

TGEAR

FREQUENCY INVERTER SIMULATOR

Quickstart guide



FREQUENCY INVERTER SIMULATOR



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

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 PLC Trainer 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!



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.



Beware of moving parts when using the Motion Trainer. Stay alert and watch what you are doing to avoid accidents and injuries. To prevent accidental starting, turn off the power when not in use. Avoid getting caught in moving parts. Do not wear loose clothing or jewelry. Always keep your hair, clothes and hands away from moving parts.



WHAT'S IN THE BOX?

Amount	Part
1x	Frequency Inverter Simulator (FRE0005001)
1x	Test lead blue
1x	Test lead red
5x	Test lead black

Not included

Motion Trainer (MEC0004001)
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

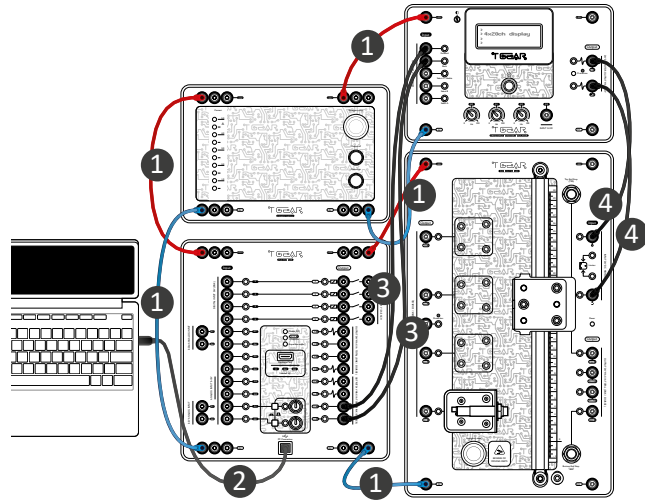
Download and install Ladderino from www.tgear.eu/software



3

CONNECT:

- 1 the PLC Trainer and Motion Trainer and Frequency Inverter Simulator to the Power Supply
- 2 the PLC Trainer to a computer with a USB cable
- 3 two black test leads between 12 and forward and 13 and back
- 4 two black test leads between the motor outputs and inputs: + on + and - on -.



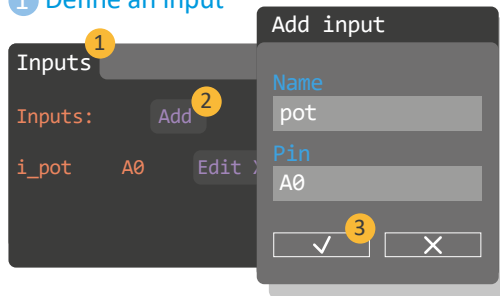
LET'S PROGRAM YOUR FREQUENCY INVERTER SIMULATOR

4

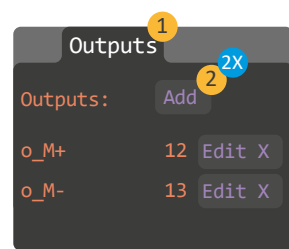
START LADDERINO

To create a program, follow the steps below.

- 1 Define an input

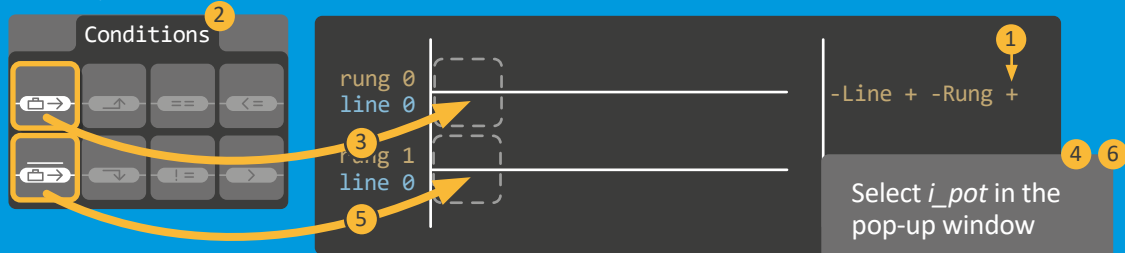


- 2 Define 2 outputs



- 3 Click Add and fill in the pop-up windows:
output 1:
 Name: M+ Pin: 12
output 2:
 Name: M- Pin: 13

- 3 Create a new rung (click on the + next to rung). Place the *Read from* condition on rung 0 (drag and drop) and the *inverted read from* condition on rung 1. Select *i_pot* in the pop-up window, both times.



4 Place a *write to* action twice and select the correct outputs to write to

1

2

3 Select *o_M+* in the pop-up window

4

5 Select *o_M-* in the pop-up window



5 Save the program



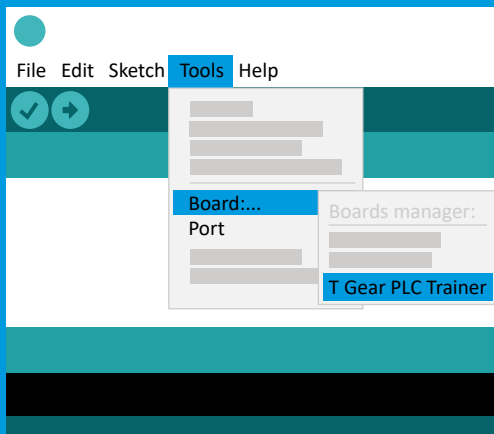
6 Upload the program to Arduino IDE



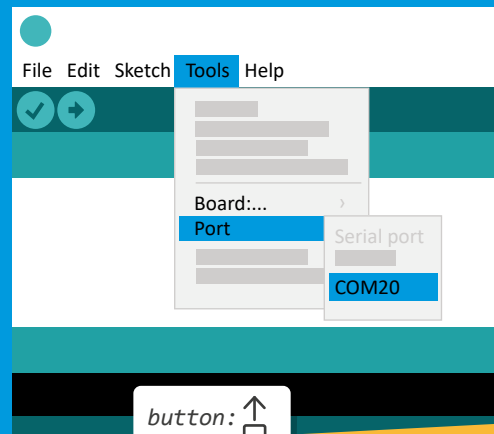
7 Arduino IDE will open

ARDUINO IDE

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



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



10 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.

button:

11
Make sure the button next to the potmeter on A0 is up. Now when you turn the potmeter the platform will move. Change the speed with the A0 potential meter on the Frequency Inverter Simulator!

Hooray!

You've programmed your first motion with a frequency inverter!

