

# LS-22 mm Series NoBounce Pushbutton IP67 Vandal Resistant Switch



## Description

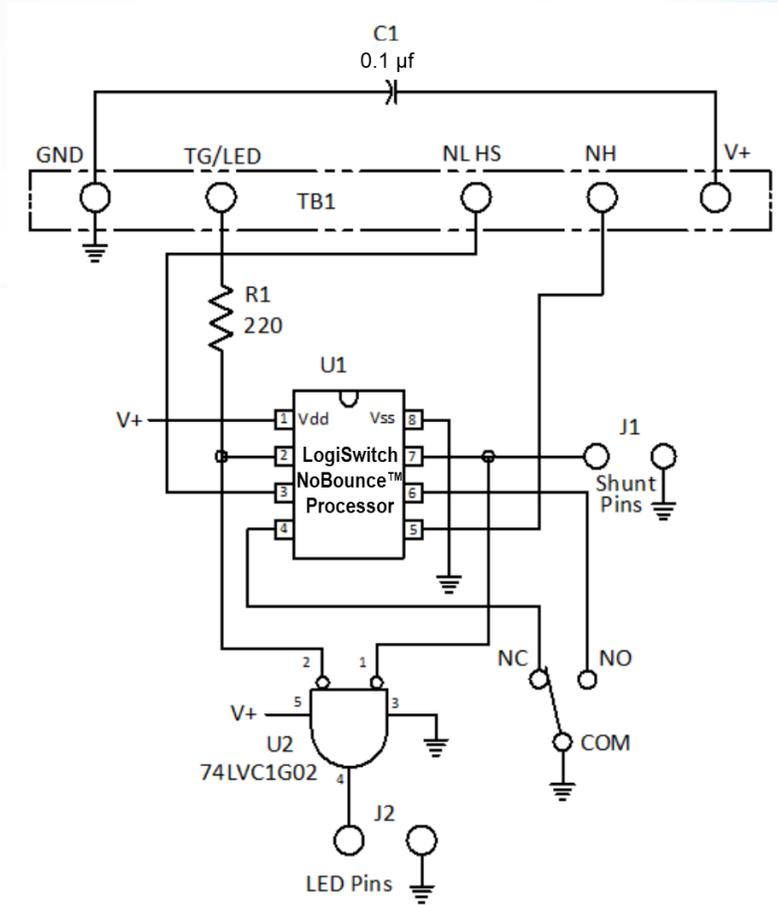
Every LogiSwitch Switch uses the LogiSwitch NoBounce™ technology and comes with three separate clean, debounced outputs, including two momentary selections: Normally High (low when pressed) or Normally Low/Handshake NL/HS (high when pressed) (see [User Guide](#)) and an optional latched Toggle (push on/push off) selection. The Toggle output is user-selectable via shunt for either the Toggle output, compatible with all LogiSwitch NoBounce Switches, or the active low LED input for the ring LED on/off operation. With the shunt installed, the TG/LED pin functions as the LED control input. To maintain compatibility with all other LogiSwitch NoBounce switch products, the TG/LED pin functions as the Toggle output when the shunt is removed. Toggle changes state each time the switch is actuated.

The LS-22 mm Series of LogiSwitch products are vandal resistant and waterproof, rated IP67, and equipped with a ring LED which is controlled through the user's cable to the TG/LED pin with the shunt installed.

## Technical Details

Drill hole diameter	22 mm or 7/8 inch
Absolute Maximum Voltage	5.5 VDC
Recommended Voltage	2.7 VDC – 5 VDC
Terminal Block Pinout	Five-pin screw
V+ Positive supply	2.3 Volts to 5.5 Volts
NH - Normally high output	Goes low on activation
NL/HS - Normally low/Handshake	Wired OR active high output for handshake
TG/LED	Toggle output when shunt is removed or LED on/off input when shunt is installed.
GND - Supply ground	0 Volts
Operating Temperature Range	-40°C to +85°C
Mechanical life	500,000 activations
Panel thickness	Up to 7/16 inch (11.22 mm)
Operating pressure	1.5 N - 2.5 N
Operating stroke	0.125" (3.18 mm)
LED rated voltage wired direct with internal resistor	3 VDC to 6 VDC

# Schematic



LS-22 mm NoBounce Pushbutton Switch Schematic

## Pin Definitions

As you can see the 5-pin header contains Power and Ground pins plus three outputs: TG/LED, NL HS, and NH. The function of these pins is given in the following table.

Pin	Function
NH	This debounced output is high when the switch is idle and goes low when the switch is activated (pressed). This is a totem pole output that provides up to 25 ma sourcing or sinking.
NL HS	<p>This debounced output is low when the switch is not pressed and goes high when it is activated. It is a wired-OR line with a weak pull-up resistor internal to the processor. Low level outputs can sink up to 25ma. The NL/HS I/O may be used by the user's program to terminate the switch service cycle by issuing a 5 ms low pulse, called a handshake.</p> <p>The NL/HS line is configured as an open collector wired-OR line so both the LogiSwitch device and the host computer can drive the line low simultaneously to accomplish the handshake as needed.</p>
TG/LED	<p>The TG output powers up in the high state and changes state each time the switch is activated. It may be used in applications where a push on-push off type switch would be used.</p> <p>The 16 mm to 22 mm IP67 high-end switches provides the TG function to maintain compatibility with the other switches but offers an alternate use for controlling the on/off state of the switch's integral ring LED. Use of the LED on/off input option is provided by installing a shunt in position J1. With the shunt open, the pin functions as a Toggle Output for the IP67 switches.</p>

## Notes

1. Ring LED is internally configured as two back to back LEDs to eliminate need to select polarity.
2. When selected by the installation of the shunt the device's LED is turned on by a low level on the TG/LED pin.
3. The internal current-limiting resistance for the ring LED is for a full 5V supply voltage to provide proper intensity. Lower voltages are not recommended.

# Mechanical Drawing

