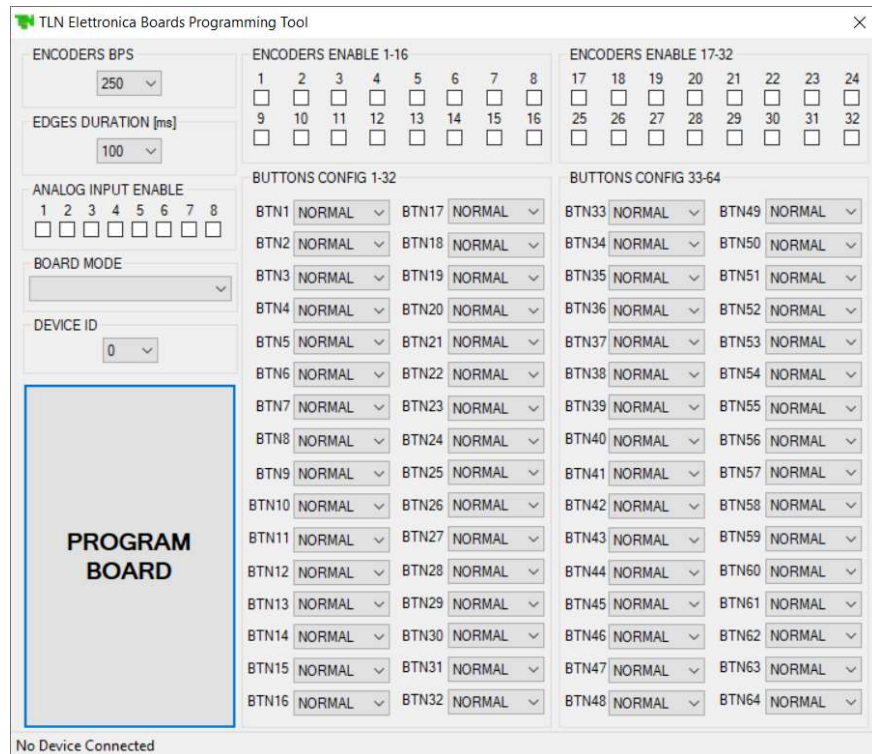




- BOARDS PROGRAMMING TOOL



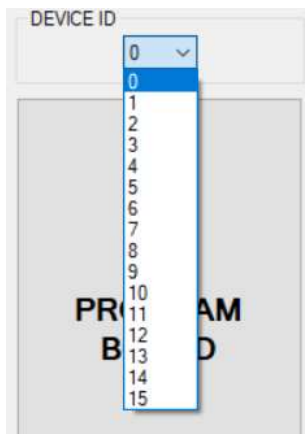
This tool is used to configure TLN Elettronica Plug&Play USB boards tipe:

- 8AI-36DI-MTX
- 8AI-36DI
- 8AI-36DI-CONN
- 32DI
- 64DI

Using this tool, the following parameters can be set:

- DEVICE ID
- BOARD MODE
- ANALOG INPUT ENABLE
- BUTTONS CONFIGURATION
- EDGE DURATION
- ENCODER BPS

- DEVICE ID

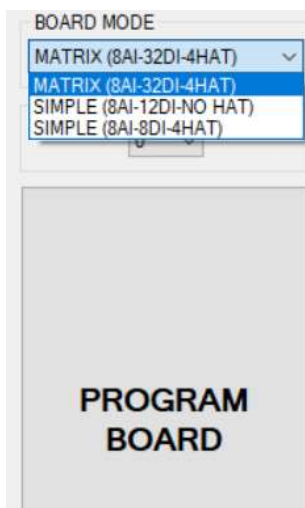


When two or more boards of the same type are connected to the PC, it is necessary to configure a univocal ID to each board.

In this way the user, and the PC too, is able to recognize correctly the board without making mistake.

Each board ID can be configured from 00 to 15, so it's possible to connect up to 16 boards of the same type at the same time.

- BOARD MODE

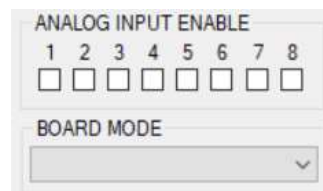


Some boards (“MTX” family for example) have two or more operating mode available, so it's necessary to select the one needed.

For example, the board in the image beside is the “8AI-36DI-MTX” and it can be used as “MATRIX” to be able to connect up to 32 buttons, or it can be used as “SIMPLE” with or without HAT switch.

You can find more details about the board inside its own instruction.

- ANALOG INPUT ENABLE



To be able to use analog inputs, it's necessary to enable ONLY the used input by checking the checkboxes.

- BUTTONS CONFIGURATION

ENCODERS ENABLE 1-16								ENCODERS ENABLE 17-32							
1	2	3	4	5	6	7	8	17	18	19	20	21	22	23	24
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	10	11	12	13	14	15	16	25	26	27	28	29	30	31	32
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BUTTONS CONFIG 1-32								BUTTONS CONFIG 33-64							
BTN1	NORMAL	BTN17	NORMAL	BTN33	NORMAL	BTN49	NORMAL	BTN34	NORMAL	BTN50	NORMAL	BTN35	NORMAL	BTN51	NORMAL
BTN2	OFF to ON	BTN18	NORMAL	BTN36	NORMAL	BTN52	NORMAL	BTN37	NORMAL	BTN53	NORMAL	BTN38	NORMAL	BTN54	NORMAL
BTN3	ON to OFF	BTN19	NORMAL	BTN39	NORMAL	BTN55	NORMAL	BTN40	NORMAL	BTN56	NORMAL	BTN41	NORMAL	BTN57	NORMAL
BTN4	BOTH	BTN20	NORMAL	BTN42	NORMAL	BTN58	NORMAL	BTN43	NORMAL	BTN59	NORMAL	BTN44	NORMAL	BTN60	NORMAL
BTN5	NORMAL	BTN21	NORMAL	BTN45	NORMAL	BTN61	NORMAL	BTN46	NORMAL	BTN62	NORMAL	BTN47	NORMAL	BTN63	NORMAL
BTN6	NORMAL	BTN22	NORMAL	BTN48	NORMAL	BTN64	NORMAL	BTN49	NORMAL						
BTN7	NORMAL	BTN23	NORMAL												
BTN8	NORMAL	BTN24	NORMAL												
BTN9		BTN25	NORMAL												
BTN10		BTN26	OFF to ON												
BTN11	NORMAL	BTN27	ON to OFF												
BTN12	NORMAL	BTN28	BOTH												
BTN13	NORMAL	BTN29													
BTN14	NORMAL	BTN30													
BTN15	NORMAL	BTN31													
BTN16	NORMAL	BTN32													

Each digital input can be configured in five different way.

- NORMAL
- OFF to ON
- ON to OFF
- BOTH
- ENCODER

Input set as “NORMAL”, the command sent to the PC matches exactly the state of the button/switch.

Input set as “OFF to ON”, the board sends a pulse to the PC with limited duration that fires when the button/switch toggle from OFF state to ON state.

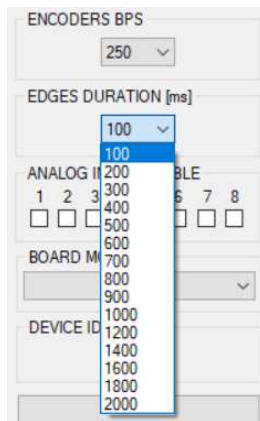
Input set as “ON to OFF” the board sends a pulse to the PC with limited duration that fires when the button/switch toggle from ON state to OFF state.

Input set as “BOTH” the board sends a pulse to the PC with limited duration that fires when the button/switch toggle from any state to another.

Each couple of input can be set as one ROTARY ENCODER by enabling the “ENCODERS ENABLE” checkbox.

When a rotary encoder is enabled, the settings for the relative inputs are hidden (For example, as shown in the image above, Encoder 5 enabled, BTN9 and BTN10 inputs are hidden).

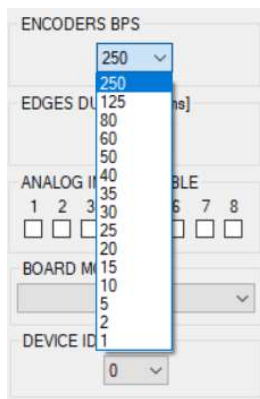
- EDGES DURATION



This parameter is the duration of the pulse generated by any input configured as pulse (“OFF to ON”, “ON to OFF”, or “BOTH”).

The pulse duration spans from 100ms (1/10 second) to 2000ms (2 seconds).

- ENCODERS BPS

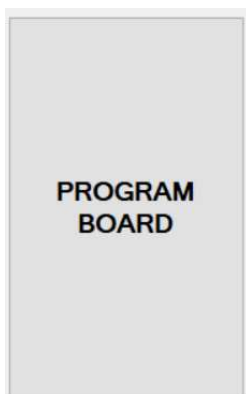


When rotary encoders are used, it’s necessary to set the number of pulses per second that the board have to send to the PC/Simulator to let the PC/Simulator has the time to process them.

The encoder’s beat per second (BPS) spans from 1 BPS to 250 BPS.

Usually 30 to 60 BPS are used.

- PROGRAM BOARD



Once the user is ready, it’s necessary to program the board using the dedicated button “PROGRAM BOARD”, in this way the configuration is sent to the board and memorized.

Wait for the popup window and press OK.

If the DEVICE ID has been modified, it’s necessary to disconnect and reconnect the board from the USB to finish the programming process.