

IR INSPECTOR MULTI-SENSOR UAV PAYLOAD

The ICI IR Inspector UAV payload pairs our 8640 USB camera with a Sony R10C high-resolution visible camera for remote asset inspection and identification. Aerial radiometry provides accurate temperature data. Both cameras feature remote electronic focus and zoom to as narrow as six degrees HFOV. This package is used heavily in many industries for high-end thermography-based inspections of flare stacks, commercial and industrial buildings and roofs, solar panel farms, wind turbines, roads, and bridges.

Features

- Unmatched image sensitivity
- Radiometric data streaming
- Integrates into embedded systems
- Displays real time color thermal images
- Multi-device linking
- Windows and Linux software
- Small Size, light weight
- Low power
- Drivers and SDK available

8640 Specifications

- **Detector Array:** UFPA (VOx)
- **Pixel Pitch:** 17 μ m
- **FOV:** lens dependent
- **Measurement Distance:** lens dependent
- **Pixel Resolution:** 640 X 512
- **Spectral Band:** 7 μ m - 14 μ m
- **Thermal Sensitivity (NETD):** < 0.02 °C at 30 °C (20 mK)
- **Frame Rate:** 30 Hz NTSC/PAL
- **Dynamic Range:** 14-bit
- **Temperature Range:** -20 °C to 120 °C
Optional: 0 °C to 500 °C
- **Operation Range:** -40 °C to 80 °C
- **Storage Range:** -40 °C to 70 °C
- **Humidity:** 5% to 95% non-condensing
- **Accuracy:** \pm 1 °C
- **Pixel Operability:** > 99 %
- **Shock/Vibration:** 75 G/4 G
- **Dimensions:** 39 mm x 45 mm x 45 mm (L x W x H \pm 0.5 mm)
- **Power:** < 1 W
- **Weight (without lens):** 67 g*
- **Interface:** USB 2.0
- **Video:** raw data
- **Emissivity Correction:** 0.1 to 1.0
- Built in shutter

* Payload Weight (without lens): 2495 g

Applications

- Alternative energy/infrastructure
- Industrial vision systems
- Aerial radiometric imaging
- UAV integration

Options & Accessories

- Optional: 0 °C to 500 °C
- 8 mm Manual focus lens (80° x 60° FOV, +50 g)
- 9 mm Athermalized focus lens (70° x 52° FOV, +40 g)
- 12.5 mm Manual focus lens (50° x 37.5° FOV, +64 g)
- 16.7 mm Athermalized focus lens (37.5° x 28° FOV, +25 g)
- 25 mm Athermalized focus lens (24.8° x 18.6° FOV, +50 g)
- 30 mm Manual focus lens (20° x 15° FOV, +100 g)
- 35 mm Athermalized focus lens (17.6° x 13.2° FOV, +100 g)
- 50 mm Manual focus lens (12.4° x 9.3° FOV, +170 g)
- 100 mm Manual focus lens (6.2° x 4.7° FOV, 565 g)



IR Inspector
US Patent 9880552

ICI cameras fall under US Federal Law and Export Control.

Gimbal Specifications

- **Operation Modes:**
 - Follow mode
 - Lock mode
- Built-in, independent IMU module
- Temperature sensor
- Gremsy specialized gimbal drive motors with encoders
- USB connection
- 32-Bit high performance ARM microprocessor
- S-Bus/Spektrum/PPM receiver supported
- **Working Current:**
 - Static current: 300 mA (@12 V)
 - Dynamic current: 600 mA (@12 V)
 - Locked motor current: Max 3.5 A (@12 V)
- **Operating Temperature:** 5 °F ~ 120 °F (-15 °C ~ 50 °C)
- **Weight:** 1050 g
- **Gimbal Dimension:** 288 mm x 179 mm x 236 mm
(L x D x H ± 0.5 mm)
- Custom camera tray
- **Camera Tray Dimensions:**
 - Maximum depth: 100 mm
 - Maximum height: 110 mm or 150 mm
 - Maximum width: 152 mm
- **Input Power:** 12V to 52V
- Powered USB hub
- **Connections:**
 - Wifi
 - USB 2.0
 - CAN
 - UART
 - S-bus
 - Spektrum
 - PPM
- **PC Assistant Software Requirements:**
 - Windows XP or above
 - Mac OS X 10.9 or above
- **Mobile Assistant Software Requirements:**
 - iOS 7.1 or above
 - Android 4.3 or above
- **Maximum Payload:** 1700 g
- **Angular Vibration Range:** ± 0.02°
- **Maximum Controlled Rotation Speed:**
 - Pan axis: 200°/s
 - Tilt axis: 100°/s
 - Roll axis: 30°/s
- **Mechanical Endpoint Range:**
 - Pan axis control: 360°
 - Tilt axis control: +270° to -150°
 - Roll axis control: ± 110°
- **Controlled Rotation Range:**
 - Pan axis control: 360°
 - Tilt axis control: +90° to -135°
 - Roll axis control: ± 4

ICI cameras all fall under US Federal Law and Export Control.