Remote monitoring helps sleep apnoea patients rest more easily

Saft batteries provide three years of autonomous operation for continuous positive airway pressure (CPAP) devices.

SRETT is a French company that specializes in remote M2M (machine to machine) monitoring systems that use ultra low-power wireless technology to transfer data to information systems. Its customers are primarily in the industrial monitoring and telemedical sectors, where it's important to measure and log data from remote locations.

An important new development is the T4P, a GPRS (General Packet Radio Service) product for remote patient monitoring that records and transmits the performance data of patients' CPAP devices. The coded and anonymous data is transmitted to SRETT's private cloud database, where healthcare professionals can access it, monitor patients and take immediate action if necessary should a problem occur.

The challenge: discreet, compact and long-lasting power

Although CPAP machines improve quality of life, patients often have mixed feelings about using them.

The T4P device can improve adoption as patients know that their usage is monitored by medical professionals.

SRETT was keen to match the battery life of the T4P to the three years or more life of a CPAP machine to minimise maintenance on the machine as a whole. It was also keen to make its device simple and straightforward for patients to use, as well as small and lightweight for travel.

Case study

The solution: Primary lithium batteries

SRETT turned to Saft to supply primary lithium batteries with an extremely low rate of self-discharge that would provide power for more than three years of telemetry. The high power LSH series cells are ideal for the task. Based on lithium thionyl chloride (Li-SOCl2) cell chemistry, the primary (non-rechargeable) batteries are D sized and have an extremely low rate of self-discharge.

- Design life of 5 to 20 years
- High drain/pulse capability to meet telemetry requirements
- Extremely low self-discharge rate
- High energy density
- Resistant to shock and vibration

Medical device and telemetry unit as a single package

Saft's LSH battery gives SRETT's T4P unit the same lifetime as the CPAP machine that it monitors, meaning that patients will view the two devices as a single machine that supports breathing and sends data to healthcare professionals.

As a primary battery, the LSH cell makes life easy for patients as it requires no maintenance or re-charging. Extremely low self-discharge and high energy density mean that the LSH is long lasting, compact and lightweight. These attributes have enabled SRETT to meet the performance criteria for integrating the T4P into CPAP machines.

- Battery life matched to CPAP machine life
- No maintenance and no recharging requirement
- Battery selected to maximise adoption of CPAP machines
- Compact D-sized batteries
- Lightweight for ease of transport

Quality and reliability

"Saft batteries are perfect for medical applications such as the new T4P device where failure is simply not an option. This major contract for SRETT is further recognition that our LSH batteries offer the ultimate combination of reliability, performance and long life to meet the most stringent medical standards."

Pascal Hans, Sales Manager France
in Saft's Specialty Battery Group

Saft
12, rue Sadi Carnot
93170 Bagnolet - France
Tel. : +33 1 49 93 19 18
Fax : +33 1 49 93 19 64
www.saftbatteries.com

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