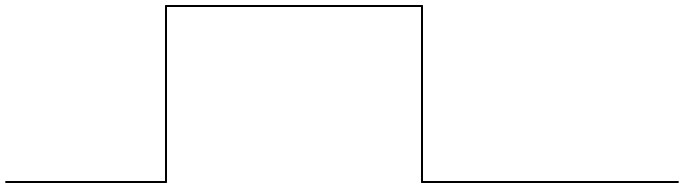
Digital Inputs: Pushbutton

- traditional use is to generate a signal change
- in instrumentation, use one button for two different types of actions:
  - long hold
  - short press
  - e.g. turn on/off for a device on a control panel

Digital Inputs: Pushbutton

- conceptually



- implemented as

Digital Inputs: Pushbutton

- design considerations: contact bounce
  - is the switch debounced?
  - how do you determine contact bounce?

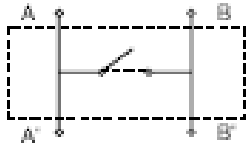
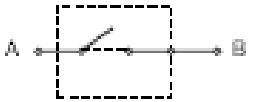
1.

2.

- Debouncing:

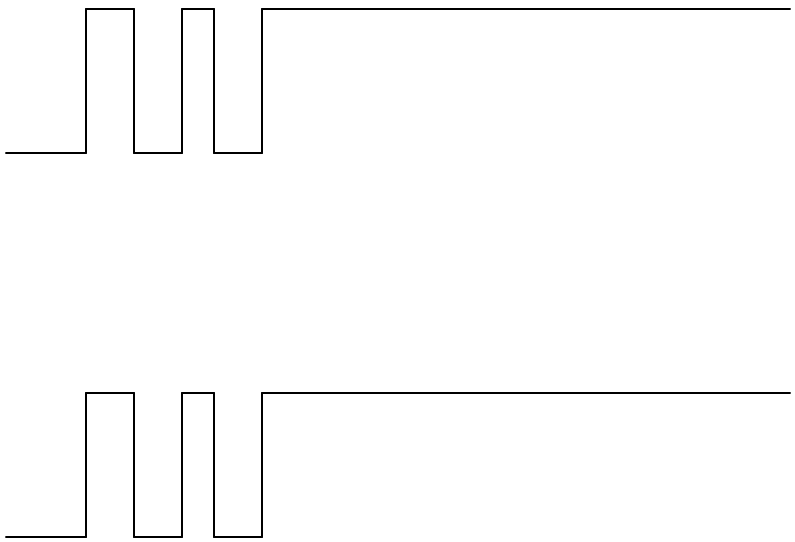
1. Hardware debounce => text pg315

■ Major Specifications

Type		Snap action/Push-on type SPST	
Electrical	Circuit Diagram	Top-push 	Side-push 
	Rating	20 mA 15 Vdc	
	Contact Resistance	50 mΩ max.	
	Insulation Resistance	50 MΩ min. (at 100 Vdc)	
	Dielectric Withstanding Voltage	250 Vac for 1 minute	
	Bouncing	3 ms max. (ON) 8 ms max. (OFF)	
Mechanical	Operating Force	1.0 N±0.4 N 1.3 N±0.4 N 1.6 N±0.5 N	2.6 N±0.6 N
	Travel	0.25 mm±0.10 mm	

Digital Inputs: Pushbutton

2. Software debounce



Reading:

- Text: Chapter 7 Parallel Ports
  - sections 7.8-7.9

- Pushbutton datasheet: LIGHT TOUCH SWITCH 100GF [Manufacturer Part Number EVQ-PAC04M; Panasonic-ECG]