TELEDYNE DALSA
Everywhere**you**look™

Part of the Teledyne Imaging Group

MicroCalibir™ Cameras
Compact Uncooled LWIR cores

Features

» Compact size: 21 mm x 21 mm (core only) frontal form factor
» VGA and QVGA 12 µm @ 60 Hz
» NETD <50 mK
» Selection of interfaces:
  » USB2.0 (contact sales if CSI2 is preferred)
  » Parallel
» Lens selection ranging from about 10 to 90 degree HFOV
» Features:
  » Smart Noise reduction
  » Custom LUTs
  » Contrast enhancement
  » External Triggers
  » Overlays
  » Alarm zones
» Radiometric version considered
» Possible customization
» NDAA compliant
» Made in Canada

Teledyne's Latest Microbolometer Technology

Introducing the MicroCalibir! Our latest advances in the integration of our in-house 12 µm microbolometer pixel technology with a deep-ADC ROIC circuit have yielded an even smaller more light weight version of the Calibir. This new camera platform will focus on OEM core integration as well as camera modules.
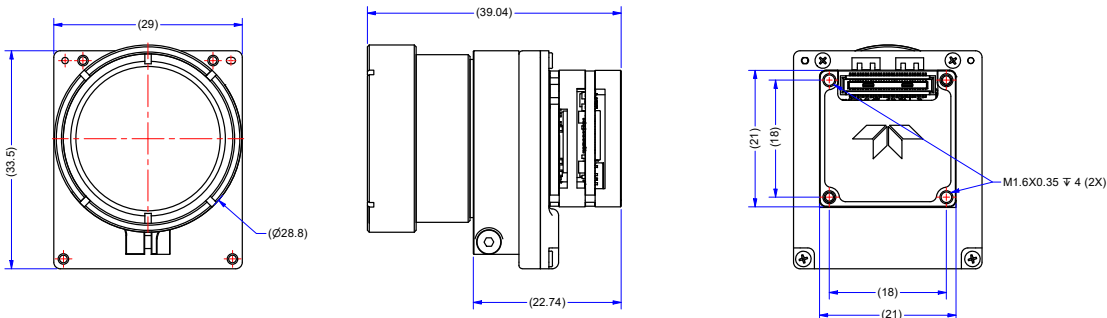
With the smallest IR core module on the market, the compact MicroCalibir offers the latest Size Weight and Power (SWaP) optimization for this type of LWIR imager, with a never-before reached wide dynamic range.

The camera has multiple possible lens configurations and customization capabilities which add flexibility to system integration.

These versatile cameras are configurable by resolution, field of view and frame rate to deliver optimal performance in applications such as UAVs, security & surveillance, outdoor recreation/personal vision systems, firefighting and many more. MicroCalibir delivers high-end thermal capabilities, accuracy, and performance to enable new applications and products.

Dimensions

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PRELIMINARY VERSION
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Specifications

Thermal Imager	QVGA	VGA
Sensor Technology	Uncooled VOx Microbolometer	
Array Format	320 x 240	640 x 480
Pixel Pitch	12 µm	
Spectral Range Longwave Infrared	8 µm – 14 µm	
Thermal Sensitivity (@300K)	< 50 mK	
Scene Dynamic Range	> 1000°C (simultaneously with the NETD above)	
Frame Rate	60Hz / 30Hz (can be adjusted to lower frame rate)	
Non-uniformity Correction (NUC)	Factory calibrated and with the used of internal shutter (FFC)	
Electronic Zoom	2x.. 16x zoom and ROIs	
Symbol Overlay	Re-writable each frame	

Optics	M18 Interfaces			M24 Interfaces		
	EFL (mm)	FOV (°)	lens weight (g)	EFL (mm)	FOV (°)	lens weight (g)
All the lens are F/1 and athermal.	5	44.4° x 33.2°	13	6.4	77.3° x 54.7°	27
No lens configuration is also available.	9	24° x 18°	12	10	46° x 35°	30
Other optics are possible (MicroCalibir is	14	15.6° x 11.7°	20	14	31° x 23°	28
delivered with lens calibration utility).	18	12.2° x 9.2°	25	18	23.9° x 18.1°	28
				25	17.1° x 13°	57
				35	12.4° x 9.4°	105

Part Number		
	IR-UMP0-1xxxx	IR-UMX0-3xxxx

Mechanics		
Size	21 x 21 x 12.9 mm (H x V x D) core only 33.5 x 29 x 23 mm with shutter and lens mount	
Weight	< 20 g without lens but with lens interface mount	
Mounting Holes	Two tapped M16 0.35 holes (located rear cover)	

Interfaces		
Input Voltage	3.3 - 5 VDC	
Power Dissipation	< 0.9 W	< 1.2 W
Video Channels	LVCMOS or USB-2	
Control Channels	UART or USB	
Configurable GPIOs	Up to 2; user configurable	

Environmental		
Operating Temperature Range	- 40°C to 80°C	
Non-Operating Temperature Range	- 46°C to 85°C	
Humidity	5% to 95%, non condensing	
Shock	1,200 g @ 0.4 msec	
Standard Compliance	ROHS, WEEE, REACH ... compliant NDAA §899 compliance	

Accessories	Part Number
Tripod Mounting	IR-U000-MOUNT
USB-C board interface	IR-U000-USBC000
CSI-DSI interface	IR-U000-CSI0000 (available on Q3/2021)

www.teledynedalsa.com