

### Business situation

Mars International client MPD Memory Protection Devices of Farmingdale, New York needed a coin cell battery holder to be developed with the smallest on-board footprint possible to accommodate the need for increasingly compact finished product applications. The battery holder needed to include all of the previous benefits of their successful Glider™ products with vertical snap-in tray access & installation. The part would need to utilize the low cost of open frame design features and the higher reliability of regular coin cell holders. The new design must also reduce vertical height to an absolute minimum maintaining a nearly “flush mount” profile. The finished product needed to offer the price competitiveness of a coin cell retainer, while at the same time giving a better and more reliable connection than the standard battery holder under the most demanding conditions under which medical devices and other products in this category experience under normal use.... all at the right price!

### Technical situation

Mars engineers needed to develop the part within cost, manufacturing, and assembly constraints whereby the resulting finished product would also provide easy user maintenance (battery installation, removal and replacement). Finished parts needed to be available in surface mount and through-hole configurations. The product needed to be manufactured for durability, shock/drop/vibration resistance, and ease of installation with a height of only 4.83MM (including cover). In addition, parts needed to comply with stringent reflow soldering temperature requirements to avoid battery damage.

### Solution & Benefits

Over 2 years in development and multiple engineering and design trials The Mars MPD Snapdragon™ was completed and an entirely new category of coin cell technology emerged. Snapdragon™ utilizes a special liquid crystal polymer molded tray that secures the coin cell and snaps easily into the nickel-plated, non-magnetic, phosphor bronze (electrolytic gold flash – for easy solder application), battery holder.

**Range:** Snapdragon™ holders are available in 15 surface mount and 15 pin mount configurations, accommodating most SMT and through-hole assembly configurations. The retainer has specially engineered “LIVING” contacts that result in low electrical resistance and are optimized to maintain the best connection with the battery possible through constant yet flexible contact.

Due to the Snapdragon™ unique design, the battery is easily changed without tools or instructions. Like its award winning Glider™ product line the Snapdragon™ accommodates retainer mounting on PCB in an automated reflow solder process resulting in reduced labor costs to the customer. Snapdragon™ parts are available in Tape & Reel (automation) format. Construction allows for reflow soldering at 260°C without damage to the battery (can be installed after oven processing). The finished product is also lighter than other options.

The coin cell battery can be loaded into the matching plastic tray and inserted into the retainer at any time during the assembly process. Once the battery has been installed into the tray, the entire item snaps into the retainer and locks into place to provide a secure connection.

The Snapdragon™ family of coin cell holders is quickly becoming a popular product among compact handheld medical products and other applications where reliability, durability and ease of use are of importance.



**MPD CR2032 Coin Cell SNAPDRAGON™ Battery Holder**