CamSight® LS(+)
Ultra Low SWaP Thermal Camera (high sensitivy)

Key features

- Ultra low Size, Weight and Power (SWaP)
- LYNRED ATTO sensor: 640 x 480 @ 12µm
- Low latency
- Patented shutterless technology
- Thin pitch camera allowing lens size decrease
- Designed and manufactured in France with French thermal sensors

Image captured by CamSight® LS with a13,6mm lens

CamSight® LS is the newest Original Equipment Manufacturer (OEM) digital core camera developed by Bertin Photonics.

To comply with users' requirements, the camera has been designed to be easily integrated within complex optronic systems, such as rifle sights, ground or aerial drones and every equipment requiring ultra low SWaP. Based on a patented Bertin Photonics' shutterless technology, it allows for low latency and freeze-free image delivery in real-time. CamSight® LS features an uncooled LYNRED ATTO infrared sensor designed for challenging applications.
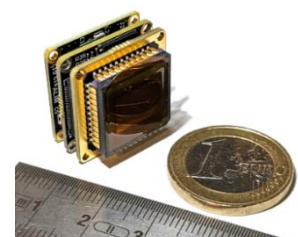
Lightweight, ultra-compact and very low-consuming, CamSight® LS can be implemented in very constrained environments. Indeed, thanks to its ergonomic design and high-performance, the camera fulfills most night and day surveillance, observation and infantry missions.

CamSight® LS also exists in a Plug & Play version dedicated to end-users.

The camera is available in two different versions: CamSight® LS+ (NETD < 40 mK F#/1.0 and CamSight® LS (NETD < 50 mK F#/1.0).

◈ SENSOR

	CamSight® LS+	CamSight® LS
Model	LYNRED ATTO640D-02 (+)	
Type	Uncooled microbolometer	
Resolution, Pixel size	640 x 480 pixels (VGA), 12µm	
Spectral band	8µm – 12µm (LWIR)	
NETD (30Hz, 25°C)	< 40mK @ f 1/1.0	< 50mK @ f 1/1.0

CamSight® LS OEM module

www.bertin-technologies.com

CamSight® LS(+)

PHYSICAL CHARACTERISTICS *(without lens)*

	OEM version	OEM+ version	Casing version with connector
Weight	9g	12g	30g
Dimensions	22 x 22 x 15.5mm	22 x 22 x 21.65mm	24 x 24 x 38mm

INTERFACES

	OEM version	OEM+ version & casing version
Video	Parallel 14 bits / SD-SDI / MIPI CSI2	SD-SDI / PAL / MIPI CSI2 / GigE Vision
Frequency		Video stream : 25Hz
		Option : 9Hz, 30Hz or 60Hz on demand,
		(>9Hz requires a license delivered by the French government)
Communication		RS-232, 3.3V TTL

ELECTRICAL CHARACTERISTICS

	OEM version	OEM+ version	Casing version with connector
Connectors	Hirose DF40C-60DP-0.4V	MMCX7-SM, BM12B-SURS, LSHM-110, M06B-SURS-TF	Hirose FL10WB
Input voltage		4.5 – 5.1VDC	
Consumption		< 0,9W	
Time to image		< 1 sec (from off to on)	

OPERATION & CONTROL

Calibration	Shutterless (single factory calibration / no periodic maintenance needed)
Camera Control	Gamma correction
	Algorithm selection CLHE / CLAHE
	Histogram equalization
	Sharpening algorithm / Contouring Filter
	LUT Region of interest
	Image polarity inversion
	Continuous zoom 1x to 8x relocatable
	Column Noise Correction
	Flattening Filter
Tools	SDK (MAVLINK)
	GUI (Companion)

ENVIRONMENTAL CHARACTERISTICS

Operating temp	-40°C / +70°C
Storage temp	-40°C / +85°C
Shock	Pre compliance to MIL STD 883K
Humidity	5-95% non-condensing
Environnement	CE, RoHS, REACH

www.bertin-technologies.com

CamSight® LS(+)

CAMSIGHT® LS PHOTOS

OEM version

Casing version

OEM version with 13,6mm lens

QUALIFIED LENSES

4,3mm & F/1.2
FoV: 112°x84°
DRI (V): 420/140/70
DRI (S): 200/70/30
Size: ∅ 20 x 15
Weight: 12g

5,5mm & F/1.2
FoV: 86°x64°
DRI (V): 600/210/100
DRI (S): 250/80/40
Size: ∅ 20 x 16
Weight: 13g

7,5mm & F/1.2
FoV: 61°x46°
DRI (V): 820/280/140
DRI (S): 340/110/60
Size: ∅ 25 x 19
Weight: 25g

8,7mm & F/1.0
FoV: 50°x38°
DRI (V): 1140/410/210
DRI (S): 500/170/80
Size: ∅ 26 x 25
Weight: 29g

13,6mm & F/1.0
FoV: 32°x27°
DRI (V): 1740/620/310
DRI (S): 770/260/130
Size: ∅ 21 x 18
Weight: 13g

24mm & F/1.0
FoV: 19°x14°
DRI (V): 3100/1140/580
DRI (S): 1350/480/240
Size: ∅ 34 x 29
Weight: 37g

25mm & F/1.2
FoV: 18°x13°
DRI (V): 2610/900/460
DRI (S): 1100/380/190
Size: ∅ 35 x 29
Weight: 57g

35mm & F/1.2
FoV: 13°x9°
DRI (V): 3550/1260/640
DRI (S): 1520/530/270
Size: ∅ 45 x 35
Weight: 108g

This list does not represent all compatible lenses. It is therefore possible to add lenses according to your needs.

DRIs were calculate with TRM4. DRI (V) = DRI vehicle. DRI (S) = DRI soldier with NATO standard. Unity : meter.
To calculate the overall weight of the CamSight LS with the lens, a mechanical interface (lens - core) must be added. Its weight depends on the lens and is about 10 grams.