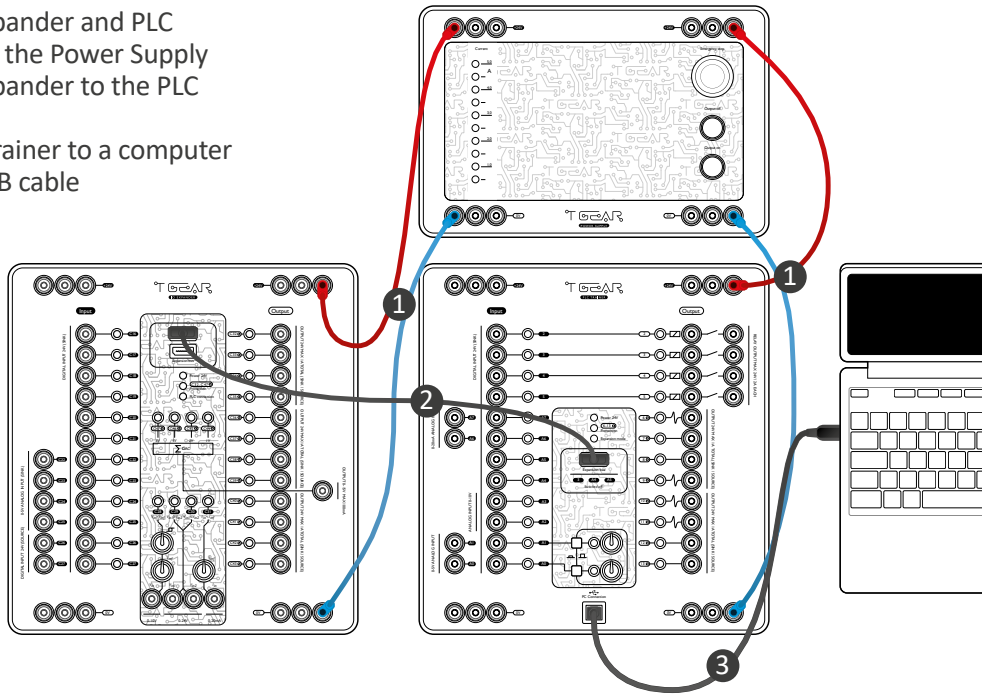
## LET'S INSTALL THE SOFTWARE FOR YOUR NEW GEAR

1. Download and install Arduino IDE from *www.arduino.cc/download*

2. Download and install Ladderino from *www.tgear.eu/software*

## 3 CONNECT:

1. the IO Expander and PLC Trainer to the Power Supply
2. the IO Expander to the PLC Trainer
3. the PLC Trainer to a computer with a USB cable

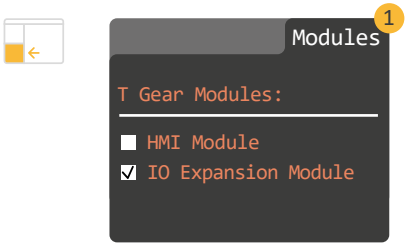



# LET'S MAKE A PROGRAM FOR THE IO EXPANSION MODULE

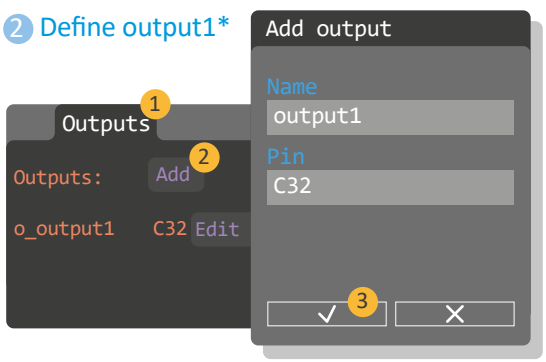
## 4 START LADDERINO

To create a program, follow the steps below.

1. Activate the IO Expansion module, see tab *modules* in the lower left corner

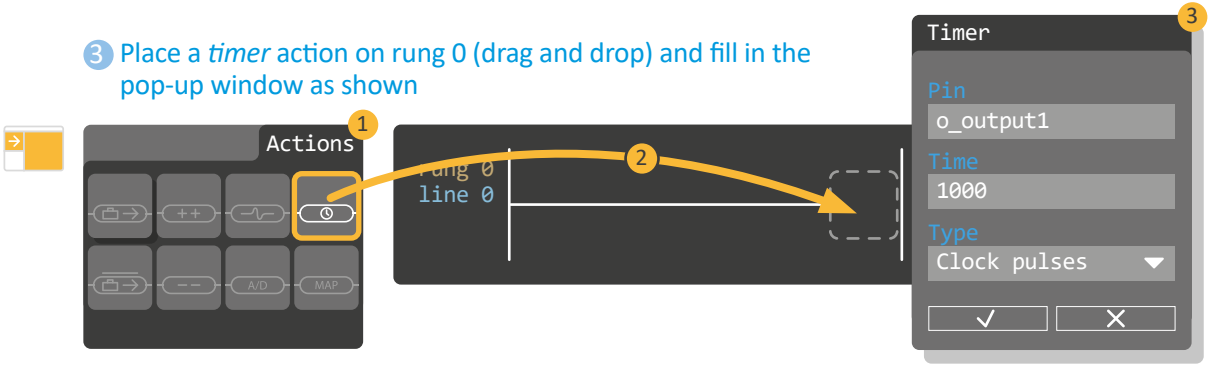



2. Define output1*




**Pin nr is case sensitive!*

3 Place a *timer* action on rung 0 (drag and drop) and fill in the pop-up window as shown



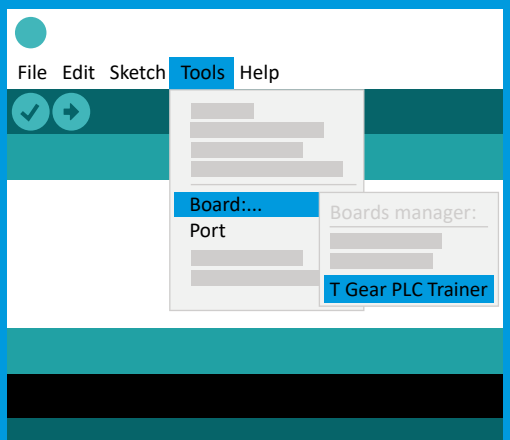

4 Save the program

5 Upload the program to Arduino IDE

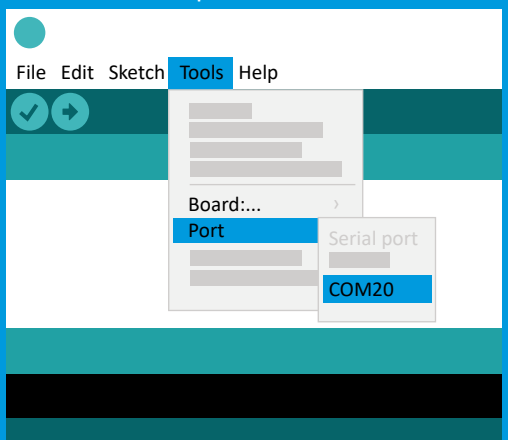
6 Arduino IDE will open

ARDUINO IDE

7 Go to Tools/Board and select: *T Gear PLC Trainer*




8 Go to Tools/Port and select the correct COM port*




9 Upload the program to the PLC Trainer

***TIP for selecting the correct COM port**
If you see multiple ports in the list and you don't know which port to choose: disconnect the USB cable and see which port is missing. Reconnect the cable and choose this port.

10 The LED next to output C32 flashes: output C32 is activated (driven high) periodically.

**Hooray!**