LUXELL CORE-S

Linear uncooled MWIR readout module with USB output
Modular system with metal housing and lens accessories available
Optimal system for low cost solutions and industrial integration

- Electronic plug-and-play readout module for linear LUXELL FPA 256 px (included)
- Resolution: 256 px (pixel size: 60 um, pixel height: 600 um)
- Band of detection: MWIR (1 - 5 microns)
- Peak wavelength of detection: 3.7 microns
- Integration time: 4 - 20 μs, selectable
- Minimum temperature of detection: 100 ºC
- Maximum scanning rate: 300 lines per second (@minimum integration time)
- Mechanical shutter for 1-pt offset
- Start-up time: < 5 seconds
- Communication interface: USB 2.0 full speed
- Data transmission: raw data, 14 bits
- Power: 1W (USB powered, 5 VDC, 200 mA)
- Dimensions (in mm) / Weight (grams): 56.0 (L) x 44.5 (W) x 41.5 (H) / 60 g
- Mechanical housing (accessory):
  - Alluminum housing, with CS-mount optics interface, rear USB connector
    (industrial M12x1, mini-USB, IP67-rated), tripod screw and water block
  - Housing dimensions, in mm: 70.0 (L) x 72.5 (W) x 50.0 (H)
  - IP67-rated when assembled with accessory lens
- Lens (accessory):
  - CS-mount, f=35 mm, F#1.1, FoV = 25°(h) x 1°(v)
  - Field of Regard (@1m) = 440 mm(h) x 17 mm(v)
- Software included:
  - NIT SOFTWARE SUITE (Acquisition and visualization SW), LabVIEW SDK
  - Total size with housing, water block and lens: 70.0 (L) x 131.5 (W) x 50.0 (H)
  - Total weight with housing and lens (grams): 500 g
  - Industrial applications: industrial welding process monitoring, laser manufacturing
  - process monitoring, machine vision, spectroscopy, glass manufacturing
LUXELL CORE-S module

LUXELL CORE-S with external housing and lens

LUXELL FPA

- FPA resolution: 256 pixels
- Uncooled operation
- Band of detection: MWIR (1 - 5 um)
- Peak detection wavelength: 3.7 um
- $D^*$ (WLpeak) (typ): 2x10^9 Jones
- Silicon window with AR coating
- Response time: 2 us
- Pixel size: 600 x 60 um²
- Pixel pitch: 60 um

- Readout method: x-y multiplexed
- Readout electronics: not included (CORE-S compatible)
- Dimensions (mm): 24x24x2.2
- Biasing voltage (typ): 5 V
- Pixel resistance (typ): 0.2 - 1.0 MΩ
- Packaging: SMD / LCC68 footprint
- Pinout: 68 pins (32 in use)

Typical applications
- Industrial manufacturing process control (welding, cutting, etc.)
- Laser process monitoring
- Gas and flame detection
- Machine vision
- Spectroscopy
- OEM integration

Industries of use
- Automotive industry
- Home appliance manufacturing
- Metallurgy and steel industry
- Petrochemical industry