

Low Current DC Gear Motor for Paper Towel Dispenser – Case Study



Overview: A leading manufacturer of a battery operated utility product was experiencing shorter than desired battery life during product use. The engine of this product was a 6 volt DC gear motor that was drawing twice the desired amount of current, creating a significant drain on the product's power bank of batteries.

Challenge: During our investigation of the product's gear motor we found that the current draw was 800 - 850mA. Further investigation of similar motors from several motor manufacturers showed a range of current draw, under load of 800mA – 1400mA. The customer requested that we find a way to reduce that current down to 500 mA or less.

Solution: ISL Products International and its factory engineers tore down similar competitor motors and found a myriad of factors that contributed to the higher current draw issue that our customer was experiencing. Some factors included excessive brush and commutator wear and in some cases foreign conductive material floating within the motor itself creating unwanted spikes in the current draw.

The ISL engineers and our factory's engineering department, agreed on a methodology for improving the motor and bringing the current draw in line with the customer's expectations. Through the use of high quality raw materials, good manufacturing practices (GMP) and techniques of our factory, ISL was successful in developing a high efficiency, low current gear motor that reached the target current draw.

The customer's product is now getting the expected battery life that their product was designed for.