

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.

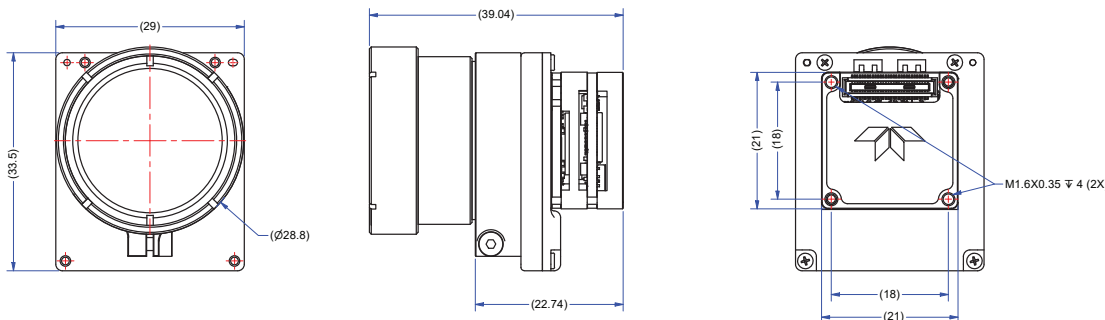
With the smallest IR core module on the market, the compact MicroCalibir offers the latest Size Weight and Power (SWaP) optimization for this type of LWIR imager, with a never-before reached wide dynamic range.

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



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		
All the lens are F/1 and athermal. No lens configuration is also available. Other optics are possible (MicroCalibir is delivered with lens calibration utility).	EFL (mm)	FOV (°)	lens weight (g)	EFL (mm)	FOV (°)	lens weight (g)
	5	44.4° x 33.2°	13	6.4	77.3° x 54.7°	27
	9	24° x 18°	12	10	46° x 35°	30
	14	15.6° x 11.7°	20	14	31° x 23°	28
	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 ¹					
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)					

1. Cold boot at -40C, stable camera body temperature at 80C

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