FLUX-1280

1280×1024 Shutterless LWIR Thermal Core

Overview

The FLUX-1280 is a 1280×1024 / 12 µm wafer-level-packaged (WLP) VOx uncooled LWIR core built around scene-based SFFC shutterless flat-field correction — no freeze-frame, no click, no moving parts, no lost picture. With NETD ≤30 mK, 25 / 30 / 50 Hz output and ≤1.2 W power draw, it delivers a complete sighting-ready feature set (reticles, picture-in-picture, hot-spot tracking, zeroing), drives Micro-OLED viewfinders directly, and outputs DVP / BT.1120 / USB 3.0 / MIPI-DSI video over a single 50-pin connector, with SDI / HDMI / GigE / Camera Link extension boards.



1280×1024	≤30 mK	Shutterless	≤1.2 W
RESOLUTION	NETD	SFFC CORRECTION	POWER DRAW

Key Features

Shutterless SFFC Correction

- Scene-based flat-field correction — no mechanical shutter, no freeze-frame, no audible click
- Continuous, uninterrupted observation: the picture never pauses for calibration

Complete Imaging Pipeline

- NUC / DRC / DNS / DDE + SFFC algorithms, plus super-resolution for finer detail
- 10 palettes: White Hot / Lava / Iron Red / Hot Iron / Medical / Arctic / Rainbow 1 / Rainbow 2 / Red Trace / Black Hot

Sighting-Ready Feature Set

- 10 reticle styles × 10 brightness levels × 5 colors (red/blue/yellow/black/white), parameters saved
- Picture-in-picture (top-left / top-center / top-right) with reticle inside PiP

Typical Applications



Security Monitoring



Outdoor Night Vision



Industrial Inspection



Machine Vision

Technical Specifications

Thermal Imaging

Sensor Type	Vanadium oxide (VOx) uncooled microbolometer, wafer-level package (WLP)
Resolution	1280×1024
Pixel Pitch	12 μm
Spectral Band	8~14 μm
NETD	≤30 mK (@25℃, F1.0)
Frame Rate	25 / 30 / 50 Hz
Start-up Time	≤7 s

Shutterless Imaging Pipeline

Correction	Shutterless — scene-based SFFC, no mechanical shutter required
Image Algorithms	NUC / DRC / DNS / DDE / SFFC
Super-resolution	Supported
Digital Video Formats	YUV420 / YUV422 / RGB888 / RAW
Palettes	10 palettes: White Hot / Lava / Iron Red / Hot Iron / Medical / Arctic / Rainbow 1 / Rainbow 2 / Red Trace / Black Hot
E-zoom	×1 / ×2 / ×4 / ×8, centered on reticle
Mirror / Flip	Horizontal / vertical / diagonal
Brightness / Contrast	Auto / manual
Compensation Mode	Manual

Sighting & OSD Functions

Reticles	10 styles × 10 brightness levels × 5 colors (red / blue / yellow / black / white), savable
Picture-in-Picture	Top-left / top-center / top-right, reticle inside PiP
Hot-spot Tracking	Supported
Zeroing / One-key Restore	Supported
Buttons	≥4 buttons (power / menu / custom)
Menu	Custom design, CN/EN languages
Sleep Mode	Supported

Interfaces & Display

Connector	50-pin (BP040SB-50-0114-B-R0; mating BS040SB-50-0390-B-R0)
Communication	TTL-232 / USB 3.0
Digital Video	DVP16 / BT.1120 / USB 3.0 / MIPI-DSI 4-lane
Extension Boards	USB 3.0 / SDI / HDMI / GigE / Camera Link / VPC / MIPI-CSI 2-lane / AHD / GMSL
OLED Drive	I2C, 16/24-bit parallel, datavalid — direct drive for MicroOLED MDP03/MDP02, SVGA060, Sony ECX334A; MIPI drive for IBOE VX039FHP-NH4
Host Software / SDK	Uncooled Infrared Camera Application host software (Windows 7–11, CN/EN); SDK for Windows & Linux

Power, Physical & Environmental

Supply Voltage	DC 2.7 ~ 5.3 V
Power Consumption	≤1.2 W (@23±3℃); transient ≤3 W, <1 s (with optional shutter)
Dimensions (bare core)	38 × 39 × 28 mm
Dimensions (lensed config)	68 × 69 × 30.2 mm
Weight (bare core)	65 g ± 3 g
Weight (lensed config)	88.5 g ± 3 g
Operating Temperature	-40℃ ~ +70℃
Storage Temperature	-45℃ ~ +85℃
Humidity	5% ~ 95% RH (non-condensing)
Vibration	5.35 g random, 3-axis
Shock	Half-sine 40 g / 11 ms (X-axis ×3); 500 g @ 1 ms
Ingress Protection	IP67 (front lens)
Shutter Module	Optional
Certifications	RoHS 2.0 / REACH

Specifications subject to change without notice.
Rev. 1.0 · October 2026