

FLIR ORION SC7000-Series

MW & LW Waveband Multispectral Thermographic Systems For R&D And Signature Analysis

- *Fast multispectral radiometric imagery*
- *MW & LW systems*
- *4 sub-band analysis*
- *Customizable filters*
- *Variable exposure time from filter to filter*
- *Extremely extended dynamic range*
- *Wide range of lenses*
- *Gas detection, IR signature, Flame analysis*



FLIR ORION SC7000-Series Features

The ORION SC7000-Series is dedicated to multi-spectral analysis applications where spectral imaging and speed are a must.

High Frame rate parallel sub spectral bands analyser

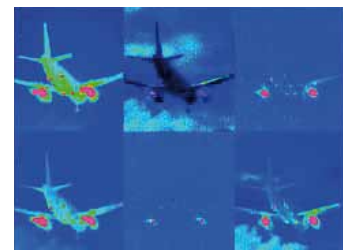
The Orion SC7000 Series system is an infrared multispectral radiometer capable of producing IR sub-band images at video rate within the SW-MWIR or LWIR region. This high performance system uses the latest state-of-the-art focal plane array (FPA) detector technology along with real-time, large dynamic range electronic modules. Infrared radiation from the scene under investigation is collected through a front lens, designed to offer minimal aberration across the full IR wavelength range.

Configurable filter wheel setup to match different type of analysis

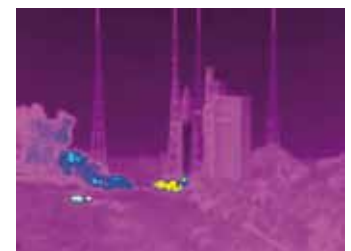
A filter wheel is inserted between the lens and the focal plane. The rotation of this filter wheel is driven synchronously with the FPA clocking, such that a single image snap shot is obtained for each particular filter position.

Versatile system with traditionnal infrared camera mode

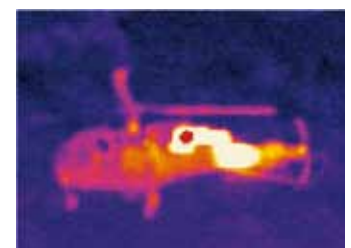
The Orion SC7000 is capable of capturing up to 400 frames per second, each high quality image being captured in snap-shot mode. The integration time is variable by software and can be different for each filter. An image is captured for each given position of the filter wheel, providing true multispectral imaging. The Orion SC7000 Series can also be used as a normal IR camera at full speed by removing or stopping the filter wheel. Further to image acquisition, the image data is processed by the ALTAIR software.



Orion SC7000 provides sub spectral bands for signature & phenomenology applications.



Its numerous configurations availables adapt to every spectral situations.



Its fast frame rate with see-thru-flame and CO₂ filters allows flame and combustion analysis.

Camera Functions



- 1 High performance FPA with high durability cooler
- 2 GigE Interface
- 3 CAMLINK interface to transfer digital video at the fastest frame rate
- 4 High speed filter wheel
- 5 Smart trigger Input with Ultra Low Jitter
- 6 Analogue Signal Inputs
- 7 High quality S-Video
- 8 Rugged cast aluminium housing



Software

- **Altair radiometric software**
Ease of use, flexible layout, real time storage, camera control, radiometric features
- **Software development Kit (C++ / Labview)**

Accessories

- Spectral filters
- Battery pack for up to 4 hours autonomy
- USB advanced acquisition trigger module
- Industrial grade connectors & cables



**INFRARED
TRAINING
CENTER**

Training

FLIR cooperates with Infrared Training Centre, an independent, ISO certified, worldwide training facility. ITC offers infrared training, certifications accepted by many standardization organizations, and specialized instruction in various application areas. For more info visit www.infraredtraining.com

FLIR ORION SC7000-Series Specifications

Features*

Waveband	1.5 - 5 μ m or 7.7 - 11.5 μ m
Pixel resolution	640 x 512 @15 μ m or 320 x 256 @30 μ m
Windowing	320 x 256 / 160 x 128 / user defined
NETD	< 25 mK @ 30 $^{\circ}$ C (20 mK typical)
Max Full Frame rate	Up to 380 Hz
Max Frame rate in ORION Mode	400 Hz
Integration time	200ns - 20 000 μ s
Optical interface	M80
Filter wheel	2 x 4 slots for 1" filters
Digital output	14 bits CAMLINK / GigE
Analogue signals	1 x (-5 to 5 V) / 2 x (0 to 10 V)

*Best specifications

Physical Specifications

Size (w/o lens) (LxWxH)	268x180x168 mm or 419x180x168 mm
Weight (w/o lens)	7 Kgs or 10.8 Kgs
Base mounting	1/4 20 UNC
Operational temperature	-20 $^{\circ}$ C / +55 $^{\circ}$ C
Input voltage	12 VDC or 24VDC (SC7900VL)

Optional Lenses

12 mm F2	44 $^{\circ}$ x 36 $^{\circ}$
25 mm F2	22 $^{\circ}$ x 17 $^{\circ}$
50 mm F2	11 $^{\circ}$ x 8.8 $^{\circ}$
100 mm F2	5.5 $^{\circ}$ x 4.4 $^{\circ}$
200 mm F2	2.75 $^{\circ}$ x 2.2 $^{\circ}$
Microscope lens G1 F/2	9.6 x 7.7 mm
Microscope lens G3 F/2	3.2 x 2.6 mm
Lens Extenders	

FLIR ORION SC7000-Series comes in a wide range of configurations. Please contact your local FLIR office to define the best configuration for your application.



www.flir.com/thg