



- ◆ Uncooled Multi-Spectral Imager
- ◆ 5-Position Filter Wheel
- ◆ High resolution LWIR
- ◆ Built-in Data Analysis
- ◆ Ethernet or RS-232 COMS
- ◆ Waterproof, Dustproof to IP-67
- ◆ Analog Video Output

RX camera series

The RX-365 is part of Critical Imaging's **R**esearch and **eX**perimental camera series designed to provide advanced imaging solutions for technically demanding applications and clients. Based on military legacy Unattended Ground Sensor systems, the RX-365 is designed for deployment in harsh environments, unattended for long periods. Multi-spectral with advanced image processing the RX-365 was developed for industrial emissions monitoring and volcanic ash detection.

Multi-Spectral Imaging

The RX-365 features a motorized, 5-position filter wheel to rapidly image 5 different LWIR spectral bands.

Standard-Setting Protection

Encapsulation to IP-67 (dust and water immersion), and exposure to volcanic emissions the RX-365 is rugged enough for virtually any industrial or atmospheric monitoring application.

Built-in Data Analysis

Atmospheric imaging using LWIR is challenging due to the very low thermal energy content and low emissivity of cooled gasses or clouds. Multi-frame integration coupled with multi-spectral images provide the leverage that is needed to to the task. Processing of multi-spectral algorithms is built-in to the camera to eliminate the need for peripheral computers.

Software SDK

A standard GUI is available for image viewing, analysis and export as well as control of all camera functions. A Software Development Kit is available to integrate control functions into external processing hardware if desired.

Flexible Connectivity

Standard RS-232 and Ethernet provide for digital output and imager control. The imager can be optionally programmed to communicate autonomously with a satellite modem for the ultimate in unattended, autonomous monitoring.

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Imaging

Detector	320x240 microbolometer
Spectral range	7-14µm LWIR, spectral filtering standard
Sample rate	60Hz
System NETD	<80mK single frame, integrated to <20mK Broad band @ 295K
Focus	Fixed, 30' to infinity
Lens	F/1.0, internally protected
Horizontal FOV	45° standard, optional to 18°
Video output	RS-170 NTSC
Integration mode	2 to 42 frames, standard deviation & mean images

Connectivity

Command/Data	Via RS-232 or Ethernet
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Filter Wheel

Positions	5, 30mm filters
Actuation	Motorized and programmable
Speed	<250ms filter-filter transition

Environmental

Water/Dust	IP-67 dust and water proof and pressurized
Temperature	-20° to +60° C Operating, -40° to +65° C Storage
Humidity	Operating to 95%, non-condensing, available to 100%
Humidity, storage	0-100%, condensing

Physical Envelope

Weight	8 lbs.
Size	(L) 11.5 in. x (W) 6.5 in x (H) 7.5 in
Mounting	1/4-20 tripod mount, with anti-rotation pin

Power

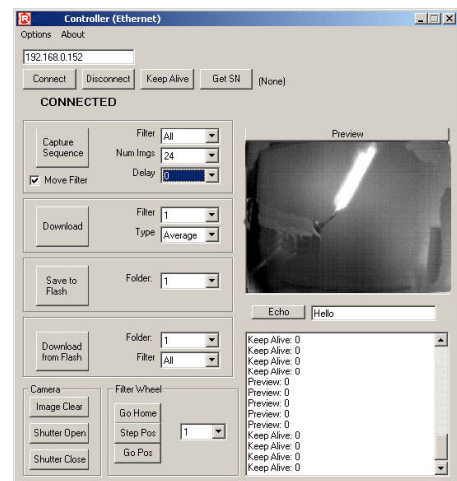
Low power mode	Timed sleep/wake cycles
DC	8-15VDC
Power	<7W

CI Thermal Software Suite and SDK

A Critical Imaging control GUI is available to control image capture, viewing and data export. Most features are embeddable with user applications via a standard Software Development Kit.

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