

METHANE MAPPER MULTI-SENSOR UAV PAYLOAD

The ICI Methane Mapper and Methane Mapper Plus pair the TDLAS with the Sony R10C high-res visible camera. Collecting concentration data at 2 Hz above buried gas pipelines gives clear indications to where underground leaks may be occurring. The data set from the TDLAS is instantly viewable as a KML file and can be color-coded based on threshold levels for easy analysis. The visible camera provides the end customer with an up-to-date visible mosaic of the right of way. A specialized polarized LWIR camera is included in the Methane Mapper Plus to differentiate ponding of produced water from naturally occurring rain or runoff water.

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

Applications

- Petrochemical (midstream)
- Industrial vision systems
- Aerial radiometric imaging
- UAV integration

TDLAS Specifications

- **Target Gas:** Methane (CH_4)
- **Detector Array:** UFPA (VOx)
- **Measurement Range:** 0 ppm.m to 40,000 ppm.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 ppm.m

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

† Payload Weight (without lens): 2994 g

Software Options

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



Methane Mapper
US Patent 9880552

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