

Isle of Mann TT Electric

Segway Racing MotoCzysz

A MotoCzysz E1pc has won the 2012 Isle of Man TT Zero race for electrically powered motorcycles for the second year in a row. Rider Michael Rutter, 40, was also first to “make the ton,” doing a single lap of the 37.73-mile circuit at an average speed of 104.056 mph



23 seconds behind Rutter was John McGuinness, a many-time TT winner, on a “Honda” Team Mugen Shinden machine. A further 15 seconds back was Mark Miller on a second MotoCzysz. The last finisher of the 10 entries was Bob Barker, winner of the first electric TT, now on an Austrian TGM IOT machine at 78.221mph. The first three finishers managed to crack the 100mph barrier with the Team Mugen machine coming in with a 102.215mph lap and the second MotoCzysz 101.065mph.



MotoCzysz’s power is provided by a set of the latest Dow Kokam lithium-ion nickel-manganese-cobalt cathode cells, which, in comparison with the other four leading cathode chemistries, are claimed to deliver the most “rounded” set of qualities: specific power, specific energy, life, safety, charging time and cost. The motor comes from Remy Electric Motors, their HVH 250 model to be precise, was onboard the two MotoCzysz after a development cycle and redesign by Michael Czysz’s.

After only 4 years of development to be lapping at over 100mph average speed is an amazing effort. These lap times place the electric leaders in the 650 bike category and mid field for the Sidecar races. It will again be fascinating to see what next year’s improvements provide.

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ActiveE

If you live on either coast of the US you could be a lucky recipient of an ActiveE lease. 700 EV’s are available at the monthly cost of \$499, only \$28 above the current 128i 24 month lease cost of \$471. This would seem to indicate that BMW is, at lease dollar wise, serious at encouraging perspective lease holders to try their EV offering at no cost detriment.

The other economic element to consider is operating cost. BMW says that the Active should use about 137Wh per km. Electricity costs vary, but a typical 10,000-km driving year should cost about \$384 for electricity. That compares with about \$1350 per year for hydrocarbons for a 128i. Not bad.



BMW All Electric

BMW has begun leasing their all electric drive 1 series the ActiveE, basically the vehicle is a 128i with all the BMW trimmings.

The single AC motor powering the BMW ActiveE generates 125kW of power and 250Nm of torque, which is sufficient to see the weighty car move from a standing start in an energetic fashion. In fact the 0 to 100kmh time is 8.9 sec, not lightning fast but provides an extremely drivable 1820kg vehicle that is at least as “nippy” as the 128i petrol version by all those who have had the privilege of road testing the marque.

Range is 160km from the 32kWh Li-Ion pack built by a Samsung / Bosch partnership called LiMotive. Recharging takes approximately 4 hours from the dedicated 240V US 3 phase charger available for the ActiveE for home use. 30 minute fast charging is also available from public fast charging stations currently on trial in the US. BMW seems to be on a serious trend to develop a first rate EV for the general market, 2013 will see the release of the carbon fibre bodied i3 and later i8 electric, hopefully with the same pricing structure in place.



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<http://www.ata.org.au/branches/geelong-ev-group/>



ALTERNATIVE TECHNOLOGY ASSOCIATION : Promoting energy saving & conservation to households

PlanetSOLAR



After 19 months of reasonably uneventful cruising, (except for fending off a few pirates) the MS Tūranor Planet Solar has finished its 37,286 mile 60000Km circumnavigation of the globe. On May 4th at 2.12PM local time, the solar powered catamaran entered Monaco's Hercule Harbor. The 115 foot long, Swiss-flagged catamaran was only a dream and some plans as of three years ago, and although it took quite awhile to complete its voyage, it did so without any major problems. The crew occasionally found themselves awaiting the sun when the ship's batteries ran out of energy, but no major components ever failed. Although at 19 months the journey took 5 times that of the first steam ship circumnavigation 150 years ago. The vessel was used at most of its ports of call as a mobile conference facility for the technology corporations that supplied the infrastructure that made the challenge possible. Once again Electric powered transport has proven its functionality for long distance travel.

R11E – SAE

<http://www.antoniojhun.com/car-r11e/>



The students at RMIT have been quite busy coming up with their latest version of an electric SAE car. This is RMIT's third generation of EV SAE, the first two being prototypes, the R11E is however a complete ground up build to optimise an all Electric design.

The basic unit is a 238kg, 42kW, 500Nm dedicated electric racing car. A team of 30 students have been constructing the R11E from late 2011. Success in the upcoming SAE event at Werribee in December could see the car and the team travel to Germany in 2013 to compete in the newly formed Formula Student Electric competition.

The R11E has completed its design phase and is currently preparing for manufacture and assembly which will take place in RMIT's workshop at the Bundoora East Campus.

R11E Specifications:

Motors:- two Vetrix brushless DC, producing 14kW continuous or 42kW peak power and generating 600Nm of torque at 350 amps from the twin Kelly controllers. Rear drive is by chain from each motor to each rear wheel, with an electronic differential balancing the drive power from each motor.

Battery system:- 84 Dow Kokam Li Polymer cells providing 13.4kWh at 155 Volts, but with the ability to provide 150kW at peak output. Mass of the batteries is only 82kg, equally distributed in the two battery boxes on each side of the vehicle. Run time is between 45 to 60 minutes with recharging taking 5 to 6 hours. Battery management is provided by an Elithion BMS that incorporates cell temperature and individual condition monitoring during cycling as well as balancing functions.

The Shape of Things Now!!

Honda FIT EV



From Honda comes confirmation that an all electric version of their FIT is to be available in the US (California and Oregon) via a three year lease arrangement starting in US Summer season. The Fit EV features a 92kW AC synchronous electric motor (developing 256Nm of torque) driving the front wheels through a high-efficiency single-speed coaxial gearbox. Power is supplied by a Toshiba-produced air-cooled 20kWh Li-Ion battery, located beneath the passenger compartment completely within the wheelbase.

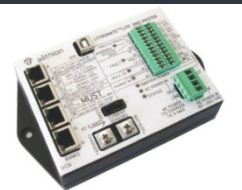
With its 6.6 kW in built charger, the vehicle may be plugged into any household-type 240v power supply, with charging times less than three hours. Honda says the Fit EV has a top speed of 140kmh and will go 200 city km per charge, although it has an US EPA-estimated combined driving range of 125km. The car weighs in at 1480kg which is a good 60kg lighter than the Nissan Leaf, its main competitor.

From now to 2015, 1100 of the FIT EV's will be available at \$389 per month, although a price guide indicates a delivered price of \$37,415. The most obvious exterior clue as to the FIT's EV status is the lack of a grill. Internally the instruments are typical EV with power usage and charge indicators replacing the Tacho. Smartphone apps are available to interrogate the cars status and set comfort levels.

This Month's Q&A Technology Tip

Q: What's the latest in Elithion BMS devices?

A: Although not new the Elithion brand of BMS systems has released the Lithiumate Lite product range can provide protection for up to 160 cells and 530volts. Charge control is limited to 30Amps DC. The cell sensors not just balance the cell, but also provide voltage and temperature monitoring.



Because these systems are reasonably complicated in their possible configuration options, it is difficult to itemise a kit to suit your installation. However the new online ordering system makes selecting the correct stuff a breeze. Pricing for a kit to suit my BMer would be about the \$900 mark making it comparable with EVworks.