



Dynamo Pro 155Wh - lithium power tank to power astronomical equipment in the field. • three 12 V DC (DC) ports • three USB ports • one 220 AC (AC) port EU socket version or "our" • capacity of 155 Wh • Lithium battery with a charge indicator • has a red flashlight with variable brightness (5%, 10%, 50%, 100%) for use during night observations
Warranty 12 months
Comments • when not in use, recharge the battery every 3-6 months to maintain a long battery life • Lithium batteries may not be allowed for air transport - check local regulations before taking Orion Dynamo on board
INDEPENDENT TESTER OPINION Orion Dynamo Pro is a power station, constructed on the basis of a lithium-ion battery, and this is associated with certain restrictions, which are worth getting started. Namely, such a battery gives a maximum voltage only up to approx. 80% charge, then gradually the voltage decreases and in the case of Orion this range is from 12.6 V to 9 V. The assembly (HEQ5) indicates that the diode pulsates too low a voltage when it drops to 11 V, which does not mean that it immediately stops working. In my experience, you can safely finish the session, but it

is no longer recommending the next one, because with the decrease in voltage the risk of losing steps increases, and instability in the operation of the assembly, especially in astrophotography are definitely phenomena that we would like to avoid. However, I cannot determine if it is also a threat to engines or electronics. What is even more important is the assumed 80% at which the voltage drops to 11 V is not visible on the charge indicator - it still shows full. Basic information Orion Dynamo Pro is a device dedicated to astronomical applications even more than its older brother, which means that sensational mobility was achieved, as the dimensions do not exceed 20x17x10 cm, and the weight indicates 1.6 kg. The radio :), the white flashlight (the flashlight only gives red light, in several possible intensities), the cigarette lighter socket (the adapter from the DC 12 V 5.5 mm / 2.5 mm socket for the lighter socket) and the possibility of using the station to start the car. In addition to the mentioned flashlight, the device has 3 DC 12 V sockets, 3 USB ports (5 V) and ... a 220 V AC power socket. The manufacturer provides a capacity of 42000 mAh (155 Wh). I am not an electrician, but the basic dependencies show that the 42000 mAh is calculated for 3.6 V, for 12 V the capacity is 12.9 Ah, which means that the younger brother is also less capacious, because in the case of the previous device version, the manufacturer declares 17 Ah. The device charges about 7 hours, but the indicator does not indicate the moment of full charge, the last dash flashes, flashes, flashes ... Observations (supply only assembly) A fully charged battery allowed observation at full voltage for 4 summer nights, which gives about 12 hours in total. Mainly in tracking mode, I suspect that in the case of frequent repositioning of the assembly to other objects, however, this time would be significantly reduced. During the fifth night the diode began to signal a voltage drop. Does this mean that such a device is only suitable for use for the first 20% of the battery charge? Well, no, thanks to the built-in AC 220 V output, you can connect a stabilized AC adapter to the device, and despite draining the battery without a reduced tariff, these about 80% of the batteries are still enough for about 3-4 hours of observation. In this arrangement, until the battery is depleted, the installation does not signal a decrease, which in the summer gives an extra night. In 220 V mode, the fan inside the device is activated in pulsatory mode, i.e. it rotates for a few seconds and stops for a few seconds. It is not loud, but its sound is so characteristic that after 4 nights without a windmill I did not immediately know what a strange shush it was. Astrophotography By connecting both the assembly and thermoelectric cooling (in this case: ZWO ASI 183MM Pro), the full voltage time is reduced by half, which is more or less consistent when analyzing the needs of both receivers, i.e. about 6 - 7 hours you can safely record photons, except that you must remember to provide adequate power for the laptop necessary in this system, because plugging in to a third laptop with a power adapter to the 220 V socket drains the battery immediately. Summing up the above review, however, assuming slightly longer nights than in the summer, we can take the device for the weekend outside the city, if we plan only observations. If you are planning astrophotographic session, it is best to assume the possibility of doing one all-night one, and in the end we have an emergency 220 V for 3-4 hours :) Adam