

Uncooled ultra-high sensitive SmartIR640 30mK thermal core now to tackle cooled camera

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After Photonis and Device ALab joined forces, Photonis is **proud to introduce the 30mK variant of the SmartIR640, the well-known VGA uncooled LWIR camera core**. This camera is part of the growing LWIR camera families which uses proprietary shutterless technology and contributes to complete the product portfolio of Photonis Digital Vision.

Taking electronic noise to a new level

This SWaP camera variant embeds the PICO640S Lynred detector (<30 mK). It simply takes the best out of the detector (related to Lynred remarkable reproducible performances) and the camera concept. Indeed, SmartIR640 30mK variant illustrates in a very concrete manner Device-ALab's design does feature ultra-low-noise electronics. Daravan LY, General Manager to explain: "*Implementing the ultra-high-grade sensor did not require heavy developments. Our team simply fine-tuned the existing electronics of SmartIR640 series to get the final result at 30 Hz of typical NETD value of 25mK!*" This is of importance, considering that other players in uncooled reach low NETD only when applying 3D denoising and with frame rate of 9Hz.

A breakthrough for both defense and non-defense applications.

Our thermal technology within the SmartIR640 30mK offers thermal detection to offer high impact rates for operations currently in SAR (Search&Rescue), Border Surveillance, Site Perimeter Security, and Remote Stationary Weapons. NETD at 25mK improves DRI (Detection Recognition Identification) and reduces FAR (False Alarm Rate), in a very similar way as cooled cameras brings in comparison to uncooled cameras.

For systems serving long range observation - whatever Unmanned and Manned Aerial Platforms, PTZ stations, Naval optronics – such low NETD value provides designer the latitude to integrate lenses with lower aperture, while conserving the system DRI performances.

As for industrial machine vision solutions, SmartIR640 30mK can also be implemented for on-line AOI (Automated Inspection Systems) or Robot Guidance as well as off-line, e.g. Non Destructive Testing by active thermography.

In all verticals above listed, SmartIR640 30mK opens a new path for equipment makers: Beyond the retrofit / performance increase of existing platforms, they can also address NETD-demanding market segments where cooled cameras cannot fit because of budget limitations: either financial, power consumption or footprint budget.

Stay cool... turn to uncooled

This tremendous "native" 25mK typical performance coupled with the ability to run SmartIR640 up to 120 Hz is by itself already a differentiator. However, it can even be improved downstream with 3D denoising algorithms, ultimately providing a level of sensitivity tackling the performances of cooled cameras. No TEC here but a true SWaP Infrared core, ready to integrate, latency-free, which weights starts at 38g and consumption around 1W. SmartIR640 30mK is proposed either as USB module (remote processing) or as engine core (embedded processing) with offering all interface variants: BT656, YCbCr, Mono16, CameraLink, SD-SDI, HD-SDI... This enables a very easy swap for any of actual clients. It comes along with a large choice of lenses up to 90°HFOV but is also available without lens.

About Device-ALab:

Device-ALab was incorporated in 2010 as a spin-off of E2V semiconductors based in Saint-Egrève (38). The team knowledge roots in decades at Thomson-TCS, Atmel & E2V in development of electronic subsystems for Imaging (industrial cameras, X-ray sensors) and Data Conversion (DAC-ADC development kits). Since 2017, the company has successfully undergone a strategic transformation from an engineering company to a core-camera product company with remarkable growth. Device-ALab is fully part of Photonis Group since March 2021.

For more information: www.device-alab.com

About Photonis:

Photonis is a high-tech company, with more than 80 years of experience in the innovation, development, manufacture and sale of technologies in the field of photo detection and imaging. Today, it offers its customers detectors and detection solutions: its power tubes, digital cameras, neutron & gamma detectors, scientific detectors and intensifier tubes allow Photonis to respond to complex issues in environments extremely demanding by offering tailor-made solutions to its customers. Thanks to its sustained and permanent investment, Photonis is internationally recognized as a major innovator in optoelectronics, with production and R&D carried out on 5 sites, in Europe and the USA.

For more information : www.photonis.com

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