

## PULSAR 2 – new High End charger

As a person who is still looking for something new and fancy in electric drive (not only flying in helicopter but also other models). I was interested in this charger as soon as I have heard about it. Its technical specification are very interesting.



- Battery types: NiCd, NiMh, Pb, LiIon, LiPol, LiTa, RAM
- Max current charge 9.9A
- Max current discharge 9.9A
- Max power 250W
- Max discharge with working with power supply 35W
- Max discharge with return energy to car's battery 250W
- Return energy is possibly from 3V
- DC-DC converter – make possibility to charging, discharging in full current range
- Measure internal resistance – cables and connectors are also measured, but in order to comparison it is not so important
- With NiCd and NiMh possibility of choosing the end of charging: temperature, delta peak or inflex (a lack of overcharging cells, increasing of life span)
- Fast mode (more in text)
- Reflex – short discharge impulse in the charging –preventing the memory effect
- Formatting and regeneration – special programs to caring of battery
- PC software, COM cable and temperature sensor in standard
- Charging voltage for LiXx set in steps 0.01V
- Fan with automatic speed control – turning on it is needed. It is very quiet
- A lack of heavy radiator, it makes you easy to carry starting box
- Highlight LCD display

Uff... and that's all in a small box.. It looks great!

I must have it. Helmut Felderer (<http://www.eheli.at/>) still has these chargers in a special offer, so I called; a short chat and I ordered it immediately. And now I've got a new charger at home.

After four days I got a small packet. I opened it – I was surprised, it was so small! Does this small charger do all these things, it's unbelievable! I have to try now. Instructions – who cares? It isn't my first charger. Reading instructions is for suckers.

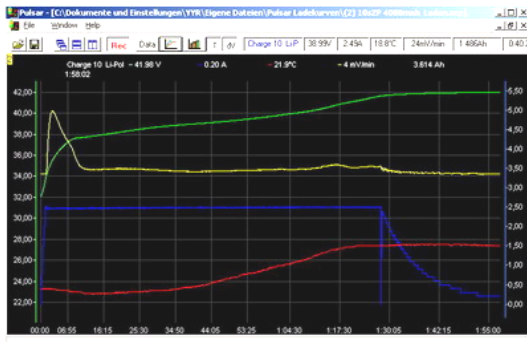
Plug, aha, start, and, press this, press that... what devil? Oh, I'm not good in it.

So, I have to take an instruction. Aha, eight memories for different accumulators. After ten minutes of studying I called Helmut. Now, it's really easy. First in memory cell you have to set types of accumulator, then other things. Now, discharging, charging, discharging-charging or charging-discharging. And it's ready now. The accumulator is programmed.

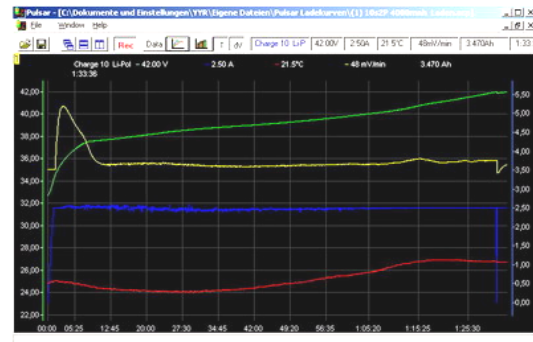
Before charging you can if you want to set current. From this moment it starts to be interesting. I discharged my packet LiPol 10S2P. It is in Pulsar 2 optimum solution, because you can set LiPoly and if voltage of cell reduces to 3.0V the process will be automatic stopped. I set discharge current to 4A, so the charger can 9A. But the current didn't increase order 0.8A . What's on? Aaa... when you work with power supply it is possible discharging but only 35W. It is also possible to discharge with return energy to car's battery!!! And you can use maximum discharging current. This function is really great!

During charging function we have much more news.

For example with LiXx accu there is a possibility of turning on the function FAST. In this mode Pulsar charges with full current to the ending process (without the limit current). Because of that the accu is faster charged, what's very useful when you're out. The small inconvenience is that your packet will not be charged to the end. To see it better, look at the charts.



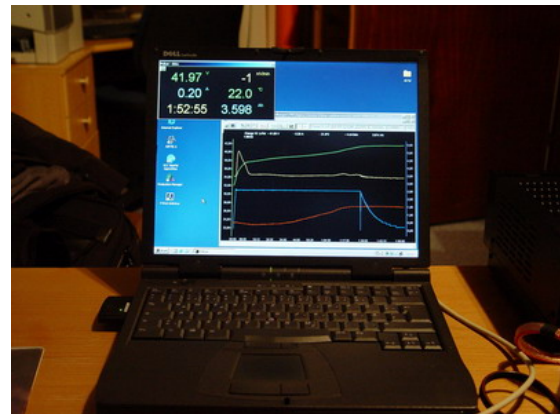
Normal mode



Fast mode

We can see the difference here. In FAST mode we only charged 3470mAh. During charging process without the function FAST we charged about 144mAh more, but the time was 30 minutes longer. Because of that, the charging in FAST mode is optimal when you're out. When you're at home you can charge slower to care of your accu.

What you see, we can connect the charger to a PC. Soft, RS cable and temperature sensor are in standard. The program is user-friendly and it shows us what's going on in process every moment. The little window is interesting, there you can exactly see what's happening. You can see there clearly and fast the packet voltage, current, capacity, decreasing/increasing of voltage, time and the accu temperature (of course when the sensor is connected). Also for other types cells this charger has more surprises, for example you can set delta peak (high – the later, low – the earlier ending process of charging) but temperature can increase. Because of that constructors used the inflex system to ending the charging process. Thanks to that our packet will be charged without over temperature. I've got idea how it works, but it functions great during the charging.



Format function is present and it should be present in such device, but I haven't used it yet. There is also an interesting possibility to test accu. This function enables to verify cells and eliminate, these witch are damaged. If we don't have a precise measure device (with accuracy to singular mV) to measure packets, can do it with Pulsar to three decimal places and even with 12 cells LiPol.

What's more it measures internal resistance with a load. Of course, I've tried it. Thanks to it I throw old accus lying around my room.

The only little problem I've seen is the way of recognizing the number of cells in LiPol. If the packet is full-charged, Pulsar has recognized 11 instead 10 cells. If the packet is partly-chaged the recognizing is good.

Pulsar demands to confirm the number of cells in every charging and discharging. It is especially important for using LiPol. I called Helmut if it isn't better to recognize automatically about one cell less. In such situation if we confirm by mistake the wrong number of cells – nothing wrong will happen. I've got the answer very soon. The constructor was very thankful for my suggestion.

He said he had changed it in a new series of chargers. There is also a possibility to update chargers which are in our clients.

At the ending – I'd like to say Helmut Felderel (<http://www.eheli.at/>) ran Pulsar service and you can update your chargers there (in place). I was so excited with Pulsar 2 and I told about it Harry Zupanc –Heli4You (<http://www.heli4you.net/>), but as Harry – he was very sceptic. When Harry tested Pulsar 2 by himself - he was so excited that he market Pulsar 2 in his Heli4you....

In my website (<http://www.yesyes.rc1.at/pulsar2>) I gave you some pictures of Pulsar. I can really recommend you this charger. Relation between the prize and the possibility of this charger is great. The quality is the best. That's all for now!

Yes Yes Rudi Schneeberger  
<http://www.yesyes.rc1.at/>