

CALIBIR™ 640 Series

Uncooled IR VGA Camera Core



Key Features

- 640 x 480 VGA resolution
- 17 μ m square pixels
- 29 mm x 29 mm x 29 mm¹
- Compact modular design
- Rapid image output
- Adaptive Contrast Enhancement
- Shutter-less operation
- Supports analog, digital and GigE output
- Built-in Pseudo-color for enhanced visualization
- Made in Canada

Regulatory Compliance

- CE, FCC and RoHS
- MIL-STD 810G Compliant
 - Shock and vibration
 - Thermal Shock
- Subject to Canadian Export Regulations. Calibir is categorized as a dual use item (group 1) under the Wassenaar Arrangement

Great flexibility, Small size

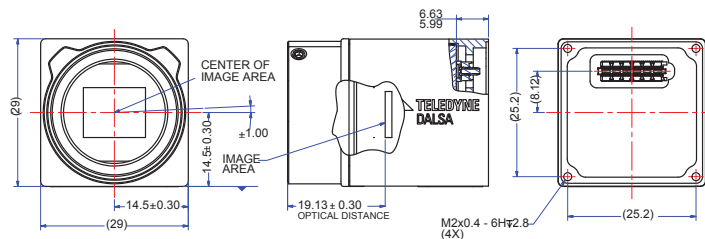
The Calibir uncooled Long Wave Infrared camera platform offers outstanding shutterless imaging performance and is optimized for Size, Weight and Power (SWAP). As a first member of the Calibir family, the Calibir 640 series introduces an easy-to-use modular design with a 29 mm x 29 mm x 29 mm camera core that can be integrated into tight spaces for compact solutions. The Calibir 640 series features shutterless operation and rapid image output on power up while delivering uniform response over the entire operating temperature range, making it ideal for thermal imaging applications requiring uninterrupted image acquisition.

For greater flexibility, the Calibir 640 series microbolometer-based platform supports a variety of industry standard video formats, physical interconnects, LWIR lenses and state-of-the-art on-board processing engine. The Calibir 640 series is ideal for a wide range of imaging applications requiring long wave IR detectors in the field of surveillance and monitoring, defense and security, maintenance and general machine vision.

General Specifications

Resolution	640 (H) x 480 (V) pixels
Frame Rate	30 fps; 50 ² fps (full frame size)
Pixel Size	17 μ m
NETD	≤ 70 mK; F/1.0, at 30 fps, high gain mode
Lens Options	11 lens options: HFOV: 6.2° to 90°
Size	29 mm x 29 mm x 29 mm
Mass	38 g (without lens)
Operating Temp	-40°C to 60°C
I/O Options	Analog: NTSAC, PAL, parallel digital ² , GigE Vision

Principle Dimensions (M25 Only)

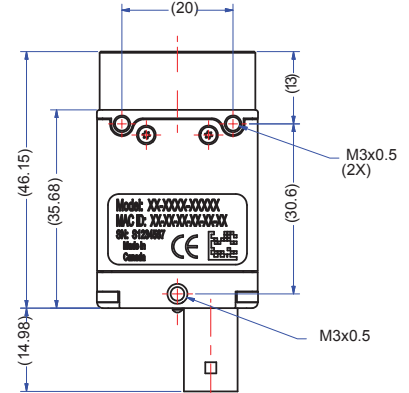
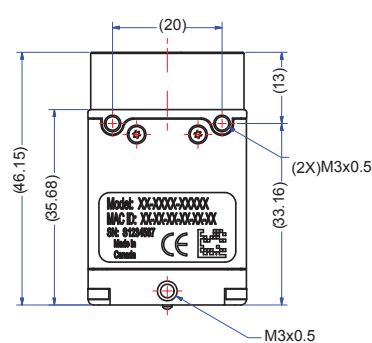
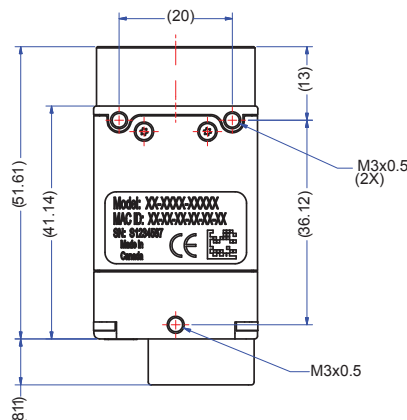
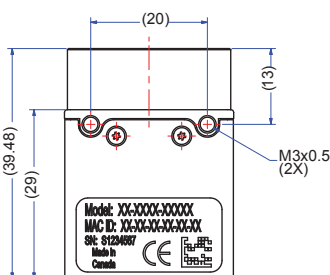


Calibir 640 Core

Calibir 640 GigE

Calibir 640 AS

Calibir 640 AB



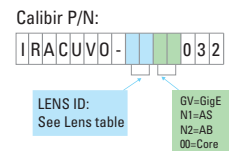
FEATURE	CALIBIR 640 CORE	CALIBIR 640 GIGE	CALIBIR 640 AS	CALIBIR 640 AB
				
Mechanical Interface				
Camera body (W x H x L)	29 mm x 29 mm x 29 mm (body without lens mount)			
Lens Mount	M34 & M25			
Dimensions				
With M25 lens Mount (W x H x L)	29 mm x 29 mm x 46.15 mm	29 mm x 29 mm x 59.72 mm	29 mm x 29 mm x 46.15 mm	29 mm x 29 mm x 61.13 mm
With M34 lens Mount (W x H x L)	37 mm x 37 mm x 37.6 mm	37 mm x 37 mm x 57.85 mm	37 mm x 37 mm x 44.28 mm	37 mm x 37 mm x 59.26 mm
Mass	38 g (without lens mount)		58 g (without lens mount)	
Power connector	via SAMTEC® 60-pin connector	via 10-pin connector, or RJ-45 in PoE mode	via 10-pin connector	via 10-pin connector
Interface Connector	SAMTEC® connector SS4-30-3.00-L-D-K-TR 60-pin	RJ-45 with locking screws	1-pin on SAMTEC® 10-pin connector	BNC
Sensor Information				
Focal Plane Array	VGA, 640 (H) x 480 (V)			
Spectral Response	8-14 µm (LWIR)			
Pixel Pitch	17 µm			
Camera NETD				
High Gain ²	70 mK @ f/1.0, 300 K, 30 Hz			
Low Gain (default)	100 mK @ f/1.0, 300 K, 30 Hz			
Typical Response	20 DN in 14-bit/image (unstreched)			
Time to 1 st image	<1.7s (core)			
Electrical Interface				
Input Voltage	3.3 V DC	12/24 V DC (min 11 V, max 57 V)	12/24 V DC (min 11 V, max 57 V)	12/24 V DC (min 11 V, max 57 V)
Power Consumption (max)	~2.5 W	3.7 W	3.5 W	
Environmental Conditions				
Operating Temperature	Low Gain: -40°C to +60°C		High Gain: -25°C to +50°C	
Operating Relative Humidity	20% to 80% non-condensing			

SUPPORTED LENSES										
HFOV(deg)	90°	73.2°	42.1°	36°	24.2°	16.9°	12.4°	10.3°	8.2°	6.2°
Focal Length	7.5 mm	8.52 mm	14.2 mm	16.8 mm	25 mm	35 mm	50 mm	60.1 mm	75 mm	100 mm
F/#	1.4	1.24	1.24	1.24	1.2	1.14	1.2	1.25	1.13	1.5
Lens Mount	M34	M25	M25	M25	M25	M25	M34	M34	M34	M34
Lens Weight	45 g	34 g	25 g	23.6 g	40 g	45.9 g	238 g	218 g	274 g	369 g
Lens ID	A2	B1	R1	D1	F1	H1	I2	J2	L2	N2

Notes:

- 1 Camera core only without lens
- 2 Contact Teledyne DALSA SALES for more information

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