FLIR is now offering Neutrino Integrated Solutions – Our best MWIR cooled camera cores now with FLIR’s own zoom lenses, a cost-effective solution with superior performance and faster time to market. FLIR zoom lenses and cameras are designed together to guarantee a simplified opto-mechanical integration and user interface.

The Neutrino LC/CZ 19-290 solution provides a SWaP optimized, 19-290mm continuous zoom lens precision integrated with the Neutrino LC camera core. With a common and simplified user interface, the Neutrino LC/CZ 19-290 provides smooth, 15X continuous zoom covering a 1.9° to 27° FOV range. It is fully athermalized over a wide operating temperature range and is auto focus capable.

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**COMPLETE MWIR IMAGING SOLUTION**
Simplified product development and manufacturing enables faster time to market.

- T2SL HOT 640x512/15 µ pixel pitch FPA
- Low power consumption with < 8 W cool down and < 4 W steady state at 21°C
- SWaP optimized saves space, weight and power
- Precision aligned lens, easy to focus to the desired distance
- One supplier versus two

**SEAMLESS OPTO-MECHANICAL INTEGRATION**
Designed from the ground up for optimum performance and compatibility.

- Precisely aligned optical centerline to the center pixel
- Eliminate boresight wander and ensure focus through zoom
- Simplified single interface for camera and lens

**MARKET LEADING THERMAL OPTICS**
Integrated SWaP optimized lens provides instant clear imaging able to withstand rugged environments in the air or on the ground.

- Industry’s most advanced VGA MWIR camera core
- Comprehensive product documentation
- Commercially developed, military qualified (CDMQ)
- Highly-qualified FLIR Technical Services team available to support integration

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Specifications

Overview
Size (L x W x H) 15.77 x 7.84 x 10.01 cm (6.21 × 3.09 × 3.94 in)
Weight 735 grams
Spectral Band 3.4 - 5.0 µm standard
Thermal Imager 640 × 512, (15 µm pitch) HOT MWIR

Lens Specifications
EFL/Zoom Range (mm) 19.5 to 290 mm (+/- 5%) compact, continuous zoom lens
Horizontal Field of View (HFOV) 1.87° to 27.36° (actively athermalized over the operating temperature range)
Zoom and Focus Controls Yes
Special Features Active athermalization and auto focus capable

Connections & Communications
Discrete I/O Controls Available None
Primary Electrical Connector 80-pin Hirose (camera), 4-pin Molex (cooler), 6-pin Molex (lens)
RS-232 Compatible Communication RS-232, Nominal 38400 Baud
SDK and GUI Yes, Camera only
Comm & Control USB or UART (camera), RS-232, Nominal 38400 Baud (lens)

Environmental
Humidity 5% to 95% non-condensing
Non-Operating Temperature Range -57 °C to + 80 °C
Operating Temperature Range -35 °C to + 70 °C, note this is limited by the lens
Operational Altitude 12 km altitude equivalent
Shock 40 g w/1 ms half-sine pulse, 3-axis
Vibration 5.8 grms, 3-axis, 1 hr each

FPA Control
Direct Injection Snapshot Prog operation Yes
Programmable Integration Time Yes (0.01 ms - 16.6 ms)
ROIC ISC0403
ROIC Modes Free run, readout & integration priority

Imaging & Optical
Analog Video Display Format Yes, accessory board required
BT656 (8-bit) Yes, accessory board required
Camera Link (16-bit or 8-bit) Yes, accessory board required
CMOS (8-bit) CMOS (16-bit, 16-bit color encoded YCbCr, 8-bit)
Color and Monochrome Palettes (LUTs) Yes
Continuous Zoom (digital and analog) Optical Zoom (lens) and Electronic Zoom (camera)
f-number f/5.5
FPA - Digital Video Display Format 640 × 512
Frame Rate 60 Hz, adjustable 1 Hz to 60 Hz
LVDS (16-bit or 8-bit) No
NTSC/PAL (field switchable) Yes, accessory board required
Sensitivity (NEdT) <30 mK
Polarity Control [black hot & white hot] No
Time to Image <4 min room temp
Invert/Revert (analog and 8-bit digital) Invert/Revert (Yes)
Image Optimization - AGC Histogram Equalization, DDE+

Power
Input Power NLC 3.3 VDC (camera), 12 VDC (cooler), 12 VDC (lens)
Power Dissipation NLC <4.5 W (camera/cooler) steady state
<1.92 W (lens) steady state
<12.0 W (camera/cooler) peak power
<3.6 W (lens) peak power
Input Power with Lens 4.75 - 6.0 VDC Camera, 9-35 VDC Cryocooler
Power Dissipation with Lens <8 W cooldown, <5 W Steady State

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com

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