

Battery Guard Bluetooth monitor

TESTED BY: John Milbank | £29.94 | www.mobilecentre.co.uk | 01386 212121

Oh the irony of testing a device that can give an instant display of your bike (or car) battery's remaining charge, while letting my own KTM 1050 get so low that I have to jump start it from my car.

The Battery Guard is a very small and light unit that simply attaches directly to your 6v, 12v or 24v battery, drawing (by my tests, not manufacturer's claims) around just 1.3mA. By downloading a free app to your iOS, Android or Windows 10 phone/tablet, you can quickly connect and check the current Voltage, as well as a graph of the recent readings.

During a check, the unit pulls about 2.1mA, but that drops back down to the standby current as soon as the application is closed on your phone. Compared to my mid-range multimeter, it's accurate to within 0.02v, and as the Bluetooth range is up to five metres, I'm able to check my battery while sat in the living

room, next to the garage. I wish I'd been doing that with my KTM, as I'd have realised how flat the battery was getting. Needless to say, it's fitted now.

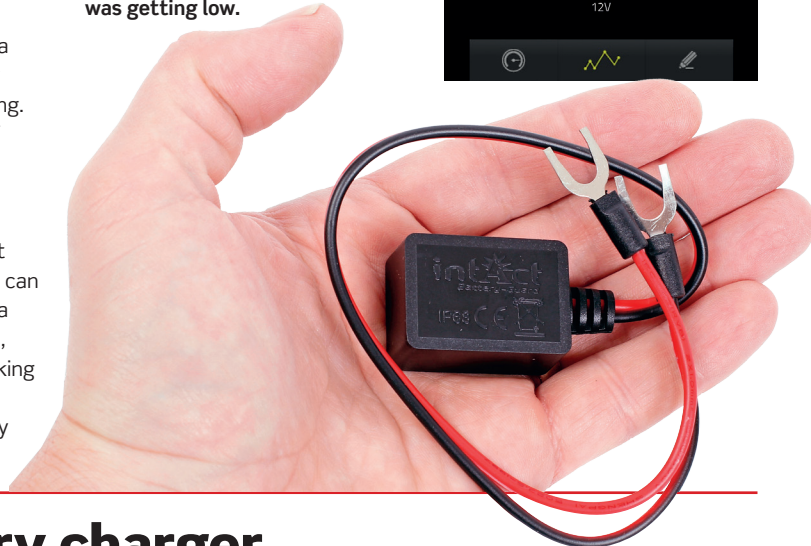
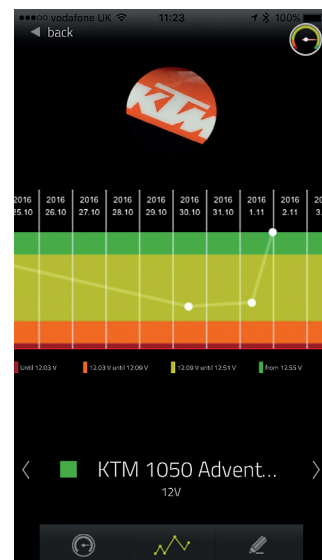
Simple coloured bands back up the voltage display, though those using lithium batteries should ignore the yellow band that on a lead-acid pack would be the point where you should be thinking about charging – with lithium it would be in a state of deep-discharge. The graph page is a handy reference for checking how your battery is discharging.

This is particularly useful if you have an alarm or tracker fitted, as it's a cheap, simple way of keeping an eye on the battery of a vehicle that's not being used regularly. The app can keep track of up to 10 units (a paid app can track up to 100), and is very simple to use, making it a very worthwhile addition for machines not permanently attached to a charger.



ABOVE: The unit is accurate compared to my multimeter.

RIGHT: After fitting to my KTM, I was able to see when the battery was getting low.



BC K612 6v & 12v battery charger

TESTED BY: John Milbank | £28.99 | www.wemoto.com | 01273 597072

This excellent value smart charger is designed to maintain and recover lead-acid batteries in modern 12v, and older 6v bikes.

The microprocessor controller first checks a battery's state, before running through various phases: a deep-discharged battery (from 1.5v for 12v and 0.63v for 6v) will be taken to a higher voltage in an attempt to get it working again. After that a 'soft charge' mode gives a light, pulsing current for batteries not quite deep-discharged, then 'bulk charge' provides the unit's full 0.9A to recover around 85-90% of a battery's capacity.

Following this, if necessary a desulphation mode provides a higher voltage for a controlled overcharge, to recover the remaining 10-15% of capacity. From there, an analysis mode stops the unit charging to see if a charge is held, and if so, a maintenance mode then keeps the battery topped up, while

promising no chance of overcharging, overheating or electrolyte loss. The analysis mode operates every so often through this stage, and every 30 days an equalization charge balances the battery's cells.

Got that? Well you needn't worry, because like me you'll probably just plug it in and forget about it – that's what I've done. The charger comes with a crocodile-clamp connector, which was no use for wiring direct to the bike's battery. It'd be easy to swap the clamps for a couple of ring connectors, but you'd still need to wire a fuse in. A ready-made connector is available for an extra £9.17 – search for 'battery cable' on the Wemoto site and select the one with the new plug. The plug is a standard SAE connector, but I'm not a fan. While it's undeniably better than the old Tamiya connector, I'd prefer something a little less stiff

and clunky. Still, the standard has been chosen, and it's what every manufacturer uses, no doubt thanks to it being simple and cheap to produce.

I ran a cycle of charges and discharges, using this and my old Optimate charger – both had no problems, and consistently left the battery at 13.66 to 13.67v. The instructions were generally fine, but the unit ships in 6v mode, and the

directions for swapping between outputs were a little hidden. A quick call to Wemoto showed me my mistake, so support is great (and the charger comes with a three year warranty).

A wall-mount would be handy, but this is a great value unit that could save a lot of hassle if you have a bike that's not used regularly.



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