

OGI INSPECTOR MULTI-SENSOR UAV PAYLOAD

The ICI OGI Inspector and OGI Inspector Plus pair the Mirage HC optical gas imaging (OGI) camera, used in locating hydrocarbon-based fugitive emissions, with the Sony R10C high-res camera, which provides asset identification and visual inspection capability. An additional Tunable Diode Laser Absorption Spectrometer (TDLAS), tuned specifically to the spectral absorption of methane, can be bundled with the package, delivering methane identification and concentration data in real-time. The combination of the OGI and TDLAS increases the efficiency in locating even the smallest of leaks, saving time and money. This complete package is a game changer for the oil & gas industry as they learn to comply with the EPA's OOOOa ("Quad Oa") inspection requirements for upstream assets. It also allows for unique inspection techniques to be developed for difficult to reach downstream assets. As the EPA begins to allow optical gas imaging instead of sniffer based LDAR programs, thanks to proposed changes to the Method 21 Alternative Work Practice (AWP), this package will provide cost and time savings for the inspection of components that typically require scaffolding or rope access crews.

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

Detectable Gases

- Benzene - 3.5 g/hr
- Ethanol - 0.7 g/hr
- Ethylbenzene - 1.5 g/hr
- Heptane - 1.8 g/hr
- Hexane - 1.7 g/hr
- Isoprene - 8.1 g/hr
- Toluene - 3.8 g/hr
- Methanol - 3.8 g/hr
- MEK - 3.5 g/hr
- Pentane - 3.0 g/hr
- Xylene - 1.9 g/hr
- Butane - 0.4 g/hr
- Ethane - 0.6 g/hr
- Methane - 0.75 g/hr
- Propane - 0.4 g/hr
- Ethylene - 4.4 g/hr
- Propylene - 2.9 g/hr
- MIBK - 2.1 g/hr
- Octane - 1.2 g/hr
- 1-Pentene - 5.6 g/hr

Applications

- Petrochemical (midstream)
- Industrial vision systems
- Aerial radiometric imaging
- Gas leak detection
- Aerial/UAV/UAS inspections
- Handheld applications
- Pipeline inspections
- Industrial monitoring
- Petrochemical monitoring
- Process control
- Scientific research
- Production processing/packaging

Software Options

- IR Flash Software
- Windows 32-bit SDK
- Linux SDK (x86, x64 and ARM)



OGI Inspector
US Patent 9880552

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

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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

Mirage HC Specifications

- **Detector Array:** Cooled MWIR InSb
- **Pixel Pitch:** 15 µm
- **FOV:** lens dependent
- **Measurement Distance:** lens dependent
- **Pixel Resolution:** 640 x 512
- **Spectral Band:** 3.2 µm to 3.4 µm
- **Thermal Sensitivity (NETD):** < 0.014 °C at 30 °C (14 mK)
- **Frame Rate:** 30 Hz P-Series
 - Optional: 9 Hz S-Series
- **Dynamic Range:** 8-bit or 14-bit
- **Temperature Range:** -40 °C to 80 °C
 - High Temperature: 0 °C to 350 °C
- **Operation Range:** -40 °C to 80 °C
- **Storage Range:** -40 °C to 70 °C
- **Humidity:** 5% to 95% non-condensing
- **Accuracy:** ± 1 °C
- **Pixel Operability:** > 99 %
- **Shock/Vibration:** 20 G/5.8 G
- **Dimensions (without lens):** 131 mm x 96 mm x 111 mm (L x W x H ± 0.5 mm)
- **Power:** 12V
- **Weight (without lens):** < 765 g†
- **Interface:** USB 2.0
- **Video:** NTSC or PAL
- Shutterless
- Aluminum enclosure

TDLAS Specifications

- **Target Gas:** Methane (CH₄)
- **Detector Array:** UFPA (VOx)
- **Measurement Range:** 0 pmm.m to 40,000 pmm.m
- **Detection Distance:** 0.5 m (1.6') - 50 m (164')*
- **Minimum Resolution:** 1 ppm.m
- **Response Time:** 0.5 seconds
- **Operating Pressure:** 68 kPa - 115 kPa
- **Operation Range:** -20 °C to 50 °C
- **Storage Range:** -40 °C to 60 °C
- **Humidity:** 98%
- **Dimensions:** 39 mm x 45 mm x 45 mm (L x W x H ± 0.5 mm)
- **Power:** DC 4.2V - 5V, < 1 W
- **Weight (without lens):** 664 g†
- **Interface:** USB 2.0
- **Communication Port:** Uart 3.3 V TTL
- **Basic Tolerance:** ± 10 % @ 1000 pmm.m

* Long Range version available, does not work from 0 m - 20 m

† Payload Weight (without lens): 4037 g