Pyramid Imaging

TELEDYNE DALSA
Everywhereyoulook™

CALIBIR™ GX Series

Uncooled IR Camera for Industrial Applications

Key Features

- 320 x 240 QVGA resolution
- 640 x 480 VGA resolution
- 17 µm square pixels
- Non-shutter model: 29 x 29 x 46.15
  Shutter model: 36 x 29 x 46.15
- Compact modular design
- Rapid image output
- Adaptive Contrast Enhancement
- Mechanical Shutter and Shutterless NUC operations
- Supports GigE Vision or parallel digital output
- Built-in Pseudo-color for enhanced visualization

Regulatory Compliance

- CE, FCC and RoHS
- MIL-STD-810G
- Subject to Canadian Export Regulations: Calibir is categorized as a dual use item (group 1) under the Wassenaar Arrangement
- Made in Canada

Great flexibility, Small size

The Calibir GX series of uncooled Long Wave Infrared (LWIR) cameras offers outstanding imaging performance and is optimized for Size, Weight and Power (SWAP). The Calibir GX series is available in both VGA (640 x 480) and QVGA (320 x 240) detector formats in an easy-to-use modular design with a 29 mm x 29 mm x 29 mm camera core that can be integrated into tight spaces for compact solutions.

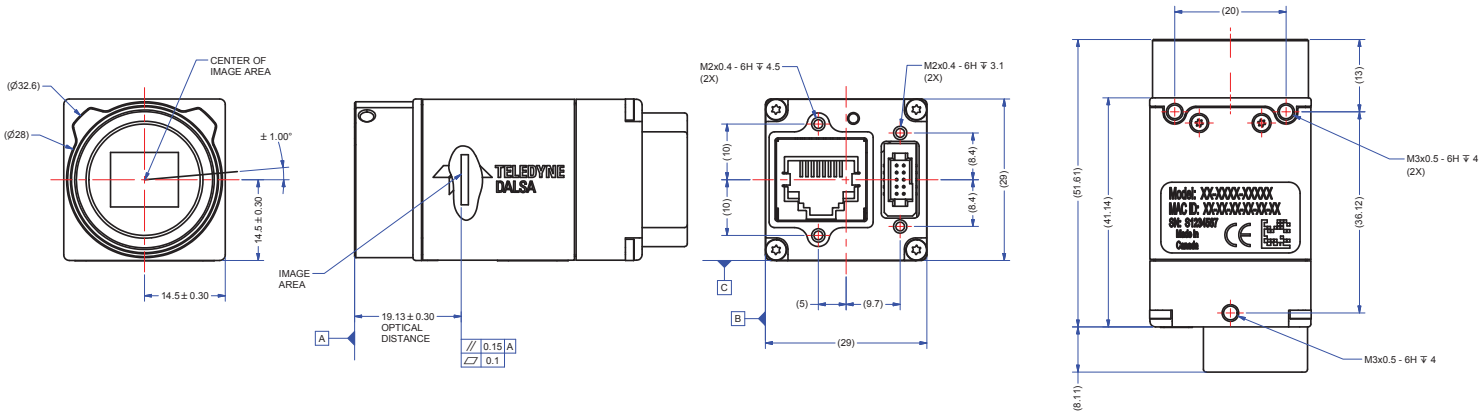
The Calibir GX series features advanced algorithms for shutterless calibration and stable shutterless operation. In normal operating situations the camera output does not drift over time, and in some cases the cameras can go months between recalibrations. The GX series also offers an optional integrated mechanical shutter to provide even more control. The cameras deliver fast startup, producing images in less 1.7 sec on power up. In addition, the Calibir GX series features Adaptive Contrast Enhancement to optimize image quality and built-in functions for image processing and overlay.

The Calibir GX Series consists of three distinct models combining various camera features and lens options with VGA and QVGA resolutions. The models combine optimal set of features and offer mechanical shutter, radiometric (thermography) capability to measure absolute temperature. The Calibir GX series is ideal for a wide range of imaging applications requiring long wave IR detectors in the field of process control, preventive maintenance, thermography and general machine vision.

General Specifications

Resolution	QVGA: 320 (H) x 240 (V) pixels; VGA: 640 (H) x 480 (V) pixels
Frame Rate	QVGA: Up to 60 fps (full frame size); VGA: Up to 30 fps
Pixel Size	17 µm
NETD	<50 mK for QVGA/<65 mK VGA; F/1.0, at 30 fps, high gain mode
Lens	Lens options: HFOV: 8.8° to 90°
Size	29 mm x 29 mm x 29 mm
Mass	58 g (without lens)
Operating Temp	-40°C to 60°C
I/O Options	GigE Vision with Power-Over-Ethernet; Isolated input and Output

Principal Dimensions: Calibir GX Series (M25 Mount)



CALIBIR GX SERIES						
FEATURE	**GXL**		**GXM**		**GXT**	
Detector						
Resolution (H x V)	320 x 240	640 x 480	320 x 240	640 x 480	320 x 240	640 x 480
Manufacturer	Teledyne DALSA	Ulis	Teledyne DALSA	Ulis	Teledyne DALSA	Ulis
Detector Type	Uncooled Long Wave IR					
Spectral Response	8-12 µm					
Pixel Size	17 µm					
NETD (F/1, 30 fps, 300 K)	<65 mK	<65 mK	<65 mK	<65 mK	<50 mK	<65 mK
Typical Response	20 DN in 14-bit/image (un-stretched)					
Key Features						
Mechanical Shutter	No		Yes			
Shutterless Operations	Yes					
Radiometric	No		Target: -20° C to +125° C; Ambient -20° C to +50° C; ±3% or ±3° C (whichever one is higher)			
Temperature Zone	10 Overlapping, independent controls and stats for min, max, average and std					
Contrast Enhancement	ROI Based Adaptive Contrast Enhancement Engine					
Alarms	1 per Temp. Zone Software message and/or electrical output					
Overlay	Text (stats/frame count), Temp. scale, bounding box or cross-hair					
Pseudo-color	Built or User supplied					
Pixel Formats	Mono: 8 or 14-bit/pixel Color: YUV					
Mechanical						
H x W x D (mm) (without lens)	29 x 29 x 46.15		36 x 29 x 46.15			
Mass	58 g		62 g			
Connectors	Video, Data & Power (POE): RJ45 with locking screws Power & GPIO: 10-pin Samtec with latches and screws					
Interface						
Data and Video	Gigabit Ethernet with Power Over Ethernet(POE)					
Power	RJ-45 in PoE mode or 10-pin connector					
Voltage	12/24 VDC (Min 9V, Max 57 V)					
Power Consumption	~3.0 W		~3.5 W			
General Purpose Input/Output (GPIO)						
Input	1x Opto-isolated output; Configurable as External Trigger or General Input					
Output	1x Opto-isolated					
Environmental Conditions						
Operating Temperature	-40° C to 60° C (Ambient Temperature)					
Relative Humidity	20% to 80% non-condensing					

SUPPORTED LENSES: Calibir GX 320						
HFOV(deg)	**89.9°**	**36.3°**	**24.1°**	**16.4°**	**12.4°**	**8.8°**
Focal Length (mm)	3.7 mm	8.1 mm	13 mm	19 mm	25 mm	35 mm
F/#	F/1.3	F/1.1	F/1.0	F/1.0	F/1.2	F/1.14
Lens Mount	M12	M25	M25	M25	M25	M25
Lens Weight	16 g	27 g	23 g	31 g	40 g	45.9 g
Mini Focus Dist (meter)	0.2	1.5	0.4	2.4	2.0	5.0

SUPPORTED LENSES: Calibir GX 640					
90.8°	**73.2°**	**42.1°**	**32.4°**	**24.2°**	**16.9°**
7.5 mm	8.52 mm	14.2 mm	19 mm	25 mm	35 mm
F/1.2	F/1.2	F/1.2	F/1.0	F/1.2	F/1.1
M25	M25	M25	M25	M25	M25
35 g	34 g	25 g	31.2 g	40.0 g	45.9 g
1.0	0.4	1.3	2.4	2.0	5.0

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