

# Leo MW

## High Performance IR Detector for Mid Wave Infrared Imaging 640x512 MWIR (15µm pitch)

- 60Hz Operation
- High Sensitivity
- TV Format
- 15 micron pixel technology



Airborne Turrets/Gimbals



Surveillance Systems



Handheld Thermal Imagers

The Sofradir EC LEO is a 640x512 medium wave (MWIR) Infrared Mercury Cadmium Telluride (MCT) Infrared Focal Plane Array (IRFPA) with integrated digital interface optimized for Size, Weight, and Power (SWAP). The LEO is perfect for integration into hand-held devices, surveillance systems or UAV/airborne payloads. Hybridized on a Sofradir state-of-the-art CMOS Read-Out Integrated Circuit (ROIC), the MCT array is integrated in a long vacuum-life Dewar, a miniature cooler, and includes a SWAP optimized integrated proximity electronics.

### STANDARD CONFIGURATION:

- Integrated Detector Dewar Cooler Assembly (IDDCA) with miniature Stirling-cycle rotary cooler (RM2 or K563) and integrated proximity electronic board, for small size, light weight and low power consumption.

### ROIC FEATURES

Selection	Serial electrical interface
Modes	Snapshot operation, direct injection input circuit, selectable read mode (IWR or ITR), programmable integration time, anti-blooming, image invert/revert/inverse.
Window Modes	Fixed (640x512) or programmable
Charge Handling Capacity	6.3 Me- (ITR mode), 5 Me- (IWR mode)
Signal Outputs	Digital, 14 bits, Cameralink
Frame Rate	60Hz full frame rate
Biasing	5V

### ARRAY FEATURES

Array Size	640x512
Pixel Pitch	15µm x 15µm
Detector Spectral Response	3.7-4.8 µm

### TYPICAL PERFORMANCE

Non Uniformity	< 5% RMS ( $\sigma$ /mean, 300K uncorrected performance)
Array Operability	> 99.5% typical
Pixel NETD (average)	18mK (293K, F/5.5, 50% well fill, 60Hz)
Residual Fixed Pattern Noise	Low and stable (< NETD)

### OPTIONS

- Complete MW Camera
- MW Engine
- Proximity Driving Electronics (including ADC)

# Leo MW

## High Performance IR Detector for Mid Wave Infrared Imaging 640x512 MWIR (15µm pitch)

### STANDARD CONFIGURATIONS

**Leo MW with RM2 Microcooler**

Weight: 0.37 kg (0.81 lb.)

Operating Temperature: -40°C / +65°C

Power Supply: 11 V

Typical Characteristics at (20°C):

- Power Supply: 32 V
- Cooldown input Power: 9 W<sub>AC</sub>
- Regulated input power: 3.6 W<sub>AC</sub>
- Cooldown time: 4 min.

W<sub>AC</sub> – at cooler pins AC input

**Leo MW with K563 Microcooler**

Weight: 0.37 kg (0.81 lb.)

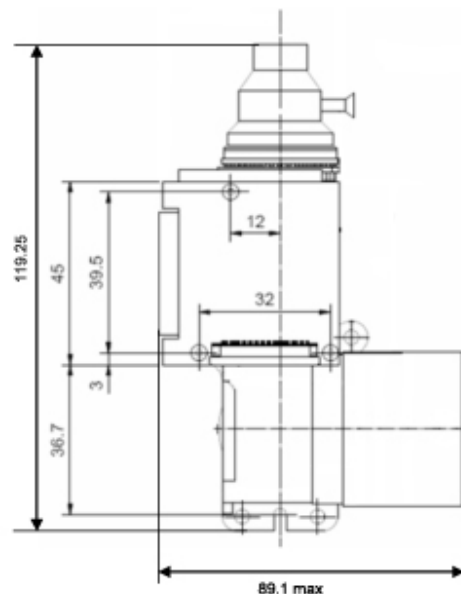
Operating Temperature: -40°C / +65°C

Power Supply: 11 V

Typical Characteristics at (20°C):

- Power Supply: 12 V
- Cooldown input Power: 9 W<sub>DC</sub>
- Regulated input power: 4.5 W<sub>DC</sub>
- Cooldown time: 6 min.

W<sub>DC</sub> – at cooler C&CE DC input



### CONFIGURATION ON REQUEST

**with Cooler Driving Electronic**

Power Supply: 9 V

Cooldown input Power: 9 W<sub>DC</sub>

Regulated input power: 4.5 W<sub>DC</sub>

Cooldown time: 4 min.

W<sub>DC</sub> – at cooler C&CE DC input

### ORDERING INFORMATION

Leo MWIR RM2 F5.5 P Engine	915262
Leo MWIR RM2 F4.0 P Engine	915263
Leo MWIR K563 P Engine	915264

Technical characteristics described in this data sheet are for information only and are not contractual. Because of ongoing product enhancements, specifications are subject to change without notice. Export of these products from the United States is controlled by the US Government. Prior authorization is required for re-export or transfer.



SOFRADIR EC, INC. 373 US Hwy 46W, Fairfield, NJ 07004 USA  
Phone: 973-882-0211 Fax: 973-882-0997



© 2011 - All rights reserved. An ISO 9001 Certified Company.

Edition: 09-11 rev04