



**THERMAL
SENSORS
FOR SECURITY &
SURVEILLANCE
APPLICATIONS**

PRESERVE & PROTECT

Thermal imaging technology stands as a game-changing innovation in the realm of security surveillance. It plays a key role in safeguarding both individuals and valuable assets, offering an unparalleled advantage in ensuring security, especially during the crucial night-time hours.

Unlike conventional daytime security cameras, which often struggle in low-light conditions, thermal imaging brings a host of benefits that take security to the next level.

One of its most compelling advantages is its ability to operate seamlessly without the need for additional illumination.

By harnessing the power of thermal imaging sensors, these cutting-edge cameras capture video images through the thermal emissions emitted by objects within their field of view.

This means that they can stream crystal-clear images regardless of ambient lighting conditions, making them a must-have asset in the world of security surveillance.

- 24/7 detection: **high sensitivity** and **high-quality images** during daytime and night-time
- **Visibility** in any harsh conditions, such as smoke, fog and haze
- **Alternative** or **add-on** solution for existing surveillance networks

BB *LYNRED can help you create thermal imaging devices to meet market demand by working alongside your teams during the design and development process. LYNRED offers an extensive range of cooled and uncooled thermal detectors covering the infrared spectrum (SWIR, MWIR and LWIR).*



RELIABILITY



HIGH SENSITIVITY



HIGH IMAGE QUALITY



DETECT IN HARSH WEATHER CONDITIONS

Applications:

SURVEILLANCE FOR:

- COASTLINES
- SENSITIVE / STRATEGIC SITES
- BORDERS
- AIRPORTS
- OIL RIGS

Systems:

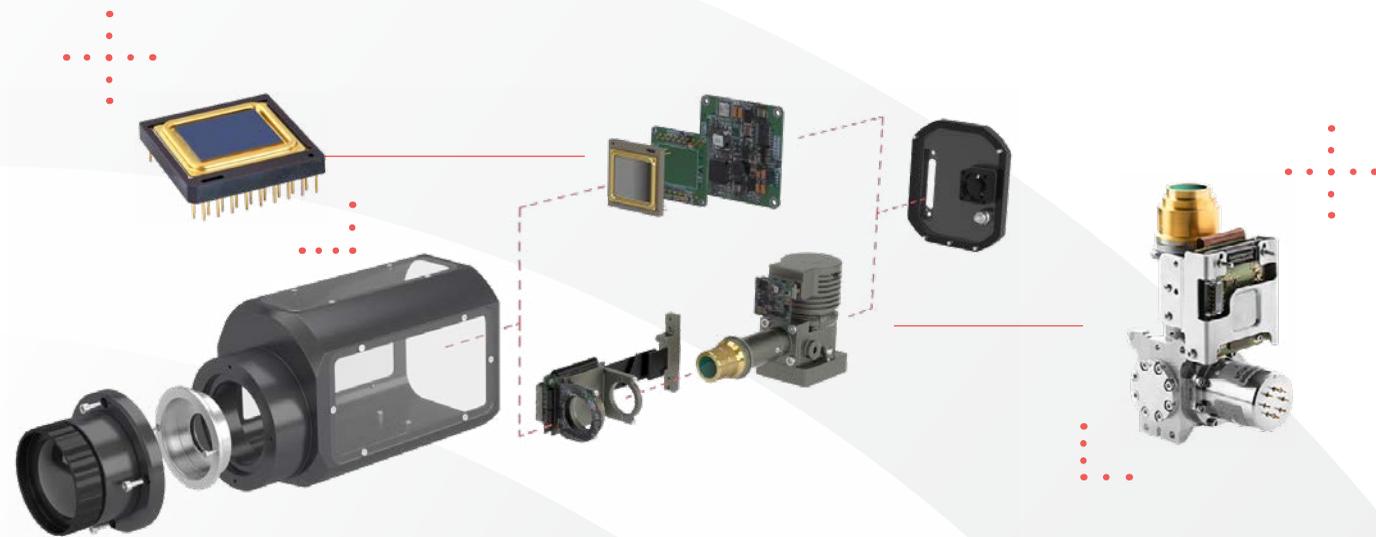
- FIXED CAMERAS
- AIRBORNE PLATFORMS



KEY SUCCESS FACTORS

LYNRED: the partner you can rely on

- **Independent supplier** located in Europe
- Supplies thermal imaging only, with no competition for the final product
- **Over 30 years' experience in producing high-performance infrared detectors** (high sensitivity, high frame rate, high uniformity, etc.)
- **Extensive range of cooled and uncooled thermal detectors** covering the entire infrared spectrum (from SWIR to VLWIR)
- A **dedicated customer care team** focused on providing assistance and technical support. We take a proactive approach to responding to your questions and needs. Our engineers possess the skills to work efficiently with your people, from R&D through to engineering. Our customer care services are fully integrated into our product lineup, with personalized support available to all our customers. Our mission is to help boost your technical capabilities and inject even greater efficiency into your infrared solution development processes, while shortening the time to market.



2 million detectors
delivered since 2016

DRI PERFORMANCE

PERIMETRIC SURVEILLANCE

ATTO640D-02™

Human recognition distance with f/1 optics (perfect OTF & 88% typical transmission)

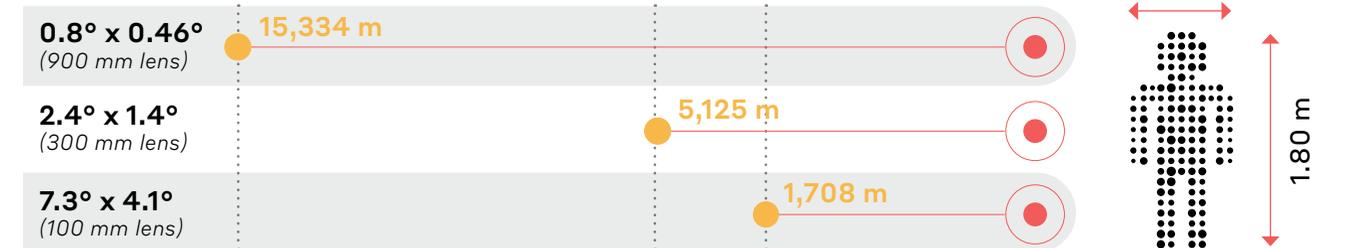


Range for Johnson's criteria @ 50% probability, delta T = 2 K vs background, perfect atmosphere, real LYNRED pixel MTF, sensor NETD = 50 mK

PERIPHERAL SURVEILLANCE

DAPHNIS HD MW™

Human recognition distance with f/4 optics (perfect OTF & 88% typical transmission)



Range for Johnson's criteria @ 50% probability, target delta T = 2 K, perfect atmosphere, real LYNRED pixel MTF, sensor NETD = 28 mK

Detection, Recognition and Identification (DRI) are a universally accepted set of standards to provide a means of measuring the distance that a thermal sensor can produce an image of a specific target. Recognition means that you are able to recognize an object's class (human, car, truck, etc.).

LYNRED PRODUCT RANGE

PERIMETRIC	PRODUCT	FORMAT	PIXEL PITCH	SPECTRAL BAND	NETD	FRAME RATE
	 ATTO320-02™	QVGA, 320 x 240	12µm	8 - 14µm	< 50 mK (f/1, 300 K, 60 Hz)	up to 60 Hz
	 PICO384S™	QVGA, 384 x 288	17µm	8 - 14µm	< 30 mK (f/1, 300 K, 50 Hz)	up to 60 Hz
	 ATTO640D-02™	VGA, 640 x 480	12µm	8 - 14µm	< 40 mK (f/1, 300 K, 30 Hz)	up to 60 Hz
	 PICO640S™	VGA, 640 x 480	17µm	8 - 14µm	< 30 mK (f/1, 300 K, 30 Hz)	up to 120 Hz
	 ATI320™	QVGA, 320 x 240	12µm	8 - 14µm	< 50 mK (f/1, 300 K, 60 Hz)	up to 60 Hz

PERIPHERAL	PRODUCT	FORMAT	PIXEL PITCH	SPECTRAL BAND	NETD	FRAME RATE
	 ATTO1024-02™	XGA, 1024 x 768	12µm	8 - 14µm	< 50 mK (f/1, 300 K, 30Hz)	up to 100 Hz
	 ATTO1280-02™	SXGA, 1280 x 1024	12µm	8 - 14µm	< 50 mK (f/1, 300 K, 30Hz)	up to 60 Hz
	 LEO MW™	VGA, 640 x 512	15µm	3.7 - 4.8µm	20 mK (293 K, f/5.5, 50% well fill, 60 Hz)	up to 60 Hz
	 DAPHNIS HD MW™ <i>Available in XGA and notch filter</i>	SXGA, 1280 x 720	10µm	3.7 - 4.8µm	20 mK (293 K, 70% well fill, 2.7 Me-)	up to 85 Hz
	 SNAKE SW™	VGA, 640 x 512	15µm	0.9 - 1.7µm	-	up to 330 Hz

Check out all our security and surveillance products



LONG & VERY
LONG-RANGE
FIXED
& PORTABLE



MID-RANGE
FIXED &
PORTABLE



FIREFIGHTING



40^{years}

of experience

80%

exports

1,000

employees

15%

revenue
invested in R&D

**LYNRED,
a merger between Sofradir and
ULIS, designs infrared sensors
to meet the needs in a wide range
of markets.**

Our infrared sensor lineup covers the entire infrared spectrum from SWIR through to VLWIR. Our products are capable of satisfying the demanding requirements of a variety of industries.

They are reliable and rugged enough for defense applications, compact and powerful enough for surveillance applications, and stable and sensitive enough for thermography, industrial systems, firefighting and search & rescue applications.

**LYNRED HEADQUARTERS
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