



## XD Double-Speed Motor: A Real Breakthrough for Uphill E-bike Riding

E-bike motor specialist and LEVA sponsor-XiongDa will launch its double-speed motor during the upcoming Eurobike 2014. Its uniquely-designed internal double-gear structure allows it to generate twice the torque under the same current without causing tension on the chains. Its smooth automatic and manual transmission is another highlight of the system.

Due to the limitations on battery, drive system specialists have been looking for ways to optimize battery usage in order to get longer riding range especially in hilly areas. XD, after years of repeated experiments and benchmarking has come up with a unique double-speed motor, designed to optimize the torque and speed output to fit different road conditions.

The two sets of internal gears with its own speed reduction ratio enable the motor to generate the same torque with half the current or twice the torque with the same current compared with a regular 250W hub motor. And with its matching intelligent controller, the bike can automatically switch between low speed and high speed mode when riding flat and uphill.

### **XD Double-Speed Motor vs. BB Motor**

Compared with a BB drive system, XD motor greatly increases its system efficiency by adjusting the torque and speed ratio through integrated gear transmission without the energy loss (up to 30%) caused by the chain transmission and the broken chains caused by the high level of tension from the BB motor. Another advantage of XD double-speed motor lies with its lighter weight and smaller size as well as easy installation and compatibility with a regular bike frame.

There have been attempts to realize the similar concept of gear combination, but unsuccessfully due to problems such as noise and undesirable torque output. XD, as one of the earliest motor companies which started exporting to Europe through Chinese e-bike OEMs, will present its own version of this concept at LEVA booth

during Eurobike 2014, developed to offer riders a quiet and powerful experience as well as extended range.

Vivian Wei, Managing Director of eCycleElectric