

Thermal Imaging Technology for Temperature Screening

The Calibir™ GXM thermal cameras offers outstanding infrared imaging performance in a robust, tiny package. With great sensitivity, outstanding dynamic range for wide temperature coverage, and factory-calibrated radiometric performance, Calibir delivers accurate, repeatable temperature data for critical applications like elevated skin temperature screening.

- » 640 x 480 or 320 x 240 resolution, up to 60 fps
- » <50 mK NETD, radiometric factory calibration
- » Multiple ROIs
- » Multicamera synchronization via Gigabit Ethernet
- » Spera and CamExpert software for power, flexibility and control



CALIBIR Thermal Camera





Features for Temperature Screening



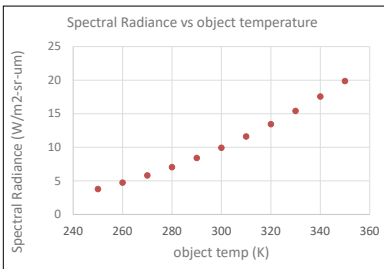
THRESHOLDING WITH LUT

Calibr GXM and its control software allow you to set your own LUTs (look up tables); with this control, you can mark certain temperatures with color while leaving the rest monochrome. For example, show everything between 38 and 41°C as red.



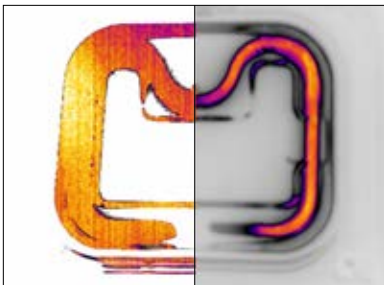
FRAME AVERAGING FOR EXTRA PRECISION

Calibr GXM supports a smart frame averaging feature that can be tuned in order to minimize reading noise according to your tolerance to movement allowing any detection system to reach extremely low NETD values.



RADIOMETRIC/THERMOGRAPHIC CALIBRATION

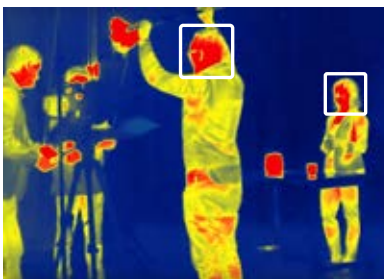
Calibr GXM has nonuniformity correction and is factory calibrated with a proprietary flux/temp base algorithm to account for black-body/Planck's Law (IR flux from an object does not change linearly with object temperature). The result is camera output that is linear with IR flux, and each output color or grey level corresponds to a unique object temperature, simplifying your system.



(Left) Third Party sensor with low DR
(Right) Calibr sensor with high DR to retain fine detail

SUPERIOR DYNAMIC RANGE

Calibr GXM has an exceptional range of over 600°C with consistent NETD <0.05°C, enabled by an advanced 21-bit ADC design that still allows easy signal calibration and unprecedented radiometric detail. For the much smaller range of elevated skin temperature screening (~30°C to 45°C), Calibr GXM can output an 8 bit (sub)range of values for convenient integration that still has 21-bit precision and accuracy.



REGIONS OF INTERESTS (ROIs) AND METADATA

Up to two Regions Of Interest (ROIs) can be defined inside the camera: size and location, the Min/Max/Average temperatures in each ROI can be displayed as well as the Min/Max/Average indication on the entire image. All this information is available in an easy to use metadata protocol to launch an alert or can be used with other types of image sensor (like visible CMOS sensor for identification for example). Metadata with ROIs temp information can be added to the image buffer.

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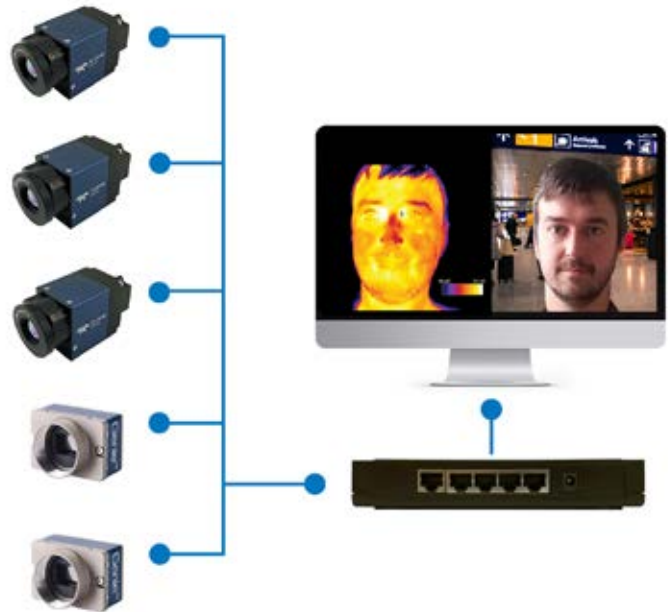


Sapera and CamExpert Software Power and Control

Category	Parameter	Value
Camera Information	Pixel Format	Monochrome 14-Bit
Sensor Control	Color Map	Monochrome 8-Bit
I/O Controls	Width	YUYV
Image Format Controls	Height	482
Metadata Controls	Output Offset Y	0
Image Processing	Test pattern	Off (Sensor)
Radiometry	Test Pattern Constant	Not Enabled
Overlay	Image Flip Horizontal	False
GigE Vision		<< Less
GigE Vision Host Controls		
File Access Control		

Parameter	Value
Temperature Units	Celsius
Object Material	Other
Object emissivity	1.0
Ambient Temperature	0.0
ROI Selector	ROI1
Measurement ROI X	320
Measurement ROI Y	240
Measurement ROI Width	51
Measurement ROI Height	51
Display Range Mode	Manual
Display Range Manual Min	Automatic
Display Range Manual Max	Manual
FPN Compensation Mode	Active
Calibrate FPN Compensation	Press...
Save FPN Calibration	Press...
Temperature Adjust ROI Select...	ROI1
Adjust to ROI Temperature ...	Active
Calibrate ROI Temperature Adj...	Press...
User-measured ROI Temper...	32.0
	<< Less

- » Choose 8/16 bit output, monochrome or YUYV color
- » Set up to 2 user-defined ROIs (>3x3 pixels) with Min/Max/Average temp—add metadata to image buffer
- » Upload user defined Color maps (e.g. “blood” LUT)
- » Synchronize and trigger multiple cameras over GigE—combine visible & IR on the same network



Americas

Boston, USA
+1 978-670-2000
sales.americas@teledynedalsa.com

Europe

Krailling, Germany
+49 89-89-54-57-3-80
sales.europe@teledynedalsa.com

Asia Pacific

Tokyo, Japan
+81 3-5960-6353
sales.asia@teledynedalsa.com

Shanghai, China
+86 21-3368-0027
sales.asia@teledynedalsa.com

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