

Perry Baromedical Solves Debounce Problem with LogiSwitch NoBounce Technology

Perry Baromedical

Perry Baromedical Corporation designs, manufactures, installs, tests, and services medical hyperbaric oxygen therapy systems. The Company offers hyperbaric oxygen therapy chambers, chamber accessories, electronic medical records capability, mono-place, and multi-place hyperbaric chamber systems to hospitals and wound care clinics. Perry Baromedical is the only full line manufacturer of hyperbaric chambers in the industry. Since its founding in 1956, Perry Baromedical has had a distinguished reputation as an industry leader in innovative design and quality manufacturing.

The Challenge

The project was to design a battery powered treatment cycle counter with a battery life of at least 1 year. This cycle counter is an add-on to existing systems and is used in all new systems.

The challenge is to

minimize the full power time

to maximize battery power and to accurately count the number of pressurizations. The difficulty

“LogiSwitch worked with our engineering team to come up with an outstanding solution based on their NoBounce technology that met our design goals and quality standards. During our extensive lifecycle testing we completed a series of tests culminating in a greater than 100,000 count lifecycle equivalence without a LogiSwitch board failure.”

Keith W. Evans, Director of Engineering

is caused as the pressure sensor slowly reaches the pressurization threshold. There can be a long period of oscillations until the pressure sensor signal stabilizes. Once the sensor has stabilized, the count is recorded and the system goes into a low-power standby mode.

The Solution

Perry Baromedical was not able to solve either the accurate count and the battery life challenges until they discovered LogiSwitch NoBounce™ technology. The design utilizing the NoBounce technology only initiates a single count once the pressure sensor stabilizes and immediately puts the monitor circuit into standby mode. The battery life and accurate count requirements were met.

About LogiSwitch

LogiSwitch was founded in 2016 by Mike Pelkey, a serial inventor and entrepreneur who has a long engineering career in industrial automation. LogiSwitch's NoBounce™ line of ICs and switches is a result of his 40+ year career in electronic design engineering where he developed switch bounce solutions for automation applications.

Mike has a passion for simplifying engineering development. He has also developed a line of Arduino prototype boards and peripherals.

Key Challenges

- 1-year battery life
- Accurate usage count

LogiSwitch Solution

- Used NoBounce technology
- Eliminated switch bounce
- Minimized high power mode

Results

- Met the goals
- Met the quality specs