SLI-PRO™

USER MANUAL

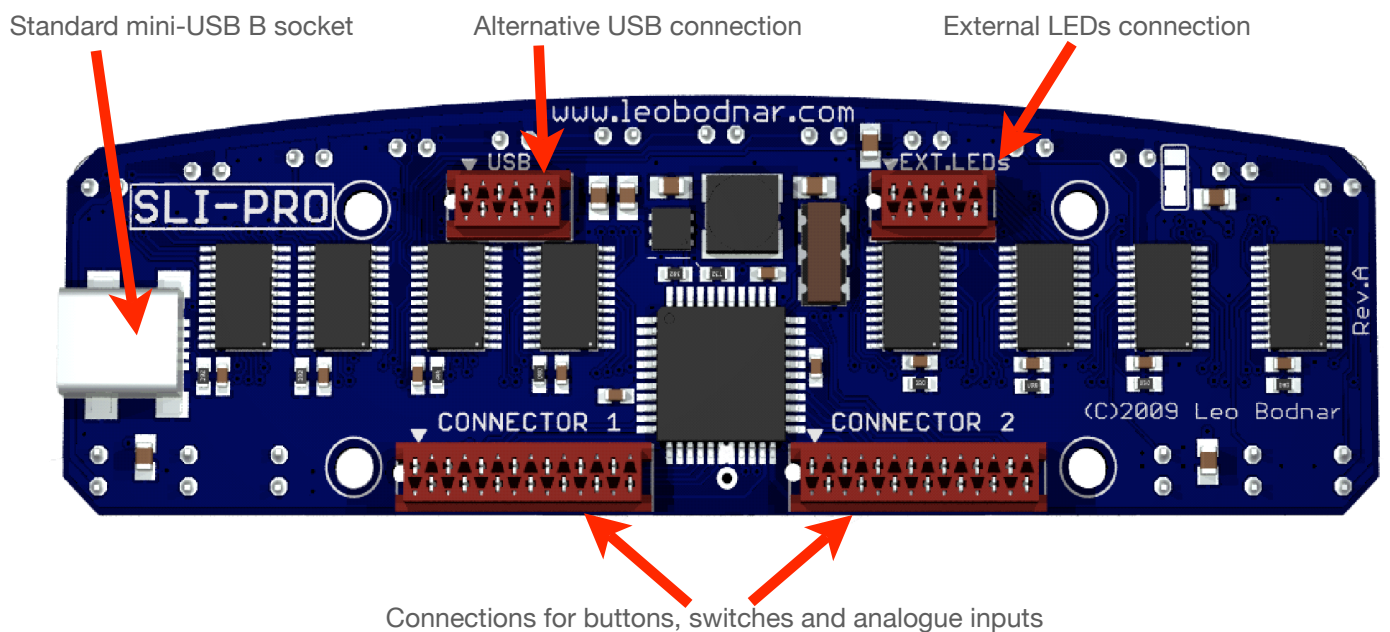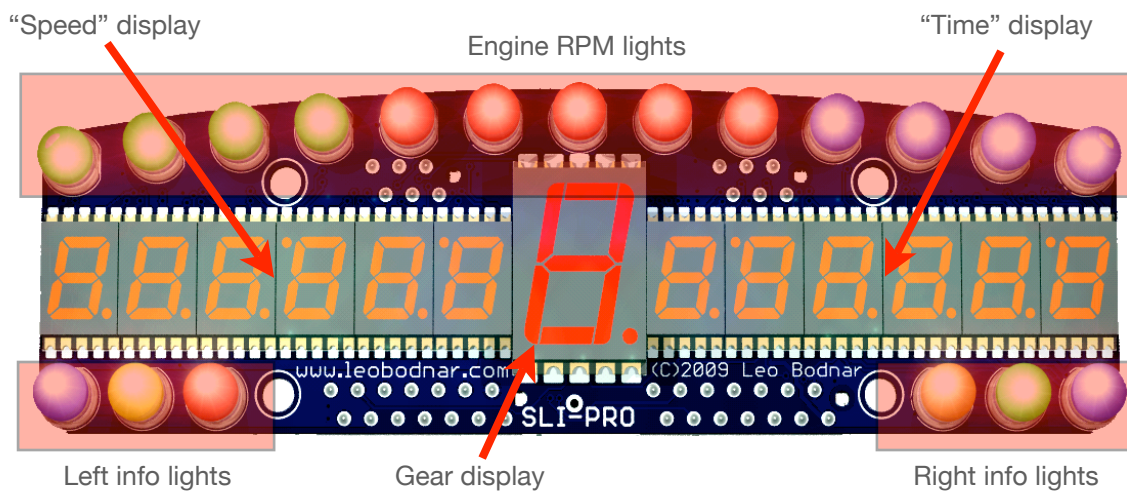Revision 1   11 November 2009

Introduction

Thank you very much for your purchase or interest in SLI-Pro. We hope you enjoy using it.

Installation

Your SLI-Pro is ready to use immediately as delivered. You can plug it in, install the support software and start using it right away. However, to use it to its full advantage it is recommended to connect buttons and switches to it. SLI-Pro uses USB power for its operation. Even though its level is only 5 Volts and USB host must limit the current in case of short circuit it is *strongly recommended* to unplug the USB cable from your PC or hub when making any connections to the SLI-Pro.

Requirements

SLI-Pro requires power for its bright displays. It has to be plugged into PC USB port or powered USB hub for proper operation. Connecting SLI-Pro to non-powered hub will most definitely prevent it from operating properly.

"Speed" display — Engine RPM lights — "Time" display — Left info lights — Gear display — Right info lights

Standard mini-USB B socket — Alternative USB connection — External LEDs connection — Connections for buttons, switches and analogue inputs

No.	Colour		CONNECTOR 1
▶1		Brown	+5V supply for potentiometer and rotary switches
2		Red	GND (shared among all buttons, switches and potentiometers)
3		Orange	Button 1
4		Yellow	Button 2
5		Green	Button 3
6		Blue	Button 4
7		Violet	Button 5
8		Grey	Button 6
9		White	Button 7
10		Black	Button 8
11		Brown	Rotary switch 1
12		Red	Rotary switch 2
13		Orange	Rotary switch 3 (or Button 29)
14		Yellow	Potentiometer 1

No.	Colour		CONNECTOR 2
▶1		Brown	+5V supply for potentiometer and rotary switches
2		Red	GND (shared among all buttons, switches and potentiometers)
3		Orange	Button 9
4		Yellow	Button 10
5		Green	Button 11
6		Blue	Rotary switch 4 (or Button 30)
7		Violet	Button 12
8		Grey	Rotary switch 5 (or Button 31)
9		White	Rotary switch 6 (or Button 32)
10		Black	Potentiometer 2
11		Brown	Button 13
12		Red	Button 14
13		Orange	Button 15
14		Yellow	Button 16

12-position Rotary Switch

In order to dramatically reduce wiring we have introduced 12-position rotary switch with potentiometer output. It requires only 3 wires for connection to SLI-Pro as opposed to 13 wires that would be required if ordinary rotary switch were used.

GND and +5V for all switches can be shared - extended from one switch to another which further reduces wiring complexity. Please note that to maintain correct position alignment GND wire should be connected to the switch pad marked with a dot.

Connecting 12-position rotary switch

Dot indicates GND connection

to GND

to rotary switch input

to +5V
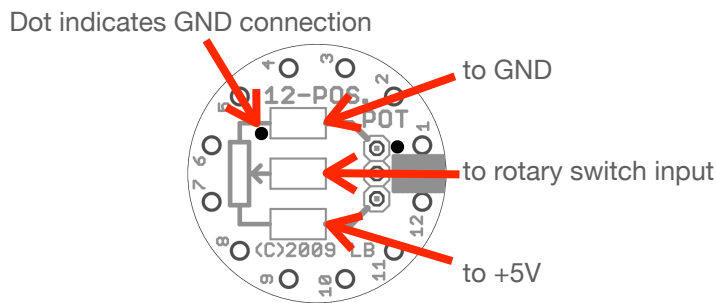
Reducing Rotary Switch Movement Range

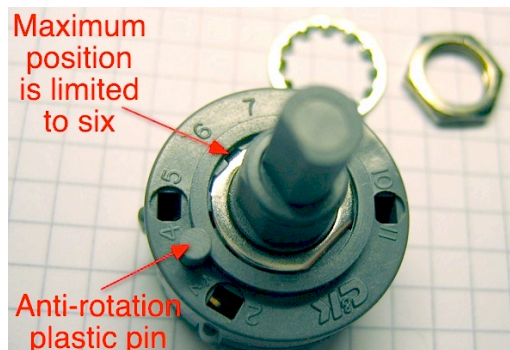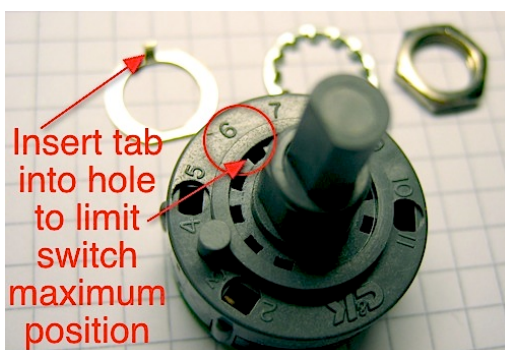In some instances 12 positions for one switch is just too many. You may end up using 4-5 display options and might want to create neat looking label for the switch. All you need to do is re-order your display data options in the software configuration file and limit the switch mechanical movement to smaller range then full 12 positions by following this procedure:

1) rotate the switch to position 1 (full counter-clockwise)
2) insert supplied washer tab into the hole marked with your chosen maximum position (e.g. 6)
3) insert the switch into a panel and fix it with a spring washer and nut

If you *do not* need to limit the number of positions then either remove tabbed washer altogether or place it between the nut and spring washer so that the tab is facing towards you and interlocks with one of the nut's flat sides.

Attention: the switch front side has a plastic pin designed to prevents the switch body from rotating and losing alignment with labels. Either drill a suitable hole to fit this pin through or remove it with a knife, file or snips. If you just insert the switch into a panel it will not be mounted straight.

Insert tab into hole to limit switch maximum position

Maximum position is limited to six

Anti-rotation plastic pin

Tab washer in unused position. Switch can move through whole range.

Using Rotary Switch Inputs 3 To 6 For Buttons

All connected rotary switches are detected automatically when the power is applied to SLI-Pro. If rotary switches 3, 4, 5, or 6 are not used then these inputs can be used for extra buttons. They are automatically mapped to buttons 29, 30, 31 and 32 respectively. To avoid any erroneous activation of switch function on these inputs during the power up configuration the buttons connected to these inputs must be of "momentary ON" type. I.e. the inputs should be in open state when SLI-Pro powers up.

No.	Colour		EXT.LEDs connector
▶1	🟩	Green	+5V (shared among all external LEDs)
2	🟦	Blue	External LED 1
3	🟪	Violet	External LED 2
4	⬜	Grey	External LED 3
5	⬜	White	External LED 4
6	⬛	Black	External LED 5

Connecting External LEDs

Up to 5 external LEDs can be connected to SLI-Pro. Together with 6 information LEDs on the SLI-Pro they can be used to display various warning or information messages.

External LED connections have internal current limiting to 15mA so limiting resistor is not necessary.
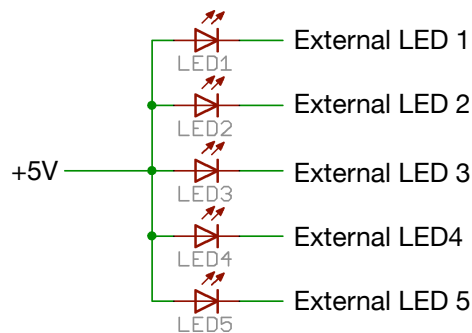
No.	Colour		USB connector
▶1	🟩	Green	USB D+ (standard USB cable wire *green*)
2	🟦	Blue	USB D- (standard USB cable wire *white*)
3	🟪	Violet	USB GND (standard USB cable wire *black*) and USB cable shield (screen)
4	⬜	Grey	
5	⬜	White	USB +5V (standard USB cable wire *red*)
6	⬛	Black	

Connecting USB Cable

SLI-Pro can be connected to PC USB port using either a standard USB A to Mini-B cable or custom made cable through a dedicated socket on the back of SLI-Pro. It is recommended to use standard USB cable as a basis of your own wiring between the SLI-Pro and a PC. Using arbitrary cables might cause problems with power and USB data integrity.

USB A to Mini-B cable