



The Pulsar Quantum HD50S hand-held thermal imager has been designed for day and night observation in conditions where ordinary binoculars and even night vision devices turn out to be ineffective. Unlike the Pulsar Quantum HD38S Imager, the Pulsar Quantum HD50S has a longer focal length lens, which translates into an increase of 33% from 2.1 to 2.8x. It is now possible to detect the target from a distance of up to 1200 m! Thanks to the new lens, the image detail is also increased, which makes it easier to recognize the target at distances of 50-150m. In addition, the method of refreshing image noise is achieved by using an electronic shutter. The user can choose one of three image calibration modes - automatic, semi-automatic or stay in manual mode. The Imager has the same pre-defined picture modes as in HD38 S: forest mode target identification mode urban mode In each mode, the device adjusts the image display algorithm to the specific application. This thermal imager can detect objects in difficult weather conditions, in fog, in smoke and even hidden behind obstacles such as bushes. The basic elements of the device are a microbolometer with a resolution of 384 x 288 pixels, a germanium lens with a focal length of 50mm and a frostproof OLED display with a resolution of 640 x 480 pixels. The extension of the Imager is 2.8x and can be increased to as much as 5.6x (digital zoom). This is the largest magnification in thermovision that is available to a civil user, eg hunter! In addition, as the only producer on the market, Pulsar provides in its Imagers the refreshment frequency of the image up to 30Hz, allowing the observation of quickly moving objects. The Pulsar Quantum range of thermal imagers is an alternative to much more expensive competition devices, using the same microbolometers with the same optoelectric parameters. It starts in less than 10 seconds, it switches off immediately after pressing the power switch. It is lightweight, durable and handy, easily fits into the pocket of the jacket. Calibration of the microbolometer is carried out quickly during the observation, with a dedicated button on the casing. Another important asset of Pulsar is, among others, an excellent viewfinder that uses the next-generation OLED display. Its values will be appreciated by users working in night conditions, where the standard LCD backlight undervalues the contrast, displaying the black color as gray and disabling eye adaptation for night vision. The predominance of the OLED matrix also applies to working at a negative temperature, which has a negative effect on the refreshment speed of the LCD viewfinder image and in extreme cases leads to complete

immobilization of the image. Pulsar is fast in operation and intuitive, it works perfectly in a dynamic working environment and can be used in all weather conditions. The principle of image formation in thermal imaging is based on the detection of temperature differences of observed objects that "shine" in the far infrared range (heat radiation penetrating all air pollutants and fog). After processing, the image is transferred to the OLED display where it can be presented in "White Hot" or "Black Hot" mode (the mode selection allows you to specify whether the warmer objects are presented in lighter or darker colors). All controls are placed in easily accessible places on the upper surface of the housing. The buttons are large, allow you to operate the device with gloves. The Imager has sockets - a power outlet and a video output socket that allows you to record images on external devices. The picture is free from distortion and vignetting. The equipment is adapted to work in temperatures from -20 to +50 degrees. The housing is made of carbon fiber and covered with rubber. The Weaver rail is placed on the body, allowing additional accessories to be connected. Usage forestry hunting sailing nature fishing The Pulsar Quantum thermowells, due to the physics of microbolometer operation, are divided into several categories, according to the following system: Hxxx - high frequency of refreshment 30 Hz, average sensitivity and low tonal dynamics. Ideal for observing dynamic, fast-changing environments. Lxxx - low refresh rate 9 Hz, high sensitivity and high tonal dynamics. It perfectly shows the tonal gradation and easily detects subtle differences in the temperature of static scenes. xDxx - high-resolution microbolometer 384x288 pixels, 2x digital zoom available, thermal imager for advanced tasks. xSxx - micrometer low resolution 160x120 pixels, no digital zoom, economical, basic version of the Imager. xx19 - lens with 19 mm focal length for wide field of view, together with the high resolution "D" bolometer gives a 1: 1 image reproduction ratio and a large field of view (35 degree image pitch). xx38 - 38 mm focal length lens for a long detection range, together with the "S" low resolution bolt, allows you to achieve a magnification of 5x and a range of human detection up to 900 m. Technical parameters $\hat{\text{€}}$ detector: uncooled microbolometer UL 03 16 2 $\hat{\text{€}}$ refreshment: 30 Hz $\hat{\text{€}}$ focal length of the lens: 50 mm $\hat{\text{€}}$ magnification: 2.8x $\hat{\text{€}}$ magnification with digital zoom: 5.6x $\hat{\text{€}}$ resolution: 384 x 288 $\hat{\text{€}}$ display: OLED 0.31 "640 x 480 pixels (VGA) $\hat{\text{€}}$ spectral range: 7.7 μm - 13.2 μm $\hat{\text{€}}$ field of view: 11 x 7 degrees $\hat{\text{€}}$ linear field of view @ 100 m: 25 x 19 m $\hat{\text{€}}$ dioptic correction: + 5 / -5 diopters $\hat{\text{€}}$ detection range: 1200 m $\hat{\text{€}}$ start time: 10 s $\hat{\text{€}}$ power supply: 4 x AA (4 - 6 V) $\hat{\text{€}}$ external power sup 8 V - 16 V $\hat{\text{€}}$ working time (4xAA): 2 hours $\hat{\text{€}}$ working time (EPS3): 9 $\hat{\text{€}}$ working time (EPS5): 20 $\hat{\text{€}}$ degree of protection IPX4 $\hat{\text{€}}$ temperature: -25 to + 50 ° C $\hat{\text{€}}$ max. Humidity: 90% $\hat{\text{€}}$ degree of protection: IPX 4 $\hat{\text{€}}$ video output: CCIR / EIA dimensions: 207x86x59 mm $\hat{\text{€}}$ weight with batteries: 550 g $\hat{\text{€}}$ weight without batteries: 430 g Warranty 3 years >> FREQUENTLY ASKED QUESTIONS << Question : What is the difference between a night vision device and the thermal imager? Answer: Night vision enhances visible light (380 - 780 nm) and slightly near infrared. The thermal imager is sensitive to electromagnetic waves of greater length, on the order of a few or a dozen microns, that is, several dozen times longer. EM waves, to which the typical thermal imager is sensitive, correspond to thermal (thermal) radiation. Night vision requires light that can strengthen (that's why in the dark we need IR radiators), the thermal imager also works in total darkness, in fog, smoke, etc. The advantage of night vision, apart from simply other imaging and in connection with this other perception of details is higher resolution and lower price. The advantage of thermovision is to work in all conditions and to easily detect heat sources, which is of fundamental importance in rescue, and is useful, among others hunting, property protection, sea navigation, and natural observation. Producer films