



Falcon Eye KC-2000 SWIR (Short-wave Infrared) Portable Video Camera System Makes Invisible Objects Visible!

October 03, 2019

KOMAMURA CORPORATION, manufacturer of the Falcon Eye Color Night Vision Video Camera System, announces the Falcon Eye KC-2000 SWIR Portable Video Camera System. SWIR (Short-wave Infrared) technology makes vision and surveillance possible in extreme darkness without requiring an illuminator and ensures capturing discernible profiles of objects under poor visibility conditions such as fog, haze and smoke.

Unlike conventional SWIR camera modules, most of which are geared toward industrial vision applications, the Falcon Eye KC-2000 SWIR is a complete, portable, self-contained, battery powered video camera system with on-board viewing, recording and storage capabilities (up to 256gb!). In addition, it offers scalability and flexibility under a wide range of scenarios by accommodating optional accessories, including external power supplies, microphones, recording devices, viewing monitors and transmitters for remote observation.

While visible/NIR (Near Infrared) camera systems provide unique attributes of their own, notably high-fidelity color reproduction coupled with high resolution, they come with limitations as well. Despite the recent advancements in WDR (Wide Dynamic Range) technology, low light scenes still present challenges for VIS/NIR cameras. To satisfy critical imaging needs, the use of illumination devices is still required.

Dense fog is another challenge. Even with a defogging feature, the overall contrast and ability to distinguish details drops dramatically, due to the limited spectral range that visual sensors are dealing with. And smoke is impossible to penetrate with VIS/NIR camera systems. Only SWIR systems can handle these extreme conditions.

SWIR cameras can easily address these issues, thanks to their spectral bandwidth sensitivity. They can be operated at night without the aid of illuminators, and dense fog and smoke do not severely affect the visibility of the objects. As an added bonus, the similarity of the visual look of SWIR imaging to VIS/NIR cameras (because of its spectrum proximity to human vision) makes viewing and analyzing the images faster and easier.

The Falcon Eye KC-2000 SWIR Portable Video Camera System expands the scope and range of applications by taking advantage of SWIR's superior properties. By integrating the highly efficient sensor and packaging all of the critical functionalities of a video camera system (viewing, storage and recording) into one portable device, the Falcon Eye KC-2000 SWIR Portable Video Camera System can produce results not possible from other systems.

Featuring the industry standard C-series lens mount as a mechanical interface, the Falcon Eye KC-2000 SWIR Portable Camera can be coupled with lenses specifically designed for SWIR and an array of CCTV/IP lenses with customized coatings tuned for the SWIR bandwidth. The added benefit of being able to use



optics with different focal lengths, from wide angle to telephoto, lets this camera system serve the purpose for detection, recognition and identification, at close and far distances, to satisfy any customer's needs.

Indeed the Falcon Eye KC-2000 SWIR Camera System is a game changer when it comes to field applications of SWIR cameras. Unleashing its use outside of the lab or the production line, this portable system camera can provide critical videos and/or still images needed for operations in the field - for law enforcement, military, police, firefighting or forensics - all day and all night.

To summarize key features of the Falcon Eye KC-2000 SWIR Portable Camera System:

1. Surveillance at night can be achieved without the assistance of an illuminator, which is not possible with conventional visible/NIR cameras.
2. Dense fog or smoke, which tends to become problematic for conventional VIS/NIR cameras, does not disrupt image capturing capabilities.
3. Covert operations requiring shooting through or seeing through windshield/window glass can be performed, a distinctive difference from LWIR (Long-wave Infrared) cameras even though SWIR is a part of thermal imaging.
4. VGA (640x480) resolution provides good image quality and, coupled with 30 fps, delivers excellent video streaming as well as recording.
5. Laser beams of specific wavelengths commonly used for weapon sights can be detected due to the sensitivity characteristic of the InGaAs sensor.
6. Hidden markings, that cannot be captured by VIS/NIR cameras, are clearly revealed, which contributes to easy identification of a person of interest.
7. The C-series lens mount allows use of a wide range of lenses for close and distant objects
8. Offers around the clock surveillance in virtually any weather and lighting conditions.

Specifications:

- InGaAs detector (uncooled): 640x512 active pixels (Φ 10.2mm image diagonal)
- Sensitivity: 0.9-1.7 μ m (peak bandwidth); 0.7-1.7 μ m for NIR/SWIR
- VGA resolution at 60 or 30 fps
- C-mount lenses specifically designed for InGaAs sensor and/or visible/NIR lenses with coatings optimized for 0.7-1.7 μ m spectrum
- Max. 256GB on-camera storage capacity (SDHC/SDXC Class 4 or higher memory card recommended).
- Dimensions: Approx. 108 (W)x100 (H)x 210 (D) mm (w/o lens)
- Mass weight: Approx. 2.5 lb. (w/o lens, battery & accessories)

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