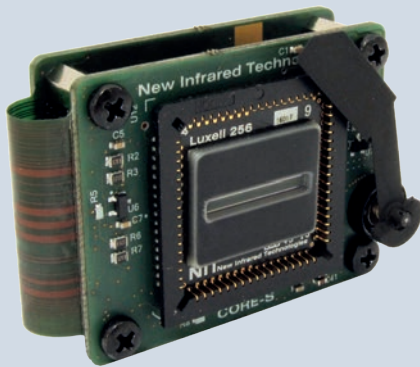


# LUXELL CORE-S

## LUXELL CAMERA-S (IP67)



LUXELL CORE-S front view



LUXELL CORE-S rear view



LUXELL CAMERA-S

Linear uncooled MWIR readout module with USB output

Affordable solution for direct integration in the production line (IP67-rated)

- ▶ Electronic plug-and-play readout module for linear LUXELL FPA 256 px (included)
- ▶ Resolution: 256 px (pixel size: 60  $\mu\text{m}$ , pixel height: 600  $\mu\text{m}$ )
- ▶ Band of detection: MWIR (1 - 5 microns)
- ▶ Peak wavelength of detection: 3.7 microns
- ▶ Integration time: 4 - 20  $\mu\text{s}$ , selectable
- ▶ Minimum temperature of detection: 100  $^{\circ}\text{C}$
- ▶ 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)
- ▶ CORE-S dimensions (in mm) / weight (grams): 56.0 (L) x 44.5 (W) x 41.5 (H) / 60 g
- ▶ CAMERA-S mechanical housing:
  - ▶ Alluminum housing, with CS-mount optics interface, rear USB connector (industrial M12x1, mini-USB, IP67-rated), tripod screw hole and water block
  - ▶ Housing dimensions, in mm: 70.0 (L) x 72.5 (W) x 50.0 (H)
  - ▶ IP67-rated when assembled properly with IP67-rated lens
- ▶ CAMERA-S lens:
  - ▶ CS-mount, f=35 mm, F#1.1, FoV = 25 $^{\circ}$ (h) x 1 $^{\circ}$ (v) (detachable)
  - ▶ Field of Regard (@1m) = 440 mm(h) x 17 mm(v)
- ▶ CAMERA-S size with housing, water block and lens: 70.0 (L) x 131.5 (W) x 50.0 (H)
- ▶ CAMERA-S weight (grams): 400 g
- ▶ Software included:
  - ▶ NIT SOFTWARE SUITE (Acquisition and visualization SW), LabVIEW SDK
- ▶ Industrial applications: industrial welding process monitoring, laser manufacturing process monitoring, machine vision, spectroscopy, glass manufacturing



Industrial process control  
(welding, cutting, etc)



Laser process  
monitoring

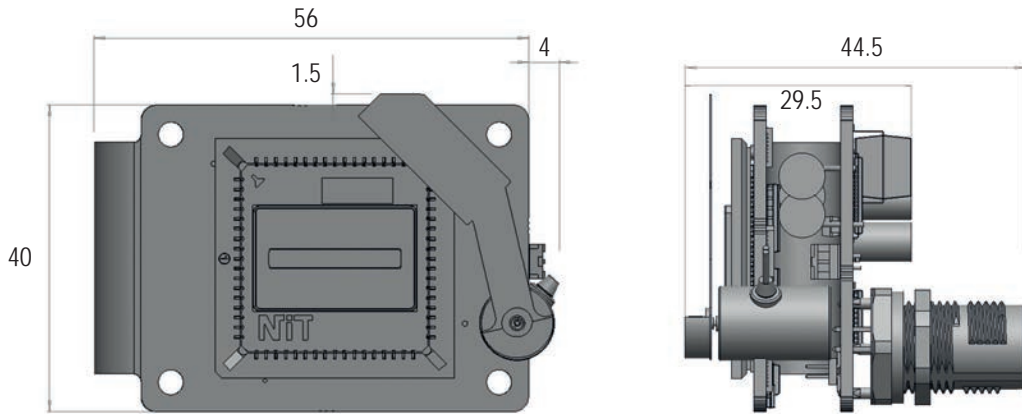


Spectroscopy  
and gas detection



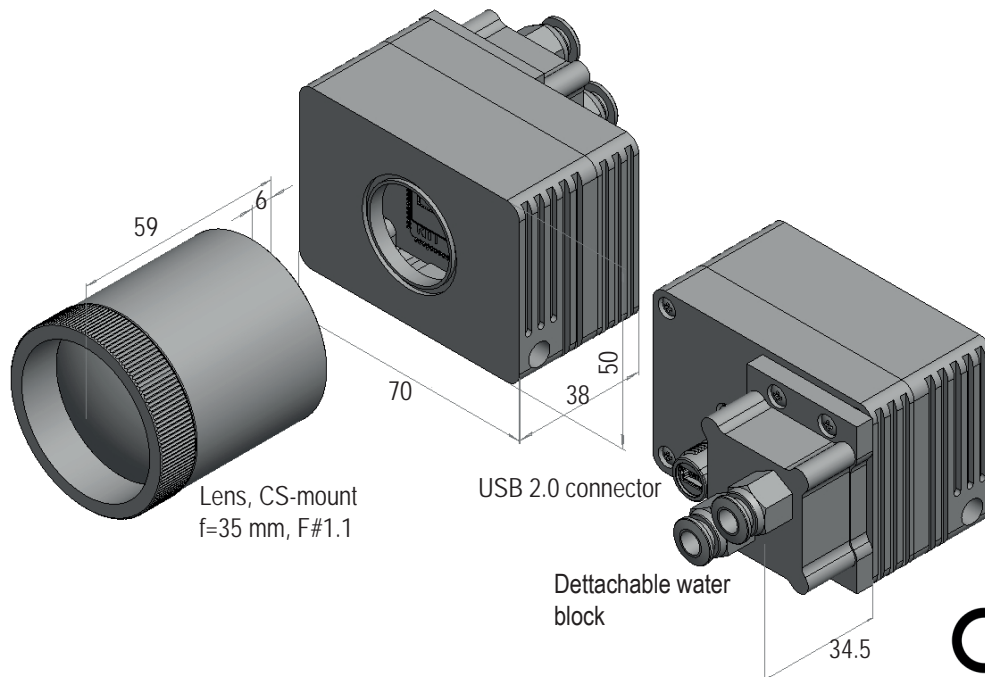
Glass manufacturing  
quality assurance

# LUXELL CORE-S module



All dimensions in mm

# LUXELL CAMERA-S (IP67)



## Main facts

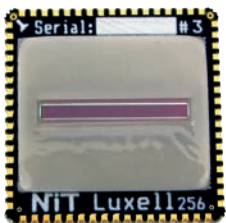
- ▶ Maximum added value and affordability
- ▶ Miniaturized compact size to ensure a full integration in the Industry 4.0 applications and Factories of the Future production lines

## Typical applications

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



# LUXELL FPA



- ▶ FPA resolution: 256 pixels
- ▶ Uncooled operation
- ▶ Band of detection: MWIR (1 - 5  $\mu\text{m}$ )
- ▶ Peak detection wavelength: 3.7  $\mu\text{m}$
- ▶  $D^*$  (WLpeak) (typ):  $2 \times 10^9$  Jones
- ▶ Silicon window with AR coating
- ▶ Response time: 2  $\mu\text{s}$
- ▶ Pixel size:  $600 \times 60 \mu\text{m}^2$
- ▶ Pixel pitch: 60  $\mu\text{m}$
- ▶ Readout method: x-y multiplexed
- ▶ Readout electronics: not included (CORE-S compatible)
- ▶ Dimensions (mm):  $24 \times 24 \times 2.2$
- ▶ Biasing voltage (typ): 5 V
- ▶ Pixel resistance (typ): 0.2 - 1.0  $\text{M}\Omega$
- ▶ Packaging: SMD / LCC68 footprint
- ▶ Pinout: 68 pins (32 in use)

## Industries of use

- ▶ Automotive industry
- ▶ Home appliance manufacturing
- ▶ Metallurgy and steel industry
- ▶ Petrochemical industry



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